



Ministry of  
**Fisheries**  
Te Tautiaki i nga tini a Tangaroa

# Annual Operational Plan for Deepwater Fisheries for 2011/12

July 2011



New Zealand Government



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# 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) territorial sea limit. Deepwater fishing activity occurs out to the 200nm limit of New Zealand's exclusive economic zone (EEZ). This fishing area includes five of New Zealand's ten largest export earning fisheries, which together accounted for over \$390 million in export earnings in 2010.

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

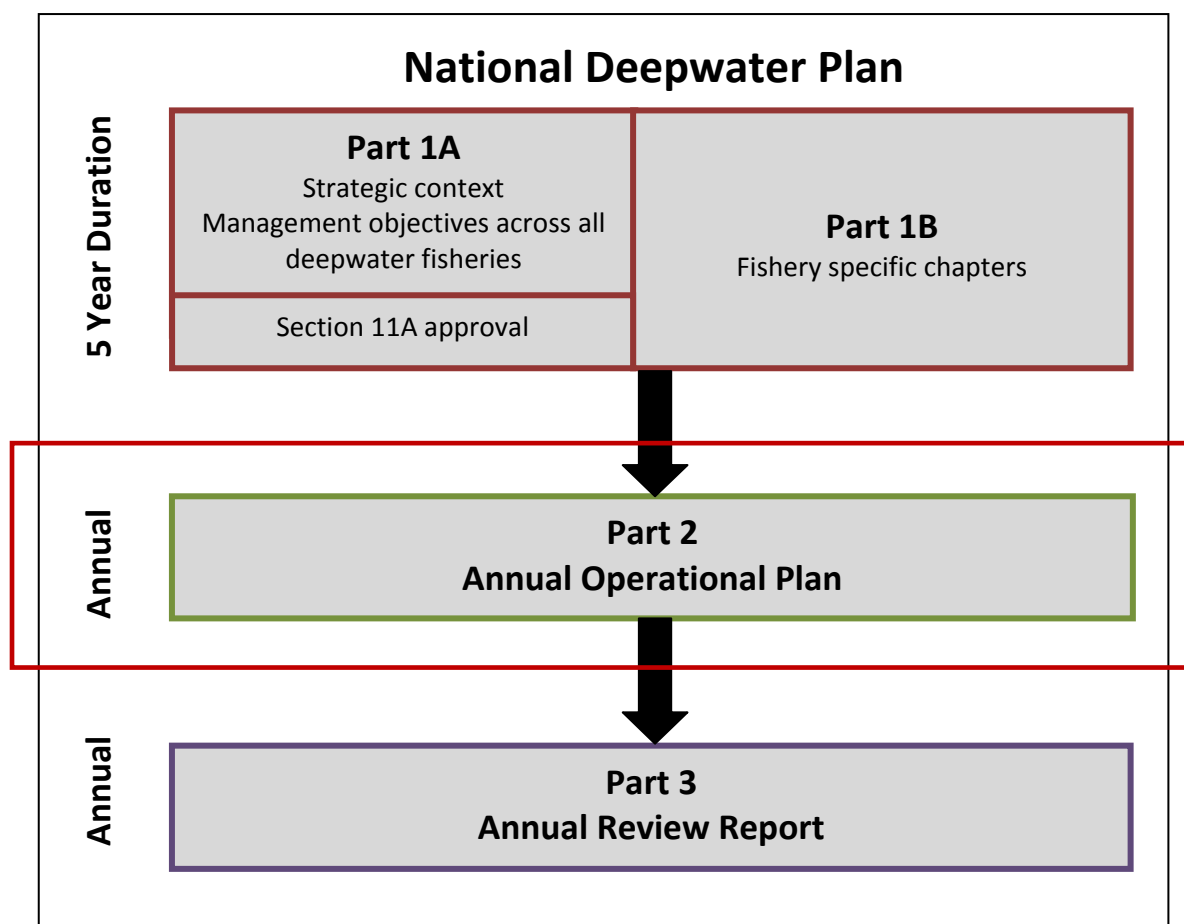
Within the portfolio of deepwater fisheries, fishstocks have been ranked into three tiers according to their commercial importance (see Table 1). Tier 1 fisheries are high volume and/or high value fisheries and are traditionally targeted. They are important export revenue earners, which is reflected 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 <sup>1</sup>	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 (2011) Oreo: All (2011) Squid: All (tbc) Jack Mackerel: JMA3, JMA7 only(tbc) Scampi: All (tbc)
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	Rubyfish: All (tbc) Alfonsino: All (tbc) Barracouta: BAR4, BAR5, BAR7 (tbc) Redbait: All (tbc) English mackerel: EMA3, EMA7 (tbc) Prawn killer: All (tbc) Pale ghost shark: All Dark ghost shark: GSH4-GSH6 Deepwater crabs (KIC/GSC/CHC): All Gemfish: SKI3, SKI7 Sea perch: SPE3-SPE7
Tier 3 Species		Non-QMS species

<sup>1</sup> For some species, management of some stocks falls under the National Deepwater Plan and the remainder are managed under the National Inshore Finfish Plan

From 1 July 2011 the management of New Zealand's deepwater fisheries will be implemented through the National Fisheries Plan for Deepwater and Middle-depth Fisheries (National Deepwater Plan – or NDP), which collectively consists of the three parts shown in Figure 1:



**Figure 1: The three components of the National Deepwater Plan (for more information on overall structure of the National Deepwater Plan see Appendix III)**

**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 Minister of Fisheries 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, southern blue whiting, and ling fisheries.

The fishery-specific chapters describe the operational objectives for each target fishery and their key bycatch species, as well as how performance against both the management and operational 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, which provides up-to-date management overviews for fisheries with completed chapters in Part 1B, the Management Actions scheduled for delivery during the financial year for which the Operational Plan applies, and the Management Services required to deliver the Management Actions. All Annual Operational Plans will be provided to the Minister of Fisheries for consideration, but will not be approved under section 11A. However, any statutory interventions required to regulate deepwater fisheries will be identified in the Annual Operational Plan. The contents and structure of this Annual Operational Plan are described in the following section.

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

## **The 2011-12 Deepwater Annual Operational Plan**

This Annual Operational Plan describes the specific Management Actions that will be implemented during the 2011-12 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.

Also included in this Plan are details of the Management Services (compliance, research, regulatory, etc.) that will be required to deliver the specified Management Actions, and the agency (and business group) responsible (the Ministry or DWG) for delivery. In situations where there are limited resources and competing tasks and objectives across deepwater fisheries, specified services are also prioritised, including a rationale for the prioritisation.

The Deepwater Annual Operational Plan also includes a section detailing the current management approach and status of each of the fisheries currently included in the National Deepwater Plan.

There will be an internal prioritisation process within the Ministry across Annual Operational Plans from the five different fisheries (Highly Migratory Species, Inshore finfish, Inshore shellfish, Freshwater) to address competing needs on Ministry resources. As a result of this cross prioritisation process some of the management actions in this Annual Operational Plan may be subsequently reprioritised.

Performance on delivery of Annual Operational Plans will be assessed through the Annual Review Report to be completed at the end of each fishing year. The Annual Review Report against this Annual Operational Plan will be completed in November 2012<sup>2</sup>.

### Scope of the 2011-12 Deepwater Annual Operational Plan:

The 2011-12 Deepwater Annual Operational Plan includes the following sections, described in more detail below:

Part 2A: Management Actions for 2011-12

Part 2B: Management Services required for 2011-12

Part 2C: Management overview of deepwater fisheries

### Part 2A: Management Actions for 2011-2012

Part 2A details the Management Actions that will be undertaken during the 2011-12 financial year. All Management Actions will contribute to delivery on Management Objectives specified in the National Deepwater Plan. Some Management Actions are also linked to fishery-specific Operational Objectives, while others will apply across all deepwater fisheries.

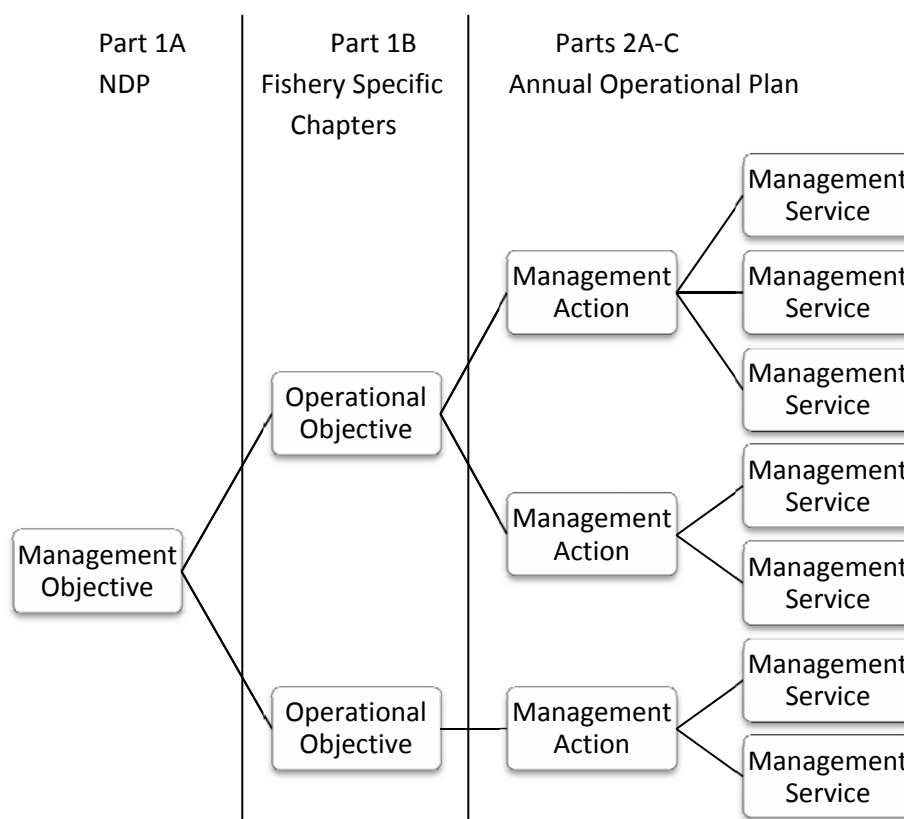


Figure 2: Flowchart of progression from Management Objective to Management Services specified in this Annual Operational Plan

<sup>2</sup> A Pilot Annual Review Report will be completed in November 2011 which will report on performance against the 2010-11 Pilot Annual Operational Plan



## **Part 2B: Management Services required during the 2011-2012 financial year**

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

The collaborative management regime that exists between the Ministry and the DWG (given effect through the Deepwater Memorandum of Understanding (MOU)) means there is flexibility around how Management Actions are delivered and who is responsible for providing the service. Services may be delivered exclusively by the Ministry, exclusively by the DWG or shared by both parties.

Each Management Service will be described as follows:

1. The organisation responsible for delivery – The Ministry or DWG
2. Specific business group (and team) responsible within the Ministry for Ministry-led Actions
3. The Management Action and required Management Service

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

The deepwater fisheries Annual Operational Plan 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.<sup>3</sup> 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 in Appendix I, which details the following management settings and performance indicators:<sup>4</sup>

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. 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).

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<sup>3</sup> Part 1B of the National Deepwater Plan currently includes orange roughy, hoki, southern blue whiting, and ling

<sup>4</sup> 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 2011-12

This section details the Management Actions to be undertaken throughout the term of this 2011-12 Annual Operational Plan. All Management Actions should contribute to the delivery of the high level Management Objectives specified in Part 1A of the National Deepwater Plan. Some Management Actions are driven by Operational Objectives from the fishery-specific chapters of the National Deepwater Plan while others describe the management of deepwater species not yet included in fishery-specific chapters or apply to the management of all deepwater fisheries.

The section begins with a description of the key Management Actions scheduled for 2011-12. These include an Action number to link them to Management Services in the next section of the Annual Operational Plan.

Management Services required for completion of these Management Actions are detailed in Part 2B of this Annual Operational Plan. A table of business groups involved in each Management Action is provided in Appendix IV.

### Prioritisation

Within the table, Management Actions are sorted in order of priority. There are three priority categories: high, medium and low. High priority items are those with a statutory requirement, are required for external certification (MSC), or have a high risk to fisheries management if not completed. Medium priority items are those which are not essential, but carry risks to future work if not completed. During the prioritisation process within the Ministry, if there are limitations on available resources, the higher numbered Management Actions would likely be the first to be deferred to a later date.

**Table 2: Priority level of Management Actions (MA)**

Priority Level	MA number
High	1-16
Medium	17-31
Low	32-36

**Table 3: Management Actions for deepwater fisheries management for the 2011-12 financial year**

<b>1</b>	<b>Review up to seven stocks for 1 October and four stocks for 1 April sustainability rounds, including deemed values</b>
	<p>Sustainability decisions consist primarily of catch limit (TAC &amp; 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. Up to seven stocks will be included for review in the October round and four stocks for review for the April round. 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. Through preliminary analysis, the following deepwater stocks have been identified as likely to require TAC reviews in 2011-12 (with more to be identified as the year progresses):</p> <ul style="list-style-type: none"> <li>October 2011: Black cardinalfish (CDL2), Orange roughy (ORH3B, ORH MEC), Hoki (HOK1), Scampi (SCI2)</li> <li>April 2012: Southern blue whiting (SBW6B)</li> </ul>
	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, and all deepwater fisheries

<b>2</b>	<p><b>Continue implementation of the National Deepwater Plan</b></p> <p>Implementation of the National Deepwater Plan includes the completion of fishery specific chapters for the nine Tier 1 species, as well as the production of an Annual Operational Plan and Annual Review Report. During the 2011-12 financial year, the fishery specific chapters for hake and oreo, the pilot Annual Review Report, and the Annual Operational Plan for 2012-13 will be completed.</p> <p>Action linked to all Management Objectives</p> <p>Operational Objective(s): ORH 1.1 and 1.2 and all deepwater fisheries</p>
<b>3</b>	<p><b>Deliver collaborative management of deepwater fisheries with Deepwater Group Ltd. (DWG) through implementation of the Memorandum of Understanding</b></p> <p>A memorandum of understanding (MOU) between the Ministry of Fisheries (the Ministry) and deepwater quota owners as represented by the DeepWater Group Ltd. was first signed in 2006 and most recently updated in 2010. The most recent revision formalises and adds clarity and transparency to the processes that have been operating in a fluid and relatively informal manner under the previous MOU. This involves the establishment of two new bodies: the Deepwater Management Forum and the Deepwater Secretariat. This Management Action focuses on the implementation of these new structures.</p> <p>Action linked to all Management Objectives</p> <p>Operational Objective(s): HOK 1.4, ORH 1.3, and all deepwater fisheries</p>
<b>4</b>	<p><b>Implement the 10 Year Research Programme including specifying and contracting of annual 'additional research' projects</b></p> <p>The 10 Year Research Programme details the long-term research projects that will be carried out each year for the next 10 years to support the management of the Tier 1 and 2 deepwater fisheries. Research to be carried out in the 2011-12 year includes:</p> <ul style="list-style-type: none"> <li>• Stock assessments for hoki (HOK1), southern blue whiting (SBW6B), oreo (TBC), scampi (SCI3), and ling (LIN5&amp;6)</li> <li>• Trawl surveys on the Chatham Rise, west coast of the South Island, and on the Southern Plateau</li> <li>• Acoustic surveys for hoki, orange roughy, and southern blue whiting fisheries</li> <li>• Protected species monitoring and quantification</li> <li>• Benthic impact – mapping of the trawl footprint for all Tier 1 species</li> <li>• Characterisations of several Tier 2 species (Details can be found in Part 2B)</li> <li>• Bycatch monitoring and quantification</li> </ul> <p>Action linked to Management Objectives 1.1, 1.2, 1.3, 1.4, 1.6, 2.2, 2.4, 2.5, 2.6, and 2.7</p> <p>Operational Objective(s): All deepwater fisheries</p>
<b>5</b>	<p><b>Implement management regime for SQU6T fishery to address interactions with sea lions</b></p> <p>Each year the Minister of Fisheries sets a fishing-related mortality limit (FRML) in order to manage the level of interactions between New Zealand sea lions and the squid trawl fishery around the Auckland Islands. Work to support this decision, including consultation under Section 12 of the Fisheries Act, will be undertaken between July and September 2011. Collaborative monitoring and reporting of the allowed effort against the FRML will be undertaken by the Ministry and DWG once the fishery commences post-February 2012. In addition, work will continue to assess likely impact on sea lion survivability from interactions with Sea Lion Exclusion Devices.</p> <p>Action linked to Management Objectives 1.1, 1.3, 1.5, and 2.5</p> <p>Operational Objective(s): N/A</p>

<b>6</b>	<b>Facilitate engagement with environmental stakeholders on the management of deepwater fisheries through the Environmental Advisory Group</b>
	Environmental stakeholders are a key stakeholder group for deepwater fisheries. In order to provide increased engagement beyond or in addition to the Section 12 consultation requirements the Ministry intends to establish an Environmental Advisory Group (EAG). Once established, this group will meet quarterly to discuss the management of New Zealand's deepwater fisheries including Annual Operational Plans, Annual Review Reports and sustainability issues.
	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
<b>7</b>	<b>Ensure sufficient and appropriate engagement with tangata whenua through the integration of Iwi Fisheries Plans (IFP) and Forum Fisheries Plans (FFP) into the National Deepwater Plan and its components</b>
	Iwi and Forum Fisheries Plans will be the primary mechanism to provide for the input and participation of tangata whenua in fisheries management. These plans will enable iwi to identify and integrate their objectives at a fish stock level. As forums become operational and IFP/FFPs are developed, the Ministry will work to consider how objectives for deepwater fisheries from tangata whenua will be taken into account during the annual prioritisation process detailed in AOPs. In the interim, until iwi forums are established, the Ministry will continue to use existing engagement processes to engage with iwi on deepwater fisheries management decisions.
	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
<b>8</b>	<b>Enable continued Marine Stewardship Council (MSC) Certification of hoki including delivering on Conditions of Certification (CoCs), passing the annual surveillance audit, and ensuring recertification</b>
	The New Zealand hoki fishery was certified by the MSC in 2001 and recertified in 2007. Upon recertification, 12 Conditions were placed on the hoki fishery. The MSC process requires that the conditions are addressed during the 5 year duration of certification. To date, 11 of the 12 Conditions have been closed by independent auditors during previous annual surveillance audits. For the fishery to retain certification, the one remaining Condition requires an Ecological Risk Assessment (ERA) to be completed and implemented. The ERA has been completed, and the results will now be implemented (See Action 26). The fishery will also seek recertification during 2012.
	Action linked to Management Objectives 1.1 and 1.5
	Operational Objective: HOK 1.1
<b>9</b>	<b>Ensure recommendations from observer optimisation project are implemented so that 1) sufficient and appropriate data are collected and 2) that information and communication channels are operating effectively</b>
	In 2010-11 an observer optimisation project was commenced with an overall goal of increasing efficiency of the observer programme in tandem with the phased move to full observer coverage of the deepwater fleet. The three main areas of focus for the project are 1) technical optimisation of observer activities to ensure data collected are representative and appropriate; 2) improvement of communication channels between observers, fishery managers, fishers, and other stakeholders to allow for clarity and transparency regarding links between observer activities and management objectives; 3) phased implementation to full coverage of the deepwater fleet. The focus in 2011-12 is finalisation and implementation of recommendations from the project.
	Action linked to Management Objective 1.4
	Operational Objective: HOK 1.6, ORH 1.2 and all deepwater fisheries

<b>10</b>	<b>Assess and manage the level of seabird interactions with deepwater fishing activity</b>
	Deepwater fishing vessels are known to interact with seabirds during fishing operations. Where these interactions are determined to be adverse, management intervention is required. Measures currently in place include both regulatory and non-regulatory measures including mandatory use of bird-scaring devices during fishing, and Vessel Management Plans (VMPs), which are individualised plans for each deepwater fishing vessel that set out the onboard practices that a vessel must follow to avoid or reduce seabird interactions. Recent results from a seabird risk assessment indicate that these management measures are successful. The Ministry will monitor and audit compliance with mitigation measures to ensure the non-regulatory management regime remains effective and is reported transparently to stakeholders and tangata whenua. The focus of this Management Action for 2011-12 is to continue monitoring seabird interactions and at-sea mitigation activities, respond to issues in real time, as well as supporting the existing education programme.
	Action linked to Management Objectives 2.5 & 1.6
	Operational Objective: HOK 2.10 and 2.13 and others
<b>11</b>	<b>Assess and manage the level of marine mammal interactions with deepwater fishing activity</b>
	Deepwater fishing vessels are known to interact with marine mammals during fishing activity. Where these interactions are determined to be adverse, management intervention is required. There are non-regulatory measures in place to minimise marine mammal interactions, including the Marine Mammal Operating Procedures and use of exclusion devices in the squid fishery. The Ministry will continue to monitor and audit compliance with mitigation measures to ensure the non-regulatory management regime remains effective and to seek solutions where it is not found to be effective. The level of interactions and any additional management measures will be reported to stakeholders and tangata whenua. The focus for 2011-12 is to continue to monitor interactions with marine mammals, at-sea mitigation activities, and to continue the industry education programme.
	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
<b>12</b>	<b>Develop and implement specific harvest strategies for Tier 1 species, focussing on orange roughy, southern blue whiting and ling for 2011-12</b>
	Under the National Deepwater Plan it is intended that specific harvest strategies be developed for all Tier 1 species. A harvest strategy defines a management target, soft and hard limits, a rebuild strategy, and a harvest control rule for the stock. These provide the basis for a transparent and effective fisheries management regime and will determine when catch limits for a stock are inappropriate and need to be reviewed (links to Management Action 5).
	Action linked to Management Objective 2.1
	Operational Objective: ORH 2.1, SBW 2.1, LIN2.1
<b>13</b>	<b>Ensure completion of quality Ministerial communications including briefings, Ministerials<sup>5</sup>, and Official Information Act requests within designated timeframes</b>
	The Ministry has a responsibility to provide quality advice and information to the Minister of Fisheries and Aquaculture through Ministerial Briefings. The Ministry is also responsible for maintaining an open relationship with the public and responding to all Official Information Act requests and letters to Government regarding fisheries issues. This Management Action recognises that this is a core function that will require significant attention throughout the year.
	Action linked to all Management Objectives
	Operational Objective: N/A

<sup>5</sup> Responses to the public on behalf of the Minister of Fisheries and Aquaculture or the Prime Minister  
2011-12 Deepwater Annual Operational Plan

<b>14</b>	<b>Ensure continued implementation of registration process and risk-based observer coverage for foreign charter vessels</b>
	Foreign charter vessels wanting to fish in New Zealand waters must meet the requirements of the vessel registration process. Through the registration process, vessels are assessed and assigned a risk profile based on safety inspections and reviews of past compliance history to minimise any potential risk to fisheries management of having the vessel fish in New Zealand waters. Once registered, observer coverage is assigned to foreign vessels based on the risk profile. This Management Action ensures that the registration process and risk-based observer coverage policy for foreign charter vessels continue to operate effectively.
	Action linked to all Management Objectives
	Operational Objective: N/A
<b>15</b>	<b>Address outcomes of the risk-based approach to seabird interactions in deepwater fisheries, with a focus on the scampi fishery</b>
	The Ministry has developed a risk-based policy to minimise and mitigate seabird interactions in New Zealand fisheries. Preliminary indications from the policy process indicate that the scampi fishery poses the greatest risk to seabirds of all the deepwater fisheries. Several species in particular are shown to be at risk from scampi fisheries including flesh-footed shearwaters, black petrels, and Salvin's albatross. This issue may be addressed through a range of tools including: increased monitoring to understand the nature and extent of the risk, crew training and education, or working with industry to put in place additional management measures. For 2011/12 the focus of this Management Action is to improve our understanding of the nature and extent of risk through increased monitoring through the observer programme.
	Action linked to Management Objective 2.5
	Operational Objective: All deepwater fisheries
<b>16</b>	<b>Manage the development of the Patagonian toothfish fishery, including any applications for special permits</b>
	Patagonian toothfish entered the QMS on 1 October 2010. There is little information on biomass or potential yield and only limited fishing for this species has taken place over the past 15 years. The Minister has set a nominal TAC of 50 tonnes. Patagonian toothfish is a trans-boundary straddling stock with Australia's Macquarie Island toothfish fishery requiring cooperation and communication with Australia through the Australian Fisheries Management Authority (AFMA). The focus for 2011-12 is to establish a management programme that will increase our knowledge and provide a better understanding of the stock while ensuring support for the commercial development of the fishery.
	Action linked to Management Objectives 1.1, 1.2, 1.3, 2.4, 2.6
	Operational Objective(s):N/A
<b>17</b>	<b>Maintain an open and transparent management environment by ensuring that all management information is available and easily accessible for stakeholder and tangata whenua consideration</b>
	To increase transparency of deepwater fisheries management, an 'information hub' will be developed where information relating to deepwater fisheries management will be available. This will include Annual Operational Plans and Annual Review Reports, minutes of Deepwater Management Forum meetings, the National Deepwater Plan, and general information relating to the management of deepwater fisheries.
	Action linked to Management Objectives 1.6 and 1.7
	Operational Objective(s): HOK 1.4, ORH 1.3, 1.8 and all deepwater fisheries



<b>18</b>	<b>Facilitate continued implementation of the Voluntary Assisted Directed Enforced (VADE) compliance model through monitoring and communicating levels of fisher compliance against agreed benchmarks and non-regulatory management measures</b>
	Field Operations has developed a suite of performance indicators and performance targets for the deepwater sector. Performance against these indicators and targets is monitored through inspections and reported in quarterly internal reports. Compliance rates are then communicated to industry through the joint Ministry/DWG Compliance Committee (see Management Action #2). The focus for 2011/12 is to continue this process and to combine both the regulatory and non-regulatory reporting in a succinct report available to all stakeholders and tangata whenua.
	Action linked to Management Objective 1.5
	Operational Objectives: HOK 1.9, ORH 1.6
<b>19</b>	<b>Complete risk profiles of two further deepwater fisheries to develop “normal” fishing profile</b>
	Risk profiles of deepwater fisheries are developed to identify “abnormal” patterns and/or behaviours and determine trigger points for VADE model interventions. Risk profiles can be done at several levels through a tiered approach. A Level 1 risk profile is based on available information, while a Level 2 profile is supported by a targeted monitoring and inspection programme which gathers new information. The focus for 2011-12 is to complete Level 1 assessments for southern blue whiting and orange roughy fisheries.
	Action linked to Management Objective 1.5
	Operational Objectives: HOK 1.9, ORH 1.6
<b>20</b>	<b>Ensure that appropriate and transparent action is taken when compliance levels in any deepwater fishery fall below the agreed benchmarks</b>
	When performance targets for the deepwater fishing sector are not met or when the risk profile identifies areas of compliance concern, action must be taken to remedy the problem and ensure continued adherence with management measures. A clear link between offending and response improves transparency and credibility against the management regime.
	Action linked to Management Objective 1.5
	Operational Objectives: HOK 1.10, ORH 1.7
<b>21</b>	<b>Support Marine Stewardship Council Certification for southern blue whiting, hake and ling fisheries including delivering on any CoCs put in place</b>
	New Zealand southern blue whiting, hake, and ling fisheries are currently being assessed for MSC certification. The focus of this Management Action for 2011-12 is to finalise the certification of these fisheries and address any Conditions of Certification put in place by the MSC committee.
	Action linked to Management Objectives 1.1 and 1.5
	Operational Objective: SBW1.1, LIN1.1, and others
<b>22</b>	<b>Implement an effective management regime to support delivery of the harvest strategy and where possible, the economic yield strategy for the hoki fishery</b>
	The Ministry incorporates a range of non-regulatory agreements and codes of practice in the hoki management regime. This Management Action aims to ensure that these non-regulatory measures are fit for purpose and achieve their stated objectives. The Ministry will also ensure effective communication of the status of monitoring of all non-regulatory management measures through the ARR, which will be available on the deepwater fisheries information hub.
	Action linked to Management Objectives 1.1, 1.2, and 2.1
	Operational Objective: HOK 2.5

<b>23</b>	<b>Determine habitats covered by an agreed definition of ‘habitat of particular significance for fisheries management’ beginning with the hoki fishery in 2011-12</b>
	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’. Work is underway on a definition and consistent application of this phrase. Once completed, the focus will then be to assess how the definition will be applied to the hoki fishery in the first instance.
	Action linked to Management Objective 2.3
	Operational Objective: HOK 2.8
<b>24</b>	<b>Assess and manage the level of shark interactions with deepwater fishing activity with a focus on minimising the use of generic reporting codes to report bycatch information</b>
	Deepwater fishing vessels are known to occasionally interact with protected sharks during fishing activity. At present, many of these interactions are reported under generic reporting codes such as DWD (deepwater dogfish unspecified) or OSC (other sharks and dogfish). This leads to a paucity of information regarding the actual level of interactions with specific shark species. However, where interactions with a shark species are determined to be adverse, management intervention is required. The focus of this Management Action is to increase information on interactions with shark species to determine if management intervention is appropriate. This will mainly be achieved through increased observer coverage, which will provide more accurate information because observers are better trained and equipped to distinguish specific species. This also will add to information available for the review of the NPOA-sharks, which is to be reviewed in 2012.
	Action linked to Management Objectives 1.6, 2.5, and 2.6
	Operational Objective: HOK 2.12 and 2.13 and all deepwater fisheries
<b>25</b>	<b>Ensure that all research used to inform management decisions related to deepwater fisheries is assessed against the Ministry of Fisheries Research Standard and the assessment documented in advice papers</b>
	The Minister of Fisheries has recently approved a Research and Science Information Standard for New Zealand Fisheries. The purpose of the Standard is to ensure that research and science information used to underpin fisheries management decisions, develop environmental standards, and formulate fisheries policy is of good quality and high integrity. This Management Action recognises the importance that all science research used to support management of deepwater fisheries is assessed against the research standard.
	Action linked to Management Objective 1.4 and 1.5
	Operational Objective(s): HOK 1.5, ORH1.5, SBW1.4 and all deepwater fisheries
<b>26</b>	<b>Implement management measures to address unacceptable effects of the hoki fishery as identified by the Ecological Risk Assessment</b>
	The one remaining Condition of the hoki fishery’s MSC certification requires the assessment of risk associated with any impacts of hoki fishing on the wider ecosystem, through an Ecological Risk Assessment (ERA). A Level 1 ERA was completed in December 2010 which identified the areas that require additional work, either in order to minimise an unacceptable level of impact, or to acquire additional information to properly assess the level of impact. This Management Action will ensure that the results of the ERA are actioned appropriately (see Management Action #17).
	Action linked to Management Objectives 2.3, 2.4, 2.5, 2.6, and 2.7
	Operational Objective: HOK 2.7, 2.13



<b>27</b>	<b>Monitor the nature and extent of benthic interactions from deepwater fishing activity</b>
	Deepwater fisheries in New Zealand that use fishing gear that operates in contact with the bottom (i.e. bottom trawling, bottom longlining) physically impacts on the benthic environment. As benthic habitats can be important breeding grounds, foraging areas, or refuges, it is an important component of sustainably-managed deepwater fisheries to ensure that any impact is carefully managed and remains within acceptable limits. To date, over 30% of New Zealand's EEZ has been closed to bottom trawling through a series of seamount closures and the benthic protection areas initiative (BPAs). The BPA closures will be reviewed in 2013 and to inform this review an assessment of the nature and extent of the most recent trawl footprint will be completed for Tier 1 species during 2011-12.
	Action linked to Management Objective 2.7
	Operational Objective: HOK 2.15, ORH 2.9, SBW2.4 and all deepwater fisheries
<b>28</b>	<b>Develop and implement management procedures for Tier 2 species</b>
	Management of Tier 2 species is often limited by information availability. Although this information gap is being addressed by the 10 Year Research Programme, it will not always be possible to implement specific harvest strategies for Tier 2 stocks. The alternative is management procedures, which provide certainty and clarity to management decisions without requiring the detailed information that a Harvest Strategy requires. During the period of this Annual Operational Plan, management procedures will be developed for silver warehou, white warehou, and black cardinalfish. These will vary based on information availability, but may range from development of components of a Harvest Strategy to analysis of CPUE trends or signals from a trawl survey.
	Action linked to Management Objective 2.1
	Operational Objective: ORH 2.1, LIN2.2
<b>29</b>	<b>Complete an ecological risk assessment (ERA) on the effects of deepwater fisheries on the aquatic environment</b>
	In simple terms, an ERA is a methodological approach to help identify the risks (the likelihood and extent of potential harm) to ecosystems that might be impacted by fishing. To better understand the likely impacts that deepwater fishing activity has on the components of the ecosystem (bycatch species, protected species, benthic habitats and ecosystem function) an ERA, incorporating fishing activity for oreo, orange roughy, alfonso and cardinalfish will be completed during 2011-12. The results of this ERA will determine future management interventions in these fisheries.
	Action linked to Management Objectives 2.3, 2.4, 2.5, 2.6, and 2.7
	Operational Objective: ORH 2.4
<b>30</b>	<b>Monitor non-regulatory management measures including Sub-QMA catch limits and protected species operational procedures</b>
	In conjunction with industry, the Ministry has implemented non-regulatory catch split arrangements in the hoki, orange roughy, and oreo fisheries. These arrangements are in place to prevent unsustainable volumes of catch being taken from the different biological stocks within each QMA. Also in conjunction with industry, non-regulatory management measures relating to protected species interactions have been implemented. These include Vessel Management Plans to manage seabird interactions and the Marine Mammal Operational Procedures to reduce the risk of marine mammal interactions. Delivery of this Management Action will ensure continued monitoring to confirm effectiveness of these measures.
	Action linked to all Management Objectives
	Operational Objective: HOK 2.3, 2.5, ORH 2.1

<b>31</b>	<b>Provide information and communications to minimise market access limitations for New Zealand deepwater fisheries</b>
	Government has a key role in providing accurate information on the fisheries management regime in place in New Zealand. Fulfilling this role can mean responding to requests from students, consumers and the general public, both in New Zealand and overseas, on a range of fisheries management issues, including government's position on bottom trawling and the sustainability of various QMS species. In addition, the Ministry also aims to be proactive in instances where there are inaccuracies about the fisheries management regime in the media or in consumer marketing campaigns. Although this service is ad-hoc, in that it is largely responsive to issues that arise, the intention is that a process will be developed and implemented to (1) monitor the type of information that is provided and to whom and (2) to create a file of information briefs on key issues.
	Action linked to all Management Objectives
	Operational Objective: N/A
<b>32</b>	<b>Ensure that management settings for hoki and orange roughy fisheries are peer reviewed and are equivalent to, or exceed, international best practice</b>
	New Zealand was recently recognised as one of only two countries to achieve a top ranking in a review of fisheries management systems around the world. In order to maintain a well-respected fisheries management system, all management settings must be consistent with international best practice. The focus of this Management Action is to independently review the management settings for hoki and orange roughy fisheries against international best practice.
	Action linked to Management Objective 1.5
	Operational Objective: HOK 1.8, ORH 1.5
<b>33</b>	<b>Monitor catch of, and assess risks to, non-QMS (Tier 3) species from deepwater fishing activity</b>
	Deepwater fisheries are known to catch non-QMS species as bycatch during normal fishing activity. To identify any sustainability issues with non-QMS stocks, the nature and extent of interactions with these species will be monitored and assessed as part of a Level 1 risk assessment.
	Action linked to Management Objectives 2.2 and 2.4
	Operational Objectives: HOK 2.14, ORH 2.6, and all deepwater fisheries
<b>34</b>	<b>Ensure all management measures and controls are assessed in terms of their contribution to the value of deepwater fisheries</b>
	In order to ensure the economic viability of deepwater fisheries in New Zealand, it is important to ensure that management measures and controls add value to deepwater fisheries before they are implemented. A cost benefit tool will be developed to enable analysis of potential management measures and controls in terms of their contribution to the long term value of the fishery.
	Action linked to Management Objectives 1.1
	Operational Objective(s): HOK 1.3, ORH 1.11, and all deepwater fisheries

<b>35</b>	<p><b>Implementation and monitoring of sub-Antarctic MPAs</b></p> <p>MPAs are being implemented in the territorial seas of the Antipodes, Bounty and Campbell Islands. These MPAs are a combination of marine reserves and restrictions on Danish seining that complement the existing restrictions on trawling and dredging. Once implemented, routine monitoring of these MPAs will occur with a particular focus on the Campbell Islands MPA as this will be reviewed after five years to assess the importance of this area to the developing deepwater crab fishery.</p> <p>Action linked to all Management Objectives</p> <p>Operational Objective: N/A</p>
<b>36</b>	<p><b>Implement industry-led proposals to ensure the structure of Quota Management Areas (QMAs) is consistent with biological and management information, with an initial focus on amalgamating frostfish QMAs</b></p> <p>QMAs are based on a combination of biological and administrative factors known at the time a species is introduced to the QMS. The starting point for determining QMA boundaries for each species is the ten Fisheries Management Areas (FMAs). Over time, new information may become available which indicates that existing QMAs may not be consistent with biological stocks. In this case, industry can request that a QMA is considered for amalgamation or division providing the majority of quota owners support the request. Frostfish and black cardinalfish will be the initial focus for 2011-12.</p> <p>Action linked to Management Objective 1.1</p> <p>Operational Objective(s): N/A</p>

## Part 2B: Service requirements to support deepwater fisheries management during the 2011-12 financial year

This section details the services that will be required to support the delivery of the Management Actions specified in Part 2A. Due to the collaborative relationship between the Ministry of Fisheries and the DeepWater Group, some actions may be delivered solely by the Ministry and some solely by DWG, with others delivered jointly by the Ministry and DWG.

Information presented in the following tables includes a description of the Management Action to be completed and details of the specific services required from each Ministry business group. The Action Number provides a link to Part 2A which describes the Management Action and the Management and Operational Objectives, if any, to which it will contribute.

### Ministry of Fisheries services<sup>6</sup>

The following details the service requirements provided by the Ministry of Fisheries. Required services have been divided by the Ministry business group responsible for delivery:

**Table 4: Ministry business groups, teams and responsibilities**

Business Group	Team	Description of responsibilities
Fisheries Management	Deepwater	Operational management of NZ deepwater fisheries
	Inshore	Operational management of NZ inshore and freshwater fisheries
	Highly Migratory Species	Operational management of highly migratory species in New Zealand
	Science	Scientific advice to support fisheries management decisions
	Customary	Operational management of Customary interests in NZ fisheries including development of Iwi and Forum Fisheries Plans
	Spatial Allocations	Operational management of aquaculture operations, MPA policy, and spatial tools including mātaihai reserves
Field Operations	Compliance	Provision of advice and intervention services to achieve compliance with fishery management strategies
	Observer Programme	Coordination and administration of at-sea observer programme
Strategy	Policy, Regulations, Registry Services and Standards	Development of frameworks, including standards and policies to meet Deed of Settlement obligations and guide fisheries management at both a national and international level.
	International	Representation of New Zealand interests in international forums and advice on management of straddling and transboundary stocks
Organisation Services	Legal	Legal advice and opinions on the interpretation of relevant fisheries legislation in support of policy development and management interventions
	Finance	Asset management, centralised purchasing, procurement, facilities and contracts management, and financial guidance to the Ministry of Fisheries

<sup>6</sup> Organisational structure is listed as of June 2011. It is expected to change as part of merger with MAF

Business Group	Team	Description of responsibilities
	Information Services	Maintenance of information systems of the Ministry including software development and records and data management
Office of the Chief Executive	Governance and Ministerials	Ensuring effectiveness of governance groups and ministerial processes within the Ministry
	Communications	Coordination of media presence and external communications
Treaty Partnerships		Monitoring of Ministry performance in meeting obligations to tangata whenua, support of iwi forums, provision of advice on engagement with tangata whenua, and provision of fisheries/aquaculture management advice to the DCE Treaty Partnership

## 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 sustainability. This involves determining when management interventions are required and the form that these interventions could take – regulatory or non-regulatory. The Fisheries Management business group also includes a science function to provide expert advice and interpretation of scientific information for fisheries management.

### A. Deepwater team

The Fisheries Management – Deepwater team is responsible for overseeing the management of New Zealand's deepwater fisheries resources and the implementation of the National Deepwater Plan including this Annual Operational Plan.

**Table 5: Actions and Services required from the Fisheries Management – Deepwater team**

#	Action	Service	Timeframe
1	Review up to 7 stocks for 1 October and 4 stocks for 1 April sustainability rounds, including deemed values	Complete TAC and deemed value reviews for up to 7 stocks for October 2011	Jul-Sep 2011
		Complete TAC and deemed value reviews for up to 4 stocks for April 2012	Jan-Apr 2012
2	Continue implementation of the National Deepwater Plan	Complete fishery specific chapters for hake and oreo	Jan-Jun 2012
		Complete pilot Annual Review Report	Oct-Dec 2011
		Complete 2012-13 Annual Operational Plan	Feb 2012
3	Deliver collaborative management of deepwater fisheries with DWG through implementation of the MOU	Facilitate collaborative and transparent management through convening the Deepwater Management Forum and Deepwater Secretariat	Ongoing
4	Implement 10 Year Research Programme including specifying and contracting of annual 'additional research' projects	Contract 2011-12 'Additional Research'	Jun-Sep 2011
		Monitor progress of contracted research occurring during 2011-12	Ongoing
		Define 'Additional Research' needs for 2012-13 year	Jan-April 2012

#	Action	Service	Timeframe
5	Implement management regime for SQU6T fishery to address interactions with sea lions	Develop management advice for SQU6T fishery Deliver in-season monitoring of the SQU6T fishery	Dec 2011 Jan-Jun 2012
6	Facilitate engagement with environmental stakeholders on the management of deepwater fisheries through the Environmental Advisory Group	Establish Environmental Advisory Group Facilitate eNGO engagement on deepwater fisheries through regular meetings of Environmental Advisory Group	Ongoing
7	Ensure sufficient and appropriate engagement with tangata whenua through the integration of Iwi Fisheries Plans (IFP) and Forum Fisheries Plans (FFP) into the National Deepwater Plan and its components	Collaborate with Te Ohu Kai Moana (TOKM), FM-Customary, and Treaty Partnerships teams to establish greater tangata whenua representation through the DWG Collaborate with TOKM, FM-Customary, and Treaty Partnerships teams to develop a communications strategy to provide for input and participation of relevant iwi Ensure IFPs and FFPs are incorporated into fisheries management through Annual Operational Plans focusing on South Island and Chatham Island Forums in the first instance	Ongoing
8	Enable continued MSC Certification of hoki including delivering on CoCs, passing the annual surveillance audit, and ensuring recertification	Collaborate with DWG to ensure that any Conditions of Certification are met within agreed timeframes Collaborate with DWG to prepare for the annual surveillance audit Collaborate with DWG to prepare for re-certification process	Ongoing
9	Ensure recommendations of observer optimisation project are implemented so as to ensure 1) sufficient and appropriate data is collected and 2) that information and communication channels are operating effectively	Implement recommendations of observer optimisation project Ensure that observer data collection plan is aligned with the needs of fisheries managers and other users (e.g. DOC, industry) and monitor delivery on planned coverage in 2011/12 Develop observer data collection plan for 2012/13	Ongoing
10	Assess and manage the level of seabird interactions with deepwater fishing activity	Monitor seabird interactions and adherence to VMPs in deepwater fisheries and utilise mechanisms in place to respond to issues (interactions and VMP compliance levels will be reported in the ARR)	Ongoing Oct-Dec 2011
11	Assess and manage the level of marine mammal interactions with deepwater fishing activity	Monitor marine mammal interactions and adherence to the MMOPs in deepwater fisheries and utilise mechanisms in place to respond to issues (interactions and MMOP compliance levels will be reported in the ARR)	Ongoing Oct-Dec 2011
12	Develop and implement specific harvest strategies for orange roughy, southern blue whiting, and ling	For orange roughy, southern blue whiting and ling fisheries, collaboratively develop: 1) Reference points (management target, soft and hard limits) 2) A structured rebuild strategy 3) Harvest control rules which are used in management of the relevant fisheries	Jul-Dec 2011 Jan-Jun 2012

#	Action	Service	Timeframe
13	Ensure timely and quality completion of Ministerial communications including briefings, ministerials, and Official Information Act requests	Prepare quality, peer reviewed and timely briefings, Ministerials and OIA requests as necessary	Ad hoc
14	Ensure continued implementation of registration process and risk-based observer coverage for foreign charter vessels	Respond to issues around foreign charter vessels as they arise Participate in FCV registration process to ensure FCVs do not pose additional risk to the fisheries management regime	Ongoing
15	Address outcomes of the risk based approach to seabird interactions to deepwater fisheries, with a focus on the scampi fishery	Analyse and understand the implications of the risk-based policy for the scampi fishery Assess risk scores from Level 2 risk assessment across all deepwater fisheries and seabird species Monitor nature and extent of seabird interactions in all deepwater fisheries with a particular focus on scampi	Ongoing
16	Manage the development of the Patagonian toothfish fishery, including any applications for special permits	Implement a stock specific management and monitoring regime for Patagonian toothfish Develop strategy for engaging and cooperating with Australia (AFMA) regarding toothfish management	Jul-Dec 2011
17	Maintain an open and transparent management environment	Ensure all relevant management information is accessible through internet based 'information hub'	Ongoing
18	Facilitate continued implementation of the VADE compliance model through monitoring and communicating levels of fisher compliance against agreed benchmarks and non-regulatory management measures	Complete quarterly report on levels of compliance (regulatory/non-regulatory) in the deepwater fisheries	Ongoing
20	Ensure that appropriate and transparent action is taken when compliance levels in any deepwater fishery fall below agreed benchmarks	Annually report on compliance levels, compliance breaches, and subsequent actions in the Annual Review Report	Oct-Dec 2011
21	Support Marine Stewardship Council Certification of hake, southern blue whiting, and ling fisheries including delivering on any CoCs put in place	Collaborate with DWG through certification process and surveillance audits Integrate Conditions into deepwater work programme via 2012-13 Annual Operational Plan	Ongoing
22	Implement an effective in-season management regime to support delivery of the harvest strategy and where possible, the economic yield strategy for the hoki fishery	Develop and document an economic yield strategy that complements the harvest strategy and is actively used to guide management decisions	Ongoing



#	Action	Service	Timeframe
23	Determine habitat covered by agreed definition of 'habitats of particular significance for fisheries management purposes' in hoki fishery	Identify habitat of particular significance for fisheries management in the hoki fishery and assess current levels of protection	Jul-Dec 2011
24	Assess and manage the level of protected shark interactions with deepwater fishing activity with a focus on minimising the use of generic reporting codes	Monitor protected shark interactions in deepwater fisheries and ensure mechanism is in place to respond to issues Report levels of shark interactions in ARR	Ongoing Oct-Dec 2011
25	Ensure all research used to inform management decisions related to deepwater fisheries is assessed against the Ministry Research Standard	Seek confirmation from FM-Science that all research meets the Research Standard before use in management Document status of research in advice papers	Ongoing
26	Implement management measures to address unacceptable effects of the hoki fishery as identified by the ERA	Review ERA recommendations and develop and implement additional management measures as required	Jul-Sep 2011
27	Monitor the nature and extent of benthic interactions from deepwater fishing activity	Contract research to annually map trawl footprints of Tier 1 deepwater species and assess against BOMECA (results to be summarised in the ARR)	Ongoing
28	Develop and implement management procedures for Tier 2 species	Collaboratively develop and agree on management procedures for silver warehou, white warehou, and black cardinalfish fisheries	Jan-Jun 2012
29	Complete an ecological risk assessment on the effects of deepwater fisheries on the aquatic environment	Contract and participate in ERA for effects on the aquatic environment of fishing for ORH, OEO, BYX, and CDL Review recommendations of ERA and develop and implement additional management measures as required	Jul-Dec 2011 Jan-Jun 2012
30	Monitor non-regulatory management measures including sub-QMA catch limits and protected species operational measures	Monitor adherence with non-regulatory catch limits in orange roughy, hoki and oreo fisheries Monitor adherence to protected species measures (performance reported in ARR) Produce quarterly report on performance	Ongoing
31	Provide information to minimise market access limitations for New Zealand deepwater fisheries	Provide information and responses to any enquiries regarding New Zealand fisheries Proactively provide information to retailers and consumers to combat misinformation	Ongoing
32	Ensure that management settings for hoki and orange roughy are peer reviewed and are equivalent to, or exceed, international best practice	Determine international best practice for the management of deepwater fisheries Review current management settings for orange roughy and hoki against international best practice	Jul-Dec 2011 Jan-Jun 2012



#	Action	Service	Timeframe
33	Monitor catch of, and assess risks to, non-QMS (Tier 3) species from deepwater fishing activity	Monitor captures of Tier 3 species in deepwater fisheries Complete level 1 risk assessment for Tier 3 species	Ongoing Jan-Jun 2012
34	Ensure all management measures and controls are assessed in terms of their contribution to the value of deepwater fisheries	In collaboration with DWG develop and apply an appropriate cost benefit tool	Jan-Jun 2012
35	Implement and monitor sub-Antarctic MPAs	Finalise regulatory measures to create sub-Antarctic MPAs Monitor fisher compliance with new MPA regulations Monitor effect of MPA regulations on deepwater crab fishery development	Jul-Oct 2011 Ongoing Ongoing
36	Implement industry-led proposals to ensure structure of QMAs is consistent with biological and management information	If requested by stakeholders, review and obtain Ministerial approval for amalgamation of frostfish 7 & 8	Ad hoc

## B. Science team

The Fisheries Management – Science team is responsible for providing scientific advice and ensuring the quality and integrity of scientific information used in fisheries management decisions.

**Table 6: Actions and services required from the Fisheries Management – Science team**

#	Action	Service	Timeframe
1	Review up to 7 stocks for 1 October and 4 stocks for 1 April sustainability rounds, including deemed values	Scientific review of all advice papers for 1 October sustainability advice round Scientific review of all advice papers for 1 April sustainability advice round	Sep 2011 March 2012
2	Continue implementation of the National Deepwater Plan	Scientific review of hake and oreo fishery-specific chapters Scientific review of Annual Review Report Scientific review and input to 2012-13 Annual Operational Plan	Jan-Jun 2012 Oct-Dec 2011 Feb 2012
3	Deliver collaborative management of deepwater fisheries through implementation of the MOU	Participate in Deepwater Secretariat and Management Forum as required	Ongoing
4	Implement 10 Year Research Programme including specifying and contracting of annual 'additional research' projects	Scientific advice on suitability of tenders for 2011-12 'Additional Research' Monitor progress on contracted research Scientific advice on 'Additional Research' for 2012-13 year	Ongoing Jan-Apr 2012

#	Action	Service	Timeframe
5	Implement management regime for SQU6T fishery to address interactions with sea lions	Scientific review of management advice for squid	Dec 2011
8	Enable continued MSC Certification of hoki including delivering on CoCs, passing the annual surveillance audit, and ensuring recertification	Provide scientific advice and detail to MSC audit team	Ongoing
9	Ensure recommendations from observer optimisation project are implemented so that 1) sufficient and appropriate data is collected and 2) information and communication channels are operating effectively	Provide scientific advice on implementation of recommendations from observer optimisation project Provide scientific advice on data collection needs for research projects	Jul-Sep 2011 Ongoing
10	Assess and manage the level of seabird interactions with deepwater fishing activity	Provide scientific review of annual estimates of seabird captures in deepwater fisheries	Ongoing
11	Assess and manage the level of marine mammal interactions with deepwater fishing activity	Review annual estimates of marine mammal captures in deepwater fisheries	Ongoing
12	Develop and implement specific harvest strategies for orange roughy, southern blue whiting, and ling	Provide scientific expertise and advice on development of biological reference points for identified deepwater fish stocks Provide scientific expertise and advice on development of harvest control rules and rebuild strategies for identified deepwater fish stocks	Ongoing
15	Address outcomes of the risk based approach to seabird interactions to deepwater fisheries, with a focus on the scampi fishery	Provide scientific expert advice into process of addressing risks to seabirds in the scampi fishery	Jan-Jun 2012
16	Monitor the development of the Patagonian toothfish fishery, including any applications for special permits	Scientific review and advice on any special permit applications (both under consideration or approved) Monitoring of performance against conditions on any approved special permits	Ad hoc
21	Support Marine Stewardship Council Certification of hake, southern blue whiting, and ling fisheries including delivering on any CoCs put in place	Provide scientific advice and expertise to certification processes for hake, ling and southern blue whiting fisheries	Ongoing
23	Determine habitat covered by agreed definition of 'habitats of particular significance for fisheries management purposes' in hoki fishery	Provide scientific advice on application of 'habitat of particular significance for fisheries management purposes' to hoki fishery	Oct-Dec 2011

#	Action	Service	Timeframe
<b>24</b>	Assess and manage the level of protect shark interactions with deepwater fishing activity with a focus on minimising the use of generic reporting codes	Review annual estimates of protected shark captures in deepwater fisheries	Ongoing
<b>25</b>	Ensure all research used to inform management decisions related to deepwater fisheries is assessed against the Ministry Research Standard	Administer Fisheries Assessment Working Group review of research used in fisheries management  Provide expert review of research to confirm that Research Standard has been met	Ongoing
<b>27</b>	Monitor the nature and extent of benthic interactions from deepwater fishing activity	Review research results of trawl footprint analysis	Oct-Dec 2010
<b>28</b>	Develop and implement management procedures for Tier 2 species	Provide scientific expertise and advice on development of biological reference points for identified deepwater fish stocks	
<b>29</b>	Complete an ecological risk assessment on the effects of deepwater fisheries on the aquatic environment	Participate in Ecological Risk Assessment for orange roughy fisheries, in the first instance, as a member of expert panel	Jul-Dec 2011
<b>33</b>	Monitor catch of, and assess risks to, non-QMS (Tier 3) species from deepwater fishing activity	Participate in assessing risk to Tier 3 species from deepwater fishing activity	Oct-Dec 2011
<b>36</b>	Implement industry-led proposals to ensure QMAs are consistent with biological and management information	Review any request for amalgamation of QMAs (subject to industry agreement)	Ad hoc

Research needs for deepwater fisheries are driven through the 10 Year Research Programme (10YRP) for Deepwater Fisheries. This research programme focuses on obtaining comprehensive, consistent and robust information in a cost-effective manner. To accomplish this, the research plan specifies the routine research and data collection necessary to meet the management objectives. The 10YRP recognises that not all research required can be planned in advance. For this reason, the 10YRP allows for the annual planning/prioritisation and delivery of one-off research projects. This research is detailed in the 'additional research' section below. Where appropriate, this additional research will be planned and designed through the Research Advisory Group process.

## Research scheduled for 2011-12 from 10 Year Research Programme

The following table shows research scheduled in the 10YRP for the 2011-12 financial year.

**Table 7: Research scheduled for 2011-12 in 10 Year Research Programme**

Project code	Title
<b>Trawl surveys</b>	
HOK2010/04	Estimation of hoki and middle depth fish abundance on the West Coast South Island using combined trawl and acoustic surveys (Focus on development of survey design)
HOK2010/05	Estimation of hoki and middle depth fish abundance on the Chatham Rise using trawl surveys
MDT2010/02	Estimation of hoki and middle depth fish abundance on the Southern Plateau using trawl surveys
<b>Acoustic surveys</b>	
JMA2010/01	Estimation of jack mackerel (JMA7) and middle depth fish abundance on the west coast, North Island (Pilot study)
HOK2010/03	Estimation of spawning hoki biomass using acoustic surveys (Cook Strait)
ORH2010/01	Estimating the abundance of orange roughy using acoustic methods (ORH 3B plume)
ORH2010/04	Estimating the abundance of orange roughy using acoustic and trawl surveys (ORH7A)
SBW2010/02	Biomass estimation of southern blue whiting using acoustic surveys (Bounty Platform)
SBW2010/04	Biomass estimation of southern blue whiting using acoustic surveys (Campbell Islands)
<b>Ageing projects</b>	
MID2010/01	Routine age determination of hoki and middle depth species from commercial fisheries and trawl surveys
<b>Stock Assessment</b>	
DEE2010/02	Stock assessment of deepwater and middle depth fish stocks (OEO (SSO 1), SCI3, LIN5&6)
HOK2010/01	Hoki population modelling and stock assessment
SBW2010/01	Southern blue whiting (SBW 6B – Bounty Islands) stock assessment
<b>Stock characterisations</b>	
DEE2010/07	Characterisation and fishery monitoring of deepwater and middle depth species (EMA, BYX, FRO, WWA, GSP, SPE)
<b>Scampi camera surveys</b>	
SCI2010/02	Estimating the abundance of scampi in SCI1 using photographic surveys
SCI2010/03	Estimating the abundance of scampi in SCI2 using photographic surveys
<b>Aquatic environment</b>	
DAE2010/01	Taxonomic identification of benthic samples
DAE2010/02	Bycatch monitoring and quantification of deepwater stocks (SQU)
DAE2010/03	Ecological risk assessment for deepwater stocks (ORH, OEO, CDL, and BYX)
DAE2010/04	Monitoring the trawl footprint for deepwater fisheries
PRO2010/01	Estimating the nature and extent of incidental captures of seabirds, marine mammals and turtles in New Zealand commercial fisheries

## Additional Research

The following table shows the ‘additional research’ scheduled for delivery during 2011-12:

**Table 8: Additional Research for the 2011-12 year**

Project code	Title
DEE2011-02	Ageing validation for RBY, RIB & LDO
DEE2011-03	Level 1 Risk Assessment for Tier 3 stocks
DEE2011-04	Management Strategy Evaluation for ORH 1
DEE2011-05	Complete experimental acoustic survey for ORH in either Puysegur or NW Chatham Rise

## Department of Conservation – related research

The Marine Conservation Services group at the Department of Conservation 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 2011-12 will be relevant to the Management Actions above, and should be taken into account for future management decisions and research planning activities. For more detail on the projects in Table 9, please see the Marine Conservation Services Annual Plan for 2011-12.

**Table 9: Department of Conservation research relating to deepwater fisheries**

Project code	Title
POP2011-01	New Zealand sea lions – Auckland Islands population study
POP2011-05	Identify New Zealand fur seal populations bycaught in commercial fisheries
POP2011-06	Protected coral distribution and overlap with commercial fishing
MIT2011-02	Scampi trawl – mitigate seabird captures
MIT2011-04	Inshore bottom longline – novel methods to reduce availability of hooks to seabirds (LIN fisheries)

## C. Customary team

The Fisheries Management Customary Team is responsible for liaising with iwi on the development of Iwi Fisheries Plans and Forum Fisheries Plans to ensure that Maori interests in fisheries management are addressed.

**Table 10: Actions and services required from the Fisheries Management – Customary team**

#	Action	Service	Timeframe
2	Continue implementation of the National Deepwater Plan	Collaborate on development of 2012-13 Annual Operational Plan to ensure consideration and prioritisation of IFP/FFP objectives for the management of deepwater fisheries	Jan-Jun 2012
7	Ensure sufficient and appropriate engagement with tangata whenua through the integration of Iwi Fisheries Plans (IFP) and Forum Fisheries Plans (FFP) into the National Deepwater Plan and its components	Liaise with FM-deepwater team to develop a communication programme to effectively engage with iwi on deepwater fisheries management issues  Provide mechanism to ensure relevant objectives (specified in IFP/FFP) are incorporated into relevant AOPs	Ongoing

## 2. Field Operations

The Field Operations Group is responsible for providing the intervention services to achieve cost-effective compliance with fishery management strategies. It provides advice to fisheries managers on the most efficient and effective combination of intervention services to manage risks and achieve objectives. The group also includes observer services, which provide at-sea information on fisheries.

### A. Compliance

Successfully delivering on the management objectives for deepwater fisheries is dependent upon high levels of compliance with the various sustainability and environmental management rules defined in legislation. Areas of compliance concern in deepwater

fisheries relate primarily to misreporting in terms of areas fished (known as “trucking”), species fished (falsifying returns) and quantities taken (unreported discarding or landing).

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 law 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 for 2011-12 required to support the successful delivery of the management objectives contained in the National Deepwater Plan are listed in Table 11. These service requirements are in addition to the general monitoring and surveillance activities undertaken by the Field Operations - Compliance Business group.

**Table 11: Actions and services required from the Field Operations – Compliance team**

#	Action	Service	Timeframe
1	Review up to 7 stocks for 1 October and 4 stocks for 1 April sustainability rounds, including deemed values	Review Advice Papers and provide feedback regarding compliance implications	Sep 2011 Mar 2012
2	Continue implementation of the National Deepwater Plan	Provide input into the development of pilot ARR and 2012-13 AOP	Oct-Dec 2011 Feb 2012
5	Implement management regime for SQU6T fishery to address interactions with sea lions	Implement monitoring regime in SQU6T fishery including ongoing SLED inspections	Jan-Jun 2012
10	Assess and manage the level of seabird interactions with deepwater fishing activity	Monitor seabird interactions and adherence to regulatory measures and VMPs in deepwater fisheries	Ongoing
11	Assess and manage the level of marine mammal interactions with deepwater fishing activity	Monitor marine mammal interactions and adherence to the MMOP in deepwater fisheries	Jan-Jun 2011
14	Ensure continued implementation of registration process and risk-based observer coverage for foreign charter vessels	Participate in FCV registration process including assessment of risk to New Zealand fisheries posed by the vessel and regular inspections of vessels to ensure compliance with observer standard and appropriate equipment to fish in New Zealand Monitor adherence to VMPs and MMOP	Ongoing
18	Facilitate continued implementation of the VADE compliance model through monitoring and communicating levels of fisher compliance against agreed benchmarks and non-regulatory management measures	Monitor levels of compliance against benchmarks and report quarterly	Ongoing

#	Action	Service	Timeframe
19	Complete risk profiles of a further two deepwater fisheries	Complete Level 1 risk profiles for orange roughy and southern blue whiting fisheries Complete high-level retrospective analyses	
20	Ensure that appropriate and transparent action is taken when compliance levels in any deepwater fishery fall below the agreed benchmarks	Report quarterly on any breaches and enforcement actions taken	Ongoing
35	Implement and monitor sub-Antarctic MPAs	Monitor adherence to MPA regulations	Ongoing

## B. Observer Programme

The Ministry of Fisheries observer programme 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. Data collected by observers indirectly contributes to management of all deepwater fisheries, however, Table 12 sets out the Management Actions to which the at-sea observer programme directly contributes.

**Table 12: Actions and services required from the Field Operations – Observer Programme**

#	Action	Service	Timeframe
2	Continue implementation of the National Deepwater Plan	Provide input and review of 2012-13 Annual Operational Plan	Mar-Jun 2012
4	Implement 10 Year Research Programme for Deepwater fisheries	Ensure observer services are structured and delivered to plan so as to provide necessary data for research contracted under 10 Year Research Programme	Ongoing
9	Ensure recommendations from observer optimisation project are implemented so that 1) sufficient and appropriate data is collected and 2) information and communication channels are operating effectively	Liaise with FM-Deepwater, FM-Science, DOC, and industry to ensure data collection requirements are met (See section below on monitoring requirements for 2011-12)	Ongoing
10	Assess and manage the level of seabird interactions with deepwater fishing activity	Monitor seabird interactions and adherence to VMPs in deepwater fisheries and communicate performance to FM-Deepwater and DWG	Ongoing
11	Assess and manage the level of marine mammal interactions with deepwater fishing activity	Monitor marine mammal interactions and adherence to MMOP in deepwater fisheries and communicate performance to FM-Deepwater and DWG	Ongoing
14	Ensure continued implementation of registration process and risk-based observer coverage for FCVs	Implement risk-based observer coverage on foreign charter vessels	Ongoing



#	Action	Service	Timeframe
18	Facilitate continued implementation of the VADE compliance model through monitoring and communicating levels of fisher compliance against agreed benchmarks and non-regulatory management measures	Monitor fisher compliance and adherence to VMPs, MMOPs and other non-regulatory management measures  Monitor compliance with regulatory framework and at-sea vessel performance	Ongoing
24	Assess and manage the level of protected shark interactions with deepwater fishing activity with a focus on minimising generic reporting codes	Monitor and record all protected shark interactions in deepwater fisheries  Accurately report bycatch information in all deepwater fisheries with a focus on identifying deepwater shark species	Ongoing
30	Monitor non-regulatory management measures including sub-QMA catch limits and protected species operational procedures	Monitor adherence to VMPs, MMOP and other non-regulatory measures where applicable	Ongoing
33	Monitor catches of and assess risks to non-QMS (Tier 3) species from deepwater fishing activity	Monitor and accurately record captures of incidental bycatch species	Ongoing

### Planned Observer Monitoring for 2011-12

Biological sampling and environmental monitoring is driven by the 10 Year Research Programme and carried out by the Ministry of Fisheries 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

Currently in deepwater fisheries 10-40% of tows are observed. Through the 10 Year Research Programme the Ministry, in collaboration with industry, intends to move to full observer coverage as part of a phased increase. Under this proposal all deepwater vessel would carry an observer.

Observer coverage for 2011/12 for the deepwater and middle-depth fisheries will build on existing levels of coverage with an additional 620 days resulting in planned coverage of 5640 days. There is currently an observer optimisation project underway which will give greater clarity and direction for observer coverage from 2012-13.

Observer coverage is split between the Ministry of Fisheries and the Department of Conservation (DOC). The split is based on the requirements on 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.



**Table 13: Planned observer coverage in deepwater fisheries for 2011-12 (CR % = Percent of days cost recovered by each agency)**

<b>Fishery</b>	<b>Fisheries covered</b>	<b>Total days</b>	<b>Ministry CR %</b>	<b>DOC – CSP CR %</b>
<b>Deepwater trawl fisheries:</b>				
ORH 1		65	90	10
East Coast NI Deepwater	ORH2A BYX2 CDL2	269	90	10
Chatham Rise Deepwater	ORH3B OEO3A, OEO4 BYX3	310	90	10
Sub-Antarctic Deepwater	ORH3B OEO1, OEO6	254	90	10
West Coast NI Deepwater	ORH7A	15	90	10
<b>Hoki &amp; Middle Depth trawl fisheries:</b>				
West Coast SI (FMA7)	HOK1 HAK7 LIN7 SWA1 JMA7 EMA7	971	85	15
Cook Strait	HOK1 HAK1, HAK7 LIN2, LIN7	250	85	15
Chatham Rise (FMA3/FMA4)	HOK1 HAK1, HAK4 LIN3, LIN4 SWA3, SWA4 JMA3 EMA3	961	85	15
Sub-Antarctic (FMA5/FMA6)	HOK1 HAK1 LIN5, LIN6 SBW6B, SBW6I, SBW6R JMA3 EMA3	895	85	15
West Coast NI (FMA8)	HOK1 LIN7 SWA1 JMA7 EMA7	230	85	15
<b>Deepwater bottom longline fisheries:</b>				
Bottom longline	LIN PTO1	190	85	15
<b>Shellfish:</b>				
Scampi	SCI (all)	450	85	15
<b>Aquatic Environment:</b>				
Sea lion interactions	SQU6T	700	80	20
	<b>Total days:</b>	5640		

Observer coverage planned for 2011/12 will be used to collect biological information that can be classified into two categories, key sampling, and specific sampling.

## Key sampling

Key sampling covers the annual routine 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 of bycatch of non-QMS fish species.

## Specific sampling

Specific sampling for a given fishing year includes targeted sampling where we need 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 2011-12 the following Tier 2 stocks will be targeted for data collection leading into characterisations in 2012-13:

- RBY (all stocks)
- SWA (all stocks)
- BAR (4, 5, 7)
- SPD (4, 5)
- RBT (all stocks)
- GSH (4, 5, 6)

Specific sampling of environmental interactions in 2011-12 will focus on warp strike monitoring in hoki and squid fisheries, fur seal interactions in the Cook Strait hoki fishery, increasing coverage on foreign charter vessels under a new risk-based coverage policy, and focused coverage on vessels carrying out acoustic research surveys.

## 3. Strategy

The Strategy Group is responsible for developing the framework, including standards and policy to meet Deed of Settlement obligations, and guide fisheries management at both a national and international level. The Strategy Group includes the Chief Scientist, the Regulatory and Standards team, the International team, the Policy group and the Treaty Settlements team.

### A. Regulatory and Standards team

The fisheries management regime is supported by a complex series of fisheries regulations. In deepwater fisheries, the majority of the regulations are generic and apply to all vessels operating in the sector. Implementation of the National Deepwater Plan may lead to review and/or revision or discarding of regulations as issues arise during the delivery of individual operational objectives.

**Table 14: Actions and services required from the Strategy – Regulatory and Standards team**

#	Action	Service	Timeframe
2	Continue implementation of the National Deepwater Plan	Provide input and review of 2012-13 Annual Operational Plan	Mar-Jun 2012
15	Address outcomes of the risk based approach to seabird interactions to deepwater fisheries, with a focus on the scampi fishery	Support implementation of risk-based seabird assessment across deepwater fisheries Monitor programme of deepwater fisheries against the seabird policy	Ongoing

#	Action	Service	Timeframe
23	Determine habitats covered by agreed definition of 'habitats of particular significance for fisheries management purposes' beginning with the hoki fishery	Finalise definition of 'habitats of particular significance for fisheries management purposes'	Jul-Sep 2011
35	Implementation and management of sub-Antarctic MPAs	Implement regulatory measures to establish MPAs	Ad hoc
36	Implement industry-led proposals to ensure structure of QMAs is consistent with biological and management information	Implement regulatory programme to support any changes in QMA structure	Ad hoc

## B. International

Deepwater fisheries management requires input from the international team on the implementation of the management regime for Patagonian toothfish, support on market access issues affecting deepwater fisheries as they arise, and issues associated with foreign charter vessels operating in New Zealand waters (MA #14, 16 and 31).

## C. Science

Management of deepwater fisheries requires advice from the Strategy-Science team on implementation and applicability of the Harvest Strategy Standard and the Ministry Research Standard (MA #1, 12, 25, 28).

## 4. Organisation Services

The Organisation Services Group is responsible for organisation direction and strategy, developing organisational capability to implement strategy and providing financial and information services to the organisation to allow for effective management. This group includes the information, finance, and legal services.

### A. Legal

The Ministry of Fisheries' legal team provides expert knowledge and legal opinions on the interpretation of relevant fisheries legislation to support policy development and management interventions. Table 15 sets out specific Management Actions that will require services from the legal team, however, deepwater fisheries management will require ad hoc legal advice throughout the year as issues arise.

**Table 15: Actions and services required from the Organisation Services – Legal team**

#	Action	Service	Timeframe
1	Review up to seven stocks for 1 October and four stocks for 1 April sustainability rounds, including deemed values	Legal peer review of up to seven advice papers for 1 October fishing year	Jun-Sept 2011
		Legal peer review of up to four advice papers for 1 April fishing year	Jan-Mar 2012

#	Action	Service	Timeframe
2	Continue implementation of the National Deepwater Plan	Provide input and review of 2012-13 Annual Operational Plan	Mar-Jun 2012
5	Implement management regime for SQU 6T fishery to address interactions with sea lions	Legal peer review of final SQU 6T advice paper	Dec 2011
14	Ensure continued implementation of registration process and risk-based observer coverage for foreign charter vessels	Provide legal advice and input on vessel registration applications and assignment of risk status Provide advice on any conditions to be placed on a vessel's registration	Ongoing
36	Implement industry-led proposals to ensure structure of QMA's is consistent with biological and management information	Legal advice on amalgamation of frostfish QMA's 7, 8 and 9 into a single QMA (subject to approval from industry)	Ongoing
13, 16, 35	Multiple	Legal advice on regulatory actions as per Management Actions referenced at left	Ongoing

## B. Finance

Finance is responsible for asset management, centralised purchasing, facilities and contracts management, and guidance to the rest of the organisation.

**Table 16: Actions and services required from the Organisation Services – Finance team**

#	Action	Service	Timeframe
4, 15	Multiple	Administration and implementation of cost recovery process	Ad hoc

## C. Information Services

The Information Services team is responsible for the information systems of the Ministry, ensuring effective collection of information and 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 FM-Deepwater team and the Ministry as a whole.

**Table 17: Actions and services required from the Organisation Services – Information services team**

#	Action	Service	Timeframe
1, 2, 5, 9, 10, 11, 16, 17, 24, 27	Multiple	Ongoing data management and geospatial analysis Provision of fisheries data and maps for fishery performance monitoring	Ad hoc

## 5. Office of the Chief Executive

The Office of the Chief Executive consists of the communications team, strategic projects, risk management team, and governance and ministerial team. The group is responsible for monitoring the performance of the Ministry, external communications such as press releases, and all Ministerial communications.

### A. Governance and Ministerials

The Governance and Ministerials Servicing Team is responsible for ensuring governance groups within the Ministry function effectively and ensuring that ministerial processes are managed effectively.

**Table 18: Actions and services required from the Office of the Chief Executive – Governance and Ministerials team**

#	Action	Service	Timeframe
2, 5, 23	Ensure completion of quality Ministerial communications including briefings, Ministerials, and Official Information Act requests within designated timeframes	Coordination of briefings, Ministerials and OIA requests	Ongoing

### B. Communications

The external communications team coordinates the Ministry's media presence and communications with the general public.

**Table 19: Actions and services required from the Office of the Chief Executive – Communications team**

#	Action	Service	Timeframe
2, 17	Multiple	Media relations	Ongoing
31	Support to minimise market access limitations for NZ deepwater fisheries	Contribute to market access responses	Ad hoc

## 6. Treaty Partnerships

The Treaty Partnerships team has four key objectives:

1. To support the DCE Treaty Partnership with fisheries management advice
2. To develop and implement a monitoring system to evaluate Ministry progress on meeting its obligations to Maori
3. To support iwi forums in order to enable the development of Iwi Fisheries Plans and Forum Fisheries Plans
4. To provide advice, facilitation and consultation for other Ministry business groups on engagement with tangata whenua

**Table 20: Actions and services required of the Treaty Partnerships team**

#	Action	Service	Timeframe
2	Continue implementation of the National Deepwater Plan	Collaborate on development of 2012-13 Annual Operational Plan to ensure consideration of IFP/FFP objectives for the management of deepwater fisheries	Ongoing
7	Ensure sufficient and appropriate engagement with tangata whenua through the integration of Iwi Fisheries Plans (IFP) and Forum Fisheries Plans (FFP) into the National Deepwater Plan and its components	<p>Liaise with FM-deepwater team to develop a communication programme to effectively engage with iwi on deepwater fisheries management issues</p> <p>Provide mechanism to ensure relevant objectives (specified in IFP/FFP) are incorporated into relevant AOP</p>	Ongoing

## DeepWater Group Ltd. Services

DeepWater Group Ltd (DWG) is an amalgamation of EEZ fisheries quota owners in New Zealand. DWG works in partnership with the Ministry to ensure New Zealand gains the maximum economic yield from New Zealand's deepwater fisheries resources managed within a long-term, sustainable framework. 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 fleet to facilitate full engagement on management of deepwater fisheries.

The Ministry of Fisheries signed a Memorandum of Understanding (MOU) with the DeepWater Group Ltd in 2006. This MOU has subsequently been updated, most recently in 2010. The MOU establishes a structured partnership for the Ministry and DWG to manage New Zealand's deepwater fisheries in tandem. 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 21: Actions and services required from DeepWater Group Ltd.**

#	Action	Service	Timeframe
2	Continue implementation of the National Deepwater Plan	<p>Contribute to the development of fishery specific chapters for hake and oreo</p> <p>Contribute to the development of the pilot ARR and 2012-13 AOP</p>	Ongoing
3	Deliver collaborative management of deepwater fisheries through implementation of the MOU	Coordinate and participate in the Deepwater Management Forum and Deepwater Secretariat	Ongoing
8	Enable continued MSC Certification of hoki including delivering on CoCs, passing the annual surveillance audit, and ensuring recertification	<p>Coordinate the completion of any Conditions of Certification to ensure they are met within required timeframes</p> <p>Coordinate material for annual surveillance audit and re-certification process</p>	Ongoing

#	Action	Service	Timeframe
10	Assess and manage the level of seabird interactions with deepwater fishing activity	Audit VMP forms and provide information to the Ministry Fisheries Management – Deepwater team and communicate to fleet Continue seabird mitigation education programme and distribution of learning resources Collaborate with the Ministry to address at-sea issues related to seabird interactions in real-time	Ongoing
11	Assess and manage the level of marine mammal interactions with deepwater fishing activity	Audit MMOP forms and provide information to the Ministry Fisheries Management – Deepwater team and communicate to fleet Collaborate with the Ministry to address at-sea issues relating to marine mammal interactions in real-time	Ongoing
12	Develop and implement specific harvest strategies for Tier 1 species	Engage on development of biological reference points and harvest strategies for orange roughy, southern blue whiting, and ling in the first instance	Ongoing
14	Ensure continued implementation of registration process and risk-based observer coverage for FCVs	Liaise with industry to minimise risks associated with foreign charter vessels operating in New Zealand	Ongoing
18	Facilitate continued implementation of the VADE compliance model through monitoring and communicating levels of fisher compliance against agreed benchmarks and non-regulatory management measures	Facilitate industry engagement through the Deepwater Compliance Committee Monitor and report compliance with non-regulatory measures including sub-QMA area catch reporting	Ongoing
20	Take appropriate and transparent action when compliance levels in any deepwater fishery fall below agreed benchmarks	Address any breaches or unsatisfactory adherence levels with non-regulatory measures	Ongoing
21	Support MSC Certification of hake, southern blue whiting, and ling	Complete MSC certification requirements for southern blue whiting, ling, and hake fisheries Ensure any Conditions of Certification are met within timeframes	Ongoing
22	Implement an effective in-season management regime to support delivery of the harvest strategy and where possible, the economic yield strategy for hoki	Work with the Ministry to coordinate development of economic yield strategy Develop non-regulatory management measures to deliver strategy as appropriate (monitoring of which will be completed under Action #31)	Ongoing
24	Assess and manage the level of protected shark interactions with deepwater fishing activity with a focus on minimising the use of generic reporting codes	Analyse protected shark interactions and liaise with Fisheries Management – Deepwater team on potential measures to minimise interactions	Ongoing

#	Action	Service	Timeframe
26	Implement additional management measures to address adverse effects of the hoki fishery as identified by the ERA	Lead the development of management responses to the outcomes of the hoki ERA	Ongoing
28	Develop and implement specific management procedures for Tier 2 species	Engage on development of management procedures for silver warehou, white warehou, and black cardinalfish	Ongoing
29	Complete an ecological risk assessment on the effects of deepwater fisheries on the aquatic environment	Participate in ecological risk assessment of orange roughy fisheries	Jan-Jun 2012
30	Monitor non-regulatory management measures including sub-QMA catch limits and protected species operational procedures	Monitor compliance with non-regulatory measures including sub-QMA area catch reporting and protected species measures	Ongoing
31	Provide information and communications to minimise market access limitations for New Zealand deepwater fisheries	Coordinate market access issues from an industry perspective and work with the Ministry to address	Ongoing
36	Implement industry-led proposals to ensure structure of QMAs is consistent with biological and management information	Coordinate and lead proposal to amalgamate frostfish QMAs	Ad hoc



## Part 2C: 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 22. The harvest strategy for each species is summarised, together with details of any in-season management measures that are in place (where appropriate), and a description of the action that will be taken if stock status falls below the management target and reaches 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 22: 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 Ribaldo: RIB3-RIB8 Patagonian toothfish: All
Southern Blue Whiting	
Ling	Ribaldo Patagonian toothfish

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 against in ARRs.

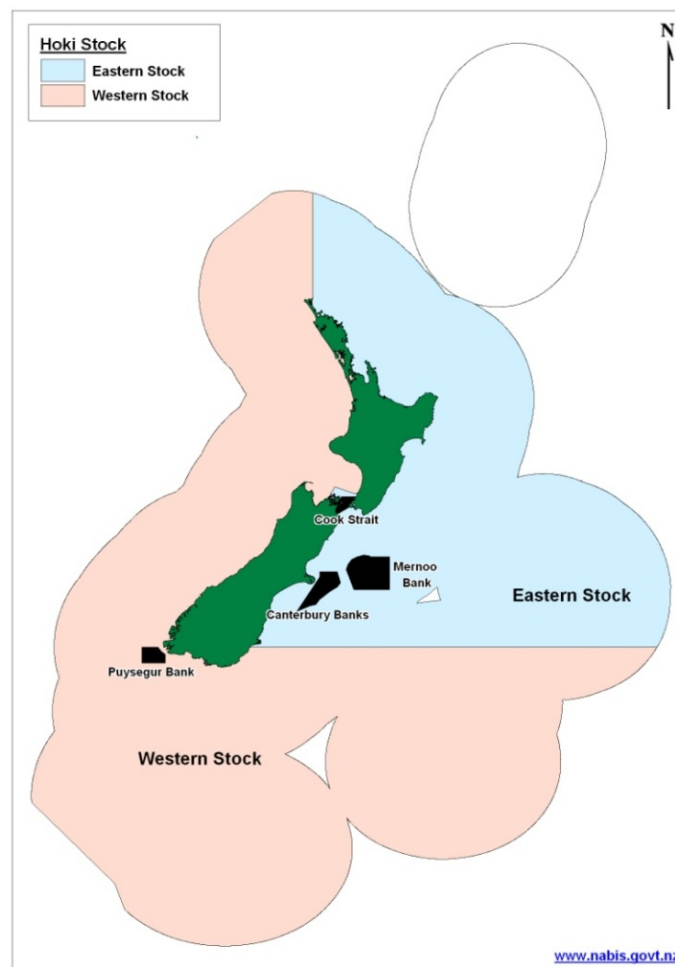
## Management overviews

### 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: Map detailing the 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, based on the results of an annual stock assessment. 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 proportions 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 targeting of hoki in areas of relatively high known juvenile abundance (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 each year through two fisheries independent wide area trawl surveys, one of the Chatham Rise, and the other of the sub-Antarctic. Both these trawl surveys represent established time series' of hoki abundance estimates, and take place during summer.

Under the 10 Year Research Programme, the intention is to establish a survey on the west coast of the South Island to monitor the Western stock spawning aggregations, however this is still in early design phases and it is unclear when this will be implemented. 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 23: 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, then the hoki rebuild strategy will be implemented. TACC or other management regimes may also 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.

Information on the current status of hoki stocks can be found in Appendix I, or for more information see the 2011 Stock Assessment Plenary.

## Bycatch fisheries

### Management Approach

Key bycatch (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 3 year intervals to determine potential approaches for monitoring. Additional stock monitoring for the bycatch species is based on information availability and varies by species as described in Table 24 below:

**Table 24: Monitoring approach for Tier 2 key bycatch stocks**

Stock	Monitoring approach
Silver warehou	<ul style="list-style-type: none"> <li>• CPUE in SWA1</li> <li>• Work will continue to establish CPUE for SWA 3 &amp; 4</li> <li>• Otoliths will be collected in SWA 1, 3 and 4 for catch-at-age information</li> </ul>
Frostfish	<ul style="list-style-type: none"> <li>• Characterisation to determine if CPUE might be a useful index of abundance</li> <li>• Otoliths will be collected in FRO 7 &amp; 8 for catch-at-age information</li> </ul>
Spiny dogfish	<ul style="list-style-type: none"> <li>• Characterisations will be used to determine if CPUE can be used as an index of abundance</li> </ul>
White warehou	<ul style="list-style-type: none"> <li>• CPUE will be investigated as a tool to monitor abundance</li> <li>• Otoliths will be collected in WWA 5&amp; 6 for catch-at-age information</li> </ul>
Lookdown dory	<ul style="list-style-type: none"> <li>• Relative abundance is monitored in annual hoki trawl surveys of the Chatham Rise and Sub-Antarctic</li> <li>• Otoliths will be collected in LDO 3 for catch-at-age information</li> </ul>

### Harvest strategy

The harvest strategy for all the Tier 2 stocks is based on the following generic reference points (Table 25) 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.

**Table 25: Harvest strategy for the Tier 2 key bycatch stocks of the hoki fishery**

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 should be considered for closure.
Rebuild strategy	To be determined*.
Harvest control rule	To be determined*.

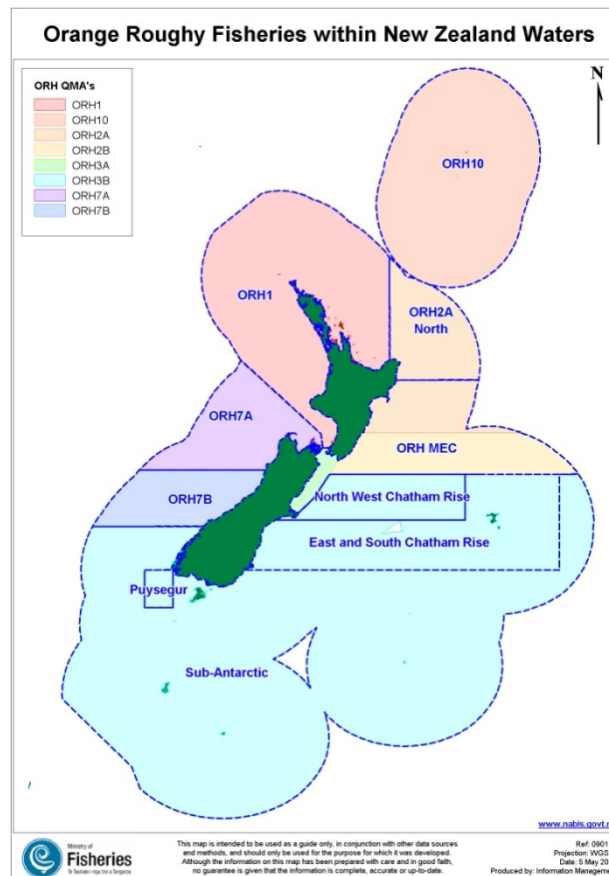
\*As information becomes available, further management responses will be determined for Tier 2 fisheries

Information on the current status of hoki bycatch stocks can be found in Appendix I, or for more information see the 2011 Stock Assessment Plenary.

## 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: Map detailing orange roughy QMAs and management sub-areas**

The current management approach differs among the eight stocks as summarised in Table 26, below. Table 26 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 the maximum sustainable yield ( $MSY$ ). This fishing mortality rate is referred to as  $F_{MSY}$ .  $F_{MSY}$  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 26.

**Table 26: 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)	$F_{MSY}$ approach	Acoustic survey of spawning plume
	ORH3B (Puysegur)	$F_{MSY}$ approach	Acoustic survey
	ORH3B (NW Chatham Rise)	Model-based approach	Acoustic/trawl survey
	ORH7A	$F_{MSY}$ approach	Likely acoustic survey – will confirm after June 2010 survey
	ORHMEC	Assessment model biomass and outputs used as basis for $F_{MSY}$ approach	Trawl survey
	ORH1	Subject to ORH management strategy evaluation proposed for Year 1	
Tier 2 orange roughy stocks	ORH1 (Mercury-Colville)	Subject to ORH management strategy evaluation proposed for Year 1	
	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 27, below.

The  $F_{MSY}$  management approach has been adopted for the major Tier 1 stocks, to give effect to the reference points described in Table 26. To date, this approach has been applied to the ORH3B (E & S Chatham Rise and Puysegur), ORH7A, and MEC fisheries.

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)



**Table 27: 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 2011 Stock Assessment Plenary.

## Bycatch fisheries

### Black cardinalfish

#### Management Approach

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 3 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 following generic reference points 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.

**Table 28: Harvest strategy for black cardinalfish**

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	To be determined.

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

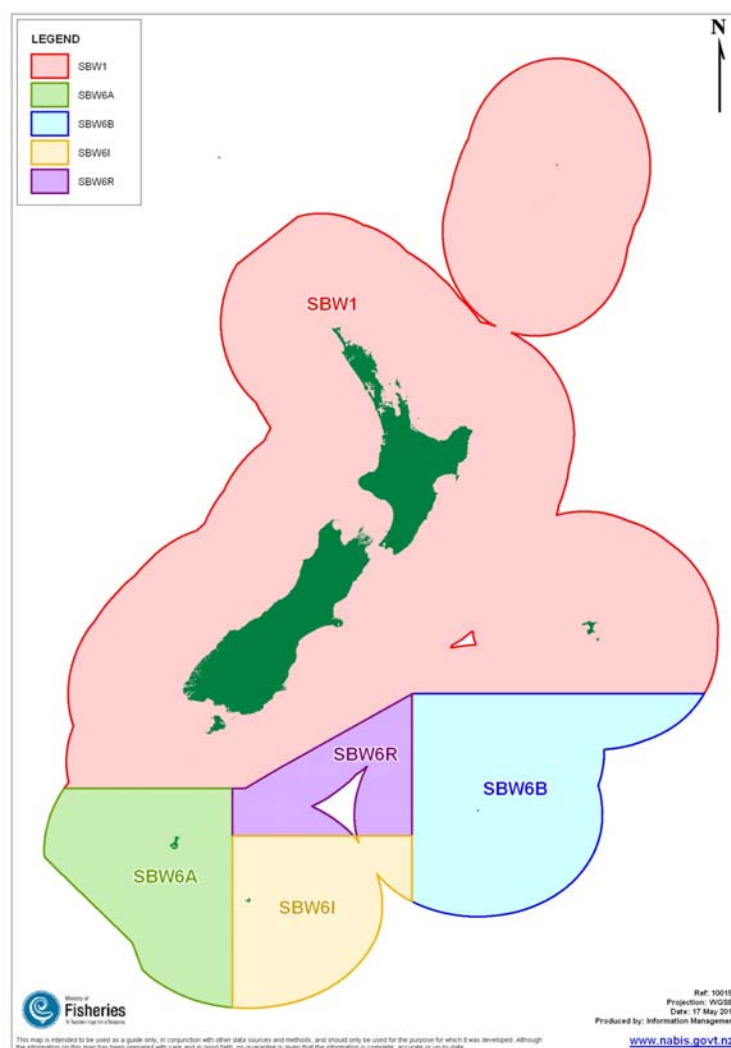
Information on the current status of black cardinalfish stocks can be found in Appendix I, or for more information see the 2011 Stock Assessment Plenary.

## 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 (SBW 6B)
2. Auckland Islands (SBW 6A) (Tier 2)
3. Campbell Islands Rise (SBW 6I)
4. Pukaki Rise (SBW 6R)



**Figure 5: Map detailing 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 8 tonnes is set, to account for southern blue whiting taken as bycatch. On average, 7 tonnes of SBW1 is taken per year, the majority as bycatch in target hoki and silver warehou tows.

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 and this approach will be revised. 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).<sup>7</sup> 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 (e.g. SBW 6I), the CAY is generated through a 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. However at present, SBW6I is the only stock with an acceptable assessment model. Models will be developed for SBW6B and SBW6R for the stock assessments planned through the 10 Year Research Plan for Deepwater Fisheries.

In the absence of an accepted stock assessment model, 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 resulting 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 29: 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

<sup>7</sup> 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.

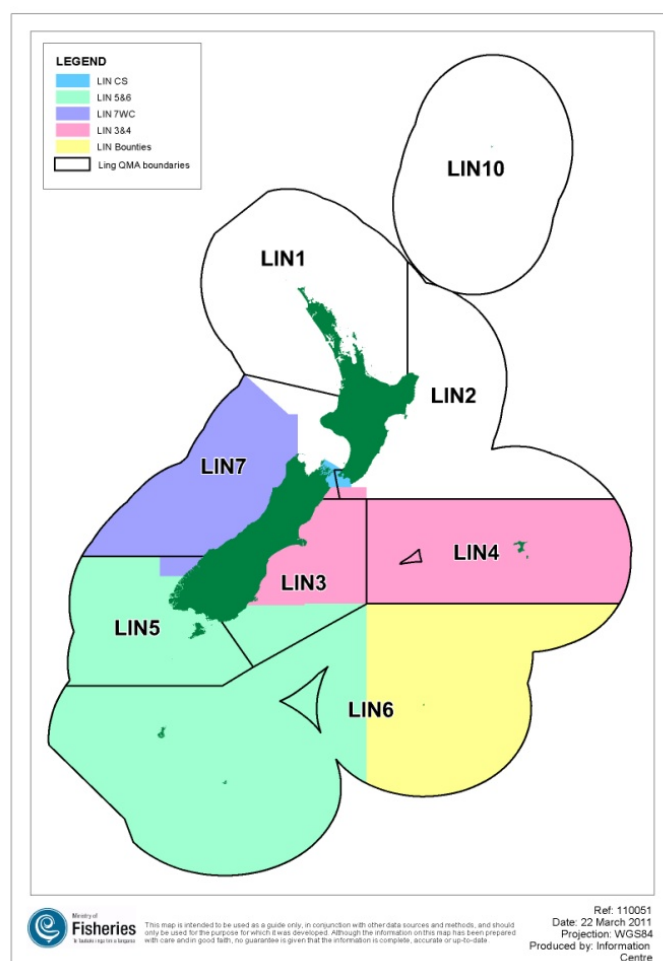
Information on the current status of southern blue whiting stocks can be found in Appendix I, or for more information see the 2011 Stock Assessment Plenary.

### **Bycatch fisheries**

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

## Management approach

- LIN 3 and 4 combined (Chatham Rise)
- LIN 5 and 6 combined (Sub Antarctic)
- LIN 7 (West Coast South Island)
- Cook Strait (part of both LIN 2 and 7)
- Bounty Platform (LIN 6B)



The management approaches for ling differ by stock, but all are based on regular 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.

2011-12 Deepwater Annual Operational Plan

## Harvest Strategy

Currently there is no stock specific harvest strategy in place for ling fisheries. This is expected to 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 30: Interim harvest strategy for ling**

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	To be determined.

Information on the current status of ling stocks can be found in Appendix I, or for more information see the 2011 Stock Assessment Plenary.

## Associated species

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

- Patagonian toothfish: PTO1
- Ribaldo: RIB3-RIB8

## Patagonian toothfish

### Management approach

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 no history to inform a management approach. For 2011-12, the management focus is 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 a 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 2011 Stock Assessment Plenary.

## Ribaldo

### Management approach

Only ribaldo stocks RIB 3-8 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 3 years.

### Harvest strategy

The harvest strategy for all the Tier 2 stocks is based on the following generic reference points (Table 31) 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.

**Table 31: Default harvest strategy for Tier 2 species**

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 should be considered for closure.
Rebuild strategy	To be determined*.
Harvest control rule	To be determined*.

\*As information becomes available, further management responses will be determined for Tier 2 fisheries

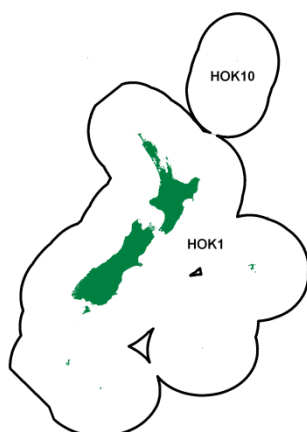
Information on the current status of ribaldo stocks can be found in Appendix I, or for more information see the 2011 Stock Assessment Plenary.

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

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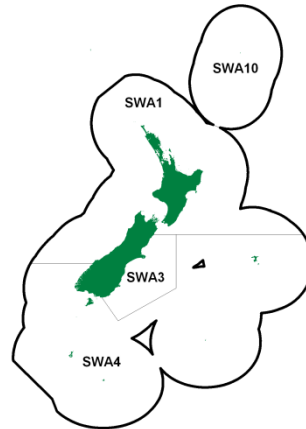
## HOK: Hoki (Tier 1)



Catch limits and Allowances as of 1 October 2010 (tonnes)					
Stock	TAC	TACC	Recreational	Customary	Other fishing-related mortality
HOK1	121,140	120,000	20	20	1,200
Catch split					
Eastern stock		60,000 tonnes			
Western stock		60,000 tonnes			
Harvest strategy					
Metric			Status		
Target range		35-50% B <sub>o</sub>			
B <sub>MSY</sub>	Eastern stock	24% B <sub>o</sub>	B <sub>2010</sub> : 51-57% B <sub>o</sub>		
	Western stock	25% B <sub>o</sub>	B <sub>2010</sub> : 40%B <sub>o</sub> – 52%B <sub>o</sub>		
Soft limit		20%B <sub>o</sub>	Both stocks ‘Exceptionally Unlikely’ to be below limit		
Hard limit		10%B <sub>o</sub>	Both stocks ‘Exceptionally Unlikely’ to be below limit		
Exploitation rate (F)		10-25% of target biomass			
Deemed value rates					
Stock		Interim	Annual	Differential	
HOK1		\$0.45 per kg	\$0.90 per kg	\$1.30 @ >102%	
Current environmental indicators					
Seabirds		2008-09: 341 estimated seabird captures <sup>8</sup>			
Marine mammals		2008-09: 188 estimated fur seal captures <sup>8</sup>			
Benthic interactions		2008-09: 0.44% of EEZ		Total from 1989-90 to 2008-09: 4.0% of EEZ	
Current value indicators					
Quota value 2009		\$815m			
Export earnings 2009		\$152m			

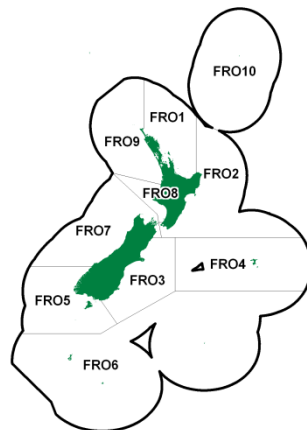
<sup>8</sup> From "Summary of the capture of seabirds, marine mammals, and turtles in New Zealand commercial fisheries, 1998-99 to 2008-09" Dragonfly.

## SWA: Silver warehou (Tier 2)



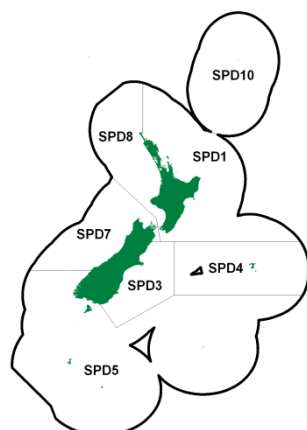
Catch limits and Allowances (tonnes)				
Stock	1 Oct 2010 TAC	1 Oct 2010 TACC	Recreational	Customary
SWA 1	3,003	3,000	2	1
SWA 3	N/A	3,280	N/A	N/A
SWA 4	N/A	4,090	N/A	N/A
Reference points – as per the Harvest Strategy Standard				
Deemed value rates				
Stock	Interim	Annual	Differential	
SWA 1	\$0.50 per kg	\$1.22 per kg	\$1.74 @ 110-130%	
SWA 3			\$3.00 @ >130%	
SWA 4				
Value Indicators				
Quota value 2009	\$83m			
Export earnings 2009	\$21.2m (may include some white warehou exports)			

## FRO: Frostfish (Tier 2)



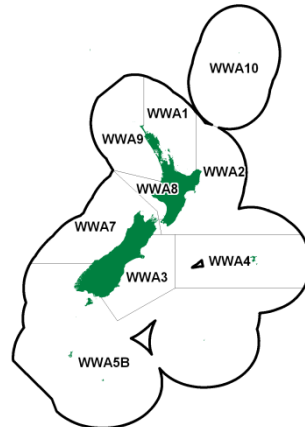
Catch limits and Allowances (tonnes)				
Stock	1 Oct 2010 TAC	1 Oct 2010 TACC	Recreational	Customary
FRO 3	176	176	0	0
FRO 4	28	28	0	0
FRO 5	135	135	0	0
FRO 6	11	11	0	0
FRO 7	2,625	2,623	1	1
FRO 8	649	649	0	0
FRO 9	140	138	1	1
Reference points – as per the Harvest Strategy Standard				
Deemed value rates				
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	
Value Indicators				
Quota value 2009	\$2.8m			
Export earnings 2009	No export information specific to frostfish is currently available			

## SPD: Spiny dogfish (Tier 2)



Catch limits and Allowances (tonnes)				
Stock	1 Oct 2010 TAC	1 Oct 2010 TACC	Recreational	Customary
SPD 4	1,662	1,626	10	10
SPD 5	3,753	3,700	8	8
Reference points – as per the Harvest Strategy Standard				
Deemed value rates				
Stock	Interim	Annual	Differential	
SPD 4 SPD 5	\$0.05 per kg	\$0.10 per kg	na	
Value Indicators				
Quota value 2009	\$6.1m			
Export earnings 2009	\$2.5m			

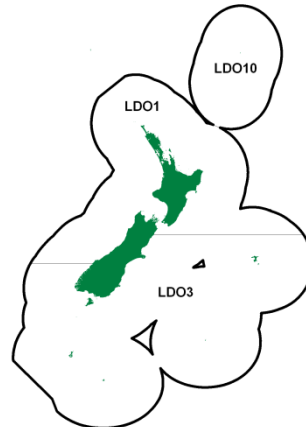
## WWA: White warehou (Tier 2)



Catch limits and Allowances for 1 Oct 2010 (tonnes)				
Stock	TAC	TACC	Recreational	Customary
WWA3	585	583	1	1
WWA4	332	330	1	1
WWA5B	2,621	2,617	2	2
WWA7	129	127	1	1
WWA8	1	1	0	0
WWA9	0	0	0	0
Reference points – as per the Harvest Strategy Standard				
Deemed value rates				
Stock	Interim	Annual	Differential	
WWA3 WWA4 WWA7 WWA5B	\$0.52 per kg	\$1.03 per kg	\$2.00 @ >110%	
WWA8 WWA9	\$0.27 per kg	\$0.54 per kg	na	
Value Indicators				
Quota value 2009	\$16.8m			
Export earnings 2009	No export information specific to white warehou is currently available			

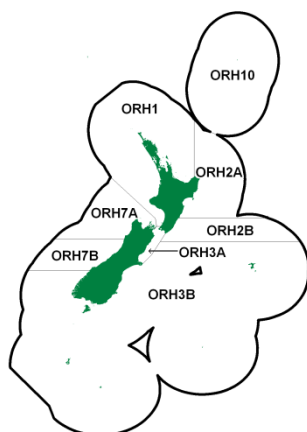


## LDO: Lookdown dory (Tier 2)



Catch limits and Allowances (tonnes)				
Stock	1 Oct 2010 TAC	1 Oct 2010 TACC	Recreational	Customary
LDO1	168	168	0	0
LDO3	614	614	0	0
Reference points – as per the Harvest Strategy Standard				
Deemed value rates				
Stock	Interim	Annual	Differential	
LDO1	\$0.21 per kg	\$0.42 per kg	na	
LDO3	\$0.21 per kg	\$0.42 per kg	na	
Value Indicators				
Quota value 2009	\$0.9m			
Export earnings 2009	Primarily sold domestically and does not feature in export statistics			

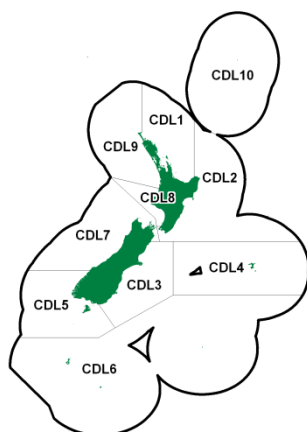
## ORH: Orange roughy (Tier 1)



Catch limits as of 1 Oct 2010 (tonnes)					
Stock	TAC	TACC	Recreational	Customary	Other fishing-related mortality
ORH 1	1,470	1,400	0	0	70
ORH 2A	1,158	1,100	0	0	58
ORH 2B	194	185	0	0	9
ORH 3A	436	415	0	0	21
ORH 3B	4,840	4,610	0	0	230
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		ORH 2A North		200	
ORH 2A South, 2B and 3A		MEC		1,500	
ORH 3B		NW Chatham Rise		750	
		E and S Chatham Rise		2,960 (plus an additional 250 t research allowance)	
		Puysegur		150	
		Sub-Antarctic		500	
Reference points and Current Status					
Target	B <sub>MSY</sub> is currently used as a default target level	ORH 1			
		ORH 2A North		B <sub>2003</sub> : 24% B <sub>0</sub>	
		ORH 2A South, 2B, 3A (MEC)		B <sub>2011</sub> : 9% or 23% B <sub>0</sub>	
		ORH 3B NW Chatham Rise		B <sub>2006</sub> : 9-11% B <sub>0</sub>	
		ORH 3B E & S Chatham Rise		B <sub>2011</sub> : 7-18%B <sub>0</sub>	
		ORH 3B Puysegur			
		ORH 3B Sub-Antarctic			
		ORH7A		Minimum estimate 23,000 t	
		ORH7B		B <sub>2004</sub> : 17% B <sub>0</sub>	
B <sub>MSY</sub>	30% B <sub>0</sub>				
Soft limit	20%B <sub>0</sub>	ORH 1			

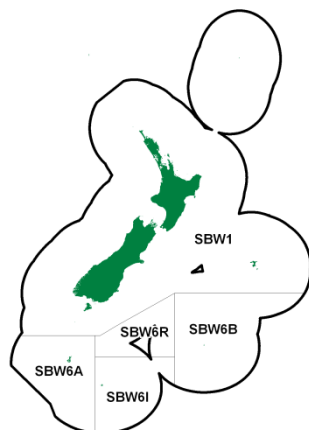
		ORH 2A North	Unlikely (<40%) below	
		ORH 2A, 2B, 3A (MEC)	Very Likely (>90%) below	
		ORH 3B NW Chatham Rise	Very Likely (>90%) below	
		ORH 3B E & S Chatham Rise	Very Likely (>90%) below	
		ORH 3B Puysegur		
		ORH 3B Sub-Antarctic		
		ORH7A	Unlikely (<40%) below	
		ORH7B	Likely (>60%) below	
Hard limit	10%B <sub>0</sub>	ORH 1		
		ORH 2A North	Very Unlikely (<10%) below	
		ORH 2A, 2B, 3A (MEC)	Unlikely (<40%) below	
		ORH 3B NW Chatham Rise	About As Likely As Not (40-60%) below	
		ORH 3B E & S Chatham Rise		
		ORH 3B Puysegur		
		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 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 3B		\$2.50 per kg	\$5.00 per kg	\$6.25 @ > 110%
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%	
Value Indicators				
Quota value 2009		\$282m		
Export earnings 2009		\$51m (may include some catch from outside the EEZ)		

## CDL: Black cardinalfish (Tier 2)



Catch limits as of 1 Oct 2010 (in tonnes)					
Stock	TAC	TACC	Recreational	Customary	Other fishing-related mortality
CDL 1	1,320	1,200	0	0	120
CDL 2	1,120	1,020	0	0	100
CDL 3	196	196	0	0	N/A
CDL 4	66	66	0	0	N/A
CDL 5	22	22	0	0	N/A
CDL 6	1	1	0	0	N/A
CDL 7	39	39	0	0	N/A
CDL 8	0	0	0	0	N/A
CDL 9	4	4	0	0	N/A
Reference points and Current Status					
Target	40% B <sub>0</sub>	CDL 2, 3 & 4	B <sub>2009</sub> : 12-24% B <sub>0</sub> Very Unlikely (<10%) at or above		
Soft Limit	20% B <sub>0</sub>	CDL 2, 3 & 4	Likely (>60%) below		
Hard Limit	10% B <sub>0</sub>	CDL 2, 3 & 4	About As Likely As Not (40-60%) below Unlikely (<40%) below		
Deemed value rates					
Stock		Interim	Annual	Differential	
CDL 1 CDL 6 CDL 7 CDL 8 CDL 9		\$0.15 per kg	\$0.30 per kg	na	
CDL 5		\$0.26 per kg	\$0.52 per kg	na	
CDL 2 CDL 3 CDL 4		\$0.26 per kg	\$0.52 per kg	\$0.60 @ > 120%	
Value Indicators					
Quota value 2009		\$4.2m			
Export earnings 2009		\$1.7m			

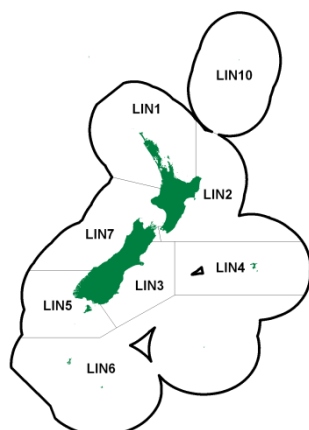
## SBW: Southern blue whiting (Tier 1)



Catch limits and Allowances ad of 1 April 2011 (tonnes)					
Stock	TAC	TACC	Recreational	Customary	Other fishing-related mortality
SBW 1	8,000	8,000	0	0	N/A
SBW 6A	1,640	1,640	N/A	N/A	N/A
SBW 6B	7,000	6,860	0	0	140
SBW 6I	30,000	29,400	0	0	600
SBW 6R	5,500	5,500	N/A	N/A	N/A
Harvest strategy					
Target		40% B <sub>o</sub>			
Soft limit		20%B <sub>o</sub>	Both stocks ‘Exceptionally Unlikely’ to be below limit		
Hard limit		10%B <sub>o</sub>	Both stocks ‘Exceptionally Unlikely’ to be below limit		
Exploitation rate (F)					
Deemed value rates					
Stock	Interim	Annual		Differential	
SBW1	\$0.45 per kg	\$0.90 per kg		\$1.30 @ >102%	
SBW 6A SBW 6B SBW 6I SBW 6R	\$0.41 per kg	\$0.46 per kg @ 100-102% \$0.60 per kg @ 102-150% \$0.92 per kg @ 150%+		N/A	
Current environmental indicators					
Seabirds		2008-09: 10 estimated seabird captures <sup>9</sup>			
Marine mammals		2008-09: 105 estimated fur seal captures <sup>9</sup>			
Benthic interactions		2008-09: 0.02% of EEZ		Total from 1989-90: 0.43% of EEZ	
Current value indicators					
Quota value 2009		\$74.3m			
Export earnings 2009		\$28.9m			

<sup>9</sup> From "Summary of the capture of seabirds, marine mammals, and turtles in New Zealand commercial fisheries, 1998-99 to 2008-09" Dragonfly.

## LIN: Ling (Tier 1)



Catch limits and Allowances (tonnes)				
Stock	1 Oct 2010 TAC	1 Oct 2010 TACC	Recreational	Customary
LIN 2	N/A	982	N/A	N/A
LIN 3	2,060	2,060	0	0
LIN 4	4,200	4,200	0	0
LIN 5	3,633	3,595	1	1
LIN 6	8,590	8,505	0	0
LIN 7	2,501	2,474	1	1
Default Harvest strategy				
Target	40% B <sub>0</sub>	LIN 3&4	Likely (>60%) to be at or above	
		LIN 5&6	Very Likely (>90%) to be at or above	
		LIN 6B	Very Likely (>90%) to be at or above	
		LIN7WC	Very Likely (>90%) to be at or above	
		LIN CS	Likely (>60%) to be at or above	
Soft limit	20%B <sub>0</sub>	LIN 3&4	Very Unlikely (<10%) to be below	
		LIN 5&6	Very Unlikely (<10%) to be below	
		LIN 6B	Very Unlikely (<10%) to be below	
		LIN7WC	Very Unlikely (<10%) to be below	
		LIN CS	Very Unlikely (<10%) to be below	
Hard limit	10%B <sub>0</sub>	LIN 3&4	Exceptionally Unlikely (<1%) to be below	
		LIN 5&6	Exceptionally Unlikely (<1%) to be below	
		LIN 6B	Exceptionally Unlikely (<1%) to be below	
		LIN7WC	Exceptionally Unlikely (<1%) to be below	
		LIN CS	Exceptionally Unlikely (<1%) to be below	
Deemed value rates				
Stock	Interim	Annual 100-102%	Annual 102-120%	Annual 120%+
LIN 2 LIN 3 LIN 4 LIN 5 LIN 6 LIN 7	\$1.20 per kg	\$2.38 per kg	\$3.40 per kg	\$6.00 per kg
Current environmental indicators				
Seabirds	2008-09: 40 est. captures(trawl) 589 est. captures (longline) <sup>10</sup>			

<sup>10</sup> From "Summary of the capture of seabirds, marine mammals, and turtles in New Zealand commercial 2011-12 Deepwater Annual Operational Plan

Marine mammals	2008-09: 23 estimated fur seal captures <sup>10</sup>	
Benthic interactions	2008-09: 0.02% of EEZ	Total from 1989-90: 0.31% of EEZ
<b>Current value indicators</b>		
Quota value 2009	\$246.2m	
Export earnings 2009	\$41.2m	

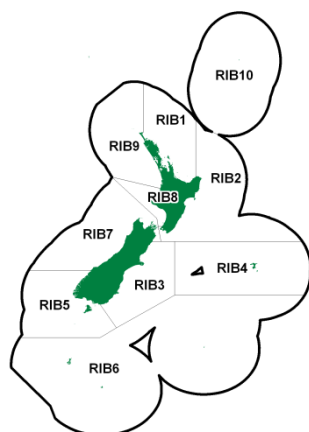


## PTO: Patagonian toothfish (Tier 2)



Catch limits and Allowances (tonnes)				
Stock	1 Oct 2010 TAC	1 Oct 2010 TACC	Recreational	Customary
PTO 1	50	49.5	0	0
Harvest strategy – as per the Harvest Strategy Standard				
Deemed value rates				
Stock	Interim	Annual 100-110%	Annual 11% +	
PTO 1	\$11.25 per kg	\$12.50 per kg	\$20.00 per kg	
Current value indicators				
Quota value 2009		\$N/A		
Export earnings 2009		\$N/A		

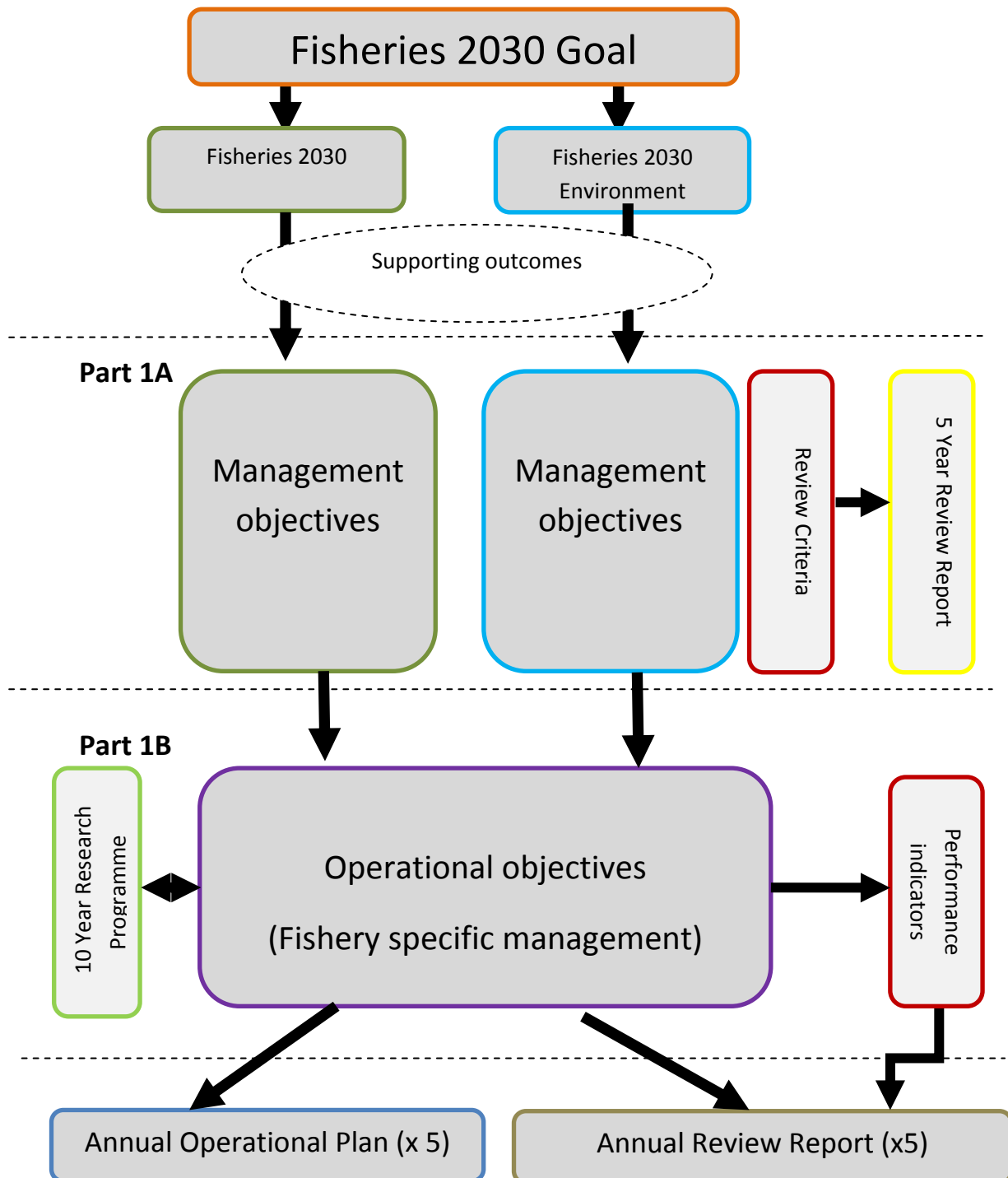
## RIB: Ribaldo (Tier 2)



Catch limits and Allowances (tonnes)								
Stock	1 Oct 2010 TAC		1 Oct 2010 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			
RIB 8	1		1	0	0			
Harvest strategy – as per the Harvest Strategy Standard								
Deemed value rates (per kg)								
Stock	Interim	100-120%		120-140%	140-160%	160-180%	180-200%	200%+
RIB 3	\$0.15	\$0.30		\$0.36	\$0.42	\$0.48	\$0.54	\$0.60
RIB 4								
RIB 5								
RIB 8								
RIB 6	\$0.40	\$0.80		\$0.96	\$1.12	\$1.28	\$1.44	\$1.60
RIB 7	\$0.40	100-110% \$0.80	110-120% \$1.20	\$2.00				
Current value indicators								
Quota value 2009			N/A					
Export earnings 2009			N/A					

## Appendix II: Overall structure of National Deepwater Plan

### National Deepwater Plan Structure



### Appendix III: Business group input required for completion of the 2011-12 Deepwater Fisheries Management Actions

Note: **O**'s indicate the 'lead' for a Management Action

2011-12 Management Actions	FM - Deepwater	FM - Science	FM- Customary	FO - Compliance	FO – Observer Services	Strategy – Regs & Standards	Strategy - International	OS - Legal	OS - Finance	OS – Information Services	OCE – Gov. & Ministerials	OCE – Communications	Treaty Partnerships	DeepWater Group Ltd.
1. Review up to 7 stocks for October and 4 stocks for April sustainability rounds	O	X		X				X		X	X			
2. Continue implementation of the National Deepwater Plan	O	X	X	X	X	X	X	X	X	X	X	X	X	X
3. Deliver collaborative management of DW fisheries through implementation of the MOU	O	X												O
4. Implement 10 Year Research Programme for DW Fisheries	O	X			X				X					
5. Implement management regime for SQU6T fishery	O	X		X				X		X	X			
6. Facilitate engagement with environmental stakeholders through EAG	O													
7. Ensure sufficient and appropriate engagement with tangata whenua through integration of IFPs and FFPs into NDP and its components	O		X										X	
8. Enable continued MSC certification of hoki	X	X												O
9. Ensure recommendations of observer optimisation project are implemented	O	X			X									
10. Manage interactions of deepwater fishing activity with seabirds	O	X		X	X					X				X
11. Manage interactions of deepwater fishing activity with marine mammals	O	X		X	X					X				X

<b>2011-12 Management Actions</b>	FM - Deepwater	FM - Science	FM- Customary	FO - Compliance	FO – Observer Services	Strategy – Regs & Standards	Strategy - International	OS - Legal	OS - Finance	OS – Information Services	OCE – Gov. & Ministerials	OCE – Communications	Treaty Partnerships	DeepWater Group Ltd.
<b>12.</b> Develop and implement specific harvest strategies for Tier 1 species	O	X												X
<b>13.</b> Ensure completion of quality Ministerial communications	O							X			X			
<b>14.</b> Ensure continued implementation of registration and risk-based observer coverage policies for FCVs	X			X	X			X						X
<b>15.</b> Address outcomes of the risk based approach to seabird interactions	O	X				X								
<b>16.</b> Manage development of the Patagonion toothfish fishery	O	X					X			X				
<b>17.</b> Maintain an open and transparent management environment	O									X		X		
<b>18.</b> Facilitate continued implementation of the VADE compliance model	O			X	X									X
<b>19.</b> Complete Level 1 risk profiles of SBW and ORH fisheries				O										
<b>20.</b> Ensure that appropriate and transparent action is taken when compliance levels in any deepwater fishery fall below agreed benchmarks	X			O	X									X
<b>21.</b> Support MSC certification for SBW, HAK and LIN	X	X												O
<b>22.</b> Implement an effective management regime to support delivery of the harvest strategy in the hoki fishery	O													X
<b>23.</b> Determine habitats covered by agreed definition of ‘habitats of particular significance for fisheries management purposes’	O	X				X								
<b>24.</b> Assess and manage the level of protected shark interactions with deepwater fishing activity with a focus on minimising the use of generic reporting codes	O	X			X					X				X

2011-12 Management Actions	FM - Deepwater	FM - Science	FM- Customary	FO - Compliance	FO – Observer Services	Strategy – Regs & Standards	Strategy - International	OS - Legal	OS - Finance	OS – Information Services	OCE – Gov. & Ministerials	OCE – Communications	Treaty Partnerships	DeepWater Group Ltd.
25. Ensure that all research used to inform management decisions is assessed against the Ministry Research Standard	O	X												
26. Implement management measures to address unacceptable effects of the hoki fishery as identified by the ERA	X													O
27. Monitor the nature and extent of benthic interactions from deepwater fishing activity	O	X								X				
28. Develop and implement management procedures for Tier 2 species	O									X				X
29. Complete an ERA on the effects of deepwater fisheries on the aquatic environment	O	X								X				X
30. Monitor non-regulatory management measures including sub-QMA catch limits and protected species operational procedures	O				X					X				X
31. Provide information and communications to minimise market access limitations for NZ deepwater fisheries	O											X		X
32. Ensure that management settings for hoki and orange roughy fisheries are peer reviewed and are equivalent to, or exceed, international best practice	O													
33. Monitor catch of, and assess risks to, non-QMS (Tier 3) species from deepwater fishing activity	O	X			X									
34. Ensure all management measures and controls are assessed in terms of their contribution to the value of deepwater fisheries	O													
35. Implement and monitor sub-Antarctic MPAs	O			X	X	X								
36. Implement industry-led proposals to ensure structure of QMA is consistent with biological and management information	X	X				X								O

## **Appendix IV: List of acronyms**

**10YRP** – 10-Year Research Programme

**AOP** – Annual Operational Plan

**ARR** – Annual Review Report

**B<sub>0</sub>** – Virgin biomass

**CoCs** – Conditions of Certification (under MSC)

**CPUE** – Catch Per Unit Effort

**DWG** – DeepWater Group Ltd.

**EAG** – Environmental Advisory Group

**ECNI** – East coast North Island

**ECSI** – East coast South Island

**ERA** – Ecological Risk Assessment

**F** – Fishing mortality

**FCV** – Foreign charter vessel

**FFP** – (Iwi) Forum Fisheries Plan

**HAK** - Hake

**HOK** - Hoki

**HMA** – Hoki Management Area

**IFP** – Iwi Fisheries Plan

**LCER** – Lining Catch Effort Return

**LIN** - Ling

**M** – Natural mortality

**MO** – Management Objective

**MMOP** – Marine Mammal Operational Procedure

**MSC** – Marine Stewardship Council

**MSY** – Maximum Sustainable Yield

**NDP** – National Deepwater Plan

**ORH** – Orange roughy

**OO** – Operational Objective

**SBW** – Southern blue whiting

**TAC** – Total Allowable Catch

**TACC** – Total Allowable Commercial Catch

**TOKM** – Te Ohu Kai Moana

**VMP** – Vessel Management Plan

**WCSI** – West coast South Island