Ministry for Primary Industries
Manatū Ahu Matua

National Fisheries Plan for Deepwater and Middle-depth Fisheries – Part 1A

MPI Discussion Paper No: 2017/26

Prepared for public consultation
by the Deepwater Fisheries Team

ISBN No: 978-1-77665-613-4 (online)
ISSN No: 2253-3907 (online)

July 2017

New Zealand Government

Growing and Protecting New Zealand

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Requests for further copies should be directed to:
Publications Logistics Officer
Ministry for Primary Industries
PO Box 2526
WELLINGTON 6140

Email: brand@mpi.govt.nz
Telephone: 0800 00 83 33
Facsimile: 04-894 0300
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Foreword

The National Deepwater Fisheries Plan (National Deepwater Plan) provides an integrated, transparent way of defining management objectives, actions, and services required to meet relevant legislative obligations and strategic directions for managing New Zealand's deepwater fisheries. The plan also provides a reporting mechanism to measure progress towards meeting objectives.

Since the 2010 National Deepwater Plan was finalised, the Ministry of Fisheries merged with the Ministry of Agriculture of Forestry, subsequently becoming the Ministry for Primary Industries (MPI). MPI is now responsible for regulation of New Zealand's primary industries including administering responsibilities under the Fisheries Act 1996. MPI's vision is 'Growing and Protecting New Zealand', and this plan aims to maximise opportunities in this area.

Implementation of the 2010 National Deepwater Plan enabled the management of New Zealand's deepwater fisheries to continue to be recognised as meeting world's best practice and maintain productive and sustainable fisheries. Highlights since 2010 include:

- 2011 Second re-certification of New Zealand hoki by the Marine Stewardship Council, now certified with no conditions
- 2012 Certification of New Zealand southern blue whiting by the Marine Stewardship Council
- 2013 Publication of the National Plan of Action – 2013 to reduce the incidental catch of seabirds in New Zealand fisheries
- 2013 Publication of the National Plan of Action for the Conservation and Management of Sharks
- 2014 Fisheries (Foreign Charter Vessels and Other Matters) Amendment Act 2014 passed requiring reflagging of all foreign vessels from 1 May 2016
- 2014 Certification of New Zealand hake and ling by the Marine Stewardship Council
- 2016 Certification of three New Zealand orange roughy fisheries by the Marine Stewardship Council
- Annual production of five Annual Operational Plans and five Annual Review Reports tracking implementation of the National Deepwater Plan and progress towards meeting objectives

Some challenges remain for New Zealand fisheries management including approaches to the management of low knowledge stocks, ensuring that sufficient information is available to manage fisheries and its effects on the aquatic environment, maximising value of New Zealand's marine resources within sustainable limits, and operating within social expectations.

The evolution of New Zealand's fisheries management system is currently the focus of an MPI programme: 'Future of our Fisheries'. This initiative is designed to identify and implement improvements with focus on three main areas:

- Better information;
- Agile and responsive decision-making; and
- Maximising value from fisheries.

A key short-term component is the Integrated Electronic Monitoring and Reporting System Initiative (IEMRS) which aims to implement a comprehensive electronic reporting and vessel monitoring system from October 2017 and to implement electronic monitoring (i.e. cameras on board all vessels)

commencing from October 2018. The vast majority of deepwater vessels already use VMS and electronic reporting, but not cameras.

The ‘Future of our Fisheries’ programme will firstly focus on regulatory changes to support IEMRS, with a subsequent medium-term work stream to strengthen the operation of the current management system and a long-term work stream to develop a management system to meet future needs.

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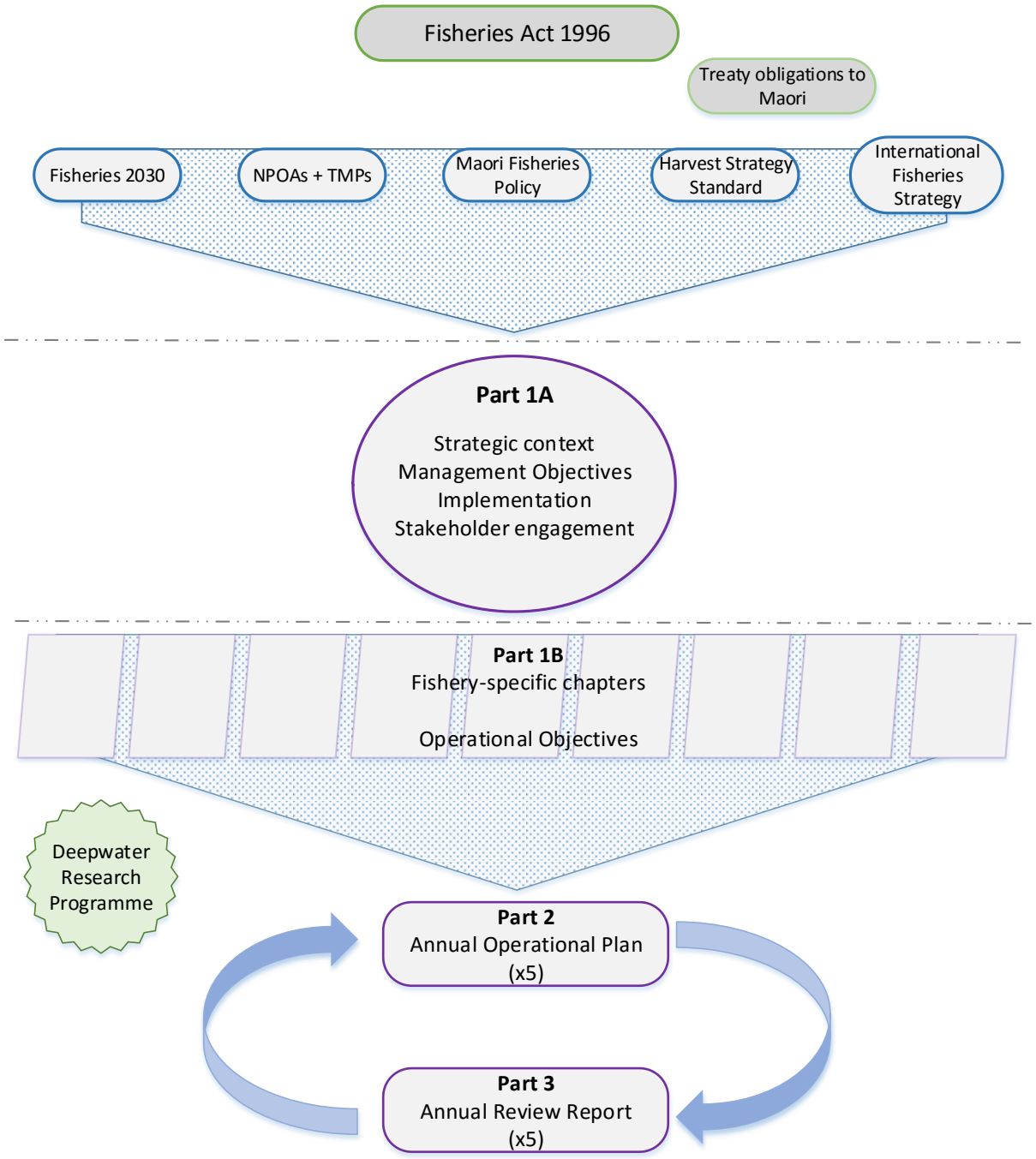
National Deepwater Plan Wider Context and Structure



Management Objectives of the National Deepwater Plan

Use Outcome	1	Ensure the deepwater and middle-depths fisheries resources are managed so as to provide for the needs of future generations
	2	Ensure excellence in the management of New Zealand's deepwater and middle-depth fisheries, so they are consistent with, or exceed, international best practice
	3	Ensure effective management of deepwater and middle-depth fisheries is achieved through the availability of appropriate, accurate and robust information
	4	Ensure deepwater and middle-depth fish stocks and key bycatch fish stocks are managed to an agreed harvest strategy or reference points

Environment Outcome	5	Protect habitats of particular significance for fisheries management + biodiversity
	6	Identify and avoid or minimise adverse effects of deepwater and middle-depth fisheries on associated or dependent and incidentally caught fish species
	7	Manage deepwater and middle-depth fisheries to avoid, remedy or mitigate the impacts of deepwater fisheries on the benthic habitat
	8	Manage deepwater and middle-depth fisheries to avoid or minimise adverse effects on the long-term viability of endangered, threatened and protected species

Governance Outcome	9	Ensure there is consistency and certainty of management measures and processes in the deepwater and middle depths fisheries
	10	Ensure New Zealand's deepwater and middle-depth fisheries are transparently managed
	11	Ensure the management of New Zealand's deepwater and middle-depth fisheries meets the Crown's obligations to Māori

Overview of the National Deepwater Plan

PURPOSE

The National Fisheries Plan for Deepwater and Middle-depth Fisheries (the National Deepwater Plan) sets the objectives to guide the management of deepwater and middle-depth (deepwater fisheries) within New Zealand's fisheries waters. It also provides an overarching framework for the management of deepwater fisheries within the legislative framework of the Fisheries Act 1996.

The National Deepwater Plan incorporates a planning and monitoring regime which will be used to assess performance against objectives. The management objectives and the review criteria used to assess performance apply to all deepwater fisheries. In contrast, the more detailed operational objectives and their performance indicators are fishery specific.

The successful implementation of the National Deepwater Plan will be driven through Annual Operational Plans. These Plans specify key tasks that will be undertaken to support the successful delivery of objectives, and the core MPI services required to deliver these tasks. Performance will in turn be assessed through an Annual Review Report.

STRUCTURE

The National Deepwater Plan consists of three parts, which are divided into longer-term objectives (Parts 1A and 1B) and shorter-term operational cycles (Parts 2 and 3).

- **Part 1:** Establishes the enabling framework and objectives 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:
        - The strategic context and operating environment that fisheries plans are part of, including legislative requirements and government priorities;
        - Management objectives that will apply across all deepwater fisheries; and
        - How the fisheries plan will be implemented, including the approach to engaging with stakeholders.

      It is proposed that Part 1A will be approved by the Minister for Primary Industries under Section 11A of the Fisheries Act 1996.

    - *Part 1B* is comprised of the fishery-specific chapters of the National Deepwater Plan which provide for management objectives at the fishery level, in line with the management objectives described in Part 1A. These chapters describe the operational objectives for target fisheries and key bycatch species, and how performance against objectives will be assessed at the fishery level.

- **Part 2**: The Annual Operational Plan (AOP) details the management actions that will be implemented on an annual basis for deepwater fisheries. The AOP includes the required services, delivery mechanisms, and service prioritisation factors that must be considered each financial year.

- **Part 3:** The Annual Review Report (ARR) assesses the annual performance of deepwater fisheries against the actions specified in the previous AOP and reports on progress towards meeting objectives described in Part 1.

Longer-Term Planning Cycle:

Part 1A: Management objectives

Part 1B: Fishery Specific Chapters

Shorter-Term (Annual) Planning and Reporting Cycle:

Part 2: Annual Operational Plan

Part 3: Annual Review Report

LEGAL STATUS

Section 11A of the Fisheries Act 1996 (the Act) provides general guidance on what a fisheries plan may contain. Section 11A(2) states that a fisheries plan may relate to one or more stocks, fishing years, or areas, or any combination of these things. Section 11A(3) states that the plan may include fisheries management objectives to support the purpose and the principles of the Act.

Section 11A provides the legal basis for the development of the National Deepwater Plan and will guide its implementation through the AOP and ARR. However, none of the management objectives or the tasks to support these objectives will diminish the legal requirement to ensure the purpose and principles of the Act are met. Over time, if there are conflicts between any part of the National Deepwater Plan and legislative obligations as set out in the Fisheries Act, then the legislative requirements unequivocally take priority.

It is proposed that Part 1A of the National Deepwater Plan will be approved by the Minister under section 11A of the Act in 2017. In approving Part 1A, the Minister will have agreed to the following:

- The fisheries management objectives that will support the purpose and principles of the Act guide the management of all deepwater fisheries;
- The National Deepwater Plan structure, including fishery specific chapters, the AOP (Part 2) and the ARR (Part 3);
- How the National Deepwater Plan will be implemented; and
- The process for engaging with stakeholders on the implementation of the National Deepwater Plan.

Although the Minister will be provided with an opportunity to consider the fishery specific chapters in this updated Part 1A of the National Deepwater Plan 2017, these components of the National Deepwater Plan will not be explicitly approved under section 11A.

DECISION MAKING

Section 11(2A) of the Act specifies that the Minister must take into account this approved fisheries plan before setting or varying any sustainability measure under Part III of the Act (sections 11-16), or when making decisions or recommendations to regulate or control fishing as outlined in section 11(2A).

Any statutory intervention required to regulate deepwater fishing activity will be identified in the AOP. It will be linked to the relevant fishery-specific chapter and the high-level management objectives specified in the National Deepwater Plan. The Minister may also be asked to approve certain outputs from the National Deepwater Plan operational objectives, particularly when these outputs relate to their ability to meet statutory responsibilities, such as harvest strategies.

Having given his approval, section 11(2A) specifies that the Minister must take into account Part 1A of the National Deepwater Plan before setting or varying any sustainability measure under Part III of the Act (sections 11-16), and/or when making any decision or recommendation to regulate or control fishing of deepwater species managed under this plan. This means that while the Minister must take into account Part 1A of the National Deepwater Plan, he or she is permitted to make a decision that is different to what is set out in the plan, provided it is clear that in making that decision the content of the fisheries plan was taken into account.

Under section 12 of the Act, the Minister is also required to consult fisheries stakeholders and provide for the input and participation of tangata whenau if the plan is amended or revoked. In doing so, the consultation process should provide reasons for the proposed changes.

Finally, nothing contained in Part 1A of the National Deepwater Plan changes the Crown's obligations to Māori. Rather, the National Deepwater Plan is a key means of giving effect to the Crown's obligations. With respect to commercial fisheries, the Crown's obligations are specified in legislation such as the Māori Fisheries Act 1989, the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992, and the Act. More information on how the National Deepwater Plan will contribute to MPI will deliver on its obligations to Māori is included in the section on 'Stakeholder engagement'.

SCOPE

The Plan includes criteria and objectives to guide the management of deepwater and middle depth fisheries within NZ fisheries waters. For deepwater and middle-depth fisheries this mainly impacts those fisheries operating within the EEZ from 12nm-200nm.

The management of deepwater fisheries encompasses all target stocks, bycatch fish stocks, and the environmental effects of fishing. All deepwater species in the quota management system (QMS) have been categorised into two tiers according to their commercial value and volume of catch (Table 1).[1]

Tier 1 fisheries are high volume and/or high value fisheries and are traditionally targeted. They are significant export revenue earners, which is reflected in the high quota value associated with these species. Tier 2 fisheries are typically less commercially valuable, typically comprising bycatch fisheries, or are only target fisheries periodically during the year.

[1] Tier 3 stocks are those outside of the QMS.

Table 3: Categorisation of deepwater species by Tier

Tier	Species[2]
1	Hoki, hake, ling, southern blue whiting, jack mackerel, orange roughy, oreo, scampi, and squid
2	Alfonsino, silver warehou, barracouta, cardinal fish, frostfish, ribaldo, rubyfish, spiny dogfish, white warehou, lookdown dory, pale ghost shark, blue mackerel, prawn killer, redbait, gemfish, deepwater crabs, dark ghost shark, and sea perch.

[2] Note that some stocks will be managed by the MPI Inshore Fisheries Management Team because the bulk of the fishing comes from the inshore fleet particularly in FMAs 1 & 2 and some stocks from a Tier 1 species are managed as Tier 2 based on the small scale of the fishery e.g. SQU1J.

Legislative Framework

FISHERIES ACT 1996

The purpose of the Act is defined in Section 8 of the Act:

"(1) The purpose of this Act is to provide for the utilisation of fisheries resources while ensuring sustainability.

(2) In this Act –

ensuring sustainability means

a) maintaining the potential of fisheries resources to meet the reasonably foreseeable needs of future generations; and

b) avoiding, remedying, or mitigating any adverse effects of fishing on the aquatic environment.

utilisation means conserving, using, enhancing, and developing fisheries resources to enable people to provide for their social, economic, and cultural well-being."

Section 9 of the Act establishes the following environmental principles that shall be taken into account when exercising any powers under the Act in relation to the utilisation of fisheries resources or ensuring sustainability:

a) Associated or dependent species should be maintained above a level that ensures their long-term viability;

b) Biological diversity of the aquatic environment should be maintained; and

c) Habitat of particular significance for fisheries management should be protected.

Section 10 of the Act outlines information principles for decision makers as follows:

a) Decisions should be based on the best available information;

b) Decision makers should consider any uncertainty in the information available in any case;

c) Decision makers should be cautious when information is uncertain, unreliable, or inadequate; and

d) The absence of, or any uncertainty in, any information should not be used as a reason for postponing or failing to take any measure to achieve the purpose of this Act.

The Act also acknowledges external obligations, in particular, Part 1, section 5 notes that the Act shall be interpreted in a manner consistent with:

- New Zealand's international obligations relating to fishing; and
- The provisions of the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992.

Other domestic legislation which contributes to the management of the wider fisheries ecosystem include the:

- Wildlife Act 1953 which gives partial or full protection to all but one species of sea-birds; and

- The Marine Mammals Protection Act 1978 which makes provision for the protection, conservation, and management of marine mammals within New Zealand fisheries waters.

UNITED NATIONS CONVENTION ON THE LAW OF THE SEA (UNCLOS) 1982

Under the United Nations Convention on the Law of the Sea (UNCLOS) 1982 and its associated agreements, New Zealand has international obligations regarding the management of fish stocks. In deepwater fisheries, the most relevant sections are Articles 61-63 which apply to the management of marine resources within the Exclusive Economic Zone (EEZ) and in cases where fish stocks extend beyond the borders of the EEZ.

New Zealand is also a member of a number of regional fisheries management organisations (RFMOs) which give rise to additional obligations. For deepwater fisheries, the two most relevant RFMOs are the South Pacific Regional Fisheries Management Organisation (SPRFMO) and the Commission for the Conservation of Antarctic Marine Living Resources (CCAMLR).

SPRFMO provides for collaborative management of non-highly migratory species in the southern waters of the Pacific, including a shared stock of orange roughy which straddles the New Zealand EEZ boundary.

CCAMLR was established with the objective of conserving Antarctic marine life. New Zealand's fisheries interests in the Antarctic region are mainly focused on two species of toothfish, one of which is occasionally fished within the New Zealand EEZ and is managed within the National Deepwater Plan.

Strategic Context

The strategic direction of fisheries management in New Zealand is captured and shaped by *Fisheries 2030.* Additional guidance for the management of deepwater fisheries comes from Māori fisheries policy statements, MPI's Harvest Strategy Standard, National Plans of Action for Sharks and Seabirds, and relevant Threat Management Plans.

FISHERIES 2030

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

The goal of *Fisheries 2030*[3] is, 'New Zealanders maximising benefits from the use of fisheries within environmental limits.' This goal encapsulates the ideal or aspirational state for New Zealand's deepwater fisheries. Specifically *Fisheries 2030* recognises that:

- The biological realities of harvesting deepwater fisheries mean that the future value of these fisheries can only be assured if the resource is managed sustainably. Measures to increase value must always be considered in the context of ensuring long-term maintenance of both target and bycatch stocks.
- Deepwater target and key bycatch fish stocks exist as part of the broader aquatic environment, and this broader environment has value, including an intrinsic value,[4] to New Zealanders. It also recognises that, while fishing activities may have an environmental impact, not all environmental impacts have an adverse effect on the aquatic environment.
- Avoiding or minimising adverse effects on the aquatic environment will ensure that the long-term viability of associated or dependent species is assured and that the biological diversity and functionality of marine communities is maintained.
- The purpose of commercial fishing is to derive value, and the purpose of fisheries management is to enable the best value to continue to be derived from New Zealand's deepwater fisheries. *Fisheries 2030* also recognises that, in the long-term, economic value relies on the environmental sustainability of these fisheries.

Two outcomes are adopted (see figure below) – use and environment - which support the long-term goal. Both outcomes describe what it will mean to maximise the benefits from the sustainable use of our deepwater fisheries resource and to ensure the health of the aquatic environment is maintained.

Use Outcome: Fisheries resources are used in a manner that provides the greatest overall economic, social, and cultural benefit

Environment Outcome: The capacity and integrity of the aquatic environment, habitats and species are sustained at levels that provide for current and future use

[3] https://fs.fish.govt.nz/NR/rdonlyres/4DD60325-CADD-4E5C-92BF-A6E17C202A54/0/fisheries2030report.pdf
[4] The value an individual or community places on preserving a resource or environment in its own right.

Sound governance arrangements are necessary to ensure the successful delivery of the outcomes. These arrangements need to be well specified, transparent and support cost-effective and accountable decision making. The management of deepwater fisheries also needs to be well informed and collaborative to ensure that the fisheries are valued by all New Zealanders. Transparent governance structures are critical to successfully ensure that management is credible, both nationally and internationally.

Governance Conditions: Sound governance arrangements that are well specified, transparent, and which support cost-effective and accountable decision-making

Good governance is achieved through the Memorandum of Understanding (MOU) between MPI and DWG and through engagement with stakeholders at the MPI Environmental Engagement Forum (EEF). Treaty partnership obligations are exercised through Iwi Fishery Forums where possible, and also through collaboration with Te Ohu Kai Moana. This is discussed in more detail in the section on Stakeholder Engagement.

Finally, the development of Annual Operational Plans and Annual Review Reports, which will be made publicly available, will also contribute to the desired accountable, responsive, and transparent system of management.

MĀORI FISHERIES POLICY

It is important to recognise that iwi/Māori have a relationship with fisheries, and to provide for such relationships to be maintained. This is reflected through a number of management objectives within the National Deepwater Plan, including objective 6 (to ensure the management of New Zealand's deepwater and middle-depth fisheries meets the Crown's obligations to Māori).

> *Tangata whenua and the Crown working in partnership to provide for the utilisation of fisheries resources while ensuring sustainability, having particular regard to kaitiakitanga, with the Crown meeting its obligations to Māori.*

Equally, this relationship is relevant in the consideration of other objectives, including implementation of an ecosystem approach to fisheries management, and maintaining a sustainable fishery for deepwater species within environmental standards. These objectives can help to further the relationship of Māori with deepwater fisheries, by ensuring they remain abundant within healthy ecosystems. Beyond this plan, the Fisheries Treaty Strategy establishes an agreed plan for consultation with Māori on fisheries issues.

HARVEST STRATEGY STANDARD

The Harvest Strategy Standard 2008 (HSS)[5] applies to all New Zealand fishstocks in the QMS. The HSS is a policy statement of best practice in relation to the setting of fishery and stock targets and limits for fish stocks in New Zealand's QMS. It provides guidance as to how fisheries law will be applied in practice by establishing a consistent and transparent framework for decision-making to achieve the objective of providing for utilisation of New Zealand's QMS by ensuring sustainability.

Under the HSS, target and limit biological reference points should be set for all QMS fishstocks, but

[5] http://fs.fish.govt.nz/Page.aspx?pk=113&dk=16543

is flexible about the means by which this is achieved. The intention is to make best use of available information for each individual stock.

The HSS consists of three core components:

1 A specified target about which a fishery or stock should fluctuate
2 A soft limit that triggers a requirement for a formal, time-constrained rebuilding plan
3 A hard limit below which fisheries should be considered for closure.

ENVIRONMENTAL NATIONAL PLANS OF ACTION

As a member of the United Nations Food and Agriculture Organisation (FAO), New Zealand is supportive of International Plans of Action developed by the FAO. In line with the International Plans of Action, New Zealand has developed National Plans of Action for seabirds and sharks.

Seabirds

The National Plan of Action to Reduce the Incidental Catch of Seabirds in New Zealand Fisheries (NPOA-Seabirds) was published in 2013. The plan sets out a long term aspiration that:

> *New Zealand seabirds thrive without pressure from fishing related mortalities, New Zealand fishers avoid or mitigate against seabird captures and New Zealand fisheries are globally recognised as seabird friendly.*

The plan also sets out supporting high-level subsidiary objectives, and objectives to be met within the medium term. AOPs incorporate more specific tasks to meet the objectives contained in the NPOA-Seabirds. The NPOA-Seabirds is based on a risk assessment approach to identifying and managing seabird interactions. This focus on reducing risk to seabird populations which have been identified as potentially unable to sustain current incidental captures is complemented by other objectives aimed at reducing capture rates overall, putting in place best practice measures in commercial and non-commercial fisheries and working internationally to ensure all risks are addressed.

Sharks

Similarly, in 2013, MPI published the National Plan of Action for the Conservation and Management of Sharks (NPOA-Sharks), with the following stated objective:

> *To maintain the biodiversity and the long-term viability of all New Zealand shark populations by recognising their role in marine ecosystems, ensuring that any utilisation of sharks is sustainable, and that New Zealand receives positive recognition internationally for its efforts in shark conservation and management.*

MPI's work on sharks is supported by a 2014 qualitative risk assessment, which considered relative risks to shark populations for QMS, non-QMS, and protected shark species. Most of MPI's work toward NPOA-Sharks objectives has related to the 2014 shark finning ban and ongoing work relating to best practice for handling and release of live sharks.

Management Objectives

OVERVIEW OF MANAGEMENT OBJECTIVES

Use Outcome	1	Ensure the deepwater and middle-depths fisheries resources are managed so as to provide for the needs of future generations
	2	Ensure excellence in the management of New Zealand's deepwater and middle-depth fisheries, so they are consistent with, or exceed, international best practice
	3	Ensure effective management of deepwater and middle-depth fisheries is achieved through the availability of appropriate, accurate and robust information
	4	Ensure deepwater and middle-depth fish stocks and key bycatch fish stocks are managed to an agreed harvest strategy or reference points

Environment Outcome	5	Protect habitats of particular significance for fisheries management + biodiversity
	6	Identify and avoid or minimise adverse effects of deepwater and middle-depth fisheries on associated or dependent and incidentally caught fish species
	7	Manage deepwater and middle-depth fisheries to avoid, remedy or mitigate the impacts of deepwater fisheries on the benthic habitat
	8	Manage deepwater and middle-depth fisheries to avoid or minimise adverse effects on the long-term viability of endangered, threatened and protected species

Governance Outcome	9	Ensure there is consistency and certainty of management measures and processes in the deepwater and middle depths fisheries
	10	Ensure New Zealand's deepwater and middle-depth fisheries are transparently managed
	11	Ensure the management of New Zealand's deepwater and middle-depth fisheries meets the Crown's obligations to Māori.

This section provides the following information for each objective:

- **Description:** What does the objective mean?
- **Current Status**: What is the current status of deepwater fisheries in relation to the objective?
- **Management Initiatives:** What actions or initiatives are proposed to progress towards achievement of the objective?
- **Future Status**: What would deepwater fisheries look like if the objective were achieved?

MANAGEMENT OBJECTIVES - UTILISATION

1	**Ensure the deepwater and middle-depths fisheries resources are managed so as to provide for the needs of future generations**

Description

- The social and cultural needs of future generations are met by preserving both the broader ecosystem and commercially-viable fisheries
- Preserving the ecosystem will preserve both its intrinsic value and the potential future value of associated resources

Current Status

- The foreseeable needs of future generations, including intrinsic and bequest values, have not been specified
- Current management remains focused on ensuring sustainable catch limits and avoiding, remedying or mitigating the adverse effects of fishing on the aquatic environment
- Public understanding of deepwater fisheries management is limited, leading to incorrect perceptions of the success of management to achieve this objective

Management Initiatives

- Better understand the needs of future generations
- Increase public awareness and knowledge of deepwater fisheries management, including how management explicitly considers the needs of future generations

Key Performance Indicators

- Management approaches for all deepwater fisheries are described, including how they meet the needs of future generations
- There is a greater public awareness and understanding of New Zealand's deepwater fisheries management and how it delivers on this objective

2	**Ensure the management of New Zealand's deepwater and middle-depth fisheries is consistent with, or exceeds, international best practice**

Description

- Deepwater fisheries are recognised in New Zealand and in international markets as being managed to best practice standards as a minimum. This can be achieved through:
  - Independent third party certification;
  - Ensuring participants in these fisheries operate within the legislative, regulatory and management framework in place; and
  - Formally assessing the fishery against international standards or best practice guidelines
- To ensure these fisheries consistently meet New Zealand's comprehensive legal and regulatory obligations, there is a need for compliance, management, and environmental standards and benchmarks to assess performance

Current Status

- Stocks of five of New Zealand's deepwater Tier 1 species are recognised as sustainable by the Marine Stewardship Council (MSC), considered to represent world's best practice
- There remain some areas of poor public perception on the management of some individual deepwater fisheries
- The role of New Zealand government is to support and encourage industry to pursue and achieve certification by the MSC or other third-party independent certification

Management Initiatives

- MPI will continue to provide data and information as requested in support of certification by the MSC or other third-parties of New Zealand's deepwater fisheries
- Deepwater Fisheries Management will continue to work across MPI and the sector to ensure high performance in regards to compliance with regulations and environmental management measures
- Information on the management of New Zealand's deepwater fisheries is easily accessible for the public

Key Performance Indicators

- Deepwater fisheries management enables the successful third party certification of key deepwater fisheries and supports the maintenance of certification
- Deepwater fisheries management is recognised both internationally and domestically as world leading

3	**Ensure effective management of the deepwater and middle-depth fisheries is achieved through the availability of appropriate, accurate and robust information**

Description

- Fisheries management requires information and data that is both robust and fit for purpose
- Information and data comes from a variety of sources including industry self-reporting, independent MPI Observer data, research surveys, and contracted projects to analyse/interpret available data

Current Status

- The management of the majority of New Zealand's deepwater fisheries is supported by a robust and comprehensive monitoring and research programme, although there remain some species where information gaps still exist
- Information to fully access the nature and extent of any adverse impacts on the marine environment has improved, but remains a challenge
- Implementation of a risk-based approach has enabled prioritisation of areas on which to focus mitigation or data collection

Management Initiatives

- Maintain medium to long term research plan to provide transparency on planned research
- Continue to implement a risk-based approach to prioritisation of data and information collection
- Ensure observer coverage and sampling is planned and delivered to provide sufficient data to support management

Key Performance Indicators

- Robust information is available to assess the status of all deepwater QMS stocks and to understand and appropriately manage the effects of deepwater fishing on the marine environment

4	**Ensure deepwater and middle-depth fish stocks and key bycatch fish stocks are managed to an agreed harvest strategy**

Description

- A sound harvest strategy supports sustainable fish stock management. The critical components of a harvest strategy are:
  - Biological reference points (or agreed proxies) against which the performance of the fishery will be monitored, including limits and management targets;
  - A harvest control rule (HCR) that will apply to the fishery to ensure the biomass fluctuates within the target range, used to determine annual catch limits; and
  - A rebuild strategy for the fishery that will be applied if the stock falls below an acceptable level
- Harvest strategies are based on fishery objectives including aspects of sustainability (management targets), economics (catch rates), and social factors (impacts on aquatic environment), harvest strategies are agreed with key stakeholders

Current Status

- Explicit harvest strategies have been developed and agreed for some, but not all Tier 1 stocks
- A harvest control rule has been developed for three orange roughy stocks
- In the absence of a specific harvest strategy, stocks are managed using the default reference points and harvest strategy from the Harvest Strategy Standard

Management Initiatives

- Continue to develop harvest strategies and/or harvest control rules for Tier 1 stocks
- Where there is no specific harvest strategy or harvest control rule, manage stocks as per the Harvest Strategy Standard

Key Performance Indicators

- Harvest strategies are agreed for all Tier 1 deepwater stocks
- For Tier 2 stocks, management approaches are defined which include a harvest strategy wherever possible
- The Harvest Strategy Standard default settings remain in place to guide management settings for all stocks where there is no specific agreed harvest strategy

MANAGEMENT OBJECTIVES – ENVIRONMENT

5	**Ensure that maintenance of biological diversity of the aquatic environment and protection of habitats of particular significance for fisheries management are explicitly considered in management**

Description

- When making management decisions, maintenance of the biological diversity of the aquatic environment and the protection of habitats of particular significance to fisheries management must be taken into account
- The biological diversity of the aquatic environment has intrinsic value, and affecting this diversity may impact the resilience of the ecosystem to environmental change or other pressures
- Any changes to habitats of particular significance for fisheries management may have a lasting impact on the distribution and health of deepwater species

Current Status

- There is limited information on the diversity of the aquatic environment, although ecosystem modelling approaches to understand trophic linkages are in the early stages of development
- A working definition of 'habitats of particular significance to fisheries management' has been drafted

Management Initiatives

- Explore the utility and application of ecosystem based approaches to fisheries management
- Finalise definition of 'habitats of particular significance to fisheries management'
- Engage with stakeholders on identifying habitats of particular significance to fisheries management in deepwater

Key Performance Indicators

- Management decisions relevant to deepwater fisheries explicitly take account of the biological diversity and protection of habitats of particular significance for fisheries management

6	**Identify and avoid or minimise adverse effects of the deepwater and middle-depth fisheries on associated or dependent and incidentally caught fish species**

Description

- The Fisheries Act requires that adverse effects of fishing on the aquatic environment should be avoided, remedied, or mitigated, with a focus on fish species
- Deepwater fisheries will have some environmental impact on incidental bycatch species (species that have no commercial value and which are typically discarded)
- As these species are typically information deficient, it can be difficult to assess when an environmental impact is having an adverse effect
- Regularly monitoring bycatch levels will ensure that trends in harvest levels and biological characteristics can be monitored
- Where an adverse environmental effect is identified, the management priority will be to avoid or minimise the effect, and ensuring that any impact is carefully managed and remains within acceptable limits

Current Status

- Data on harvest levels of all fish species is collected by MPI observers and used to regularly estimate total fish catch in deepwater fisheries
- Some fisheries have not had sufficient observer coverage to allow for robust estimation of harvest levels for non-QMS species
- A risk-based approach is planned to prioritise management of the impact of fishing on the aquatic environment. A quantitative risk assessment of fish species is being developed

Management Initiatives

- Finalise and implement risk assessment framework for fish species and impacts of fishing on the benthic habitat
- Develop strategy to guide management of impacts of fishing on the benthic habitat

Key Performance Indicators

- Risk-based approach is fully implemented based on quantitative risk assessment of all fish species caught in deepwater fisheries
- Impacts of fishing on non-target fish species are understood and sustainable

7	**Manage deepwater and middle-depth fisheries to avoid, remedy or mitigate the impacts of deepwater fisheries on the benthic habitat**

Description

- Fishing activity can impact the benthic habitat including impacting benthic fauna and modifying habitats
- The understanding and assessment of impact of fishing on the benthic habitat can enable assessment of when an environmental impact is having an adverse effect
- Where an adverse environmental effect is identified the management priority will be to avoid or minimise the effect, to ensure that any impact is carefully managed and remains within acceptable limits

Current Status

- Benthic Protection Areas prohibit bottom contact fishing in 30% of the New Zealand EEZ
- Impacts of fishing on the benthic habitat are monitored through annual reporting of the trawl footprint
- A quantitative risk assessment for benthic impacts is being developed

Management Initiatives

- Engage with stakeholders to develop and document a strategy for management of impacts of fishing on the benthic environment
- Finalise and implement risk assessment framework to prioritise management actions and research in relation to impacts on the benthic habitat

Key Performance Indicators

- Benthic management strategy implemented based on risk assessment outputs
- Impacts of fishing on the benthic habitat are managed based on robust information and according to a clear strategy developed in collaboration with stakeholders

8	**Manage deepwater and middle-depth fisheries to avoid or minimise adverse effects on the long-term viability of endangered, threatened and protected species**

Description

- There are aquatic species that are particularly significant to New Zealanders, both due to their intrinsic value and their status as endangered, threatened, or protected (ETP) species
- ETP species are important to New Zealand, and action should be taken so that fishing activity in New Zealand's deepwater fisheries does not have an adverse effect on the long-term viability of these species
- National Plans of Action or Threat Management Plans should drive management action in relevant areas

Current Status

- Risk-based approach is taken for management of ETP species interactions; as of mid-2017 quantitative risk assessments have been completed for seabird and marine mammal species, and a qualitative risk assessment completed for shark species
- Management to avoid, mitigate or remedy interactions with ETP species includes both regulatory and non-regulatory measures
- There is limited publically available information on the breadth of management measures implemented in deepwater fisheries to manage interactions with ETP species
- There are National Plans of Action in places for seabirds and sharks which set objectives for management of interactions
- A Threat Management Plan for New Zealand sea lions is being finalised

Management Initiatives

- Finalise and implement risk assessment framework to prioritise management actions in relation to impacts on protected species populations
- Update and implement National Plans of Action for seabirds and sharks and Threat Management Plan for New Zealand Sea Lions
- Where relevant, make use of any additional information on ETP species interactions available from implementation of IEMRS

Key Performance Indicators

- Risk-based approach fully implemented based on quantitative risk assessments
- Mitigation measures are consistent with world's best practice and fully implemented
- ETP species populations are not considered to be adversely impacted by fishing

MANAGEMENT OBJECTIVES – GOVERNANCE

9	**Ensure there is consistency and certainty of management measures and processes in the deepwater and middle-depth fisheries**

Description

- Stable overarching objectives set the direction for the management of deepwater fisheries and clear processes that deliver them over the long term
- Management should achieve long-term value rather than short-term gain
- The value of fisheries resources is not only economic, but includes social, cultural, and intrinsic values
- Preserving the ecosystem will preserve both its intrinsic value and the potential of all future generations to use current and as-yet-unknown resources

Current Status

- Management decisions are guided by high-level objectives set in the National Deepwater Plan
- Harvest strategies have been defined and agreed for a number of Tier 1 deepwater stocks
- Management approach and decisions are documented and are publically available for all interested parties

Management Initiatives

- Work with stakeholders to define clear Harvest Strategies and/or Harvest Control Rules for Tier 1 deepwater stocks
- Engage in wider process to determine monitoring and management of low information stocks (Tier 2 and non-QMS species)
- Continue regular engagement and communication with stakeholders

Key Performance Indicators

- Management decisions are clearly linked to high-level and fishery specific objectives
- Harvest Strategies and/or Harvest Control Rules defined and agreed for all Tier 1 deepwater stocks and a management approach clearly defined for Tier 2 stocks
- Stakeholder engagement is regular, constructive, and transparent
- Information on deepwater management approaches, planning, and science remains publically available and easily accessible

10	Ensure New Zealand's deepwater and middle-depth fisheries are transparently managed

Description

- Interested parties should have access to the information they require, and this information should be tailored where relevant to meet particular users' needs
- Processes that will be followed should management, environmental or compliance performance fall below the agreed standards, targets or benchmarks is transparent
- Credible fisheries management is achieved when sustainability, value, and environmental objectives consistently and transparently drive management actions
- Transparency results when the process around developing and implementing management strategies is understood by all interested parties

Current Status

- Regular opportunities are provided for stakeholder engagement on the development of research plans and work plans (including AOPs and ARRs)
- All management decisions are subject to statutory consultation requirements and are communicated to stakeholders
- Comprehensive information describing management approaches and work plans is publically available through the Deepwater Fisheries Management website
- Scientific information guiding management decisions, especially regarding impacts of fishing on the marine environment, is often technical and challenging to understand

Management Initiatives

- Information on deepwater fisheries management is publically available, easy to find, and accessible
- All management decisions follow statutory consultation processes, are discussed with stakeholders wherever possible, and are publically announced.

Key Performance Indicators

- Opportunity is provided for stakeholders to engage in management decisions, especially with regards to effects of fishing on the marine environment
- Stakeholders can understand process and rationale for management decisions based on publically available information

11	Ensure the management of New Zealand's deepwater and middle-depth fisheries meets the Crown's obligations to Māori

Description

- The Crown's obligations to Māori influence how deepwater fisheries are managed, and that any measures implemented must not compromise the Crown's settlement obligations
- Tangata whenua input and participation in the management of deepwater fisheries is actively enabled, and a clear expression of kaitiakitanga is provided so that it can be given particular regard to by the Minister when fulfilling the crown's obligations to Māori
- Supports responsibly managing iwi quota assets, and maximising return from iwi quota
- Prioritises improving the level of iwi engagement in deepwater fisheries management through input and participation processes

Current Status

- Iwi Fisheries Plans and Forum Fisheries Plans are explicitly considered when making management decisions
- There is limited direct engagement with iwi stakeholders, however opportunity is generally provided through other Fisheries Management engagement and attendance at relevant hui
- Some iwi interests are engaged through the DWG and direct contact with TOKM

Management Initiatives

- Develop and document a clear approach to engagement and consultation with non-commercial iwi
- Ensure that robust engagement and consultation with iwi quota owners is achieved through TOKM, their membership in DWG, and any additional mechanisms if required

Key Performance Indicators

- Engagement mechanisms and processes for iwi with regard to deepwater fisheries are clear and implemented as required
- Iwi objectives for deepwater fisheries are clearly defined and explicitly considered with appropriate consultation for all management decisions

The Operating Environment

PROFILE OF NEW ZEALAND'S DEEPWATER FISHERIES SECTOR

New Zealand's commercial fisheries are based on the Individual Transferable Quota (ITQ) system operated under the Quota Management System (QMS). This system gives security of tenure to quota owners[6] and considerable flexibility to structure business fisheries operations. When compared internationally, the New Zealand government exercises less influence on the business decisions of fishing companies. The regulatory role of government in fisheries management is specified in the Fisheries Act, and is to provide for the utilisation of New Zealand's fisheries while ensuring sustainability. The purpose and principles of the Fisheries Act outline: the requirements to ensure sustainability; utilisation of resources; environmental principles in relation to utilisation; and the information principles that must be taken into account by all persons utilising New Zealand's fisheries.

The focus of New Zealand's deepwater fisheries management is on: sustainable commercial utilisation; minimisation of adverse environmental effects; and value maximisation.[7] Unlike inshore fisheries (those largely within the 12nm[8] Territorial Sea), most deepwater fisheries take place within New Zealand's Exclusive Economic Zone (EEZ 12-200nm), though some species crossover with inshore fisheries. Deepwater fisheries have little if any customary or recreational take as they are either too far offshore, the species are not highly sought after, or are inaccessible to non-commercial fishers as fishing can occur at depths which exceed 1,000 metres. Within the deepwater sector the key revenue driver is export earnings.

Exports

A key driver for MPI is to maximise export opportunities, but in doing so, sustainable fisheries must be maintained and operated consistently within the regulatory parameters.

New Zealand supplies less than 0.5% of global seafood production and less than 1% of global seafood trade. However, of New Zealand's top 10 export commodities by value; six are from the primary sector with dairy top, meat (3), forestry (4), horticulture (6), viticulture (9) and the seafood sector (10)[9] -see table below.

Total export revenues in 2015 from deepwater fisheries was about $680M. Deepwater species are mainly exported to international markets as there is a limited domestic market for these species and the economic return is higher in foreign exchange. In 2015, five of the ten largest export-earning fisheries were for deepwater species, which accounted for 63% of seafood caught in New Zealand.[10]

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[6] As of 19 August 2016, there were 1,363 quota owners in New Zealand for all fisheries with a total quota amount of 646,421 tonnes (Source: FishServe Ltd).

[7] As referred to throughout this document, 'value' can be what an individual or community places on preserving a resource or environment in its own right, or in the broader sense, can mean but is not necessarily limited to; the cultural, economic, social or spiritual value New Zealand obtains from its deepwater fisheries.

[8] A nautical mile (nm) is based on the Earth's circumference and is equivalent to 1.15 statute miles.

[9] $1.43 billion (Source: https://www.nzte.govt.nz/en/invest/statistics/#toc-exports-top-20-commodities) accessed 13 August 2016. See also New Zealand total exports by commodity (Source accessed 23 August 2016): http://www.stats.govt.nz/browse_for_stats/industry_sectors/imports_and_exports/global-nz-dec-15.aspx

[10] From a total catch of 630,000 tonnes. Source: http://www.seafoodnewzealand.org.nz/fileadmin/documents/Fact_Sheets/factsheet-nz-commercial-fish-species.pdf (accessed 2 September 2016).

These five species (hoki, jack mackerel, orange roughy, ling, and squid) accounted for around $328M in export earnings.[11]

Table 1: Top ten primary sector exports ranked from the top 20 of all New Zealand exports[12]

Export rank overall- all sectors and services (as ranked in top 20)	Commodity	NZ$ Millions	Year end
1	Milk powder, butter and cheese	11,813	Sept - 2015
3	Meat and edible offal	6,682	Sept - 2015
4	Logs, wood and wood articles	3,561	Sept - 2015
6	Fruit	2,251	Sept - 2015
9	Wine	1,466	Sept - 2015
10	Fish, crustaceans, and molluscs	1,434	Sept - 2015
12	Casein and caseinates	1,150	Sept - 2015
15	Miscellaneous edible preparations	996	Sept - 2015
17	Wool	836	Sept - 2015
19	Preparations of cereal, flour and starch	823	Sept - 2015

New Zealand does not set the price of seafood in the global seafood commodity market because it supplies a relatively small proportion in each export category. Even for orange roughy, where New Zealand supplies the majority of the world market, New Zealand's influence on price is limited, due to the possibility of product substitution with other seafood products in the same market niche.

Quota value

The capital worth of fish stocks (value of the fishing quota asset) can be estimated using quota trades (and in some cases Annual Catch Entitlements (ACE) trades). The QMS provides a comprehensive source of market information, and quota trade analysis can provide an estimate of the environmental asset value of all QMS fish stocks.[13] The asset value for the key deepwater and middle depths species is currently estimated to be around $2 billion. Asset value reflects the anticipated income stream from fishing quota taking into account a range of relevant factors, including market conditions, costs, resource availability, quality of the fishing right, and Total Allowable Commercial Catch (TACC) changes. This quota value estimate provides a useful indicator to assess trends in economic value in the major deepwater species over time.

Fleet configuration

The fleet that operates in the deepwater fishery in New Zealand consists of both trawl and longline vessels. The vast majority of the deepwater fleet are factory trawlers or limited-processing trawl

[11] All figures are in NZD. Figures are for Jan-Dec 2015 Source: http://www.seafoodnewzealand.org.nz/fileadmin/documents/Export_data/15.12.10a.pdf (accessed 2 September 2016).
[12] Source: https://www.nzte.govt.nz/en/invest/statistics/ (accessed 5 September 2016).
[13] The United Nations System of Integrated Environmental and Economic Accounting (SEEA) framework advises that wherever possible, market values should be used to estimate natural capital.

vessels that use a mixture of bottom and mid-water trawl gear. These vessels range in length from 28 – 105 metres and are capable of spending weeks at sea and processing fish on board prior to freezing.

The trawl fleet has undergone significant changes in recent years, with the passage of legislation requiring that all vessels operating in New Zealand's EEZ to be flagged to New Zealand from 1 May 2016. This change resulted in a number of foreign-flagged vessels leaving New Zealand's waters. Any vessel that is foreign owned (as defined under the Overseas Investment Act 2006) may only be registered to fish in New Zealand with the consent of the Director-General of MPI.

The deepwater fleet is generally considered to include a number of vessels less than 28 meters in length, many of which do not freeze product and are focused on landing fresh product. These smaller vessels operate seasonally in the hoki fishery, year-round in the scampi fishery, year-round in the ling fishery. Ling is also targeted using bottom longline, and while a number of these vessels are less than 28 meters, they are generally included as part of the deepwater fleet when operating around the South Island.

Deepwater fish stocks

Deepwater fisheries have been ranked into three tiers according to their commercial importance. 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 QMS.

Table 2: New Zealand's Tier 1 deepwater species by export volumes and value (to year June 2016)[14]

Species	Sum of Export Volume (Tonnes)	Sum of Export Value (million $NZ)
Hoki	62,430	230
Hake	4,854	31
Ling	5,508	52
Southern Blue Whiting	12,818	22
Jack Mackerel	28,880	49
Orange Roughy	4,713	61
Oreo	3,306	13
Scampi	575	21
Squid	33,133	99
Totals	**156,217**	**577**

Fishstock management

Reviews of sustainability measures (sustainability rounds) and other management controls for selected fishstocks are conducted regularly to ensure sustainable utilisation of fisheries resources. Sustainability rounds are conducted twice annually, in April and October. Stocks are prioritised for

[14] Source: http://www.seafoodnewzealand.org.nz/publications/export-information/ (accessed 8 September 2016).

review where there are sustainability or utilisation concerns, and/or where new scientific information is available.

The proposals for each stock are assessed in the context of the relevant statutory requirements and the best available information, including (where relevant) the latest scientific information on the status of the stocks and tangata whenua and stakeholder input.

MPI provide a discussion document for public consultation for each stock included in the sustainability round. The science included in the discussion document is based on the review work of the science working groups, which includes: research providers, MPI, industry and ENGOs; and is subject to peer review. Following consultation and feedback, MPI provide final advice and recommendations on the proposed changes to sustainability measures and other management controls to the Minister for approval.

Environmental issues

Currently, there are a number of prominent environmental issues affecting deepwater fisheries, including:

- Health of target stocks
- Impacts of fishing on benthic habitat
- Bycatch of non-target fish species
- Incidental captures of protected species
- Wider effects of deepwater fishing activity on ecosystem function

Ongoing public concern over the impact of commercial fishing on the marine environment has prompted the fishing industry to work proactively with government agencies to manage environmental impacts. Successful initiatives have included: Benthic Protection Area closures, initiated by industry and subsequently regulated in April 2007;[15] efforts to reduce sea lion interactions in the squid and southern blue whiting trawl fisheries; and seabird capture mitigation through both regulated mitigation tools and risk-based vessel-specific management plans. MPI, in conjunction with other agencies and key stakeholders, has also developed a National Plan of Action (NPOA) for seabirds, and an updated NPOA for sharks; which aim respectively to reduce seabird deaths from fishing, and to ensure the conservation and management of sharks and their long-term sustainable use (see below under 'Structure of the National Deepwater Plan').

New Zealand is internationally recognised as the "seabird capital of the world" with 86 species breeding within its territory. Public concern for the conservation and welfare of seabirds has continued to increase in recent years. In 2013, MPI published the National Plan of Action to Reduce the Incidental Catch of Seabirds in New Zealand Fisheries (NPOA-Seabirds). Various seabird species are at risk of becoming hooked on long lines, or injured when they fly into vessels and fishing equipment. The long-term objective of the NPOA-Seabirds 2013 is:

> *New Zealand seabirds thrive without pressure from fishing related mortalities, New Zealand fishers avoid or mitigate against seabird captures and New Zealand fisheries are globally recognised as seabird friendly.*

[15] Fisheries (Benthic Protection Areas) Regulations 2007.

The NPOA-Seabirds aims to reduce the number of seabird deaths from fishing, and builds on and expands work done in the previous NPOA-Seabirds 2004.

MPI also published the National Plan of Action for the Conservation and Management of Sharks (NPOA-Sharks 2013). As with seabirds, public concern for the conservation and welfare of sharks has increased in recent years. New Zealand waters are home to at least 113 species of shark, of which more than 70 have been recorded in fisheries. MPI developed the NPOA-Sharks in conjunction with DOC, the Ministry of Foreign Affairs and Trade (MFAT) and a range of stakeholders, all of whom have an interest in the conservation and management of sharks. The purpose of the New Zealand NPOA-Sharks is to:

> *Maintain the biodiversity and the long-term viability of all New Zealand shark populations by recognising their role in marine ecosystems, ensuring that any utilisation of sharks is sustainable, and that New Zealand receives positive recognition internationally for its efforts in shark conservation and management.*

The New Zealand NPOA-Sharks was a national response to the the United Nations Food and Agriculture Organisation (FAO)'s International Plan of Action for the Conservation and Management of Sharks (IPOA-Sharks).[16] In 2014, New Zealand also banned the practice of shark finning (maintaining the fins of sharks while disposing of the rest of the body at sea).

MPI continues to collaborate with research providers and across government on a range of environmental initiatives, e.g. ecosystem based management under the Sustainable Seas National Science Challenge, so we are well positioned to respond to advances in research regarding best practice management of environmental impacts.

MANAGEMENT COSTS

There are no government subsidies available to the New Zealand deepwater fishing sector, these were removed in the 1980s. The costs of managing the deepwater fisheries are shared between the Crown and the commercial industry. Provisions in the Fisheries Act 1996 enable the Crown to recover the costs of certain fisheries and conservation services.[17] Costs are recovered from the person or persons who have requested a service, benefit from services delivered by the Crown, or those who create risks or adverse effects on the aquatic environment or biodiversity that the services aim to avoid, remedy or mitigate. Around 95% of overall management costs are recovered via an annual levy on quota holdings, with the remainder recovered via transaction fees.

The Crown funds fisheries management costs associated with the non-commercial use of fisheries resources, and services that are delivered in the general public interest. The low level of non-commercial use of New Zealand's deepwater fisheries results in around 95% of deepwater fisheries research costs being recovered from deepwater quota holders. Over the last four years, the government has recovered approximately $44M for research relating to fish stocks managed in the National Deepwater Plan, out of $68M levied for research across all New Zealand's commercial fisheries.

In addition to research, costs of MPI's compliance activities associated with monitoring and offence detection of commercial fishing activity, the registry services required to manage the commercial

[16] See: http://www.fao.org/ipoa-sharks/en/
[17] Part 14 of the Fisheries Act 1996.

sector, research into the impacts of commercial fishing on protected species and the aquatic environment, and observer services are included within the annual levy. MPI and the Department of Conservation (DOC) both deliver services that are cost recovered. Costs recovered by DOC relate solely to the management of adverse effects of commercial fishing activity on species protected under the Wildlife Act 1953 and the Marine Mammals Protection Act 1978.

The situation in New Zealand is in marked contrast to many other countries, such as those of the European Union and China, where international competitors receive direct marketing subsidies or cost-reducing transfers.

THIRD PARTY CERTIFICATION

Many supermarket chains overseas particularly in the USA and Europe are publicly committing to 'responsible' sourcing policies for food, and seafood products are often at the forefront of this strategy. This trend for verification and traceability is increasingly popular and appearing in Asian markets too. This has led to requests or requirements for independent certification to confirm that fish are sourced legally from well-managed and sustainable fisheries. Third-party certification means that an independent organisation has reviewed the 'ocean to plate' process working with scientists, fisheries, seafood producers and brands to promote sustainable fishing and safeguard seafood supplies for the future. Most certified products bear the certifier's mark on their packaging to help consumers and other buyers make educated purchasing decisions. Certification generally leads to the ability to access premium markets.

At present, the Marine Stewardship Council (MSC) standard is considered the world leader in the independent certification market[18] with its distinctive blue label identifying seafood as sustainable. The financial return from environmental certification, particularly in terms of increased market prices, remains uncertain. There is certainly improved market value for fisheries where 'fresh is best'. However, it is increasingly apparent that third party certification is becoming the minimum standard for entry or continued access into important international markets.

The long-term goal of DWG is to have all the Tier 1 deepwater stocks independently certified. To date, five species (comprising 20 stocks) are certified. New Zealand hoki was certified in 2001, and was recertified in 2007 and 2011. Three further deepwater and middle-depth species gained MSC certification during 2010: hake, ling and southern blue whiting. Orange roughy was awarded certification at the end of 2016. Achieving third party certification is an acknowledgement that the fisheries management regime in place across New Zealand's deepwater fisheries meet international standards for sustainable fisheries. Once a fishery has gained certification, the certifier, in the case of New Zealand's deepwater fisheries, MSC, is required to carry out audits annually over the five-year period of fishery certification. Audits examine any significant changes that might have occurred either in the physical environment or in the management of the fishery.

STAKEHOLDER ENGAGEMENT

Stakeholder engagement will be focused, meaningful, and transparent through a Fish Plan Advisory Group (FPAG), where AOPs, ARRs, sustainability rounds, and implementation of the National Deepwater Plan will be discussed. Stakeholder groups that have a specific interest in New Zealand's deepwater fisheries are tangata whenua as Treaty partners, environmental non-governmnet

[18] More information on the Marine Stewardship Council may be found at www.msc.org

organisations (ENGOs), the commercial fishing industry, and the public. The FPAG will be open to all stakeholders and meet at least twice annually to enable stakeholder input on annual planning and to inform stakeholders on performance against annual plans and management objectives.

Tangata whenua as Treaty partners

MPI considers that fisheries plans are key to meeting Treaty of Waitangi obligations by successfully implementing the Fisheries Treaty Strategy for tangata whenua. Effective management of customary commercial and customary non-commercial fisheries and the maintenance of the Crown's obligations, arising from the 1992 Fisheries Settlement, continues to be a feature of MPI's work. The Crown has an ongoing obligation to provide for tangata whenua involvement as Treaty partners in decisions that may affect fisheries sustainability.

MPI has set up iwi fisheries forums to help iwi develop plans that identify the customary, commercial, recreational and environmental objectives for fisheries of importance to a specific iwi. MPI can then use those plans to help its own planning for fisheries and identify how tangata whenua exercise kaitiakitanga (guardianship and conservation). The Minister must have particular regard to kaitiakitanga, which can be specified in those plans when making decisions on fisheries sustainability.

Regulations are part of the fisheries management system, but recognise and provide for access and management by tangata whenua in a way that is appropriate for Māori. Management under regulations needs to align closely with the fisheries management system, ensure that customary fisheries are achieving the purpose of the Act and the commitments in the 1992 Fisheries Deed of Settlement and the Treaty of Waitangi (Fisheries Claims) Settlement Act 1992. MPI seeks advice from appropriate members and mandated representatives of iwi.

The key mechanism to achieve this is through the development and implementation of Iwi Fisheries Plans (IFPs) and Forum Fisheries Plans (FFPs). These plans are key tools for ensuring tangata whenua have effective input and participation at the appropriate levels of fisheries management decision making. IFP provide for input from individual iwi and hapu at a local level by communicating individual iwi objectives that reflect their environmental, commercial and customary non-commercial fisheries interests. FFP will help neighbouring iwi to bring together their commercial, non-commercial and other fisheries goals at a scale that can communicate effectively and influentially with Crown decision making. IFPs/FFPs that incorporate customary commercial and non-commercial deepwater fisheries have not yet been developed.

In the meantime, the AOP will be the mechanism by which the objectives specified in IFPs will be considered for delivery. Based on the above assumptions, and in the absence of IFPs and FFPs, the process to meet participation obligations for deepwater fisheries will be achieved by:

I. Working with Te Ohu Kai Moana (TOKM) to encourage iwi groups to join and participate in the DWG. To date, 12 iwi companies are members of the DWG.
II. Supporting TOKM to engage with those iwi groups where the limited size of their deepwater quota portfolio means that either membership or active participation in the DWG is not feasible. This will be achieved by formalising an arrangement where TOKM is nominated to engage with MPI on behalf of such iwi groups with respect to implementing the National Deepwater Plan. This support will also take the form of preparing and distributing communication and briefing material to provide iwi with updates on aspects of progress towards implementing the plan and meeting objectives.
III. Provide an opportunity for iwi to input into both the AOP and ARR through regular

presentations if required, at relevant iwi forums.

IV. Ensure iwi have the opportunity to input into annual sustainability and regulatory rounds as part of Section 12 consultation requirements.

Iwi Regional Fisheries Forums (IRFFs) include (listed geographically from north to south, and then east):

- Te Kupenga Whitirauroa a Maui (Hawke Bay/Wairarapa)
- Ngati Waewae Mid-North)
- Mai I Nga Kuri a Wharei ki Tihirau (10 Iwi of FMA1 in the Bay of Plenty)
- Nga Hapu o Te Uru (Waikato Maniapoto)
- Te Taihauauru (10 Iwi of FMA8 Taranaki/Whanganui)
- Turanga nui a Kiwa (Poverty Bay)
- Te Hinakinui o Kapiti (Wellington)
- Te Ika a Maui (North Island Freshwater)
- Te Tau Ihu o Te Waka a Maui (Nelson/Marlborough)
- Ngai Tahu (Te Wai Pounamu, Canterbury / West Coast, Otago / Southland)
- Pa Tangaroa (Chatham Islands).

Environmental stakeholders

Engagement with environmental stakeholders formally occurs through the multi-stakeholder FPAG to ensure their interests in New Zealand's deepwater fisheries are provided for. The FPAG provides a mechanism for ENGOs to monitor and assess the performance of this plan and deepwater fisheries against management objectives and statutory requirements. The forum does not and cannot in any way affect section 12 consultation requirements, set out in the Fisheries Act. Rather, it establishes a mechanism for more effective engagement with environmental stakeholders before the formal consultation phase.

Commercial quota owners

In 2006, MPI and DWG (on behalf of deepwater quota owners) formed a collaborative agreement to manage New Zealand's deepwater fisheries. This was given effect through a Memorandum of Understanding (MOU) signed by the Director-General of MPI and the Chair of the DWG.[19] The overarching purpose of this collaboration is to increase the value[20] New Zealand obtains from its deepwater fisheries by improving management, reducing duplication of effort and resources, reducing inefficiencies in processes, and reducing business costs for both parties. This collaborative arrangement has delivered real benefits to deepwater fisheries management. The working relationship is characterised by real-time open communication and information sharing.

The current version of the MOU prescribes the informal governance arrangements that have developed around the management of deepwater fisheries during the last ten years. It recognises that successfully implementing the National Deepwater Plan is the joint responsibility of MPI and industry, and both parties must co-operate to solve problems. Neither group has all the knowledge required to solve complex and dynamic problems, has access to all instruments needed to move in the

[19] The MOU was updated in 2008 and 2010.

[20] 'Value' is defined here in a board sense, which could mean but is not necessarily limited to; the cultural, economic, social or spiritual value New Zealand obtains from its deepwater fisheries.

desired direction, nor is able to unilaterally control all other participants. The day-to-day management of deepwater fisheries will continue to be a collaborative initiative with the DWG under the National Deepwater Plan, which will ensure that industry and MPI resources are targeted at common objectives.

The MOU does not and cannot in any way affect section 12 consultation requirements, set out in the Fisheries Act. Rather, it establishes how MPI can ensure more effective engagement with the commercial sector before the formal consultation phase. Certain fish stocks included in the National Deepwater Plan, such a barracouta and alfonsino, will continue to be represented by inshore commercial stakeholder organisations (CSOs).

Commercial quota owners are also represented at the Fish Plan Advisory Group to enable open discussions among stakeholders with differing views.

Recreational Fishers

Most deepwater fisheries have nominal recreational allowances in place, typically set at zero or a very small proportion of the Total Allowable Catch (TAC). Although recreational fishing is a very small component of the deepwater fisheries sector, there are certain fisheries, such as jack mackerel and squid, where recreational fishers have an active interest in how deepwater fisheries are managed (e.g. where an important recreational species is a bycatch in a deepwater target fishery). To account for this interest, MPI will ensure that the recreational sector is involved in consultation on all sustainability decisions and key management decisions through section 12 of the Fisheries Act.

Public

There is increasing international and domestic focus on managing the undesirable effects of fishing on the aquatic environment. This includes, but is not limited to, interactions with protected species, impacts on the benthic environment of bottom trawling, and non-target fish bycatch (including sharks). The main mechanism for public input to deepwater fisheries management actions is through statutory consultation as required by section 12.

SERVICES TO SUPPORT IMPLEMENTATION

Successful implementation of fisheries plans is a MPI-wide responsibility and requires input and commitment of resources from across MPI. A primary focus of fisheries plans (in addition to the goal of improving our fisheries management regime), is to provide planning tools to ensure that the Ministry's resources and activities are transparently allocated and targeted towards achieving agreed objectives. This section of the National Deepwater Plan provides information on the relevant areas of MPI from which services are required to achieve objectives.

The key services that will contribute to the delivery of the National Deepwater Plan include:

1. Compliance services
2. Information and Monitoring services
3. Observer services
4. Registry services
5. Policy services
6. Other services

Compliance services

Fishing in New Zealand is highly regulated. An extensive regulatory regime under the Fisheries Act constrains fishing activities. In addition there are also a range of other rules under legislation that govern labour, general environment, protected species, and food safety. Changes to any of the laws, regulations, rules or policies in respect of the harvesting, production, processing, preparation, distribution, packaging or labelling of deepwater fisheries products can have a significant business impact.

MPI compliance operates using the voluntary, assisted, directed, and enforcement (VADE) model of informed and assisted compliance. The application of the VADE model is reflected in the collaborative arrangement between MPI and DWG with respect to fisheries management in the compliance arena.[21] This collaborative arrangement is given effect through a MPI/DWG compliance group.

Past areas of concern for deepwater fisheries have included misreporting in terms of areas fished ('trucking'), species fished (falsifying returns) and quantities taken (discarding catch and high grading).[22] The penalties for offending are high and can result in vessel forfeiture, imprisonment and significant monetary penalties.

There are also compliance services that will not be driven by the National Deepwater Plan although there will be linkages between such activity and the on-going management of deepwater fisheries. These services include targeted investigative activity (likely to be fishery specific) to support prosecution cases.

Information and Monitoring

Research is a key input to the management of deepwater fisheries. The availability of appropriate information defines the ability to meet many of the objectives of the National Deepwater Plan. MPI will continue to engage with stakeholders and maintain a long term research plan to ensure that data and information is available to:

A. Monitor key fisheries against stock specific harvest strategies
B. Monitor biomass trends for bycatch species
C. Assess fishery performance against environmental standards, such as the 2013 National Plan of Action Seabirds (and that for Sharks) and
D. Enable more timely responses to sustainability and environmental impact issues

Information and monitoring services may be supplemented by additional information from the implementation of the IEMRS programme, and will adjust to make the best use of all available information.

Observer services

MPI Fisheries Observers play a significant role in the provision of scientific, management and compliance information integral to the effective and efficient management of New Zealand's

[21] For more information on the MPI/DWG compliance committee, including details of the Terms of Reference for this group please see the MOU at www.fish.govt.nz
[22] 'High grading' is where a more valuable species may be retained and a less valuable species is discarded.

deepwater fisheries. In deepwater fisheries in particular, MPI Fisheries Observers collect biological information at sea that is not able to be collected any other way.

While the MPI Fisheries Observer programme was initially established to provide scientific information, the observers have acquired additional roles to provide wider fisheries management information. They now also monitor employment, workplace health and safety, maritime safety and environmental standards on board vessels at sea. As an employer, MPI is defined under the new Health and Safety at Work Act 2015 as a PCBU – a 'person conducting a business or undertaking'[23] so also has its own health and safety responsibilities to observers, and also to any other employees.

A credible observer programme is critical to maintaining the integrity of New Zealand's fisheries management regime and its reputation through the provision of timely and accurate data. The maintenance of MPI and industry's international and domestic reputation as effective fisheries managers and responsible fishers is considered essential to the continued prosperity of New Zealand's commercial fishing sector.

Internationally, the current delivery model for observers is well regarded. It is considered to be effective, credible and have the integrity necessary to deliver impartial services.

Registry services

The Fisheries Act provides for a range of QMS administration activities (registry services). These activities include: the collection and management of statutory catch reporting from commercial; permitting, vessel registration; cost recovery; quota; and ACE trading. All these registry services are delivered by an external agency (FishServe Ltd), either under a 'devolved' delivery model where MPI specifies the quality of service that is funded directly from quota holders; or under contract where MPI funds the delivery of service and recovers these costs from industry through cost recovery levies.

Further reporting on fisheries landings, in the form of monthly harvest returns and Licensed Fish Receiver returns, allows catch to be traced from harvest through to export/domestic markets. This record keeping and reporting framework is the key mechanism for measuring catch against catch limits. Registry services will evolve as the Integrated Electronic Monitoring and Reporting System (IEMRS) is installed on all commercial fishing vessels.

Other services

The Office of the Director-General will provide the legal, data management expertise, and media and communication support as necessary to deliver on the National Deepwater Plan; Policy support is provided by the Policy and Trade Directorate. The exact nature of these services will vary between AOPs. From a generic viewpoint these services will likely take the following form:

External communications: Preparing media information and public briefing documents to ensure management activity is transparent and providing media support around sustainability and management decisions.

Legal: Providing expert knowledge and legal opinion on the interpretation of the relevant fisheries legislation to support policy development and management interventions.

[23] A 'person' should not be taken literally and can mean an organisation or a government agency.

List of Abbreviations and Acronyms

ACE	Annual Catch Entitlement
AOP	Annual Operational Plan
ARR	Annual Review Report
BATM	Big Autonomous Trawler Reefer (large Soviet-era fishing vessels know by their Russian acronym – BATM; the largest fishing vessels operating in the deepwater fleet)
B_{MSY}	The biomass level that can produce the maximum sustainable yield from a fish stock.
BPA	Benthic Protection Area
CSO	Commercial Stakeholder Organisations
DOC	Department of Conservation
DWG	Deepwater Group Limited
EEF	Environmental Engagement Forum
EEZ	Exclusive Economic Zone (12-200nm)
ENGOs	Environmental Non-Government Organisations
ETP	Endangered, Threatened and Protected (Species)
FAO	Food and Agriculture Organisation (of the United Nations)
FCVs	Foreign Charter (fishing) Vessels
FFPs	Forum Fisheries Plans
FOVs	Foreign Owned (fishing) Vessels
FPAG	Fisheries Plan Advisory Group
HCR	Harvest Control Rule
HSS	Harvest Strategy Standard
IEMRS	Integrated Electronic Monitoring and Reporting System
IFPs	Iwi Fisheries Plans
IRFFs	Iwi Regional Fisheries Forums
ITQ	Individual Transferable Quota
The Minister	The Minister for Primary Industries
MFAT	The Ministry of Foreign Affairs and Trade
MOU	Memorandum of Understanding
MPI	Ministry for Primary Industries
MSC	Marine Stewardship Council
NM	Nautical Mile

NPOA—Seabirds	National Plan of Action to Reduce the Incidental Catch of Seabirds in New Zealand Fisheries
NPOA—Sharks	National Plan Of Action for the Conservation and Management of Sharks
PCBU	Person Conducting a Business or Undertaking (under the Health and Safety at Work Act 2015)
QMS	Quota Management System
SEEA	United Nations System of Integrated Environmental and Economic Accounting
TAC	Total Allowable Catch
TACC	Total Allowable Commercial Catch
TOKM	Te Ohu Kai Moana
TS	Territorial Sea (out to 12nm)
VADE	Voluntary, Assisted, Directed, Enforcement (model)