Australian Government
Productivity Commission

Marine Fisheries and Aquaculture

Productivity Commission Issues Paper

February 2016

The Commission has released this issues paper to assist individuals and organisations to prepare submissions. It contains and outlines:

- the scope of the inquiry
- the Commission's procedures
- matters about which the Commission is seeking comment and information
- how to make a submission.

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- the Commission's procedures
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- how to make a submission.

Participants should not feel that they are restricted to comment only on matters raised in the issues paper. The Commission wishes to receive information on all issues which participants consider relevant to the inquiry's terms of reference.

Key inquiry dates

Receipt of terms of reference	23 December 2015
Submissions due	31 March 2016
Release of draft report	Mid-August 2016
Public hearings	September 2016
Post-draft submissions due	October 2016
Final report to Government	22 December 2016

Submissions can be made

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The Productivity Commission

The Productivity Commission is the Australian Government's independent research and advisory body on a range of economic, social and environmental issues affecting the welfare of Australians. Its role, expressed most simply, is to help governments make better policies, in the long term interest of the Australian community.

The Commission's independence is underpinned by an Act of Parliament. Its processes and outputs are open to public scrutiny and are driven by concern for the wellbeing of the community as a whole.

Further information on the Productivity Commission can be obtained from the Commission's website (www.pc.gov.au).

Terms of reference

Inquiry into the Regulation of Australian Marine Fisheries and Aquaculture Sectors

I, Scott Morrison, Treasurer, pursuant to Parts 2 and 3 of the *Productivity Commission Act 1998*, hereby request that the Productivity Commission undertake an inquiry into the regulatory burden imposed on the Australian marine fisheries and aquaculture sectors.

Background

Commonwealth, State and Territory governments are responsible for the management of Australian fisheries within their respective jurisdictions. Regulations are used to implement controls, such as limits on catch or effort levels, and regulate fishing methods in order to manage Australia's fisheries in a way that meets social and economic considerations and ecological sustainability objectives.

Except where agreement is reached to the contrary, state/territory laws apply to coastal waters (up to three nautical miles) and Commonwealth laws apply from those waters out to the limit of the Australian fishing zone (200 nautical miles). As most recreational and traditional Indigenous fishing activity occurs in waters within state/territory jurisdiction, state/territory administrations generally manage these forms of fishing activity.

As a result, Australia's commercial fisheries are governed by a total of eight jurisdictions (the Commonwealth, states and the Northern Territory), with each jurisdiction developing specific regimes for fisheries management, fisheries research, reporting and environmental protection.

In addition, there are 59 separate arrangements under the Offshore Constitutional Settlement that determine how cross-jurisdictional stocks are to be managed.

There are also four joint fisheries authorities. This regulatory environment oversees an industry that has a gross value of production of $1.3 billion per annum. It is also an industry that has been the subject of a large number of recent inquiries and reviews at many levels.

While Australia's fisheries are regarded as sustainable, reliable and safe, there is scope to improve the management of fisheries through effective and coordinated regulatory and management arrangements. This includes the streamlining of regulations, rationalising jurisdictional and offshore constitutional settlement arrangements through improved cross jurisdiction and multi-jurisdictional regulatory regimes, information and service sharing, and harmonisation of environmental, management and compliance arrangements.

While aquaculture is within scope, it was the subject of a Productivity Commission research paper in 2004 which examined existing planning and environmental regulatory arrangements. The Commission should use the findings of this research as a basis to

inform its current inquiry rather than commencing a new investigation into issues impacting the aquaculture sector.

Scope of the inquiry

The inquiry will identify opportunities to increase productivity and cut unnecessary and costly regulation, including where regulations are poorly coordinated between jurisdictions.

The inquiry will therefore consider whether there are opportunities to improve fisheries regulations without compromising fishery policy and environmental objectives.

Consideration would be given to regulatory simplification, streamlining and consistency of arrangements across multiple jurisdictions, alternative more efficient regulatory models, the practices of the various regulators and removing unnecessary restrictions on competition.

In doing so, the inquiry will consider the value of strengthened relationships and effective and coordinated management of our fish stocks with a view to reducing the regulatory burden incurred by business, and consumers.

In undertaking the inquiry, the Commission is to have particular regard to impediments to increasing productivity and market competitiveness of the Australian fishing and aquaculture industries, including:

1. The extent to which enhanced and improved use of cross jurisdiction and multi-jurisdictional regulatory regimes, information and service sharing can improve the economic efficiency and the ecologically sustainable use and management of fisheries resources.

2. The extent to which harmonisation or integration of environmental, management and compliance arrangements could improve the effective and efficient operation of the fishing industry and delivery of fisheries policy and environmental outcomes.

3. The extent to which accreditation schemes or recognition of equivalency could reduce the regulatory burden and increase productivity.

4. The extent to which greater use of cost recovery arrangements is applicable and informs the cost of delivering fishery production, conservation and other community service obligations.

5. The extent to which fisheries management regimes align with and protect the interests of the wider community (in particular, the balance between commercial, recreational, indigenous fishing and conservation interests, and consumers' interests).

6. The extent to which fisheries management regimes support greater participation of Indigenous Australians, provide incentives to Indigenous communities to manage their fisheries, and incorporate their traditional management practices in the fishing industry.

7. The degree to which cross jurisdictional regulatory arrangements are transparent, accountable, proportionate, consistent, effective and targeted.

8. The degree to which cost effective and practical non-regulatory mechanisms could be expanded to achieve fisheries management outcomes.

The primary focus of this review will be on Commonwealth, state and territory regulation of wild capture marine fisheries. This will include the interaction of fisheries specific regulation within Commonwealth and State/Northern Territory jurisdictions.

It will also need to have regard to the role of the *Environment Protection and Biodiversity Conservation Act (1999)* and other fisheries- related environmental legislation that are directly relevant to Australian marine fishing.

Process

The Commission is to undertake an appropriate consultation process including holding hearings, inviting public submissions and releasing a draft report to the public.

The Commission will consider the submissions and reports of all recent relevant inquiries and government responses. The Commission is to take into account the initiatives at the jurisdictional level relevant to the scope of the inquiry.

The final report should be provided within twelve months of the receipt of these Terms of Reference.

Scott Morrison
Treasurer

[Received 23 December 2015]

Contents

1 What is this inquiry about?

This inquiry is about the regulation of Australian marine fisheries and aquaculture. Regulations are used to implement controls, such as limits on catch or effort levels, and regulate fishing methods to manage Australia's fisheries in a way that addresses economic, social and ecological sustainability objectives.

The inquiry will focus on opportunities to increase productivity and competitiveness and the scope to improve fisheries regulation without compromising economic, social and environmental objectives. In doing so, the Commission will give particular attention to the contemporary issues and challenges facing the fishing and aquaculture industries, including:

- the changes in marine environments (including, for example, that posed by climate change) that are impacting upon fish stocks, fish behaviours and fish habitats
- the challenges of understanding complex marine environments and species interactions and, in turn, the need to make fisheries management decisions at various levels of uncertainty
- the way that fisheries resources are best used, including how they are allocated among various users - commercial, recreational and Indigenous - and how those allocations are managed, so that their value to Australians is maximised both in the present and over time
- the challenges of managing fish and ecosystems that span multiple Australian jurisdictions.

As such, the inquiry will consider, among other matters:

- the interaction of environmental and fisheries management regulation, including how fisheries resources are measured, allocated and controlled
- whether regulations are transparent, proportionate, consistent, effective, targeted and promote accountability
- ways to improve cross jurisdiction and multi-jurisdictional regulatory arrangements (for example, via information and service sharing)
- scope to increase the use of accreditation schemes to reduce regulatory burden
- optimal cost recovery from industry
- how to balance commercial, recreational and Indigenous fishing, conservation, and consumers' interests
- how fisheries management does or can support the participation of Indigenous Australians, affect incentives for managing their fisheries, and incorporate their traditional management practices in the fishing industry
- non-regulatory instruments that may improve fisheries management outcomes.

Inquiry scope

The primary focus of the inquiry is on Commonwealth, state and territory regulation of wild capture marine fisheries. This includes the interaction of fisheries-specific regulation within the Commonwealth, state and Northern Territory jurisdictions, and the role of the *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) and other environmental legislation that is applicable to Australian marine fishing.

The Commission will also examine regulatory arrangements for aquaculture. In doing so, it will draw on previous reviews of the sector, including its 2004 report assessing environmental and regulatory arrangements.

Matters out of scope for this inquiry include:

- inland waters except for aquaculture in those waters
- non-fishery uses of the marine environment such as sand mining
- the management of marine animals protected from fishing (such as whales and turtles) except where these are impacted by fisheries or management arrangements (such as by-catch arrangements).

How you can contribute

The Australian Government has asked the Commission to release a draft report, and to provide a final report to Government within twelve months (December 2016). The Commission is seeking submissions by 31 March 2016 and will hold public hearings to elicit feedback on the draft report. It may also convene roundtables on selected topics. Details on how to make a submission are provided in attachment A.

This paper sets out some of the issues and questions the Commission has identified as relevant to the inquiry. Those providing submissions are not expected to address all of these issues and are welcome to provide information on other issues they consider relevant to the inquiry.

The Commission's approach

In preparing its report, the Commission will conduct its own analysis of data and draw heavily on input from participants through consultations, public hearings and written submissions. Where relevant, the Commission will draw on previous research from Australia and internationally, reviews and initiatives.

2 Australian fisheries

Fishing activity in Australia falls into one of four categories: commercial; recreational; Indigenous customary; and, illegal. A key regulatory function is determining the optimal

allocation of access rights between legitimate users. Ideally, the resultant allocation would see fisheries realising their highest-value uses. But information on the value of different uses is needed to inform such judgements. The value of commercial fishing is more readily determined by the market value of their catch. For recreational fishing and Indigenous customary fishing, however, the true value of the activity is not measured in market terms but rather in the benefits accruing to the fisher — such as their enjoyment of the activity, a connection with nature, the preservation of cultural or family traditions; even the taste of fresh fish.

INFORMATION REQUEST

Are fish stocks allocated and managed in a way so as to ensure a viable and sustainable fishing sector both now and into the future?

How should the value of recreational fishing and Indigenous customary fishing be measured and so better inform access allocation decisions?

Do the current access arrangements provide for the realisation of the highest economic value from fisheries?

Is there a reasonable balance between the interests of different users in the current allocations of access to marine fisheries?

Is there room to improve the process for determining the allocation of such rights? For example, how might competing interests be better reconciled?

Managing the interaction between commercial, recreational and Indigenous customary fishers is a challenge. The sectors compete for the same resource but also share a fundamental interest in the sustainability of fish resources. At the same time, each group is subject to different regulatory requirements and incentives/disincentives to maintain fish stocks. As such, there is a need for continual cooperation and effective dialogue between fisheries managers and commercial, recreational and customary fishers.

INFORMATION REQUEST

Where are there overlaps or conflicts between the rights of access for the different groups of fisheries users? How are such overlaps and conflicts best addressed? How best can the common interests of users be leveraged to improve fisheries outcomes?

Commercial fishing

The commercial fishing and aquaculture sector (including downstream processing and trade) is valued at over $2 billion a year and directly employs about 14 000 people (ABARES 2015):

- In 2013-14, the gross value of Australian fisheries production amounted to $2.5 billion, comprising wild-catch fisheries ($1.5 billion or 60 per cent of total production) and aquaculture production ($1 billion or 40 per cent of total production).
- Tasmania accounted for the largest share of Australia's gross value of production (30 per cent), followed by Western Australia (20 per cent), South Australia (16 per cent), the Commonwealth (14 per cent) and Queensland (11 per cent).
- Over 8 000 people are directly employed in the fishing and aquaculture sector and a further 5 700 people are employed in seafood processing and wholesaling (ABARES 2015).

Australia's seafood industry is a minor player internationally, producing less than 0.2 per cent of global seafood supply. Australia's fisheries production focuses on high value export species (such as lobster, prawn, tuna, salmon and abalone) with export earnings accounting for 46 per cent of the total production in 2013-14. Australia is a net importer of fisheries products in volume and value terms. Australian imports of fisheries products were valued at $2 billion in 2013-14, exceeding export earnings of $1.3 billion for the sector (ABARES 2015).

The profitability of commercial fishing operations can vary considerably from year-to-year. Fluctuations in profitability are driven by a number of factors, including prices (Australian fishers are often price takers in global markets), catch, environmental conditions and input costs. Local regulatory decisions on matters, such as total allowable catch for a fishery and fishing gear controls, can also impact profitability. The management decisions of individual fishers also have a significant bearing on their financial performance.

INFORMATION REQUEST

Relative to other costs (such as fuel and labour), how significant are the costs of complying with fisheries regulation? Do so called 'input controls' (such as limits on boat size and fishing gear) unduly restrict fishing operations, result in lost opportunities and/or discourage investment within the Australian commercial fishing industry?

Are there any other aspects of fisheries regulation (such as uncertainty over the permanency of arrangements) that deter investment?

What are the major challenges and opportunities facing the commercial fishing industry over the next 20 years? What aspects of fisheries regulation need to change for the industry to best meet those challenges and opportunities?

Are there instances of overcapitalisation in fisheries that is driving returns to fishers down to unsustainable levels? Where such a situation exists, what is the best remedy to return the fishery to long term viability?

Regulation of commercial fishing

Regulations play a vital role in managing Australia's fishery resources and addressing environmental impacts. Regulation also influences economic prosperity and social wellbeing, but imposes costs on businesses. The aim of regulations is therefore to achieve the intended outcomes at minimal cost.

Australia is considered to be one of the leading nations in fisheries management globally (Neville 2008) and its fisheries are generally regarded as sustainable, reliable and safe (Borthwick 2012, p. 10). However, the regulatory systems that have evolved to manage Australia's fisheries are viewed by some as having become too complex and costly.

As the management of commercial fishing activity has evolved, especially over the past two decades, more attention has been placed on ensuring a viable sector based on sustainably managed fish stocks and their encompassing marine environment.

INFORMATION REQUEST

Are fish stocks managed in way that will ensure a viable and sustainable commercial fishing sector? How effective are harvest strategies, such as the Commonwealth Harvest Strategy, in guiding the management of fish stocks?

Tradeable quotas are commonly used to manage Australian fisheries, particularly Commonwealth fisheries and is an approach also being taken up by some state fisheries. When quotas were introduced, they were typically issued on a 'once-off' basis to those who had been actively fishing in a relevant area. No further quotas were issued. Hence, for fisheries under such management arrangements, 'quota' needs to be purchased from an existing owner to gain access. Quotas entitle fishers to take a share of allowable catch, rather than a specific quantity of fish. As regulators periodically determine the sustainable catch, the actual number or weight of fish that can be taken under a quota varies. Quota holders are generally entitled to trade quota entitlements, but the rules governing quota trading vary by jurisdiction.

INFORMATION REQUEST

Are there regulatory approaches that are better suited to achieving the objectives of fisheries regulation compared to quotas? What, if any, challenges exist in the processes for the initial allocation of quotas (for states) and subsequent determinations of allowable catch? Is quota trading functioning effectively?

Input controls and regulation of the equipment employed by fishers are also used in the management of fisheries — generally by the states and the Northern Territory. These controls aim to minimise or manage potential environmental damage from fishing (for example, damage to seagrass beds from trawling operations) and/or to limit fish takes within identified sustainable catch levels.

INFORMATION REQUEST

Under what circumstances should regulators place restrictions on the fishing boats, trawlers, fishing equipment and technology that are used to capture wild fish stocks?

How should restrictions be determined (e.g. on scale/size of tool or operations, or with respect to different types of operations, such as 'factory fishing')?

How well do current restrictions contribute to achieving the regulatory objectives for fisheries?

Output controls include, among other things, total allowable catch limits. Input and output controls are regularly applied concurrently. For example, a fishery may be managed by a combination of tradable catch quotas, gear restrictions and seasonal closures.

INFORMATION REQUEST

Is there scope to reduce or get a better mix of input and output controls while achieving the same regulatory objectives?

Are there tensions between the use of different control regimes in the management of particular fisheries and/or fisheries in proximity to each other? What are the costs and benefits associated with each approach? Is any approach 'superior' in meeting the regulatory objectives with minimal regulatory burden or does a combination of these various approaches work more effectively?

There are a range of regulatory measures used to minimise by-catch — fish and other marine species caught unintentionally, or undersized or the 'incorrect sex' of the target species — as well the discarding of unwanted catch. Problems with by-catch often involve protected species such as turtles, dolphins and sea lions.

INFORMATION REQUEST

Are current approaches to managing by-catch and discards in commercial fishing effective?

Are these approaches sufficiently focused on preventative measures rather than dealing with by-catch once taken?

A productivity context

Productivity indicators can be useful in understanding the performance of a sector — that is, how well a sector is using its resources. A productivity increase might be observed in fewer resources being used to produce the same or a greater quantity of output, or using existing resources more creatively to produce higher quality or more valuable goods.

In the commercial fisheries sector, productivity is influenced by a number of dynamic and interacting factors, including stock levels and values, regulatory controls on resource (input) use and allowable catch, environmental factors and changing technology.

A key question for this inquiry is understanding how regulation affects the use of resources available to fishers and incentives to innovate and improve efficiency.

INFORMATION REQUEST

What are the key influences on, or barriers to, innovation and productivity improvement in the commercial fisheries sector? Where does regulation most affect resource use and incentives to improve? What management settings should be changed or implemented to maximise productivity growth?

Recreational fishing

Recreational fishing is a pastime enjoyed by many Australians. In the most recent national survey, Campbell & Murphy (2005) found that over three million Australians participated in recreation fishing sometime during 2000–01. Recreational fishing also makes an economic and social contribution to Australia, especially in regional areas. Spending related to recreational fishing was estimated to exceed $1.8 billion in 2000–01 (Campbell & Murphy, 2005)

The rules for recreational fishing in marine areas are set and enforced by state and Northern Territory governments (even when the fishing is in Commonwealth waters). Those rules differ across jurisdictions, but can include fishing licences, bag and size limits, areas where fishing is not permitted and seasonal closures. The purpose of recreational fishing rules is to contribute to the sustainable management of fish stocks.

The costs of overseeing recreational fishing include employing fisheries officers and installing signage and notices indicating where fishing is permitted, along with size and catch limits. State and territory governments also fund conservation projects, re-stocking of fish and the maintenance or installation of some facilities for recreational fishers (such as gutting tables and boat ramps).

INFORMATION REQUEST

Are controls such as licences, bag limits and size limits effective? Is there scope to reduce the burden (time or monetary costs) of fishing rules on recreational fishers while achieving the same regulatory objectives?

How well is recreational fishing recognised in current fisheries management and regulatory arrangements (including in relation to access rights)?

How does the regulation of commercial fisheries affect recreational fishers? What are the main sources of tension between recreational fishers and other fishery users?

What, if any, tensions exist between the controls on recreational fishing across jurisdictions and fisheries?

Given the services provided by state and territory governments to support recreational fishing, do recreational fishers get good value from licence fees?

Indigenous fishing

Indigenous communities have a strong connection with the marine environment. Customary fishing generally applies to an Indigenous person or community that has a traditional connection with the area being fished and involves fishing for personal, ceremonial, educational or non-commercial needs.

The *Native Title Act 1993* (Cth) provides for native title holders to continue their tradition of hunting and fishing on lands and waters where they have a connection. It recognises that states and territories are free to make their own laws that regulate customary fishing, so long as these laws are not in conflict with the fishing rights provided for in the Native Title Act.

Around Australia, there has been an increase in fishing ventures that are owned or operated by Indigenous groups. These activities may extend beyond customary practices and, taken up more broadly, have the potential to provide economic and employment opportunities for Indigenous communities.

INFORMATION REQUEST

Is there sufficient awareness and understanding on the part of fisheries regulators and the broader community of Indigenous fishing rights? Do current fisheries arrangements adequately recognise Indigenous fishing rights?

Should there be any limits on the fishing methods or gear that can be used in the exercise of customary fishing rights?

How might the scope for economic and community gain from fishing ventures by Indigenous communities best be facilitated? What are the barriers that need to be overcome?

The regulation of customary fishing is separated from that of commercial and recreational fishing to reflect customary fishing access rights. However, like commercial and recreational fishing, the sustainability of fish stocks is generally recognised as a priority in customary fishing management.

INFORMATION REQUEST

Is there adequate consultation and engagement with Indigenous people in relation to the management of fisheries? Do current fisheries management arrangements provide incentives for Indigenous communities to be involved in fisheries management? If not, how could this be improved?

Illegal fishing activities

A challenge for fisheries regulation is to address illegal fishing activities. Illegal fishing activities can include recreational fishers selling fish, commercial fishers exceeding their quotas and people fishing without a licence.

To address illegal fishing, all jurisdictions attempt to monitor fishing activities and enforce regulations. These efforts include employing sea patrols, aerial surveillance and catch inspections. However, finite resources and the size of the Australian Fishing Zone (which includes waters in such disparate locations as Heard Island, Christmas Island, the Torres Strait and Macquarie Island) mean that the level of enforcement activity is not as high as some would like. Australia is also involved in coordinated international efforts to reduce illegal, unreported and unregulated fishing. These efforts typically include information sharing and denying access to ports, as well as multilateral initiatives such as 'Operation Nasse'.[1]

1 Australia, New Zealand and France worked together for Operation Nasse. The operation comprised four weeks of patrolling and surveillance in the Southern Pacific Ocean for the purpose of monitoring compliance with the conservation requirements of the Western and Central Pacific Fisheries Commission.

INFORMATION REQUEST

What is the scale and scope of illegal fishing? What form does illegal fishing activity most often take?

Where does illegal fishing activity cause most damage to the environment and detriment to the interests of legitimate fisheries users? Where should monitoring and enforcement actions be focused?

How could the enforcement of fisheries laws be made more effective without adding to the overall regulatory burden? Should penalty regimes be strengthened?

What sort of role, if any, is there for non-government bodies, such as the Sea Shepherd, in combating illegal fishing?

How best might Australia protect its interests from illegal fishing activity in Antarctic waters? What factors should be balanced against the cost of any increase in effort to reduce illegal fishing in this remote area?

3 The management of fisheries

Unmanaged (or 'open access') fisheries result in adverse impacts on the longer term sustainability and viability of wild fish stocks. In an open access environment, the incentive facing each fisher is to maximise their catch – often at the expense of other fishers. This can lead to overcapitalisation (too many boats/fishers) and lower economic returns to each fisher. The result can be significant environmental damage, depletion of the fish stock and even the collapse of the fishery, as individual fishers are not incentivised to undertake activities that will maintain the fishery ecosystem or reverse any environmental degradation.

Governments have intervened through a range of policy instruments and legislation to better manage access and prevent adverse outcomes for fisheries and the marine environment. The management of fisheries is a highly complex task:

- marine environments are individualistic, interconnected and subject to natural variation and climate change;
- fish stocks are difficult to quantify and there may be considerable uncertainty surrounding estimates;
- the interpretation of scientific, economic or other evidence may be contested and evidence is often imperfect;
- economic objectives may clash with environmental and social objectives; and
- stakeholders may have polarised interests and competing views.

Under these conditions, the prioritising of management objectives and options usually requires 'on balance' judgements.

Multi-jurisdictional governance

Australia's fisheries are regulated by the Commonwealth, states and the Northern Territory. These jurisdictions have differing objectives and priorities. For example, the promotion of 'social/community benefits' is included as an objective in the primary legislation of some jurisdictions but not in others.

INFORMATION REQUEST

Are the underlying objectives of fisheries management regulation clear and widely understood?

What should be the main objectives of fisheries management and regulation?

If social objectives should be included as objectives of fisheries laws, what priority should they be afforded relative to the other objectives of fisheries regulation?

Pursuant to the Offshore Constitutional Settlement (OCS), each state government and the Northern Territory is responsible for the marine fisheries that lie solely within the waters adjacent to its coastline and within three nautical miles of the low water mark. The Commonwealth has jurisdiction for fisheries that lie between three and 200 nautical miles off the low water mark.

Most Australian fisheries that span the waters of the Commonwealth and a state (or states) and the Northern Territory are managed according to agreements made under the OCS. These OCS agreements typically allocate the management of a fishery to a single jurisdiction under a single set of regulations.[2] These agreements (of which there are 59) are typically supported by Memoranda of Understanding between the parties.[3]

For some fisheries spanning a number of jurisdictions, however, there are no agreements or the agreements do not include all parties. As a result, activity within these fisheries is managed by multiple jurisdictions according to jurisdictional borders.

As most recreational and traditional Indigenous fishing activity occurs within state/territory waters, the states and Northern Territory manage these forms of fishing activity within their respective jurisdictions and also, subject to the Commonwealth's agreement, within the Commonwealth waters adjacent to their jurisdiction.

At its inception the OCS was heralded as integral to the resolution of cross-jurisdictional issues. However, concerns have regularly been raised in relation to the operation and

2 As at February 2016, there are also three joint-management authorities to manage fisheries that straddle multiple jurisdictions — Queensland Fisheries Joint Authority; Northern Territory Fisheries Joint Authority; and, Western Australian Fisheries Joint Authority (AFMA 2016).

3 There are no Memorandums of Understanding in place for agreements between the Commonwealth and New South Wales.

effectiveness of agreements made under its auspices (for example, DPIE 1989, DAFF 2003 and Borthwick 2012).

INFORMATION REQUEST

For what species, fishing methods and/or in which locations do regulatory overlaps, conflicts and/or duplication arise across Australian fisheries? What costs arise as a result? How might these overlaps, conflicts and areas of duplication best and most cost-effectively be addressed?

The multi-jurisdictional governance arrangements for fisheries could also be perceived as resulting in 'over regulation' of the sector relative to its economic value. Australia's wild caught fishing industry currently has 8 fisheries regulators for an industry that accounted for around 0.1 per cent of Australia's GDP in 2013-14.

The number of regulators largely stems from Australia's federal political system, but the differences in regulatory approach may lead to overlap (or gaps) and higher than necessary administration and compliance costs.

INFORMATION REQUEST

Are there too many authorities responsible for Australia's marine fisheries? If so, what supervisory arrangements would be most effective for Australian fisheries?

Are there other countries that provide useful lessons for governance arrangements in Australia?

How can information and reporting be better shared and coordinated across jurisdictions and fisheries? For example, information on stock assessment and statistics relating to catch, by-catch and protected species? In what other ways could the jurisdictions better coordinate the regulatory effort?

The Commonwealth, through the Australian Fisheries Management Authority (AFMA), is responsible for implementing fisheries arrangements for seven international regional fisheries management bodies. The Commonwealth also works with other nations on matters such as illegal fishing and where our fishing jurisdictions abut — for example, Indonesia (AFMA 2012).

INFORMATION REQUEST

What impact do Australia's international obligations have on domestic fisheries?

What impact does illegal fishing have on domestic fisheries?

Management and governance models

Co-management

The search for more effective fisheries management and governance models is a continual process driven by the at times conflicting goals of economic growth, social outcomes and preservation of the marine environment. More recent work has pointed to the potential benefits of a co-management approach — an 'arrangement in which responsibilities and obligations for sustainable fisheries management are negotiated, shared and delegated between government, fishers, and other interest groups and stakeholders' (Neville 2008). Achieving genuine collaboration and partnerships are crucial to the success of any co-management initiative. This can be challenging, particularly for fisheries covering a large area, with many fish stocks and where stakeholders hold competing views and priorities.

INFORMATION REQUEST

Where and in what circumstances has the co-management of fisheries been particularly effective or ineffective? What are the advantages and disadvantages of the different co-management approaches of the jurisdictions and/or in individual fisheries?

Accreditations

In addition to government regulation, there are a number of private sector accreditations available to fishers, fisheries and fish processors — for example, the Marine Stewardship Council (MSC) accreditation. Private sector accreditation requirements can be important for both exporters where an accreditation may be required to access certain markets and those producing for the Australian market and competing against accredited imports.

Accreditation programs examine fisheries practices to assess the sustainability of the fish stocks and the impact on threatened species. But they potentially overlap with regulatory requirements (notably fisheries management requirements and environmental accreditation).

INFORMATION REQUEST

To what extent do private sector accreditations and certifications overlap with government regulations?

What special value is accorded to private sector accreditations? Could private and government accreditation and certification be better differentiated and aligned?

To what extent can third party accreditation be relied on as an alternative to regulation? Are there reasons accreditation schemes should or should not be used as alternatives to regulation?

Cost-recovery in managing fisheries

Providing affordable and effective fisheries management services is challenging. The review of Commonwealth fisheries (Borthwick 2012) noted the cost to government of managing Commonwealth fisheries is large compared to the value of the industry - management costs exceed $50 million a year, representing 16 per cent of the gross value of production ($320 million).[4] More generally, MRAG Asia Pacific (2014) found that:

- the fisheries management budgets for New South Wales, Queensland, Western Australia and the Commonwealth, were over ten per cent of the gross value of the commercial marine production for their respective jurisdictions;[5] and
- there are different approaches to cost recovery from commercial and recreational fishers across the jurisdictions. Also, there are differences in the extent to which so-called 'cost recovery' funds the overall fisheries management budgets of the individual jurisdictions.

In addition to helping meet administrative costs, applying user-pays principles to services can help to ensure that those services are well-targeted over time and any increases in charges are more transparent and linked to service improvements. The application of charges also has a regulating effect on demand.

INFORMATION REQUEST

What groups most directly benefit from the regulation of Australian fisheries? Of those groups, who obtains greater benefits?

What aspects of fisheries management costs are and should be recoverable from users? How well targeted and administered are current cost-recovery arrangements? Are there better cost recovery approaches than others in this area?

Should there be a charge on the use of fisheries to provide a return to the community from the use of marine resources?

4 Meeting environmental objectives

Fishing activities can have adverse impacts on the environment. They may impact on the sustainability of particular fish stocks, harm protected species (unintentionally or otherwise), or damage fragile marine environments. Governments use regulation to minimise and manage these impacts. Different jurisdictions have adopted different regulatory approaches to manage environmental risks.

4 These costs include the broader responsibilities of AFMA such as managing the high seas fishing by Australian fishers rather than the direct management of Commonwealth fisheries.

5 The fisheries budgets for the states include some 'non-core fisheries activities' such as Queensland's shark control program.

Underpinning much of the environmental regulation of fisheries is the concept of the precautionary principle (box 1).

Box 1 What is the Precautionary Principle?

Environmental regulation involves uncertainties. Activities that interact with the environment, including fishing, may result in adverse consequences, but often the nature, magnitude and likelihood of this damage is not fully known. Likewise, regulatory actions to prevent or minimise adverse consequences may also be subject to uncertainty.

The Precautionary Principle is a tool available to policymakers to guide their decisions in the presence of uncertainty. While several definitions of the Precautionary Principle exist, the most commonly cited version is the Rio Definition, developed at the 1992 United Nations Conference on Environment and Development. It states:

> In order to protect the environment, the precautionary approach shall be widely applied by States according to their capabilities. Where there are threats of serious or irreversible damage, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measures to prevent environmental degradation.

The Precautionary Principle is well established in Australian environmental and resource management legislation. It is also incorporated into a number of international treaties and agreements which Australia is party (Weier and Loke, 2007). The principle is enshrined in a number of key pieces of legislation that impact on fisheries, including the EPBC Act, the Fisheries Management Act and most state and territory fishery acts. The Precautionary Principle is also explicitly enshrined in the objectives of AFMA as defined in the Fisheries Administration Act.

The presence of the Precautionary Principle across almost all the major pieces of legislation that impact on fisheries underlines its importance in influencing the policies, conduct and priorities of regulators with respect to environmental regulation.

INFORMATION REQUEST

Is the Precautionary Principle adequately defined and consistently applied within the context of Australian fisheries?

Where is there overlap between Commonwealth and state/territory environmental regulations with respect to wild catch fisheries? How well is the overlap managed and what are the consequences where it is not managed well?

As noted, each state and the Northern Territory has environmental regulations that affect the operation of fisheries within their jurisdictions. Additionally, fishers and fisheries managers must comply with the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999* (Cth) (EPBC Act). This Act deals with, most relevantly, strategic assessments, interaction with listed species (endangered and protected species), accreditation of fisheries management plans and exporting requirements of commercial fisheries.

Within Commonwealth environmental approval procedures, there may currently be duplication of processes or the need to obtain multiple approvals for the same action. For example, EPBC accreditation is required for fishing plans for individual vessels at times and for entire fisheries.

INFORMATION REQUEST

Is the process that fisheries are strategically assessed separately under the EPBC Act efficient and effective? If not, how could it be improved - for example, is there merit in and scope for AFMA and/or state/territory fisheries managers to be delegated assessment and approval functions in relation to Part 10 of the EPBC Act, with the Department of the Environment's role then becoming one of monitoring compliance with requirements?

Are assessments made under the EPBC with respect to export of produce and interactions with listed species efficient? If not, how could they be improved? What other pieces of Commonwealth regulation govern the environmental impacts of fisheries?

For fisheries located in state or territory waters, are the environmental regulations effective? If not, in what ways could they be improved?

Science and research significantly impact the regulation of fisheries. The relevance and robustness of fisheries-related science and research has been subject to debate between competing interests. The Commission does not have the expertise to determine the validity or otherwise of the science and research on which such environmental regulation is based, but it is interested to understand how such research is used to inform and assess the effectiveness of regulation.

A range of public and private sector bodies undertake research and data collection relevant to fisheries management, including private companies, universities and government as well as joint industry/government research bodies.

INFORMATION REQUEST

How well does current scientific and research effort support the environmental and ecological objectives of fisheries management?

How effectively is scientific or research information (and developments in such information) 'translated' or incorporated into policy or regulatory settings?

What is the best way for regulators, fishers and other stakeholders to work together to ensure optimal outcomes from fisheries research?

Are arrangements for funding ongoing research in the fisheries area satisfactory?

How effective are arrangements for sharing information? Is there scope to improve the planning and/or collection of data to better achieve commercial, community and policy objectives?

A further environmental issue for fisheries, as with other primary industries, is the potential impact of climate change. Some of the changes linked to climate change that are affecting the marine environment, fish stocks and fish behaviours (such as spawning) include changes in ocean currents, water temperatures and bleaching of coral reefs. The effects of climate change are not expected to be universal across all fisheries and, in some cases, may not necessarily be negative. However, they do pose challenges for both the industry and regulators.

INFORMATION REQUEST

What effects — or likely effects — is climate change having on wild catch fisheries? If these effects are substantial, what management techniques are being, or could be, used to mitigate or adapt to negative impacts?

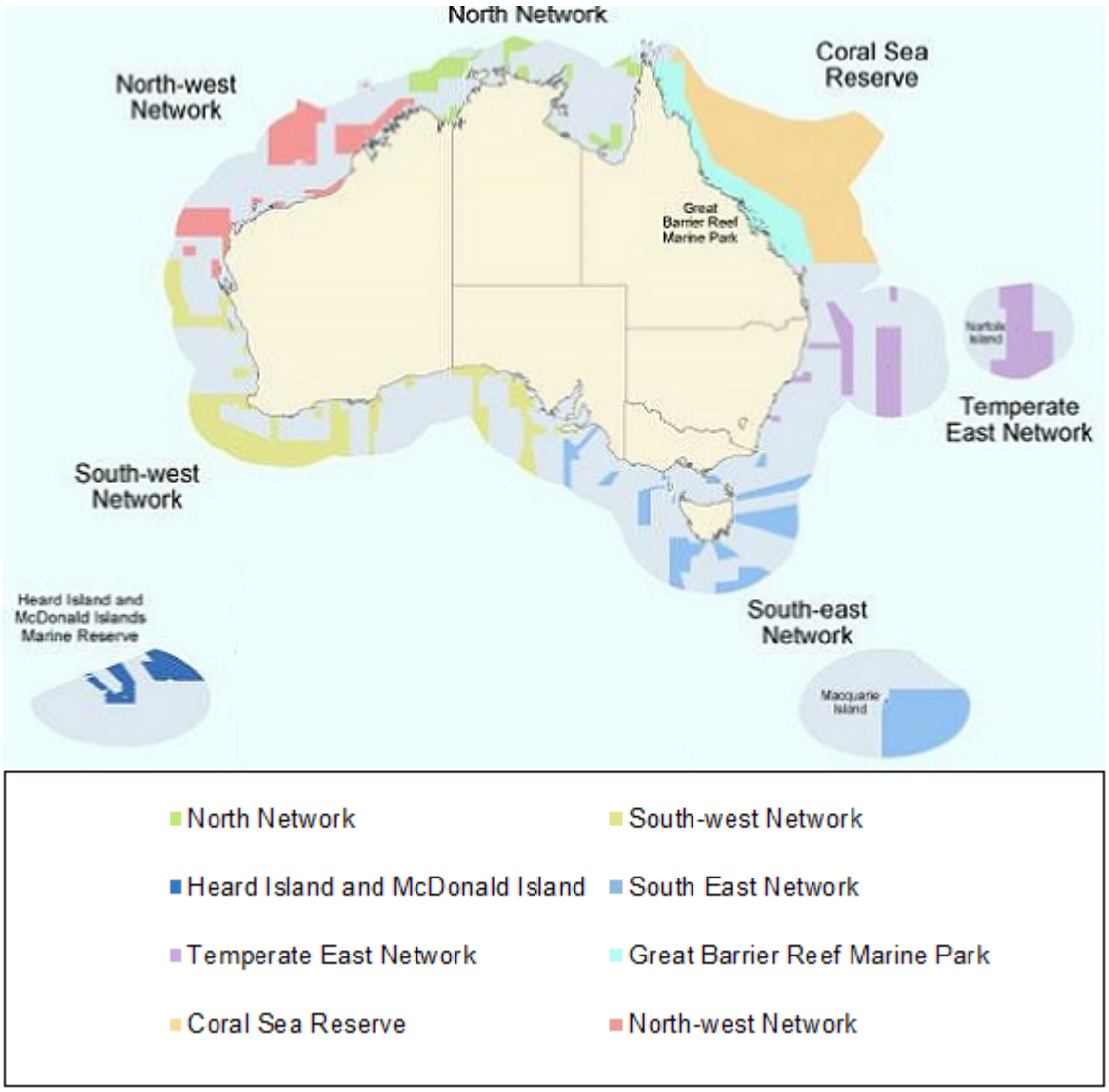
Aside from climate change, are there any developing environmental, technological or socioeconomic trends likely to impact on fisheries over the next 20 years?

Marine parks and reserves

Commonwealth marine parks and reserves are areas established and managed under the EPBC Act to preserve the health, productivity and resilience of marine ecosystems. Australia has the world's largest network of marine reserves (figure 1) — protecting over 3.1 million square kilometres of the marine environment. In addition to Commonwealth protected marine areas the states and the Northern Territory also have laws dedicated to the declaration and management of marine park areas in their jurisdictional waters.

The declaration of marine parks and reserves can displace commercial, recreational and Indigenous customary access to fisheries (box 2). The impact on fishers varies depending on the nature of the marine area and the fishing constraints put on the protected zone. However, marine reserves can also improve the productivity of fisheries by ensuring places such as breeding grounds are protected and provide benefits to other industries, such as tourism.

Figure 1 **Commonwealth marine reserves network**



Source: Department of the Environment (2016).

INFORMATION REQUEST

How effective and efficient are regulatory arrangements covering marine parks and reserves? How well coordinated and consistent have the jurisdictions been in designating their respective marine parks? What are the economic, environmental and social impacts of marine park areas?

Box 2 **Marine parks and reserves**

The establishment of marine reserves around Australia is part of the National Representative System of Marine Protected Areas (NRSMPA) agreed between the Commonwealth, states and Northern Territory in 1998. The primary goal of the NRSMPA is to preserve examples of a full range of Australia's marine ecosystems. The preservation of these marine environments supports both scientific research and non-extractive recreational pursuits.

In order to preserve their marine environments, marine parks and reserves need to be of self-sustaining scale and have sufficient protection from potentially damaging human activities. In this regard, they are similar to land-based national parks.

In determining the areas to be set aside for marine parks and reserves, governments sought to minimise the social and economic impacts. For example, the Commonwealth Government sought to minimise any reduction in recreational fishing activity resulting from the establishment of marine reserves. As a result, around two thirds of Commonwealth reserves are zoned to allow recreational fishing.

The activities allowed within marine parks and reserves vary from place to place. In some areas, commercial and/or recreational fishing are permitted while other areas are strict sanctuaries (also known as 'no-take areas'). Non-extractive activities such as diving, snorkelling and whale watching are generally allowed in all marine parks/reserves albeit other controls (such as limits on where ships can lay anchor and permit requirements) may limit the practical extent of these activities.

Sources: Department of the Environment (2016).

5 Regulation of aquaculture

Aquaculture has become an increasingly important source of Australia's overall fish production, accounting for nearly 40 per cent of the value of Australian fish production in 2013-14 (nearly 32 per cent in 2002-03) (ABARES 2015). Aquaculture in Australia has typically focused on high value products including salmon, prawns, oysters and tuna.

As aquaculture production has increased, governments have sought to balance expansion of the sector against the potential environmental impacts. Balancing these environmental and economic considerations and potential conflicts with other resource uses (related to the increased demand by the sector for access to land and water) has proved challenging for regulators and policymakers.

INFORMATION REQUEST

Have any jurisdictions been able to successfully balance environmental and economic considerations and potential conflict with other resources uses? How did they achieve this success?

Previous studies indicated that aquaculture was subject to an unnecessary and complex array of legislation covering marine and coastal management, environmental management, land use planning, quarantine and translocation (PC 2004, QCA 2014). Such arrangements can create uncertainty and compliance costs for the sector and stifle investment and expansion. Other factors — for example, climatic, environmental and geographic factors, economies of scale, access to infrastructure and proximity to markets — may also place limits on the further development of aquaculture production.

INFORMATION REQUEST

Are existing regulatory arrangements well-targeted and efficient means for managing aquaculture operations and addressing potential environmental impacts? Have regulatory arrangements inhibited the productivity and competitiveness of aquaculture in Australia?

What, if any, developments have there been in the aquaculture industry since 2004 that the Commission should specifically consider in this Inquiry?

Are there factors outside the regulatory environment that have significantly limited the productivity and competitiveness of aquaculture production in Australia?

What are the major challenges and opportunities facing the aquaculture industry over the next 20 years?

Potential environmental issues associated with aquaculture production — for example, impacts on water quality, the escape of farmed stock into the wild, the use of wild fish both for breeding stock and fishmeal in aquaculture feed, the impact of aquaculture infrastructure on the marine environment and local amenity, and the higher susceptibility of farmed fish to disease and infection — are well known. Managing or eliminating these environmental problems are important for the ongoing development of aquaculture.

INFORMATION REQUEST

Do the existing regulatory arrangements adequately recognise the different sectors and production methods used in aquaculture and their differing environmental impacts and interaction with other resources uses?

Are there technological solutions to the potential environmental problems associated with aquaculture? Where and how has the industry invested to develop solutions? To what extent, and under what funding arrangements, should governments be involved in developing innovative solutions?

The Australian Government has a limited regulatory role in aquaculture. Aquaculture operations are undertaken in state and territory waters and there is currently no regulatory framework in place for aquaculture in Commonwealth waters. The Australian Government's involvement is generally limited to assessments of proposed aquaculture developments that trigger the assessment and approval process under the EPBC Act (for example, a proposed aquaculture development that may impact on a declared marine park

area). Through its biosecurity legislation, the Australian Government oversees the importation of brood stock.

INFORMATION REQUEST

Is a regulatory framework required for aquaculture in Commonwealth waters?

6 Fish processing, wholesale and retail

From a food safety perspective seafood is considered a high-risk food that may potentially cause outbreaks of foodborne illness. The processing and retailing of seafood for human consumption is therefore highly regulated and monitored.

There were about 230 seafood processing and 870 fish and seafood wholesaling businesses operating in Australia in 2014. There are also thousands of retailers of fresh and processed fish —about 9800 supermarket and grocery stores and 4800 fresh meat, fish and poultry retailers were in operation in 2014 (ABS 2015). The majority of processing businesses undertake cleaning, filleting, chilling, freezing and packaging, although some have the capacity for more significant product transformation.

Food Standards Australia New Zealand develops standards to cover the food industry. Compliance with the standards is monitored by state and territory authorities. The food safety regulation of seafood generally begins once the product is landed on the fishing vessel. Seafood business that are covered by food safety regulation include fishers, transporters, seafood processors, handlers, wholesalers and retailers.

There is a range of food safety requirements that seafood business must comply with, including in relation to: handling and processing; temperature control and time that seafood can be stored and displayed; cleaning and sanitising food businesses and equipment; labelling; and transportation. Other regulations that apply to seafood processing and retail businesses include, for example, those dealing with environmental regulatory issues (such odour management, water consumption, fish-waste management and wastewater).

INFORMATION REQUEST

How effective and efficient are regulatory arrangements covering downstream seafood processing, wholesale and retailing businesses including: food safety; labelling; environmental management and other regulations?

Can fisheries regulation in these areas be improved to increase processing productivity?

Jurisdictions also require businesses involved in the transportation, processing or sale of seafood to maintain records identifying the source of the seafood in their possession as part of efforts to address illegal fishing activities.

INFORMATION REQUEST

How burdensome are monitoring and enforcement requirements for downstream processors? Has monitoring of seafood held by downstream processors been an effective adjunct to the enforcement of fishing regulations? Is there scope to achieve the same (or a better) outcome in a way that imposes less burden on downstream processors?

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Attachment A

How to make a submission

The Commission invites interested people and organisations to make a written submission.

Each submission, except for any information supplied in confidence (see below), will be published on the Commission's website shortly after receipt, and will remain there indefinitely as a public document. The Commission reserves the right to not publish material on its website that is offensive, potentially defamatory, or clearly out of scope for the inquiry or study in question.

When providing a submission to the Commission, you may wish to remain anonymous or use a pseudonym. Please note that, if you choose to remain anonymous or use a pseudonym, the Commission may place less weight on your submission.

Copyright in submissions sent to the Commission resides with the author(s), not with the Commission. Submitters should ensure that they hold copyright in any submitted documents, or that the copyright holder has authorised the publication of any relevant documents on the Commission's website.

How to prepare a submission

Submissions may range from a short letter outlining your views on a particular topic to a much more substantial document covering a range of issues. Where possible, you should provide evidence, such as relevant data and documentation, to support your views.

This is a public review and all submissions should be provided as public documents that can be placed on the Commission's website for others to read and comment on. However, information which is of a confidential nature or which is submitted in confidence can be treated as such by the Commission, provided the cause for such treatment is shown. The Commission may also request a non-confidential summary of the confidential material it is given, or the reasons why a summary cannot be provided. You are encouraged to contact the Commission for further information and advice before submitting such material. Material supplied in confidence should be provided under separate cover and clearly marked 'IN CONFIDENCE'.

How to lodge a submission

Each submission should be accompanied by a submission cover sheet. The submission cover sheet is available on the inquiry web page <www.pc.gov.au/projects/inquiries/ /current/fisheries-aquaculture>. For submissions received from individuals, all **personal**

details (e.g. home and email address, signatures, phone, mobile and fax numbers) will be removed before they are published on the website for privacy reasons.

The Commission prefers to receive submissions as a Microsoft Word (.docx) files. PDF files are acceptable if produced from a Word document or similar text based software. You may wish to research the Internet on how to make your documents more accessible or for the more technical, follow advice from Web Content Accessibility Guidelines (WCAG) 2.0 <http://www.w3.org/TR/WCAG20/>.

Do not send password protected files. Do not send us material for which you are not the copyright owner — such as newspaper articles — you should just reference or link to this material in your submission.

Track changes, editing marks, hidden text and internal links should be removed from submissions before sending to the Commission. To ensure hyperlinks work in your submission, the Commission recommends that you type the full web address (eg http://www.referred-website.com/folder/file-name.html).

Submissions sent by email must not exceed 20 megabytes in size as our email system cannot accept anything larger. If your submission is greater than 20 mb in size, please contact the Administrative Officer for the relevant project to organise another method of sending your submission to the Commission.

Submissions can be accepted by email (no hardcopy required) or post:

Email*	fisheries.inquiry@pc.gov.au
Post	Australian Marine Fisheries and Aquaculture Productivity Commission GPO Box 1428 Canberra ACT 2601

* If you do not receive notification of receipt of an email message you have sent to the Commission within five working days of sending, please contact the Administrative Officer listed on the inquiry website.

Due date for submissions

Please send submissions to the Commission by **Thursday, 31st March 2016**.