



**Australian Government**  
**Productivity Commission**

# Marine Fisheries and Aquaculture

Productivity Commission  
Inquiry Report  
*Overview & Recommendations*

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# Contents

<b>Overview</b>	<b>1</b>
Key points	2
Inquiry context	3
Access arrangements	8
Improving commercial sector prospects	14
Recreational fishing	18
Indigenous fishing	21
Cross-jurisdictional stock management	24
Environmental regulations	25
Downstream processing	28
Aquaculture	29
Other areas for improvement	31
<b>Recommendations and findings</b>	<b>33</b>



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# OVERVIEW

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## Key points

- Following past over-fishing, Australian governments have applied policies that generally have improved sustainability. Only 6 per cent of stocks are today overfished.
- But policy settings are not maximising the value of fisheries to the community. In particular:
  - most commercial fisheries are managed primarily through controls over fishing methods, which can inhibit fishers from introducing more innovative and cost-effective practices
  - understanding of recreational and Indigenous customary fishing activity is limited despite widespread participation and increasing competition for some fish stocks
  - differences between the fishery management techniques adopted by governments add to the costs faced by fishers operating in cross-jurisdictional fisheries and to risks in managing the sustainability of stocks.
- The allocation of access to fisheries should address social and cultural benefits, as well as economic benefits.
- Recreational fishing, long viewed as having a minimal impact on fisheries, is having a material impact on some high-value stocks.
- The better use of existing recreational fishing licensing systems, and the introduction of low-cost licensing in jurisdictions where it is not presently used, would provide the means for gathering evidence to better meet the future needs of recreational fishers and support environmental objectives in the long term.
  - A sound evidence base is not presently available to guide decisions on access and facilities for recreational fishers.
- Prospects for the commercial fishing sector would be improved by governments providing greater certainty on access and the permitted intensity of fishing.
- Governments should adopt individual transferrable quota systems as the default management technique for commercial wild catch fisheries. This will provide greater confidence on stock sustainability, more scope for innovative and efficient fishing practices and facilitate structural adjustment.
- Arrangements between governments for the management of cross-jurisdictional fish stocks should be streamlined to improve their effectiveness and reduce costs. This will require governments to prioritise and dedicate sufficient resources to reform.
- Additional improvements to marine fisheries management include making standards for protected species clearer, streamlining some environmental approvals, delegating more operational decisions to fishery managers and limiting cost recovery to cover only efficient costs.
- Indigenous customary fishing is not clearly recognised or managed in fishery laws. This has resulted in uncertainty over the rights and obligations of customary fishers and tensions between sectors in some high-demand fisheries. Indigenous Australians have limited input into fishery management, and there is little information on customary catch and practices.
  - Clarifying what constitutes Indigenous customary fishing and who is eligible to fish, and incorporating customary catch and practices into fisheries management regimes would help resolve these issues.
- There has been little change in the regulation of aquaculture over the past 10 years but this has generally not impeded the sector's growth. The major producing States have had key best practice regulatory features in place for some time and other States have faced challenges that are predominantly non-regulatory in nature.

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# Overview

## Inquiry context

Fish are a renewable, but not inexhaustible, resource. They are subject to the well-recognised potential for a ‘tragedy of the commons’, where the unregulated efforts of individual fishers deplete the resource. Governments must therefore limit catches to sustainably manage resources and, where there is competition between fishers, determine how access is to be shared.

There are around 165 commercial wild capture fisheries spanning Australia’s Exclusive Economic Zone (which is larger than the land area of Australia) generating around \$1.6 billion in revenue. Millions of Australians fish recreationally for food and enjoyment. Coastal Indigenous communities have long been users and custodians of Australia’s marine environment, and continue to have strong cultural associations and concerns for the sea and its resources. Australia’s fish resources also provide non-extractive value, such as for the tourism sector, for which viewing native fish and the marine environment are significant drawcards.

The central aim of Australian marine fishing laws is to strike a balance between exploiting and maintaining the value of fish resources for the community, now and in the future. The complex and dynamic nature of fish and marine ecosystems, the multiple and changing uses of marine resources, and the different benefits derived by varying users from access can make the achievement of this goal challenging. Further, each fishery is different (with different species, marine environments and nature of demand) and requires localised management arrangements.

Marine fisheries management is also complicated by the fact that, despite its large size, Australia’s fishing territory has relatively low biological productivity. Aquaculture has grown in importance as a source of seafood, with its share of total production by value now about 40 per cent. Overall, Australia accounts for less than 0.2 per cent of global commercial production (by tonnage), although we have a higher share of global product by value (1 per cent) reflecting the concentration of production in high value species such as rock lobster and abalone.

There will always be scientific uncertainty about the marine environment and differing views on the risks arising from marine-based activities, including fishing, as well as the degree to which governments can and should act to mitigate these risks. Governments recognise that information that reduces uncertainty and guides improvements in management methods has potentially high payoffs. Such information can be difficult and

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costly to obtain, so the gains from management improvements have to outweigh these costs to justify its collection.

Given these challenges, and past experiences of mismanagement, where overfishing resulted in environmental degradation and temporary closures of previously viable fisheries, governments now err on the side of sustainability when making regulatory decisions.

The regulation of marine fisheries involves three core tasks: research and/or the collection of data to inform management; the development and implementation of controls over activity; and enforcement of those controls. Australian fishery laws control two main matters:

1. the taking of fish, such as where people can fish, the species that can be caught, how many and by what means
2. who can fish where there is competition for access — and, where access to the resource is divided between fishing sectors (recreational, commercial and Indigenous customary), the nature of limits on each sector.

Effective management requires the adaptation of regulatory controls to reflect new information on fish and their marine environments, their effectiveness in practice, as well as changing preferences for the use of marine resources over time.

## **Management arrangements — wild capture fisheries**

The Commonwealth, States and the Northern Territory each regulate marine fisheries. The States and Northern Territory are generally responsible for fisheries that lie within three nautical miles from Australia's coastline, and the Commonwealth those that lie between three and 200 nautical miles from the coastline.

As recreational and Indigenous customary fishing have traditionally been undertaken close to shore, only the States and Northern Territory presently regulate these forms of fishing (excepting in the Torres Strait). All jurisdictions regulate commercial fishing. In addition, a number of fish stocks spanning jurisdictional borders are subject to intergovernmental management arrangements. At the international level, fisheries management is guided by agreements and conventions relating to matters such as countries' rights within their exclusive economic zones, the management of migratory species and responsible fisheries management.

Although there are many similarities in the fishery laws of each Australian jurisdiction, there are also significant differences, particularly in relation to the management of fishing sectors (commercial, recreational and Indigenous customary). Australia's waters are thus governed by multiple fishery laws, and domestic fisheries regulations comprise a complex array of interrelated regimes governing commercial, recreational and Indigenous customary fishing.



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## At the fishery level

All commercial fisheries are limited-entry fisheries, as ‘open access’ policies have historically led to over-expenditure on fishing activities relative to yield. Non-commercial fisheries remain largely open access.

Where overall catch limits are employed in fisheries, governments are converging towards best practice methods for determining them. These include the use of quantitative assessments of fish populations, and harvest strategies to define the desirable level of resource use and/or points at which changes in management are required so as to meet policy objectives. Limits may be set with reference to the quantity or weight of fish caught (output controls) and/or fishing methods, for example, fishing gear, boat sizes and days fished (input controls). In Australia, total catch limits are set predominantly for commercial fisheries, reflecting the historical focus of regulators on this sector.

Controls must suit the type of species targeted and be cost-effective. However, best practice strongly favours the use of output controls as the primary method of regulating aggregate catch. Output controls directly target the amount of fish caught and hence provide confidence on the achievement of sustainability goals. They also impose fewer constraints on methods of catching fish and allow for improvements in the efficiency of fishing practices over time.

Where output controls are used, quotas for individual fishers are most commonly determined as a share of allowable catch from the fishery. The setting of quotas as shares allows their automatic adjustment when total catch limits are changed. Quotas also have the advantage of minimising incentives to ‘race to fish’, spreading the catch over the fishing season and raising average utilisation rates of equipment. Tradeable quotas facilitate structural adjustment by making it easier for fishers to enter and exit the industry, which helps to increase the value of the industry as more efficient fishers are able to purchase quota from less efficient fishers.

Input controls do not offer many of these efficiency benefits, but are presently considered a more practical option for managing stocks for which it is difficult to set total catch limits (for example, because the target species have very short lives). Some jurisdictions use individual transferable effort (ITE) systems, which allow input-controlled fishing entitlements to be traded in full or part and therefore some of the efficiency benefits noted above to be realised. As technology changes, the calculation of allowed effort needs to be revised to ensure the total catch remains sustainable.

Controls over aggregate catch in commercial fisheries are usually complemented by other controls, such as gear restrictions or bycatch exclusion devices, to minimise the impact of fishing on non-target species and the broader environment.

There has been a shift to managing commercial harvest through output controls over the past 15 or so years, with individual transferable quota systems presently used in about a quarter of fisheries. The remainder are managed through input controls, with ITE systems

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forming a small minority of these. Although reform efforts are continuing, past input-based management techniques and allocations of fishing entitlements, which encouraged over-investment, have proven difficult and costly to unwind.

Recreational fishers are generally not subject to limits on aggregate catch given their diversity in activity and the large area over which they fish. Rather, they are regulated primarily via controls over gear, and bag and size limits. As recreational fishing has historically been viewed as less consequential than commercial fishing, it is subject to significantly less monitoring.

Indigenous customary fishing is subject to Indigenous laws and customs but is generally also regulated through possession limits and gear restrictions. There is limited documentation of the extent and nature of customary fishing, but the information available suggests it is widely practiced. Total catch is assumed to be relatively small for most species, reflecting the small share of Indigenous Australians in the population, although the take of certain species can be more significant.

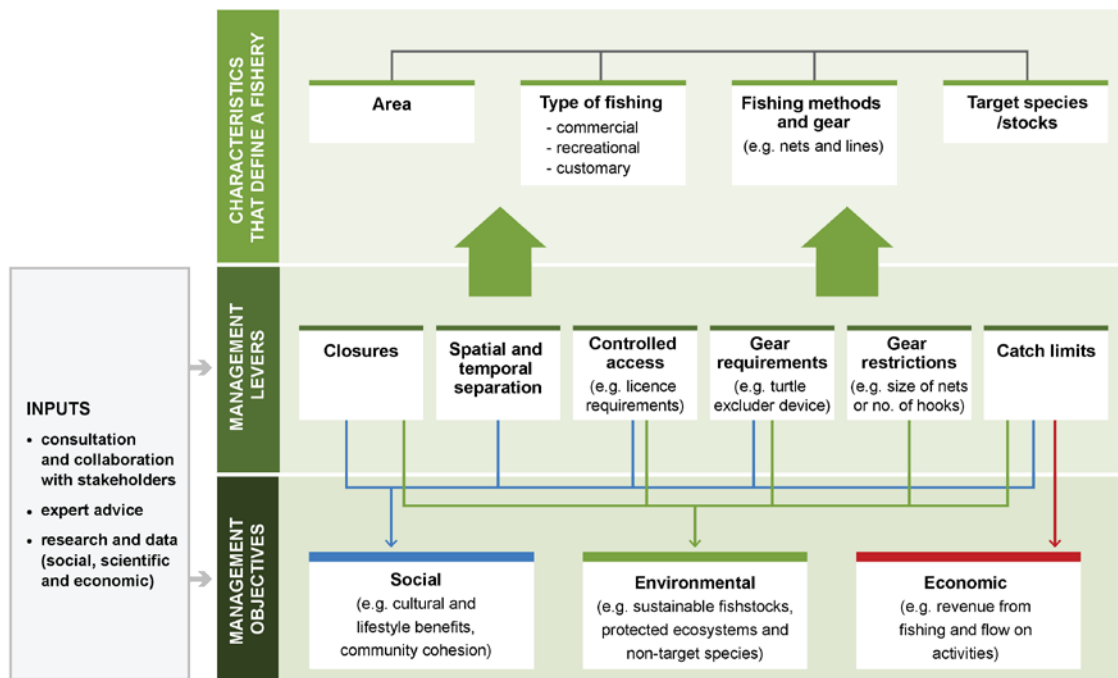
## **How controls are set**

The limits on catch and fishing practices needed to meet environmental objectives are largely technical matters determined by scientific research. In better-practice fisheries, harvest control rules and other requirements to meet fishery policy goals are implemented through management plans for each fishery, which are developed and enforced by fisheries authorities. Typically, harvest controls focus on the sustainability of the target stock, although in Commonwealth fisheries they are also designed to maximise economic returns.

Decisions on who may access fisheries reflect governments' objectives for the use of fishery resources. Objectives vary across the jurisdictions, and may include economic and social, as well as environmental, aims. Where there is competition for the same fishing stock, allocation decisions (where made) reflect government judgments on the value of access to the different fishing sectors and the community. Governments use a range of methods for sharing access, including spatial or temporal separation of fishing groups and allocations of catch shares to sectors out of a total allowable catch limit.

In short, there is a range of tools in regulators' and fisheries managers' 'tackle boxes' that can be used to achieve fishery policy goals (figure 1). The principal goal of governments should be to make efficient and effective regulatory decisions on resource use, drawing on contemporary information about impacts, and recognising that the degree of data collection, research and other regulatory effort should reflect the value of fisheries to the community.

Figure 1 Fisheries management tools



## Aquaculture

Aquaculture has grown in overall importance as wild-caught production in Australia has declined. Aquaculture is regulated to mitigate the industry’s impact on the environment, provide access to publicly owned land and water, and manage potential conflicts with other users of these resources. Given their jurisdiction over most planning and local environmental matters, State and Territory Governments are primarily responsible for the management and regulation of aquaculture.

The primary modes of control (and facilitation) are the grant of leases on land and waters so as to provide secure tenure to a site, and the issuing and administration of various development and operating approvals. These approvals may stipulate conditions such as restrictions on the type of infrastructure that can be employed and requirements to maintain the quality of water to a specified level. Regulations also usually seek to control harm to other wildlife, such as seals and seabirds.

## How well are fisheries regulations working?

Reforms aimed at rectifying overfishing in wild capture fisheries have generally been successful in producing better environmental outcomes and underwriting an economically sustainable industry over the longer run. As one indicator, some 6 per cent of fishing stocks in Australia (for which a status has been determined) are classified as overfished,

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compared to 30 per cent of the world's fish stocks. In recent years, Australian authorities have sought to standardise and increase the coverage and frequency of stock surveys to obtain a more accurate picture of risk and to target regulatory effort.

However, there is scope to reduce unnecessary costs, better support the ongoing achievement of environmental objectives, and ensure that the community gets maximum value from its resources. Particular concerns include:

- the outlook for the commercial fishing industry, where there are concerns about the slow pace of reform in some jurisdictions and the impact of fisheries regulation on competitiveness, investment and innovation
- that the management of some (mostly commercial) fisheries spanning jurisdictional borders is ineffective and inefficient due to multiple and sometimes inconsistent regulatory regimes
- the adequacy of current fisheries management regimes in dealing with community expectations and preferences for the use of fishery resources
  - including concerns about the impact of the recreational sector on fishing stocks and the need to better acknowledge the sector's interests — with catch now estimated to rival or exceed commercial catch for a range of key species (and likely to continue to do so)
  - there is longstanding concern that Indigenous customary fishing is insufficiently recognised in fishery management regimes, an issue that should be taken out of the too-hard basket
- that decisions on where fishing can occur and by whom are being made in an arbitrary way in several jurisdictions, with significant adverse impacts on current users.

## **The Commission's approach**

This report identifies reform areas that are of high priority and common interest to jurisdictions. It focuses on the frameworks for determining access to fishery resources and managing each fishing sector, given that it is these higher-level policies that fundamentally shape day-to-day management and outcomes. The report also considers the management of cross-jurisdictional fisheries, developments in the aquaculture sector and the efficiency of core fishery management tasks.

## **Access arrangements**

### **Access to fishing grounds**

Governments must make decisions on access to and use of marine resources, balancing the interests of different users.

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From a national perspective, fishing laws do not unreasonably limit the establishment of new commercial fisheries or new recreational fishing grounds. But broader decisions on the use of marine environments can frustrate the establishment of fisheries and/or limit activities in existing fisheries. There are justifiable concerns about the adverse impacts on fishing of coastal developments, marine infrastructure and the declaration of marine park areas.

### Land and marine developments

Outflows and runoff associated with land-based developments, and marine infrastructure, such as artificial reefs, can adversely affect fisheries, particularly for commercial fishers. Even small changes in the location of developments can significantly affect the viability of fishing areas or commercial fishers' costs.

Notwithstanding this, most States do not require coastal and marine development proposals to consider their impacts on fishing, a defect that should be corrected.

### Marine park areas

Marine park areas are established for biodiversity conservation reasons and, by intention, may affect access to fishing grounds and the types of fishing that can take place, if fishing is permitted at all.

Better practice in some jurisdictions, for example, the Commonwealth and South Australia, incorporates consultation on proposed marine parks and zoning arrangements to better understand and, where practicable, mitigate impacts on fishers, communication of the reasons for decisions, and evaluation of outcomes against objectives. The wider adoption of such processes would promote better outcomes. Beyond this, issues related to marine parks are outside the scope of this inquiry.

## Determining limits in fisheries

Harvest strategies set out stock management responses given acceptable levels of risk, and so are central to the adaptive management process that constitutes sound fisheries management. In addition to providing predictability on how fishery stocks will be managed, they guard against ad-hoc decisions on fishery controls.

Most commercial fisheries have fishery-specific harvest strategies. At present, there is limited use of stock assessments and harvest strategies for fisheries that are mostly used by recreational fishers, and limited incorporation of the recreational sector in commercial fishery harvest strategies where recreational fishers are understood to take significant catch. The lack of data on recreational fishing makes it difficult to comment on where applying such tools may be useful.

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All jurisdictions should continue to adopt harvest strategies as the primary tool for managing commercial fishing stocks. Where recreational fishing forms a significant part of the overall take in commercial fisheries, this activity should be better counted and managed in relevant harvest strategies.

### Harvest strategy policies

There is an important distinction between harvest strategies (particular approaches for controlling the intensity of fishing) and the overarching policy for such strategies, which can provide coherence to those strategies.

A harvest strategy policy describes how government fishing policy should be incorporated into the harvest strategies for each fishery, including setting out governments' policy priorities, acceptable levels of risk, and preferred methodologies for guiding both utilisation of fish stocks and changes in management responses. Such a policy ensures that harvest strategies across all of a government's fisheries are consistent with desired standards, and reduces the time and the degree of contention involved in setting specific strategies. Thus, the existence of a harvest strategy policy makes it more likely that a government's fishing policy goals will be met and met efficiently, and places greater accountability on fishery managers to follow the policy or justify deviations from it. Harvest strategy policies also better facilitate review of the overarching goals and outcomes of fishery management.

Only the Australian, South Australian, Western Australian and Northern Territory Governments have harvest strategy policies. The governments of New South Wales, Victoria, Queensland and Tasmania should implement them.

### Determining allocations between fishers

Fish cannot be fenced, and so different sectors sometimes compete for access to common stocks. Unsurprisingly, the arrangements for allocating access are highly contentious as they can affect livelihoods and social amenity.

The basis for allocation is often opaque, uncertain and/or of questionable efficiency, which provides fertile grounds for disputes. The stated policy objectives of governments include multiple and sometimes competing goals that often provide limited guidance on how judgements should be made. Where governments have stated their policy aims, it is not clear that they have been determined to maximise the value of fishery resources to the community as a whole.

Effective decision making on resource allocation across sectors is constrained in all jurisdictions by the absence of regularly collected representative information on the demand, catch and value of recreational and Indigenous customary fishing.

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There needs to be a clearer and less contested basis for allocating access to different fishing sectors. The guiding principle should be allocation of fishing resources to the highest value uses across competing parties.

The value obtained from fisheries resources is specific to some sectors, can have different facets and take different forms. For example, value could be economic (revenue from fishing and flow on activities), social (recreational enjoyment, community cohesion) and/or cultural. Many of these values are hard to measure. As most allocation decisions in Australia do not involve a previously unallocated fishery, decision makers have to determine whether a reallocation in favour of one group at the expense of another will increase the overall value gained by the community from the fishery. That is, the marginal (extra) value derived from additional access for some will need to be weighed against that lost by those with reduced access.

Allocation decisions can be aided by techniques for identifying and valuing the marginal value of access to fisheries, as discussed below. Given the investment required, the use of these techniques is more likely to be worthwhile in highly contested cases. In view of information gaps, particularly in the short term, and the need to take into account the impact and costs of change in any reallocation, governments should seek to draw on the best available information and make decisions in consultation with affected fishers. Some processes may involve incremental changes over a period.

In some cases, governments may be able to play a facilitative, rather than directive, role in resolving allocation disputes where parties are willing. In this case, the negotiated outcome could be taken to reflect the value of access to each party and consequent sectoral shares or limits that would maximise community value (reflecting collective preferences for use).

Basing allocation decisions purely on the level of expenditure by fishing groups (as proposed by some) would be poor policy. The low-cost extraction of fish for high value uses would perversely be trumped by higher-cost methods, an aberration in its own right, but one that would also create incentives for cost-padding.

### Valuing access to the fishing sectors

The value of marginal access to commercial fishers can be estimated through the costs of producing and purchasing fish, and the price of fish sold in markets. However, there are no equivalent markets for valuing access by recreational and Indigenous customary fishers, which complicates allocation to these groups.

While imperfect, it is nevertheless possible to construct proxies for the value of additional recreational fishing opportunities based on indirect estimates of recreational fishers' willingness to pay (for example, as revealed by people's willingness to incur travel costs to go fishing, or through surveys). Such calculation methods can be complex, but provide a basis and benchmark for objective and evidence-based decision making on this element.

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Qualitative information on benefits from access can also usefully inform judgements, when they are described and the community's views on priorities are sought, especially where measuring benefits is difficult.

### *Customary fishing*

Customary fishing by Indigenous Australians has cultural dimensions that make its value very difficult to quantify. It is much harder to see customary fishing through the prism of the separate preferences of individual fishers. Indigenous customary fishing has values associated with connection to country and community that would not necessarily be well captured by a 'willingness to pay' measure for each individual. As Campbell (2002) describes:

Difficulties exist in valuing the rights of Aborigines and Torres Strait Islanders to fisheries resources because the intertwining of material uses (consumption of seafood) with a community's culture, spiritual laws and custom means that these two (or more) sources of value are difficult to disaggregate. (p. 176)

Given this collective community aspect, cultural benefits are challenging (if not impossible) to measure and compare with other types of benefits. To the extent that they preserve unique traditions, they are also not replaceable. For these reasons, it is not feasible to allocate catch shares to the customary fishing sector based on a measurement of its relative marginal value. Rather, a minimum acceptable level of access is required.

Governments should set aside a level of catch in overall allocations sufficient for local Indigenous communities to maintain their customs. This would, in practice, accord priority to Indigenous customary fishing take. The level of the allocation should be informed by advice from Indigenous communities and data collected on customary practices and use.

Providing a level of allowable catch sufficient to cover cultural use by Indigenous communities — reflecting their particular laws and customs — is unlikely to significantly affect access for other fishers as customary fishing is understood to comprise a small share of the total catch in most fisheries. Providing explicit allocations in managed fisheries will also enable better accounting and enforcement of each sector's shares.

Customary fishing, as for other sectors, should be subject to overarching fishery management goals, including the sustainable utilisation of fish stocks. As such, allocations to the Indigenous customary sector should be binding and not exceed the limits required to meet policy aims. The distribution of the customary allocation within the community should be a matter for the relevant local Indigenous communities to determine.

Customary fishing activities are conducted in accordance with Indigenous laws and customs and are therefore regulated by those laws and customs in the first instance. However, conservation and public interest considerations, such as community safety, may necessitate additional fishing controls (for example, gear restrictions) over customary fishing.



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To ensure that the customary allocation and any controls over customary fishing activities are culturally sensitive and do not conflict with native title rights, it is important they be developed in collaboration with Indigenous communities. Customary fishing by Indigenous Australians is further discussed below.

### Allocation policies

Governments should have a clear allocation policy that spells out the processes that will be followed when a change in allocation is being considered and the key factors that will have a bearing on decisions, including how they will prioritise policy objectives. Governments should be transparent in their application of the policy and ensure to the extent possible that decisions are evidence-based.

Governments should give high priority to collecting better information, particularly for highly-contested fisheries.

Ultimately, policies should seek to ensure that there is a gain to the community from any reallocations of access — for example, the benefits to recreational fishers and local economic activity from transferring some of the allocation from commercial to recreational fishers should exceed the losses to commercial fishers and related activity.

Those governments that do not have allocation policies — the Australian, Victorian, Queensland and Tasmanian governments — should institute them.

### Scope to move to inter-sectoral trading

Pragmatism requires that, for the moment, governments continue to facilitate or determine allocations between sectors. However, there may be scope to extend existing arrangements for the trading of fishing access rights in the commercial sector to include the recreational sector.

Transferable rights systems set limits on the total amount of allowed catch or effort for a particular fishery within a period, and apportion tradeable entitlements to fish within these limits. Such price-based mechanisms for allocating access across sectors have the advantages of avoiding subjective decisions and transferring access to those who value it most (and have a capacity to pay).

Inter-sectoral trading systems are relatively costly to administer, as they require the monitoring of take and enforcement of strict trading rules. However, examples (such as in Canada) show that these systems can work effectively where stock is highly valued by several sectors. The inclusion of the recreational sector in transferrable quota or effort systems is worth considering in the longer term, but, given the transaction costs involved, probably only in the case of higher-value fisheries.

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Indigenous customary fishing rights should not be tradeable or transferrable between sectors, recognising the unique characteristics of the associated cultural benefits and that these benefits are exclusive to the community concerned.

## **Improving commercial sector prospects**

Output, value and employment in the commercial sector have been trending down for well over a decade. In part, this trend reflects constraints on activity due to past overfishing, but also competition and limited price growth, restrictions on access to fishing grounds or stocks in favour of other fishing sectors or marine uses, and management frameworks. Notably, a small proportion of fishing businesses take the majority of catch by value, and most of the sector comprises small businesses operating in low-value fisheries.

The institution of more predictable and sound bases for decisions on access to and utilisation of fishery resources will be critically important for the viability of the sector. In addition, other measures discussed in this report, including streamlining cross-jurisdictional fishery management and clarifying environmental standards will help to reduce regulatory burdens and uncertainty.

With respect to specific management systems for commercial fisheries, the use of input controls (controls over how fishing occurs) as the primary management technique in Australia has contributed to poor sector performance. Input controls can suppress productivity improvement, encourage over-investment and discourage structural adjustment. For this reason, Commonwealth fisheries have been under a standing direction since 2005 to move their fisheries to individual transferrable quota (ITQ) systems unless this is demonstrated to be technically impractical or not cost effective.

Experience shows that output controls, in particular, individual transferable quota systems, provide greater certainty on environmental outcomes. In addition, they provide greater scope for innovative and efficient use of fisheries resources because fishers have greater freedom to adapt business practices, and provide for more secure property rights, which can facilitate investment. All governments should employ ITQ systems unless technically impractical or not cost effective, in which case ITE systems, which allow for full trading of fishing entitlements, should be pursued as the next best approach.

### **Market-based controls**

The jurisdictions with the highest use of ITQ systems are generally those whose fisheries had characteristics that made them more immediately amenable to reform (see below) — the Commonwealth, South Australia and Tasmania. However, all jurisdictions have retained some input-controlled fisheries because of the perceived value (on the part of fishers) attaching to existing entitlements.

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Impediments to the use of ITQ systems have included concerns about their relatively higher administrative costs and technical suitability to some stocks and fisheries.

ITQ systems do require more sophisticated monitoring systems. However, advances in monitoring technologies have made ITQs more cost effective, and lower-cost monitoring methods can be applied where risks to the sustainability of the fishery are lower. Notably, the Commonwealth and South Australia are now using ITQs in fisheries targeting lower-value fish, which suggests that the case to re-examine cost effectiveness exists, and should be determined on a case by case basis.

ITQ systems can be challenging to implement in fisheries where multiple fish species are targeted and for fish that are short lived or have highly variable annual recruitment (where the amount of growth in fish biomass bears little relationship to the previous year's fish stocks). However, jurisdictions are developing innovative approaches to multi-species fisheries (for example, having a different basis for setting total allowable catch limits for lower-value fish in a fishery relative to high-value fish) that improve prospects for application of ITQ-based management.

Experience suggests that certain characteristics make fisheries more easily amenable to management by ITQs or implementation less costly. These include where the fishery targets only one or small number of target species, where there is a predictable and reliable basis for setting the total allowable catch and there is not significant access to the fishery by the non-commercial sectors.

However, ITQ systems have been applied more broadly in practice, and there does not appear to be a single characteristic that would definitively preclude their use. Technical or cost-related challenges are increasingly being addressed by fishing managers in pragmatic and innovative ways.

Governments should assess the costs and benefits of alternative management arrangements for input-controlled fisheries, with a presumption in favour of ITQ systems, and consciously select the approach that would best promote the fishery's long-term viability.

### Transitional and distribution effects

Transition to ITQ systems involves costs, including the revision of business models for fishers, because ITQ systems require the imposition of explicit, usually lower, limits on catch and dissolve existing rights to fish in favour of new, tradeable, rights. Once operational, they may facilitate structural adjustment through easier entry and exit to the sector, and shifts to more efficient fishing practices. This may have flow-on impacts on industry composition (including consolidation), as well as supplier businesses, local employment and communities.

When assessing the potential impacts of changes to fisheries policies, it is important to acknowledge that there has already been a reduction in the number of commercial fishers,

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the number of vessels and the number of fishing ports being used, reflecting surplus capacity in the industry and shifts in technology and market conditions. Importantly, the trend decline in sector value is likely to continue if there are no reforms to fisheries management. That is, the sector will continue to face threats to its long-term viability if management systems are not reformed to enable greater efficiency, innovation and structural adjustment.

As in other areas of reform, the costs of transitioning to new ITQ (or ITE) systems should be taken into account in designing reform processes. Governments can also act to ensure that the ‘surplus’ generated from the better utilisation of fisheries is shared by both rights holders and the community, for example by charging resource rents, where feasible.

The task of instituting reforms and transitioning to new systems could also be made easier by improving processes for allocating rights under ITQ systems, as outlined below.

### Dealing with (underlying) latent effort

Reforms have been partially frustrated by the existence of entitlements to fish that are not routinely used or are not intended to be utilised (underlying latent effort). This situation arises when, for example: people have left the industry or are consistently fishing less than they used to in transition to retirement but have not sold or leased their entitlements; and/or when people speculatively buy fishing entitlements in the hope that they can later sell them at a higher price. These unused entitlements inflate the ‘demand’ for the fishery and complicate the allocation of new entitlements. Jurisdictions have periodically sought to buy out entitlements to reduce their number. The prospect of future buyouts is encouraging some people, however, to remain in commercial fishing (or to maintain their rights to commercially fish).

The Commission has been advised that, at a practical level, any restructure of rights without compensation will be unworkable. However, the sector also needs to be realistic about future prospects and the need for reform to enable improvements in productivity and value.

In implementing ITQs, governments have most commonly allowed a short period of trading in historical entitlements to enable businesses to exit the industry or adjust their business models. Such market mechanisms tend to be very complex, and require that fishers have high levels of business sophistication to participate or ready access to expert advice.

Removing or reducing underlying latent effort before adopting ITQs (or ITEs) would simplify the process of allocating new entitlements and increase the likelihood that fishers would receive sufficient entitlements for them to operate viably.

The experience in Australia and overseas suggests that a better approach would be to separate the process into two steps: 1) rescind all fishing rights or reduce latent effort

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through a bidding system; and 2) only once entitlements have been reduced (or removed) permit fishing businesses to participate in a market process to trade rights.

### Scope for conditional bidding

Governments implementing reforms that fundamentally alter the nature and mix of entitlements for commercial fishers should consider trading systems that allow some conditional bidding. This would allow fishers to make their offers conditional on a desired outcome — such as the ability to sell all of their entitlements or to purchase a minimum package of rights. Without the ability to make conditional offers, commercial fishers may be unable to purchase enough entitlements to support the viability of their business, or to exit the industry. Either situation risks an increase, or continuation, in latent effort and inefficiency (at least in the short run).

### Reducing regulatory costs and imposts

Governments have closely regulated commercial fishing for over 30 years. Over that time, regulatory challenges and objectives have changed, but the regulatory response has typically been to overlay additional requirements onto existing fisheries management practices.

In addition to statutory reviews of fisheries laws, fisheries regulators should regularly review whether the specific controls and management arrangements applying to fisheries are still appropriate for each fishery. There seems scope for some streamlining and simplification:

- market mechanisms (as described above) require less prescriptive arrangements
- new technologies (including electronic data collection systems) allow more efficient monitoring of fisheries.

### Other issues

Some participants raised concerns about food security and Australia's self-sufficiency in wild caught seafood. Australia is not at risk of food insecurity as there is no lack of fish availability. In fact, global fish production (including aquaculture) is outstripping population growth and international seafood prices are declining.

Self-sufficiency is an inefficient and ultimately costly objective from a national perspective. Self-sufficiency could be achieved by restricting local consumption, increasing local production or a combination of the two. There is no benefit in limiting the volume or type of seafood consumed by the Australian community to that produced domestically when access to overseas seafood provides consumers with greater choice of product and the quality and price benefits associated with competition. At the multilateral

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level, the benefits of access to other countries' product (and other countries' access to Australia's) are well-accepted grounds for trade, and more broadly, the allocation of resources to nations' areas of comparative advantage, where gains from trade can be made.

While there is scope for domestic production levels to increase, there is little merit in the argument that production should be pegged to growth in domestic consumption (or vice versa) given other market opportunities and sources of supply.

The commercial fishing industry has a comparatively poor safety record and inquiry participants expressed some uncertainty about which agencies have regulatory responsibility for reviewing workplace safety.

The transfer of responsibility for maritime safety from the States and Northern Territory to the Australian Government has intensified concerns about the supervision of safety matters. Governments should ensure that there are good linkages between work health and safety and maritime regulators (including in relation to sharing of information on incidents) and clarify which agencies are responsible for different types of incidents. Commercial fishers and regulators should also work closely together to regularly review safety regulations so that they remain practical and effective in reducing the risks of injury and fatality in the sector.

## **Recreational fishing**

Recreational fishing is sometimes, but inaccurately, seen as an inconsequential adjunct to commercial fishing. This neglects the scale of recreational activity and its large social value to the community, with millions of Australians fishing each year. There is also a local economic flow-on effect in servicing this recreational activity, from accommodation and boat servicing to bait supply. And recreational catch can be significant — catches now rival or exceed commercial catches for some species, and recreational fishing practices can have adverse effects on non-target species (bycatch) and ecosystems. The rising sophistication and affordability of scanning technology and vessels has particularly increased recreational fishers' ability to fish further from shore and more intensively.

The demand for access to certain fishing areas or species by the recreational fishing sector has contributed to significant tension in some fisheries and jurisdictions. The extent of competition for resources is hard to assess as there is relatively little information on shifts in activity and catch. This limits the scope to objectively reflect demand for recreational fishing in decisions on access to marine resources, and in the provision of services for recreational fishers.

The management of recreational fishing should be based more on evidence about its extent, nature, impact and value to the community. This would contribute to improved management of catch-constrained stocks, and more generally support the development of

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fishing controls that are proportionate to environmental risks (that is, neither too stringent or lax) as well as predictable, transparent decision making.

## **Licensing**

A well-designed licensing (permit) system is a key step for better understanding and managing recreational fishing. While some States have a licensing system in place, these could be better used to collect information about, and better manage and support, activity.

Licensing provides a:

- more accurate measure of participation
- sampling frame for surveys to monitor catch, effort, gear used, expenditure, social impacts and the value derived from recreational fishing, which should factor into decisions on access, management of recreational fishing activity and services
- better basis for monitoring effort and allocating access to fishery resources
- means for directly conveying and enforcing access conditions
- means to better target information and services (for example, ramps and educational resources) for recreational fishers.

Further, licensing systems can provide a source of government revenue to improve services and facilities for recreational fishers, although this should be a secondary objective to their use to gather information on and manage resource use.

The purpose of licensing is not to restrict participation in recreational fishing, but to get a more comprehensive picture of activity. Licences should therefore be readily available at low cost for the vast majority of fishers.

The Queensland, South Australian and Northern Territory Governments should introduce licensing systems for individual recreational fishers. The experience of jurisdictions that do have licensing systems shows that they need not entail significant regulatory burden or high costs for fishers (for example, licences can be obtained online at a low fee and issued for short or longer term periods).

For maximum efficiency, licensing systems should have high coverage rates. Governments may exempt certain groups from the payment of fees for welfare reasons, but there should be few, if any, exemptions from being 'counted' and contributing data. The New South Wales, Victorian, Western Australian and Tasmanian Governments should modify their licensing systems to this end. The Australian Government should consider licensing if it assumes greater responsibility for the management of recreational catch.

Charter fishers should be required to keep records on catch and effort (like commercial fishers) given their greater incentives to maximise take. Records should be the subject of compliance review.

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All jurisdictions should have comprehensive recreational fishing licensing systems in place within three years of this report being released. This will enable licensing to be used as a sampling frame for a coordinated or national survey of recreational fishers (below).

### **Other management controls**

It is harder to control the overall catch of recreational fishers than commercial fishers. This is because of the sheer number of recreational fishers, the diversity of their activity, Australia's large coast-line, and the capacity for fishers to rapidly respond to available fish stocks. Current management approaches vary, but can include size, bag, boat and possession limits, restrictions on the types of gear that may be used, and temporal and spatial closures. The efficacy of controls varies depending on the fishery and species.

While data inadequacies make it difficult to be definitive about the broader effectiveness of controls, where research is available, size, bag and gear limits appear to be generally effective.

It is clear that in a few fisheries — primarily where there are limits on catch and the stock is contested by both recreational and commercial fishers — existing restrictions are not effective. Where practical, controls on the aggregate catch of recreational fishers should be implemented in these cases. More restricted licenses where numbers may be capped to limit effort and/or have special conditions attached, or harvest tagging systems, which set a harvest limit over a period and provide for the tagging of catch as a condition of possession, should be considered.

Returning a live fish to the water after capture ('catch and release' fishing) is a common practice in recreational fisheries. While catch and release fishing is generally viewed as helpful in conserving stocks of inshore fish, emerging research suggests that these methods are associated with higher mortality rates for deep-water species. Further research is required in this area to consider whether alternative approaches are needed.

### **Recreational fishing surveys**

Prudent fishery management requires that all sources of fish mortality be counted in stock assessments and allocation decisions. Information on fishing methods and the value of recreational fishing to the community is also important for managing and developing Australia's recreational fisheries. The existing ad hoc jurisdictional and regional surveys do not provide adequate information for these purposes. Regular and systematic collection of evidence on recreational fishing is required.

While jurisdictions have recently agreed to explore opportunities to harmonise and share information and to develop data collection approaches for the long term, more decisive action needs to be taken to address requirements in this sector. There should be a two-step approach:



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- The Australian Government should conduct a national survey in 2018-19 using a comparable method to the 2000-01 *National Recreational and Indigenous Fishing Survey*, with States and the Northern Territory contributing to the cost of this survey.
  - From 2023-24, all governments should undertake surveys of recreational fishers every five years, whether at the national level or on a coordinated jurisdictional basis.

Survey information should be publicly available.

## **Compliance with recreational fishing controls**

Education and information campaigns have been, and continue to be, an important part of raising awareness and promoting compliance with fishing restrictions. The introduction of licensing, as proposed in this report, will enable more targeted educational efforts.

The diversity and expanse of recreational fishing activity makes enforcement difficult and the risk of being caught low. Given limits to resources, applying more visible forces for enforcement in high-risk areas may assist to ensure greater compliance. Penalties should support deterrence and be proportionate to the level of harm posed to fisheries.

## **Indigenous fishing**

Fishing is a significant activity for many Indigenous Australians, providing an important food source as well as ceremonial, communal and spiritual benefits when undertaken in accordance with Indigenous laws and customs. Because of the unique attributes of customary fishing, governments treat this sector differently from commercial and recreational fishing.

### **Indigenous customary fishing should be better incorporated into fishery management**

For management purposes, most jurisdictions either exempt Indigenous customary fishers from licensing requirements, but subject them to some gear and possession requirements, or exempt them from management frameworks altogether. Although this provides a form of special recognition, largely exempting customary fishing from fishery management laws has meant that the interests and impacts of Indigenous customary fishers are not always considered in fishery management regimes.

Ambiguity in relation to customary fishers' rights and obligations under fisheries laws has led to uncertainty for both customary fishers and other users of the resource and, perhaps unsurprisingly, tension and conflict in some high-demand fisheries. The lack of effective recognition of Indigenous customary fishing is also likely to have contributed to low levels of involvement by Indigenous Australians in fisheries management and undermined the

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collection of information on customary fishing. Although all governments have expressed a desire to better incorporate Indigenous customary fishing into fisheries management regimes, there has generally been slow progress.

### Clearer recognition of Indigenous customary fishing

Customary fishing by Indigenous Australians should be recognised as a sector in its own right in fishery management regimes. This recognition should provide for fishing by Indigenous Australians in accordance with their laws and customs. The specific rights enjoyed by a customary fisher will stem from customary practice in that fisher's community.

#### *Customary fishing should not be limited to native title holders*

All customary fishing activity, whether or not pursued in the exercise of native title or land rights, should be recognised in fisheries management regimes for both equity reasons and to support sound management.

Native title requires standards of proof that some Indigenous Australians may be unable to satisfy and, in some instances, the ability to claim native title has been affected by settlement. As the value of customary fishing to Indigenous fishers and to the broader community does not depend on the legal means by which they access a fishery, the right to fish should not be defined in these terms. Rather, the right to undertake customary fishing should be available to all Indigenous Australians with a connection to sea country and a desire to fish in accordance with their laws and customs.

However, customary fishing rights should not limit the rights and interests of native title holders. This means that the definition of customary fishing under fisheries laws should not be inconsistent with the *Native Title Act 1993* (Cth).

Ideally, traditional owners should determine who can undertake Indigenous customary fishing on their country. Presently, some Aboriginal land councils, representing local Indigenous communities, determine who can fish and the proof required to demonstrate this right, by issuing 'fishing cards'. These cards can only be obtained where the council is satisfied that the applicant is of Indigenous descent, identifies as Indigenous and is accepted by the community as such.

The idea of requiring/providing evidence of the right to undertake customary fishing has merit, particularly as a way of quickly resolving questions in contested fisheries. The use of such permits may not be supported in all fisheries. Where it is not, the scope for conflict over contested resources must inevitably be higher.

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### *Recognition of commercial fishing undertaken in accordance with laws and customs*

The definition of customary fishing in most jurisdictions' fisheries laws excludes fishing for commercial purposes, but the laws and customs of some Indigenous communities provide for the taking of fish for commercial purposes. In contrast to fisheries laws, there have been native title determinations recognising the right of those native title holders to fish for any purpose (including commercial purposes).

Consistent with the proposed recognition of the sector, the definition of customary fishing in fishery laws should not preclude fishing for commercial purposes where this is part of Indigenous laws and customs.

This does not mean that customary fishing for commercial purposes is or should be unrestricted, given the incentives to exploit fishery resources for profit. While the Native Title Act can provide an exemption from some regulatory requirements (such as licences and permits) for those exercising native title rights for a non-commercial purpose, the same exemption does not extend to commercial activities. As a result, native title holders seeking to sell fish are subject to the commercial fishing laws and requirements applying to all other citizens. It is therefore open to governments to apply existing commercial laws to customary fishing for commercial purposes and, with due judgment, they should do so.

Currently, the selling of fish for money, regardless of amount, distinguishes commercial from other fishing activity. Given that customary fishing for commercial purposes is undertaken for cultural, as well as private commercial benefit, a blanket rule should not apply in this case.

Transactions that have a commercial aspect but are overwhelmingly customary in nature, such as small-scale sale, exchange and barter of fish, should be regulated in accordance with laws governing customary fishing (recognising the value in preservation of customary practice). Significant commercial fishing transactions should be subject to general commercial fishing laws. Significance should be determined by reference to matters including:

- the quantity and value of catch sold; and/or
- the nature of trade — for example, any sale of fish into conventional supply/processing chains should be subject to commercial fishing laws.

The thresholds at which the trade of fish is deemed to be significant should be set by governments in collaboration with Indigenous communities and other stakeholders, recognising that what may be required to preserve and maintain customary practices will be particular to each community.

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### *The importance of genuine collaboration*

Better recognition and incorporation of Indigenous customary fishing, knowledge and management practices into fishery management frameworks will require good-faith engagement between fisheries managers and customary fishers and preparedness by customary fishers to share information. Genuine and ongoing collaboration is essential to ensure the success of any reforms. Collaboration on the design, implementation and enforcement of any controls is also essential to ensure that native title rights are not inadvertently infringed when governments seek to apply contemporary fisheries management practices to customary fishing.

## **Cross-jurisdictional stock management**

Marine fisheries that span Commonwealth, State and/or Northern Territory borders are a consequence of the marine jurisdictions defined by the Offshore Constitutional Settlement (OCS).

Management of cross-jurisdictional fisheries is more costly due to the existence of multiple regulatory systems. Where the rules of those systems are inconsistent or do not sufficiently consider each other, there are also higher risks of over- and under- fishing, unequal treatment of fishers, administrative inefficiency and compliance costs. The risks mainly relate to the management of 26 stocks and here, the degree and nature of detriment varies widely.

Regulatory stasis seems to pervade the reform of cross-jurisdictional fisheries. Given the costs and complexity of instituting major reforms, there have been few attempts, and several have faltered. For example, negotiations on the Commonwealth and New South Wales trawl fisheries have been occurring for nearly 10 years and the ‘on again, off again’ attempts to reform the southeast Australian scallop fishery have been going on for 30 years.

Given limited resources, governments should:

- focus on higher value and at-risk fish stocks that are subject to inconsistent management arrangements, and hence vulnerable to significant cost escalation or diminution in value if poor management arrangements continue
- consider whether transfer of management responsibility to one jurisdiction or shared management with a better alignment of management arrangements would produce the greater net benefits.

High priority candidates for reform include management of southern bluefin tuna, east coast snapper and the fishing stocks managed in the Commonwealth and New South Wales trawl fisheries. Well-recognised risks with the management of these stocks suggest that the:

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- Australian Government should set allowable catch limits of southern bluefin tuna for all fishing sectors. Catch limits should be in place for the southern bluefin tuna fishing season commencing on 1 December 2018
  - New South Wales, Victorian and Queensland governments should ensure the joint stock assessment project for the east coast biological snapper stock proceeds as an immediate priority
  - New South Wales Offshore Trawl Fishery should be absorbed into the Commonwealth Trawl Sector of the Southern and Eastern Scalefish and Shark Fishery by the end of 2018.

Governments should make reform of the specified cross-jurisdictional fisheries arrangements a collective priority, and dedicate sufficient resources to implementing reforms.

The rigidly defined geographic boundaries specified in many OCS fisheries arrangements are ill-suited to changing fish populations and distributions arising from climate change as well as being inimical to adaptive fishery management. The costs and risks of shared fishery management will be reduced if all governments adopt known best practice approaches to core tasks (such as stock assessments and harvest controls), routinely seek to implement reciprocal or consistent arrangements in relation to catch controls and data collection, and regularly review the terms of intergovernmental agreements underpinning shared management.

These tasks should be the subject of joint Ministerial direction to agencies.

## **Environmental regulations**

### **Regulatory efficiency**

Around 80 per cent of fisheries are regulated under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

Responsibility for achieving environmental objectives for these fisheries rests with both fishery managers, which develop and implement plans for managing fisheries in accordance with environmental standards, and the Commonwealth Department of the Environment, which assesses the efficacy of these plans against the standards and requirements outlined in the Act. Some participants consider the involvement of multiple government agencies in environmental regulation to be duplicative and that, in practice, the roles of the parties are not clearly distinguished.

There is scope to streamline and lessen the regulatory burden involved in environmental assessment processes.

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The guiding principle should be that the degree of regulatory scrutiny faced by individual fisheries reflects the level of risk created by fishing activity. While it is prudent that high-risk fisheries are subject to regular and close independent scrutiny by the Department of Environment, lower-risk fisheries need not be subject to this model if alternative arrangements can provide the necessary assurance.

The Department of Environment has recognised this by moving to 10-yearly rather than five-yearly accreditations under the Act for some fisheries assessed as lower risk. However, this could be extended further.

The Australian Government should not compulsorily require the accreditation (or periodic renewal of accreditation) of management plans for fisheries that pose a low environmental risk. The Government should determine which fisheries would be eligible for this lighter-handed treatment but take into account, among other things, the underlying environmental risks posed by the fishery, whether management response have been successful in addressing these risks over time and whether sound management frameworks are in place to anticipate and deal with risks in the future. Under this model, fishery managers (who also have a statutory obligation to promote sustainable use of fisheries) would still develop management plans and annually report on the environmental performance of the fishery. The Department of the Environment would retain its ability to intervene (including reinstating standard accreditation requirements) should indicators show sustainability is at risk.

### Third-party accreditation schemes

Several participants sought the streamlining of, or exemption from, environmental approvals for fisheries that have achieved certification from third parties.

While some third-party schemes may apply more rigorous standards for sustainability, it does not automatically follow that these standards can be taken as fulfilling regulatory standards. For this to occur, governments would have to approve third-party schemes. It is not practical, nor desirable, for governments to vet and approve third-party certification schemes, their quality and diligence or ongoing consistency with domestic regulatory objectives and requirements.

To reduce regulatory burdens, environment agencies should, to the extent practicable, use the information provided to the third-party certification body for their assessments or vice versa where the information requirements are similar.

### Regulatory effectiveness

The environmental standards and assessment processes employed to mitigate risk in fisheries appear, on the whole, to be meeting their objectives. Despite this, there is a public perception that the sustainability of fisheries is at risk, resulting in the increasing take-up of

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third-party certification schemes and some pressure to increase the stringency of regulation. Both can unduly increase regulatory burden and costs.

Greater public awareness and concern about overfishing and marine environments are partly a consequence (or the cost) of poor practices and overfishing in the past. These have heightened public expectations of governments, and underscored the need for ‘social license’ to operate in addition to compliance with government standards. The policy concern is that misinformation and/or public misperceptions undermine the value of regulation and lead to higher costs for fishers through unnecessarily stringent regulations raising production costs or reducing catch (where there is no scientific case for doing so), both of which could flow through to higher prices for consumers.

The Commission’s analysis indicates that environmental standards for fisheries are set conservatively. To the extent that there are misperceptions, the industry itself has a role in correcting these. But governments should also do more to make standards and outcomes more transparent. This includes:

- the Australian Government publishing the annual reports that fisheries produce on their performance against accreditation requirements, which would provide useful information to the public and enable fishers to more readily point to their ‘credentials’
- clarifying and more transparently reporting against standards for the regulation of protected species.

## Regulation of protected species

Fishing brings a risk of interactions with threatened, endangered or protected (TEP) species in some areas. Regulators do not always specify their appetite for such risks and, in some cases, set the standard for mortalities effectively at zero.

The question is one of balance. Controls can minimise mortalities but in some fisheries may not reduce these to zero. Where this is acceptable in terms of the fishery’s conservation goals — whether this is to sustain the TEP population at current levels or increase it — it would be better to specify mortality limits (for example, over a season), and require fishers to not exceed these limits and take measures to minimise interactions and mortalities, rather than leave the implication that mortalities are to be an implausible zero.

Limits can also be useful in prompting any review of the effectiveness of existing mitigation measures — for example, a review would occur if fishers are consistently reaching mortality limits.

All jurisdictions require fishers to report interactions with TEP species, but only the Australian and South Australian Governments make information on these interactions readily accessible (online). All governments should make information on interactions with

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TEP species publicly available, in conjunction with any limits. This will inform the adjustment of limits and strengthen accountability for meeting them.

The Australian Government should also:

- clarify the purpose of the Marine Species List established in Part 13, Division 4 of the Environment Protection and Biodiversity Conservation Act, and the criteria for adding or removing species from the list
- consistent with their conservation status, amend the Environment Protection and Biodiversity Conservation Act to allow the take of species listed in Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention) subject to the existence of management arrangements demonstrating that the take will not be detrimental to the survival of the species.

## **Downstream processing**

Around 90 per cent of the seafood produced in Australia by volume is sold as fresh or frozen product. The majority of seafood processing therefore adds little value to the product, with the value added resting in correct handling and timely delivery to local and overseas markets. There is no evidence to indicate that regulation has resulted in significant negative impacts on the operations of the downstream sector.

## **Country of origin labelling and regulation of fish names**

Some industry participants advocated the extension of mandatory country-of-origin labelling to seafood sold for immediate consumption. This is unnecessary for public policy (food safety and consumer protection) reasons, which are adequately dealt with under existing law. To the extent consumers value this information and are willing to pay more for local product, it is the interests of industry to provide this and to pursue any country of origin labelling scheme through a voluntary industry-initiated arrangement.

Some participants also requested that the Australian Government mandate Australian Fish Name Standards (AS 5300 -2015) — a voluntary standard introduced in 2007 that specifies the prescribed fish name for fish sold to consumers or for wholesale, export and import. Making the standard mandatory would require agreement across all jurisdictions on all names; a costly and difficult exercise. As current arrangements do not appear to be having significant negative impacts on consumers or businesses that would outweigh the cost of a mandated standard, the standard should remain voluntary.



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## **Seafood processor licence and accreditation fees**

There is considerable variation in fee setting for processor licences and accreditation across jurisdictions. Some jurisdictions apply a flat fee for all processors while others differentiate by the type of species being processed or by the size and scale of the premises.

Fees should reflect the efficiently-incurred costs of regulating facilities. Using a tiered fee structure based on the complexity of licensing or accreditation checks would better reflect and efficiently deal with differences between processors, including reducing the scope for smaller, less complex, businesses to cross subsidise the regulation of larger businesses.

## **Aquaculture**

### **Regulation has played a minor role in recent shaping of the industry**

There is little evidence suggesting that regulations have systematically impeded the viability or growth of aquaculture businesses (for example, by preventing investment, experimentation and hence advancement in the key drivers of nutrition, fish and marine health, and genetics). Notably, Australia's aquaculture output growth rate over the past decade — underpinned by growth in salmon — was similar to those of the dominant producer countries in Asia. Its growth rate in value terms was second only to Norway among OECD countries.

The development of the industry has been shaped more by technological, geographic and other non-regulatory influences.

- Amongst species farmed for many years, there has been limited growth other than in salmon and barramundi production due to changes in consumer tastes, competition from imported products, and other activities or requirements affecting the suitability of new sites.
- Newer species have faced technical and biological challenges in ensuring fish health and growth in a controlled production environment. Only a few have achieved sustained commercial viability. Most ventures in marine areas have failed due to weather events, disease, unexpected predators, as well as poor business planning. Anecdotally, these failures have made it harder for new projects to access financing.

### **Adapting aquaculture regulation for the future**

Nevertheless, the regulatory environment can be improved.

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## Greater use of spatial planning — where needed

The future growth of the aquaculture industry faces several challenges. These include coastal development and increasing competition for access to coastal land and waters, environmental concerns and access to infrastructure.

There are few, though prominent, examples of regulatory arrangements that have stymied proposed aquaculture developments. These include land-based developments adjacent to the Great Barrier Reef, where environmental requirements have effectively prevented any aquaculture development.

Where there are viable prospects, the use of spatial planning to designate zones for aquaculture development will continue to be very important. Spatial planning helps to establish the legitimacy of businesses by addressing the actual and perceived risks associated with fish farming and to reduce the red tape associated with environmental impact assessments and public consultations for new developments. South Australia and Tasmania, which have well-established industries, have long used spatial planning.

The Queensland Government has announced that it will identify aquaculture development areas, including around the Great Barrier Reef. It will also specify conditions on aquaculture developments to avoid and mitigate any environmental impacts and any required environmental offsets. The Western Australian Government recently introduced aquaculture zoning to foster development of the sector in the Kimberley and mid-west regions.

Whether other jurisdictions should institute spatial planning regimes and related policies depends on prospects for aquaculture development. This should be determined in consultation with industry and so avoid the ‘catch 22’ situation of a lack of a regulatory framework deterring potential investors and a lack of projects meaning that the regulatory framework is not developed.

## Addressing community concerns

Community concern about the environmental impacts of aquaculture is growing in Tasmania, in common with other developed countries that have established industries, such as Canada, New Zealand, Norway and Scotland. As has been the experience of the wild caught sector, the sector is requiring a ‘social licence’ to operate in addition to regulatory assurance.

Community concerns in Tasmania centre on the perception of regulatory capture. They have been fuelled by the fact that, until recently, the functions of regulating and promoting the industry rested in a single minister and agency, and views that the Tasmanian Government is unwilling to regulate in a way that might limit the growth of an industry that has become a major driver of economic activity and employment in the State. In response to these concerns, the Tasmanian Government has separated regulatory and

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industry development functions to a considerable extent. As noted in the Commission's 2004 study into aquaculture, there should ideally be separate agencies for industry development and for regulation to remove potential conflicts of interest and improve public confidence in environmental protection, resource planning, operating conditions and enforcement.

## **Other areas for improvement**

In addition to improving fisheries management frameworks, there is scope to improve the undertaking of certain core tasks and activities that support fisheries management.

### **Decision-making by executive government vs fishery managers**

Decisions on fisheries controls can broadly be categorised as either strategic or operational. Strategic decisions influence the objectives of fisheries, while operational decisions are those required to put policy intentions into effect.

Under harvest strategy frameworks, many operational decisions in fisheries are technical matters and can be made more efficiently at the agency/fishery manager level. Recent events and reviews in Australia suggest there is a high level of political involvement in operational decisions in some jurisdictions, resulting in adverse outcomes for fisheries. Governments should delegate operational decisions to the relevant fishery management authorities to the extent possible.

### **Consultation and collaboration with stakeholders**

Consultation is central to the design and effective implementation of fisheries management controls, including allocation decisions. In some cases, fisheries management tasks can be undertaken more efficiently and effectively through co-management.

There are particular concerns about the use of advisory groups in fisheries, including lack of clarity in their roles, sufficiency of expertise, the adequacy of representation of views and transparency in processes. These can be mitigated by clear terms of reference, a conflict of interest policy, clear descriptions of members' roles and required expertise (and transparent appointment processes), fixed membership terms, and performance assessment regimes.

The scope for co-management arrangements varies by fishery, but past experience has demonstrated that the expertise of stakeholder groups and willingness of both stakeholders and governments to work together are essential prerequisites.

Policies on co-management need to provide practical guidance to stakeholders on the types of activities governments will consider collaborating on or delegating, and required

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capability standards of stakeholder groups. Such guidance would aid identification and advancement of suitable co-management opportunities in fisheries.

## **Enforcement**

All governments follow risk-based approaches to enforcement. There appears to be generally high compliance with most regulations. Concerns remain in some quarters about illegal, unreported and unregulated fishing, although the full extent to which this occurs for most species is uncertain.

All governments provide easily accessible channels through which the public can advise of illegal fishing activity. To make the best use of this information, agencies should be sufficiently resourced to enable timely and proportionate follow-up action.

## **Cost recovery and contestability**

The efficiency and equity benefits of cost recovery systems are well known. But there are also pressing imperatives for good cost recovery arrangements in fisheries management for other reasons, including to:

- support the provision of essential regulation and other services to fishers; and
- increase the accountability of fisheries managers to fishers about what and how services are delivered — which will help to ensure that regulatory effort is proportionate to the value of the fishery.

There is scope to adopt or improve cost recovery arrangements for commercial fishing in all States and the Northern Territory. Full cost recovery arrangements may not be viable in some jurisdictions (or fisheries) until intended major policy reforms have been implemented (such as in New South Wales).

In principle, the costs of administering recreational fisher licensing systems should be recovered from recreational fishers. Reflecting the low marginal cost of issuing each licence, recreational fishing licences are expected to be available at low cost for the majority of fishers. As noted earlier in regard to licensing, the objective of the regulatory action should determine the scope of any charging.

It is unlikely that cost recovery could be implemented cost effectively or in a way that does not undermine other policy objectives in the Indigenous customary sector.

Efficiency in fisheries management can also be enhanced by making processes such as research, consultation and data management contestable, and governments should actively pursue these opportunities.

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# Recommendations and findings

## Chapter 2: Access to fisheries resources

### RECOMMENDATION 2.1

The State and Northern Territory Governments should amend relevant planning instruments so that planning and land-/marine use proposals take into account their potential impacts on marine fishing activities.

### RECOMMENDATION 2.2

The New South Wales, Victorian, Queensland and Tasmanian Governments should adopt the practice of other jurisdictions and develop and implement a harvest strategy policy. Harvest strategy policies should be developed with regard to the *National Guidelines to Develop Fishery Harvest Strategies*.

### RECOMMENDATION 2.3

The Australian, Victorian, Queensland and Tasmanian Governments should adopt the practice of other jurisdictions and develop a policy to guide the allocation of access to fisheries stocks between different sectors.

The allocation policies of all governments should seek to promote the best use of fishery resources and provide confidence in relation to the processes involved in determining resource shares. At a minimum these policies should outline:

- triggers for review of existing allocations between sectors
- the review process, including how consultation will occur
- key considerations that will guide decisions.

These policies should be publicly available.

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#### FINDING 2.1

Decisions by governments on the allocation of marine fishery resources are severely constrained by a lack of comprehensive and current data on the participation, effort and take of the recreational and Indigenous customary fishing sectors.

#### RECOMMENDATION 2.4

All governments should consider a move to trading of access rights between the commercial and recreational sectors in the longer term for suitable, higher value fisheries. Policy makers should observe the performance of overseas inter-sectoral trading models, with a view to understanding how similar models can be applied in Australia.

## Chapter 3: Commercial fishing

#### FINDING 3.1

Output controls, in particular, individual transferable quota systems, provide greater confidence on the achievement of sustainability goals. In addition, they provide greater scope for innovative and efficient use of fisheries resources because:

- fishers have greater freedom to adopt improvements in business practices and take advantage of market opportunities
- they provide more secure property rights, which can facilitate investment.

While individual transferable quota systems will not be appropriate for all fisheries, there is scope for governments to increase their take up.

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#### RECOMMENDATION 3.1

The State and Northern Territory Governments should establish individual transferable quotas as the default management system for each of their fisheries.

If this is not technically feasible or would not be cost effective, governments should adopt individual transferrable effort systems, or otherwise a management approach that permits as much flexibility as practicable in the trading of fishing rights.

The Australian Government should complete the move of its fisheries to either individual transferable quota or individual transferable effort systems.

Governments should publicly release reasons for the management approach taken for each fishery.

#### RECOMMENDATION 3.2

All governments should regularly review commercial fishing regulations and fishery-specific controls to ensure that they only impose the minimum restrictions necessary to meet policy objectives.

## Chapter 4: Recreational fishing

#### RECOMMENDATION 4.1

Within the next three years all jurisdictions should require recreational fishers to obtain licences to fish in marine waters.

- The Queensland, South Australian and Northern Territory Governments should introduce licensing for independent recreational marine fishing.
- The New South Wales and Victorian Governments should improve the comprehensiveness of existing schemes by removing exemptions.
- The Western Australian and Tasmanian Governments should broaden the scope of licensing to include all recreational fishing activity.
- The Victorian and Tasmanian Governments should introduce licensing for marine fishing charter boat operators.
- The Australian Government should consider licensing of recreational fishers if it takes on greater responsibility for the management of recreational catch.

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#### RECOMMENDATION 4.2

Governments should consider implementing harvest tagging or restricted licences to manage valuable at-risk species when conventional management controls (such as bag and size limits) are ineffective in achieving sustainability goals or meeting set harvest allocations.

#### RECOMMENDATION 4.3

The State and Northern Territory Governments should review penalty regimes for marine recreational fishing to ensure that penalties support deterrence and are proportionate to the level of harm posed to the fishery.

#### RECOMMENDATION 4.4

The Australian Government should conduct a national survey of recreational fishing in 2018-19, using a comparable approach to the 2000-01 national survey. The cost of the survey should be shared by all governments.

From 2023-24 all governments should undertake five yearly surveys of recreational fishers, whether at the national level or on a coordinated jurisdictional basis.

Surveys should be consistent across jurisdictions and focus on participation, catch and effort, identification of species important to recreational fishers and information on the value of recreational fishing. The information should be made publicly available.

## Chapter 5: Indigenous fishing

#### FINDING 5.1

Most fisheries laws do not recognise the taking of fish for commercial purposes in the rights afforded to customary fishers, although the laws and customs of some Indigenous communities provide for such purposes (in addition to the purposes of satisfying personal, domestic and non-commercial communal needs).



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RECOMMENDATION 5.1

Fisheries management regimes should recognise Indigenous customary fishing as a sector in its own right.

This recognition should provide for fishing by Indigenous Australians in accordance with the laws and customs of their community (including fishing for commercial purposes, where provided for by these laws and customs).

Customary fishing rights should not be limited to native title holders.

RECOMMENDATION 5.2

Indigenous customary fishing for commercial purposes that is: i) significant in terms of the quantity and/or value of fish sold, bartered or exchanged, and/or ii) sold into conventional supply or processing chains should be regulated by the commercial fishing laws applying to all other citizens.

The specific thresholds at which the trade of fish is deemed to be significant should be set by governments in collaboration with relevant Indigenous communities and other stakeholders.

RECOMMENDATION 5.3

Where there is a need for resource sharing arrangements, governments should set aside a level of catch for local Indigenous communities that is sufficient to maintain their customs before allocating access to other sectors.

The level of catch should be agreed between Indigenous customary fishers and fisheries managers, but should be subject to overarching fishery management goals, including the sustainable utilisation of fish stocks.

RECOMMENDATION 5.4

In designing laws consistent with the recommendations in this report, any controls over Indigenous customary fishing activities should be developed, implemented and enforced in collaboration with Indigenous communities.

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## Chapter 6: Fisheries spanning jurisdictions

### RECOMMENDATION 6.1

In reforming cross-jurisdictional fisheries, all governments should:

- focus first on higher value and at-risk fish stocks that are subject to inconsistent management arrangements
- consider whether the transfer of management responsibility to one jurisdiction or shared management with a better alignment of management arrangements would produce the greater net benefits.

### RECOMMENDATION 6.2

The Australian Government should set allowable catch limits of southern bluefin tuna for all fishing sectors. Sectoral allowances should be in place in advance of the southern bluefin tuna fishing season commencing on 1 December 2018.

In consultation with fishers, the Australian and State Governments should negotiate the nature of, and responsibility for, day-to-day management of recreational fishers catching southern bluefin tuna.

### RECOMMENDATION 6.3

The New South Wales Southern Fish Trawl Restricted Fishery should be absorbed into the Commonwealth Trawl Sector of the Southern and Eastern Scalefish and Shark Fishery by the end of 2018.

### RECOMMENDATION 6.4

The New South Wales, Victorian and Queensland Governments should ensure the joint stock assessment project for the east coast biological snapper stock proceeds as an immediate priority.

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DRAFT RECOMMENDATION 6.5

The management arrangements for cross-jurisdictional fisheries and supporting memoranda of understanding should be reviewed regularly by governments to ensure they remain fit for purpose.

The *Principles Guiding Revision of the OCS Fisheries Arrangements* should be amended to include an intention to limit the extent of shared jurisdiction over expanses of water and fishing methods wherever possible.

RECOMMENDATION 6.6

The task of reviewing and developing reforms to reduce the costs of cross-jurisdictional fisheries should be the subject of a joint Ministerial direction to agencies.

All governments should make the reform of cross-jurisdictional fisheries a collective priority and issue a joint reform strategy within 12 months of the release of the Commission's final report. Progress against the strategy should be reported annually over its term.

## Chapter 7: Managing the environmental impact of fisheries

RECOMMENDATION 7.1

The Australian Government should publish online the annual reports that fisheries produce as part of their accreditation requirements under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth).

RECOMMENDATION 7.2

The Australian Government should reduce the regulatory burden involved in environmental approvals by:

- continuing to move fisheries that represent lower environmental risk to 10-yearly approvals under the *Environment Protection and Biodiversity Conservation Act 1999* (Cth)
- not requiring fisheries to be accredited or their accreditation to be periodically renewed if satisfied that they present low environmental risk.

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#### RECOMMENDATION 7.3

All governments should expand the use of explicit bycatch mortality limits for fisheries that have a high risk of interaction with threatened, endangered and protected species. Explicit mortality limits should be used in conjunction with cost-effective and reasonable controls on fishing to minimise interactions with threatened, endangered and protected species in the first place.

#### RECOMMENDATION 7.4

Governments that do not already do so should make summaries of information on interactions with protected species publically available (online).

Summaries should be provided on a fishery by fishery basis and at a minimum include the:

- species with which there was an interaction
- gear type used
- consequence of the interaction
- total number of fishing days undertaken in the fishery across the duration of the reporting period.

#### RECOMMENDATION 7.5

The Australian Government should clarify the purpose of the List of Marine Species established in Part 13, Division 4 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) and provide further information on the criteria against which species are added to or removed from this list.

#### RECOMMENDATION 7.6

Consistent with recommendation 17 of the Hawke Review (2009), the Australian Government should modify Part 13 of the *Environment Protection and Biodiversity Conservation Act 1999* (Cth) to allow the take of species listed in Appendix II of the Convention on the Conservation of Migratory Species of Wild Animals subject to management arrangements demonstrating that the take would not be detrimental to the survival of the species.

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## Chapter 8: Aquaculture

### FINDING 8.1

The development of aquaculture requires access to suitable sites. Spatial planning assists in the efficient identification of these locations. Spatial planning may also provide regulatory predictability and a more streamlined approval process for investors.

### FINDING 8.2

The regulatory arrangements for aquaculture have not significantly changed since the Commission's 2004 study. Regulation has not been a significant impediment to the growth of the aquaculture industry in Australia, except in the case of land-based prawn farming in North Queensland.

This reflects that the major aquaculture-producing States already had many best-practice regulatory features and other jurisdictions have faced challenges that are predominantly non-regulatory in nature.

### FINDING 8.3

Concerns about the environmental and amenity impacts of aquaculture developments highlight the tensions for governments in both regulating and promoting industry growth. These concerns could be minimised by having separate agencies responsible for regulatory and industry development functions.

## Chapter 9: Downstream processes

### RECOMMENDATION 9.1

Governments should not extend mandatory country-of-origin labelling to seafood sold for immediate consumption.

Any country-of-origin labelling scheme for seafood sold for immediate consumption should be a voluntary, industry-initiated arrangement.

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RECOMMENDATION 9.2

The Australian Fish Names Standard (AS 5300-2015) should continue to be used on a voluntary basis. The Fisheries Research and Development Corporation should continue to develop the standard in accordance with the needs of industry and the preferences of consumers.

RECOMMENDATION 9.3

All governments should ensure that licence and accreditation fees for seafood processors reflect the efficiently-incurred costs of regulating these facilities.

## Chapter 10: Other areas for improvement

RECOMMENDATION 10.1

All governments should ensure that operational decisions are delegated to the relevant fishery management authorities to the extent possible.

RECOMMENDATION 10.2

The governance arrangements of advisory groups formed under fisheries laws should include: clear terms of reference; a conflict of interest policy; clear role descriptions and requirements for members; fixed membership terms; performance assessment regimes; and reporting arrangements.

Ministers or departments should have the power to dismiss advisory group members who breach the terms of their engagement.

RECOMMENDATION 10.3

All governments should have clear policies on co-management in marine fisheries. These policies should provide practical guidance to stakeholders on where governments are willing to collaborate or delegate responsibilities. The policies should include details of the capability and governance standards that are expected of stakeholders seeking to enter into a co-management arrangement.

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RECOMMENDATION 10.4

The State and Northern Territory Governments should implement best practice cost recovery arrangements for the commercial fisheries sector. Cost recovery charges should be linked as closely as possible to the efficiently-incurred costs of essential regulatory services.

All governments should transparently disclose the services or regulatory activities for which costs are recovered, and the amount and extent of costs recovered.