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Australian Marine Fisheries and Aquaculture
Productivity Commission
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By email to: Fisheries.Inquiry@pc.gov.au

7 April 2016

Dear Sir or Madam

Re: Productivity Commission Inquiry into the Regulation of Australian Marine Fisheries and Aquaculture Sectors

Humane Society International (HSI), the world's largest conservation and animal welfare organisation, welcomes the opportunity to provide this submission to the Productivity Commission's Inquiry into the Regulation of Australian Marine Fisheries and Aquaculture Sectors (the Inquiry), on behalf of our 60,000 Australian supporters.

HSI welcomes this inquiry and notes that the Terms of Reference state that the primary focus of the review is on Commonwealth, State and territory regulation of wild capture marine fisheries. We have focused this submission accordingly.

Environment – the primary focus

HSI strongly believes that the environment must be the primary focus of fisheries and we are pleased to see that a primary focus of the Inquiry is to improve fisheries regulation without compromising fisheries policy and environmental objectives. Ecosystem Based Management (EBM) is an essential basic building block of any contemporary fisheries management policy or regime. It takes into account the impact of fishing on target, non-target, other dependent species and the ecosystems and habitats in which those species occur. Without ecosystem integrity there will be a greatly reduced fisheries sector[1] with limited economic output given that this sector itself is reliant on an ecologically sound and productive marine system.

Ecological issues paramount

Ecological, economic and social impacts are all recognised components of EBM. However, the long-term capacity of an ecosystem to deliver positive ecological, economic and social outcomes will depend first and foremost on its ecological integrity. While, in the short term, it may be politically or financially expedient to compromise ecological integrity for economic and social gain,

[1] Throughout this document we use the term "fisheries sector" as covering commercial fishing, recreational fishing, Indigenous fishing and aquaculture.

such benefits will not be sustainable in the longer term.

Against this background it is essential that the Inquiry acknowledge that maintaining and improving ecological integrity must be the starting point of any process aimed at improving the ecological sustainable use and management of fisheries resources. This may also require the need for more regulation of fisheries and not less.

Many jurisdictions have legislative objectives that mandate ecologically sustainable development. They are often poorly defined or qualified by economic or social objectives/goals or provisions that allow for varying the weighing of the principles in accordance with particular circumstances. In order to protect marine resources and the communities that depend on them, ecosystem based fisheries management objectives should be well articulated in all fisheries legislature, including that ecological sustainability objectives should be considered paramount over social and economic objectives; and that it is inappropriate for political and economic considerations to outweigh ecological requirements.

Knowledge gaps

Significant gaps exist in our knowledge of ecosystems and how the various elements within these systems interact. These information gaps are not uniform, with some fisheries well studied and others not – this disparity should be recognised as part of the Inquiry and needs to be addressed. Effective monitoring and data collection is essential if we are bridge this gap and ensure high quality data is available to inform management decisions.

Science

Good fisheries management processes rely on the best available science. To the extent this is not available management decisions suffer and greater precaution will be needed which may impose a higher regulatory burden on fishing sectors.

There is a high degree of uncertainty in our understanding of the marine environment and even in relation to individual target and non-target and bycatch species. This lack of understanding covers a wide range of issues, from species biology (e.g. do we know enough about what age a particular species starts to reproduce in order to make sound management decisions, or are we able to locate critical habitats which should be protected), through to lack of data on fishing mortality (e.g. do we really have sufficient information to manage risk of overfishing, if fishers are only reporting some species at genus or even family level). Managers must have access to sufficient biological information and reliable up to date data and assessments to develop appropriate harvest strategies, deal with risk and uncertainty and assess broader environmental impacts related to fishing activity.

Differing arrangements apply across the different jurisdictions for the provision of scientific information. There has been some duplication in effort, although there has also been significant collaboration, particularly on near shore species managed across State/NT boundaries. At the Commonwealth level, AFMA has relied on the CSIRO and the FRDC to provide scientific advice. CSIRO has played a critical role in not only providing fundamental stock assessments, but also in developing important new tools, including Management Strategy Evaluation, Management Procedures for specific fisheries and the methodology to conduct an ERA. However, funding for day to day fisheries work has been constrained in more recent years with the development of Flagship programs and less emphasis on day to day fisheries work.

Fisheries management requires access to sound unbiased science for both stock assessments and broader ecological assessments/understanding. This must be adequately resourced if we want the best available management is to be implemented.

In the face of uncertainty and lack of full information, the concept of risk-based management of fisheries has evolved. In theory this is a sound approach which suggests that where detailed information is not available, a more conservative approach to management should be adopted.

HSI therefore believes it would be short-sighted and dangerous to consider that cost cutting in the area of science, data and analysis will improve the productivity of fisheries. In fact, given that the need for greater certainty will only increase as markets drive industry to fish 'closer to the line', this is an area that will require more resources. An important way to increase efficiencies to support fishery productivity here is to invest in innovative techniques and approaches for collecting and analysing data.

The Precautionary principle

In the absence of a much better understanding of ecosystems we maintain that more precaution is needed in the management of Australian fisheries. The precautionary principle is a fundamental tenant of contemporary environmental management which should be applied rigorously. Most jurisdictions have a requirement or definition of the precautionary principle in their legislation, however there is a need for this to be applied consistently across jurisdictions. We believe this needs to be considered against the following three areas:

a) Definition

The definitions in the various fisheries acts need to reflect contemporary understanding and be sufficiently articulated to provide guidance to management agencies.

We favour the use of the definition in Clause 3.5.1 of the Intergovernmental Agreement on the Environment (IGAE) as follows:

1.5.1 precautionary principle—

Where there are threats of serious or irreversible environmental damage, lack of full scientific certainty should not be used as a reason for postponing measures to prevent environmental degradation. In the application of the precautionary principle, public and private decisions should be guided by:

(i) careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and

(ii) an assessment of the risk-weighted consequences of various options.

b) Application

There are a number of factors that may impede the appropriate application of the precautionary principle by management agencies. These include:

i. concern at the political level as to the undesirable regional or economic consequences of rigorous application;
ii. a lack of certainty about the Government's and the community's expectations about the appropriate level of precaution that should be applied;
iii. an unwillingness, on the part of management agencies (possibly due to 1 above and particularly where the Minister is the decision maker), to respond to uncertainty relating to the impacts of fishing in the way prescribed by the precautionary principle; and
iv. a lack of effective oversight of management responses against key legislative objectives.

c) Appropriate level of precaution

We support the use of the Harvest Strategy Policy (HSP) to set standards and provide responses to our knowledge of stocks or to changes in the ecosystems supporting these stocks. An important

element of this approach at the Commonwealth level has been the adoption of an Ecological Risk Assessment (ERA) approach to management. This has been a major step forward in ensuring that species at high risk from fishing are the focus of management. The ERA approach includes a precautionary approach to determining risk by ascribing high-risk profiles to species for which there is a lack of data or uncertainty in information.

We believe the development and use of ERAs across all jurisdictions will assist in the effective implementation of the precautionary principle.

Regulation of a common resource

The oceans are a common resource providing a range of values, with fishing just one activity that must be balanced against a range of other multiple use activities to achieve maximum community benefit for current and future generations. The fisheries sector is accessing a community owned resource, in the case of the commercial sector for commercial gain, in the case of the recreational sector for individual pleasure / food (although some elements of this sector also derive commercial gain e.g. charter fishing) and for Indigenous fishing customary reasons as well as food. International law provides that resources within 12 nautical miles of the coast belong to Australia, beyond this point to the edge of the Australian Fishing Zone (AFZ)[2] the global community has ceded marine resources to Australia and as such high standards of management and accountability are expected.

While we agree that regulatory simplification, streamlining and consistency of arrangements across jurisdictions and exploring more efficient regulatory models are laudable goals, we see limits to the extent this might be possible. Current arrangements have evolved over many years to respond to the political reality of multiple jurisdictions with very different philosophies and policies when it comes to managing fisheries resources. The Offshore Constitutional Settlement is recognition of this reality and has allowed for jurisdictions to rationalise management arrangement.

We agree that wherever possible single jurisdiction management of stocks is desirable both from an ecological perspective and in seeking to maximise efficiency and reduce unnecessary regulation. It is not something that we believe can be easily achieved without significant political will.

Streamlining Services

While rationalising cross jurisdictional management arrangements may present some challenges, there is significant immediate opportunities for efficiencies in further streamlining services across jurisdictions, particularly for the commercial fishing sector. There is scope for common platforms to provide monitoring (Vessel Monitoring Systems - VMS), licensing, electronic logbooks (e-logs); electronic monitoring (e-monitoring) and where they are in use electronic reporting by observers. Such streamlining should not only lead to cost efficiencies but should also reduce the burden of multiple arrangements where fishers operate in more than one jurisdiction. Ultimately also, consolidation of these services will provide an important foundation for more significant collaboration on management arrangements over time.

In terms of developing uniform arrangements to provide sustainable outcomes, it is our view that ecological outcomes, which are critical to this sector, would be enhanced from a single national environment regulatory framework. This would involve extending the current Wildlife Trade Operation[3] assessment for State/NT fisheries that want to export their products to a full assessment of the ecological sustainability of all Australian fisheries.

[2] Broadly equivalent to the Australian Exclusive Economic Zone (EEZ) except for the fact that the AFZ also covers waters off Antarctica to which Australia has a claim.

[3] WTO assessments are undertaken under the *Environment Protection and Biodiversity Conservation (EPBC) Act 1999*

Internationally Australia has a good reputation in relation to the management of fisheries. To some extent this reputation masks the very large differences in the management of target, non-target and protected species interactions, within and between jurisdictions. We were a little surprised to see in the Terms of Reference the general statement that ".....*Australian fisheries are regarded as sustainable, reliable and safe*...". We would question the statement that Australian fisheries can be characterised as generally sustainable (we believe there are significant differences across and within jurisdictions) and we do not understand against what measure(s) "*reliable and safe*" are being judged.

Irrespective of these general statements, in the context of finding efficiencies, the risk is that consolidation leads to adoption of the lowest common denominator. In Australia, and globally, the jurisdictions which are the most advanced in terms of a high standard of management are also those which tend to be most profitable, e.g. Western Australia. Conversely, those that have failed to introduce effective regulation to protect marine resources and its use by fishers are performing the worst environmentally and economically e.g. Queensland. Clearly in order maximise the return to the Australian community from the use of marine resources high environmental standards are paramount. We believe it is essential that any recommendations from this inquiry protect existing ecological sustainable outcomes and improve the ecological sustainability. They must not undermine ecosystem integrity while improving the economic efficiency and profitability of Australian fisheries.

There have been attempts by some sectors to refer to the strategic assessment process[4] as a tick for sustainability, which we do not agree with. The guidelines/criteria for assessing strategic assessment were first drafted based on the more stringent Marine Stewardship Council (MSC) guidelines. However they are a less stringent measurement of sustainability as the spirit of the strategic assessment process was to move fisheries towards sustainability as opposed to a representation of fisheries management best practice. This is why approvals of strategic assessment usually have conditions or recommendations as a way of moving fisheries towards a more sustainable base.

Sectoral management

As a general proposition we would like to see improvements and greater consistency in the management of each sector – commercial, recreational, indigenous and aquaculture. We believe the same policies and management principles need to apply to each sector. We do not feel this is the case at present.

In order to improve arrangements across the sectors more scientific assessment and monitoring of stocks and ecosystems is essential and where excess capacity and over-capitalisation exists, targeted structural adjustment schemes should be introduced. Wherever possible we support the use of market based management measures to ensure fishers receive appropriate economic signals and fishing effort and sustainability are kept in balance. Unfortunately we feel there has been a lack of political will (and resources) particularly in the States and NT to address these issues.

Harvest Strategy

The development and implementation of a Commonwealth Fisheries Harvest Strategy Policy and Guidelines (HSP) has definitely improved the management of Commonwealth fisheries. The first HSP was developed in 2007 and reviewed in 2012-13. The review concluded that generally the HSP was appropriate and working to provide best practice guidance to AFMA and fisheries managers. It did however identify areas that could be strengthened.

We support the use of harvest strategies noting that these must be kept up to date and used in

[4] That is the strategic assessment provisions of Part 10 of the EPBC Act

conjunction with, and be informed by, other ecosystem policies. Further we feel that harvest strategies should cover all target and retained species. This would require some broadening of current arrangements and the development of a policy specifically addressing discards. Ideally, harvest strategies would be developed and implemented in all jurisdictions and cover key fishing sectors. We note that accurate and reliable data on the biology of species, the nature and extent of the fishery and on economic aspects of the fishery is essential. Such information will involve potentially increased regulation and cost. To the extent that this data is unavailable or too costly to collect then increased precaution will need to be applied in management arrangements.

HSI's joint submission (together with AMCS, WWF and TRAFFIC) on the 2012 review of the Commonwealth Fisheries Harvest Strategy Policy and Guidelines covers many of the issues raised in the Inquiry and can be viewed at
http://www.agriculture.gov.au/SiteCollectionDocuments/fisheries/domestic/harvest-strategy-policy/submissions/submission-wwf-aus-traffic.pdf

Bycatch

There is both a National Policy on Fisheries Bycatch and a Commonwealth Policy on Fisheries Bycatch that provide useful guidance on this matter. The National Policy was developed in cooperation with all Australian governments and provides a national framework for coordinating efforts to reduce bycatch. The policy provides options by which each state/territory jurisdiction can manage bycatch coherently and in a national context while still allowing for differences in state/territory fisheries.

The Commonwealth Policy seeks to ensure that the direct and indirect impacts of fishing on ecosystems are taken into account and managed accordingly. This is done through mechanisms that reduce bycatch, improve the protection for vulnerable species and arrive at decisions on the acceptable extent of ecological impacts.

The Commonwealth Policy was reviewed in 2012-13 and a report issued in May 2013. The review recommended a revised bycatch policy that adopts risk-based approaches to assess the level and likelihood of impacts on bycatch species. As part of the review we expressed the view that there needs to be greater coherence between the HSP and the Bycatch policy and as mentioned above would like to see harvest strategies cover both target and retained species.

HSI's joint submission (together with AMCS, WWF and TRAFFIC) on the 2012 review of the Commonwealth policy on Fisheries Bycatch can be viewed at
http://www.agriculture.gov.au/SiteCollectionDocuments/fisheries/environment/bycatch/submissions/wwf-Australia-traffic-amcs-hsi.pdf

HSI works predominately on fisheries bycatch of threatened species in particular in Commonwealth fisheries. It is our experience that in recent times there has been a lack of willingness to regulate by AFMA to achieve the best ecological outcomes, instead preferring that fishers undertake necessary actions to avoid bycatch on their own initiative. For example, the bycatch of albatross species in trawl fisheries. The most simple way to avoid this bycatch, which is often difficult to monitor, is to prevent the discharge of offal from the vessel whilst fishing at a minimum and preferably not at all when on fishing grounds, as it is this discharge that attracts the seabirds resulting in often fatal collisions with fishing gear. We consider that simply regulating to ensure that offal is not discharged on fishing grounds or when gear is in the water would prevent the unnecessary deaths of many threatened species.

Accreditation

We strongly support the need for independent accreditation of Australian fisheries. Currently, Commonwealth fisheries are subject to the strategic assessment provisions of Part 10 of the EPBC

Act (against the *Guidelines for the Ecologically Sustainable Management of Fisheries 2007*), to assessments relating to their impacts on protected marine species and communities under Part 13 of the EPBC Act and to assessments for the purposes of export approval under Part 13A of the EPBC Act.

We believe that it is entirely appropriate that the Department of the Environment (DoE) is responsible, under the EPBC Act, for ensuring that any Australian fishery does not adversely affect the survival or recovery of protected species or the survival and recovery of listed threatened species, since the status of those species is determined under the EPBC Act. Similarly, we believe that it is appropriate that DoE assesses Australian export fisheries. We believe that, as well as providing confidence that the impacts of fisheries are acceptable, these assessments have been particularly valuable in driving change in both Commonwealth and State-managed fisheries. Examples include the development of the Australian Sea Lion Management Strategy[5] in the Gillnet Hook and Trap Sector of the Southern and Eastern Scalefish and Shark Fishery (SESSF) which was implemented in 2010 following considerable concerns raised by HSI and other stakeholders of the impact of the fishery on the vulnerable Australian Sea Lion. This strategy involved the implementation by AFMA of area closures, management zones and trigger limits, in consultation with the DoE, and then later further closures following significant bycatch of dolphins in the same fishery. It is HSI's firm belief that the independent role of the DoE in assessing the fishery was critical in gaining important conservation and management measures to minimise the number of Australian Sea Lions and dolphins killed in the SESSF.

Strategic assessments at the Commonwealth level and assessments of all export fisheries have been, and will continue to be, an important tool in further improving fisheries management in all jurisdictions. As a general comment we think that Strategic Assessments under Part 10 of the EPBC Act have greatly assisted the Australian Fisheries Management Authority (AFMA) in developing and continue to improve Commonwealth fisheries management. We further believe that extending Strategic Assessments (or an equivalent accreditation) to the States and the NT would help to improved management arrangements in those jurisdictions. This requirement needs to be carefully considered for two reasons, firstly we believe it would over time greatly enhance the management arrangements in these jurisdictions and secondly, it would "level the playing field" and harmonize environmental requirements across jurisdictions.

A particular strength in these arrangements is the independent nature of the assessments and as such we believe that the process must remain within DoE and not be devolved to fishery management agencies such as AFMA or the States/NT. DoE needs to be adequately resourced to undertake these assessments.

Marine Parks and Reserves

Just like terrestrial national parks, "no-take" marine reserves are free from extractive activities including fishing, collecting and mining. They should as far as practicable be buffered from other external human impacts and are an essential component of management for sustainability. The functions they serve include:

- Preservation of representative samples of biological diversity;
- Protection of critical habitat sites for reproduction and growth of species;
- Protection of sites with minimal direct human stress to maximise their resilience or self-repair from other stresses such as increased ocean temperature;
- Settlement and growth areas providing spill-over recruitment to fished stocks in adjacent areas;
- An "insurance policy" to protect populations against the unknown aspects of fishing activities;

[5] http://www.afma.gov.au/portfolio-item/australian-sea-lion/

- Focal points for education about the nature of marine ecosystems and human interactions with them;
- Sites for nature-based recreation and tourism; and
- Undisturbed control or reference sites serving as a baseline for scientific research and for design and evaluation of management of other areas.

Ecosystem-based Marine Protected Areas incorporating core "no-take" reserves may require new approaches to management of marine environments, but the benefits will be significant and enduring. Some of these benefits include:

- MPAs are emerging as one of the most cost-effective and feasible management tools to separate and therefore better manage the effects of fishing and a changing climate.
- MPAs can reduce ecological risk - and therefore compliance burden for fisheries. Large scale, traditionally high impact commercial fisheries are promoting the presence of Commonwealth MPAs in their fishery area to their market as a means to improve market opportunities and social license (http://www.abc.net.au/pm/content/2015/s4284713.htm).
- Better technology is making compliance with MPAs simpler and cheaper than ever. This same technology provides a dual benefit for fisheries management of supporting management at finer, more economically and ecologically valuable, spatial resolution (http://www.environment.gov.au/mediarelease/alert-service-rolls-out-more-areas-help-fishers-comply-marine-reserve-rules).
- Fisheries management directly imposes a greater level of spatial restriction on fishing activity than MPAs. Future monitoring and management will only improve the synthesis of spatial closures for fishery management and conservation purposes, reducing cost burdens on industry (https://theconversation.com/marine-reserves-not-about-closing-fisheries-but-about-preserving-ocean-health-8936).
- Displaced effort effects of MPAs are less severe than once thought**.** Importantly, the cost in terms of reduced yield when fisheries management settings are ideal and environmental conditions are stable, is insignificant compared to the 'real-world' costs of recent Australian fisheries failures. Furthermore these costs are significantly offset by economic benefits created by greater resilience when fisheries management fails or discrete environmental impacts occur, by marketing advantages and improved social license, and by the ability of reference areas to inform and improve harvest settings in a dynamic environment.
- A recent modelling study suggests that in generalised conditions MPAs can reduce the decline in yield when overfishing occurs, and speed stock recovery.
- Politicising of MPAs is more of an issue for fishing industry investment certainty, than if MPA networks were completed quickly and efficiently, allowing adaptive management to improve outcomes and reduce impacts. The post-hoc economic and regulatory impacts of MPA establishment have been consistently lower than those predicted by industry interest groups, based on the experience from the extensive existing MPA network established throughout Australian waters.

Fisheries specific issues
Commercial fisheries management requires a mix of tools

The Issues Paper raises a series of questions that could potentially leave the reader thinking there is one management tool available to fisheries managers/agencies which is vastly superior to other tools. This is not the case and experience over time has identified that there is no "one size fits all" when it comes to fisheries management. Different tools are needed to achieve different outcomes.

Contemporary thinking supports the use of ITQs where regulation is on the output – the catch, rather than some way of limiting catch via vessel or gear (input controls). Output controls have a range of economic and market benefits, which are not available when using input controls. However experience suggests that ITQs alone will not ensure that all the required and desirable management objectives are met.

As such, fisheries managers now rely on a suite of tools to meet the various objectives. Even where single species management is concerned, as is the case with the Southern Bluefin Tuna (SBT) fishery (a quota managed fishery), a range of other regulatory controls are required, including controls to mitigate interactions with protected species including seabirds, sharks, dolphins, seals and turtles; non-target species, limiting or banning the discharge of offal; the use of non-approved gear and the protection of spawning grounds or nursery areas etc. Thus, it is a matter of choosing the right tool to achieve the desired outcome and combining it with the other tools necessary to meet, target, non-target and broader ecosystem objectives.

Input controls alone (with the exception of Individual Transferable Effort units - ITEs) provide often-perverse incentives, which cause rigidities and restrict rational economic decision-making. ITEs are a way of addressing this but must be adjusted annually to compensate for effort creep and ensure stock sustainability targets are met. They also require a range of additional input controls to ensure non-target and ecosystem objectives are met.

To determine the appropriate mix of controls an assessment of the risks associated with catching the target species, the impact of this catching on non-target species and the broader ecosystem will be needed. This is within dynamic ecosystems where the abundance of target and non-target species change and innovation by fishers mean that arrangements need to be continuously monitored and adjustments made in response to these changes.

It is also important to note the role of non-fisheries management tools in the management of fisheries. The use of scientific reference points provided by larger no-take marine protected areas make it possible to significantly reduce the cost of obtaining data to address ecosystem based management assessment requirements and third party assessments. For example in the Western Rock Lobster fishery, which is one of the most data rich fisheries in Australia, research has determined that the most feasible and cost-effective option for understanding the ecosystem effects of fishing in a comparison of management options is comparison with MPA area (e.g. Jurien and Rottnest).[6] Similarly MPAs are emerging as one of the most cost-effective and feasible management tools to separate and therefore better manage the effects of fishing and a changing climate.

Allocation of resources

The Issues Paper raises a number of issues and challenges including:

- "*the way that fisheries resources are best used, including how they are allocated among various users - commercial, recreational and Indigenous - and how those allocations are managed, so that their value to Australians is maximised both in the present and over time"*

While we understand the purpose of raising this issue we feel it is far more complex than this brief dot point suggests or a submission can do justice to. At present there is no simple and effective way of managing or ensuring that the allocation of fisheries resources among user groups maximises the value to Australians now and over time. There may in fact be uses outside of the fisheries sector where resources may achieve a greater return e.g. tourism or ecosystem services.

In terms of commercial fishing, most allocations are based on historical access to the resource. In most jurisdictions there are however markets which exists both for fishing permit/licenses and quota. This enables new entrants to buy access to the fishery/resource and for those who wish to exit to leave with a financial return, albeit subject to an assessment of the value of the license or quota that invariably reflects to a large degree how well the fishery is being managed and its long term sustainability.

[6] http://www.fish.wa.gov.au/Documents/research_reports/frr199.pdf
http://www.fish.wa.gov.au/Documents/occasional_publications/fop053.pdf

Over time there have been decisions taken to reserve certain species for certain groups. For example some species are specifically reserved for the recreational fishing/charter fishing sectors. This has tended to be by way of a political decision rather than a more systematic assessment of relative benefits/costs and whether this maximises the benefits to the Australian community.

There is an interesting challenge facing the commercial and recreational fishers for Southern Bluefin Tuna in Australia. This fishery is the subject of an international agreement and managed by the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) to which Australia is a party[7]. The fishery is managed using a global Total Allowable Catch (TAC) that is allocated among members.

The stock was heavily overfished during the 70-80's severely depleting the spawning biomass. SBT are slow growing fish and reach maturity late. The fishery has been the subject of formal rebuilding since the 1990's and while there are some promising signs of recovery the current target (20 per cent of original spawning stock biomass) is not expected to be reached until 2035.

In 2014 the CCSBT agreed that all Members and Cooperating Non-Members (CNM) must as soon as practicable, but from 2018, account for all SBT mortality resulting from fishing activities within its jurisdiction or control, including mortality resulting from:

- commercial fishing operations whether primarily targeting SBT or not;
- releases and/or discards;
- recreational fishing;
- customary and/or traditional fishing; and
- artisanal fishing.

From 2018 Australia will have to account for not only the SBT caught commercially but also those taken by recreational fishers. To date Australia's National Allocation has been used entirely in the commercial sector and they have been granted Statutory Fishing Rights (SFRs) under the Southern Bluefin Tuna Fishery Management Plan 1995. This raises the question of how Australia will deal with this issue. Anecdotal reports suggest that the recreational catch could be anywhere between 10 and 20 per cent of Australia's National Allocation. This catch has increased as the fishery has started to recover.

Australia should be accounting for its recreational catch against its SBT National Allocation, however we do not have an accurate figure for recreational catch. Recreational catch was not considered when SBT SFRs were allocated given its small size at the time.

There are potentially a limited range of market-based tools available for resource sharing within and between groups once initial allocations have been made. One approach is to require recreational and charter fishers to lease or buy quota from the commercial sector to cover mortalities. It seems inappropriate that the general taxpayer should have to fund this purchase/lease. This is a good example of an immediate challenge being faced when dealing with changes stock abundance and/or fishing patterns by different groups where allocations have been made.

As a final comment in this area we would make the point that there has been extensive work in all jurisdictions to deal with initial allocations within the commercial fishing sector, however we are not aware of such work being done within other sectors. This is a complex and demanding area and one that has been the subject of extensive litigation. The Commission should not underestimate the complexity of dealing with allocation issues, not just in the commercial sector but also between

[7] Other members include: Japan, New Zealand, Korea, Taiwan, Indonesia and the European Union. The Cooperating Non-Members are: the Philippines and South Africa.

sectors and to the environment.

Recreational fishing

Recreational fishing is a pastime enjoyed by a large, but declining proportion, of Australians however we are concerned that its impact on target and non-target species and the broader ecosystem may not be being adequately recognised or managed. Our view is that the same high standards we expect with respect to the commercial fishing sector's access to a community owned resource should be applied to the recreational fishing sector.

We see a need for more formal management arrangements, better data collection (to improve the understanding of the impact of recreational fishing on target and non-target species), better monitoring and enforcement of management arrangements and that the costs associated with these improvements be fully cost recovered from those who participate in this pastime. HSI is also concerned at reports we have heard of recreational fishers catching threatened non-target species such as albatross and therefore we believe it is essential that a system is implemented to ensure all such catch is reported so that the full scale of any impacts on threatened species can be fully understood.

Frequently, those involved in this sector point to the significant spending related to recreational fishing, we note the Issues Paper quotes such a figure. Many economic activities (recreational and other) have significant multiplier and revenue raising effects, i.e. paying an entrance fee to a national park to go bush walking or camping for example and buying the equipment needed for such activities. There are sound public policy arguments for the costs attributed to the management of both commercial and recreational fishing to be recovered from those who enjoy access to community owned resources.

For iconic species such as sharks, black and blue marlin, sail and swordfish and large tunas (such as SBT) a system of individual fish permits could be established and these could be auctioned on an annual basis as a right to take an individual fish. This would obviously not help with respect to catch and release fishing, where increasingly research suggests that there are significant mortalities after fish are released, particularly where this has involved a significant time to land the fish. This latter point is an issue of significant concern to HSI and one which we believe requires addressing, particularly with regards to sharks and other top order predators.

In terms of the broader question of resource allocation between sectors, we would make the point that while there are many Australians who enjoy recreational fishing (the Issues Paper provides a 2000-01 figure of in excess of three million) the total Australian population at that time was in excess of 19 million. As such there were at least 16 million people at that time that relied, in part at least, on the Australian commercial fishing sector to provide them with seafood.

Although catch-and-release fishing had previously been thought to be beneficial for the conservation of fish stocks based on the premise that most of the released fish would survive, expanding interest in animal welfare has promoted debate regarding the ethics of catch-and-release fishing. Additional knowledge about the survival of released sharks is essential for assessing the validity of tag-and-release techniques for conservation, estimating fishing mortality rates, and using the results of tagging programs in stock assessments and studies of migration patterns.

Assessing post-release mortality is difficult and should include multiple approaches that quantify the extent of physical damage and the level of physiological disruption. Research into the ecological sustainability of recreational fishing in Australia has found that the mortality of discarded fish is highly dependent on the particular species being caught and a range of other factors, such as water depth and the type and size of tackle used, with rates of mortality varying from 0 to 95% of released fish. However, it is important to note that even mortality rates below 5% can have

extremely detrimental effects for species with long lifespans and low reproductive rates, such as sharks (Cooke and Cowx, 2006).[8] Survival rates vary with species, body-size, depth of capture, ambient conditions (e.g., water temperature), and handling (McLoughlin & Eliason, 2008).[9] HSI believes that further work should be undertaken urgently to investigate the impact of catch and release fishing on top order predators such as sharks.

Illegal fishing

In this section we have assumed that the Commission wishes to consider not just illegal fishing, but illegal, unreported and unregulated (IUU) fishing. IUU fishing is often referred to in the context of foreign vessels fishing illegally in waters under the jurisdiction of a state without appropriate authorisation. However IUU fishing is far more complex than this. Essentially, it seeks to describe in greater detail different types of fishing behaviour that take place outside or contravening agreed management arrangements and international norms.

Those arrangements and norms basically fall into two categories.

1. A state exercising its jurisdiction over fishing activities of all vessels, both national and foreign within its EEZ, that is, out to 200 nautical miles from its coast; and
2. Beyond the 200-mile EEZ, on the high seas, vessels are subject to the legislation and control of their flag State.

Some states apply management and conservation measures in full compliance with UN conventions, notably the United Nations Convention on the Law of the Sea (UNCLOS), the United Nations Fish Stocks Agreement[10] (UNFSA) and FAO agreements and voluntary codes. Other States have either not ratified or agreed to these international arrangements or choose not to implement them effectively. Member countries of Regional Fishery Management Organizations (RFMOs) are also required to fully apply the agreed RFMO conservation and management measures. RFMOs regulate fishing in certain areas of the high seas, sometimes focusing on particular species and or areas being fished. Some RFMO conventions also cover EEZs. Such international and regional legal regimes are however only binding for ratifying or member States.

The important thing to note is that IUU fishing can and does occur in all jurisdictions. Globally, IUU fishing is a significant problem. By its nature it is difficult to put an accurate figure on the level of IUU catches. The first detailed study (Agnew et al., 2009[11]) provided a global estimate of between 11 and 26 million tonnes, excluding discards and artisanal unregulated catches. This represents between one-sixth and one-third of reported global wild fisheries catches and a value of somewhere between US$10-23 billion.

Within the Australian EEZ foreign illegal fishing is still a problem but nowhere near the problem it has been in the past. However the Australian Government needs to remain vigilant as there are large fleets operating in the Indian and Pacific Oceans which have in the past fished both immediately adjacent to the EEZ and also within it. In this regard it is appropriate for Australia to continue its cooperation with and support to neighbouring developing states in their attempts to improve regional monitoring, control, surveillance and enforcement. Illegal fishing by Indonesian vessels in northern waters has in the past been a problem, but incursions are now much less

[8] Cooke, S.J. and Cowx, I.G. (2006) Contrasting recreational and commercial fishing: Searching for common issues to promote unified conservation of fisheries resources and aquatic environments *Biological Conservation*, Volume 128, Issue 1, Pages 93-108

[9] McLoughlin, K. and Eliason, G., (2008) Review of information on cryptic mortality and the survival of sharks and rays released by recreational fishers, Australian Government Bureau of Rural Sciences.

[10] The United Nations Agreement for the Implementation of the Provisions of the United Nations Convention on the Law of the Sea of 10 December 1982 relating to the Conservation and Management of Straddling Fish Stocks and Highly Migratory Fish Stocks.

[11] Agnew, D.J., J. Pearce, G. Pramod, T. Peatman, R. Watson, J.R. Beddington and T.J. Pitcher (2009). "Estimating the Worldwide Extent of Illegal Fishing". PLOS ONE 4(2). doi:10.1371/journal.pone.0004570

frequent. Likewise illegal fishing around Australian Antarctic islands - Heard and McDonald Islands in the Southern Indian Ocean and Macquarie Island south west of New Zealand has not been a significant problem in recent years. This is not to say Australia can ignore these as significant risk areas for foreign illegal activity.

Internationally, Australia both in RFMOs and more generally has taken a high profile stance in the fight against IUU fishing. It has ratified or adopted all the key international instruments (most recently the FAO Port State Measures Agreement) and rigorously implements agreed catch documentation schemes (CDS). It is an active participant in six RFMOs and regularly pushes for improvements to conservation and management measures to improve the transparency and accountability of fishing by member states. This is not to say further improvements cannot be made particularly the need to link both IUU fishing and imported product from unsustainable fisheries.

Within domestic jurisdictions IUU fishing can and does occur. No doubt AFMA and State/Territory submissions will provide the Commission with estimates of the level and extent of this activity.

International engagement

Australia is a party to numerous international agreements that have an impact on domestic and high seas fisheries as well as specific environmental goals. These agreements provide benefits as well as impose costs on the fishing sector. Among the direct benefits, which come from these agreements, is the 200nm EEZ that surrounds Australia and its territories as well as access to a range of high seas fisheries resources. Some of our high value domestic fisheries are directly dependent on highly migratory species, so it is vital that we are engaged in their management.

There are costs associated with these benefits, including the need to manage the use of our EEZ in line with international commitments and expectations and also to be an active participant in the management of high seas fisheries resources.

More broadly, as a wealthy developed nation Australia has a responsibility to work with other likeminded nations to protect and manage the high seas. We are also involved in working with our Pacific and South East Asian neighbours to achieve important regional outcomes, which are linked to the management of our marine resources. On balance, we believe Australia has an obligation to participate in these international agreements and that Australia benefits from being involved. It also enables the Government to provide leadership on a range of important environmental and fisheries issues globally.

Other associated issues
Multi-jurisdictional governance

We are aware of a number of examples where further rationalisation of jurisdiction would reduce the regulatory burden and hopefully improve productivity and ecological outcomes. Some of these include NSW/Commonwealth (trawl); Bass Strait Scallops (three jurisdictions involved); and State/State arrangements (e.g. Snapper). We suspect the management agencies and the fishing industry will provide you with many more examples.

There have been many attempts over the years to rationalise jurisdictional arrangements, but for a variety of reasons this has not been possible. We strongly support the need for further sensible rationalisation of jurisdiction between the States/NT and the Commonwealth. Success in this area will no doubt improve fisheries management outcomes, reduce the regulatory burden on fishers and improve productivity.

Too many jurisdictions/management authorities

For the size of the fisheries resources available in the AFZ and from the perspective of efficient management there are too many fisheries management agencies and too many fishers. This situation means that there are significant economic costs associated with the current management structures and loses associated with excess fishing capacity and overcapitalisation – "too many fishers chasing too few fish".

The first issue (too many management agencies) is a function of our Federation and it would seem short of governments being prepared to totally cede jurisdiction to the Commonwealth or another State/NT there is likely to be little change in these arrangements.

The second issue (too many fishers) has, on the whole, been poorly dealt with by governments and their management agencies. This is referenced in the Issues Paper under the section "A productivity context" where the Commission states:

"A productivity increase might be observed in fewer resources being used to produce the same or a greater quantity of output, or using existing resources more creatively to produce higher quality or more valuable goods".

In fisheries where economic signals to operators are poor (traditionally input controlled fisheries) there is little or no incentive for resources to flow to those who value them the highest. Management arrangements have often "locked in" resources. The result is frequently excess fishing capacity, over capitalisation and poor or no profitability. In the past this has commonly been due to a management approach based primarily on the science of the resource, with little or no regard to the economic signals which management arrangements sent to fishers.

In some jurisdictions there have been structural adjustment schemes aimed at addressing excess effort and overcapitalisation, followed by the implementation of management measures that provide better economic signals to operators. As governments (and their agencies) have been largely responsible for this problem (issuing too many licenses, setting catch limits that are too high, not allocating quota) it has been generally considered that governments (taxpayers) should pay to correct the problem. However, where this has occurred there has often been a lack of defined targets (how much effort or capital was to be removed) and a lack of transparency as to how taxpayer's funds had been used.

As a general proposition we support the need for further reductions in effort and improvements in the economic signals provide to commercial operators. This will not only hopefully improve the profitability of the remaining operators, but should also have beneficial environmental outcomes. However, where taxpayer's funds are used to achieve this outcome it is vital that clear targets are set and there is full transparency in the use of these funds.

Co-management

We are supportive of the concept of co-management but suspect in practice there will be very limited scope for its adoption. In theory it is very attractive as it promotes the "ownership and custodianship" of the resource and the ecosystem which supports them. However we wonder if it is realistic to think that a complete devolution of responsibility to the fisheries sector can work.

We believe there are a range of potential co-management models - ranging from ensuring all key stakeholders are involved in considering management issues and providing input to decisions, to devolving responsibility for the management of the resource and ecosystem against agreed targets and outcomes to a group or groups. In this latter form we believe there are very few fisheries or sectors where this could be applied. A key issue is that as the fishing sector is accessing a community owned resource, checks and balances are needed to ensure appropriate standards are set and that these are met. Therefore the system must still include some form of independent scrutiny, reporting and auditing of the management arrangements and its success or otherwise.

Innovation and productivity

We support changes that will encourage innovation and productivity improvements, but these must be within the context of ecosystem-based management, which has ecological considerations at its core. We see scope for improvements in the delivery of key services to the fishing industry. Some of this is already occurring with the sharing of VMS providers and the commensurate potential for cost savings. The use of a common licensing platform, e-logs; e-monitoring and where they are in use electronic reporting by observers are all areas where improvements in productivity could be made immediately.

Concluding Comments

HSI welcomes this Inquiry and its focus to improve fisheries regulation without compromising fisheries policy and environmental objectives. This is an important yet complex task. Whilst we acknowledge that removing unnecessary and unproductive regulation is an important policy of the Government, we do not want to see fundamental environmental requirements which underpin contemporary fisheries management undermined or diluted. We hope that in this submission we have been able to adequately describe the important elements which will help achieve these outcomes.

Should you require further input or clarification in relation to this submission please feel free to contact Alexia Wellbelove, Senior Program Manager

Yours sincerely

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