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§ July 2017

Mr Gordon Nell Assistant Secretary Fisheries Branch Sustainable Agriculture, Fisheries and Forestry Division Department of Agriculture and Water Resources GPO Box 858 CANBERRA CITY ACT 2601

Dear Mr Neil

Public comment on the Commonwealth Fisherles Bycatch Policy

On behalf of AFMA's Management Advisory Committees (MACs), Resource Assessment Groups (RAGs) and Protected Zone Joint Authority (PZJA) fora, I would like to thank you for the opportunity to comment on the draft Commonwealth Fisheries Bycatch Policy.

Comments have been received from Torres Strait Prawn Management Advisory Committee, Northern Prawn Fishery Resource Assessment Group, Southern and Eastern Scalefish and Shark Fishery South East Resource Assessment Group, Sub-Antarctic Fisheries Management Advisory Committee and PZJA consultative fora. Please note that some industry associations (e.g. Tuna Australia) represented on the MACs and RAGs may have chosen to provide comment directly to your department. I note that there were some overlaps between issues raised through the MACs/RAGs comments and through the stakeholder workshop held at AFMA on 22 June 2017. The comments have several key themes which have been summarised below. Detailed remarks are provided in Attachment 1.

Comments from MACs, RAGs and PZJA fora:

- 1. Clarification was requested for:
 - the definition of bycatch and the variability among different contexts (e.g. Harvest Strategy Policy, Bycatch Policy, Marine Stewardship Council).
- 2. There was concern regarding:
 - bycatch is still counted even if released through bycatch reduction device

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- cryptic interactions are difficult to account for
- no contribution by recreational or indigenous fishers to management costs despite their impact on bycatch and overall mortality
- definition of bycatch in terms of "physical interaction" and "no contribution to economic value of fishery" are too restrictive
- there is no reporting of protected species interactions by recreational and indigenous fishers despite this being a legal requirement.
- 3. The policy should consider:
 - treating species of special interest to indigenous communities as a separate grouping.

We look forward to continuing work with the Department in the development of the Commonwealth Fisheries Bycatch Policy, including taking into account the issues raised at the stakeholder workshop on 22 June 2017 and issues raised by the MACs and RAGs.

Further, the AFMA Commission requests that the draft policy is made available to it after all submissions have been addressed. The Commission also has a strong preference that the Policies and Guidelines be released together given that both are required for AFMA to implement them, and they need to work together.

Should you wish to discuss this matter further please contact me on (02) 6225 5526.

Yours sincerely

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George Day Acting Executive Manager Fisheries

Attachment 1 - Comments on draft Commonwealth Bycatch Policy from:

- 1. Northern Prawn Fishery Resource Assessment Group (NPRAG)
- 2. Protected Zone Joint Authority fora (PZJA)
- 3. Torres Strait Prawn Management Advisory Committee (TSPMAC)
- 4. Martin Exel Sub-Antarctic Fisheries Management Advisory Committee (SouthMAC)
- 5. Sandy Morison SESS Fishery South East Resource Assessment Group (SERAG)

NPFRAC comments to Commonwealth Bycatch Policy

- The definition of Bycatch is very different to the globally accepted definition. The MSC do not define Bycatch in such broad terms. Using the term interaction means that animals that aren't brought on to a boat are considered bycatch. Theoretically, an animal that swims through a net and touches the ropes could be considered bycatch. It is hard to mitigate against those sorts of interactions. In addition, the current definition means that the work that has been conducted by industry in implementing TED's and BRDs, counts for nothing as an animal that is successfully released by the use of a TED or BRD is still considered bycatch.
- Cryptic Interactions (including mortality and non-mortality) are practically impossible to identify, measure or mitigate against, as by their nature, they are unknown. Including cryptic interactions has implications for the criteria in section 3 including monitoring and reporting, which would be impractical and expensive to address for cryptic interactions. This is inconsistent with paragraph four of the introduction which states "The Guidelines will support a practicable and consistent application of the policy across Commonwealth fisherles". Including this definition would make it practically impossible for fisheries to meeting this requirement and would be setting the fisheries up for failure.
- In Section 1 Introduction, there is reference to recreational and indigenous fishers having an impact on bycatch, yet there is no onus on these sectors to contribute to the cost of or management responses. This places sole responsibility for data collection, management and associated costs of bycatch management on the commercial fishing industry. Furthermore, section 3.5 Addressing cumulative impacts, states that "assessment and management of bycatch species should account for all sources of mortality" but only appears to consider cumulative impacts from commercial fishing activity.



Protected Zone Joint Authority (PZJA) consultative forum¹ submission: Consultation on the revised Commonwealth Fisheries Harvest Strategy Policy and the Commonwealth Fisheries Bycatch Policy.

General Comment

The time provided to comment on the draft policies under the public consultation period was not sufficient to engage key Torres Strait fisheries stakeholders and compile a comprehensive account of the views from PZJA consultative fora. AFMA has made its best efforts to engage PZJA consultative forum members and facilitate meaningful feedback in the limited time available, however the comments provided in this submission have not included a full representation from PZJA forums or of key stakeholders.

Commonwealth Fisheries Harvest Strategy Policy

- 1. Clarification was sought on how the policy applies to Torres Strait fisheries noting the different arrangements to Commonwealth fisheries (i.e. Under *Torres Strait Fisheries Act 1985* and *Torres Strait Treaty 1985*, and native title implications). It was explained that that the policy is widely regarded as best practice and while not directly applying to the Torres Strait fisheries its guiding principles are to be used for developing harvest strategies. Furthermore, it was noted that the policy states *"Where overlap between domestic jurisdictional management exists (e.g. fisheries that are managed jointly by the Commonwealth and other Australian jurisdictions) the Commonwealth will seek to apply and encourage the adoption of this policy in negotiating and implementing joint or cooperative management arrangements"*, and that the PZJA supports this approach.
- 2. MEY and B_{MEY}:
 - that the proxy target reference points of "0.48 of unfished biomass or 1.2 of biomass at maximum sustainable yield" may not, on average, be appropriate in achieving a target biomass equal to the stock size required to produce maximum economic yield (MEY) for a number of key fish stocks (see specific comments/questions in Attachment 1);
 - the policy deals inadequately with highly variable stocks (For example, for these (highly variable) stocks the concept of trying to maintain the stock on average at the B_{MEY} level may not be achievable or desirable); and
 - the policy doesn't capture the complexities of MEY as being a moving target and the influence of factors other than stock size. MEY calculations take into account many fast changing factors including fuel prices, stock prices, exchange rates etc., but the policy seems to mainly focus on stock size. It would be useful to provide more detail around this.
- 3. MEY and socio-cultural factors:
 - while MEY is important, in the context of Torres Strait fisheries other cultural and social factors may be just as, if not more, important than maximising economic yield; and
 - there is no mention of the need to consider socio-cultural factors and these are important in terms of advancing a true ecosystem approach to fisheries which also considers fishers, plus they may be levers necessary to achieve buy-in, compliance and/or capacity for optimal utilisation. Hence the objective to maintain key commercial fish stocks at the BMEY level could be modified to allow for other important social and cultural considerations.

¹ PZJA (Torres Strait Fisheries) consultative forums include Finfish, Hand Collectables and Tropical Rock Lobster working groups, Finfish and Tropical Rock Lobster resource assessment groups, Torres Strait Prawn Management Advisory Committee and Torres Strait Scientific Advisory Committee.

- 4. Under section 3.2, it is unclear if "known sources of fishing mortality" means that if there is some data or information on likely levels of catch by sectors such as recreational or indigenous fishers, or if it is known that other groups access the resource, then this is considered 'known' and needs to be included in a harvest strategy even when there is no data to inform on estimates or the estimates are considered small relative to other sources of mortality.
- 5. While cryptic mortality is not common within Torres Strait fisheries it may occur, however current management resources/tools are not adequate to account for such parameters as prescribed under the policy.
- 6. The introduction of the risk, cost, catch provision is a positive inclusion. Many small fisheries sometimes base decisions around the current effort levels in the fishery and reduced risks associated with that. The policy may however want to consider an endpoint to this. Will there be a maximum number of years a fishery would go without more stringent management rules (such as a harvest strategy for more species) before the risk becomes too high? How would this be established?
- 7. Clarification is required around which species will require a harvest strategy in the 'byproduct' category. What level of catch would be required to necessitate a harvest strategy? What about basket species?
- 8. The policy does not provide advice on dealing with stocks that overlap with fisheries of adjacent countries and where there are international obligations such as in the Torres Strait where PNG fishers can access the resource (it was noted that this is out of scope for this policy and such arrangements are dealt with in other international policies).

- 1. Overall the PZJA forums supported the revised Commonwealth Fisheries Bycatch Policy in its current form and view it as a well-regarded and best practice guide for managing bycatch.
- 2. It was noted that for most Torres Strait fisheries (i.e. tropical rock lobster, finfish, Beche-de-mer, pearl shell and trochus that are individually harvested either by hand or line methods) levels of bycatch are generally perceived to be negligible.
- 3. The Torres Strait Prawn Management Advisory Committee (TSPMAC) made the following comments in relation to the policy's application to the Torres Strait Prawn Fishery (TSPF) where bycatch is more relevant than other Torres Strait fisheries:
 - including species of interest (for traditional purposes) to indigenous communities as another grouping should be considered. The TSPF industry collect data on a small number of species of interest to the indigenous sector through its scientific observer program. If catches of these species is significant it is discussed with indigenous stakeholders through the TSPMAC. This is an initiative by the TSPMAC, however It may be worthwhile introducing this more broadly for other Australian fisheries through the bycatch policy;
 - o bycatch definition:
 - the current definition of bycatch (in Table 1) stating "no contribution to the economic value of the fishery" is too rigid. Providing some flexibility (i.e. minimal value), will improve the definition otherwise bycatch that provides a trivial financial return will fall in the category of byproduct and require a harvest strategy;
 - the definition of bycatch that includes the term "physical interaction" is very restrictive.
 A requirement to report and minimise any contact with a species would be virtually impossible and may not provide the benefit the policy is seeking; and
 - the discussion around addressing cumulative impacts is good, however it would be very difficult to consider the impacts of recreational or traditional fishers where there are no reporting requirements for these stakeholders, and thus little or no data available.

PZJA consultative forum submission: specific questions and comments

Re: Proxy B_{MEY}

Question: What is the 'best practise' for the default ratio?

Notes: Current application target biomass = 0.4880 may not achieve for a number of key fish stocks, on average, a target biomass equal to the stock size required to produce maximum economic yield; How many AFMA fisheries have high cost share ratios? Should the target B_{MEY} be set appropriately for each category of fishery (low cost, medium cost, high cost)?

For the Torres Strait, the social aspect of ensuring healthy fish stocks and catch rates for islanders is not discussed. Comment on the triple bottom line and indigenous/local needs is required.

For Bum, Sainsbury 2008 suggest a safer Bum = 0.3B₀.

It should be noted that F_{MSY} is actually recommended as a limit reference point (FAO).

Current proxy: 0.48 of unfished biomass or 1.2 times the biomass at maximum sustainable yield (review and update if necessary: BMEY/BMSY).

From Pascoe et al 2014:

More appropriate "default" proxy values for BMEY may be 1.3–1.4 times BMSY. Similarly, it might be expected that optimal effort levels are most likely to fall between 55% and 65% of those at MSY.

These values were likely based on the symmetric surplus production theory of $B_{MSY} \approx 0.5B_0$ (Zhou et al., 2013; Pascoe et al., 2014).

For non-symmetric dynamics where BMSY \sim 0.35–0.4 B0, what are the appropriate proxy values for BMEY/BMSY? Are they higher? E.g. 1.4–1.5 x 0.4 = 0.56–0.6 B₀.

Depending on the cost share of revenue, this is in line with the symmetric 1.2–1.5 ratios suggested by Zhou et al. (2013) and Pascoe et al. (2014); where their model BMSY = B50%.

Ramifications:

Note that State jurisdictions and other agencies may follow the Australian Government reference points. It is critical to ensure they are up-to-date and sound. If incorrect and followed, the error may flow through to other fisheries. Correct guidance is sought.

References (enclosed):

Pascoe, S., Thebaud, O., and Vieira, S. 2014. Estimating Proxy Economic Target Reference Points in Data-Poor Single-Species Fisheries. Marine and Coastal Fisheries, 6: 247-259.

Zhou, S., Pascoe, S., Dowling, N., Haddon, M., Klaer, N., Larcombe, J., Smith, A. D. M., et al. 2013. *Quantitatively defining biological and economic reference points in data poor fisheries*. Final report on FRDC project 2010/044. Canberra, Australia. 306 pp.

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Comments from:

Martin Exel - Sub-Antarctic Fisheries Management Advisory Committee (SouthMAC)



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Commonwealth Fisheries Bycatch Policy

DRAFT for Consultation: March 2017

The Commonwealth Fisheries Bycatch Policy provides a framework for managing the risk of fishing related impacts on bycatch species in Commonwealth fisheries.





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Department of Agriculture and Water Resources. Postal address GPO Box 858 Canberra ACT 2601 Telephone 1800 900 090 Web <u>agriculture.gov.au</u>

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1 Introduction

All food production activities have some level of impact on the environment. For commercial fishing, one of the most direct and visible impacts from the harvest of commercial species is the unintentional catch of species not retained—known as 'bycatch'. Bycatch occurs in many fisheries in Australia and internationally, and is in many cases unavoidable. However, bycatch can be minimised, or for some species even completely avoided, through the application of a range of management and mitigation measures. Left unmanaged, bycatch may have a detrimental impact on the marine environment and populations of marine species. Excessive bycatch can be wasteful and also diminish the efficiency of commercial fishing, with related costs in terms of expenditure of time, resources and effort. The ecological and economic impacts of fisheries bycatch are an important consideration in Commonwealth fisheries management.

The Commonwealth Fisheries Bycatch Policy (the Bycatch Policy) provides the basis for a transparent and systematic approach for the assessment, management, monitoring and reporting of fisheries bycatch in Commonwealth Fisheries. The Guidelines for the Implementation of the Commonwealth Fisheries Bycatch Policy (the Guidelines) accompany this policy to provide practical assistance on the effective implementation of the objectives and concepts described. The Guidelines are intended to ensure that bycatch management in Commonwealth fisheries is cost-effective and practical, and most importantly transparent to the Australian community. A comprehensive legislative framework, which includes the Fisheries Management Act 1991, Fisheries Administration Act 1991 and the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), underpin the Bycatch Policy.

The Bycatch Policy, together with the *Commonwealth Fisheries Harvest Strategy Policy* (the Harvest Strategy Policy), the *Guidelines for the Ecologically Sustainable Management of Fisheries* and the *Commonwealth Fisheries Policy*, provides the basis to manage the risk to all species impacted by the commercial harvest of Commonwealth fisheries resources. Further policy and technical work will be required to explicitly address ecosystem impacts from commercial fishing, including on habitats and ecological communities. In the interim, these impacts will continue to be considered and reported through the Commonwealth's ecological risk assessment and ecological risk management frameworks.

Since the release of the first Commonwealth bycatch policy in 2000, there has been considerable progress made in the research, development and implementation of bycatch mitigation and management measures. The revised Bycatch Policy is a positive next step to ensuring a comprehensive and transparent management framework. The Guidelines will support a practicable and consistent application of the policy across Commonwealth fisheries, to provide a more certain operating environment for the Commonwealth commercial fishing industry and also continue to provide the community with confidence that Commonwealth fisheries and their impacts on the broader marine environment are well managed.



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Other fishing sectors also impact on bycatch populations. This includes recreational fishers who may impact on marine wildlife populations or interact with species categorised as bycatch by commercial fishers, or the interaction of Indigenous customary fishing with species otherwise considered as bycatch or prohibited from take by commercial fishers under environment legislation. Both sectors are subject to the management of state and northern territory jurisdictions (or the Torres Stralt Protected Zone Joint Authority), undertaken through both education programmes and regulations. These sectors are not a focus of the Bycatch Policy although they can have bycatch impacts. Where appropriate, the Commonwealth may look to engage with these sectors on bycatch management.

1.1 What is bycatch?

Commercial fishing may result in unintended catch or interaction with species that are not retained for sale or are not able to be sold (non-commercial). 'Bycatch' is released or discarded, except where it is retained for monitoring or research purposes. Bycatch includes species of fish, invertebrates, benthic species such as corals and sponges. It may also include marine wildlife, such as birds, manimals and reptiles. The species composition of bycatch and the level and frequency of interactions in each fishery are influenced by a variety of factory, including fishing method, season, duration of fishing, time of day when fishing occurs, and area fished.

In Commonwealth fisheries, bycatch is defined as:

Species that physically interact with fishing vessels and/or fishing gear which are not usually retained by commercial fishers and do not make a contribution to the economic value of the fishery.

Where:

Interact(ion) includes any physical contact with a species and includes all catches (for example, hooked, netted, entangled), and collisions with these species.

'Not usually retained' applies fishery-by-fishery, based on catch history and landing data.

Bycatch is often characterised by low data availability. There are more than 2,000 species categorised as bycatch across Commonwealth fisheries and many aspects of the biology of these species, such as their range, life cycle and population size remain uncertain or unknown. Reporting of fisheries bycatch can be inconsistent, often due to at-sea difficulties in assessing caught volumes and species composition of unwanted catch prior to returning to the sea and the inability to cross reference reported bycatch against landed catch (as possible for commercial species). Cryptic mortality— components of fishing mortality that are not readily detectable—also occurs. Examples include: interactions that occur underwater but where individuals are not landed onto vessels; individuals which are caught in fishing gear and released, but later die as a result of injuries sustained, or mortality that goes undetected due to the difficulty in observing the interaction—such as seabirds failing into the water after striking a trawl cable. Low data availability is presents significant challenges to the effective

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Commented [ME1]: This definition is unacceptable. Bycatch is something that is caught at same time as fishing. Should revert to just "...species which are not usually..."

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management of fisheries bycatch. These limitations are taken into consideration when seeking to apply cost-effective and practical arrangements to minimise the ecological impact of fishing.

1.2 Scope

The Bycatch Policy applies in Commonwealth fisheries managed by the Australian Fisheries Management Authority. The government is bound by all international treaties and arrangements that Australia has ratified or acceded to. The government (including the Australian Fisheries Management Authority) must implement decisions taken by all relevant regional fisheries management organisations and other international arrangements that Australia is a party to, except where Australia has made a permissible reservation in relation to the decision. Through these forums, Australia will continue to pursue the adoption of bycatch measures that are consistent with this Policy and domestic management.

This policy also applies to Australian boats managed by the Australian Fisheries Management Authority operating outside the Australian Fishing Zone. Where a Regional Fisheries Management Organisation or other international agreement to which Australia is a party is in force, the Bycatch Policy applies to Australian boats in addition to any requirements of that organisation or agreement.

Where overlap between jurisdictional responsibilities exists (for example, fisheries that are managed jointly by the Commonwealth and other Australian jurisdictions) the Commonwealth will seek to apply and encourage the adoption of this policy in negotiating and implementing joint management arrangements. This includes in the Torres Strait Protected Zone, recognising the management of commercial and traditional fishing is governed by the provisions of the Torres Strait Treaty and the *Torres Strait Fisheries Act 1984*¹.

Management of recreational fishing primarily resides with the states and territories. Along with commercial operators, recreational fishers have legislative obligations with respect to reporting interactions with EPBC listed species. Further recreational fishers have public accountability for the sustainability of their fishing activities, including in respect of bycatch. The National Code of Practice for recreational fishing promotes socially responsible fishing, including catch and keep or release—only taking what is needed, minimising interactions with the fishing environment and playing a stewardship role in protecting fisheries resources and habitats.

Commercial species harvested in Commonwealth fisheries—including key commercial, secondary commercial and byproduct stocks—are managed under the Harvest Strategy Policy. This includes discards of commercial species.

¹ Fisheries in the Torres Strait are managed on behalf of the Protected Zone Joint Authority by AFMA, the Queensiand Department of Agriculture Fisheries and Forestry and the Torres Strait Regional Anthority. Department of Agriculture and Water Resources

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2 Objectives and Key Principles

The objective of the Bycatch Policy is to minimise fishing-related impacts on bycatch species—in a manner consistent with the principles of ecologically sustainable development and with regard to the structure, productivity, function and biological diversity of the ecosystem.

To achieve this objective the Commonwealth will:

- draw on best-practice approaches to avoid or minimise bycatch, and minimise the mortality of bycatch that cannot be avoided
- manage fishing-related impacts on bycatch species to ensure that populations (i.e. discrete biological stocks) are not depleted below a level where the risk of recruitment failure is regarded as unacceptably high
- where fishing-related impacts have caused a bycatch population to fall below this limit, management arrangements must be implemented to support those populations to rebuild to biomass levels above that limit.

Key principles are that by catch populations should not be exposed to unacceptable risk, and assessment and management decisions must take into consideration the best available science, evidence and information as well as the risk a population faces from fishing across its range. The risk of long-term recruitment failure for by catch species (as a consequence of fishing mortalities) must not be greater than that for commercial species as prescribed in the Harvest Strategy Policy.

Bycatch management should be practicable and cost-effective, while reporting, monitoring and performance evaluation should be central considerations. All efforts for managing bycatch should align with Australia's international obligations, such as those established by international treasty or under the United Nations Convention on the Law of the Sea, the United Nations Fish Stocks Agreement and the United Nations Food and Agriculture Organization Code of Conduct for Responsible Fisheries.



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3 Applying the Bycatch Policy

The following framework provides the basis for a transparent and systematic approach for the assessment, management, monitoring and reporting of fisheries bycatch to assist in meeting the objectives of the Bycatch Policy.

3.1 Species categorisation

The policy framework for Commonwealth fisheries categorises species as key commercial, secondary commercial, hyproduct, general hycatch or protected. Species are categorised based on the frequency of retention by fishers and their contribution to the economic value to a fishery (on a fishery-by-fishery basis). Commercial species in one fishery or sector may be considered as non-commercial species in another. However, only one of the Bycatch Policy or Harvest Strategy Policy applies to an individual species in a fishery at any point in time. Table 1 summarises the definitions of each species category as well as a summary of the policy objectives and management settings for each category.

Depending on factors such as consumer demand, changing cost structures, regulations, technology and conservation status, species may transition between categories. It is not intended that species frequently move back and forth between being managed under bycatch and harvest strategy policies. Decision rules for species categorisation, including transitioning of species between categories will form part of the Guidelines developed to support this policy.

Species categorisation within fisheries, transitioning of species between categories and grouping of species for categorisation purposes will be documented and made publicly available.

3.1.1 General bycatch

General bycatch species are all species considered bycatch in a fishery which are not protected by the *Environment Protection and Biodiversity Conservation Act 1999*. The large variation of species in this category will call for a range of methods in assessment and management approaches, and species-grouping may assist in this regard. *General bycatch* are not managed to a target reference but above a limit reference point with management seeking to achieve the objectives of this policy.

3.1.2 Protected

Protected species are managed separately to other bycatch species, due to their status under Australia's national environment legislation. Specifically, protected species comprises all those protected under Part 13 of the *Environment Protection and Biodiversity Conservation Act 1999*, including whales and other cetaceans and listed threatened, marine and migratory species (except for conservation dependent species which are managed through rebuilding strategies under the Harvest Strategy Policy).

Under Part 13, it is an offence to harm *protected* species, other than conservation dependent species, in Commonwealth waters unless fishers have a permit or the



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management arrangements for the fishery are accredited by the Environment Minister. Management arrangements can be accredited if the minister is satisfied that:

- those management arrangements require individual fishers to take all reasonable steps to avoid harming protected species, including marine mammals; and
- the fishery does not, or is not likely to, adversely affect the conservation status of protected species or affect the survival and recovery of listed threatened species.

Bycatch management will seek to achieve the objectives of this policy, in addition to the legislative requirements above. It will also give priority to the implementation of relevant rebuilding strategies, recovery plans or threat abatement plans. Noting there are a range of levels of threatened listings for species (including vulnerable, endangered, critically endangered, or conservation dependent) management responses should be in proportion to the risk fishing poses to the species, taking into consideration its conservation status and subject to the legislative requirements listed above.

Table 1: Species categories – policy and management settings

	Harvest Strategy	Policy (Commercial)		Bycatch Policy (Non-commercial)	
Category	Key commercial	Secondary commercial	Byproduct	General bycatch	Protected
Definition	A species that is targeted and is usually retained	A species that is usually retained	A species that is occasionally retained May include species that are rare and usually retained through to species that are frequently encountered but rarely retained	A species that is not usually retained	A species listed under Part 13 of the BPBC Act (excluding listing as conservation dependent).
	Significant contribution to value of the fishery.	Some contribution to the value of the fishery	Minor contribution to the value of the fishery	No contribution to the economic value of the fishery.	
Policy	Sustainable and profitable use of Australia's Commonwealth commercial			Minimise fishing-related impacts on bycatch species—in a manner	
objective	fisheries resources through the implementation of harvest strategies that			consistent with the principles of ecologically sustainable	
	both maintain com	mercial fisheries at ecological	ly sustainable levels and	development and with regard t	o the structure, productivity,
maximuse economic returns to the Australian community from the resource		mmunity from the use of the	function and biological diversit	y of the ecosystem	
Target	BMEY	B _{MN} , or an alternative target to achieve B _{MN} for the fishery	Not managed to a target as by definition byproduct species make a minor contribution to the fishery	Draw on best-practice approaches to avoid or minimise bycatch, and minimise the mortality of bycatch that cannot be avoided	Knsure fishing operations take all reasonable steps to avoid the mortality of, or injury to, protected species recognising that there may be a need to recover populations of species insted in these categories.
Limit	Romain above a bis	mass level where the ecologi	cal risk to the stock is	Manage fishing-related	Consistent with the requirements
reference	regarded as unacce	ptable at least 90 per cent of	the time or 'with a high	impacts on bycatch species to	of the EPBC Act a limit reference
point	degree of confiden	ce'		ensure that populations (i.e. discrete biological stocks) are not depleted below a level where the risk of recruitment	point is not set

	Harvest Strategy Policy (Commercial)			Bycatch Policy (Non-commercial)	
Category	Key commercial	Secondary commercial	Byproduct	General bycatch	Protected
				failure is regarded as	
				unacceptably high.	
Discarding	minimise	minimise discarding	minimise discarding	ig By definition these categories are discarded however the	
	discarding			overriding objective of the byca	tch policy is to minimuse impacts
		<u>}</u>		on bycatch populations.	

3.2 Applying a risk-based framework

The Bycatch Policy applies a risk-based approach to the assessment and management of fishing impacts on bycatch populations. Risk-based approaches recognise that decisions need to be taken in the absence of perfect information by using what evidence is available, ecological theory and experience with analogous situations to arrive at a risk-ranking for species or species groups. This approach is considered appropriate given the significant limitations in the available information on bycatch populations and the sometimes prohibitive cost in obtaining this information. It also reflects the large variation in the biological attributes of bycatch species and the variation in the availability of data on these attributes, and the substantial variation across Commonwealth fisheries, in terms of the intensity of fishing, levels of interactions and selectivity of fishing gear. This approach seeks to achieve the objective of this policy to minimise fishing-related impacts on bycatch species while providing for flexibility to regulators and industry.

Assessment processes will identify potential risks to bycatch species and undertake screening and further assessment where risk is identified as high. Management responses will use an increased level of caution in association with increasing levels of uncertainty about population status and be proportionate to the risk-rankings of species. This includes taking into account the precision and accuracy of any assessments undertaken and the application of the precautionary principle.

3.3 Risk equivalency

The Bycatch Policy seeks to ensure the sustainability of a bycatch population is not subject to unacceptable risk by the harvesting of commercial species. This is achieved by applying an equivalent limit reference point to bycatch species as applied for commercial species managed under the Harvest Strategy Policy. That is, for bycatch populations, to maintain above a limit where the risk of recruitment failure is regarded as not unacceptably high. Populations should be maintained above a limit where they are not depleted to a level that results in long-term recruitment failure. The risk to a bycatch population beyond this limit must not be traded-off for other considerations in the management of the fishery. Where there is evidence a bycatch population has failen below the limit reference point, due to the effects of fishing there is a need to manage and support recovery of these species and implement appropriate data collection and reporting arrangements that support that recovery.

There can be substantial differences in data quality and quantity among species impacted by fishing, and bycatch species are inherently data-poor in comparison to commercially harvested species. Consequently, the quality and type of assessments can also vary substantially. Because biomass measures of a bycatch population will often not be known, consideration should be given to the use of alternative reference points based on other measurements, such as the known level of fishing mortality on a population. Biological characteristics of the species in question informs the appropriate biomass or fishing-mortality based reference point to manage the risk to a population.

3.4 Balancing risk, cost and catch

Bycatch management should seek to ensure the risk to a bycatch species remains acceptable while minimising management costs related to fishing mortality. The management decision to be taken in this context is whether investment of more resources in bycatch mitigation, data collection and analyses will provide confidence in the sustainability of a higher level of

commercial fishing pressure. This concept is often referred to as the risk, cost, catch trade-off. The decision to continue fishing in its current form should be weighed against the benefits from implementing additional or improved management arrangements and mitigation measures. Where there is evidence of an adverse impact on a population but there is little data about the species and its resilience to fishing pressure, fishing mortality through fishing effort should be constrained to levels at which expert advice and technical assessment supports a conclusion that the species is not exposed to unacceptable risk.

Decisions made in reference to the risk, cost, catch trads-off are likely to be iterative, but they should be clearly documented and publicly available. Belancing commercial considerations against the risk to bycatch populations does not change the legislative requirements for managing fishing interactions with *protected* species. At all times, fishing operations must take all reasonable steps to avoid the mortality of, or injury to, *protected* species.

3.5 Addressing cumulative impacts

The assessment and management of bycatch species should account for all sources of mortality on the population of that species.

Where all fishing on a designated bycatch population occurs within Commonwealth fisheries managed by the Australian Fisheries Management Authority, the Australian Government must ensure that the population is not exposed to unacceptable risk from that fishing.

Consideration to the conservation status of bycetch species and the known threats, including mortalities that species may face across their range. Such threats may arise from influences such as climate change or regime shift, noting that the Australian Fisheries Management Authority is only expected to manage mortalities within their jurisdiction.

Where bycatch taken in a fishery managed by the Australian Fisheries Management Authority is caught from the same population as in a fishery managed by another jurisdiction, the Commonwealth should work with that jurisdiction on the assessment and management of the cumulative impact of all fishing on that population. Where cooperative arrangements cannot be agreed with other jurisdictions the risk of adverse impacts in Commonwealth fisheries should be minimised, particularly for species that are known to be taken predominantly in or primarily impacted by Commonwealth fisheries. In this context, it is acknowledged that no management agency can be held responsible for the level of fishing mortality occurring within another jurisdiction.

3.6 The management toolbox

A range of management and mitigation tools can be used to avoid and minimise interactions with bycatch, and to reduce the risk to bycatch populations. These encompass both input and output controls on the take of species and can include catch restrictions or triggers, spatial and temporal closures, gear restrictions, mandated use of mitigation devices, incentives for fisher behaviour change and individual accountability through escalating management responses. Bycatch management should consider opportunities for applying quantitative approaches, such as decision rules based on indicators such as catch rates and trigger limits. This approach can increase the transparency and predictability or certainty of fisheries management decisions by identifying consequential management responses to mortality levels.

Incentives for bycatch reduction and individual accountability approaches are appropriate for allowing fishers to play an active role in finding solutions to bycatch management issues in a practical, effective and cost-efficient manner. For example, improved gear selectivity may lead to increased quality of retained product and higher market prices for fishers while reducing the impact on bycatch species. Industry-driven codes of practice, voluntary guidelines and standards of behaviour should be encouraged to, in some instances, allow for reduced cost and intervention by the government under a cost-recovery framework. Improving the capacity of industry to self-regulate for changed fisher behaviour is important for the sustainable management of fisheries resources and reducing unintended detrimental impacts on the marine environment.

3.7 Data collection, reporting and monitoring

Bycatch management benefits from increased knowledge of fishing imparts on bycatch populations and the efficacy of mitigation and management measures. Data collection, reporting and monitoring arrangements are encouraged to be consistent across fisheries and appropriate to support the effective implementation of the Bycatch Policy. Logbooks, vessel monitoring systems, on-board human observers and electronic monitoring are all tools that support an effective reporting and monitoring framework. Information collected should be commensurate with risk, available data quality and identified priority populations. It should also be sufficient to support undertaking risk assessments and informing the development of management options, monitoring identified indicators and industry compliance with management measures, as well as designed to enable assessment of the efficacy of management measures. Decisions around data collection and monitoring need to also consider risk, cost, catch principles and data collection requirements for achieving other fishery management objectives. Data collection, reporting and monitoring requirements for interactions with *protected* species should meet and be guided by legislative requirements in the first instance.

3.8 Performance monitoring and evaluation

Performance of bycatch management in Commonwealth fisheries should be monitored and evaluated on a regular basis and reported publicly. This is an important element of best practice management and is essential in providing transparency and accountability of Commonwealth fisheries management. Consideration will be given to performance indicators in relation to the ecological status of bycatch populations, the efficacy of mitigation and management measures, levels of industry compliance, catch levels and interaction rates or changes in ecological risk levels. Evaluation will use available evidence to report against indicators, reference points, and other benchmarking measures described in the Guidelines, as well as against the objectives of this policy.

4 Implementation and Review

4.1 Implementation guidelines

Management of bycatch species should be transparent and accountable to the community. The *Guidelines for the Implementation of the Commonwealth Pisheries Bycatch Policy* provides advice to assist in the interpretation and practical application of this policy and is intended to support bycatch management across the full suite of Commonwealth fisheries. The Guidelines will outline a range of assessment methodologies, management tools, reference points and standards to provide a transparent and systematic approach for the assessment, management and monitoring of fisheries bycatch.

4.2 Bycatch strategies

The Australian Fisheries Management Authority will develop by catch strategies that detail the implementation of this policy in Commonwealth fisheries and outline actions taken in achieving the objectives of the Bycatch Policy. Bycatch strategies may form a component of broader fisheries management strategies but will deal specifically with bycatch management actions. They will be developed in consultation with relevant stakeholders, be publicly available and regularly reviewed in response to fishing intensity changes or new knowledge of impacts on bycatch species emerges.

Bycatch strategies may be fishery, sector, or species-specific. At a minimum, these documents will detail:

- the species, or groups of species, of relevance
- the assessment methodology and results for each species, or groups of species, including specific detail on why particular assessment approaches were taken
- consideration of cumulative impacts on bycatch populations
- management responses for areas of identified risk, including relevant reference points, triggers or decision rules
- data collection, reporting and monitoring processes and minimum requirements that support the assessment, monitoring and management of bycatth
- the performance indicators that will measure achievement against the objectives of the policy
- performance and evaluation processes and outcomes.

4.3 Roles and responsibilities

The key Commonwealth agencies involved in bycatch management in Commonwealth fisheries are the Department of Agriculture and Water Resources, the Australian Fisheries Management Authority and the Department of the Environment and Energy. The fisheries and environment ministers provide oversight of their respective agencies and administration of legislation.

The Department of Agriculture and Water Resources oversees the implementation of the Bycatch Folicy by the Australian Fisheries Management Authority and working with the Department of the Environment and Energy on implementing environment legislation and

policy to ensure the long-term sustainability, productivity and competitiveness of Commonwealth fisheries. It also provides coordination of national and international actions on fisheries bycatch issues to ensure consistency with the Bycatch Policy.

The Australian Fisheries Management Authority is the lead agency for implementing bycatch management in Commonwealth fisheries—this includes the development of bycatch strategies, providing fisher reported interactions with *protected* species and other aspects of fisheries management to the Department of the Environment and Energy and overseeing day-to-day management actions. Advisory bodies administered by the Australian Fisheries Management Authority, may include dedicated consideration of bycatch matters.

The Department of the Bavironment and Energy is responsible for administering the requirements of the Environment Protection and Biodiversity Conservation Act 1999. This includes assessment of fisheries against the Australian Government Guidelines for the Ecologically Sustainable Management of Fisheries, including an assessment of the impacts of Commonwealth fisheries on protected marine species and communities, and the impacts on bycatch species, to ensure that fisheries are managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem. The department also provides support to the Threatened Species Scientific Committee in its assessments of native species or ecological communities for listing as threatened, and threatening processes for listing as key threatening processes under the Environment Protection and Biodiversity Conservation Act 1999. The department is also responsible for developing and making recovery plans for threatened species and communities and threat abatement plans for key threatening processes.

The Australian Government also encourages the fishing industry to play an active role in bycatch management, through reporting and logbook requirements, developing and implementing codes of practice, supporting research, developing and trialling mitigation devices and undertaking education and outreach within and across industry sectors.

4.4 Reporting and review

The Australian Fisheries Management Authority must report on the implementation of the Bycatch Policy and bycatch strategies annually and as requested by the minister.

The implementation of the Bycatch Policy and the Guidelines, including the extent of the development of bycatch strategies, will be reviewed within two years of the release of this policy. This effectiveness and appropriateness of the Bycatch Policy will be reviewed, including progress on achieving the policies objectives, after five years from its commencement. A report of the review of the Bycatch Policy will be provided to the fisherles and environment ministers.

Glossary and Abbreviations

Australian Fisheries Management Authority (AFMA)	The Australian Government agency responsible for regulating the efficient management and sustainable use of Commonwealth fish resources on behalf of the Australian community.
В	Biomass: total weight of a stock or of a component of a stock; for example, the weight of spawning stock biomass is the combined weight of mature animals.
BLIN	Biomass limit reference point: the point beyond which the risk to the stock is regarded as unacceptably high.
BMEY	Biomass at maximum economic yield: average biomass corresponding to maximum economic yield as estimated from the assessment model applied.
BHEY	Blomass at maximum sustainable yield: average biomass corresponding to maximum sustainable yield.
BTAR	Target biomass: the desired biomass of the stock.
bycatch species	Species that physically interact with fishing vessels and/or fishing gear which are not usually kept by commercial fishers and do not make a contribution to the economic value of the fishery.
byproduct species	Stocks that make a minor contribution to the value of the catch in a fishery. Byproduct species are occasionally retained and landed—ranging from rarely encountered and usually retained, to frequently encountered and rarely retained.
cryptic mortality	components of fishing mortality that are not readily detectable
discards	any part of the catch which is returned to the sea, whether dead or alive
Environment Protection and Biodiversity Conservation Act 1999 (BPBC Act)	Commonwealth Act that provides the legal framework for protecting the environment, including matters of national significance such as World Heritage sites, national heritage places, wetlands of international importance, nationally threatened species and ecological communities, migratory species, Commonwealth marine areas and nuclear actions. Parts 10, 13 and 13A relate specifically to aspects of fisheries.

Fisheries Administration Act 1991 (FA Act)	Commonwealth Act that establishes the Australian Fisheries Management Authority and its Commission.	
Fisheries Management Act 1991 (FM Act)	Commonwealth Act that provides the legal framework for fisheries managed by the Australian Government. The Act sets out, among several things, fisheries management objectives and arrangements for regulating, permitting, and taking enforcement action with respect to, fishing operations.	
Guidelines for the Ecologically Sustainable Management of Fisheries	Outlines the principles and objectives for evaluating the environmental performance of management arrangements for export fisheries and fisheries which operate in Commonwealth waters.	
incidental catch	see non-target	
input control	Management measures that place restraints on who fishes (licence limitations), where they fish (closed areas), when they fish (closed seasons) or how they fish (gear restrictions).	
interaction	includes any physical contact with a species and includes all catches (for example, hooked, netted, entangled), discards and releases and collisions with these species	Commented [ME5]: Don't agree
key commercial species	Stocks that make a significant contribution to the value of the catch in a fishery. They are almost always retained and landed.	
non-target species	any part of the catch, except the target species, and including bycatch and byproduct	
not usually retained	Species caught by fishers but usually discarded. This applies fishery-by-fishery, based on catch history and landing data.	
output control	Management measures that place restrictions on what is caught, including total allowable catch, quota, size limits and species.	
population	A functionally discrete biological stock of a species that is largely distinct from other populations of the same species and may be regarded as a separate entity for management or assessment purposes.	

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:
	 careful evaluation to avoid, wherever practicable, serious or inteversible damage to the environment; and
	 an assessment of the risk-weighted consequences of various options.
protected species	species protected under Part 13 of the EPBC Act, including whales and other cetaceans and listed threatened, marine and migratory species
reference point	an indicator of the level of fishing, or size of a population, used as a benchmark for interpreting the results of an assessment
secondary commercial species	Stocks that make some contribution to the value of the catch in a fishery, but are not the most valuable species caught in a fishery. They are usually retained and landed.
species	members of a species can breed with one another and produce fertile offspring
targeting	fishing selectively for particular species or sizes of fish
target species	the most highly sought component of the catch taken by fishers

Comments from:

Sandy Morison - SESS Fishery South East Resource Assessment Group (SERAG)



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DRAFT Commonwealth Fisheries Bycatch Policy

Commonwealth Fisheries Bycatch Policy

DRAFT for Consultation: March 2017

The Commonwealth Fisheries Bycatch Policy provides a framework for managing the risk of fishing related impacts on bycatch species in Commonwealth fisheries.





Amtrolling Government Reportment of Agriculture and Water Reporters

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Department of Agriculture and Water Resources Postal address GPO Box 858 Camberra ACT 2601 Telephone 1800 900 090 Web agriculture.gov.au

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Acknowledgements



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1 Introduction

All food production activities have some level of impact on the environment. For commercial fishing, one of the most direct and visible impacts from the harvest of commercial species is the unintentional catch of species not retained—known as 'bycatch'. Bycatch occurs in many fisherles in Australia and internationally, and is in many cases unavoidable. However, bycatch can be minimised, or for some species even completely avoided, through the application of a range of management and mitigation measures. Left unmanaged, bycatch may have a detrimental impact on the marine environment and populations of marine species. Excessive bycatch can be wasteful and also diminish the efficiency of commercial fishing, with related costs in terms of expenditure of time, resources and effort. The ecological and economic impacts of fisheries bycatch are an important consideration in Commonwealth fisheries management.

The Commonwealth Fisheries Bycatch Policy (the Bycatch Policy) provides the basis for a transparent and systematic approach for the assessment, management, monitoring and reporting of fisheries bycatch in Commonwealth fisheries. The Guidelines for the Implementation of the Commonwealth Fisheries Bycatch Policy (the Guidelines) accompany this policy to provide practical assistance on the effective implementation of the objectives and concepts described. The Guidelines are intended to ensure that bycatch management in Commonwealth fisheries is cost effective and practical, and most importantly transparent to the Australian community. A comprehensive legislative framework, which includes the Fisheries Management Act 1991, Fisheries Administration Act 1991 and the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act), underping the Bycatch Policy.

The Bycatch Policy, together with the *Commonwealth Fisheries Harvest Strategy Policy* (the Harvest Strategy Policy), the *Guidelines for the Ecologically Sustainable Management of Fisheries* and the *Commonwealth Fisheries Policy*, provides the basis to manage the risk to all species impacted by the commercial harvest of Commonwealth fisheries resources. Further policy and technical work will be required to explicitly address ecosystem impacts from commercial fishing, including on habitats and ecological communities. In the interim, these impacts will continue to be considered and reported through the Commonwealth's ecological risk assessment and ecological risk management frameworks.

Since the release of the first Commonwealth bycatch policy in 2000, there has been considerable progress made in the research, development and implementation of ecological ciskalast esonent approaches, and bycatch mitigation and management measures. The revised Bycatch Policy is a positive next step to ensuring a comprehensive and transparent management framework. The Guidelines will support a practicable and consistent application of the policy across Commonwealth fisheries, to provide a more certain operating environment for the Commonwealth commercial fishing industry and also continue to provide the community with confidence that Commonwealth fisheries and their impacts on the broader marine environment are well managed.

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Other fishing sectors also impact on bycatch populations. This includes recreational fishers who may impact on marine wildlife populations or interact with species categorised as bycatch by commercial fishers, and indigenous customary fish that are otherwise considered as bycatch or that are prohibited from take by commercial fishers under environment legislation. Both sectors are subject to the management of state and northern territory jurisdictions (or the Torres Strait Protected Zone Joint Authority), undertaken through both education programmes and regulations. These sectors are not a fixes of the Bycatch Policy although they can have bycatch impacts. Where appropriate, the Commonwealth may look to engage with these sectors on bycatch management.

1.1 What is bycatch?

Commercial fishing may result in unintended catch or interaction with species that are not retained for sale or are not able to be sold (non-commercial). 'Bycatch' is released or discarded, except where it is ratained for monitoring or research purposes. Bycatch includes species of fish, invertebrates, benthic species such as corals and sponges. It may also include marine wildlife, such as birds, mammals and reptiles. The species composition of bycatch and the level and frequency of interactions in each fishery are influenced by a variety of factors, including fishing method, season, duration of fishing, time of day when fishing occurs, and area fished.

In Commonwealth fisheries, bycatch is defined as:

Species that physically interact with fishing vessels and/or fishing gear which are not usually retained by commercial fishers and do not make a contribution to the economic value of the fishery.

Where:

'Interact(ion)' includes any physical contact with a species and includes all catches (for example, booked, netted, entangled), and collisions with these species.

'Not usually retained' applies fishery-by-fishery, based on catch history and landing data.

Bycatch is often characterised by low data availability. There are more than 2,000 species categorised as bycatch across Commonwealth fisheries and many aspects of the biology of these species, such as their range, life cycle and population size remain uncertain or unknown. Reporting of fisheries bycatch can be inconsistent, often due to at-sea difficulties in assessing caught volumes and species composition of unwanted catch prior to returning to the sea and the inability to cross reference reported bycatch against landed catch (as possible for commercial species). Cryptic mortality— components of fishing mortality that are not readily detectable—also occurs. Examples include: interactions that occur underwater but where individuals are not landed onto vessels; individuals which are caught in fishing gear and released, but later die as a result of injuries sustained or mortality that goes undetected due to the difficulty in observing the interaction—such as seabirds falling into the water after striking a trawl cable. Low data availability presents significant challenges to the effective management

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of fisheries bycatch. These limitations are taken into consideration when seeking to apply cost-effective and practical arrangements to minimise the ecological impact of fishing.

1.2 Scope

The Bycatch Policy applies in Commonwealth fisheries managed by the Australian Fisheries Management Authority. The government is bound by all international treaties and arrangements that Australia has ratified or acceded to. The government (including the Australian Fisheries Management Authority) must implement decisions taken by all relevant regional fisheries management organisations and other international arrangements that Australia is a party to, except where Australia has made a permissible reservation in relation to the decision. Through these forums, Australia will continue to pursue the adoption of bycatch measures that are consistent with this Policy and domestic management.

This policy also applies to Australian boats managed by the Australian Fisheries Management Authority operating outside the Australian Fishing Zone. Where a Regional Fisheries Management Organisation or other international agreement to which Australia is a party is in force, the Bycatch Policy applies to Australian boats in addition to any requirements of that organisation or agreement.

Where overlap between jurisdictional responsibilities exists (for example, fisheries that are managed jointly by the Commonwealth and other Australian jurisdictions) the Commonwealth will seek to apply and encourage the adoption of this policy in negotiating and implementing joint management arrangements. This includes in the Torres Strait Protected Zone, recognising the management of commercial and traditional fishing is governed by the provisions of the Torres Strait Treaty and the Torres Strait Fisheries Act 1984⁴.

Management of recreational fishing primarily resides with the states and territories. Along with commercial operators, recreational fishers have legislative obligations with respect to reporting interactions with EPBC listed species. Further recreational fishers have public accountability for the sustainability of their fishing activities, including in respect of bycatch. The National Code of Practice for recreational fishing promotes socially responsible fishing, including catch and keep or release—only taking what is needed, minimising interactions with the fishing environment and playing a stewardship role in protecting fisheries resources and habitats.

Commercial species harvested in Commonwealth fisheries—including key commercial, secondary commercial and byproduct stocks—are managed under the Harvest Strategy Policy. This includes discards of commercial species.

¹ Fisheries in the Torres Strait are managed on behalf of the Protected Zone Joint Authority by AFMA, the Queensland Department of Agriculture Fisheries and Forestry and the Torres Strait Regional Authority. Department of Agriculture and Water Resources



2 Objectives and Key Principles

The objective of the Bycatch Policy is to minimise fishing-related impacts on bycatch species—in a manner consistent with the principles of ecologically sustainable development and with regard to the structure, productivity, function and biological diversity of the ecosystem.

To achieve this objective the Commonwealth will:

- draw on best-practice approaches to avoid or minimise bycatch, and minimise the mortality of bycatch that cannot be avoided
- manage fishing-related impacts on bycatch species to ensure that populations (i.e. discrete biological stocks) are not depleted below a level where the risk of recruitment failure is regarded as unacceptably high
- where fishing-related impacts have caused a bycatch population to fall below this limit, management arrangements must be implemented to support those populations to rebuild to biomass levels above that limit.

Key principles are that bycatch populations should not be exposed to unacceptable risk, and <u>inal</u> assessment and management decisions must take into consideration the best available science, evidence and information as well as the risk a population faces from fishing across its range. The risk of long-term recruitment failure for bycatch species (as a consequence of fishing mortalities) must not be greater than that for commercial species as prescribed in the Harvest Strategy Policy.

Bycatch management should be practicable and cost-effective, while reporting, monitoring and performance evaluation should be central considerations. All efforts for managing bycatch should align with Australia's international obligations, such as those established by international treaty or under the United Nations Convention on the Law of the Sea, the United Nations Fish Stocks Agreement and the United Nations Food and Agriculture Organization Code of Conduct for Responsible Fisheries.

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3 Applying the Bycatch Policy

The following framework provides the basis for a transparent and systematic approach for the assessment, management, monitoring and reporting of fisheries bycatch to assist in meeting the objectives of the Bycatch Policy.

3.1 Species categorisation

The policy framework for Commonwealth fisheries categorises species as *key commercial, secondary commercial, byproduct, general bycatch or protected.* Species are categorised based on the frequency of retention by fishers and their contribution to the economic value to a fishery (on a fishery-by-fishery basis). Commercial species in one fishery or sector may be considered as non-commercial species in another. However, only one of the Bycatch Policy or Harvest Strategy Policy applies to an individual species in a fishery at any point in time. Table 1 summarises the definitions of each species category as well as a summary of the policy objectives and management settings for each category.

Depending on factors such as consumer demand, changing cost structures, regulations, technology and conservation status, species may transition between categories. It is not intended that species frequently move back and forth between being managed under bycatch and harvest strategy policies. Decision rules for species categorisation, including transitioning of species between categories will form part of the Guidelines developed to support this policy.

Species categorisation within fisheries, transitioning of species between categories and grouping of species for categorisation purposes will be documented and made publicly available.

3.1.1 General bycatch

General bycatch species are all species considered bycatch in a fishery which are not protected by the *Environment Protection and Biodiversity Conservation Act 1999*. The large variation of species in this category will call for a range of methods in assessment and management approaches, and species-grouping may assist in this regard. *General bycatch* are not managed to a target reference but above a limit reference point with management seeking to achieve the objectives of this policy.

3.1.2 Protected

Protected species are managed separately to other bycatch species, due to their status under Australia's national environment legislation. Specifically, protected species comprises all those protected under Part 13 of the *Environment Protection and Biodiversity Conservation Act 1999*, including whales and other octaceans and listed threatened, marine and migratory species (except for conservation dependent species which are managed through rebuilding strategies under the Harvest Strategy Policy).

Under Part 13, it is an offence to harm *protected* species, other than conservation dependent species, in Commonwealth waters unless lishers have a permit or the

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management arrangements for the fishery are accredited by the Environment Minister. Management arrangements can be accredited if the minister is satisfied that:

- those management arrangements require individual fishers to take all reasonable steps to avoid harming protected species, including marine mammals; and
- the fishery does not, or is not likely to, adversely affect the conservation status of protected species or affect the survival and recovery of listed threatened species.

Bycatch management will seek to achieve the objectives of this policy, in addition to the legislative requirements above. It will also give priority to the implementation of relevant rebuilding strategies, recovery plans or threat abatement plans. Noting there are a range of levels of threatened listings for species (including vulnerable, endangered, critically andangered, or conservation dependent) management responses should be in proportion to the risk fishing poses to the species, taking into consideration its conservation status and subject to the legislative requirements listed above.

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Table 1: Species categories – policy and management settings

	Harvest Strategy Policy (Commercial)			Bycatch Policy (Non-commercial)	
Category	Key commercial	Secondary commercial	Byproduct	General bycatch	Protected
Definition	A species that is targeted and is usually retained.	A species that is usually retained	A species that is occasionally retained. May include species that are rare and usually retained through to species that are frequently encountered but rarely retained	A species that is not usually rotained	A species listed under Part 13 of the EPBC Act (excluding listing as conservation dependent).
	Significant contribution to value of the	Some contribution to the value of the fishery.	Minor contribution to the value of the fishery	No contribution to the economic value of the fishery	
Policy	Sustamable and re	witchle use of Australia's Cor	nmonwealth commercial	Minimise fishing-related impac	ts on bycatch species—in a manner
objective	fishanes resources through the implementation of harvest strategies that			consistent with the principles of ecologically sustainable	
,	both maintain con	mercial fisheries at ecologica	lly sustainable levels and	development and with regard t	o the structure, productivity,
	maximuse economic returns to the Australian community from the use of the resource			function and biological diversity of the ecosystem	
Target	Baarce	B _{MSZ} , or an alternative target to achieve B _{MEY} for the fishery	Not managed to a target as by definition byproduct species make a minor contribution to the fishery.	Draw on best-practice approaches to avoid or minimise bycatch, and minimise the mortality of bycatch that cannot be avoided	Ensure fishing operations take all reasonable stops to avoid the mortality of, or injury to, protected species recognising that there may be a need to recover populations of species listed in these categories
Limit	Remain above a his	omass level where the ecolog	ical risk to the stock is	Manage fishing-related	Consistent with the requirements
reference	regarded as unacc	eptable at least 90 per cent of	the time or 'with a high	impacts on bycatch species to	of the EFBC Act a limit reference
point	degree of confidence'			ensure that populations (i.e. discrete biological stocks) are not dopleted below a level where the risk of recruitment	point is not set

Commented [A12]: Are there also species that are not allowed to be retained but aren't listed as Protected under the EPBC Act? e.g. under OCS arrangements with the states? Or are these all under limits that would put them in the Byproduct category?

	Harvest Strategy Policy (Commercial)			Byentch Policy (Non-commercial)	
Category	Key commercial	Secondary commercial	Byproduct	General bycatch	Protected
				failure is regarded as	
				unacceptably high.	
Discarding	minimise	minimise duscarding	minimuse discarding	By definition these categories a	re discarded however the
	discarding			oversiding objective of the bycatch policy is to minimise impacts	
				on bycatch populations.	•

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3.2 Applying a risk-based framework

The Bycatch Pollcy applies a risk-based approach to the assessment and management of fishing impacts on bycatch populations. Risk-based approaches recognise that decisions need to be taken in the absence of perfect information by using what evidence is available, ecological theory and experience with analogous situations to arrive at a risk-ranking for species or species groups. This approach is considered appropriate given the significant limitations in the available information on bycatch populations and the sometimes prohibitive cost in obtaining this information. It also reflects the large variation in the biological attributes of bycatch species and the variation in the availability of data on these attributes, and the substantial variation across Commonwealth fisheries, in terms of the intensity of fishing, levels of interactions and selectivity of fishing gear. This approach seeks to achieve the objective of this policy to minimise fishing-related impacts on bycatch species while providing for flexibility to regulators and industry.

Assessment processes will identify potential risks to bycatch species and undertake screening and further assessment where risk is identified as high. Management responses will use an increased level of caution in association with increasing levels of uncertainty about population status and be proportionate to the risk-rankings of species. This includes taking into account the precision and accuracy of any assessments undertaken and the application of the precautionary principle.

3.3 Risk equivalency

The Bycatch Policy seeks to ensure the sustainability of a bycatch population is not subject to unacceptable risk by the harvesting of commercial species. This is achieved by applying an equivalent limit reference point to bycatch species as applied for commercial species managed under the Harvest Strategy Policy. That is, for bycatch populations, to maintain above a limit where the risk of recruitment failure is regarded as not unacceptably high. Populations should be maintained above a limit where they are not depleted to a level that results in long-term recruitment failure. The risk to a bycatch population beyond this limit must not be traded-off for other considerations in the management of the fishery. Where there is evidence a bycatch population has failen below the limit reference point, due to the effects of fishing there is a need to manage and support recovery of these species and implement appropriate data collection and reporting arrangements that support that recovery.

There can be substantial differences in data quality and quantity among species impacted by fishing, and bycatch species are inherently data-poor in comparison to commercially harvested species. Consequently, the quality and type of assessments can also vary substantially. Because biomass measures of a bycatch population will often not be known, consideration should be given to the use of alternative reference points based on other measurements, such as the known level of fishing mortality on a population. Biological characteristics of the species in question informs the appropriate biomass or fishing-mortality based reference point to manage the risk to a population.

3.4 Balancing risk, cost and catch

Bycatch management should seek to ensure the risk to a bycatch species remains acceptable while minimising management costs related to fishing mortality. The management decision to be taken in this context is whether investment of more *for lew(t)* resources in bycatch mitigation, data collection and analyses will provide confidence in the sustainability of a higher *investment*

In trade-off. The decision to continue fishing in its current form should be weighed against the benefits from implementing additional or improved management arrangements and mitigation measures. Where there is evidence of an adverse impact on a population but there is little data about the species and its resilience to fishing pressure, fishing mortality should be constrained to levels at which expert advice and technical assessment supports a conclusion that the species is not exposed to unacceptable risk.

Decisions made in reference to the risk, cost, catch trade-off are likely to be iterative, but they should be clearly documented and publicly available. Balancing commercial considerations against the risk to bycatch populations does not change the legislative requirements for managing fishing interactions with *protected* species. At all times, fishing operations must take all reasonable steps to avoid the mortality of, or injury to, *protected* species.

3.5 Addressing cumulative impacts

The assessment and management of bycatch species should account for all sources of mortality on the population of that species.

Where all fishing on a designated bycatch population occurs within Commonwealth fisheries managed by the Australian Fisheries Management Authority, the Australian Government must ensure that the population is not exposed to unacceptable risk from that fishing.

Consideration <u>HER</u> to the conservation status of bycatch species and the known threats, including mortalities that species may face across their range. Such threats may arise from influences such as climate change or regime shift, noting that the Australian Fisheries Management Authority is only expected to manage mortalities within their jurisdiction.

Where by catch taken in a fishery managed by the Australian Fisheries Management Authority is caught from the same population as <u>by carch taken</u> in a fishery managed by another jurisdiction, the Commonwealth should work with that jurisdiction on the assessment and management of the cumulative impact of all fishing on that population. Where cooperative arrangements cannot be agreed with other jurisdictions the risk of adverse impacts <u>by carch species from</u> Commonwealth fisheries should be minimised, particularly for species that are known to be taken predominantly in or primarily impacted by Commonwealth fisheries. In this context, it is acknowledged that no management agency can be held responsible for the level of fishing mortality occurring within another jurisdiction.

3.6 The management toolbox

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A range of management and mitigation tools can be used to avoid and minimise interactions with bycatch, and to reduce the risk to bycatch populations. These encompass both input and output controls on the take of species and can include catch restrictions or triggers, spatial and temporal closures, gear restrictions, mandated use of mitigation devices, incentives for fisher behaviour change and individual accountability through escalating management responses. Bycatch management should consider opportunities for applying quantitative approaches, such as decision rules based on indicators such as catch rates and trigger limits. This approach can increase the transparency and predictability or certainty of fisheries management decisions by identifying consequential management responses to mortality levels.

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Incentives for bycatch reduction and individual accountability approaches are appropriate for allowing fishers to play an active role in finding solutions to bycatch management issues in a practical, effective and cost-efficient manner. For example, improved gear selectivity may lead to increased quality of retained product and higher market prices for fishers while reducing the impact on bycatch species. Industry-driven codes of practice, voluntary guidelines and standards of behaviour should be encouraged, in some instances, 🖄 allow for reduced cost and intervention by the government under a cost-recovery framework. Improving the capacity of industry to self-regulate for changed fisher behaviour is important for the sustainable management of fisheries resources and reducing unintended detrimental impacts on the marine environment.

Data collection, reporting and monitoring 3.7

Bycatch management benefits from increased knowledge of fishing impacts on bycatch populations and the efficacy of mitigation and management measures. reporting and monitoring arrangements across fisheries as a prostance i to his other quantification of cumulative impacts. Logbooks, vessel monitoring systems, on-board human observers and electronic monitoring are all tools that support an effective reporting and monitoring framework. Information collected should be commensurate with risk, available data quality and identified priority populations. It should also be sufficient to support undertaking risk assessments and informing the development of management options, monitoring identified indicators and industry compliance with management measures, as well as designed to enable assessment of the efficacy of management measures. Decisions around data collection and monitoring need to also consider risk, cost, catch principles and data collection requirements for achieving other fishery management objectives. Data collection, reporting and monitoring requirements for interactions with protected species should meet and be guided by legislative requirements in the first instance.

Performance monitoring and evaluation 3.8

Performance of bycatch management in Commonwealth fisheries should be monitored and evaluated on a regular basis and reported publicly. This is an important element of best practice management and is essential in providing transparency and accountability of Commonwealth fisheries management. Consideration will be given to performance indicators in relation to the ecological status of bycatch populations, the efficacy of mitigation and management measures, levels of industry compliance, catch levels and interaction rates or changes in ecological risk levels. Evaluation will use available evidence to report against indicators, reference points, and other benchmarking measures described in the Guidelines, as well as against the objectives of this policy.

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of self-regulation mutuatives

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4 Implementation and Review

4.1 Implementation guidelines

Management of bycatch species should be transparent and accountable to the community. The Guidelines for the Implementation of the Commonwealth Fisheries Bycatch Policy provides advice to assist in the interpretation and practical application of this policy and is intended to support bycatch management across the full suite of Commonwealth fisheries. The Guidelines will outline a range of assessment methodologies, management tools, reference polets and standards to provide a transparent and systematic approach for the assessment, management and monitoring of fisheries bycatch.

4.2 Bycatch strategies

The Australian Fisheries Management Authority will develop by atch strategies that detail the implementation of this policy Commonwealth's erv set a hyte a hyte increase strategies with outline actions (a b), taken a achieve, the objectives of the By atch Policy. By catch strategies may form a component of broader fisheries management strategies but will deal specifically with by earch management actions. They will be developed in consultation with relevant stakeholders, be publicly available and regularly reviewed in response to fishing intensity changes or new knowledge of impacts on by catch species.

At a minimum, these documents will detail:

- the species, or groups of species, of relevance
- the assessment methodology and results for each species, or groups of species, including specific detail on why particular assessment approaches were taken
- consideration of cumulative impacts on bycatch populations
- management responses for areas of identified risk, including relevant reference points, triggers or decision rules
- data collection, reporting and monitoring processes and minimum requirements that support the assessment, monitoring and management of bycatch
- the performance indicators that will measure achievement against the objectives of the policy
- · performance and evaluation processes and outcomes.

4.3 Roles and responsibilities

The key Commonwealth agencies involved in bytatch management in Commonwealth fisheries are the Department of Agriculture and Water Resources, the Australian Fisheries Management Authority and the Department of the Environment and Energy. The fisheries and environment ministers provide oversight of their respective agencies and administration of legislation.

The Department of Agriculture and Water Resources oversees the implementation of the Bycatch Policy by the Australian Fisheries Management Authority and working with the Department of the Environment and Energy on implementing environment legislation and policy to ensure the long-term sustainability, productivity and competitiveness of

Department of Agriculture and Water Resources

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Commonwealth fisheries. It also provides coordination of national and international actions on fisheries bycatch issues to ensure consistency with the Bycatch Policy.

The Australian Fisheries Management Authority is the lead agency for implementing bycatch management in Commonwealth fisheries—this includes the development of bycatch strategies, providing <u>summaries of fisher-reported interactions with protected species and of other aspects</u> of fisheries management to the Department of the Environment and Energy and overseeing day-to-day management actions. Advisory bodies administered by the Australian Fisheries Management Authority may include dedicated consideration of bycatch matters.

The Department of the Environment and Energy is responsible for administering the requirements of the Environment Protection and Biodiversity Conservation Act 1999. This includes assessment of fisheries against the Australian Government Guidelines for the Ecologically Sustainable Management of Fisheries, including an assessment of the impacts of Commonwealth fisheries on protected marine species and communities; and the impacts on bycatch species, to ensure that fisheries are managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem. The department also provides support to the Threatened Species Scientific Committee in its assessments of native species or ecological communities for listing as threatened, and threatening processes for listing as key threatening processes under the Environment Protection and Biodiversity Conservation Act 1999. The department is also responsible for developing and making recovery plans for threatened species and communities and threat abatement plans for key threatening processes.

The Australian Government also encourages the fishing industry to play an active role in bycatch management, through reporting and logbook requirements, developing and implementing codes of practice, supporting research, developing and trialling mitigation devices and undertaking education and outreach within and across industry sectors.

4.4 Reporting and review

The Australian Fisheries Management Authority must report on the implementation of the Bycatch Policy and bycatch strategies annually and as requested by the minister.

The implementation of the Bycatch Policy and the Guidelines, including the extent of the development of bycatch strategies, will be reviewed within two years of the release of this policy. This effectiveness and appropriateness of the Bycatch Policy will be reviewed, including progress on achieving the policies objectives, after five years from its commencement. A report of the review of the Bycatch Policy will be provided to the fisheries and environment ministers. Deleteda

Commanded [A23]: Seems a bit vague and doewn't inducate why they would do this Maybe say that AFMA also seeks (or will seek) advice on hycerich matters from relevant advisory bodies that it establishes and administers? Deletaric.

Glossary and Abbreviations

Australian Fisheries Matagement Authority (AFMA)	The Australian Government agency responsible for regulating the efficient management and sustainable use of Commonwealth fish resources on behalf of the Australian community.
В	Biomass: total weight of a stock or of a component of a stock; for example, the weight of spawning stock biomass is the combined weight of mature animals.
B _{LIM}	Biomass limit reference point: the point beyond which the risk to the stock is regarded as unacceptably high.
B _{MEY}	Biomass at maximum economic yield: average biomass corresponding to maximum economic yield as estimated from the assessment model applied.
B _{MEY}	Biomass at maximum sustainable yield: average biomass corresponding to maximum sustainable yield.
BTARG	Target biomass: the desired biomass of the stock.
bycatch species	Species that physically interact with fishing vessels and/or fishing gear which are not usually kept by commercial fishers and do not make a contribution to the economic value of the fishery.
byproduct species	Stocks that make a minor contribution to the value of the catch in a fishery. Byproduct species are occasionally retained and landed—ranging from rarely encountered and usually retained, to frequently encountered and rarely retained.
cryptic mortality	components of fishing mortality that are not readily detectable
discards	any part of the catch which is returned to the sea, whether dead or alive
Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)	Commonwealth Act that provides the legal framework for protecting the environment, including matters of national significance such as World Heritage sites, national heritage places, wetlands of international importance, nationally threatened species and ecological communities, migratory species, Commonwealth marine areas and nuclear actions. Parts 10, 13 and 13A relate specifically to aspects of fisheries.

Fisheries Administration Act 1991 (FA Act)	Commonwealth Act that establishes the Australian Fisheries Management Authority and its Commission.
Fisheries Management Act 1991 (FM Act)	Commonwealth Act that provides the legal framework for fisheries managed by the Australian Government. The Act sets out, among several things, fisheries management objectives and arrangements for regulating, permitting, and taking enforcement action with respect to, fishing operations.
Guidelines for the Ecologically Sustainable Management of Fisheries	Outlines the principles and objectives for evaluating the environmental performance of management arrangements for export fisheries and fisheries which operate in Commonwealth waters.
incidental catch	see non-target
input control	Management measures that place restraints on who fishes (licence limitations), where they fish (closed areas), when they fish (closed seasons) or how they fish (gear restrictions).
interaction	includes any physical contact with a species and includes all catches (for example, hooked, netted, entangled), discards and releases and collisions with these species
key commercial species	Stocks that make a significant contribution to the value of the catch in a fishery. They are almost always retained and landed.
non-target species	any part of the catch, except the target species, and including bycatch and byproduct
not usually retained	Species caught by fishers but usually discarded. This applies fishery-by-fishery, based on catch bistory and landing data.
output control	Management measures that place restrictions on what is caught, including total allowable catch, quota, size limits and species.
population	A functionally discrete biological stock of a species that is largely distinct from other populations of the same species and may be regarded as a separate entity for management or assessment purposes.

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:		
	1.	careful evaluation to avoid, wherever practicable, serious or irreversible damage to the environment; and	
	2.	an assessment of the risk-weighted consequences of various options.	
protected species	species protected under Part 13 of the EPBC Act, including whales and other cetaceans and listed threatened, marine and migratory species		
reference point	an indicator of the level of fishing, or size of a population, used as a benchmark for interpreting the results of an assessment		
secondary commercial species	Stocks that make some contribution to the value of the catch in a fishery, but are not the most valuable species caught in a fishery. They are usually retained and landed.		
species	members of a species can breed with one another and produce fertile offspring		
targeting	fishing selectively for particular species or sizes of fish		
target species	the most highly sought component of the catch taken by fishers		

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