The background of the cover is a photograph of a fishing boat at sea during sunset. The sky is a mix of blue and orange, with a bright sun low on the horizon. The water is dark blue with some white foam from the boat's wake. A thick rope is visible in the foreground, and the silhouette of a boat's structure is on the left.

Fishery Management Paper Number 15

AFMA Bycatch Strategy

Mitigating protected species
interactions and general bycatch
2017-2022



Australian Government

Australian Fisheries Management Authority

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1 Introduction

In Commonwealth managed fisheries bycatch is generally defined as “*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*”¹.

Bycatch species are further defined as:

- general bycatch species – species that are never retained for sale and not protected (i.e. species of fish, including most sharks and invertebrates as defined in the *Fisheries Management Act 1991* (FMA))
- protected species - species which include Protected species (listed threatened species i.e. vulnerable, endangered or critically endangered), conservation dependent species, cetaceans, listed migratory species and other listed marine species.

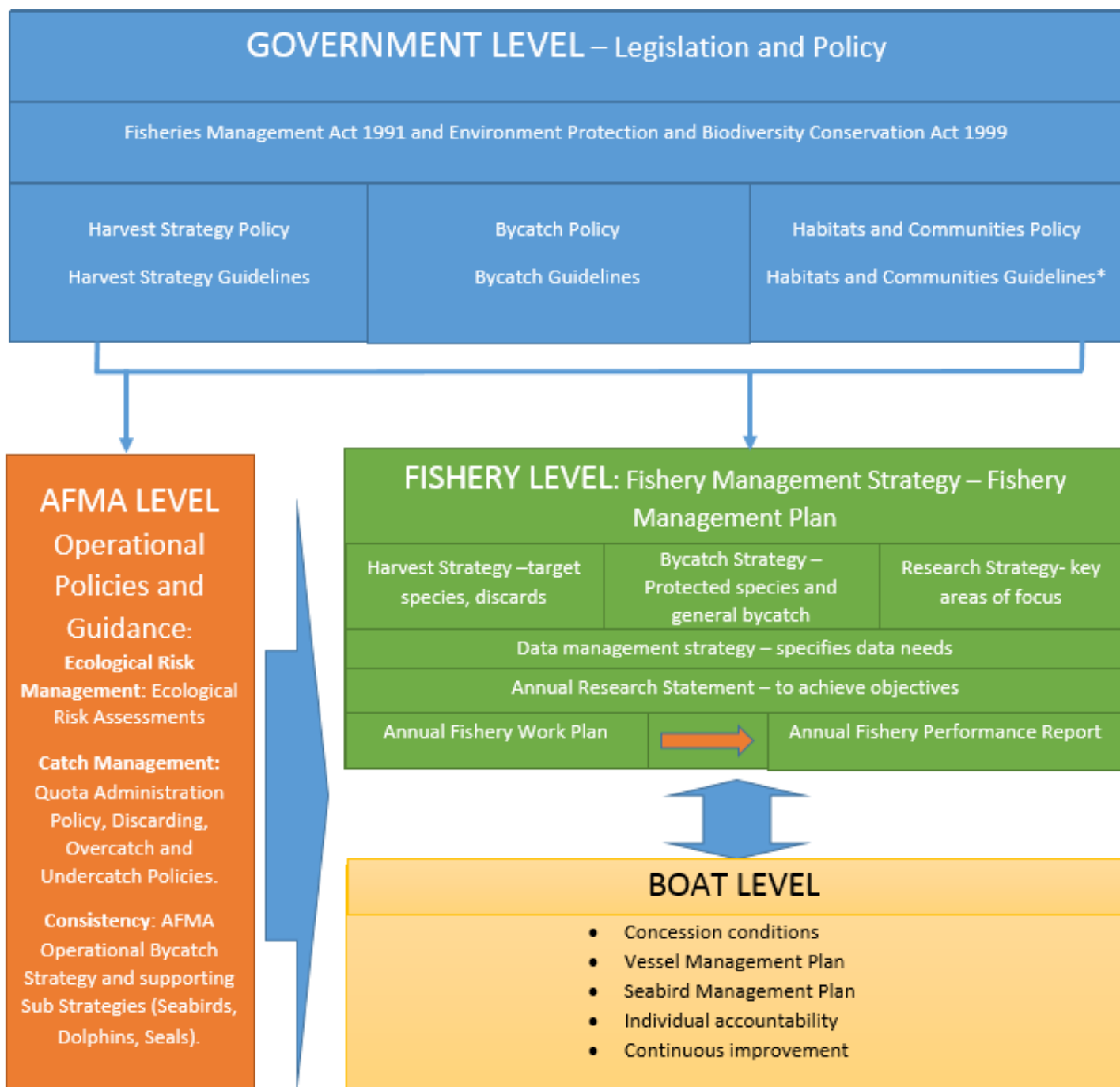
The Fishery Management Paper 15 – the AFMA Bycatch Strategy (the Strategy) has been developed to provide consistency in and guide the management of bycatch across all Commonwealth fisheries. The Strategy aims to achieve more consistency, transparency and practicality to bycatch management and improved monitoring and reporting of bycatch interactions in Commonwealth fisheries. The document sets out AFMA’s commitment and approach to minimising and reducing bycatch in Commonwealth managed fisheries. It does not deal with the handling and treatment of bycatch which is detailed in the *AFMA – Bycatch, Handling and Treatment [Guide](#)*.

This strategy is an operational document and has been developed to provide accountability to the fishing industry and the broader public on the role of AFMA in the mitigation of bycatch in Commonwealth fisheries. The document has also been developed to pursue and be consistent with the legislative and policy requirements of AFMA in the management of bycatch interactions which are described in Section 3. Figure 1 sets out how this strategy fits with relevant strategic fisheries documentation.

This strategy will be reviewed every five years or as required due to critical changes in legislation, fishery triggers or other emerging bycatch issues. The review process will include consultation with fisheries managers, industry, fishery and protected species advisory groups, and will be published on the AFMA website. The review process will also include analysis of:

1. data collection, analysis and publication protocols and standards
2. international best practice guidelines
3. updated Ecological Risk Assessment (ERA) or Ecological Risk Management (ERM) processes
4. efficacy of consultative arrangements with relevant advisory bodies
5. industry engagement as demonstrated through ongoing partnerships on issues such as advocacy and innovation.

¹ Defined in the draft Commonwealth Bycatch Policy



* Expected at next policy review

Figure 1. Flow chart of strategic documentation for the management of Commonwealth fisheries

2 The Bycatch Strategy

This Strategy establishes guiding principles that AFMA will use in identifying bycatch issues in order to minimise and avoid bycatch of protected and general species. These principles have been developed to provide a consistent approach to management decisions while remaining flexible enough to tailor these decisions and responses for different gear types, spatial and temporal variations and degree of risk identified in the ecological risk assessment for the fishery. The five guiding principles are:

- Principle 1. Management responses are proportionate to the conservation status of bycatch species and Ecological Risk Assessment results
- Principle 2. Consistency with Government Policy and legislative objectives (including to avoid and minimise) and existing national protected species management strategies such as the threat abatement plan and national plans of action
- Principle 3. Incentives should encourage industry-led solutions to minimise bycatch of protected species utilising an individual accountability approach
- Principle 4. Accounting for cumulative impact of Commonwealth Fisheries on protected species when making management decisions on mitigation
- Principle 5. Appropriate and consistent monitoring and reporting arrangements across fisheries.

AFMA Management will ensure that any management response or mitigation measure to bycatch interactions will be consistent with these principles. In line with sustainability objectives AFMA will minimise and reduce bycatch as identified through AFMA's Ecological Risk Assessment process. In addition AFMA will pursue a reduction in bycatch where it is cost effective to do so. In these instances a reduction in bycatch may improve crew safety and or increase product quality.

In addition to ensuring compliance of bycatch management measures and responses with the above principles, the following describe actions AFMA will take to reduce bycatch. These actions will guide the development of annual deliverables which will be identified in the bycatch section of each fishery's individual Fishery Management Strategy (FMS). This will provide a structured approach for identifying cross fishery and fishery specific projects. The FMS will also incorporate performance measures for assessment purposes and to demonstrate performance against the principles of this bycatch strategy.

Action 1. Improved monitoring and reporting of Commonwealth fisheries bycatch

With limited access to fishery independent data in a number of fisheries, fisheries management decisions are largely underpinned by data collected directly through fishing operations. AFMA is reliant in these cases on the ability of industry to report its catches and its interactions with bycatch species to supplement the data collected by scientific observers and fishery independent surveys.

A key focus for AFMA will be:

- 1.1. determining data requirements for bycatch including reporting standards (such as species groups or individual species);

- 1.2. reviewing the existing logbook system (paper and electronic) for capturing information on bycatch;
- 1.3. conducting education programs for the fishing industry (where needed) on how to report bycatch information;
- 1.4. reviewing protocols for data collection (observer and e-monitoring);
- 1.5. developing internal procedures for handling bycatch information; and
- 1.6. compiling species group cumulative bycatch information on an annual basis.

AFMA will also review how this information is collated and reported to other government agencies and the Australian public. This action aligns with Principles 4 and 5.

Action 2. Streamlining management arrangements

Management responses to bycatch will be identified through the development of FMSs. These encompass harvest strategies, ecological risk management responses, bycatch treatments, research needs and data plans. They will simplify the documentation of management arrangements for fisheries, improving consistency and drawing closer links between the related elements of fisheries management. This will lead to management arrangements that are more transparent and more easily interpreted by the fishing industry and the public. This action aligns with Principles 1, 2 and 5.

Action 3. Streamlining consultative arrangements

AFMA has put in place the Commonwealth Fisheries Marine Mammal Working Group to provide advice on mitigation of protected marine mammals across all Commonwealth fisheries. Further workshops or groups may be established to provide either species specific expert advice or general advice on the topic of bycatch and the potential impacts on habitat from Commonwealth managed fisheries. This action aligns with Principles 2 and 3.

AFMA will investigate options for establishing a new consultative structure for protected species mitigation.

Options to manage general (non-protected) bycatch will be through the existing consultative structure – Management Advisory Committees and Resource Assessment Groups. AFMA will also seek to call for research into areas where general bycatch can be reduced such as gear selectivity trials and bycatch reduction devices. AFMA's Bycatch and Discards Program will continue to provide physical and material support to such research and trials.

Action 4. Improving environmental stewardship by fishers

AFMA will continue to collaborate with industry on the development of bycatch mitigation devices and education on bycatch management, with a focus on individual accountability. This will be achieved through the development of partnerships with industry, including support for industry innovation in this area. It will also be achieved through an assessment of bycatch mitigation plans in place for relevant Commonwealth vessels under fishery specific arrangements, the production and distribution of species identification guides and assistance to develop fishery specific codes of practice for bycatch mitigation. This action aligns with Principle 3.

3 Legislative, policy and management context to requirements for managing bycatch

The FMA together with the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) provide a legislative framework that establishes the objectives and obligations for the management of Commonwealth fisheries, including bycatch. This legislation underpins government policy which directs the current management and industry operating environment with respect to bycatch. Collectively these prescribe the government's requirements and expectations for environmental performance of fisheries and establish the management priorities for AFMA.

3.1 Fisheries legislation

The FMA requires that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of Ecologically Sustainable Development (ESD), which includes the exercise of the precautionary principle. In particular, the impact of fishing activities on non-target species and the long-term sustainability of the marine environment also needs to be considered. The principles of ecologically sustainable development are defined in the EPBC Act and the FMA, and are part of the objectives that must be pursued by AFMA in managing Commonwealth fisheries. AFMA must also pursue its economic efficiency and cost effectiveness objectives in association with pursuing the ESD objective.

In 2005 AFMA received a Ministerial Direction from the then Minister for Fisheries, Forestry and Conservation which, required that AFMA “manage the broader environmental impacts of fishing, including minimising the level of interactions with threatened or otherwise protected species”.

AFMA uses this regulatory framework to manage fisheries and to provide incentives to fishers to operate in ways that are consistent with the legislation and Ministerial Direction.

3.2 Environmental legislation

The EPBC Act sets out Australia's environmental objectives for fisheries and outlines aspects of fisheries that require approval. Protected species are managed separately to other bycatch species, due to their status under the EPBC Act. Specifically, protected species comprise all those protected under Part 13 of the EPBC Act, 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).

In administering the EPBC Act, the Department of the Environment and Energy conducts environmental assessments of fisheries for impacts on matters of national environmental significance; for interactions with species and ecological communities protected under the EPBC Act for fisheries operating in Commonwealth waters; and for fisheries seeking to trade their product internationally. These matters are considered through a single assessment process based on the Guidelines for the Ecologically Sustainable Management of Fisheries. Environmental approvals relating to protected species and international trade can be subject to conditions which are designed to encourage the fishing industry to meet environmental outcomes and objectives. Under Part 13, it is an

offence for a fishing operator to harm protected species, other than conservation dependent species, in Commonwealth waters unless fishers have a permit or the 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
- 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.

Other species-specific actions that AFMA and the commercial fishing industry must pursue are identified in recovery plans, wildlife conservation plans, and threat abatement plans which are also made under the EPBC Act as a result of a protected species listing or a type of fishing activity being listed as a key threatening process.

3.3 Commonwealth Policy on Fisheries Bycatch

The Australian Government released the Commonwealth Policy on Fisheries Bycatch (Bycatch Policy) in 2000 to guide Commonwealth fisheries in the pursuit of legislative objectives relating to non-target species and the broader marine environment. The policy deals specifically with those aspects of bycatch that are not currently subject to commercial fishery management provisions of the Commonwealth Harvest Strategy Policy and Guidelines 2007.

While the overarching objective of the policy is to ensure that bycatch species and populations are maintained, the key implementation tool for this was the implementation of Bycatch Action Plans. These have since been replaced by bycatch and discard work plans across all Commonwealth fisheries which will further be absorbed into individual FMS's in the near future.

The then Department of Agriculture, Fisheries and Forestry commenced a major review of the Bycatch Policy in 2012 and a revised Bycatch Policy is expected to be finished in the coming months. This Strategy may need to be revised to more closely reflect the revised policy and guidelines when they are completed.

3.4 Ecological Risk Management (ERM)

AFMA conducts Ecological Risk Assessments (ERAs) to identify the risks posed by fishing to the ecological sustainability of the species, habitats and communities with which Commonwealth fisheries interact. The assessment involves a hierarchy of risk assessment methodologies progressing from a qualitative analysis at Level 1 to a more detailed and quantitative analysis at Level 3. This approach is a way of screening out low risk activities and focusing more detailed analyses on high risk activities. For example, a bycatch species may be subject to multiple sources of mortality, one of which is commercial fishing. The impact of fishing, relative to other sources of mortality, would be considered under the ERA process and be interpreted through the EPBC Act as to whether or not the effect on the species or marine environment is "significant". Further detail can be found in the ERM guide available on the AFMA website at (<http://www.afma.gov.au/sustainability-environment/ecological-risk-management-strategies/>).

In the past, ERM strategies have been developed to respond to the outcomes of the ERA (which identifies high risk species) and address general bycatch and discarding issues in the fishery. In the future, ERM for bycatch species will occur as part of Bycatch Strategies within single overarching Fishery Management Strategies. The objectives of the ERM strategies are to outline the management arrangements (including mitigation) that must be implemented in order to:

- ensure that fishing (by Commonwealth commercial fisheries) does not reduce any species populations to/below a level at which the probability of recruitment failure² is unacceptably³ high; and
- Where such impacts have occurred, recover populations to above that level⁴.

The ERM framework will continue to form the basis for developing management responses for species, habitats and communities identified as high risk through the ERA process. Figure 1 details the interrelationships between the legislation and policies and AFMA's assessments and management strategies, for bycatch and other species.

3.5 International obligations

In addition to domestic commitments, Australia is signatory to a variety of international agreements which establish standards and/or best practice measures in addition to those imposed by the FM and EPBC Acts, including:

- United Nations Convention on the Law of the Sea - United Nations Fish Stocks Agreement
- Agreement on the Conservation of Albatrosses and Petrels
- Convention on the Conservation of Migratory Species of Wild Animals (the Bonn Convention)
- Convention for the Conservation of Antarctic Marine Living Resources
- Southern Indian Ocean Fisheries Agreement
- Convention on the Conservation and Management of Highly Migratory Fish Stocks in the Western and Central Pacific Ocean
- Convention on the Conservation and Management of High Seas Fishery Resources in the South Pacific Ocean
- Convention for the Conservation of Southern Bluefin Tuna
- Indian Ocean Tuna Commission.

AFMA is responsible for implementing Australia's obligations to these agreements and assisting fishers in adopting or adapting to any new arrangements to which Australia has agreed and have been ratified.

² "recruitment failure" describes a sustained and significant reduction in recruits below average levels, and in the current context, as a result of fishing. Typically associated with "recruitment overfishing" which is due to "the mortality of too many fish in total, too many pre-productive fish, or too many fish that have only spawned a few times" (*Guidelines for the Ecologically Sustainable Management of Fishing, 2007*).

³ With regard to the term "unacceptably high" – it is not possible to estimate the probability of recruitment failure (or breaching associated biomass levels) using most data-poor assessment methods, but an intent to ensure high probability of avoiding recruitment failure (similar to HSP 90% rule) should be pursued.

⁴ Timeframes for recovery might be determined using advice provided in the HSP Guidelines (2007).