



Australian Government

Australian Fisheries Management Authority

# Australian Tuna and Billfish Fisheries

Strategic Research Plan  
2017 – 2021

# Contents

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Contents .....	2
1 Introduction.....	3
2 AFMA Corporate goals and strategies.....	3
3 Identifying research needs.....	3
3.1 Biological .....	3
3.2 Ecological .....	3
3.3 Economic.....	4
3.4 Social .....	4
4 Research Priority Areas and Needs.....	4
4.1 Provision of Data .....	4
4.2 Biological Research Priorities .....	4
4.3 Ecological Research Priorities .....	5
4.4 Economic and Social Research Priorities .....	5
Conclusion .....	5
Attachment A .....	6

# 1 Introduction

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The Australian Tuna and Billfish Fisheries (ATBF) Strategic Research Plan provides a framework that identifies the key strategic research needs in these fisheries for the five-year period 2017-2021 inclusive.

This document aims to assist the Tropical Tuna Management Advisory Committee (TTMAC) to identify and support research that will help achieve the management goals for the tropical tuna fisheries which include the Eastern Tuna and Billfish Fishery (ETBF), the Western Tuna and Billfish Fishery (WTBF), and the Eastern and Western Skipjack Tuna Fisheries. The Strategic Research Plan also aims to ensure that research projects fit within a comprehensive and strategic research plan for the fisheries.

The annual research priorities detail the specific research topics of focus each financial year that have been identified by TTMAC. These will be updated by TTMAC on an annual basis in consultation with the Tropical Tuna Resource Assessment Group (TTRAG).

## 2 AFMA Corporate goals and strategies

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Research activities funded by AFMA must focus on attaining AFMA's primary management objectives, which are:

- i. to ensure the ecological sustainability of the fishery; and
- ii. to maximise the economic efficiency of the fishery.

AFMA has developed three research goals to assist in achieving these management objectives, which are outlined in Attachment A.

These research goals should act as a guide for TTMAC in developing ATBF research plans, identifying research priorities for the annual call for research and assessing research proposals.

## 3 Identifying research needs

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Research activities must be consistent with AFMA's corporate goals and strategies, although the drivers of research can be considered to fall into five categories:

### 3.1 Biological

Biological fisheries information is essential to adequately assess the stocks and estimate the size of sustainable harvests from those stocks.

### 3.2 Ecological

Information about the impact of fisheries on the marine ecosystem is essential to assist AFMA achieve our objective of ensuring Commonwealth fisheries are ecologically sustainable. Ecological risk assessments (ERAs) are a central component of the Ecological Risk Management (ERM) framework and are conducted

on all Commonwealth fisheries. The results of ERAs assist in identifying and prioritising research needs regarding fishery impacts on the marine ecosystem, and in guiding research investment, data collection, monitoring, and future management decisions.

### 3.3 Economic

Many factors influence the overall economic performance of the fishery. AFMA require an understanding of the effects of economic changes in the tropical tuna fisheries to manage these fisheries to maximise economic efficiency.

### 3.4 Social

Research into the social aspects of the fishery is important to maximise the social benefits of the fishery to the community. Social research aspects may include investigating access to the resource and resource allocation issues.

The success of fisheries management in the ATBF should be monitored and measured through appropriate performance indicators. These performance indicators, together with appropriate reference points, must relate to the management objectives and have identified actions associated with them.

## 4 Research Priority Areas and Needs

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The following research areas have been identified as high priority needs for the next five years by TTRAG and TTMAC. These are consistent with AFMA's strategic goals and priorities and are not listed in order of priority.

### 4.1 Provision of Data

- Provision of biological data to support relevant projects (Stock assessments)
- Provision of economic data to support relevant projects
- Provision of environmental data to support relevant projects
- Provision of recreational catch data to support relevant projects

### 4.2 Biological Research Priorities

- *Stock assessments*
  - Ensure stock assessments are conducted on target species in Australia's Tropical Tuna and Billfish Fisheries.
  - Ensure appropriate assessments are conducted for other species caught in Australia's Tropical Tuna and Billfish Fisheries.
  - Improve understanding of biological characteristics of species caught in Australia's Tropical Tuna and Billfish Fisheries.
  - Develop harvest strategies for target and byproduct species as needed.

- Evaluate the effectiveness of the harvest strategies for Australia's Tropical Tuna and Billfish Fisheries.
- *Connectivity*
  - Improve understanding of stock structure of primary species in Australia's Tropical Tuna and Billfish Fisheries.
  - Investigate the levels of mixing between Australian fish resources and fish resources in the broader Indian and Western and Central Pacific Oceans.
  - Investigate the cross fishery interactions between Australia's Tropical Tuna and Billfish Fisheries and other fisheries.

### 4.3 Ecological Research Priorities

- *Bycatch and Byproduct*
  - Investigate measures to improve bycatch mitigation in fishing operations.
  - Investigate the effects of fishing in Australia's Tropical Tuna and Billfish Fisheries on non-target species.
- *Climate impacts*
  - Measure the effects of climate change on key species and ecosystems in Australia's Tropical Tuna and Billfish Fisheries.
  - Investigate oceanographic and environmental factors impacting Australia's Tropical Tuna and Billfish Fisheries.
- *Ecological Risk Assessment*
  - Review the Ecological Risk Assessment for the Australia's Tropical Tuna and Billfish Fisheries.
  - Evaluate the relevance of certain species rated as high risk.

### 4.4 Economic and Social Research Priorities

- *Spatial Management measures*
  - Investigate the economic and ecological impacts of Marine Protected Areas and closures.
  - Investigate the need for resource sharing between the Commonwealth and other jurisdictions or sectors.
- *Economic viability*
  - Determine trends in the economic performance of Australia's Tropical Tuna and Billfish Fisheries.
  - Cost / Benefit Analysis of management costs (levies) versus the fishery outputs in Australia's Tropical Tuna and Billfish Fisheries.

## Conclusion

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This research plan provides a framework for identifying the key research priorities in the ATBF for 2017-2021 that will help achieve the management goals for Australia's Tropical Tuna and Billfish Fisheries, and ensure that endorsed research projects fit within a strategic framework.

TTRAG should identify the research needs for management of the stocks consistent with the research priorities of the ATBF strategic research plan.

## Attachment A

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## Corporate Plan 2014–2017 goals and strategies

Goal	Strategy
1. Manage key commercial species at levels that support maximum economic yield.	<ul style="list-style-type: none"> <li>• Manage fisheries in line with the Commonwealth Fisheries Harvest Strategy Policy and Guidelines and AFMA Harvest Strategy Framework.</li> <li>• Implement measures to recover remaining overfished stocks.</li> </ul>
2. Improve the net economic returns of Commonwealth fisheries.	<ul style="list-style-type: none"> <li>• Facilitate the development of underutilised fisheries resources.</li> <li>• Support the Department of Agriculture and fishery stakeholders in the revision of the Commonwealth Fisheries Harvest Strategy Policy and Guidelines.</li> <li>• Develop and implement approaches to further reduce the amount of discarded fish.</li> </ul>
3. Prevent unacceptable impacts of Commonwealth fisheries on marine ecosystems and organisms.	<ul style="list-style-type: none"> <li>• Regularly review fishery risks and management measures under AFMA's Ecological Risk Management Framework.</li> <li>• Continue to manage fisheries in line with the Commonwealth Policy on Fisheries Bycatch (Bycatch Policy).</li> </ul>
4. Implement management arrangements and frameworks that are both cost effective and encourage compliance.	<ul style="list-style-type: none"> <li>• Make fisheries management arrangements more uniform, understandable and enforceable with appropriate penalties.</li> <li>• Continue to improve business processes, information flows and financial arrangements to reduce costs.</li> <li>• Continue to improve the effectiveness of quota management for Commonwealth Fisheries through the Quota Administration Policy and related instruments.</li> <li>• Apply individual accountability in appropriate fisheries.</li> </ul>
5. Effectively deter illegal fishing in Commonwealth fisheries, the Australian Fishing Zone and adjacent regions.	<ul style="list-style-type: none"> <li>• Conduct and enable compliance programs that target identified high risks.</li> <li>• Conduct capacity building programs with neighbouring countries to enhance fisheries management and governance frameworks and compliance programs.</li> <li>• Promote and advocate deterrence, prevention and cooperation at regional fisheries forums to deter illegal fishing.</li> </ul>
6. Streamline regulations and approvals and reduce costs of compliance and fisheries management.	<ul style="list-style-type: none"> <li>• Further adapt business processes and technologies that match the core needs of AFMA and its stakeholders.</li> <li>• Continue to reduce regulatory burden and cost to industry through reduction of red tape and unnecessary regulatory requirements, including establishment investment in electronic monitoring and data transfer technologies, and upgrading of fishery—management specific software.</li> <li>• Explore opportunities to streamline fisheries assessments under the Environment Protection and Biodiversity Conservation Act 1999.</li> </ul>
7. Facilitate co—management <sup>1</sup> in Commonwealth fisheries.	<ul style="list-style-type: none"> <li>• For fisheries under the <i>Fisheries Management Act 1991</i>, apply lessons from co—management trials and assist the development of new arrangements.</li> </ul>
8. Transparent and effective engagement with the community and other stakeholders.	<ul style="list-style-type: none"> <li>• Improve communications in a style usable by stakeholders through appropriate media channels.</li> <li>• Ensure the effective operation of management advisory committees and resource assessment groups, as the principal source of advice to the AFMA Commission.</li> <li>• Increase public accessibility and availability of scientific and other fishery management information.</li> <li>• Continue to work with the Department of Agriculture in servicing regional fisheries management organisations and other international fishery bodies</li> </ul>