



Australian Government

Australian Fisheries Management Authority

Australian Tuna and Billfish Fisheries

BYCATCH AND DISCARDING WORKPLAN

1 JULY 2014 – 30 JUNE 2016

Introduction

It is Government policy to minimise bycatch in all commercial fisheries. The focus of this workplan is to develop management responses to species assessed as high risk through AFMA's Ecological Risk Assessment (ERA) process and to avoid fishery interactions with other bycatch species, particularly those listed under the EPBC Act. Discarding of target species will be broadly approached through monitoring discarding rates as a critical input to stock assessment and harvest strategies and developing other incentives and/or strategies to improve product utilisation.

The 2014-16 Bycatch and Discarding Workplan (the Workplan) is relevant to the Australian Tuna and Billfish Fisheries. These fisheries are specifically the Eastern Tuna and Billfish Fishery (ETBF) and the Western Tuna and Billfish Fishery (WTBF), which surround Australian out to the 200 nautical mile limit.

The bycatch and discarding action item list, contained within this document, outlines the management actions that the Australian Fisheries Management Authority (AFMA) aims to achieve, or continue throughout 2014-16. Previous action items finalised from the 2011-13 Bycatch and Discard Workplan include; the mandatory carriage of line cutters and de-hookers on fishing vessels, the implementation of a bycatch education program, the distribution of a shark identification guide and the implementation of circle hooks to minimize incidental turtle mortality.

The Workplan should be read in conjunction with:

- Commonwealth Policy on Fisheries Bycatch Policy (2000)
- Western Tuna and Billfish Fishery Management Plan 2005
- Eastern Tuna and Billfish Fishery Management Plan 2010
- Ecological Risk Management – Report for the Eastern Tuna and Billfish Fishery, April 2012.
- Ecological Risk Management – Report for the Western Tuna and Billfish Fishery, March 2010.
- Commonwealth Fisheries Harvest Strategy Policy and Guidelines



Fishery Description

The Eastern Tuna and Billfish Fishery

The ETBF extends from the tip of Cape York to the South Australia/Victoria border and includes waters around Lord Howe Island and the area of the high seas under the region of concern of the Western and Central Pacific Fisheries Commission (WCPFC) (See Figure 1). The target species of the fishery are Yellowfin Tuna, Albacore Tuna, Bigeye Tuna, Broadbill Swordfish and Striped Marlin, which are taken predominantly by the pelagic longline fishing. The minor line sector of this fishery includes trolling, hand lining and rod and reel fishing for targeting these and other species.

The fishery is managed by the Australian Fisheries Management Authority (AFMA) under the *Eastern Tuna and Billfish Fishery Management Plan 2010* (the Plan). The Plan came into effect on 1 March 2011 and the fishery is now managed by quota. Total allowable commercial catch (TACC) limits apply to the five target species.

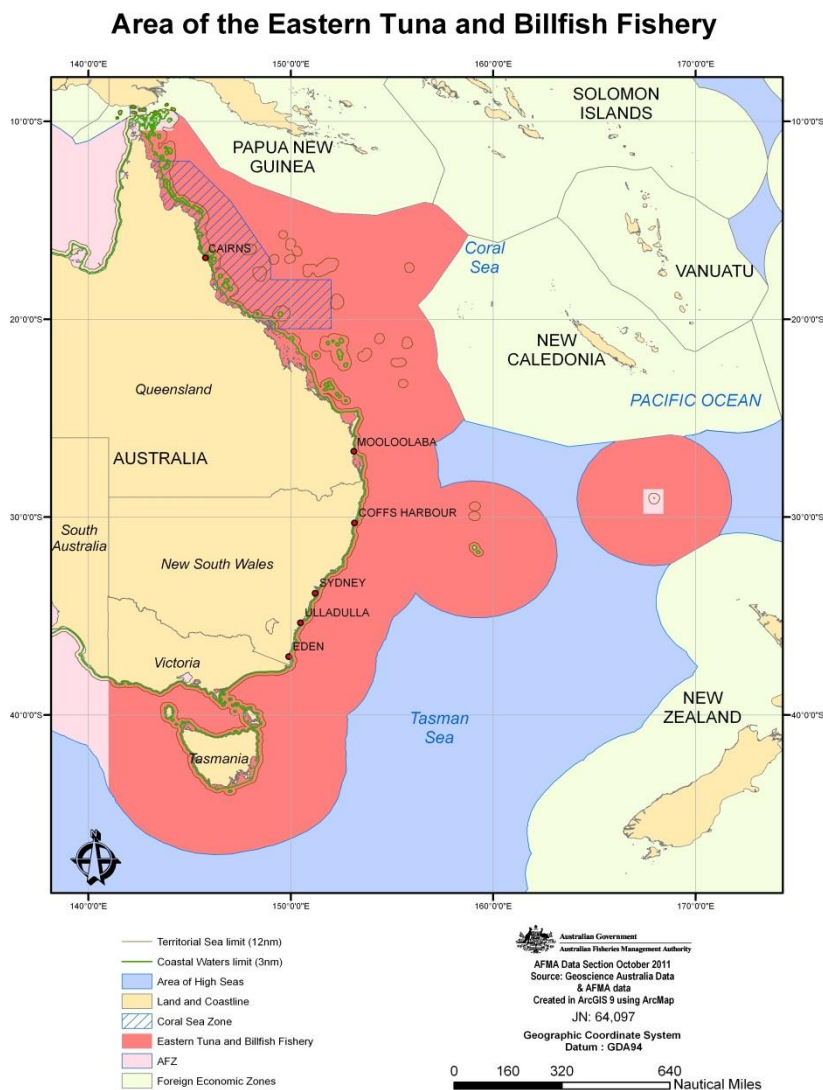


Figure 1. Map of the Eastern Tuna and Billfish Fishery



The Western Tuna and Billfish Fishery

The WTBF covers the area of the Australian Fishing Zone westward from Cape York Peninsula off Queensland, along the west coast of Western Australia and then extending eastward across the Great Australian Bight to the South Australian/Victorian border. The fishery also encompasses Christmas and Cocos Islands and the high seas areas in the region of competence of the Indian Ocean Tuna Commission (IOTC) (See Figure 2). The target species of the fishery are Yellowfin Tuna, Bigeye Tuna, Broadbill Swordfish and Striped Marlin, which are taken predominantly by pelagic longline fishing. The smaller minor line sector of this fishery includes trolling, hand lining and rod and reel fishing for targeting these species.

The fishery is currently managed by AFMA under output controls provided for in the *Western Tuna and Billfish Fishery Management Plan 2005*. Quota based management came into effect on 1 July 2010.

Under the quota arrangements, operators are granted annual fishing permits and are allocated Statutory Fishing Rights (SFRs) that represent a proportion of the total allowable commercial catch (TACC). This TACC is determined each season.

Area of the Western Tuna and Billfish Fishery

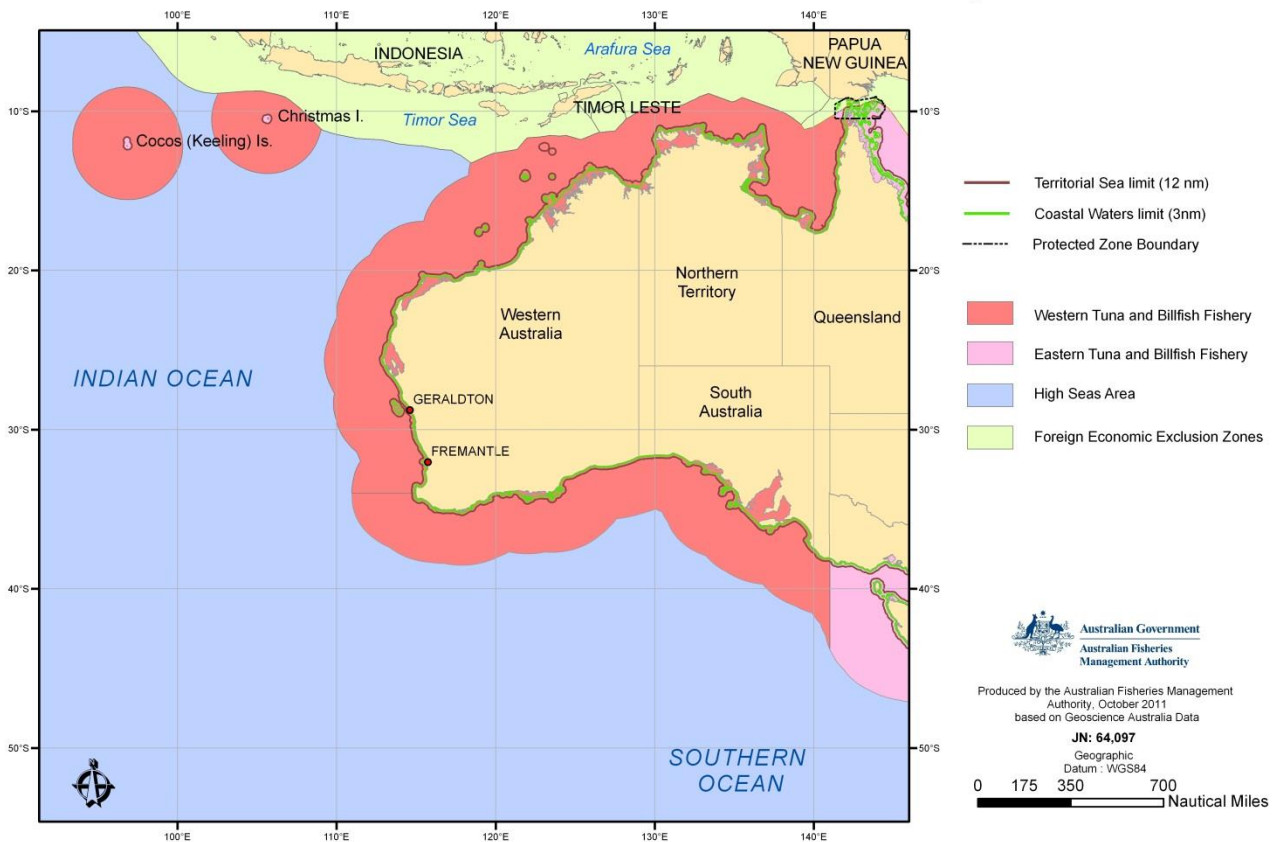


Figure 2. Map of the Western Tuna and Billfish Fishery



Bycatch work plan objectives

The key objectives of the Australian Tuna and Billfish Bycatch and Discarding Workplan for financial years 2014–2016 are to:

- Develop bycatch mitigation devices for seabirds.
- Reduce interactions with protected seabird species.
- Improve post capture survival of chondrichthyan species.
- Improve understanding of catch composition for chondrichthyan species.

The proposed projects will be undertaken during the period of this Workplan to pursue the above objectives. The proposed projects are to design, develop and trial specific mitigation strategies and undertake work that will contribute towards future mitigation strategies. These projects are also intended to fill critical information gaps about bycatch at risk, or about bycatch and discarding more generally. These strategies will be incorporated into a more strategic approach to the management of bycatch and discarding within the fishery. On the annual review of the Workplan, further research priorities and projects can be added if consistent with the overall aim of the Workplan and if there is a capacity to fund any further projects.

Ecological Risk Assessment Results

The Ecological Risk Assessment (ERA) process is currently under full review. Revised species assessments will take place in line with AFMA's new Ecosystem Based Fisheries Management assessment guidelines once the review process is complete. For the purposes of this Workplan, the results from the Ecological Risk Assessments (ERAs) undertaken in 2012 for the ETBF, and 2010 for the WTBF, will be used.

ERAs were undertaken to determine the impact of fishing on marine species based on a series of parameters including; life history, biological productivity and susceptibility to fishing gear. It involves a hierarchy of risk assessment methodologies progressing from a comprehensive, but largely qualitative analysis at Level 1, to a quantitative analysis at Level 3. This approach is a means of screening out low risk activities and focusing more intensive and quantitative analyses on those activities assessed as having a greater environmental impact on AFMA managed fisheries. For the detailed methodology please refer to *Ecological Risk Assessment for the Effects of Fishing: Methodology* (Daley et al, 2007) or see AFMA's website.

Species assessed as being high risk are detailed in table 1.



Table 1. List of high risk species following level 2 and level 3 risk assessments for the ETBF (2012) and WTBF (2010).

Fishery	Species rated as High Risk after Risk Assessment
Eastern Tuna and Billfish Fishery	Level 2 Residual Risk Assessment
	False Killer Whale (<i>Pseudorca crassidens</i>)
	Leatherback Turtle (<i>Dermochelys coriacea</i>)
	Short-finned Pilot Whale (<i>Globicephala macrorhynchus</i>)
	Level 3 Risk Assessment
	Longfin Mako (<i>Isurus paucus</i>)
	Crocodile Shark (<i>Pseudocarcharias kamoharai</i>)
	Pelagic Thresher (<i>Alopias pelagicus</i>)
	Ocean Sunfish (<i>Mola mola</i>)
	An Ocean Sunfish (<i>Mola ramsayi</i>)
Western Tuna and Billfish Fishery	Level 2 Residual Risk Assessment
	Long-finned Pilot Whale (<i>Globicephala melas</i>)
	Andrew's Beaked Whale (<i>Mesoplodon bowdoini</i>)
	Ginko Beaked Whale (<i>Mesoplodon ginkgodens</i>)
	True's Beaked Whale (<i>Mesoplodon mirus</i>)
	Dusky Shark (<i>Carcharhinus obscurus</i>)
	Porbeagle Shark (<i>Lamna nasus</i>)
	White Shark (<i>Carcharodon carcharias</i>)
	Level 3 Risk Assessment
	No species identified at high risk through a Level 3 assessment



Existing Measures to Reduce Bycatch

Reference limits for high risk species

Reference points are monitored for all quota species in the Australian Tuna and Billfish Fisheries. The upper limit is intended to detect targeted fishing while the lower limit reference detects potential stock declines. These reference limits are reviewed annually by the Tropical Tuna Resource Assessment Group (TTRAG).

Gear

A number of mitigation methods currently exist to minimize the bycatch of seabirds, turtles, sharks and other protected species. These include:

- Circle hooks;
- Tori Lines;
- Line weighting regimes;
- No discharge of offal during setting and hauling; and
- Mandatory carriage of line cutting and de-hooking devices.



BYCATCH AND DISCARDING ACTION ITEMS 2014 – 2016

Action Items	Risk / Issue to be addressed	Timeframe	Costs \$	Responsible Parties	Performance Indicators	Milestones
Carry Over Items						
1. Implementation of electronic monitoring systems	Bycatch and Threatened, Endangered, Protected (TEP) species interactions	June/July 2014	TBA	AFMA Service One Tuna team	E-monitoring systems are implemented on all full-time boats in the ETBF	Systems are installed by the end of the 2014-15 fishing season
New Items						
Action Items	Risk / Issue to be addressed	Timeframe	Costs \$	Responsible Parties	Performance Indicators	Milestones
2. Develop and distribute chondrichthyan (sharks and rays) best handling practices guide to all operators in the CTS	Improving the handling of sharks and rays Facilitate the safe release of sharks caught on longlines	December 2014	Development and online version \$15,000 Printing \$5,000 Delivery \$1,000	AFMA Bycatch Program Tuna Team AFMA Observers Monash Uni	Shark Handling Guides distributed to all vessels in the ETBF and WTBF	Develop best handling practice guide Digital version available on web Distribution of the guide to industry

<p>3. Develop online skipper and crew education courses</p>	<p>Improving skipper/crew education on deploying seabird mitigation devices</p>	<p>2 years</p>	<p>Approx. \$15,400</p>	<p>AFMA Bycatch Program Tuna Team</p>	<p>Courses are developed and operating online Skippers and crew take the course</p>	<p>Online courses developed Yearly report on course completion received</p>
<p>4. Investigation of other available seabird mitigation devices as appropriate (e.g. hook pods)</p>	<p>Seabird interactions with longline fishing gear</p>	<p>1 year</p>	<p>\$30,000</p>	<p>AFMA Bycatch Program Tuna Team</p>	<p>Sufficient data collected to determine if hook pods reduce Seabird interactions</p>	<p>Field work completed Report published Presentation to TTMAC</p>

Summary

Where possible, the Bycatch and Discard Workplan describes action items that are aimed at reducing the risk to species from fishing activities. For some species, high risk scores are precautionary due to a lack of data required for the Level 3 SAFE process. Some action items are designed to collect the information needed to feed in to this process, rather than reducing the actual risk to a species.

It is important that the Bycatch and Discarding Workplan addresses not only species that have been identified via the ERA process as being at high risk, but also look at general bycatch reduction methods. AFMA and industry will continue to work co-operatively to reduce bycatch, minimise discarding and improve monitoring within the Australian Tuna and Billfish Fisheries.

Review Process

The Workplan will be reviewed at:

- 6 months to check that the progress of actions is on track.
- 12 months to:
 - Ensure actions are progressing well;
 - Ensure that objectives are being met, and;
 - Determine if any additional actions can be taken.
- 18 months to check that the progress of actions is on track.
- 24 months (two years) to fully assess the overall effectiveness of the Workplan actions in addressing the associated bycatch risks.

Internal AFMA reports will be produced at each timeframe, with the 18 and 24 month reports published on AFMA's website.

At the end of the two year period, the risk profile of the fishery will be reviewed and a new Workplan will be developed and implemented.

