



Australian Government

Department of the Environment

Assessment of the Eastern Tuna and Billfish Fishery

August 2014

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Disclaimer

This document is an assessment carried out by the Department of the Environment of a commercial fishery against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition*. It forms part of the advice provided to the Minister for the Environment on the fishery in relation to decisions under Part 13 and Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999*.

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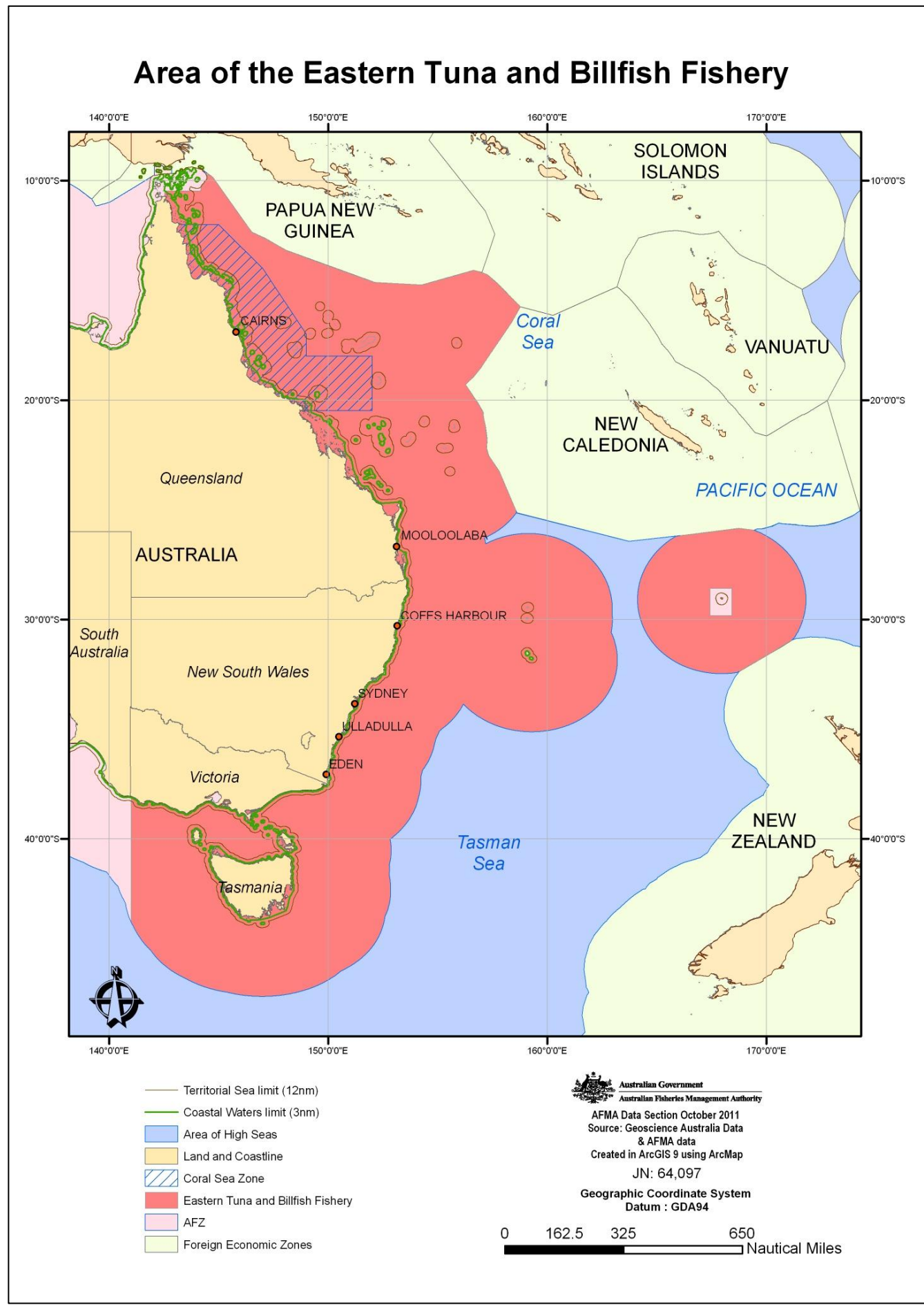
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TABLE 1: SUMMARY OF THE EASTERN TUNA AND BILLFISH FISHERY

Description of the Eastern Tuna and Billfish Fishery	<p>The Eastern Tuna and Billfish Fishery targets highly migratory tuna and billfish species in Australian waters and on the high seas off the east coast of Australia. There are two sectors in the Eastern Tuna and Billfish Fishery, the pelagic longline sector and the minor line sector. The longline sector makes up the majority of the fishery, with 44 longline vessels and 7 minor line vessels active in 2012.</p> <p>The Western and Central Pacific Fisheries Commission is responsible for the management of tuna and billfish stocks in the western and central Pacific Ocean, as well as the impacts of fishing for these species on the wider ecosystem. The Australian component of the fishery, the Eastern Tuna and Billfish Fishery, is managed by the Australian Fisheries Management Authority. As a member of the commission, Australia is required to implement management measures agreed by the commission. These measures are given effect through Commonwealth fisheries management legislation, the Eastern Tuna and Billfish Fishery Management Plan 2010 and conditions on statutory fishing rights and fishing permits.</p> <p>Since 1 March 2011, the Eastern Tuna and Billfish Fishery has been managed under output controls in the form of individual transferable quotas for the five key primary species.</p>
Publicly available information relevant to the fishery	<ul style="list-style-type: none"> • <i>Fisheries Management Act 1991</i> • Fisheries Management Regulations 1992 • Eastern Tuna and Billfish Fishery Management Plan 2010 (and associated directions, determinations and temporary orders) • Eastern Tuna and Billfish Fishery (ETBF) - Management Arrangements Booklet - 2014 Fishing Season (Australian Fisheries Management Authority) • Australian Tuna and Billfish Fisheries Bycatch and Discarding Workplan 1 July 2014 – 30 June 2016 (Australian Fisheries Management Authority) • Ecological Risk Management Report for the Eastern Tuna and Billfish Fishery (April 2012) (Australian Fisheries Management Authority) • Australian Tropical Tuna and Billfish Fisheries Five Year Strategic Research Plan 2011 – 2016 (Australian Fisheries Management Authority) • Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations (Department of the Environment Australian Antarctic Division)
Area of the fishery	<p>The area of the Eastern Tuna and Billfish Fishery (Figure 1, page 13) includes:</p> <ul style="list-style-type: none"> • waters within the Australian Fishing Zone (that is, from the outer limit of state waters to the edge of the Australian exclusive economic zone), extending from Cape York around the eastern and southern coast of Australia to the South Australian/Victorian border • Commonwealth waters around Norfolk Island, excluding waters adjacent to Norfolk Island within the 'Norfolk Island box' (see Figure 1, page 3) • the High Seas area of the Pacific Ocean.

Area of the fishery (cont.)	<p>In recent years, a large proportion of the effort in the fishery has been adjacent to the New South Wales coast and off the southern Queensland coast.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 defines the three management parts of the fishery area:</p> <ul style="list-style-type: none"> • Part 1 - the area of the fishery within the Australian Fishing Zone, excluding the Coral Sea Zone • Part 2 - the Coral Sea Zone - see Figure 1 - a restricted area off the Queensland coast between Shelburne Bay (Cape York) and Proserpine (central Queensland) which was created to protect juvenile marlin species and their spawning grounds: <ul style="list-style-type: none"> - no longline fishing is allowed in the Coral Sea Zone of the fishery except by holders of a Coral Sea boat statutory fishing right (SFR), and a limit of 500 hooks per shot applies • Part 3 - the High Seas zone. <p>The area of the Eastern Tuna and Billfish Fishery overlaps with the area of the Commonwealth Southern Bluefin Tuna Fishery. Restricted access zones apply off the New South Wales coast in winter to control interactions with southern bluefin tuna (see Byproduct, below).</p> <p>Holders of Eastern Tuna and Billfish Fishery statutory fishing rights must not fish inside state and Commonwealth marine reserves without special authorisation in accordance with reserve management plans:</p> <ul style="list-style-type: none"> • No fishing for “tuna or tuna-like species” is permitted within the Great Barrier Reef Marine Park without a permit issued by the Great Barrier Reef Marine Park Authority. Since 1990, the Great Barrier Reef Marine Park Authority has maintained a multiple hook policy under which no permits to undertake line fishing with more than six hooks per line are issued. • Fishing is prohibited in the area of the former Coringa-Herald National Nature Reserve and the area of the former Lihou Reef National Nature Reserve, within the Coral Sea Commonwealth Marine Reserve • The waters surrounding Lord Howe Island are marine reserves – the New South Wales Lord Howe Island Marine Park (State Waters) and the former Lord Howe Island Marine Park (Commonwealth Waters) (now part of the Lord Howe Commonwealth Marine Reserve). Fishing is not allowed in these reserves except under permit from the relevant marine reserve management agency (see World Heritage properties, below) • No commercial fishing is allowed in the area of the former Elizabeth and Middleton Reefs Marine National Nature Reserve (now within the Lord Howe Commonwealth Marine Reserve).
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Figure 1. Area of the Eastern Tuna and Billfish Fishery
(source: Australian Fisheries Management Authority)



<p>Target Species and Stock Status</p>	<p>The majority of effort in the Eastern Tuna and Billfish Fishery is directed at five primary species. The stock status of these species is based on Western and Central Pacific Fisheries Commission regional stock assessments which are conducted on the broader western and central Pacific region. Larcombe and New (2013) discuss the stock status of each species and provide the following classification of stock status in 2012:</p> <ul style="list-style-type: none"> • albacore tuna – not overfished, not subject to overfishing • bigeye tuna – not overfished, but subject to overfishing in the broader western and central Pacific region (see below) • broadbill swordfish - not overfished, not subject to overfishing • striped marlin - not overfished, not subject to overfishing • yellowfin tuna - not overfished, not subject to overfishing. <p><i>Bigeye Tuna</i></p> <p>The stock assessment for bigeye tuna in the western and central Pacific Ocean undertaken in 2011 indicated that the spawning biomass remains above the limit reference point of 20 per cent of unfished biomass and as a result the bigeye tuna stock was classified as not overfished (Davies et al. 2011 cited in Larcombe and New 2013).</p> <p>The assessment also indicated that the spawning biomass is close to the limit reference point and the bigeye tuna is approaching an overfished state. The assessment identified that the current fishing mortality across the broader western and central Pacific region is well in excess of the levels at which maximum sustainable yield could be maintained, that is, the stock is classified as subject to overfishing.</p> <p>The Western and Central Pacific Fisheries Commission conservation and management measure for bigeye tuna adopted in December 2013 has as an objective the reduction of fishing mortality to a level that would support maximum sustainable yield, to be achieved through a stepped implementation of measures to 2017. These measures focus on the tropical purse seine fishery and longline fisheries with catch greater than 2,000 tonnes (CMM 1013-01, WCPFC 2013).</p> <p>Australia, as a commission member with longline catch of bigeye tuna in 2004 of less than 2,000 tonnes, is required to ensure that longline bigeye tuna catch does not exceed 2,000 tonnes in each of the next four years. The Australian Fisheries Management Authority has set the total allowable commercial catch of bigeye tuna at 1,056 tonnes, based on historical catch in the Eastern Tuna and Billfish Fishery.</p> <p>(Note: The 2014 whole of western and central Pacific bigeye tuna stock assessment concludes that the spawning biomass of bigeye tuna in 2012 was 16 per cent of unfished biomass (Harley et al. 2014), which is lower than in 2012 and is just below the limit reference point. The Eleventh Regular Session of the commission in December 2014 will consider the stock assessment report and the adequacy of the Conservation and Management Measure adopted in 2013.)</p>
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	<p><i>Management of quota species</i></p> <p>All operators in the Eastern Tuna and Billfish Fishery have been granted statutory fishing rights that allow them to fish in the fishery and catch a proportion of the annual total allowable commercial catch of each of the five quota species listed above. Individual transferable quotas for each species are allocated according to the number of quota statutory fishing rights held. A recommended biological catch of each species is provided by the Tropical Tuna Resource Assessment Group (TTRAG) and an annual total allowable commercial catch based on those recommendations is set for each species.</p>
Byproduct Species	<p>Catch of species other than the five quota species makes up approximately 10 per cent of the annual retained catch in the Eastern Tuna and Billfish Fishery. Primary species not currently managed under the quota management system include longtail tuna, Ray's bream and skipjack tuna. A wide range of secondary species (species of fish that may be taken in the fishery and retained) are reported for the fishery. Mahi mahi (dolphinfish), oilfishes, wahoo and moonfish make up an important part of the catch.</p> <p><i>Sharks</i></p> <p>Significant incidental catch of a number of shark species has been recorded in the Eastern Tuna and Billfish Fishery (see Table 4).</p> <p><i>Bait</i></p> <p>Eastern Tuna and Billfish Fishery operators targeting yellowfin tuna may fish for live bait for their own use subject to boat SFR conditions, except in New South Wales waters.¹ The main live bait species include yellowtail scad and blue (slimy) mackerel with less than 50 tonnes per annum typically caught (Sands et al. 2009).</p> <p><i>Southern bluefin tuna</i></p> <p>The area of the Eastern Tuna and Billfish Fishery overlaps with the area of the Commonwealth Southern Bluefin Tuna Fishery. Take of southern bluefin tuna is not allowed under the Eastern Tuna and Billfish Fishery Management Plan 2010. Some operators fishing in the Eastern Tuna and Billfish Fishery also take southern bluefin tuna along the New South Wales coast during certain times of the year, in accordance with the Southern Bluefin Tuna Fishery Management Plan 1995. All catch of southern bluefin tuna that are not released in an alive and vigorous state has to be covered by quota under the Southern Bluefin Tuna Fishery Management Plan 1995.</p> <p>To minimise the risk of fishers taking southern bluefin tuna in the Eastern Tuna and Billfish Fishery without holding southern bluefin tuna quota, the Australian Fisheries Management Authority implements annual core and buffer southern bluefin tuna zones for restricted access in the Eastern Tuna and Billfish Fishery. Conditions on Eastern Tuna and Billfish Fishery boat statutory fishing rights specify requirements that must be observed by Eastern Tuna and Billfish Fishery operators when entering or transiting southern bluefin tuna zones.</p>

¹ To fish for bait in New South Wales waters, operators must hold a New South Wales fishing permit.

	<p><i>Harvest strategy</i></p> <p>The Australian Fisheries Management Authority intends to develop indicators and reference points for byproduct species as part of further development of the fishery's harvest strategy and in January 2014 called for expressions of interest for research to develop byproduct indicators and reference points.</p>
Gear	<p>Operators in the Eastern Tuna and Billfish Fishery use pelagic longline and minor lines (hand lining, trolling and rod and reel fishing).</p> <p>The use of longline gear is subject to specifications, set out in boat statutory fishing right conditions, to deter seabird interactions.</p> <p>During minor line fishing operations a fishing line, or number of lines, remains attached to the vessel throughout the fishing operation and only one hook, or one set of ganged hooks, or one lure is attached to each line at any one time.</p> <p>The longline sector makes up the majority of the fishery, with 44 longline vessels and 7 minor line vessels active in 2012.</p>
Season	<p>The Eastern Tuna and Billfish Fishery fishing season commences on 1 March each year and concludes on the last day of February in the following year. Seasonal restrictions (southern bluefin tuna core and buffer zones) are implemented off the New South Wales coast to control interactions with southern bluefin tuna.</p>
Commercial harvest [financial year 2011-12]	<ul style="list-style-type: none"> • yellowfin tuna: 1459 tonnes • broadbill swordfish: 1254 tonnes • albacore tuna: 784 tonnes • bigeye tuna: 493 tonnes • striped marlin 310 tonnes • byproduct species: 433 tonnes
Value of commercial harvest 2011-12	\$277.1M
Take by other sectors	<p><i>Western and Central Pacific Fisheries Commission</i></p> <p>The primary target species in the Eastern Tuna and Billfish Fishery are part of wider western and central Pacific Ocean stocks managed by the Western and Central Pacific Fisheries Commission.</p> <p>Where the stock status is influenced by the level of fishing in the broader region, as is the case for albacore tuna, bigeye tuna and yellowfin tuna, Australia negotiates for catch controls at the regional level through the Western and Central Pacific Fisheries Commission – for example the <i>Conservation and Management Measure for Bigeye, Yellowfin and Skipjack tuna in the western and central Pacific Ocean</i> (CMM 2013-01, WCPFC (2013)). Australia's annual catch of these species is less than 20 per cent of the catch in the Coral Sea region and less than one per cent of the total western and central Pacific catch.</p> <p style="text-align: right;"><i>...cont.</i></p>

<p>Take by other sectors (cont)</p>	<p><i>Other commercial fisheries</i></p> <p>Under an Offshore Constitutional Settlement fisheries agreement, tuna and tuna like species are managed by the Australian Government. Some Eastern Tuna and Billfish Fishery species are also taken in other Commonwealth managed fisheries.</p> <p><i>Commonwealth Western Tuna and Billfish Fishery</i></p> <p>The Western Tuna and Billfish Fishery abuts the Eastern Tuna and Billfish Fishery and targets the same species as the Eastern Tuna and Billfish Fishery. Recent activity in the Western Tuna and Billfish Fishery has been confined to waters off Western Australia (Patterson and New 2013). It is considered that Indian Ocean stocks of the target species are genetically different from Pacific Ocean stocks, but some level of mixing may exist. Total catch of the target species in the Western Tuna and Billfish Fishery in 2012 was approximately 400 tonnes compared to approximately 4,500 tonnes in the Eastern Tuna and Billfish Fishery.</p> <p><i>Commonwealth Southern and Eastern Scalefish and Shark Fishery</i></p> <p>The Southern and Eastern Scalefish and Shark Fishery (SESSF) overlaps the area of the Eastern Tuna and Billfish Fishery. Catches of Eastern Tuna and Billfish Fishery target species in the SESSF are typically very low, with approximately 200 kilograms of broadbill swordfish reported in 2012.</p> <p><i>Commonwealth Eastern Skipjack Tuna Fishery</i></p> <p>The Eastern Skipjack Tuna Fishery operates in the area of the Eastern Tuna and Billfish Fishery. Incidental take of Eastern Tuna and Billfish Fishery quota species in the Eastern Skipjack Tuna Fishery must be covered by quota allocated under the Eastern Tuna and Billfish Fishery Management Plan 2010. No vessels operated in the Eastern Skipjack Tuna Fishery in 2011 or 2012.</p> <p><i>State managed fisheries operating in the area of the Eastern Tuna and Billfish Fishery</i></p> <p>A number of Eastern Tuna and Billfish Fishery byproduct species which are also taken in state managed fisheries are subject to trip limits set in conjunction with the relevant state fisheries management agencies.</p> <p><i>Recreational and charter fishing</i></p> <p>Recreational and game fishers also target tuna, marlin and sharks in the area of the Eastern Tuna and Billfish Fishery. Operators in the Eastern Tuna and Billfish Fishery are prohibited from retaining blue marlin and black marlin and catch limits apply to the harvest of longtail tuna, in recognition of the importance of these species</p> <p>The 2012 Western and Central Pacific Fisheries Commission striped marlin stock assessment included Australian (and New Zealand) recreational fishing catches. In determining recommended total annual allowable catches for quota species, recreational catch—for example, Cheshire et al. (2013)—and agreements on resource sharing, where these exist, are taken into account.</p>
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Commercial licences issued 2012	<p>In the 2012 fishing season, 105 longline boat statutory fishing rights and 131 minor line boat statutory fishing rights were issued in the Eastern Tuna and Billfish Fishery.</p> <p>44 longline vessels and 7 minor line vessels were active in the fishery in 2012.</p>
Management	<p>The Eastern Tuna and Billfish Fishery is managed by the Australian Fisheries Management Authority under the <i>Fisheries Management Act 1991</i>, Fisheries Management Regulations 1992 and the Eastern Tuna and Billfish Fishery Management Plan 2010 (and associated directions, determinations and temporary orders). Specific management measures are largely implemented through conditions, as provided for under section 22(5) of the <i>Fisheries Management Act 1991</i>, on boat or gear statutory fishing rights issued according to the management plan.</p> <p>The management arrangements are described in detail in the <i>Eastern Tuna and Billfish Fishery (ETBF) - Management Arrangements Booklet - 2014 Fishing Season</i>.</p> <p>Management measures include:</p> <ul style="list-style-type: none"> • limited entry (a requirement to hold statutory fishing rights and quota for one or more species) • a harvest strategy with reference points for target and some byproduct species, set in collaboration with fishery management agencies in adjacent and overlapping jurisdictions • a quota management system for key target species. Based on the recommended biological catch of each species provided by the fishery's resource assessment group, an annual total allowable commercial catch is set for each species. Individual transferable quotas are allocated according to the number of quota statutory fishing rights held • byproduct catch limits, generally in the form of trip limits, for a range of byproduct species • restricted access zones and increased observer requirements on the New South Wales coast between around May to November to control interactions with southern bluefin tuna • prohibition of the take of certain species: <ul style="list-style-type: none"> - blue or black marlin - a number of species listed as conservation dependent under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act), including orange roughy, eastern gemfish and school shark. Conservation dependent deepwater dogfish species (Harrisson's dogfish and southern dogfish) are not prohibited but take is subject to general trip limits for sharks (given that the Eastern Tuna and Billfish Fishery targets pelagic species, deepwater dogfish species are encountered rarely) • reporting obligations including logbooks, carriage of observers and independently verified catch disposal records <p style="text-align: right;">.../cont.</p>

Management <i>(cont.)</i>	<p>The Eastern Tuna and Billfish Fishery Management Plan 2010 requires the Australian Fisheries Management Authority to establish a reviewable ecological risk management plan for the fishery, which must require action to ensure that:</p> <ul style="list-style-type: none"> • information about the impact of the fishery on bycatch species is gathered • bycatch is reduced to, or kept at, a minimum and below a level that might threaten bycatch species • all reasonable steps are taken to minimise interaction with sea birds, marine reptiles, marine mammals and other no-take species specified in the <i>Fisheries Management Act 1992</i>, • the ecological impacts of fishing operations on habitats in the area of the fishery are minimised and kept at an acceptable level. <p>Sharks</p> <p>To reduce the impact of fishing on sharks, the Australian Fisheries Management Authority has:</p> <ul style="list-style-type: none"> • banned the use of wire leaders or ‘traces’ on longline branchlines in the Eastern Tuna and Billfish Fishery. The measure is intended to reduce shark mortality, as sharks are more likely to bite through synthetic fibre leaders and escape • required each vessel to carry line cutters and de-hookers to assist in releasing live sharks without harm • banned the practice of finning sharks at sea. This prohibits the possession or landing of fins separate from carcasses • implemented a trip limit for sharks (amended in 2012).
Export	<ul style="list-style-type: none"> • Japan, United States—mainly fresh • Europe—frozen • American Samoa, Thailand, Indonesia—albacore mainly for canning <p>(Larcombe and New 2013)</p>
Bycatch	<p>The bycatch of species such as sharks, black and blue marlin, seabirds and marine turtles is an issue in the management of longline fisheries. Over 100 species have been recorded as bycatch from the Eastern Tuna and Billfish Fishery, including sharks, rays, various other fish, seabirds and occasionally marine turtles and marine mammals.</p> <p>The <i>Australian Tuna and Billfish Fisheries Bycatch and Discarding Workplan 1 July 2014 – 30 June 2016</i> has a focus on the bycatch of seabirds and sharks, based on the outcomes of previous ecological risk assessment processes.</p> <p style="text-align: right;">.../cont.</p>

	<p>Current measures to address bycatch and discarding include:</p> <ul style="list-style-type: none"> • a bycatch working group to provide specialist advice • a marine turtle mitigation strategy to meet requirements of the Western and Central Pacific Fisheries Commission to minimise the bycatch of marine turtles • a trigger limit and data collection for sunfish, a group of species identified as being at high risk from the effects of fishing • measures to minimise shark bycatch (see Management, above) • specific measures in the Coral Sea Zone to protect black marlin • southern bluefin tuna zones (see Area of the Fishery, above) • catch limits for species that are managed by state fishery management agencies • research projects: <ul style="list-style-type: none"> - for example, the Australian Fisheries Management Authority Research Committee (ARC) 2014 call for research included research to further develop and evaluate the harvest strategies adopted in the tropical tuna and billfish fisheries, in particular the identification of fishery indicators and reference points for byproduct and bycatch species.
Interaction with Protected Species²	<p>Protected species of seabirds, marine turtles, sharks and cetaceans are known to inhabit the area of the Eastern Tuna and Billfish Fishery and there is potential for pelagic longline fishing gear in particular to interact with these species groups.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 requires the Australian Fisheries Management Authority to establish a reviewable ecological risk management plan for the fishery. The ecological risk management plan must require action to ensure that among other things all reasonable steps are taken to minimise interaction with sea birds, marine reptiles and marine mammals (including cetaceans).</p> <p>As noted above, the <i>Australian Tuna and Billfish Fisheries Bycatch and Discarding Workplan 1 July 2014 – 30 June 2016</i> focuses on seabirds and sharks and a number of existing management measures act to prevent or mitigate interactions with protected species (see also Table 3). The bycatch and discarding workplan is reviewed annually and a new plan prepared every two years.</p> <p>Seabirds</p> <p>The Lord Howe Island group and Norfolk Island group support internationally and nationally significant breeding sites for a number of seabirds in the region (SEWPaC, 2012). Oceanic longline fishing, the primary fishing method in the Eastern Tuna and Billfish Fishery, is recognised internationally as a threat to seabirds and has been listed as a key threatening process under the EPBC Act.</p>

² 'Protected species' means all species listed under Part 13 of the EPBC Act, including whales and other cetaceans and listed threatened, listed marine and listed migratory species.

	<p>An initial threat abatement plan was released in 1998 and has since been revised twice. The <i>Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations</i> (Seabird TAP) was released in mid 2014.</p> <p>Section 269(1) of the EPBC Act requires that the Commonwealth must implement a threat abatement plan which applies in a Commonwealth area, for example in the Eastern Tuna and Billfish Fishery. The mitigation and monitoring requirements of the Seabird TAP to minimise the impact of fishing on seabirds are given effect in the Eastern Tuna and Billfish Fishery through conditions on longline boat statutory fishing rights.</p> <p>Specific management measures which act to minimise the threats to seabirds from longline fishing include the requirement to use tori lines, weighted lines and thawed baits and a ban on offal discharge from all vessels operating south of 20 degrees south of the Equator.</p> <p>Three seabirds were caught on hooks during 2012, from a total of approximately 6.8 million hooks set, and two of those were released alive.</p> <p>Further information on the Seabird TAP is available from the Department's website at: http://www.antarctica.gov.au/science/southern-ocean-ecosystems-environmental-change-and-conservation/southern-ocean-fisheries/seabird-bycatch/threat-abatement-plan-seabirds.</p> <p>Sharks</p> <p>Interactions with white sharks and grey nurse sharks, which are listed as threatened under the EPBC Act, are rare in the Eastern Tuna and Billfish Fishery.</p> <p>On 20 January 2010, longfin and shortfin mako sharks and porbeagle sharks were listed as migratory under the EPBC Act. Fishers are still permitted to retain these sharks as byproduct if brought up to the boat dead, within the total trip limits for sharks. Live caught specimens of these shark species need to be released.</p> <p>Marine turtles</p> <p>Four of the world's seven marine turtle species are known to inhabit the area of the Eastern Tuna and Billfish Fishery. All are listed threatened species under the EPBC Act.</p> <p>Historically the majority of interactions with marine turtles in the fishery have been with green and leatherback turtles. A total of 15 marine turtles were captured during the 2012 fishing year, with all but three released alive.</p> <p>A number of management measures act to minimise the impact of fishing operations on marine turtles (see Table 3).</p>
<p>Ecosystem Impacts</p>	<p>The nature of impacts on the ecosystem by the Eastern Tuna and Billfish Fishery is mainly in relation to the take of primary and byproduct species and impacts on bycatch species, discussed above. No habitats were identified as high risk from the effects of pelagic longline fishing in the ecological risk assessment process.</p>

Impacts on Wetlands of International Importance	<p>The assessment also considered the possible impacts on the ecological character of the Elizabeth and Middleton Reefs Ramsar Wetland and the Coral Sea National Nature Reserves (Coringa-Herald and Lihou Reefs and Cays) Ramsar Wetland which are designated Wetlands of International Importance.</p> <p>Under the EPBC Act, a person may not take an action that has, will have, or is likely to have, a significant impact on the ecological character of a Wetland of International Importance.</p> <p>Under transitional management arrangements for the Lord Howe Commonwealth Marine Reserve, no commercial fishing is allowed in the area of the former Elizabeth and Middleton Reefs Marine National Nature Reserve. Under transitional management arrangements for the Coral Sea Commonwealth Marine Reserve, no commercial fishing is permitted within the area of the former Coringa-Herald National Nature Reserve and the area of the former Lihou Reef National Nature Reserve.</p> <p>Management measures within the greater area of the fishery restrict the take of target and byproduct species and aim to minimise bycatch. The ecological risk management report described how risks to priority species identified through ecological risk assessments for the fishery are addressed.</p> <p>Taking into account the prohibition on commercial fishing within the Ramsar wetlands, the ecological risk management process for the fishery and the management measures in place, the Department considers that an action taken by an individual fisher, acting in accordance with the Eastern Tuna and Billfish Fishery Management Plan 2010, would not be expected to have a significant impact on the ecological character of the Elizabeth and Middleton Reefs Ramsar Wetland or the Coral Sea National Nature Reserves (Coringa-Herald and Lihou Reefs and Cays) Ramsar Wetland.</p>
Impacts on World Heritage properties	<p>This assessment considered the possible impacts on the World Heritage values of the Lord Howe Island Group and the Great Barrier Reef World Heritage Area. Under the EPBC Act, a person may not take an action that has, will have, or is likely to have, a significant impact on the world heritage values of a declared World Heritage property.</p> <p>Lord Howe Island is part of the State of New South Wales. The state waters (out to 3 nautical miles) around Lord Howe Island and Ball's Pyramid comprise the New South Wales Lord Howe Island Marine Park (State Waters). The Commonwealth waters between 3 nm and 12 nm around Lord Howe Island and Ball's Pyramid comprise the areas within the former Lord Howe Island Marine Park (Commonwealth Waters), now part of the Lord Howe Commonwealth Marine Reserve. Fishing within 12 nautical of Lord Howe Island is not permitted except under permit from the relevant marine reserve management agency.</p> <p>No fishing for "tuna or tuna-like species" is permitted within the Great Barrier Reef Marine Park without a permit issued by the Great Barrier Reef Marine Park Authority. Since 1990, the Great Barrier Reef Marine Park Authority has maintained a multiple hook policy under which no permits to undertake line fishing with more than six hooks per line are issued.</p>

	<p>Management measures within the greater area of the fishery restrict the take of target and byproduct species and aim to minimise bycatch. The ecological risk management report described how risks to priority species identified through ecological risk assessments for the fishery are addressed.</p> <p>Taking into account the restrictions on fishing within the World Heritage areas, the ecological risk management process for the fishery and the management measures in place, the Department considers that an action taken by an individual fisher, acting in accordance with the <i>Fisheries Management Act 1991</i>, Fisheries Management Regulations 1992 and the Eastern Tuna and Billfish Fishery Management Plan 2010, would not be expected to have a significant impact on the World Heritage values of the Great Barrier Reef World Heritage Area and the World Heritage values of Lord Howe Island Group.</p>
Impacts on the Great Barrier Reef Marine Park	<p>The assessment also considered the possible impacts on the Great Barrier Reef Marine Park. Under the EPBC Act, a person may not take an action that has, will have, or is likely to have, a significant impact on the environment in the Great Barrier Reef Marine Park.</p> <p>Taking into account the restrictions on fishing within the marine park and the ecological risk management process for the fishery and the management measures described in Impacts on World Heritage properties (above), the Department considers that an action taken by an individual fisher, acting in accordance with the <i>Fisheries Management Act 1991</i>, Fisheries Management Regulations 1992 and the Eastern Tuna and Billfish Fishery Management Plan 2010, would not be expected to have a significant impact on the environment in the Great Barrier Reef Marine Park.</p>

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TABLE 2: PROGRESS IN IMPLEMENTATION OF CONDITIONS AND RECOMMENDATIONS MADE IN THE 2011 ASSESSMENT OF THE EASTERN TUNA AND BILLFISH FISHERY

Condition	Progress	Recommended Action
1. Operation of the fishery will be carried out in accordance with the management arrangements for the Eastern Tuna and Billfish Fishery in force under the <i>Fisheries Management Act 1991</i> .	The Australian Fisheries Management Authority (AFMA) has advised that the Eastern Tuna and Billfish Fishery has been managed under the Eastern Tuna and Billfish Fishery Management Plan 2010 in force under the <i>Fisheries Management Act 1991</i> .	<p>The Department of the Environment considers that this condition has been met.</p> <p>The Department considers that a new approved wildlife trade operation declaration for the Eastern Tuna and Billfish Fishery specify a similar condition - see Condition 1, Table 4.</p>
2. The Australian Fisheries Management Authority to inform the Department of Sustainability, Environment, Water, Population and Communities (the department) of any intended amendments to the Eastern Tuna and Billfish Fishery management arrangements that may affect the assessment of the fishery against the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) decisions are based.	The Department is satisfied AFMA has kept it informed of potential changes to the management of the Eastern Tuna and Billfish Fishery.	<p>The Department considers that this condition has been met.</p> <p>The Department considers that a new approved wildlife trade operation declaration for the Eastern Tuna and Billfish Fishery specify a similar condition - see Condition 2, Table 4.</p>
3. The Australian Fisheries Management Authority and the Department of Agriculture, Fisheries and Forestry to produce and present reports to the department annually as per Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i> .	AFMA has provided annual reports to the Department.	<p>The Department considers that this condition has been met.</p> <p>The Department considers that a new approved wildlife trade operation declaration for the Eastern Tuna and Billfish Fishery specify a similar condition - see Condition 3, Table 4.</p>

Condition	Progress	Recommended Action
<p>4. The Australian Fisheries Management Authority to ensure that the catch of bigeye tuna in the Eastern Tuna and Billfish Fishery is sustainable. The Australian Fisheries Management Authority to:</p> <ul style="list-style-type: none"> a) conduct a review of available research on stock structure and connectivity in the western and central Pacific Ocean; and b) in consideration of a), support research to determine whether there is a discrete stock of bigeye tuna in the Coral Sea, as appropriate. 	<p>Within the Eastern Tuna and Billfish Fishery, over 90 per cent of bigeye tuna is caught in the Coral Sea region (north of 24° south of the Equator) of the fishery. Hampton and Gunn (1998), based on the relatively high frequency of returned tags from tagged fish, proposed a hypothesis that adult fish exhibited a degree of residency in the Coral Sea Basin, rather than migrating into the region on an annual basis. Evans <i>et al.</i> (2005) considered the two alternative hypotheses, either an annual migration of a wider stock or alternatively a longer term residence of bigeye tuna in the Coral Sea, to be equally likely.</p> <p>An analysis of information on tuna stock connectivity undertaken by CSIRO was presented to the Tropical Tuna Resource Assessment Group (TTRAG). TTRAG discussed the possibility of a discrete stock of bigeye tuna in the Coral Sea Basin in developing the 2011 Recommended Biological Commercial Catch provided to the Tropical Tuna Management Advisory Committee. TTRAG concluded that the bigeye tuna in the Eastern Tuna and Billfish Fishery is part of a broader South West Pacific (not Coral Sea) stock that approximates Region 5 of the western and central Pacific Ocean stock assessment. The 2014 bigeye tuna stock assessment includes specific Coral Sea Basin data, following recommendations made in a review of the 2011 assessment.</p> <p>At its 2013 meeting, TTRAG also noted that the Eastern Tuna and Billfish Fishery contributes only about 19 per cent of the bigeye tuna catch in Region 5 (down from 40 per cent in 2007 – the Australian catch of bigeye tuna has more than halved since 2007 as a result of structural changes in the Eastern Tuna and Billfish Fishery). TTRAG agreed that, given that the catch is a small proportion of the Region 5 catch, the harvest strategy should not be applied to bigeye tuna regardless of connectivity to the broader western Pacific Ocean (that is, the issue of stock connectivity has become irrelevant to catch setting in the Eastern Tuna and Billfish Fishery).</p> <p>(Note: See also the discussion of bigeye tuna stock status in Table 1.)</p>	<p>The Department considers that this condition has been met.</p>

Condition	Progress	Recommended Action
<p>5. The Australian Fisheries Management Authority, if e-monitoring is implemented in the Eastern Tuna and Billfish Fishery, to ensure that the monitoring program for the fishery appropriately balances the limitations of each monitoring method to continue to:</p> <ul style="list-style-type: none"> a) ensure that there are statistically significant levels of scientific observer effort (or other reliable method) representative of fishing effort, by areas and months to, at a minimum, meet Western and Central Pacific Fisheries Commission requirements and to validate: <ul style="list-style-type: none"> i) the nature and level of interactions with species listed under the EPBC Act to facilitate a quantification of the effects of fishing on these species; ii) commercial catch of Eastern Tuna and Billfish Fishery quota and byproduct species; iii) the incidence of discarding (including life status) and high grading; and iv) interactions with bycatch; b) annually compare observer reports with logbook records for species listed under the EPBC Act, implement measures to address any inconsistencies and publicly report these as part of the annual reporting to the department. 	<p>Previous Australian Government assessments of the Eastern Tuna and Billfish Fishery under the EPBC Act identified the need for the arrangements for monitoring the effects of fishing to evolve to take account of ongoing changes to the management of the fishery and increased understanding of the effects of fishing on target, byproduct and bycatch species, protected species and the ecosystem generally. To this end the AFMA in conjunction with industry investigated the potential of e-monitoring to provide reliable, cost effective monitoring for some or all of the fishery's requirements for logbook-independent monitoring (Piasente et al. 2011).</p> <p>As a result of e-monitoring trials, AFMA is in the process of implementing e-monitoring in the Eastern Tuna and Billfish Fishery. In mid 2014 the authority advised that a successful tenderer had been selected to design monitoring programs for a number of fisheries, including the Eastern Tuna and Billfish Fishery and that e-monitoring cameras are expected to be installed on vessels in the fishery in 2015.</p> <p>The authority's 2013 application indicates that the proposed monitoring program for the fishery, using e-monitoring, aims to ensure that:</p> <ul style="list-style-type: none"> a) there are appropriate levels of stratified observer effort and is able to validate the catch; interactions with listed species and other bycatch species; and discards; and b) e-monitoring data is able to validate logbook records for species listed under the EPBC Act and address inconsistencies. <p>However, little information is currently available to demonstrate that the proposed program meets those aims.</p> <p>Implementing the <i>Threat Abatement Plan 2006 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations</i> and the memorandum of understanding between the authority and the Department for reporting of protected species interactions relies on accurate reporting of interactions.</p>	<p>The Department recommends that the overall fishery monitoring strategy implemented in the Eastern Tuna and Billfish Fishery be designed to balance the information needs of multiple objectives and provide sufficient information to meet the monitoring program's objectives, taking into account the limitations of different monitoring methods - see Recommendation 7, Table 4).</p>

Condition	Progress	Recommended Action
	Validation of logbook data against logbook independent data is an important part of ensuring that reporting requirements are met and providing confidence that the effects of fishing on protected species are predicted accurately.	

Condition	Progress	Recommended Action
<p>6. The Australian Fisheries Management Authority to continue to:</p> <p>a) implement measures to ensure the take of shark in the Eastern Tuna and Billfish Fishery is sustainable, including for:</p> <p>i) byproduct;</p> <p>ii) bycatch; and</p> <p>iii) the broader marine environment;</p> <p>b) educate fishers of obligations under the EPBC Act and <i>Fisheries Management Act 1991</i> in relation to mako and porbeagle sharks; and</p> <p>c) educate fishers about correct reporting procedures for interactions.</p>	<p>Measures to reduce the impact of the fishery on sharks, summarised in Table 1, have been maintained through conditions on boat statutory fishing rights (AFMA 2013). Since the 2011 assessment, the following additional measures have been implemented:</p> <ul style="list-style-type: none"> to prevent targeting of sharks, the trip limit for sharks has been amended such that the number of sharks taken per trip must not be more than the number of tuna and billfish quota species taken per trip, not exceeding a maximum of 20 sharks per trip. Catch disposal records are used to verify the take of sharks. the take of oceanic whitetip shark from the fishery is now prohibited, consistent with the Western and Central Pacific Fisheries Commission <i>Conservation and Management Measure for Oceanic Whitetip Sharks</i> (CMM 2011-04, WCPFC (2011)). <p>Following the listing of shortfin mako, longfin mako and porbeagle shark as migratory species under the EPBC Act in 2010, in 2011 and 2012 AFMA conducted extensive skipper education in the Eastern Tuna and Billfish Fishery regarding new management arrangements for these species (retaining and trading these species is only permitted if they are already dead when brought up to the boat. Live individuals are required be released.)</p> <p>Part of the education program covered species identification and reporting obligations, including for protected species.</p> <p>Key objectives of the <i>Australian Tuna and Billfish Fisheries Bycatch and Discarding Workplan 1 July 2014 – 30 June 2016</i> now include:</p> <ul style="list-style-type: none"> improving post capture survival of chondrichthyan species improving understanding of catch composition in relation to chondrichthyan species. 	<p>The Department considers that this condition has been met to date.</p> <p>Given the potential impact of tuna longline fisheries on highly migratory shark species in the western and central Pacific region, the Department recommends that the management focus on sharks in the fishery be maintained—see Recommendation 6, Table 4.</p>

Recommendation	Progress	Recommended Action
<p>1. The Australian Fisheries Management Authority to review the Eastern Tuna and Billfish Fishery Ecological Risk Assessment. The Australian Fisheries Management Authority to implement appropriate management actions to address any high risks identified.</p>	<p>The 2009 ecological risk management report for the Eastern Tuna and Billfish Fishery was updated in 2012. The nature of pelagic fishing operations means that it is difficult to design measures which mitigate the capture of a particular species. Therefore, the <i>Ecological Risk Management Report for the Eastern Tuna and Billfish Fishery – April 2012</i> has as its aim to mitigate against the capture of entire groups of 'like species'. The ecological risk management report sets out the risk management strategy to mitigate against the capture of these species groups (summarised in Table 1).</p> <p>Ecological risk management in the Eastern Tuna and Billfish Fishery aims to:</p> <ul style="list-style-type: none"> • reduce interactions with marine turtles, seabirds and whales, and • decrease the capture and mortality of sharks, due to their ecological status and results from the ecological risk assessment process where several species of shark have been identified as high risk. 	<p>The Department considers that this recommendation has been met.</p> <p>The Department notes that AFMA's ecological risk assessment/ ecological risk management process is under review. The Department recommends that AFMA develop a process to review and update the ecological risk assessment on a regular or a triggered basis, to ensure that it is capable of identifying and responding to changes in risk over time—see Recommendation 4, Table 4.</p>
<p>2. The Australian Fisheries Management Authority to develop a formal framework applicable to the Eastern Tuna and Billfish Fishery to guide the management of byproduct species, which includes objectives, performance measures, management responses and information requirements as appropriate.</p>	<p>A wide range of species are caught incidentally and retained in the Eastern Tuna and Billfish Fishery (see Byproduct in Table 1 above). The highest catches include mahi mahi (dolphinfish) and rudderfish.</p> <p>Since the 2011 assessment, AFMA has:</p> <ul style="list-style-type: none"> • amended the trip limits for sharks (see above) • commenced review of the fishery's harvest strategy to include the assessment and management of byproduct species • called for research proposals to develop indicators and reference points for byproduct species. 	<p>The Department notes that development of a formal framework for byproduct species is underway and supports the Australian Fisheries Management Authority's approach to this work—see Recommendation 5, Table 4.</p>

Recommendation	Progress	Recommended Action
<p>3. The Australian Fisheries Management Authority to work with other relevant jurisdictions to pursue complementary research and management of shared shark stocks.</p>	<p>The Tropical Tuna Management Advisory Committee, the key advisory body for the fishery, includes a representative of state fisheries management agencies.</p> <p>Byproduct catch limits for species managed by state fisheries management agencies under Offshore Constitutional Settlement fisheries agreements continue to be set in consultation with the relevant agencies.</p> <p>Collaboration on more strategic management issues also occurs, for example:</p> <ul style="list-style-type: none"> • catch data from the Eastern Tuna and Billfish Fishery informs regional stock assessments for key western and central Pacific Ocean target stocks • the Australian Fisheries Management Authority provided logbook and observer <i>information</i> on sharks in the Eastern Tuna and Billfish Fishery to the multi-jurisdictional shark workshop “Shark futures: A synthesis of available data on mako and porbeagle sharks in Australasian waters”. <p>See recommendation 5 below for information regarding the Australian Government’s objectives in participating in the Western and Central Pacific Fisheries Commission.</p>	<p>The Department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p>4. The Department of Agriculture, Fisheries and Forestry and the Australian Fisheries Management Authority, in cooperation with the relevant States, to assess the adequacy of data and information collection on recreational and charter catch of target species, with a view to determining whether improvements are required to ensure that the information is provided at an appropriate precision for inclusion in the assessment in the Western and Central Pacific Fisheries Commission.</p>	<p>Since the 2011 assessment of the fishery:</p> <ul style="list-style-type: none"> • a review of recreational shark catch relevant to Commonwealth managed commercial fisheries has been undertaken (Cheshire et al. 2013) • recreational striped marlin catch data was used in the 2012 western and central Pacific striped marlin stock assessment. <p>A number of recreational fishing catch surveys in various jurisdictions have recently been completed or are underway. This will help to ensure that up to date recreational catch information is available to inform stock assessment and management decisions.</p>	<p>The Department considers that this recommendation has been met.</p>
<p>5. The Department of Agriculture, Fisheries and Forestry to continue to pursue Australian Government objectives to incorporate an ecosystem based approach to fisheries management. This includes working within the Western and Central Pacific Fisheries Commission to:</p> <p>a) improve catch reporting and therefore certainty around stock assessments, including through the collection and provision of fishery data and catch validation;</p> <p>b) continue to pursue, implement or improve monitoring, control and surveillance measures (e.g. Regional Observer Program, Compliance Monitoring Scheme, Vessel Monitoring System, management of Illegal, Unreported and Unregulated vessels, and</p>	<p>The Department of Agriculture continues to lead Australia's participation in the Western and Central Pacific Fisheries Commission. The Australian Government's objectives include working to:</p> <ul style="list-style-type: none"> • improve catch reporting and certainty around stock assessments • improve monitoring, control and surveillance measures • pursue catch and effort levels that are sustainable • ensure that decisions regarding the global catch and effort levels take into account all mortality of key species • implement or improve binding measures to mitigate the impacts on ecologically related species. 	<p>The Department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p>transshipment) to ensure compliance with catch and effort levels and ensure that unreported catches are minimised;</p> <p>c) continue to pursue catch and effort levels that are sustainable and seek to recover overfished stocks, and pursue the adoption of appropriate measures (for example closures and effort caps) to assist members to keep within prescribed catch or effort levels. In this regard, Australia should continue to advocate the Commonwealth Fisheries Harvest Strategy Policy as an example of best practice;</p> <p>d) seek to ensure that decisions regarding the global catch and effort levels take into account all mortality of key species; and</p> <p>e) continue to pursue, implement or improve binding measures to mitigate the impacts on ecologically related species, in particular seabirds, sharks, marine turtles, and cetaceans.</p>		

Recommendation	Progress	Recommended Action
<p>Recommendation 6</p> <p>The Australian Fisheries Management Authority to:</p> <ol style="list-style-type: none"> by February 2013, outline a new workplan to reduce bycatch and discards in the Eastern Tuna and Billfish Fishery; and provide the results of the formal two-year review of the Bycatch and Discarding Workplan to the department by 31 March 2013. 	<p>At the time of the 2011 assessment of the Eastern Tuna and Billfish Fishery under the EPBC Act, AFMA had developed a draft <i>Bycatch and Discarding Workplan for the Australian Tuna and Billfish Longline Fishery</i> (including the Eastern Tuna and Billfish Fishery). The previous bycatch and discarding workplan covered a two year period from 1 November 2008 to 31 October 2010, and had been reviewed by AFMA to reflect any changes in bycatch and discarding in the fishery and incorporate new actions where required. In conjunction with the 2011 EPBC Act assessment of the fishery, a recommendation was made to similarly review and renew the 2011-2013 workplan at the end of the two year period.</p> <p>The final <i>Australian Tuna and Billfish Longline Fisheries Bycatch and Discarding Workplan 2011-2013</i> was reviewed at the end of its life and a new workplan published. The <i>Australian Tuna and Billfish Fisheries Bycatch and Discarding Workplan 1 July 2014 – 30 June 2016</i> sets out the review process for the workplan. AFMA will:</p> <ul style="list-style-type: none"> review the workplan after six months to check that the progress of actions is on track review the workplan after 12 months conduct and publish a full evaluation of the workplan after two years to assess the overall effectiveness of the workplan actions in addressing the associated bycatch risks. <p>It is intended that at the end of the two year period, the risk profile of the fisheries will also be reviewed and a new workplan developed and implemented.</p>	<p>The Department considers that this recommendation has been met.</p>

TABLE 3: THE DEPARTMENT OF THE ENVIRONMENT'S ASSESSMENT OF THE EASTERN TUNA AND BILLFISH FISHERY AGAINST THE REQUIREMENTS OF THE EPBC ACT RELATED TO DECISIONS MADE UNDER PART 13 AND PART 13A

Please Note – the table below is not a complete or exact representation of the EPBC Act. It is intended as a summary of relevant sections and components of the EPBC Act to provide advice on the fishery in relation to decisions under Part 13 and Part 13A. A complete version of the EPBC Act can be found at <http://www.comlaw.gov.au/>.

Part 13

Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p style="padding-left: 40px;">(a) a plan of management within the meaning of section 17 of the <i>Fisheries Management Act 1991</i>;</p> <p>if satisfied that:</p> <p style="padding-left: 40px;">(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed threatened species (other than conservation dependent species) are not killed or injured as a result of the fishing; and</p>	<p>The Eastern Tuna and Billfish Fishery will be managed under the Eastern Tuna and Billfish Fishery Management Plan 2010 in force under the <i>Fisheries Management Act 1991</i>.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 was most recently accredited under section 208A (Part 13) in February 2011. While there have been amendments to the plan since that time, the Department considers that those amendments do not materially change the requirement for fishers to take steps to ensure that members of listed threatened species are not killed or injured as a result of the fishing.</p> <p>Section 9ZS of the Fisheries Management Regulations 1992 requires that Commonwealth fishing concession holders must ensure that, as far as practicable, there is no interaction with a protected species during a fishing trip.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 requires the Australian Fisheries Management Authority to establish a reviewable ecological risk management plan for the fishery. The ecological risk management plan must require action to ensure that among other things all reasonable steps are taken to minimise interaction with sea birds, marine reptiles and marine mammals, a number of which are listed threatened species.</p>

Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
	<p>Conditions applied under section 22(5) of the <i>Fisheries Management Act 1991</i> on boat statutory fishing rights (boat SFRs) issued under the management plan implement specific management measures which act to reduce the likelihood of capture and mortality of listed threatened species—for example:</p> <ul style="list-style-type: none"> • the requirement to use circle hooks on shallow sets to reduce longline capture of marine turtles and improve the chances of survival of any turtles caught • compulsory carriage of line cutters and de-hookers to assist in releasing turtles and sharks in the water • the prohibition of the use of wire traces with longline gear, to allow sharks to bite free • prohibition of shark finning • the requirements of the Seabird TAP (see Table 1). <p>The Department considers that the Eastern Tuna and Billfish Fishery Management Plan 2010 as administered by the Australian Fisheries Management Authority requires persons engaged in fishing under the plan to take all reasonable steps to ensure that members of listed threatened species are not killed or injured as a result of the fishing.</p>
<p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the survival or recovery in nature of the species</p>	<p>Taking into account the management measures in place, (summarised above and in Table 1), the most recent ecological risk management report for the fishery (AFMA 2012) found no listed threatened species at high risk from the effects of fishing. Given the conclusions of the ecological risk management report and that the number of reported and observed interactions with listed threatened species in the fishery is low, the Department considers that the current operation of the Eastern Tuna and Billfish Fishery is not likely to adversely affect the survival or recovery in nature of any listed threatened species.</p>

Part 13 (cont.)

Division 2 Migratory species Section 222A Minister may accredit plans or regimes	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(a) a plan of management within the meaning of section 17 of the <i>Fisheries Management Act 1991</i>;</p> <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing; and</p>	<p>The Eastern Tuna and Billfish Fishery will be managed under the Eastern Tuna and Billfish Fishery Management Plan 2010 in force under the <i>Fisheries Management Act 1991</i>.</p> <p>Listed migratory species of seabirds, marine turtles and sharks are known to inhabit the area of the Eastern Tuna and Billfish Fishery and there is potential for pelagic longline fishing gear to interact with these species groups.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 was most recently accredited under section 222A (Part 13) in February 2011. While there have been amendments to the plan since that time, the Department considers that those amendments do not materially change the requirement for fishers to take steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing.</p> <p>Section 9ZS of the Fisheries Management Regulations 1992 requires that Commonwealth fishing concession holders must ensure that, as far as practicable, there is no interaction with a protected species during a fishing trip.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 requires the Australian Fisheries Management Authority to establish a reviewable ecological risk management plan for the fishery. The ecological risk management plan must require action to ensure that among other things all reasonable steps are taken to minimise interaction with sea birds, marine reptiles and marine mammals, a number of which are listed migratory species.</p>

Division 2 Migratory species Section 222A Minister may accredit plans or regimes	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
	<p>Conditions applied under section 22(5) of the <i>Fisheries Management Act 1991</i> on boat statutory fishing rights (boat SFRs) issued under the management plan implement specific management measures which act to reduce the likelihood of capture and mortality of listed migratory species—for example:</p> <ul style="list-style-type: none"> • the requirements of the Seabird TAP (see Table 1) • the requirement to use circle hooks on shallow sets to reduce longline capture of marine turtles and improve the chances of survival of any turtles caught • compulsory carriage of line cutters and de-hookers to assist in releasing sharks and turtles in the water • the prohibition of the use of wire traces with longline gear, to allow sharks to bite free • trip limits for sharks • prohibition of shark finning <p>The Department considers that the Eastern Tuna and Billfish Fishery Management Plan 2010 as administered by the Australian Fisheries Management Authority requires persons engaged in fishing under the plan to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing.</p>
<p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed migratory species or a population of that species.</p>	<p>Given the requirements of the Seabird TAP and the implementation of management measures which act to minimise the capture and mortality of marine turtles and sharks (see above and Table 1), the Department considers that the current operation of the Eastern Tuna and Billfish Fishery is not likely to adversely affect the conservation status of a listed migratory species or a population of that species.</p>

Part 13 (cont.)

Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(a) a plan of management within the meaning of section 17 of the <i>Fisheries Management Act 1991</i>;</p> <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing; and</p>	<p>The Eastern Tuna and Billfish Fishery will be managed under the Eastern Tuna and Billfish Fishery Management Plan 2010 in force under the <i>Fisheries Management Act 1991</i>.</p> <p>Whales and other cetaceans are known to inhabit the area of the Eastern Tuna and Billfish Fishery and, as whales prey on tuna caught on longlines, there is potential for pelagic longline fishing gear to interact with these species.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 was most recently accredited under section 245 (Part 13) in February 2011. While there have been amendments to the plan since that time, the Department considers that those amendments do not materially change the requirement for fishers to take steps to ensure that whales or other cetaceans are not killed or injured as a result of the fishing.</p> <p>Section 9ZS of the Fisheries Management Regulations 1992 requires that Commonwealth fishing concession holders must ensure that, as far as practicable, there is no interaction with a protected species during a fishing trip.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 requires the Australian Fisheries Management Authority to establish a reviewable ecological risk management plan for the fishery. The ecological risk management plan must require action to ensure that among other things all reasonable steps are taken to minimise interactions with marine mammals, including cetaceans.</p> <p>Mandatory management measures, specified as conditions on boat statutory fishing rights, which reduce the likelihood of impact on marine mammal species generally, including cetaceans, include carrying line cutters and de-hookers on board all fishing vessels to assist in the release of marine mammals in a healthy state when they have been brought up to the boat.</p>

Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
	<p>The Department considers that the Eastern Tuna and Billfish Fishery Management Plan 2010 as administered by the Australian Fisheries Management Authority requires persons engaged in fishing under the plan to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing.</p>
<p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a species of cetacean or a population of that species.</p>	<p>The Eastern Tuna and Billfish Fishery has potential to interact with a number of species of whales and occasional interactions with whale species have been reported (on average, five interactions per year, with the majority being released alive (AFMA 2011)). Taking into account the management measures in place, the most recent ecological risk management report for the fishery (AFMA 2012) found no cetacean species at high risk from the effects of fishing. Accordingly, the Department considers that the current operation of the Eastern Tuna and Billfish Fishery is not likely to adversely affect the conservation status of a species of cetacean or a population of that species.</p>

Part 13 (cont.)

Division 4 Listed marine species Section 265 Minister may accredit plans or regimes	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(a) a plan of management within the meaning of section 17 of the <i>Fisheries Management Act 1991</i>;</p> <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing; and</p>	<p>The Eastern Tuna and Billfish Fishery will be managed under the Eastern Tuna and Billfish Fishery Management Plan 2010 in force under the <i>Fisheries Management Act 1991</i>.</p> <p>Listed marine species of seabirds and marine turtles are known to inhabit the area of the Eastern Tuna and Billfish Fishery and there is potential for pelagic longline fishing gear to interact with these species groups.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 was most recently accredited under section 265 (Part 13) in February 2011. While there have been amendments to the plan since that time, the Department considers that those amendments do not materially change the requirement for fishers to take steps to ensure that members of listed marine species are not killed or injured as a result of the fishing.</p> <p>Section 9ZS of the Fisheries Management Regulations 1992 requires that Commonwealth fishing concession holders must ensure that, as far as practicable, there is no interaction with a protected species during a fishing trip.</p> <p>The Eastern Tuna and Billfish Fishery Management Plan 2010 requires the Australian Fisheries Management Authority to establish a reviewable ecological risk management plan for the fishery. The ecological risk management plan must require action to ensure that among other things all reasonable steps are taken to minimise interaction with seabirds, marine reptiles and marine mammals, a number of which are listed marine species.</p>

Division 4 Listed marine species Section 265 Minister may accredit plans or regimes	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
	<p>Boat statutory fishing right conditions implement specific management measures which act to reduce the likelihood of capture and mortality of listed marine species - for example:</p> <ul style="list-style-type: none"> • compulsory carriage of line cutters and de-hookers to assist in releasing turtles • the requirement to use circle hooks on shallow sets to reduce longline capture of marine turtles and improve the chances of survival of any turtles caught • the requirements of the Seabird TAP (see Table 1) <p>The Department considers that the Eastern Tuna and Billfish Fishery Management Plan 2010 as administered by the Australian Fisheries Management Authority requires persons engaged in fishing under the plan to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing.</p>
<p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed marine species or a population of that species.</p>	<p>Given the mitigation measures employed in the fishery (see above and Table 1) and the low rate of interactions observed (Table 1), the Department considers that the current operation of the Eastern Tuna and Billfish Fishery is not likely to adversely affect the conservation status of a listed marine species or a population of that species.</p>

Part 13 (cont.)

Section 303AA Conditions relating to accreditation of plans, regimes and policies	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.	The Department recommends that the management regime for the Eastern Tuna and Billfish Fishery be accredited under sections 208A, 222A, 245 and 265.
(2) The Minister may accredit a plan, regime or policy under that section even though he or she considers that the plan, regime or policy should be accredited only: (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. In such a case, the instrument of accreditation is to specify the period, circumstances or condition.	The Department considers that no conditions are required for the accreditation of the management regime for the Eastern Tuna and Billfish Fishery under Part 13.
(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.	

Part 13A

Section 303BA Objects of Part 13A

(1) The objects of this Part are as follows:

- (a) to ensure that Australia complies with its obligations under CITES³ and the Biodiversity Convention;
- (b) to protect wildlife that may be adversely affected by trade;
- (c) to promote the conservation of biodiversity in Australia and other countries;
- (d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;
- (e) to promote the humane treatment of wildlife;
- (f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and
- (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.

³ Convention on International Trade in Endangered Species of Wild Fauna and Flora

Part 13A (cont.)

Section 303DC Minister may amend list	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
<p>(1) Minister may, by instrument published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by:</p> <ul style="list-style-type: none"> (a) including items in the list; (b) deleting items from the list; or (c) imposing a condition or restriction to which the inclusion of a specimen in the list is subject; or (d) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or (e) correcting an inaccuracy or updating the name of a species. 	<p>The Department recommends that specimens derived from species harvested in the Eastern Tuna and Billfish Fishery, other than:</p> <ul style="list-style-type: none"> • specimens that belong to species listed under Part 13 of the EPBC Act, and • specimens that belong to taxa listed under section 303CA of the EPBC Act (Australia's CITES list) <p>be included in the list of exempt native specimens for a period of five years.</p>
<p>(1A) In deciding whether to amend the list referred to in section 303DB (list of exempt native specimens) to include a specimen derived from a commercial fishery, the Minister must rely primarily on the outcomes of any assessment in relation to the fishery carried out for the purposes of Division 1 or 2 of Part 10.</p>	<p>The Eastern Tuna and Billfish Fishery was assessed under Part 10 of the EPBC Act in March 2005. As a result of that assessment, the Department considered that actions taken in accordance with the fishery's management plan would not have an unacceptable or unsustainable impact on the environment in a Commonwealth marine area.</p>
<p>(1C) The above does not limit the matters that may be taken into account in deciding whether to amend the list referred to in section 303DB (list of exempt native specimens) to include a specimen derived from a commercial fishery.</p>	<p>It is not possible to list exhaustively the factors that you may take into account in amending the list of exempt native specimens. The objects of Part 13A, which are set out above this table, provide general guidance in determining factors that might be taken into account. A matter that is relevant to determining whether an amendment to the list is consistent with those objects is likely to be a relevant factor.</p> <p>The Department considers that the amendment of the list of exempt native specimens to include product taken in the Eastern Tuna and Billfish Fishery (excluding specimens of protected species and specimens of CITES listed species) would be consistent with the provisions of Part 13A as:</p> <ul style="list-style-type: none"> • there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Table 1)

Section 303DC Minister may amend list	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
	<ul style="list-style-type: none"> any CITES listed species which may be captured in the fishery are excluded from the inclusion in the list of exempt native specimens the operation of the fishery during the period of the recommended inclusion is unlikely to be unsustainable and threaten biodiversity the Environment Protection and Biodiversity Conservation Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens.
<p>(3) Before amending the list referred to in section 303DB (list of exempt native specimens), the Minister:</p> <p>(a) must consult such other Minister or Ministers as the Minister considers appropriate; and</p> <p>(b) must consult such other Minister or Ministers of each State and self-governing Territory as the Minister considers appropriate; and</p> <p>(c) may consult such other persons and organisations as the Minister considers appropriate.</p>	<p>The Department considers that the consultation requirements have been met.</p> <p>The 2013 application for the Eastern Tuna and Billfish Fishery received from the Australian Fisheries Management Authority was released for public comment from 14 November to 12 December 2013. The public comment period sought comment on:</p> <ul style="list-style-type: none"> the proposal to amend the list of exempt native specimens to include product derived from the Eastern Tuna and Billfish Fishery the Australian Fisheries Management Authority's application. <p>No comments were received.</p>
<p>(5) A copy of an instrument made under section 303DC is to be made available for inspection on the Internet.</p>	<p>The instrument for the Eastern Tuna and Billfish Fishery made under section 303DC will be gazetted and made available through the Department's website.</p>

Part 12

Section 176 Bioregional Plans	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
<p>(5) Subject to this Act, the Minister must have regard to a bioregional plan in making any decision under this Act to which the plan is relevant.</p>	<p>The area of the Eastern Tuna and Billfish Fishery overlaps the Temperate East Marine Region. Bycatch associated with commercial and recreational fishing activities is identified as a widespread pressure on the conservation values of the region. The <i>Marine Bioregional Plan for the Temperate East Marine Region 2012</i> identifies a number of regional priorities, some of which are relevant to the Eastern Tuna and Billfish Fishery, in particular:</p> <ul style="list-style-type: none"> • bycatch from commercial fishing activities has been assessed as <i>of concern</i> for the killer whale, marine turtles (green, loggerhead and leatherback) and foraging seabirds (selected petrel, albatross and shearwater species). It is considered <i>of potential concern</i> for hawksbill turtle, white shark, foraging seabirds (selected shearwater, albatross and petrel species) and a number of key ecological features (Tasman Front and eddy field, upwelling off Fraser Island, Norfolk Ridge, Tasmanid and Lord Howe seamount chains, shelf rocky reefs) • a number of conservation values in the Temperate East Marine Region are vulnerable to the extraction of living resources by commercial fishing. Commercial fishing effort overlaps with seven of the eight key ecological features in the region, and was assessed as of potential concern for these features. Currently, it is difficult to quantify the exact impacts of target and byproduct species take at these features, however, depending on the intensity of effort and composition of catch, the extraction of living resources from these key ecological features was considered to have the potential to affect trophic structures and ecological functioning. <p>Management measures are in place and, through the <i>Australian Tuna and Billfish Fisheries Bycatch and Discarding Workplan 1 July 2014 – 30 June 2016</i>, are continuously being reviewed, with the objective of reducing the impact of fishing operations on bycatch species. As discussed in Table 1, the Australian Fisheries Management Authority is required to implement the <i>Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations</i> in Commonwealth waters, including the Eastern Tuna and Billfish Fishery. The mitigation and monitoring requirements of the Seabird TAP to minimise the impact of fishing on seabirds are given effect in the fishery through conditions on longline boat statutory fishing rights.</p>

Part 16

Section 391 Minister must consider precautionary principle in making decisions	The Department of the Environment's assessment of the Eastern Tuna and Billfish Fishery
(1) The Minister must take account of the precautionary principle in making a decision under section 303DC and/or section 303FN, to the extent he or she can do so consistently with the other provisions of this Act.	Recognising the risks and uncertainties associated with the operations of the Eastern Tuna and Billfish Fishery, AFMA has put in place precautionary management arrangements for the fishery, summarised in Table 1. The utilisation of ecological risk assessments, harvest strategies containing harvest control rules, a bycatch and discarding workplan and the implementation of the Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations is considered to provide a means by which damage to the environment can be avoided.
(2) The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.	

THE DEPARTMENT OF THE ENVIRONMENT'S FINAL RECOMMENDATIONS TO THE AUSTRALIAN FISHERIES MANAGEMENT AUTHORITY FOR THE EASTERN TUNA AND BILLFISH FISHERY

The material submitted by the Australian Fisheries Management Authority (AFMA) indicates that the Eastern Tuna and Billfish Fishery operates in accordance with the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition*.

Stock Status and Recovery

The Eastern Tuna and Billfish Fishery Management Plan 2010 came into effect at the commencement of the 2011-2012 fishing season on 1 March 2011. At that time output controls in the form of quota statutory fishing rights for five key primary species were introduced in the fishery. Trip limits and other measures to limit take (see Table 1) apply to many species caught incidentally while targeting the primary species. The Australian Fisheries Management Authority intends to develop indicators and reference points for byproduct species as part of further development of the fishery's harvest strategy.

The Department considers that the management measures in place in the Eastern Tuna and Billfish Fishery are sufficient to ensure that the fishery is conducted in a manner that does not lead to over-fishing. While bigeye tuna in the wider western and central Pacific region is likely to be classified as overfished in 2014 (Harley et al. 2014), the Department is satisfied that fishing within the total allowable catch for bigeye tuna in the Eastern Tuna and Billfish Fishery would not be detrimental to recovery of the stock (see Table 1).

Ecosystem Impacts

Taking into account:

- the 2012 ecological risk management report for the fishery
- the management measures applying to retained and incidentally caught species
- designated no-take species
- a bycatch and discarding workplan, reviewed annually
- the implementation of the *Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations*

the Department considers that fishing operations are managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

Conclusion

Given the management measures in place, the Department considers that product taken in the Eastern Tuna and Billfish Fishery should be included in the list of exempt native specimens under Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) for five years, until 22 August 2019. To ensure that the decisions for the Eastern Tuna and Billfish Fishery under the EPBC Act continue to be valid, the recommendations listed in Table 4 have been made.

TABLE 4: EASTERN TUNA AND BILLFISH FISHERY ASSESSMENT – SUMMARY OF ISSUES AND RECOMMENDATIONS, AUGUST 2014

Issue	Recommendation
<p>General Management</p> <p>Export decisions relate to the arrangements in force at the time of the decisions. To ensure that these decisions remain valid and export approval continues uninterrupted, the Department of the Environment needs to be advised of any changes that are made to the management regime and make an assessment that the new arrangements are equivalent or better, in terms of ecological sustainability, than those in place at the time of the original decisions. This includes operational and legislated amendments that may affect sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.</p>	<p>Recommendation 1:</p> <p>Operation of the Eastern Tuna and Billfish Fishery will be carried out in accordance with the management regime for the fishery made under the <i>Fisheries Management Act 1991</i>, Fisheries Management Regulations 1992 and the Eastern Tuna and Billfish Fishery Management Plan 2010.</p> <p>Recommendation 2:</p> <p>The Australian Fisheries Management Authority to inform the Department of the Environment of any intended amendments to Eastern Tuna and Billfish Fishery management arrangements that may affect the assessment of the fishery against the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are based.</p>
<p>Annual Reporting</p> <p>It is important that reports be produced and presented to the Department annually in order for the performance of the fishery and progress in implementing the recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports should follow Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i> and include a description of the fishery, management arrangements in place, research and monitoring outcomes, recent catch data for all sectors of the fishery, status of target stock, interactions with protected species, impacts of the fishery on the ecosystem in which it operates and progress in implementing recommendations. Electronic copies of the guidelines are available from the Department's website at http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html.</p>	<p>Recommendation 3:</p> <p>The Australian Fisheries Management Authority to produce and present reports to the Department of the Environment annually as per Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i>.</p>

Issue	Recommendation
<p><i>Ecological risk assessment and management</i></p> <p>Ecological risk assessments have been undertaken for all fisheries managed by AFMA. The risk assessments help to prioritise research, data collection, monitoring needs and management actions for fisheries.</p> <p>The highest tier risk assessment (Level 3, fully quantitative Sustainability Assessment of Fishing Effects) for the Eastern Tuna and Billfish Fishery was completed in December 2007, using catch data from 2003-2006 to assess the level of take (fishing mortality) in the fishery against reference points based on each species' life history characteristics and spatial overlap with the fishery. In 2012 AFMA released the report <i>Ecological Risk Management Report for the Eastern Tuna and Billfish Fishery April 2012</i>. This report described how AFMA would respond to the high risk environmental components identified in the risk assessment.</p> <p>It was envisaged that ecological risk assessments would require a periodic review every four years, to ensure that the risk assessments remained representative of the fishery. In addition to the periodic review, the relevant Management Advisory Committee was also to consider criteria which may trigger a review, including changes in effort levels, spatial distribution of effort or an expansion in the use of a new gear type or configuration. For the former two criteria, a change of greater than 50 per cent above the four year average would trigger a review of the ecological risk assessment (Department of Sustainability, Environment, Water, Population and Communities, 2011).</p> <p>The Department notes that the Level 3 ecological risk assessment has not been updated since it was completed in 2007 and that the data on which it was based may not be representative of the current operation of the fishery, particularly in relation to the relative catch of the primary species and the spatial distribution of fishing effort.</p> <p>The Department considers that the ecological risk assessment/ecological risk management process provides a strong foundation for ongoing management of the fishery. The Department recommends that the ecological risk assessment be updated on a regular basis. Alternatively, triggers (based on changes in management or trends in the fishery) that would initiate a review could be identified. Reviews of the ecological risk assessment should include consideration of the risks to target, byproduct and bycatch species from fishing in the context of fishing mortality from all sources, including other commercial fisheries and recreational fisheries operating in the area of operation of the Eastern Tuna and Billfish Fishery. (<i>The Department notes that AFMA's Ecological Risk Assessment/Ecological Risk Management process is currently under review.</i>)</p>	<p><i>Recommendation 4:</i></p> <p>The Australian Fisheries Management Authority to initiate a process to review and update the ecological risk assessment for the Eastern Tuna and Billfish Fishery on a regular or triggered basis, to ensure that it is capable of identifying and responding to changes in risk over time.</p>

Issue	Recommendation
<p><i>Sustainable management of non-quota species (including bycatch)</i></p> <p>To ensure that catch levels are sustainable, target species in Commonwealth fisheries are managed under a harvest strategy framework that utilises performance measures and decision rules to determine recommended biological catches which inform the setting of total allowable commercial catches. In the Eastern Tuna and Billfish Fishery, the total allowable commercial catches are implemented through a quota management system. At present, there is no comparable framework that ensures that the fishing-related mortality of byproduct and bycatch species is sustainable.</p> <p>Major catches of non-quota species from the Eastern Tuna and Billfish Fishery include:</p> <ul style="list-style-type: none"> • mahi mahi – approximately 65 t per annum • rudderfish – approximately 60 t per annum • short fin mako shark – approximately 60 t per annum <p>(Note: approximately 60 t per annum of southern bluefin tuna is taken by operators in the Eastern Tuna and Billfish Fishery. This take is managed under the Southern Bluefin Tuna Fishery Management Plan 1995 and requires operators to hold southern bluefin tuna quota—see Table 1).</p> <p>Since the 2011 EPBC Act assessment of the fishery, the Australian Fisheries Management Authority has commenced a review of the harvest strategy to include the assessment and management of key byproduct and bycatch species. The Department recommends that this work be completed, taking into account the results of relevant reviews (for example the proposed 2014-15 review of the Commonwealth fisheries harvest strategy policy) and research into novel methods for assessment and management of non-quota and bycatch species.</p>	<p><i>Recommendation 5:</i></p> <p>The Australian Fisheries Management Authority, in accordance with the reviews of the harvest strategy policy for Commonwealth fisheries and the Commonwealth Policy on Fisheries Bycatch, to continue to develop and implement a formal framework applicable to the Eastern Tuna and Billfish Fishery to guide the management of non-quota and bycatch species, to include objectives, performance measures, management responses and information requirements as appropriate.</p>

Issue	Recommendation
<p><i>Sustainable management of sharks</i></p> <p>Australia has a high diversity of shark species, which has generated national and international interest in the conservation and long term management of Australian sharks. Sharks worldwide are generally considered more vulnerable to fisheries' impacts than bony fish, due to their slow growth, late maturation and lower reproductive output. A number of shark (and ray) species have been included on international threatened species lists in recent years, such as the Bonn Convention (Convention on the Conservation of Migratory Species of Wild Animals—CMS) and the Convention on International Trade in Endangered Species of Fauna and Flora (CITES), and this trend appears likely to continue.⁴</p> <p>Significant incidental catch of a number of shark species has been recorded in the Eastern Tuna and Billfish Fishery. Many of the species caught are highly migratory and occur throughout the western and central Pacific and elsewhere. The Western and Central Pacific Fisheries Commission 'key shark species' for research currently include (Clarke 2012):</p> <ul style="list-style-type: none"> • blue shark (<i>Prionace glauca</i>) • silky shark (<i>Carcharhinus falciformis</i>) (CMM 2009-04, now no-take—CMM 2013-08) • oceanic whitetip shark (<i>C. longimanus</i>) (now no-take—CMM 2011-04) • shortfin mako shark (<i>Isurus oxyrinchus</i>) • longfin mako shark (<i>I. paucus</i>) • three species of thresher sharks (CMM 2008-06) • porbeagle shark (<i>Lamna nasus</i>) • four species of hammerhead sharks (<i>Sphyrna</i> and <i>Eusphyra</i> species) (CMM 2010-07). <p>Approximately 100 tonnes of shark was harvested from the Eastern Tuna and Billfish Fishery in the 2012 fishing season, with the predominant species being:</p> <ul style="list-style-type: none"> • shortfin mako shark <p style="text-align: right;">.../cont.</p>	<p>Recommendation 6:</p> <p>The Australian Fisheries Management Authority to:</p> <ol style="list-style-type: none"> continue to determine the extent of the impact of fishing in the Eastern Tuna and Billfish Fishery on shark species, including to: <ol style="list-style-type: none"> identify the species impacted develop, document and implement appropriate management measures to mitigate impacts on shark species identified through ecological risk assessments, protected species listing and/or other processes continue and encourage further co-operation with relevant jurisdictions to pursue increased knowledge and complementary management of shark species identified through the above processes across fisheries and across jurisdictions.

⁴ At the time of writing, a number of byproduct and bycatch shark species encountered in the Eastern Tuna and Billfish Fishery have been nominated for listing on Appendix II of the Bonn Convention. These listings will be considered at a Conference of the Parties to the convention in November 2014 and include three species of thresher sharks, four species of hammerhead sharks and silky shark.

Issue	Recommendation
<ul style="list-style-type: none"> • blue shark • bronze whaler (<i>C. brachyurus</i>) and dusky (<i>C. obscurus</i>) sharks • tiger shark (<i>Galeocerdo cuvier</i>) <p>Priority shark species for management responses in the Eastern Tuna and Billfish Fishery, identified from the ecological risk assessment process for the fishery, include dusky shark, longfin mako shark, crocodile shark and pelagic thresher shark.</p> <p>Within Australian waters, a number of Eastern Tuna and Billfish Fishery species are also caught in other fisheries such as the Queensland East Coast Inshore Fin Fish Fishery, the New South Wales Ocean Trap and Line Fishery and the Commonwealth Southern and Eastern Scalefish and Shark Fishery. Economic conditions in the fishery appear to have resulted in increasing overlap of Eastern Tuna and Billfish Fishery fishing with other fisheries adjacent to the southern Queensland and the New South Wales coasts. If this trend continues, as is likely, the cumulative impact of all fishing related mortality becomes increasingly important in the sustainability of susceptible species (see also Recommendation 4).</p> <p>The 2011 Australian Government assessment of the fishery under the EPBC Act concluded that despite the management measures in place the catch of sharks had not reduced. It appears that although the catch of target species in the fishery has declined since 2007 as result of structural changes in the fishery, the quantity and composition of shark catch did not change substantially over the period 2007 to 2012.</p> <p>In 2012, Australia articulated its priorities for actions to improve shark management through Shark-Plan 2, the <i>National Plan of Action for Shark Conservation and Management 2012</i>. Consistent with Shark-Plan 2, to assist with international efforts to manage globally threatened shark stocks, the Department recommends that the species of sharks caught in the Eastern Tuna and Billfish Fishery continue to be accurately recorded, to enable the extent of impact to be determined. This should inform the implementation of appropriate management measures for shark species identified through research and protected species listing, CITES non-detriment finding and ecological risk assessment processes. Improved information and management of these species will contribute to mitigating the impact on Australian populations of shark species that are potentially at risk internationally.</p> <p>In line with recommendations made at the time of the 2011 assessment of the fishery, the Department considers that a formal framework for managing sharks taken as byproduct is likely to provide improved mechanisms for ensuring the sustainability of shark catch (see also Recommendation 5).</p>	

Issue	Recommendation
<p><i>Fishery monitoring</i></p> <p>Previous Australian Government assessments of the Eastern Tuna and Billfish Fishery under the EPBC Act identified the need for the arrangements for monitoring the effects of fishing to evolve, to take account of ongoing changes to the management of the fishery and increased understanding of the effects of fishing on target, byproduct and bycatch species, protected species and the ecosystem generally. To this end the Australian Fisheries Management Authority in conjunction with industry investigated the potential of electronic monitoring using video cameras (e-monitoring) to provide reliable, cost effective monitoring for some or all of the fishery's requirements for logbook-independent monitoring, currently met by independent observers (Piasente et al. 2011).</p> <p>As a result of e-monitoring trials, the Australian Fisheries Management Authority is in the process of implementing e-monitoring in the Eastern Tuna and Billfish Fishery. In mid 2014 the authority advised that a successful tenderer had been selected to design monitoring programs for a number of fisheries, including the Eastern Tuna and Billfish Fishery and that e-monitoring cameras are expected to be installed on vessels in the fishery in 2015.</p> <p>The Eastern Tuna and Billfish Fishery's current logbook-independent monitoring program has been designed for detection of rare events (such as protected species interactions). The program was developed to:</p> <ul style="list-style-type: none"> • comply with the <i>Threat abatement plan for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations</i> (Seabird TAP) • meet Western and Central Pacific Fisheries Commission monitoring requirements • identify and validate trends in discarding (including discarding of quota species), byproduct and bycatch. <p>Implementing the <i>Threat Abatement Plan 2014 for the incidental catch (or bycatch) of seabirds during oceanic longline fishing operations</i> and the memorandum of understanding between the authority and the Department for reporting of protected species interactions relies on accurate reporting of interactions. Validation of logbook data against logbook independent data is an important part of ensuring that reporting requirements are met and providing confidence that the effects of fishing on protected species are predicted accurately.</p> <p>It will be important that the overall fishery monitoring strategy for the Eastern Tuna and Billfish Fishery continues to balance the information needs of multiple objectives and provides sufficient information to meet the monitoring program's objectives, taking into account the limitations of different monitoring methods.</p>	<p><i>Recommendation 7:</i></p> <p>The Australian Fisheries Management Authority to:</p> <ol style="list-style-type: none"> a. ensure that the overall monitoring program for the Eastern Tuna and Billfish Fishery provides sufficient data collection and analysis—representative of fishing effort by areas and months—to at a minimum meet: <ol style="list-style-type: none"> i. the requirements of relevant recovery and threat abatement plans under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> ii. the monitoring requirements of the Western and Central Pacific Fisheries Commission b. for species protected under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> <ol style="list-style-type: none"> i. annually compare logbook-independent monitoring data with logbook records, implement measures to address any inconsistencies ii. report on these measures as part of annual reporting to the Department of the Environment.

REFERENCES

AFMA (2012) Ecological Risk Management Report for the Eastern Tuna and Billfish Fishery - April 2012.

AFMA (2013) AFMA submission for Reassessment of the Eastern Tuna and Billfish Fishery 2014.

Cheshire K, Ward P, Sahlqvist, P and Summerson, R (2013) *Monitoring the recreational take of shark species of relevance to Commonwealth fisheries*. ABARES report to client prepared for the Recreational Fishing Industry Development Strategy, Department of Agriculture, Canberra, September. CC BY 3.0.

Clarke S (2012) A proposal for designating WCPFC key shark species for data provision and assessment. WCPFC8- 2011-IP/05. Western and Central Pacific Fisheries Commission.

Davies N, Hoyle S, Harley S Langley A, Kleiber P and Hampton J (2011) Stock assessment of bigeye tuna in the western and central Pacific Ocean. Western and Central Pacific Fisheries Commission.

Department of Sustainability, Environment, Water, Population and Communities (2011) Assessment of the Eastern Tuna and Billfish Fishery – February 2011.

Harley S, Davies N and Hampton J and McKechnie S (2014) Stock assessment of bigeye tuna in the western and central Pacific Ocean. WCPFC-SC10-2014/SA-WP-0. Rev1 25 July.

Larcombe J and New R (2013) Eastern Tuna and Billfish Fishery. In: Woodhams J, Vieira S and Stobutzki I (eds) (2013) Fishery status reports 2012. Australian Bureau of Agricultural and Resource Economics and Sciences, pp 319-338. Canberra.

Paterson H and New R (2013) Western Tuna and Billfish Fishery. In: Woodhams J, Vieira S and Stobutzki I (eds) (2013) Fishery status reports 2012. Australian Bureau of Agricultural and Resource Economics and Sciences, pp 319-338. Canberra.

Piasente M, Stanley B, Timmiss, T, McElderry H, Pria M and Dyas M (2011) Electronic onboard monitoring pilot project for the Eastern Tuna and Billfish Fishery. FRDC Project 2009/048. Australian Fisheries Management Authority.

Sands, A, Summerson, R, Stobutzki, i and Williams, R (2009) Estimating catches of small pelagic species in eastern Australian fisheries. Bureau of Rural Sciences.

SEWPaC (2012) Marine bioregional plan for the Temperate East Marine Region.

WCPFC (2008) *Conservation and Management of Sharks (Replaced by CMM 2009-04)*. Western and Central Pacific Fisheries Commission CMM 2008-06.

WCPFC (2009) *Conservation and Management of Sharks (Replaced by CMM 2010-07)*. Western and Central Pacific Fisheries Commission CMM 2009-04.

WCPFC (2010) *Conservation and Management Measure for Sharks*. Western and Central Pacific Fisheries Commission CMM 2010-07.

WCPFC (2011) *Conservation and Management Measure for Oceanic Whitetip Sharks*. Western and Central Pacific Fisheries Commission CMM 2011-04.

WCPFC (2013a) *Conservation and Management Measure for Bigeye, Yellowfin and Skipjack tuna in the western and central Pacific Ocean*. Western and Central Pacific Fisheries Commission CMM 2013-01.

WCPFC (2013b) *Conservation and Management Measure for Silky Sharks*. Western and Central Pacific Fisheries Commission CMM 2013-08.

ACRONYMS

AFMA	Australian Fisheries Management Authority
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CSIRO	Commonwealth Scientific and Industrial Research Organisation
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
TTRAG	Tropical Tuna Resource Assessment Group