



Australian Government

Department of the Environment and Energy

Assessment of the
Commonwealth Skipjack Tuna Fishery

October 2016

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This report should be attributed as '*Assessment of the Commonwealth Skipjack Tuna Fishery October 2016*, Commonwealth of Australia 2016'.

Disclaimer

This document is an assessment carried out by the Department of the Environment and Energy 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 and Energy on the fishery in relation to decisions under Parts 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. The views expressed do not necessarily reflect those of the Minister for the Environment and Energy or the Australian Government.

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CONTENTS

Section 1: Summary of the Assessment for the Commonwealth Skipjack Tuna Fishery Against the Guidelines for the Ecologically Sustainable Management of Fisheries (2nd Edition)	4
Section 2: Detailed Analysis of the Commonwealth Skipjack Tuna Fishery Against the Guidelines for the Ecologically Sustainable Management of Fisheries (2nd Edition)	8
Section 3: Assessment of the Commonwealth Skipjack Tuna Fishery Against the Requirements of the EPBC Act	20

SECTION 1: SUMMARY OF THE ASSESSMENT FOR THE COMMONWEALTH SKIPJACK TUNA FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Purpose: To enable transparent articulation of which commercial fisheries assessed under the EPBC Act clearly meet all legislative requirements and all Guidelines, and those which may require further investigation or assessment to demonstrate requirements are met.

Summary: Overview of Skipjack Tuna Fishery against the relevant requirements of the Guidelines and the EPBC Act.

Guidelines	Meets	Partially meets	Does not meet	Details
Management regime	5 of 9	4 of 9	0	The current management regime is sufficient while the fishery remains inactive but is unlikely to remain so if fishing effort increase to levels that could fully utilise the total allowable catch.
Principle 1 (target stocks)	6 of 9	3 of 9	0	The domestic fishery is not overfished or subject to overfishing and there is no risk of this while the fishery remains inactive. However domestic management arrangements do not appear sufficient to constrain catches and manage localised depletion if fishing resumes and expands to its potential. International management, appears relatively robust, but has some uncertainty around its data collection program.
Principle 2 (bycatch and TEPS)	8 of 8	0	0	Bycatch is managed using catch limits but is generally low. Twenty-five species of marine mammals have been identified as high risk through the ERA but no interactions have been reported in logbook or observer data to date. Risk management is focussed on monitoring and responding to any interactions but does not prescribe any specific arrangements to avoid interactions.
Principle 2 (ecosystem impacts)	5 of 5	0	0	Ecological risk assessments have been completed and a risk management strategy is in place.
EPBC requirements				
Part 12	1 of 1	0	0	The fishery is not likely to compromise any of the values identified in relevant marine bioregional plans. The fishery spans six marine bioregions. Ecological risks have been assessed and are managed in accordance with AFMA's ecological risk management strategy.
Part 13	10 of 12	1 of 12	1 of 12	There have been no reported interactions with protected species to date and risks are well managed. Accreditation of the management regime is recommended, subject to the following condition: AFMA to review its management regime within 12 months of a Level 2a trigger, as defined in the Skipjack Tuna Fishery Harvest Strategy,

				being reached. This review should include ecological risk assessment and risk management, harvest strategy and bycatch arrangements. Reassessment of the fishery under these new arrangements and the provisions of the EPBC Act will be considered at this time.
Part 13A	2 of 3	1 of 3 (s303DC(3))	0	The fishery is managed in accordance with the Objects of Part 13A and is not considered to have an unacceptable or unsustainable impact on the environment. Consultation was undertaken in October 2014 (MS14-002367).
Part 16	0	1 of 1	0	Precautionary catch triggers and catch limits are in place but may not be able to respond in a timely way or to constrain catch if the fishery recommences and expands to its capacity.
<p>Conclusion: Although the current management regime is sufficient while the fishery remains inactive, it is unlikely to be adequate should fishing effort increase to levels that could fully utilise the allowable catch. AFMA has advised that the fisheries management arrangements will be reviewed and revised when effort increases.</p>				
<p>Final recommendation for 2016 assessment of Skipjack Tuna Fishery: Subject to the following condition, the Department recommends the fishery to be considered for 10 year approval (2016 to 2026).</p> <p>Condition: AFMA to review its management regime within 12 months of a Level 2a trigger, as defined in the Skipjack Tuna Fishery Harvest Strategy, being reached. This review should include ecological risk assessment and risk management, harvest strategy and bycatch arrangements. Reassessment of the fishery under these new arrangements and the provisions of the EPBC Act will be considered at this time.</p>				

Notes

Description of Level 2a triggers from AFMA's Skipjack Tuna Harvest Strategy.

1. If the latest regional stock assessment, undertaken within last three years, indicates that the stock is underexploited, the trigger value is twice the historical high catch.
2. If there has been no regional stock assessment undertaken within the last three years, OR if the regional stock assessment outcomes are uncertain, the trigger value is 1.5 times the historical high catch.
3. If the regional stock assessment indicates that the stock is fully or over exploited, this trigger is automatically reached irrespective of the current catch level.
4. If 75 percent of Australia's skipjack tuna allocation from relevant Regional Fisheries Management Organisations, or Australia's whole of government position on Australia's skipjack tuna allocation is caught, whichever is smaller.
- 5.

Assessment history:

1st assessment finalised 2005 – WTO with 3 conditions and 6 recommendations

2nd assessment finalised 2008 – WTO with 4 conditions and 7 recommendations

3rd assessment finalised 2012 – LENS with 7 recommendations until 30 November 2016.

No public comments received in last assessment.

<http://www.environment.gov.au/marine/fisheries/commonwealth/skipjack-tuna>.

Key links:

Annual report to the Department: last report provided in August 2013.

Protected species interactions: none recorded in logbook or observer records to date. All interactions publicly reported at <http://www.afma.gov.au/sustainability-environment/protected-species-management/protected-species-interaction-reports/> (accessed 17 August 2016)

Fishery Status

ABARES Fishery Status Reports 2015 (Indian Ocean and Western and Central Pacific Ocean stocks): not subject to overfishing and not overfished.

http://data.daff.gov.au/data/warehouse/9aam/fsrXXd9abm_/fsr15d9abm_20151030/23_FishStatus2015SkipjackTuna_1.0.0.pdf (accessed 17 August 2016)

Management Arrangements

AFMA fishery information page: <http://www.afma.gov.au/fisheries/skipjack-tuna-fishery/>

Skipjack Tuna Fishery Management Arrangements Booklet:

<http://www.afma.gov.au/wp-content/uploads/2014/08/Skipjack-management-arrangements-booklet-2015.pdf> (accessed 17 August 2016)

Skipjack Tuna Fishery Harvest Strategy: <http://www.afma.gov.au/wp-content/uploads/2014/11/Harvest-Strategy-SJTF-August-2011.doc> (accessed 17 August 2016)

Skipjack Tuna Fishery permit conditions: <http://www.afma.gov.au/fisheries-services/concession-holders-conditions/> (accessed 17 August 2016)

[The western and central pacific tuna fishery: 2014 overview and status of stocks Programme. Tuna Fisheries Assessment Report No. 15.](#)

Harley S., Williams P., Nicol S., Hampton J. and Brouwer S. (2015). Secretariat of the Pacific Community, Oceanic Fisheries (accessed 20 May 2016)

[IOTC–SC18 2015. Report of the 18th Session of the IOTC Scientific Committee. Bali, Indonesia 23–27 November 2015.](#) IOTC–2015–SC18–R[E]: 175 pp. (accessed 20 May 2015)

IOTC Status summary for species of tuna and tuna-like species under the IOTC mandate, as well as other species impacted by IOTC fisheries: <http://iotc.org/science/status-summary-species-tuna-and-tuna-species-under-iotc-mandate-well-other-species-impacted-iotc> (accessed 17 August 2016)

Logbooks and catch disposal records: <http://www.afma.gov.au/fisheries-services/logbooks-and-catch-disposal/> (accessed 17 August 2016)

Annual corporate reports: <http://www.afma.gov.au/about/corporate-publications/> (accessed 17 August 2016)

Fisheries Management Act 1991: <https://www.legislation.gov.au/Details/C2016C00795> (accessed 17 August 2016)

Fisheries Management Regulations 1992: <https://www.legislation.gov.au/Details/F2005C00123>
(accessed 17 August 2016)

Ecological Risk Assessment (ERA) and Ecological Risk Management (ERM)

Productivity susceptibility analysis, June 2007: http://www.afma.gov.au/wp-content/uploads/2010/06/era_skipjack.pdf
(accessed 17 August 2016)

Residual risk assessment, December 2009 (all species occurring in the fishery):
http://www.afma.gov.au/wp-content/uploads/2010/06/rrr_skipjack.pdf (accessed 17 August 2016)

Rapid quantitative risk assessment of fish species in seven Commonwealth fisheries, April 2009:
<http://www.afma.gov.au/wp-content/uploads/2014/11/Sustainability-Assessment-for-Fishing-Effect-SPF-April-2009.pdf>
(accessed 17 August 2016)

Ecological risk management report for the skipjack tuna fishery, March 2010:
http://www.afma.gov.au/wp-content/uploads/2010/06/erm_skipjack.pdf (accessed 17 August 2016)

SECTION 2: DETAILED ANALYSIS OF THE COMMONWEALTH SKIPJACK TUNA FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Guidelines for the Ecologically Sustainable Management of Fisheries (2nd edition)	Comment
THE MANAGEMENT REGIME	
The management regime does not have to be a formal statutory fishery management plan as such, and may include non-statutory management arrangements or management policies and programs. The regime should:	
Be documented, publicly available and transparent	<p>While management arrangements are sufficient for the current lack of fishing activity, a more clearly defined strategy for responding to change would help ensure risks continue to be managed if fishing recommences and expands to its potential.</p> <p>Australia is a signatory to the Convention on the Conservation and Management of Highly Migratory Fish Stocks and the Indian Ocean Tuna Commission agreement. These two Regional Fisheries Management Organisations (RFMOs) cover the entire area of the fishery and help guide the management arrangements for the fishery.</p> <p>The management and conservation arrangements can be found at the Indian Ocean Tuna Commission (IOTC) and the Western and Central Pacific Fisheries Commission (WCPFC) websites. These arrangements are supported in the Australian fishery by the skipjack tuna fishery harvest strategy and conditions on fishing permits; there is no formal management plan. The Skipjack tuna fisheries management arrangements booklet 2015 provides a guide to these arrangements.</p> <p>The AFMA website states that “<i>management arrangements for this fishery will be reviewed if active boats re-enter the fishery</i>”. The harvest strategy for the fishery highlights the importance of resolving practical means to assess the fishery and broadly outlines steps to achieve this. However the triggers, nature and timing of the review activities are not well defined.</p>
Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public	<p>Management arrangements are developed through open and transparent processes.</p> <p>Consultative requirements for determining management plans and other arrangements are prescribed in the <i>Fisheries Management Act 1991</i>. More routine management advice is provided through consultative groups (Tropical Tuna Management Advisory Committee—TTMAC, and Tropical Tuna Resource Assessment Group—TTRAG). Minutes of TTMAC and TTRAG meetings are publicly available.</p>
Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process	A range of expertise and interests are involved in management processes.

	Stakeholders, including environmental, research, recreational and commercial fishing interests, are consulted through the TTMAC and TTRAG.
Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured	<p>Management arrangements are adequate while the fishery is inactive, but the current harvest strategy may not be sufficient in the event of future expansion. These decision rules appear unable to effectively detect or manage localised depletion, which is a key management driver for the fishery.</p> <p>The harvest strategy states that “<i>resolving the details of a practical means to assess the fishery should be an immediate review priority, as is finalizing the agreed monitoring program.</i>” It also calls for an evaluation of the harvest strategy in the context of overall (international) stock status and suggests that existing Management Strategy Evaluation frameworks developed for tropical tunas and billfish could be adapted to evaluate the performance of the management arrangements.</p>
Be capable of controlling the level of harvest in the fishery using input and/or output controls	<p>Harvest is currently constrained by market opportunity. Controls are designed to monitor and respond to change but may not be sufficient if the fishery expands.</p> <p>A fishery-wide catch limit for the Eastern Skipjack Tuna Fishery is referred to in AFMA’s Skipjack Tuna Fishery Management Arrangements 2015, but these arrangements are prefaced as a guide only, potentially affecting their enforceability. Similar limits are absent for the Western Skipjack Tuna Fishery. Fishing permits include trip-based and proportional catch limits for non-target species but do not contain limits for target species. They also limit entry and access to identified fishing zones, include gear restrictions and prohibit fishing around Fish Aggregating Devices.</p> <p>The harvest strategy seeks to limit catch to Australia’s allocation (level 3 trigger), but in the absence of an allocation or agreed Government position for the Western Skipjack Tuna Fishery, it appears unable to do so. AFMA can monitor landed catch using catch disposal records, but the process for monitoring and communicating limits to avoid over-fishing is presently undefined.</p> <p>The harvest strategy lacks reference points to manage localised depletion (a key driver of the fishery), and triggers (e.g. trigger 2b) appear insufficient. The strategy states “<i>there is little sense in undertaking an assessment if the high catch year is an anomaly in what is otherwise a fishery with low effort</i>”. It requires catch in two consecutive years equivalent to the level 2a trigger before any assessment is triggered. Such sustained high catches may not occur if localised depletion leads to lower catches in the subsequent year. Assessment only occurs if the stock sustains the higher level of fishing, increasing the likelihood of a positive outcome. The trigger points are also based on historic high catches, which while undefined provide an ever-increasing benchmark.</p>

	<p>Acknowledging the developmental nature of the fishery, the strategy seeks to avoid limits at low harvest levels, while triggering progressively higher analyses to inform higher trigger levels. However the strategy only requires monitoring and review of trigger levels, delaying any further response (ABARES 2015).</p> <p>AFMA can however rapidly control fishing by issuing closure directions and/or temporary orders. These short-term arrangements allow management arrangements to be updated, but may be impractical given their potential economic impacts on the developing fishery and its markets.</p>
Contain the means of enforcing critical aspects of the management arrangements	<p>Notwithstanding the constraints outlined in the previous section, AFMA's compliance program is generally effective at identifying and responding to risk. It is also supported by legislative provisions.</p> <p>Concession holders are required to operate vessel monitoring systems and complete logbook and catch disposal records. This information allows fishing activity and catches to be investigated if necessary.</p>
Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria	<p>When the fishery is active, its management arrangements are periodically reviewed by the TTMAC and TTRAG. However this has not occurred for several years due to the lack of fishing.</p> <p>Australia has supported the development of a new strategic plan for the WCPFC, and noted the need for a clear vision and plan to achieve this.</p>
Be capable of assessing, monitoring and avoiding, remedying or mitigating any adverse impacts on the wider marine ecosystem in which the target species lives and the fishery operates	<p>Risks have been assessed and are managed through AFMA's ecological risk management strategy.</p> <p>Twenty-five marine mammal species have been identified as being at high risk (AFMA 2009); but no other species, habitats or ecological communities (AFMA 2010). These high risk species were—with the exception of Australian fur seals—all cetaceans (whales, dolphins and whale dolphins).</p> <p>Purse seining in Australian skipjack fisheries is very selective, targeting largely single species schools. Species other than skipjack tuna historically made up much less than two per cent of the total catch and no interactions with the high risk species have been reported in logbook or observer records to date (AFMA 2010).</p> <p>The ERM strategy seeks to initially achieve at least five per cent observer coverage of all fishing activity, which includes the first trip by each boat each season (AFMA 2010 and pers. comm. 2016). This is intended to provide AFMA with a greater understanding of the nature of interactions within the ecosystem and allow AFMA to monitor any expansion of effort that occurs (AFMA 2010).</p> <p>Fishers must also report all catch, including non-target species, any interactions with protected species, and any gear loss, using AFMA approved logbooks. AFMA is developing guidelines for its Resource Assessment Groups which will help them implement the ERM strategies.</p>

	<p>The ERAs and ERM strategy for the fishery are due to be reviewed in 2018 but results will likely continue to be influenced by the lack of recent fishing activity, rather than potential activity. If the fishery recommences activity these assessments may need to be reviewed.</p> <p>Internationally, AFMA and DAWR have an ongoing role in the management of skipjack tuna fishing and its impacts on the wider marine ecosystem; this is achieved through their role in the IOTC and WCPFC. However the broad focus of these groups has led to concern about how well Australia's specific needs can be met (ABARES 2015).</p>
Requires compliance with relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under the policy	<p>The fishery is required to comply with all relevant Commonwealth plans and policies, the operations of which are typically overseen by groups including government, industry and environmental interests.</p> <p>Compliance is reported annually in AFMA's corporate reports.</p>
<p>PRINCIPLE 1 - A fishery must be conducted in a manner that does not lead to over-fishing, or for those stocks that are over-fished, the fishery must be conducted such that there is a high degree of probability the stock(s) will recover.</p>	
<p>Objective 1 - The fishery shall be conducted at catch levels that maintain ecologically viable stock levels at an agreed point or range, with acceptable levels of probability.</p>	
<p>Information requirements</p>	
<p>1.1.1 There is a reliable information collection system in place appropriate to the scale of the fishery. The level of data collection should be based upon an appropriate mix of fishery independent and dependent research and monitoring.</p>	<p>AFMA's information collection system is robust and includes fishery dependent and independent research and monitoring.</p> <p>All Australian vessels are required to report their fishing activity and catches, including any protected species interactions, gear loss and other information using AFMA approved logbooks and catch disposal records. All boats must also operate vessel monitoring systems at all times and carry an AFMA observer or e-monitoring system if requested.</p> <p>The ERM strategy requires at least five per cent observer coverage of all fishing activity, including the first trip by each boat each season (AFMA 2010 and pers. comm. 2016). However there is no minimum requirement specified in the permit conditions.</p> <p>The WCPFC also set and oversee observer targets for areas under their mandate.</p> <p>In the IOTC area of waters member states are responsible for managing their own programs and this is not centrally governed. Observer coverage is also made difficult in these waters due to the significant proportion of artisanal type fishing.</p> <p>The WCPFC has also noted safety issues for observers in some countries, but members are taking steps to address this (WCPFC 2015) and these issues do not affect Australia's domestic observer program.</p>

	Concerns have been raised by the IOTC as to the veracity of their data and data collection arrangements (IOTC 2015) and efforts continue within WCPFC and IOTC to improve data quality and timeliness, which is important for stock assessment and management. It is unclear what impact these issues have on stock assessments and the sustainability of catch allocations, but the Australian arrangements are considered sufficiently robust.
Assessment	
1.1.2 There is a robust assessment of the dynamics and status of the species/fishery and periodic review of the process and the data collected. Assessment should include a process to identify any reduction in biological diversity and /or reproductive capacity. Review should take place at regular intervals but at least every three years.	Domestic stock status is considered annually by ABARES and internationally every 2-3 years by IOTC and WCPFC. International skipjack stocks are not considered to be overfished or subject to overfishing (ABARES 2015 , IOTC 2016 , WCPFC 2015). It is unclear what impact the international data collection issues (item 1.1.1) have on global stock assessments and sustainability of catch allocations. However Australia operates on the edge of the range for the species and Australian catches have been negligible in the global context. This minimises any risk posed by Australia's fishery. While the fishery remains inactive, stock assessments do not affect the Australian fishery.
1.1.3 The distribution and spatial structure of the stock(s) has been established and factored into management responses.	Two stocks have been identified and are managed in accordance with arrangements set by the IOTC and WCPFC. However, capacity to manage localised depletion in the domestic fishery is limited by the harvest strategy. While the fishery is inactive this does not affect its management.
1.1.4 There are reliable estimates of all removals, including commercial (landings and discards), recreational and indigenous, from the fished stock. These estimates have been factored into stock assessments and target species catch levels.	International catches are considered in global stock assessments and in the domestic considerations undertaken by ABARES. It is unclear what impact the international data collection issues (item 1.1.1) have on global stock assessments and sustainability of catch allocations. However the reproductive biology and range of the species, and Australia's minor contribution to global catches mean the risk posed by Australia's fishery is low.
1.1.5 There is a sound estimate of the potential productivity of the fished stock/s and the proportion that could be harvested.	Sound productivity estimates are factored into stock assessments and management arrangements. The species is relatively resilient, growing rapidly, being highly fecund and spawning opportunistically throughout the year. In 2014, the western and central Pacific stock was considered to be moderately exploited and fishing mortality was considered sustainable (SC10, June 2014). However, in 2015 there were concerns that high catch levels in the equatorial region could result in range contractions and have a significant impacts on stock size, especially in the western equatorial region. This was distinguished from any influence that may have occurred due to oceanographic conditions

	<p>associated with El Niño and La Niña events (SC11, August 2015). The committee recommended that action be taken to avoid further increases in fishing mortality and to keep the skipjack stock around current levels, with tighter purse-seine control rules and adoption of target reference points and harvest control rules (WCPFC 2015).</p> <p>The IOTC also expressed concern in 2014 that catch per set on Fish Aggregating Devices (FADs) had declined, despite an increasing number of FADs being deployed by the purse seine fleet. It also noted a large decrease in free school skipjack tuna. The cause of these declines is not fully understood and there is uncertainty in the assessment. Notwithstanding, the IOTC concluded that there is a low risk of exceeding MSY-based reference points if catches are maintained at current levels (IOTC 2016).</p>
Management responses	
<p>1.1.6 There are reference points (target and/or limit), that trigger management actions including a biological bottom line and/or a catch or effort upper limit beyond which the stock should not be taken.</p>	<p>Reference points are used for international management and establishment of catch limits. However these are not adequately reflected in domestic arrangements if fishing activity increases to its potential.</p> <p>Although the Commonwealth Harvest Strategy Policy does not require harvest strategies for fisheries managed under international arrangements, Australia has implemented a harvest strategy for Australia's skipjack tuna fishery and is promoting development of harvest strategies for management of WCPFC fisheries. These are expected to be added to the WCPFC workplan but timing is unclear (WCPFC 2015). The strategies serve to inform Australia's position in international fora and provide a framework for management of the stock.</p> <p>Australia's skipjack tuna fishery harvest strategy includes reference points and catch-level triggers that invoke control rules. However, the control rules appear slow to respond and may not adequately manage the risk of localised depletion (a stated objective of the harvest strategy). The proposed trigger points are also based on historic high catches; which appear to provide for an ever-increasing benchmark, diminishing effectiveness over time.</p>
<p>1.1.7 There are management strategies in place capable of controlling the level of take.</p>	<p>Existing management strategies are appropriate for the current lack of fishing activity, but may not be adequate if the fishery resumes and expands to its potential.</p> <p>There is limited entry but total allowable catch limits cannot be determined under the Fisheries Management Act 1991 without a formal management plan. AFMA can however rapidly control fishing by issuing closure directions and/or temporary orders. These short-term arrangements allow management arrangements to be updated, but may be impractical given their potential economic impacts on the developing fishery and its markets.</p>
<p>1.1.8 Fishing is conducted in a manner that does not threaten stocks of byproduct species.</p>	<p>The Australian fishery is highly selective and results in very little catch of non-target species.</p>

	<p>The use of FADs which can attract non-target species is prohibited in the Australian fishery. Fishers target free-schooling fish and use real-time intelligence on the target species, such as size of schools and size of individual fish being pursued to minimise any non-target catch and discarding. Species other than skipjack tuna have historically made up much less than two per cent of the total catch (AFMA 2010).</p> <p>Trip and season limits are applied through permit conditions and fishers are also required to operate in accordance with the Eastern Tuna and Billfish Fishery Management Plan 2010, and Western Tuna and Billfish Fishery Management Plan 2005 for some non-target species.</p> <p>There has been no fishing effort in Australian waters for several years so risk to byproduct species was not considered high in the level 3 ERA. These risk assessments may need to be reviewed if fishing recommences, but outcomes are not expected to change significantly.</p>
(Guidelines 1.1.1 to 1.1.7 should be applied to by-product species to an appropriate level)	
<p>1.1.9 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p>Existing management strategies are appropriate for the current lack of fishing activity, but may need review if the fishery resumes and expands to its potential.</p>
<p>If overfished, go to Objective 2: If not overfished, go to PRINCIPLE 2:</p>	
<p>Objective 2 - Where the fished stock(s) are below a defined reference point, the fishery will be managed to promote recovery to ecologically viable stock levels within nominated timeframes.</p>	
<p>Management responses</p>	
<p>1.2.1 A precautionary recovery strategy is in place specifying management actions, or staged management responses, which are linked to reference points. The recovery strategy should apply until the stock recovers, and should aim for recovery within a specific time period appropriate to the biology of the stock.</p>	<p>Not applicable.</p>
<p>1.2.2 If the stock is estimated as being at or below the biological and / or effort bottom line, management responses such as a zero targeted catch, temporary fishery closure or a 'whole of fishery' effort or quota reduction are implemented.</p>	<p>Not applicable.</p>
<p>PRINCIPLE 2 - Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.</p>	
<p>Objective 1 - The fishery is conducted in a manner that does not threaten bycatch species.</p>	
<p>Information requirements</p>	

<p>2.1.1 Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.</p>	<p>AFMA's information collection system is robust and includes fishery dependent and independent research and monitoring.</p> <p>All Australian fishing activity and catches must be recorded using AFMA approved logbooks and all vessels are required to operate vessel monitoring systems; this allows the information to be investigated if necessary.</p> <p>Concession holders are also required to carry an AFMA observer or e-monitoring system if requested, but there is no minimum requirement specified in the permit conditions.</p> <p>The ERM strategy requires at least five per cent observer coverage of all fishing activity, which includes the first trip by each boat each season (AFMA 2010 and pers. comm. 2016).</p> <p>Similar information collection programs exist in the broader WCPFC and IOTC areas of competence, but issues such as observer safety, extent of artisanal fishing, quality and timeliness of data may affect the reliability of some of this information (WCPFC 2015, IOTC 2015). It is unclear what impact these issues may have on the sustainability of management arrangements internationally, however, given the current state of the Australian fishery, Australia's arrangements are considered sufficiently robust.</p>
<p>Assessments</p>	
<p>2.1.2 There is a risk analysis of the bycatch with respect to its vulnerability to fishing.</p>	<p>Risks have been assessed and are being managed through AFMA's ecological risk management strategy.</p> <p>No bycatch species were found to be at high risk in AFMA's ERAs, and non-target species have historically made up much less than two per cent of the total catch (AFMA 2010).</p> <p>When the fishery is active, information on bycatch is collected using logbooks and observer coverage. This is intended to provide AFMA with a greater understanding of the nature of interactions within the ecosystem and allow AFMA to monitor any expansion of effort that occurs (AFMA 2010).</p> <p>AFMA is developing guidelines for its Resource Assessment Groups to help them implement the ERM arrangements and has committed to review the ERAs and ERM strategy for the fishery in 2018. Results are expected to continue to be influenced by the lack of recent fishing activity, rather than potential activity, so these assessments may need further review if the fishery recommences activity.</p> <p>AFMA and DAWR have an ongoing role in the international management of skipjack tuna fishing, including bycatch arrangements, through their role in the IOTC and WCPFC. However the broad focus of these groups has</p>

	led to concern about how well Australia's specific needs can be met (ABARES 2015).
Management responses	
2.1.3 Measures are in place to avoid capture and mortality of bycatch species unless it is determined that the level of catch is sustainable (except in relation to endangered, threatened or protected species). Steps must be taken to develop suitable technology if none is available.	<p>The Australian fishery is highly selective and results in very little catch of non-target species.</p> <p>The use of FADs which are known to attract non-target species is prohibited in the Australian fishery.</p> <p>Australia's purse seine fishery targets free-schooling fish and is very selective. Fishers use real-time intelligence on the target species, such as size and composition of the schools and size of individual fish being pursued to minimise any non-target catch and discarding. Species other than skipjack tuna have historically made up much less than two per cent of the total catch (AFMA 2010) and trip and season limits are applied through permits conditions to manage these catches.</p> <p>There has been no fishing effort in Australian waters for several years so risk to byproduct species was not considered high in the level 3 ERA. The risk assessment may need to be reviewed if fishing recommences, but outcomes are not expected to change significantly.</p>
2.1.4 An indicator group of bycatch species is monitored.	<p>Not applicable.</p> <p>No indicator species have been defined, but all bycatch is recorded in logbooks and periodically reviewed by AFMA.</p>
2.1.5 There are decision rules that trigger additional management measures when there are significant perturbations in the indicator species numbers.	<p>Not applicable.</p> <p>No indicator species have been defined, but all bycatch is recorded in logbooks and periodically reviewed by AFMA.</p>
2.1.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Noting the highly selective nature of the fishery, existing management strategies are appropriate.
Objective 2 - The fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities.	
Information requirements	
2.2.1 Reliable information is collected on the interaction with endangered, threatened or protected species and threatened ecological communities.	<p>AFMA's information collection system is robust and includes fishery dependent and independent research and monitoring.</p> <p>All Australian fishing activity including any interactions with protected species, gear loss and other information must be recorded using AFMA approved logbooks. All vessels must also operate vessel monitoring systems, and if requested, carry an AFMA observer or e-monitoring system. The ERM strategy requires at least five per cent observer</p>

	<p>coverage of all fishing activity, which includes the first trip by each boat each season (AFMA 2010 and pers. comm. 2016); however these minimum requirements are not currently specified in permit conditions.</p> <p>Similar information collection programs exist in the broader WCPFC and IOTC areas of competence, but issues such as observer safety, data collection from artisanal fishing sectors, and the quality and timeliness of data may affect the reliability of some of this information (WCPFC 2015, IOTC 2015). It is unclear what impact these issues may have on the international management arrangements, however Australia's arrangements are considered sufficiently robust for current Australian operations.</p>
Assessments	
2.2.2 There is an assessment of the impact of the fishery on endangered, threatened or protected species.	<p>Risks assessed and impacts are considered negligible due to current lack of fishing activity.</p> <p>Twenty-five species of marine mammals were identified as high risk in AFMA's ERA (AFMA 2009). AFMA's ERM strategy requires AFMA to monitor future activity to detect and respond to any emerging issues.</p> <p>AFMA has also committed to review its current ERA and ERM strategy during 2018 and will consider any new information at this time.</p>
2.2.3 There is an assessment of the impact of the fishery on threatened ecological communities.	<p>Not applicable.</p> <p>While the fishery includes areas of the Giant Kelp Marine Forests of South East Australia ecological community (EC), fishing usually occurs within 30 metres of the surface, in waters 100 to 500 metres deep (AFMA 2007). Fishing has also not historically been undertaken over Giant Kelp Marine Forests.</p> <p>Threats to this EC include climate change, sedimentation and removal of urchin predators through fishing. The fishery is unlikely to contribute significantly to any of these impacts.</p>
Management responses	
2.2.4 There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.	<p>Existing arrangements are sufficient for the current lack of fishing activity.</p> <p>Although there are no specific measures in place to mitigate risk to the 25 high risk marine mammals identified in AFMA's ERA (AFMA 2010), there have been no interactions reported in logbook or observer records to date.</p> <p>AFMA's ERM strategy requires AFMA to monitor fishing activity (minimum five per cent observer coverage, including the first trip by each boat each year), to detect and respond to any emerging issues. AFMA has also committed to review its current ERA and ERM strategy during 2018 and will consider any new information at this time.</p>

2.2.5 There are measures in place to avoid impact on threatened ecological communities.	Not applicable. The fishery does not interact with any threatened ecological communities.
2.2.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	The management response has a high chance of achieving the objective, particularly while the fishery is inactive. However, risk assessments and management arrangements may need to be reviewed to ensure future sustainability if the fishery resumes activity.
Objective 3 - The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally.	
Information requirements	
2.3.1 Information appropriate for the analysis in 2.3.2 is collated and/or collected covering the fisheries impact on the ecosystem and environment generally.	Data collection is not currently occurring in the Australian fishery as the domestic fishery is not active. Internationally, data is collected and considered by the IOTC and WCPFC. Data collection provisions, including requirements for logbook and catch disposal reporting, vessel monitoring systems, observer (and if requested, e-monitoring) are provided for in permit conditions, the ERM strategy and in legislation. These provisions are considered sufficient at this time.
Assessment	
2.3.2 Information is collected and a risk analysis, appropriate to the scale of the fishery and its potential impacts, is conducted into the susceptibility of each of the following ecosystem components to the fishery. 1. Impacts on ecological communities <ul style="list-style-type: none"> • Benthic communities • Ecologically related, associated or dependent species • Water column communities 2. Impacts on food chains <ul style="list-style-type: none"> • Structure • Productivity/flows 3. Impacts on the physical environment <ul style="list-style-type: none"> • Physical habitat • Water quality 	Existing arrangements are sufficient for the current lack of fishing activity but may require review if fishing resumes. The 2007 ERA found risks to habitats and ecological communities were low, but recommended ecological communities be further considered when assessment methods are more fully developed (AFMA 2007). It is unlikely this will occur in AFMA's proposed review of the ERAs and ERM strategy for the fishery in 2018, but there is negligible risk while the fishery remains inactive. AFMA's logbook and observer programs are able to collect information on bycatch but are not designed to collect information on the broader ecosystem components identified in 2.3.2 for this fishery. It is unlikely that there will be any impact to benthic communities or physical habitats as fishing usually occurs within 30 metres of the surface, in waters 100 to 500 metres deep (AFMA 2007).
Management responses	
2.3.3 Management actions are in place to ensure significant damage to ecosystems does not arise from the impacts described in 2.3.1.	Existing arrangements are sufficient for the current lack of fishing activity but may require review if fishing resumes.
2.3.4 There are decision rules that trigger further management responses when monitoring detects impacts on selected ecosystem indicators	Existing arrangements are sufficient for the current lack of fishing activity but may require review if fishing resumes.

beyond a predetermined level, or where action is indicated by application of the precautionary approach.	<p>The harvest strategy includes decision rules and performance measures but these appear slow to respond to change.</p> <p>The ERM strategy prescribes a monitoring regime to detect and respond to emerging issues, but does not specify any triggers or potential responses.</p>
2.3.5 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	<p>Existing arrangements are sufficient for the current lack of fishing activity but may require review if fishing resumes.</p>

SECTION 3: ASSESSMENT OF THE COMMONWEALTH SKIPJACK TUNA FISHERY AGAINST THE REQUIREMENTS OF THE EPBC ACT

Please Note – the table below is not a complete or exact representation of the EPBC Act. It is intended as a checklist 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.

Part 12

	Comment
Section 176 Bioregional Plans	
(5) Minister must have regard to relevant bioregional plans	<p>The fishery spans six marine bioregions. Ecological risks have been assessed and are managed in accordance with AFMA's ecological risk management strategy.</p> <p>The fishery is not expected to compromise any of the values identified in the marine bioregional plans.</p>

Part 13

	Comment
Accreditable plan, regime or policy (Division 1, Division 2, Division 3, Division 4)	
s. 208A (1) (a-e) , s.222A (1) (a-e), s.245A (1) (a-e), s.265 (1) (a-e) Does the fishery have an accreditable plan of management, regime or policy?	<p>Yes.</p> <p>A management regime is in force under the <i>Fisheries Management Act 1991</i>.</p>
Division 1 Listed threatened species, Section 208A Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers 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?	<p>Yes.</p> <p>Fishers are required 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>There have been no recorded interactions with listed threatened species.</p>
(g) And, is the fishery likely to adversely affect the survival or recovery in nature of the species.	<p>No.</p> <p>The fishery is unlikely to adversely affect the survival or recovery in nature of listed threatened species based on the management arrangements in place and the lack of interactions to date.</p>
Division 2 Migratory species, Section 222A Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers 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>Yes.</p> <p>Fishers are required to take all reasonable steps to ensure that listed migratory species are not killed or injured as a result of the fishing.</p> <p>There have been no recorded interactions with listed migratory species.</p>

(g) And, is the fishery likely to adversely affect the conservation status of a listed migratory species or a population of that species?	No. The fishery is unlikely to adversely affect the conservation status of a listed migratory species or a population of that species based on the management arrangements in place and the lack of interactions to date.
Division 3 Whales and other cetaceans, Section 245 Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing?	Yes. Fishers are required to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing. There have been no recorded interactions with cetaceans.
(g) And is the fishery likely to adversely affect the conservation status of a species of cetacean or a population of that species?	No. The fishery is unlikely to adversely affect the conservation status of a cetacean or a population of that species based on the management arrangements in place and the lack of interactions to date.
Division 4 Listed marine species, Section 265 Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing?	Yes. Fishers are required to take all reasonable steps to ensure that listed marine species are not killed or injured as a result of the fishing. There have been no recorded interactions with listed marine species.
(g) And is the fishery likely to adversely affect the conservation status of a listed marine species or a population of that species?	No. The fishery is unlikely to adversely affect the conservation status of a listed marine species or a population of that species based on the management arrangements in place and the lack of interactions to date.
Section 303AA Conditions relating to accreditation of plans, regimes and policies	
(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.	Accreditation of the management regime for the Eastern and Western Skipjack Tuna fisheries is recommended, subject to the following condition.
(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.	Accreditation is recommended, subject to the following condition: AFMA to review its management regime within 12 months of a Level 2a trigger, as defined in the Skipjack Tuna Fishery Harvest Strategy, being reached. This review should include ecological risk assessment and risk management, harvest strategy and bycatch arrangements. Reassessment of the fishery under these new arrangements and the provisions of the EPBC Act will be considered at this time.
(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.	Not applicable. No conditions on previous accreditation.

Part 13A

Section 303BA Objects of Part 13A	
<p>(1) The objects of this Part are as follows:</p> <p>(a) to ensure that Australia complies with its obligations under CITES and the Biodiversity Convention;</p> <p>(b) to protect wildlife that may be adversely affected by trade;</p> <p>(c) to promote the conservation of biodiversity in Australia and other countries;</p> <p>(d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;</p> <p>(e) to promote the humane treatment of wildlife;</p> <p>(f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and</p> <p>(h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.</p>	
	Comment
Section 303DC Minister may amend list (non CITES species)	
<p>(1) The Minister may amend the LENS by:</p> <p>(a) doing any of the following:</p> <p>(i) including items in the list;</p> <p>(ii) deleting items from the list;</p> <p>(iii) imposing a condition or restriction to which the inclusion of a specimen in the list is subject;</p> <p>(iv) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject</p>	
(1A) In deciding to amend LENS, Minister must rely primarily on outcomes of Part 10, Div 1 Or 2 assessment	The fishery was assessed under Part 10 and accredited pursuant to section 33 of the EPBC Act on 30 November 2005. It is not considered to have an unacceptable or unsustainable impact on the environment.
(1C) The above does not limit matters that may be considered when deciding to amend LENS.	The fishery is managed consistent with the Objects of Part 13A of the EPBC Act.
<p>(3) Before amending LENS, Minister must consult:</p> <p>(a) other Minister or Ministers as appropriate; and</p> <p>(b) other Minister or Ministers of each State and self-governing Territory as appropriate; and</p> <p>(c) other persons and organisations as appropriate.</p>	General consultation with Commonwealth Fisheries Minister occurred in October 2014 (MS14-002367)

Part 16

	Comment
Section 391 Minister must consider precautionary principle in making decisions	
<p>(1) Minister must take account of precautionary principle</p> <p>(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.</p>	Precautionary catch triggers and catch limits are in place but may not be able to respond in a timely way or to constrain catch if the fishery recommences and expands to its capacity.