Australian Government

Department of the Environment and Energy

Assessment of the

QUEENSLAND

EAST COAST OTTER TRAWL FISHERY

MARCH 2018

CONTENTS

This report should be attributed as '*Assessment of the Queensland East Coast Otter Trawl Fishery March 2018*, Commonwealth of Australia 2018'.

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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EXECUTIVE SUMMARY OF THE ASSESSMENT OF THE QUEENSLAND EAST COAST OTTER TRAWL FISHERY

In March 2017, the Queensland Department of Agriculture and Fisheries (QDAF) submitted an application for the Queensland East Coast Otter Trawl Fishery to the Department of the Environment and Energy for assessment under the EPBC Act, against the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'. A public comment period was open from 16 March 2017 to 13 April 2017.

The fishery

The fishery operates in Queensland and Commonwealth waters using otter trawl nets to target prawns, scallops and bugs. The fishery is managed using input controls such as limited entry, tradeable effort units, and spatial and temporal closures. The majority of fishing occurs in the Great Barrier Reef Marine Park (GBRMP).

Target stocks

The 2016 Australian Government Status of Australian Fish Stocks determined the stock status for crustacean species harvested in the fishery was sustainable, however the Queensland saucer scallop stock was overfished. Some closures have been implemented to protect spawning scallops however more management arrangements are required to recover the stocks and ensure overfishing does not continue.

Protected species and ecosystems

The fishery interacts with a number of species protected under the EPBC Act such as sea snakes and turtles. While reported interactions are low for turtles, interactions with seasnakes may be high. Implementation of specific actions to mitigate sea snake interactions, along with reduction in effort over the last decade, should have reduced sea snake captures, however the number of interactions reported is significantly lower than research predictions. Further investigation into the reliability of bycatch information recorded in logbooks on recommended.

An ecological risk assessment (ERA) for the fishery within the GBRMP was completed in 2012 and an ERA for the area south of the GBRMP is due to be published on QDAF's website by April 2018. The ERA for the GBRMP determined the risk to the GBRMP from trawling to be generally low, with some risks from trawling remaining.

Conclusion

Notwithstanding progress already made by QDAF to address the ongoing risks associated with this fishery, a number of risks and uncertainties have been identified that must be managed through conditions listed at Section 4. These relate to:

- the finalisation and publication of environmental risk assessments, including addressing those risk assessed to be intermediate or above.
- improved management of target stocks.
- improved independent data validation and monitoring for target, byproduct and bycatch species.
- addressing risks to habitat and broader ecosystem.
- interactions with protected species, particularly sea snakes

As the issues are addressed, the Queensland East Coast Otter Trawl Fishery will meet the requirements of the EPBC Act. Therefore, declaration of the harvest operations of this fishery as an approved wildlife trade operation for three years, under Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), until 13 November 2020, is appropriate, subject to the conditions at Section 4.

SECTION 1: ASSESSMENT SUMMARY OF THE QUEENSLAND EAST COAST OTTER TRAWL FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

	Meets	Partially meets	Does not meet	Details
Guidelines				
Management regime	6 of 9	3 of 9		The management regime is satisfactory, noting some concerns about the effectiveness of saucer scallop closures and the reliability of reporting data.
Principle 1 (target stocks)	3 of 11	8 of 11 (1.1.1. 1.1.4, 1.1.6, 1.1.7, 1.1.8, 1.1.9, 1.2.1, 1.2.2)		Most target stocks in the fishery are considered sustainable, however saucer scallops are overfished. 1.1.1 – concerns regarding reliability of information collection and data validation. 1.1.4 – reliable estimates of recreational and Indigenous fishing not available. 1.1.6 – further development required on reference points and suitable triggers. 1.1.7 – measures to control take in place but require strengthening. 1.1.8 – impact on byproduct is unclear. 1.1.9 – while some controls are in place, further measures required to ensure target stocks maintained at sustainable levels. 1.2.1 and 1.1.2 – development of additional measures required to support recovery of overfished stocks.

Principle 2 (bycatch and TEPS)	3 of 12	7 of 12 (2.1.1, 2.1.4, 2.1.5, 2.1.6, 2.2.1, 2.2.4, 2.2.6)	2 n/a	An ERA described the impacts of the fishery within the GBRMP as generally low. Turtle exclusion devices and bycatch reduction devices are used, and bycatch has reduced. 2.1.1 – fishery monitoring would be improved by increased bycatch reporting. 2.1.4 – fishery information would be improved monitoring of indicator species of bycatch. 2.1.5 – further development required on decision rules for bycatch species. 2.1.6 – while some controls are in place, further measures required to ensure fishery does not threaten bycatch. 2.2.1 – some concerns over reliability of reported interactions. 2.2.4 – noting reduction in bycatch since turtle exclusion devices implemented, concern remains over the amount of bycatch of seasnakes. 2.2.6 - while some controls are in place, further measures required to ensure fishery avoids impacts on protected species.
Principle 2 (ecosystem impacts)	3 of 5	2 of 5 (2.3.4, 2.3.5)		An ERA described the impacts of the fishery within the GBRMP as generally low. 2.3.4 – ecosystem decision rules under development. 2.3.5 –management arrangements have a moderate likelihood of minimising ecosystem impact.

EPBC requirements				
Part 12	Met			The fishery operates in the Coral Sea and the Temperate East Marine Regions. There is no bioregional plan currently in place for the Coral Sea Marine Region. *Marine bioregional plan for the Temperate East Marine Region* has been considered, values not compromised.
Part 13	Met for listed threatened, migratory and cetaceans	Partially met for listed marine species		All reasonable steps are taken to ensure that the conservation status of listed threatened, migratory, or cetacean species is not affected. However, remaining concerns for accuracy of protected species reporting and ongoing bycatch of sea snakes. Addressed through **Part 13 Conditions A and B** (Section 4).
Part 13A	Met for legislative requirements and consultation	Partially met for impacts on target stocks and ecosystems		Based on outcomes of Guidelines assessment, most Objects of Part 13A are considered met. Further measures required to the Objects for impacts on all taxa and ecosystems, as articulated in Section 3, are addressed through **WTO Conditions 4, 5, 6, and 7** (Section 4).
Part 16	Met			Precautionary measures are in place to prevent serious or irreversible environmental damage being caused by this fishery.

Notes:

Assessment history:
1st assessment finalised 2004 – WTO with 3 conditions and 18 recommendations
2nd assessment finalised 2007 - WTO with 3 conditions and 8 recommendations
3rd assessment finalised 2010 - WTO with 3 conditions and 7 recommendations
4th assessment finalised 2013 - WTO with 5 conditions and 4 recommendations
Ongoing issues raised regarding catch of protected species (sea snakes), effort allocation, ecological risk assessment (high risk species), general levels of bycatch.

Fishery reporting:

Annual report – last provided in 2016. Reports received by Department each year since last assessment in 2013.
Protected species interactions – Provided to the Department on a quarterly basis through MOU. Annual SOCI report provided in 2015 and 2016.

Key links:

Fishery information:

Fishery information page on agency website - https://www.daf.qld.gov.au/fisheries/monitoring-our-fisheries/commercial-fisheries/data-reports/sustainability-reporting/queensland-fisheries-summary/east-coast-otter-trawl-fishery

Management plan:

Queensland Fisheries (East Coast Trawl) Management Plan 2010 - https://www.legislation.qld.gov.au/view/pdf/2017-03-01/sl-2010-0357

Enforcing legislation:

Queensland *Fisheries Act 1994* - https://www.legislation.qld.gov.au/LEGISLTN/CURRENT/F/FisherA94.pdf
Queensland Fisheries Regulation 2008 - https://www.legislation.qld.gov.au/LEGISLTN/SLS/RIS_EN/2008/08SL083E.pdf

Harvest strategy:

Harvest Strategy Policy and Guidelines - https://www.daf.qld.gov.au/fisheries/sustainable-fisheries-strategy/harvest-strategy

Ecological Risk Assessment:

Ecological Risk Assessment of the East Coast Otter Trawl Fishery in the Great Barrier Reef Marine Park - http://elibrary.gbrmpa.gov.au/jspui/bitstream/11017/1147/1/ECOTF_ERA_Summary_web.pdf
Ecological Risk Assessment for the area south of the Great Barrier Reef – due published on QDAF's website by April 2018

Stock assessments:

Stock assessment for the saucer scallop fishery (sector within the East Coast Otter Trawl Fishery) - http://era.daf.qld.gov.au/5478/
Independent review of the saucer scallop assessment - https://www.daf.qld.gov.au/__data/assets/pdf_file/0017/1121156/saucer-scallop-review-rago-hart.pdf
Stock assessment for the eastern king prawn - http://frdc.com.au/research/Documents/Final_reports/2008-019-DLD.pdf
Stock status for eastern king prawn: http://www.fish.gov.au/report/24-Eastern-King-Prawn-2016
Stock status for tiger prawns: http://www.fish.gov.au/report/74-TIGER-PRAWNS-2016
Stock status for endeavour prawns: http://www.fish.gov.au/report/12-ENDEAVOUR-PRAWNS-2016
Stock status for banana prawns: http://www.fish.gov.au/report/5-Banana-Prawn-2016
Stock status for western king prawn: http://www.fish.gov.au/report/77-Western-King-Prawn-2016
Stock status for eastern school prawn: http://www.fish.gov.au/report/26-Eastern-School-Prawn-2016
Stock status for Moreton Bay bugs: http://www.fish.gov.au/report/40-MORETON-BAY-BUGS-2016
Stock status for saucer scallop: http://www.fish.gov.au/report/55-Ballots-Saucer-Scallop-2016
Stock status for balmain bugs: http://www.fish.gov.au/report/4-BALMAIN-BUGS-2016

Other relevant documents:

Sustainable Fisheries Strategy - https://www.daf.qld.gov.au/fisheries/consultations-and-legislation/sustainable-fisheries-strategy
Publicly reported protected species interactions (annual) - https://data.qld.gov.au/dataset/total-number-of-species-of-conservation-interest-interactions-with-released-conditions/resource/4ad21384-35fe-4ee5-8013-0099d4aa9e65
QLD RIS guidelines https://www.treasury.qld.gov.au/publications-resources/ris-system-guidelines/ris-system-guidelines.pdf
Reducing the impact of Qlds trawl fisheries on protected sea snakes http://frdc.com.au/Archived-Reports/FRDC%20Projects/2005-053-DLD.pdf
Fisheries queensland monitoring and research plan https://publications.qld.gov.au/dataset/queensland-sustainable-fisheries-strategy/resource/fc7da976-661c-43ba-aaaa-9df8c2cb39d3

SECTION 2: DETAILED ANALYSIS OF THE QUEENSLAND EAST COAST OTTER TRAWL 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	**Meets** The fishery is managed by the Queensland Department of Agriculture and Fisheries (QDAF) under the Queensland *Fisheries Act 1994*, Fisheries Regulation 2008, and the Fisheries (East Coast Trawl) Management Plan 2010. Legislation can be found at www.legislation.qld.gov.au.
Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public	**Meets** The original management arrangements were developed with industry and relevant stakeholders. There is a statutory process in place for public consultation and advisory committees. A Regulatory Impact Statement (RIS) process is used as the main mechanism for ongoing consultation. The Queensland RIS guidelines can be found on the Queensland Department of Treasury website (link above). The Queensland Sustainable Fisheries Strategy 2017-2027 (link above) sets out priorities for future engagement with stakeholders through working groups.
Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process	**Meets** Consultation is completed through a formal RIS and/or show cause process under Section 63 of the Queensland *Fisheries Act 1994*. There is ongoing scientific research and management expertise within QDAF. QDAF have established a Trawl Fishery Working Group to provide advice on the operational aspects of the management of this fishery. The Working group has representation from commercial fishers, recreational fishers, the conservation sector and the Great Barrier Reef Marine Park Authority (GRBMPA).
Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured	**Meets** Objectives and performance criteria are contained in the *Fisheries Act 1994* and the Fisheries (East Coast Trawl) Management Plan 2010. Stock status assessments of target stocks provide a basis to measure the performance of the fishery. Future performance monitoring will be integrated into the Harvest Strategy for this fishery. This is due to commence development in 2018 as part of the Sustainable Fisheries Strategy.
Be capable of controlling the level of harvest in the fishery using input and/or output controls	**Partially meets** The fishery uses input controls (effort units, limited entry trigger levels, seasonal closures) to control the level of harvest. Spatial closures can be implemented if the fishery is having an impact on a target or byproduct stock. No catch quotas are in place for target species. Logbook data entry checks are undertaken. The effectiveness of closures in place for scallops is yet to be determined, following a 2017 assessment of these stocks being overfished.

Contain the means of enforcing critical aspects of the management arrangements	**Meets** The Queensland *Fisheries Act 1994* contains provisions for the enforcement of the management arrangements for the fishery. Compliance and enforcement activities are carried out by the Queensland Boating and Fisheries Patrol. Compliance capacity should increase in future, according to commitments made in the Sustainable Fisheries Strategy. Catch dockets are held for a five year period for auditing purposes.
Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria	**Meets** The performance of the fishery is reviewed on an annual basis along with catch information of target (and some byproduct) stocks being included in the Fisheries Research and Development Corporation's Status of Key Australian Fish Stocks (SAFS) process. The performance of management arrangements to protect EPBC Act protected species, such as through use of turtle exclusion devices (TEDs) and bycatch reduction devices (BRDs), is measured periodically through compliance operations. The Queensland Harvest Strategy Policy and Guidelines states that all target species will be managed at BMSY by 2020 with a future target of 60 per cent of original biomass by 2027.
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	**Partially meets** An Ecological Risk Assessment (ERA) undertaken in 2012 assessed the impacts of the fishery in the Great Barrier Reef Marine Park, taking into consideration existing mitigation measures, and assessed the overall risk level from trawling activities as low. An ERA for the remainder of the fishery south of the Great Barrier Reef Marine Park is currently being drafted. A 2005 paper titled 'Reducing the impact of Queensland's trawl fisheries on sea snakes' (link above) investigated actions to reduce sea snake interactions. Implementation of these actions, along with reduction in effort since this time, should have reduced sea snake captures however the number of interactions reported to the Department is significantly lower than the research predictions, and therefore further investigation into the reliability of the information recorded in logbooks about bycatch is recommended. Satisfactory implementation of **Part 13 A Conditions 4 and 5 and Part 13 Conditions A and B** (see Section 4) will improve the assessment, monitoring and subsequent mitigation of potential adverse impacts of this fishery.
Requires compliance with relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under the policy	**Partially meets** The fishery interacts with marine turtles, dolphins, dugongs, sawfish, seabirds and sea snakes. While fishers are not explicitly required to comply with recovery plans, they are required to use BRDS and TEDS to reduce impact on protected species and to mitigate against bycatch.

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**.**	
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.	
Information requirements	
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.	**Partially meets** Fishers are required to complete a logbook at the end of each fishing day and submit that to QDAF within 15 days of the end of each month. E-logs have been developed for the fishery and are being trialled by some fishers. This will provide real time reporting. Ongoing biological monitoring also occurs for some species, including scallops and bugs. QDAF completed an independent survey of scallops in late 2017, the results will be considered in the next stock assessment. As part of the Sustainable Fisheries Strategy, all fisheries will have a Vessel Monitoring System in place by 2020. Satisfactory implementation of **Conditions 5 and 6** (see Section 4) will improve the reliability of information collected this fishery, implementation of **Part 13 Condition B** will improve data collection and validation.
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.	**Meets** Target species (and some byproduct species) are assessed on a biennial basis through the SAFS and through QDAF's stock status assessment process.
1.1.3 The distribution and spatial structure of the stock(s) has been established and factored into management responses.	**Meets** The distribution and spatial structure of the target stocks have been established and the information is incorporated into stock modelling and SAFS assessments.
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.	**Partially meets** Commercial fishers are required to complete a logbook at the end of each fishing trip and submit that to QDAF. E-logs have been developed for the fishery and is being trialled by some fishers. There are no estimates available of removals by recreational and Indigenous fishers.
1.1.5 There is a sound estimate of the potential productivity of the fished stock/s and the proportion that could be harvested.	**Meets** Productivity has been calculated for target species and some byproduct species with historical records. This data can be found in the SAFS 2016 report.

Management responses	
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.	**Partially meets** Reference points are articulated through the SAFS process for target species, including the setting of an upper limit. Stock assessments are undertaken for some target species and trigger limits are applied. MEY and MSY estimates for Moreton Bay have been developed and are applied. Reference points for the Scallop fishery were developed in 2012, however these did not prove effective in preventing overfishing of the stock, as demonstrated in the 2017 stock assessment. Completion of **Condition 5** (Section 4) will build stock resilience and support the recovery of this stock by implementing management measures including finer scale management tools. The Queensland Harvest Strategy Policy and Guidelines set out how future management will include suitable reference points, decision rules and performance indicators.
1.1.7 There are management strategies in place capable of controlling the level of take.	**Partially meets** The level of take is maintained by limits on effort units, limited entry and spatial closures. Spatial closures to protect spawning stocks of scallops are in place, but are not designed to control take.
1.1.8 Fishing is conducted in a manner that does not threaten stocks of byproduct species.	**Partially meets** Effort is high and therefore take of byproduct is also high. The impact on stocks of byproduct species in unclear, as the fishing method does not allow effective selection of target vs byproduct species. Minimum legal size limits and trip limits are in place for a range of byproduct species (i.e. Balmain bugs, blue swimmer crab, three-spotted crab and red champagne lobster). Balmain and Moreton Bay bugs are assessed through the SAFS process.
(Guidelines 1.1.1 to 1.1.7 should be applied to byproduct species to an appropriate level)	
1.1.9 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	**Partially meets** While some controls are in place, there is some uncertainty if the management actions will achieve the objective of maintaining target and byproduct species at appropriate levels.
If overfished, go to Objective 2: **If not overfished, go to PRINCIPLE 2:**	
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.	
Management responses	
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.	**Partially meets – subject to Condition 5** While the majority of target and byproduct species in the fishery are considered to be sustainable, saucer scallops are considered to be 'overfished'. In response to the decline, QDAF commissioned an independent review of the stock status which found that saucer scallops stock is 'at best in the "Transitional-depleting" category, and may very well be in the "Overfished" and/or "Environmentally limited" categories' (Rago & Hart, 2017). While no specific recovery strategy has been implemented, spatial closures have been put in place to protect spawning stocks. Scallop replenishment areas are in force under law, however fishing has recommenced and may further impact the stock. The implementation of **Condition 5** (see Section 4), including developing a finer scale management tool to improve spatial control of effort, will support efforts to recover saucer scallops to sustainable levels and prevent future overfishing.

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.	**Partially Meets** As per 1.2.1, spatial closures have been put in place to protect spawning stocks of saucer scallops however ongoing fishery-independent surveys could identify recruitment strength earlier and reduce risk of future stock collapses (Rago & Hart, 2017). The implementation of **Condition 5** (see Section 4), including developing a finer scale management tool to improve spatial control of effort, will support efforts to recover saucer scallops to sustainable levels and prevent future overfishing.
PRINCIPLE 2 - Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.	
Objective 1 - The fishery is conducted in a manner that does not threaten bycatch species.	
Information requirements	
2.1.1 Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.	**Partially meets** Fishers record catch in daily logbooks, however reporting of bycatch is not required unless the species is listed as a protected species under the EPBC Act. A 2005 paper titled 'Reducing the impact of Queensland's trawl fisheries on sea snakes' (link above) investigated actions to reduce sea snake interactions. Implementation of these actions, along with reduction in effort since this time, should have reduced sea snake captures, however the number of interactions reported to the Department is significantly lower than the research predictions, and therefore further investigation into the reliability of the information recorded in logbooks about bycatch is recommended. Implementation of **Part 13 Condition A** (see Section 4) will improve the accuracy of monitoring and reporting and implementation of **Part 13 Condition B** (see Section 4) will improve data collection and validation approach.
Assessments	
2.1.2 There is a risk analysis of the bycatch with respect to its vulnerability to fishing.	**Meets** The 2012 ERA assessed the impacts of the fishery within the Great Barrier Reef Marine Park which determined the risk from trawling to be generally low. An ERA for the remainder of the fishery south of the Marine Park is currently being drafted.
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.	**Meets** TEDs and BRDs have been mandatory in the fishery since 2004. Since this time, reported levels bycatch have reduced, including catch of sea snakes and large bottom dwelling animals such as some sharks.
2.1.4 An indicator group of bycatch species is monitored.	**Partially meets** No indicator species of bycatch are monitored, however reporting is mandatory for EPBC protected species caught as bycatch, and the 2012 ERA assessed the risks from trawling on bycatch species as low (13 species/species groups) or intermediate-low (29 species/species groups), with three bycatch species assessed as at intermediate risk. Implementation of **Condition 6** (see Section 4) would result in a statistically robust monitoring regime with appropriate levels of fisheries independent data, including quantitative data on byproduct and by catch species. Implementation of **Part 13 Condition A** (see Section 4) will result in more accurate monitoring and reporting.

2.1.5 There are decision rules that trigger additional management measures when there are significant perturbations in the indicator species numbers.	**Partially meets** As per 2.1.4, an indicator group of bycatch species is not currently monitored, therefore there are currently no decision rules in place that trigger additional management measures. Implementation of **Condition 6** (see Section 4) would result in appropriate levels of fisheries independent data in order to inform harvest strategies, including decision rules and triggers for bycatch and byproduct species.
2.1.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	**Partially meets** The management arrangements do not appear likely to have a high chance of achieving the objective of fishing being conducted in a manner that does not threaten bycatch. Successful implementation of **Part 13 Condition A** (see Section 4) will reduce risks for bycatch species, by improving measures in place to mitigate sea snake bycatch.
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.	**Partially meets** While operators are required to report all interactions with EPBC Act listed threatened, endangered and protected species, the reliability of reported interactions in logbooks on bycatch is uncertain (see above discussion on sea snake interactions). Implementation of **Condition 6** (see Section 4) would result in a statistically robust monitoring regime with appropriate levels of fisheries independent data, including quantitative data on byproduct and by catch species. Successful implementation of **Part 13 Conditions A and B** (see Section 4) will improve data collection, validation, monitoring and reporting.
Assessments	
2.2.2 There is an assessment of the impact of the fishery on endangered, threatened or protected species.	**Meets** As per 2.1.2 the 2012 ERA has assessed the impacts of the fishery within the Great Barrier Reef Marine Park. Of note, it assessed the following risks on protected species: • intermediate-low risk to marine turtles • high risk rating for elegant sea snakes and ornate reef sea snake • intermediate for spectacled sea snake and small sea snake • high risk to 11 species of sharks and rays • intermediate risk to six species of sharks and rays An ERA for the remainder of the fishery south of the Great Barrier Reef Marine Park is currently being drafted and will consider interactions with EPBC Act protected species, including sea snakes, turtles, dolphins and dugongs.
2.2.3 There is an assessment of the impact of the fishery on threatened ecological communities.	**N/A** There are no threatened ecological communities within the area of the fishery.

Management responses	
2.2.4 There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.	**Partially meets** BRDs and TEDs have been mandatory in the fishery since 1999 and 2004 respectively. Since this time, reported levels of bycatch has reduced. The use of best practice BRDs was regulated in 2015. Based on research, levels of sea snake captures have appeared to have reduced since this time however, the number of interactions remain high. Successful implementation of **Part 13 Condition A** (see Section 4) should result in improved information on bycatch species and identification of new BRDs and improved BRD use.
2.2.5 There are measures in place to avoid impact on threatened ecological communities.	**N/A** There are no threatened ecological communities within the area of the fishery.
2.2.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	**Partially meets** The management arrangements have a moderate chance of achieving the objective of ensuring that fishing 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. **Condition 6** (see Section 4) will improve the monitoring regime bycatch species, **Part 13 Condition A** (see Section 4) will improve reporting accuracy, and **Condition 4** (see Section 4) will address risks to protected species that are identified as being at or above intermediate risk from the impacts of fishing.
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.	**Meets** The 2012 ERA assessed the impacts of the fishery within the Great Barrier Reef Marine Park, and an ERA for the remainder of the fishery south of the Great Barrier Reef Marine Park is currently being drafted.
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 • Benthic communities • Ecologically related, associated or dependent species • Water column communities 2. Impacts on food chains • Structure • Productivity/flows 3. Impacts on the physical environment • Physical habitat • Water quality	**Meets** The 2012 ERA assessed the impacts of the fishery within the Great Barrier Reef Marine Park and determined the risk level from trawling activities as generally low, noting that some risks remain. The ERA took into consideration the harvested species, by catch, protected species, marine habitat, species assemblages and ecosystem processes. An ecological risk assessment for the remainder of the fishery south of the Great Barrier Reef Marine Park is currently being drafted. Risks associated with habitat to be re-evaluated once new assessments under the Fisheries Queensland ERA Guideline are progressively implemented from 2018

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.	**Meets** The 2012 ERA described the potential risk posed by the fishery as low, therefore there are currently no specific management actions in place to mitigate ecosystem damage. However, general management arrangements are in place that can be used to lessen impacts on the ecosystem such as gear controls, BRDs, TEDs and spatial closures.
2.3.4 There are decision rules that trigger further management responses when monitoring detects impacts on selected ecosystem indicators beyond a predetermined level, or where action is indicated by application of the precautionary approach.	**Partially meets** There is an effort cap within the Great Barrier Reef Marine Park which, if triggered, closes the fishery to trawling. The effort cap is outlined in the Management Plan. There are currently no other decision rules in place that trigger further management responses. The collection of data through logbooks and independent validation would enable QDAF to implement any appropriate management response, if a response was required. The Queensland Harvest Strategy Policy and Guidelines sets out how future management will include suitable reference points, decision rules and performance indicators.
2.3.5 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	**Partially meets** The management arrangements have a moderate chance ensuring that the fishery is conducted in a manner that minimises the impact of fishing operations on the ecosystem generally. If intermediate and above risks identified in ERAs are addressed and mitigated (as per **Conditions 4 and 7**), the management arrangements will have a higher chance of minimising the impact of fishing operations on the ecosystem generally

SECTION 3: ASSESSMENT OF THE QUEENSLAND EAST OTTER TRAWL 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	**Meets** The fishery operates in the Coral Sea and the Temperate East Marine Regions. There is no bioregional plan currently in place for the Coral Sea Marine Region. *Marine bioregional plan for the Temperate East Marine Region* has been considered, values not compromised.While the harvesting of living resources and harvesting of bycatch are pressures of concern in the Temperate East Marine region, specific measures are in place to address this, including mandatory use of bycatch reduction devices and turtle exclusion devices. The 2012 ERA determined that the overall risk to the area of the fishery within the GBR to be low.

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.245 (1) (a-e), s.265 (1) (a-e) Does the fishery have an accreditable plan of management, regime or policy?	**Meets** Yes, there is an accreditable management regime. The fishery will be managed under the Queensland Fisheries (East Coast Otter Trawl Fishery) Management Plan 2010 in force under the Queensland Fisheries Act 1994 and the Fisheries Regulation 2008.
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?	**Meets** The management regime requires 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.
(g) And, is the fishery likely to adversely affect the survival or recovery in nature of the species.	**Meets** Given the management arrangements in place such as TEDs, BRDs, spatial and temporal closures, the fishery is not likely to adversely affect the survival or recovery in nature of any listed threatened species.
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?	**Meets** The management regime requires fishers to take all reasonable steps to ensure that listed migratory species are not killed or injured as a result of the fishing.
(g) And, is the fishery likely to adversely affect the conservation status of a listed migratory species or a population of that species?	**Meets** Given the management arrangements in place such as TEDs, BRDs, spatial and temporal closures, the fishery is not likely to adversely affect the conservation status of any listed migratory species.

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?	**Meets** The management regime requires fishers to take all reasonable steps to ensure that listed whales and cetaceans are not killed or injured as a result of the fishing.
(g) And is the fishery likely to adversely affect the conservation status of a species of cetacean or a population of that species?	**Meets** The 2012 ERA determined that the fishery has a negligible direct impact to cetaceans.
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?	**Partially meets** As described above in Section 2, there are concerns about the number of sea snake interactions and reliability of reporting. The implementation of **Condition 6** will inform the development of future management strategies involving bycatch species, and **Part 13 Condition A** will improve the accuracy of reporting and ensure the correct used of BRDs to reduce sea snake by catch.
(g) And is the fishery likely to adversely affect the conservation status of a listed marine species or a population of that species?	**Partially meets** Given the management arrangements in place such as TEDs, BRDs, spatial and temporal closures, the fishery is not likely to adversely affect the conservation status of any listed marine species, subject to the successful implementation of **Part 13 Condition A**, which will support reduced sea snake bycatch.
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.	Recommend accreditation, **subject to the Part 13 Conditions recommended in Section 4**.
(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.	To satisfy the requirements of sections 265 the Department recommends that the fishery be accredited under Part 13 subject to two conditions that requires QDAF to: **Condition A:** a) provide effective education to fishers to increase the accuracy of reporting of protected species interactions in log books; b) continue to support research or monitoring that investigates the ecological risk posed by the fishery to sea snakes, or develops new mitigation methods; and c) continue to monitor and report on the uptake and correct use of bycatch reduction devices to assist achieving reductions in sea snake bycatch. **Condition B:** work with relevant stakeholders to determine and implement an improved data collection and validation approach that can provide a robust monitoring regime to inform risk assessments of impacts on EPBC Act protected species.
(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 CITES 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.

Section 303DC Minister may amend list (non CITES species)	
(1) The Minister may, by legislative instrument, amend the list referred to in section 303DB [list of exempt native specimens] by: (a) doing any of the following: (i) including items in the list; (ii) deleting items from the list; (iii) imposing a condition or restriction to which the inclusion of a specimen in the list is subject; (iv) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or (b) correcting an inaccuracy or updating the name of a species.	The Department **recommends** that specimens derived from species harvested in the **Queensland East Coast Otter Trawl Fishery**, other than specimens that belong to species listed under Part 13 of the EPBC Act (other than a conservation dependent species), and specimens that belong to taxa listed under section 303CA (Australia's CITES list), be included in the list of exempt native specimens while the fishery is covered by the declaration of an approved wildlife trade operation under section 303FN of the EPBC.
(1A) In deciding to amend the LENS, the Minister must rely primarily on outcomes of Part 10, Div 1 or 2 assessment	**N/A** – Not a Commonwealth fishery.
(1C) The above does not limit matters that may be considered when deciding to amend LENS.	**Meets** Through the above assessment at Section 2 against the Guidelines, the Department has taken into account all matters relevant to making an informed decision to amend the list of exempt native specimens to include product taken in this fishery.
(3) Before amending the LENS, the Minister must consult: (a) other Minister or Ministers as appropriate; and (b) other Minister or Ministers of each State and self-governing Territory as appropriate; and (c) other persons and organisations as appropriate	**Meets** The submission from QDAF was made available on the Department's website from 16 March – 13 April 2017. Two public comments were received on the submission. The public comments raised concerns about target stock management, lack of mitigation of ecological risks, finer scale management of effort, the ongoing catch of sea snakes and EPBC Act protected species and the lack of independent monitoring. The Department's assessment has considered the public comments received on the submission and has addressed the issues raised through the recommended Conditions in Section 4.

Section 303FN Approved wildlife trade operation	Comment
(2) The Minister may, by instrument published in the *Gazette*, declare that a specified wildlife trade operation is an ***approved wildlife trade operation*** for the purposes of this section.	

(3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is **satisfied** that: (a) the operation is consistent with the objects of Part 13A of the Act; and	**Partially meets** Through the above assessment against the Guidelines at Section 2, the fishery has been determined to be mostly consistent with the Objects of Part 13A. To improve the operation so that it is fully consistent with all the Objects of 13 A, the declaration of the operation should be subject to the **Conditions** (inaccordance with section 303FT below) articulated in Section 4.
(b) the operation will not be detrimental to: i. the survival of a taxon to which the operation relates; or ii. the conservation status of a taxon to which the operation relates; and (ba) the operation will not be likely to threaten any relevant ecosystem including (but not limited to) any habitat or biodiversity; and	**Partially meets** While most target stocks in the fishery have been assessed as being harvested sustainably, saucer scallops have been determined to be overfished under existing management arrangements. Implementation of **Condition 5** (in accordance with section 303FT below) will ensure that the fishery will not be detrimental to the survival of this stock within the next **3 years**.
(c) if the operation relates to the taking of live specimens that belong to a taxon specified in the regulations – the conditions that, under the regulations, are applicable to the welfare of the specimens are likely to be complied with; and	**N/A** - the Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations) do not specify crustacea or fish as a class of animal in relation to the welfare of live specimens.
(d) such other conditions (if any) as are specified in the regulations have been, or are likely to be, satisfied.	**N/A** - no other conditions are specified in relation to commercial fisheries in the EPBC Regulations.
(4) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have **regard** to: (a) the significance of the impact of the operation on an ecosystem (for example, an impact on habitat or biodiversity); and	**Partially meets** While ecological risk assessments have determined that the overall risk of the fishery to ecosystems is low, some uncertainties remain about the fishery's impact on ecologically sensitive areas. Therefore, the declaration of this fishery as a wildlife trade operation should be subject to **Condition 7**, which will identify and mitigate against unacceptable risks to habitats and species within the next 3 years.
(b) the effectiveness of the management arrangements for the operation (including monitoring procedures).	**Partially meets** The effectiveness of the management arrangements for the fishery, including monitoring, will be enhanced with the implementation of: • **Condition 4** to address risks to species and habitats at risk from the impact of fishing • **Condition 6** to improve monitoring regime to better inform management arrangements • **Part 13 Condition B** to improve data collection and validation.
(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have **regard** to: (a) whether legislation relating to the protection, conservation or management of the specimens to which the operation relates is in force in the State or Territory concerned; and (b) whether the legislation applies throughout the State or Territory concerned; and (c) whether, in the opinion of the Minister, the legislation is effective.	**Meets** The fishery will be managed under the Queensland *Fisheries Act 1994* and the Fisheries Regulation 2008, which apply throughout Queensland waters. The legislation is likely to be effective, subject to QDAF successfully fulfilling the actions identified **Section 4.**

(10) For the purposes of section 303FN, an operation is a wildlife trade operation if, an only if, the operation is an operation for the taking of specimens and: (a) the operation is a commercial fishery.	**Meets** The ECOT is a commercial fishery.

Section 303FR Public consultation	**Comment**
(1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice: (a) setting out the proposal to make the declaration; and (b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and (c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal. (2) A period specified in the notice must not be shorter than 20 business days after the date on which the notice was published on the Internet.	**Meets** A public notice, which set out the proposal to declare the Queensland ECOT Fishery an approved wildlife trade operation and included the application from QDAF, was released for public comment on 16 March and closed on 13 April 2017, a total of 20 business days.
(3) In making a decision about whether to make a declaration under section 303FN, the Minister must consider any comments about the proposal to make the declaration that were given in response to the invitation in the notice.	**Meets** Two public comments were received on the submission. The public comments raised concerns about target stock management, lack of mitigation of ecological risks, finer scale management of effort, the ongoing catch of sea snakes and EPBC Act protected species and the lack of independent monitoring. The Department's assessment has considered the public comments received on the submission and has addressed the issues through the recommended Conditions in Section 4.

Section 303FT Additional provisions relating to declarations	**Comments**
(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.	**Meets** A declaration for the ECOT will be made under section 303FN.
(4) The Minister may make a declaration about a plan or operation even though he or she considers that the plan or operation should be the subject of the declaration 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 declaration is to specify the period, circumstances or condition.	**Meets** The standard conditions applied to commercial fishery wildlife trade operations include: • operation in accordance with the management regime • notifying the Department of changes to the management regime, and • annual reporting in accordance with the requirements of the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition.* The wildlife trade operation instrument for the ECOT specifies these standard, and four additional, conditions described below in Section 4.
(8) A condition may relate to reporting or monitoring.	**Meets** One of the standard conditions relates to reporting.

(9) The Minister must, by instrument published in the *Gazette*, revoke a declaration if he or she is satisfied that a condition of the declaration has been contravened.	
(11) A copy of an instrument under section 303FN,or this section is to be made available for inspection on the internet.	**Meets** The instrument for the ECOT made under sections 303FN and the conditions under section 303FT will be registered as a notifiable instrument and made available through the Department's website.

Part 16

	Comment
Section 391 Minister must consider precautionary principle in making decisions	
(1) Minister must take account of precautionary principle	
(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.	**Meets** Given the management arrangements in place such as TEDs, BRDs and an ERA for the GBR which includes management actions to reduce the impact of trawling within the Marine Park, precautionary measures are considered to be in place to prevent serious or irreversible environmental damage being caused by this fishery. The precautionary principle is identified in the Queensland *Fisheries Act 1994*.

SECTION 4: QUEENSLAND EAST COAST OTTER TRAWL FISHERY – SUMMARY OF ISSUES REQUIRING CONDITIONS, MARCH 2018

Issue	Condition
General Management Export decisions relate to the arrangements in force at the time of the decision. To ensure that these decisions remain valid and export approval continues uninterrupted, the Department 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 decision. This includes operational and legislated amendments that may affect sustainability of the target species or negatively impact on byproduct, bycatch, EPBC Act protected species or the ecosystem.	**Condition 1**: Operation of the Queensland East Coast Otter Trawl Fishery will be carried out in accordance with the Queensland Fisheries (East Coast Otter Trawl Fishery) Management Plan 2010 under the Queensland *Fisheries Act 1994.* **Condition 2**: The Queensland Department of Agriculture and Fisheries (QDAF) to inform the Department of the Environment and Energy (the Department) of any intended material changes to the East Coast Otter Trawl Fishery management arrangements that may affect the assessment against which *Environment Protection and Biodiversity Conservation Act 1999* decisions are made.
Annual Reporting 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 conditions 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 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition' 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 EPBC Act protected species, impacts of the fishery on the ecosystem in which it operates and progress in implementing the Department's conditions. Electronic copies of the guidelines are available from the Department's website at http://www.environment.gov.au/resource/guidelines-ecologically-sustainable-management-fisheries	**Condition 3**: QDAF to produce and present reports to the Department annually as per Appendix B of the *Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition.*

Issue	Condition
<u>Ecological Risk Assessments</u> The 2013 assessment of the fishery recommended that QDAF undertake an ERA for the area south of the Great Barrier Reef Marine Park. QDAF has conducted this ERA, however it is not yet complete. It important that the ERA is finalised, published and any intermediate to high risks mitigated against, as soon as possible. The *ecological risk assessment of the East Coast Otter Trawl Fishery in the Great Barrier Reef Marine Park* was finalised in 2012. This comprehensive ecological risk assessment considered the management arrangements and effort levels at the time (2010-2011) of the assessment and concluded that 'current risk levels from trawling activities are generally low', however 'some risks from trawling remain'. In particular, 11 species of skates and rays, two species of sea snake and a deepwater habitat in the southern Great Barrier Reef Marine Park were assessed as being at high risk from trawling activity, while three species of Balmain bug were assessed to be at intermediate-high risk from trawling activity. A number of intermediate risks were also identified for principal, permitted and bycatch species and species assemblages. While some risks have been mitigated against, there remain a number of risks that have not been mitigated. It is important that all risks identified as intermediate or above outlined in the ERA, are mitigated during the period of this approval. While there have been improvements in risk profiles since 2005, and overall risk to the area from trawling operations is generally low, management measures to reduce the risk to those species and habitats assessed to be above intermediate risk from trawling should be developed and implemented as soon as possible.	**Condition 4:** QDAF to: a) complete and publish the ecological risk assessment for the area of the fishery south of the Great Barrier Reef Marine Park, and b) address risk to species and habitats identified as being at or above intermediate risk from the impacts of fishing in the risk assessments (areas south of the Great Barrier Reef and within the Great Barrier Reef Marine Park) according to protocols described in the Fisheries Queensland Ecological Risk Assessment Guideline and encourage additional research through the Fisheries Queensland Monitoring and Research Plan.

Management of target stocks and finer scale spatial management Catch per unit of effort for saucer scallops in Queensland has been declining since 2012. In November 2016 the saucer scallop stock in Queensland was estimated to be approximately six per cent of original biomass and was classified as overfished. QDAF introduced closures to protect spawning scallops temporarily however further management is required to ensure scallop stocks recover to ecologically sustainable levels and remain above that level in future. The Queensland Sustainable Fisheries Strategy and associated Harvest Strategy Policy and Guidelines state that all target stocks in Queensland fisheries will be managed to 40 per cent of original biomass (maximum sustainable yield) by 2020 and to 60 per cent by 2027 (maximum economic yield). While these reference points may be appropriate for many target species, saucer scallops may require additional management measures in the short term to recover the stock and protect from further overfishing until the harvest strategy is implemented. QDAF reintroduced an effort cap in the Great Barrier Reef World Heritage Area (GBRWHA) in 2009. This cap took account of effort units bought out by the Australian Government after rezoning of the Great Barrier Reef Marine Park on 1 July 2004. The cap reduces annually to allow for effort creep in the fishery. QDAF should ensure that any changes to total allowable effort in the ECOTF or changes to the fishery's management structure do not result in an increase in the effort in the GBRWHA above the historic proportion of total fishing effort in the fishery. The Queensland Sustainable Fisheries Strategy notes this fishery requires finer scale management of effort to reduce the risk to target, byproduct and bycatch species. The introduction of finer scale management controls across all sectors of the Fishery would be beneficial in ensuring the long-term ecological sustainability of the fishery.	**Condition 5:** QDAF to: a) build stock resilience by working towards maximum sustainable yield in the short term and building to maximum economic yield for all fished stocks b) implement management measures to support the recovery of saucer scallops to ecologically sustainable levels and prevent future overfishing c) develop and implement finer scale management tools to improve spatial control of effort across all sectors of the fishery d) ensure that total effort in the Great Barrier Reef World Heritage Area does not increase above the historic proportion of total fishing effort in the East Coast Otter Trawl Fishery

Independent data validation and monitoring Given uncertainty in stock status for saucer scallops and the large amount of bycatch in the ECOTF, there is an ongoing need for QDAF to acquire information to support the ecologically sustainable management of the fishery. While the number of active licences has reduced since 2009, ongoing collection of reliable information is critical for understanding the impacts the fishery is having on the ecosystem, target stocks, sharks and bycatch, including EPBC Act protected species. The *Great Barrier Reef Outlook Report 2014* and the *Ecological risk assessment of the East Coast Otter Trawl Fishery in the Great Barrier Reef Marine Park* highlight the importance of accurate and ongoing data collection for managing the impacts of fishing on the environment and for maintaining sustainability, particularly within the GBRWHA where the fishery operates. It is essential that QDAF develop, implement and maintain a statistically robust monitoring regime for the fishery which will allow: • completion of stock assessments and the development of a harvest strategy for target stocks, including robust and qualitate data on by product and bycatch species • identification of risks to target, byproduct and bycatch species, and for protected species at a regional level (as per **Condition 5**), and • improved stakeholder confidence in effectiveness of fishery management measures This program should provide data that is independent of (and complementary to) fisher logbook data, be risk based and designed in consultation with relevant experts. It should also focus on those areas in the fishery where key target and at-risk species are caught, and/or that are likely to interact with protected species. Fishery monitoring data should continue to be analysed, peer reviewed and reported publicly, such as through the annual status reports for the fishery.	**Condition 6:** In consultation with relevant stakeholders, QDAF to develop and implement a statistically robust monitoring regime with appropriate levels of fisheries independent data to inform the introduction of harvest strategies for target species, including robust and quantitative data on byproduct and bycatch species (including EPBC Act protected species).

Ecologically sensitive areas For the ECOTF to be considered ecologically sustainable into the future, detrimental impacts on the deepwater habitat adjacent to the GBRMP should be kept to a minimum until data is collected to characterise the benthos in these habitats. The *Ecological risk assessment of the East Coast Otter Trawl Fishery in the Great Barrier Reef Marine Park (2014)* assessed 10 habitat types and their resilience to trawl fishing. One habitat type (Habitat 10), in which the ECOT operates, was assessed to be at high risk due to the lack of information available on the benthic environment and biota associated with it. There is even less information available on the deeper water environments adjacent to Habitat 10 areas. While the ERA determined the overall risk of trawling on the ecosystem as low within the GBRMP, it is important that if bycatch of reef-associated biota (corals and sponges) is apparent, fishing activity should cease until the vessel has moved to an area where there is less risk of catching these sensitive organisms. QDAF should work closely with industry to develop and adopt protocols to ensure sensitive benthic environments in and adjacent to the Great Barrier Reef Marine Park are not damaged as a result of fishing. Protocols may consider discussion on move-on provisions in the event of unacceptable levels of interactions with reef associated biota with the trawl nets.	**Condition 7:** Risks associated with habitat to be re-evaluated once new assessments under the Fisheries Queensland ERA Guideline are progressively implemented from 2018. QDAF to commit to mitigating unacceptable risks to species and habitats resulting from fishing activities. Under the Queensland Sustainable Fisheries Strategy 2017-2020, species and habitat considered to be at high risk will be prioritised for management action.

Protected species interactions and sea snake bycatch Under the *Environment Protection and Biodiversity Conservation Act 1999*, all species of sea snake are listed marine species. The *Ecological risk assessment of the East Coast Otter Trawl in the Great Barrier Reef Marine Park* lists 15 species of sea snake which have overlapping distributions with the fishery in the Great Barrier Reef Marine Park. Of these, two species, the elegant sea snake and ornate sea snake, were considered to be at high risk from trawl operations. The spectacled and small-headed sea snakes were also considered to be at intermediate risk from trawling operations. The majority of sea snake interactions occur in the red spot king prawn and scallop sectors of the fishery. The capture of sea snakes in the ECOTF has been an ongoing issue since the initial assessment of the fishery in 2004 and while some management measures have been effective at reducing the number of sea snakes caught, there appears to be a discrepancy between the numbers that are reported and the numbers that are estimated to be caught based on previous scientific research and current fishing effort. This may also be the case for other protected species such as turtles and dugong, which also occur in the vicinity of the fishery. It important that QDAF provide fishers with sufficient education to ensure the accurate reporting of sea snakes and other EPBC Act protected species in their Species of Conservation Interest logbook. QDAF should also continue to support research into understanding and reducing the impact on sea snakes in the fishery so that effective mitigation measures can be introduced.	**Part 13 Condition A:** QDAF to: a) provide effective education to fishers to increase the accuracy of reporting of protected species interactions in log books; b) continue to support research or monitoring that investigates the ecological risk posed by the fishery to sea snakes, or develops new mitigation methods; and c) continue to monitor and report on the uptake and correct use of bycatch reduction devices to assist achieving reductions in sea snake bycatch

Independent data validation and monitoring Given uncertainty in stock status for saucer scallops and the large amount of bycatch in the ECOT, there is an ongoing need for the Queensland Department of Agriculture and Fisheries to acquire information to support the ecologically sustainable management of the fishery. The Department acknowledges that the number of active licences has reduced since 2009 however, ongoing collection of reliable information is critical for understanding the impacts the fishery is having on the ecosystem, target stocks, sharks and bycatch, including EPBC Act protected species. The *Great Barrier Reef Outlook Report 2014* and the *Ecological risk assessment of the East Coast Otter Trawl Fishery in the Great Barrier Reef Marine Park* highlight the importance of accurate and ongoing data collection for managing the impacts of fishing on the environment and for maintaining sustainability, particularly within the Great Barrier Reef World Heritage Area where the ECOT operates. The Department considers it essential that the Queensland Department of Agriculture and Fisheries develop, implement and maintain a statistically robust monitoring regime for the fishery which will allow: • completion of risk assessments for protected species and the development of a harvest strategy for target stocks, bycatch, and byproduct at a regional level (as per **Condition 5**), and • improved stakeholder confidence in effectiveness of fishery management measures This program should provide data that is independent of (and complementary to) fisher logbook data, be risk based and designed in consultation with relevant experts. It should also focus on those areas in the fishery where key target and at-risk species are caught, and/or that are likely to interact with protected species. Fishery monitoring data should continue to be analysed, peer reviewed and reported publicly, such as through the annual status reports for the fishery.	**Part 13 Condition B:** QDAF to work with relevant stakeholders to determine and implement an improved data collection and validation approach that can provide a robust monitoring regime to inform risk assessments of impacts on EPBC Act protected species.