



Australian Government

Department of the Environment and Energy

**Assessment of the
TASMANIAN GIANT CRAB FISHERY**

DECEMBER 2019

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This report should be attributed as '*Assessment of the Tasmanian Giant Crab Fishery December 2019*, Commonwealth of Australia 2019.

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 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 or the Australian Government.

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EXECUTIVE SUMMARY

On 19 June 2019, the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) submitted an application for the Tasmanian Giant Crab Fishery (the fishery) to the Department of the Environment and Energy for assessment under the provisions of Part 13 (protected species) and Part 13A (wildlife trade) of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act), against the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'. A public comment period was open from 27 June 2019 to 31 July 2019. No public comments were received.

Fishery management arrangements

The Tasmanian Giant Crab Fishery (TGCF) operates in waters surrounding the state of Tasmania generally including Commonwealth waters under an Offshore Constitutional Settlement (OCS) between the Australian Government and the government of Tasmania. The TGCF targets giant crabs (*Pseudocarcinus gigas*) using heavy steel trap (modified rock lobster pot). The harvest of giant crabs in the TGCF is managed through input controls including; limited entry, seasonal spawning closure, and limited trap numbers. Output controls include; annually set Total Allowable Catch (TAC), individual transferable quotas, minimum size limits and the prohibition on the take of egg-bearing females. The fishery operates in accordance with the *Fisheries (Giant Crab) Rules 2013*, which obtains its authority from the Tasmanian *Living Marine Resources Management Act 1995*.

Target stocks

The Status of Australian Fish Stocks classifies the Tasmanian giant crab stock as depleted. DPIPWE have implemented reductions in total allowable catch (TAC) since 2006 in response to declining catch rates. Lack of appropriate biological data of the stock in the TGCF and the unknown extent to which trawling activities impact on giant crab stock and the species natural habitat, are the main factors limiting the understanding of the declining catch rate trend of giant crabs in the fishery for fishery managers and scientists.

Protected species and threatened ecological communities

The bycatch of non-target species is considered negligible in the fishery due to the nature of the fishery and the fishing method used. The majority of bycatch species caught are returned to the water unharmed. Historically, no interactions with endangered, threatened or protected species (TEPs) occurred in the fishery. The operation of the fishery is considered to have a negligible to low risk of impact on TEPs and threatened ecological communities.

Ecosystem impacts

The impact of the TGCF on the ecosystem and the environment generally is considered negligible to low due to the amount of trapping effort applied. The TGCF has previously used a proxy Ecological Risk Assessments (ERA) to assess its impact on the ecosystem.

Research and monitoring

Information on the target stock, bycatch and ecosystem impacts were categorised in this report as being 'partially met'. The Department identified the lack of reliable biological data as the biggest issue for the TGCF. DPIPWE continues to work closely with the Institute for Marine and Antarctic Studies (IMAS) to improve data collection and the quality of stock assessments in the fishery. DPIPWE is also collaborating with South Australian and Victorian fisheries management agencies on the *Giant Crab Enhanced Data Collection* project. The Department considers it a priority that DPIPWE continues to work towards improving the collection of appropriate biological data and the stock assessment methodology to inform the future management of the TGCF.

Conclusion

On this basis, the Department has determined that product taken in the Tasmanian Giant Crab Fishery should be included in the list of exempt native specimens under Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) until 10 January 2025. To ensure that this decision remains valid, the conditions and recommendations listed at Section 4 will apply.

SECTION 1: ASSESSMENT SUMMARY

Guidelines assessment	Meets	Partially meets	Does not meet	Details
Management regime	8 of 9 (1 N/A)			<p>The management regime and the stock assessment of the Tasmanian Giant Crab Fishery (TGCF) are publicly available and follow an open and transparent consultative process involving a diverse range of stakeholders. The effectiveness of the TGCF management arrangements are measured via the strategic objectives and performance criteria defined by the fishery management authority, the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE). The management plan, arrangements, performance indicators, and enforceable control rules in place in the fishery are subject to a regular review process. The Department considers the management regime of the fishery effective at harvesting the target species sustainably, and capable of effective management of potential impacts on the wider marine ecosystem.</p>
Principle 1 (target stocks)	5 of 11	5 of 11	1 of 11	<p>Reliable estimates of commercial, recreational and Indigenous removals from the fished stock in the TGCF are available. Scientific surveys advise and support the management of the TGCF and can trigger management responses. The total allowable catch (TAC) is periodically reviewed and adjusted according to survey and assessment outcomes, and robust reference points triggering management actions are in place. However, the Department considers the information collection system is not reliable. Data collection and stock assessment are mostly based on fishery-dependent research and monitoring data.</p> <p>Stock assessment modelling has not been used since 2015 and spatial biomass estimates lack accuracy due to gaps in biological data. Giant crabs stocks in the TGCF are considered overfished and precautionary management actions to reduce the TAC every year as a response to declining catch rates. The unknown extent to which trawling activities in Tasmanian waters affect the stock and natural habitat of giant crabs, and the ability for the target stock to recover from trawling impact and/or overfishing is also an issue that need further research. The Department notes DPIPWE's work with fishers to improve data collection in the fishery and acknowledges that the joint cross-jurisdictional project of the Fisheries Research and Development Corporation (FRDC) and the Institute for Marine and Antarctic Studies (IMAS) set to start early 2020. The Department expects DPIPWE to provide regular updates on the progress and outcomes of the project via the fishery's annual reports.</p> <p>The Department considers that the implementation of effective management strategies, and the relatively low fishing effort in the TGCF are capable of controlling the level of giant crab take and not threaten stocks of byproduct species, since bycatch and the take of byproduct species is considered negligible. Management responses are considered to have a high chance of meeting their objective despite uncertainties in the collection and assessment of information.</p>

Principle 2 (bycatch and TEPS)	6 of 12 (6 N/A)			<p>The bycatch of non-target species is considered negligible in the fishery due to the small amount of trapping effort applied. No interactions with endangered, threatened or protected species (TEPs) were recorded since the inception of the fishery. Due to the negligible to low risk of bycatch, no indicator group or decision rules are implemented for bycatch species in the fishery. Similarly, Ecological Risk Assessments (ERA) or mitigation strategies are not applicable in this fishery due to the nature of the TGCF operation. The Department considers the management response in the TGCF are likely to achieve the objective of the fishery being conducted in a manner that:</p> <ul style="list-style-type: none"> • does not threaten bycatch species; • avoids mortality of, or injuries to TEPs; and • avoids or minimises impacts on threatened ecological communities.
Principle 2 (ecosystem impacts)	1 of 5 (2 N/A)	2 of 5		<p>The impact of the TGCF on the ecosystem and the environment generally is considered negligible to low due to the fishing gear used. Therefore, an ERA is not considered necessary due to the scale and nature of the fishery and the TGCF has been using a proxy ERA to assess its impact on the ecosystem generally. The Department considers the management responses and arrangements are likely to achieve the objective of the fishery being conducted in a manner that minimises the impact of fishing operations on the ecosystem generally.</p>
EPBC requirements	Meets	Partially meets	Does not meet	Details
Part 12	All met			<p>Requirements met subject to conditions and recommendations specified at Section 4 of this report. The Marine Bioregional Plan (the Plan) for the South-East Marine Region is applicable to the area of the TGCF and impact to key ecological features as described in the Plan is considered low.</p>
Part 13	11 of 12 (1 N/A)			<p>Requirements met subject to conditions and recommendations specified at Section 4 of this report. Due to the nature of the operation and the fishing method employed in the fishery, interaction or impact on the survival or recovery in nature on listed threatened species, migratory species, whales, cetaceans and listed marine species is considered to be low risk.</p>
Part 13A	5 of 9 (4 N/A)			<p>Requirements met subject to conditions and recommendations specified at Section 4 of this report. The TGCF is consistent with the objects of Part 13A. Inclusion in the list of exempt native specimens for five years, until 10 January 2025 is recommended, subject to recommendations detailed in Section 4 of this report.</p>
Part 16	All met			<p>Requirements met subject to conditions and recommendations specified at Section 4 of this report. Precautionary management measures, performance measures and monitoring in place in the fishery are considered satisfactory to prevent serious or irreversible environmental damage being caused by the TGCF.</p>

Notes:

Assessment history:

Information on previous assessments for the Tasmanian Giant Crab Fishery (TGCF) is available on the Department's website at <http://www.environment.gov.au/marine/fisheries/tas/giant-crab>.

1st assessment **finalised July 2003** – Exempt from export approval under the EPBC Act. In October 2004 the list of exempt native specimens (LENS) was amended until 22 July 2006. Export approval was subject to 3 conditions and 12 recommendations.

2nd assessment **finalised July 2006** – Exempt from export approval under the EPBC Act. In July 2006 the LENS was amended until 22 July 2009. Export approval was subject to 4 conditions and 4 recommendations.

3rd assessment **finalised July 2009** – Exempt from export approval under the EPBC Act. In July 2009 the LENS was amended until 22 July 2014. Export approval was subject to 7 recommendations. In February 2013 the management regime for the TGCF was reaccredited in force under the *Fisheries (Giant Crab) rules 2013*. The LENS was amended until 22 July 2014 to take into consideration the new rules.

4th assessment **finalised July 2014** – Exempt from export approval under the EPBC Act. In July 2014 the LENS was amended until 18 July 2019. Export approval was subject to 6 recommendations.

Fishery reporting:

Annual reports:

- 2015/16 Annual Report on the Tasmanian Giant Crab Fishery
- Giant Crab – An overview of the 2015/16 Assessment
- 2016/17 Annual Report on the Tasmanian Giant Crab Fishery
- Giant Crab November 2017 – Fishery Assessment update
- 2017/18 Annual Report on the Tasmanian Giant Crab Fishery

Key links, fishery information:

Tasmanian Giant Crab Fishery webpage:

<https://dpiipwe.tas.gov.au/sea-fishing-aquaculture/commercial-fishing/giant-crab-fishery>.

Tasmanian Crustacean Fisheries Advisory Committee (CFAC) webpage:

<https://dpiipwe.tas.gov.au/sea-fishing-aquaculture/sustainable-fisheries-management/fishery-advisory-committees/crustacean-fisheries-advisory-committee>

Sustainable Marine Research Collaboration Agreement

<http://www.imas.utas.edu.au/partnerships-projects-and-collaborations/sustainable-marine-research-collaboration-agreement>

Giant Crab Catch Updates:

<https://dpiipwe.tas.gov.au/sea-fishing-aquaculture/commercial-fishing/giant-crab-fishery/giant-crab-catch>

Management plan

Fisheries (Giant Crab) Rules 2013:

<https://www.legislation.tas.gov.au/view/html/inforce/current/sr-2013-002>

Enforcing legislation:

Living Marine Resources Management Act 1995 (TAS):

<https://www.legislation.tas.gov.au/view/whole/html/inforce/current/act-1995-025>

Stock assessments:

Tasmanian Giant Crab Fishery 2013–14 assessment:

http://www.imas.utas.edu.au/_data/assets/pdf_file/0003/743106/Giant-Crab_2013-14.pdf

Previous stock assessments:

<https://www.imas.utas.edu.au/research/fisheries-and-aquaculture/publications-and-resources>

The Fisheries Research and Development Corporation (FRDC) report:

<https://www.fish.gov.au/report/180-Giant-Crab-2018>.

SECTION 2: DETAILED ANALYSIS AGAINST THE GUIDELINES

Guidelines criteria	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>Meets – The management regime is documented, publicly available and transparent.</p> <p>The Tasmanian Giant Crab Fishery (TGCF) is managed by the Tasmanian Department of Primary Industry, Parks, Water and Environment (DPIPWE) in accordance with the <i>Fisheries (Giant Crab) Rules 2013</i> in force under the <i>Living Marine Resources Management Act 1995</i>. This legislation and the rules are publicly available (link accessible in Section 1: Notes).</p>
Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public.	<p>Meets – The management regime was developed through a fully open and transparent public process.</p> <p>The development of management arrangements and regime followed a consultative process. As per section 44 of the <i>Living Marine Resources Management Act 1995</i>, a new or the remake of a management plan is open for a 60 day period of public consultation and a 30 day period for an alternation of an existing management plan, as per section 54 of the <i>Living Marine Resources Management Act 1995</i>. The range of stakeholders involved in the Crustacean Fishery Advisory Committee (CFAC) also provides advice during formal reviews of the management plan.</p>

Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process.

Meets – A range of expertise and public interests were involved during the stock assessment process.

The CFAC is part of a co-management framework for the rock lobster and giant crab fisheries which facilitates a working relationship between industry and DPIPWE. A range of expertise and public interests are involved in this committee with representatives across fishermen associations, environmental groups, food councils, giant crab and rock lobster industries, scientific researchers and DPIPWE. The CFAC meet a few times annually to discuss key issues including:

- research needs and priorities;
- fishery assessment and stock monitoring;
- formal reviews of the management plan;
- development of management responses and
- setting annual total allowable catch (TAC).

Minutes from CFAC meetings can be found on the CFAC page of the DPIPWE website (link accessible in Section 1: Notes). Members of the public are invited to contact the CFAC Executive Officer to raise specific issues to be tabled for discussion at upcoming CFAC meetings.

The stock assessment of the TGCF is undertaken by researchers of the nominated service provider, the Institute for Marine and Antarctic Studies (IMAS) at the University of Tasmania, who work in collaboration with the Tasmanian Government through the Sustainable Marine Research Collaboration Agreement (SMRCA). Stock assessments of the TGCF can be found on the IMAS Publications & Resources page (link accessible in Section 1: Notes).

<p>Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured.</p>	<p>Meets – Has strategic objectives and performance measures to measure effectiveness.</p> <p>The management regime of the TGCF has the strategic objectives of:</p> <ul style="list-style-type: none"> • maintaining fish stocks at optimum sustainable levels; • reducing incidental fishing mortality; • protecting under-size giant crabs; • conserving and protecting egg production during peak spawning periods; • managing commercial fishing interactions and mitigating any competition conflicts between different fishing methods; • providing socio-economic benefits to the community and high quality products. <p>Performance indicators in relation to total yearly catch rate, catch per unit effort (CPUE) and giant crab bycatch are used to assess whether reference points have been exceeded in the fishery as well as to measure the effectiveness of the management arrangement of the TGCF.</p>
<p>Be capable of controlling the level of harvest in the fishery using input and/or output controls.</p>	<p>Meets – Effective harvest controls are in place.</p> <p>Control rules are in place in the TGCF to effectively control the level of harvest in the fishery through input controls:</p> <ul style="list-style-type: none"> • limited entry to the fishery; • limited number of traps; • seasonal spawning closures to protect female giant crabs during peak spawning periods; <p>and output controls:</p> <ul style="list-style-type: none"> • annually set total allowable commercial catch and individual transferable quotas; • minimum giant crab size limit; • catch limits for recreational fishers; • prohibition on the take of egg-bearing females.
<p>Contain the means of enforcing critical aspects of the management arrangements.</p>	<p>Meets – Effective enforcement capability forms part of the management regime.</p> <p>The <i>Fisheries (Giant Crab) Rules 2013</i> and the <i>Living Marine Resources Management Act 1995</i> are enforceable legislative instruments through which the management regime of the fishery has an effective enforcement capability. Infringement notices and penalties are served to persons who do not comply with the legislation and rules.</p>

<p>Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria.</p>	<p>Meets – Regular performance reviews are built into the management regime for the fishery.</p> <p>A regular review process of the management arrangements is in place in the fishery.</p> <p>Management plan – The management plan of the TGCF is reviewed every 10 years. The plan will be reviewed and remade before the 10 year period expires on 28 February 2023. If the existing management plan is amended 30 day public consultation period applies. Should a new plan be introduced it would be subject to a 60 day period of public consultation.</p> <p>Performance indicators – Each year, prior to the commencement of each fishing season, performance indicators are reviewed to assess they fall within the acceptable reference ranges of giant crab stock and fishery variations.</p> <p>Review of total allowable catch – When a limit reference point has been exceeded, management actions are triggered, and total allowable catch in the fishery is reduced. DPIPWE has been adjusting the annual total allowable catch (TAC) in the fishery since the 2004 quota year to reflect declining catch rates and to increase target stock biomass. The latest reduction in TAC was implemented in 2017 and currently remains at 20.7 tonnes.</p>
<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>	<p>Meets – The arrangements in place are considered capable of effective management of impacts on the wider marine ecosystem.</p> <p>The ecological footprint of the operation of the fishery and its impact on the wider marine ecosystem is limited and considered low due to:</p> <ul style="list-style-type: none"> • the fishing method used (crab trap gear is not dragged); • the location where giant crabs are caught (edge of the continental shelf in deep waters away from coastal areas and on bryozoan turf habitat); • the low rate of bycatch of other species in the TGCF; • and the absence of reported protected species interactions in the history of the fishery, in any fishers report, observer or research sampling.
<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>	<p>Not applicable.</p> <p>There are no relevant plans or strategies relating to threat abatement, recover or bycatch with which the fishery is required to be compliant.</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.

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 – Logbook data is collected, however the data is considered not adequate or incomplete.
[Recommendation 1 at section 4 of this report addresses improved data collection]**

Giant crab catch records is collected via the quota allocation system (recorded landed catch) and logbook returns in the TGCF. There is a requirement for giant crab fishers to record their catch (number of giant crab kept) in the Giant Crab Catch Record Book each day, along with location and effort information. Fishermen's giant crab catch records are required to be returned to DPIPWE by the end of the following month. Giant crab logbook returns data from 1989/90 and 2013/14 are available through the previous IMAS assessment report of the fishery (link accessible in Section 1: Notes). Due to the small number of operators in the TGCF, the remote nature of the fishing operations and the size of the fishery, assessments now rely on fisher dependant catch rate data. DPIPWE is still attempting to work with giant crab fishers to improve data collection in the fishery. Data collection kits were distributed to fishers this 2019/20 fishing season and IMAS will be following up on an update with fishers in the near future.

DPIPWE is working with other south east Australian giant crab fishery jurisdictions on a joint project with the aim of enhancing data collection for the giant crab fisheries. The Fisheries Research and Development Corporation (FRDC) finalised its expression of interest application regarding this new data collection project in September 2019. The project involves South Australian, Tasmanian and Victorian research advisory groups and IMAS scientists. A steering committee consisting of fishery managers from the three jurisdictions and scientists will oversee and guide the development and implementation of the project. The purpose of the 'Giant Crab Enhanced Data Collection Project' is to address the problem of collecting quality stock assessment data that leads to uncertainty in the assessment and management of the southern giant crab fisheries. The project aims to develop an innovative and effective low-cost image collection method specific to giant crabs to:

- improve the collection of fishery-independent biological data;
- improve the accuracy of biomass and fishing mortality information;
- and enhance the stock assessment process and future assessments of the TGCF.

The project will consist of three phases and objectives that will be spread over a two year period between 28 January 2020 and 25 January 2022.

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.

Partially meets – Stock assessments are irregular, or pending necessitating precautionary management.
[Recommendation 2 at section 4 of this report addresses regularity and methods of stock assessments]

IMAS undertook assessments of the TGCF every year until 2011 and every second year until 2015 – the most recent assessment of the fishery published and available is dated 2015. IMAS is currently working on the 2018/19 stock assessment update for the TGCF that should be available in 2020. Stock assessment updates of the fishery are provided each year in November to the CFAC. These reports review and provide advice on the performance of the fishery management arrangements. IMAS is currently working on a new online assessment system to replace the traditional published report format for both the giant crab and rock lobster fisheries, but completion of this project has been delayed due to changes in fishery database systems and loss of key staff.

The FRDC provides a periodic report on Status of Australian Fish Stocks every few years for the TGCF (link accessible in Section 1: Notes). The latest 2018 FRDC report categorises the giant crab as overfished in Tasmania. The giant crab stock assessment model has not been used since 2015 as it is considered unable to produce reliable giant crab biomass estimates due to a lack of giant crab size, population and biological data. Scientists and fishery managers regularly assess the reproductive capacity of the stock and any reduction in biological diversity despite the lack of data and appropriate modelling projections. Accurate data collection is difficult in the TGCF due to:

- the small number of operators in the fishery;
- The size of the fishery;
- and the remote nature of fishing operations.

DPIPWE in collaboration with IMAS, are working to resolve the data gap issue by participating in a new FRDC project '*Giant Crab Enhanced Data Collection*' (FRDC project 2019-114). DPIPWE is collaborating with the South Australian and Victorian giant crab fishery jurisdictions to develop enhanced data collection methods for the shared giant crab fisheries.

1.1.3 The distribution and spatial structure of the stock(s) has been established and factored into management responses.

Partially meets – Spatial information is collected but lacks accuracy and is yet to be used.
[Recommendation 2 at section 4 of this report addresses provision of scientific reports to the Department.
Recommendation 3 addresses improved collaboration with AFMA where fishing activity overlaps with this fishery.

The distribution and spatial structure of the giant crab stock is regularly reviewed throughout IMAS assessments and factored into the management responses of the TGCF. The catch of giant crab in the TGCF is sub-divided across three spatial scales and differentiated between state-wide, eastern and western regions. DPIPWE implements seasonal closures in the fishery to protect female giant crabs during the peak spawning period to conserve egg production. The assessment of giant crab stock and biomass estimates is limited due to the lack of biological data in the fishery, which limits the estimation of the stock's distribution and spatial structure.

In 2009, scientists identified the northwest of Tasmania as an important area for giant crab recruitment based on undersized individuals distribution and larval dispersal distribution, and suggested this region should receive special attention in any spatial management of the fishery. No measures of spatial management regulation are currently in place to protect bryozoan turf habitat in this region. Bryozoan turf habitat was categorised at potentially high risk from trawl gear impact. Trawl fisheries interactions with the bryozoan turf habitat in the Tasmanian northwest region could be significantly impacting the recruitment capacity of the Tasmanian giant crab stock.

Voluntary exclusions zones were defined and agreed upon between DPIPWE and the Australian Fisheries Management Authority (AFMA) responsible for managing trawling in the Southern and Eastern Scalefish and Shark Fishery (SESSF). The attempted co-management has not been effective as trawling effort has continued in the agreed voluntary exclusion zones. The implementation and enforcement of spatial management arrangements by both jurisdictions in both fisheries, such as spatial closures could help protect the bryozoan turf habitat and the giant crab juveniles from potential trawl damage. However this would require further cross-jurisdictional collaboration and discussion with AFMA to implement such management response in the TGCF.

<p>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.</p>	<p>Meets – Robust surveys/ research is undertaken, with appropriate management responses implemented where required.</p> <p>There are reliable estimates of effort data and commercial removals from total and regional landed catch records and fishing logbook returns every quota year. DPIPWE publishes monthly online updates on the commercial catch of giant crab for the current fishing season (link accessible in Section 1: Notes). Recreational and indigenous removals are considered negligible due to the nature of the fishery operations occurring in deep water off the continental shelf.</p> <p>Scientific research supports the rate of giant crab harvest in the fishery and IMAS provides annual fished stock estimate surveys to the CFAC each year in November. These scientific surveys advise on giant crab stock; they are factored into stock assessments and can trigger management responses in the fishery. The TGFC reviews previous catch and effort data and adjust the TAC for the following quota year accordingly.</p>
<p>1.1.5 There is a sound estimate of the potential productivity of the fished stock/s and the proportion that could be harvested.</p>	<p>Partially meets – Productivity is currently being estimated. [Recommendation 2 at section 4 of this report addresses provision of scientific reports to the Department relevant to this criteria]</p> <p>IMAS provided model projections for the future harvest outcomes of the fishery by using historic recruitment estimates until 2015. Due to a lack of giant crab size population data, the model cannot produce reliable giant crab biomass estimates and is no longer used by researchers. IMAS provides regular sound estimates of Catch Per Unit Effort (CPUE) to the TGCF management and catch and recruitment data are regularly reviewed to estimate the fishery’s potential productivity. The development and implementation of the cross-jurisdictional collaborative project of ‘<i>Giant Crab Enhanced Data Collection</i>’ starting in 2020 has the objective to enhance the accuracy of biomass and fishing mortality information, as well as to enhance the stock assessment process in the fishery. This FRDC project will also assist in providing better estimates of the potential productivity of the Tasmanian giant crab stock and will assist DPIPWE in developing a harvest strategy for the fishery.</p>
<p>Management responses</p>	

<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>Meets – Robust reference points are in place.</p> <p>There are limit reference points in place in the fishery that trigger management actions to protect giant crab stock. These include:</p> <ul style="list-style-type: none"> • drop of the total yearly catch in the fishery below 90 per cent of the TAC in any year; • decline of the state-wide catch per unit effort (CPUE) for two consecutive years; • decline of the regional commercial catch rates by a total of 20 per cent in two years; • bycatch of giant crabs taken by rock lobster fishers above 5 tonnes in any year. <p>When a trigger point has been exceeded, management actions may be required. IMAS warns that virgin biomass estimates and peak biomass projections predicted by the giant crab stock assessment model may have been underestimated. IMAS recommended in the 2015 assessment of the TGCF that further discussion on suitable reference points was required. Information on reference points may evolve once the outcomes and the final report of the FRDC project 2019-114 is released (post-2022). The fishery managers and scientific steering committee will look into developing a protocol to integrate the new data obtained into stock assessments.</p>
<p>1.1.7 There are management strategies in place capable of controlling the level of take.</p>	<p>Meets – Management arrangements are in place to control the level of take.</p> <p>Management strategies in place controlling the level of take in the fishery include; annually set TAC and limited entry control.</p>
<p>1.1.8 Fishing is conducted in a manner that does not threaten stocks of byproduct species.</p>	<p>Meets – Effort is relatively low, take of byproduct species is low, or impact on by-product whole stock have been demonstrated to be low.</p> <p>Bycatch is considered negligible in the fishery and was assessed as low risk to other species due to the small amount of trapping effort. The majority of bycatch species can be returned to the sea unharmed.</p>
<p>(Guidelines 1.1.1 to 1.1.7 should be applied to byproduct species to an appropriate level)</p>	
<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>Meets – The management response is considered to have a high chance of meeting its objective.</p> <p>The management responses are considered likely to meet the objectives. The fishery has been adjusting management responses to stock and catch rate decline by reducing the total allowable catch to allow biomass increase in the fishery for the last few years.</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>	

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.

Does not meet –

No recovery strategy under development or in place. While giant crab stocks in the TGCF are considered overfished DPIPWE has set precautionary management actions to reduce the Total Allowable Catch every year as a response to declining catch rates.

[Recommendation 2 at section 4 of this report addresses provision of scientific reports to the Department and updating stock assessment methods aimed at getting an improved baseline understanding of the stocks so that level of fishing can be set to ensure recovery of the stocks over time]

The stock of giant crab in the TGCF is considered overfished and the 2018 FRDC report on the stock status of the fishery stated that the egg production level is inadequate relative to benchmarks in most crustacean fisheries. In the 2014 assessment of the TGCF against the Guidelines and the EPBC Act, DPIPWE was advised by the Department of the Environment and Energy (the Department) to finalise the draft of the harvest strategy for the fishery. There is no further progress on the harvest strategy draft due to a lack of data for effective biomass estimates and stock assessment model. Analyses have focused instead on CPUE trends which decreased continually since the inception of the fishery. As a precautionary recovery strategy, the management response in the fishery is to reduce the annual TAC. The TAC was reduced by 46 per cent in 2017 and catch rates have continued to decline at a moderate rate since and are currently at a record low. The stock of the Tasmanian giant crab is likely to be depleted given CPUE evidences and considered particularly susceptible to becoming recruitment overfished due to the species slow growth rate and longevity.

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 – Management responses have been implemented but are incomplete or in adequate. It is noted that while giant crab stocks in the TGCF are considered overfished DPIPWE has set precautionary management actions to reduce the Total Allowable Catch every year as a response to declining catch rates. [Recommendation 2 at section 4 of this report addresses updating stock assessment methods aimed at getting an improved baseline understanding of the stocks which will in turn inform management in the fishery]

Management responses in the TGCF involve reducing TAC for the quota year to allow biomass to rebuild and catch rates to increase. Since DPIPWE implemented a 46 per cent reduction in TAC, total landed catch has been fluctuating every fishing season but overall remains in a declining trajectory. Seasonal closures are in place in the fishery to allow for egg production during the giant crab breeding cycle. The continuing decline in catch rates is likely to be influenced by external factors including interaction issues with the trawl sector of the SESSF. Various scientific studies suggested that bottom trawl in the area of the TGCF could negatively impact the recovery of the giant crab stock in Tasmanian waters where the TGCF operates. The effort of bottom trawl seems to be higher and overlaps in the TGCF compared to other giant crabs fisheries in South Australia and Victoria. Scientists stated the impact of bottom trawl on the giant crab mortality is likely to be significant and could be partly responsible for the lack of stock rebuild, given the significant reductions in TAC the TGCF imposed on the fishing operators over time. DPIPWE and AFMA worked on co-management solutions involving a voluntary exclusion zone agreement for trawlers which failed. That measure aimed at limiting bottom trawl in the depth band around Tasmania to mitigate the identified risks and potential damage done to bryozoan habitat. Both jurisdictions are still collaborating to analyse further waters adjacent to Tasmania where issues of interaction between the trawl sector and the giant crab fishers occur. Data collection in the fishery needs to be improved to enable researchers to develop accurate biomass assessments in the TGCF, and to better define the current status of the Tasmanian giant crab stock.

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

<p>2.1.1 Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.</p>	<p>Meets – Information on the composition and abundance of bycatch is collected in the fishery.</p> <p>The bycatch of non-target species is negligible in the fishery compared with other fishing methods. Historically the most common species caught are draughtboard sharks and hermit crabs that are being returned to the water alive. Fishers may retain some bycatch species for bait or personal use that are recorded in fishing logbooks. Fishers are required to record their catch (as the number of individual crabs kept), bycatch, effort and location information daily in the Giant Crab Catch Record Book (giant crab logbook). DPIPWE requires fishers to return giant crab logbook records by the end of the following month.</p>
<p>Assessment</p>	
<p>2.1.2 There is a risk analysis of the bycatch with respect to its vulnerability to fishing.</p>	<p>Meets – Risk analysis of bycatch vulnerability has been conducted.</p> <p>The bycatch is considered low and negligible in the TGCF and was assessed as low risk to non-target species due to the small amount of trapping effort. The majority of bycatch species are released to the sea unharmed.</p>
<p>Management responses</p>	
<p>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>	<p>Meets – Management responses are in place.</p> <p>Bycatch is negligible and the majority of bycatch species are released unharmed to the sea.</p>
<p>2.1.4 An indicator group of bycatch species is monitored.</p>	<p>Not applicable.</p> <p>No indicator group of bycatch species is in place due to the negligible to low risk of bycatch in the fishery.</p>
<p>2.1.5 There are decision rules that trigger additional management measures when there are significant perturbations in the indicator species numbers.</p>	<p>Not applicable.</p> <p>No decision rules are in place for bycatch species because the level of risk is considered negligible to low.</p>

<p>2.1.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p>Meets – The management response is considered to have a high chance of meeting its objective.</p> <p>Management arrangements are considered likely to achieve the objective of the fishery being conducted in a manner that does not threaten bycatch species.</p>
<p>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.</p>	
<p>Information requirements</p>	
<p>2.2.1 Reliable information is collected on the interaction with endangered, threatened or protected species and threatened ecological communities.</p>	<p>Meets – reliable records are collected that would indicate interactions with endangered, threatened or protected species and threatened ecological communities.</p> <p>Interactions with endangered, threatened and protected species are recorded directly in the giant crab logbooks that are returned monthly to DPIPWE. In the history of the fishery, no interactions with endangered, threatened or protected species have been recorded in any research or observer sampling on board commercial vessels. This is likely due to the operation of the fishery occurring in deep water away from coastal areas frequented by juvenile seals and cormorants, which usually interact with traps in the Tasmanian lobster fishery. Additionally, under sections 199, 214, 232 and 256 of the EPBC Act persons who interact with endangered, threatened or protected species must report that interaction within seven days of the incident occurring to the Department.</p> <p>The TGCF operates on bryozoan turf habitat found along the edge of the continental shelf. In the 2009 FRDC project 2004/066, scientists considered the impact of the fishery on the habitat to be at low risk due to the type of fishing gear used. Crab traps are not dragged on the sand and mud sediments where bryozoan turf grows. The fishing footprint on the habitat is considered insignificant and no interactions with threatened ecological communities have been recorded.</p>
<p>Assessments</p>	
<p>2.2.2 There is an assessment of the impact of the fishery on endangered, threatened or protected species.</p>	<p>Not applicable.</p> <p>No specific Ecological Risk Assessment (ERA) of the impact of the TGCF on endangered, threatened or protected species has been undertaken. Historically no interactions were recorded in the fishery with endangered, threatened and protected species and impact is considered low. Due to the similar nature of the fishing gear, the rock lobster pot fishery ERA was used by DPIPWE as a substitute for a giant crab ERA in relation to impact on marine mammals. The TGCF went through this process recently as required by the Department of Agriculture and Water Resources for approval export of giant crabs and rock lobsters to the United States.</p>

<p>2.2.3 There is an assessment of the impact of the fishery on threatened ecological communities.</p>	<p>Not applicable.</p> <p>No specific ERA of the impact of the fishery on threatened ecological communities is available or has ever been conducted. The fishery mostly operating on bryozoan turf habitat (growing on sand and mud sediments) along the edge of the continental shelf , the impact on threatened ecological communities is considered to be low because gear is not dragged and the fishing footprint is considered insignificant relative to the size of the habitat area.</p>
<p>Management responses</p>	
<p>2.2.4 There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.</p>	<p>Not applicable.</p> <p>No mitigation strategy in place to avoid interactions with protected species. The type of gear used limits interactions with endangered, threatened or protected species and the potential capture and/or mortality risk for these species.</p>
<p>2.2.5 There are measures in place to avoid impact on threatened ecological communities.</p>	<p>Not applicable.</p> <p>No mitigation strategy has been developed nor implemented. The operation of the fishery is considered to have a low impact on threatened ecological communities and no interaction on endangered, threatened or protected species has ever been recorded in the history of the fishery.</p>
<p>2.2.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p>Meets - The management response is considered to have a high chance of meeting its objective.</p> <p>Management arrangements are considered likely to achieve the objective of the fishery being 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.</p>
<p>Objective 3 - The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally.</p>	
<p>Information requirements</p>	

<p>2.3.1 Information appropriate for the analysis in 2.3.2 is collated and/or collected covering the fishery's impact on the ecosystem and environment generally.</p>	<p>Partially meets – Methods of data collection and a proxy Ecological Risk Assessment (ERA) are in place but do not result in the adequate collection of data. [Recommendation 1 at section 4 of this report addresses improved data collection]</p> <p>No specific Ecological Risk Assessment (ERA) of the impact of the TGCF on ecological communities or on food chains has been undertaken. Impact on the ecosystem and the environment generally is considered low in the fishery due to the nature of the fishing gear (trap pots). The rock lobster pot fishery ERA was used by DPIPWE as a substitute for a giant crab ERA in relation to impact on marine mammals due to the similar nature of the fishing gear between the two fisheries. The fishery operates mainly on bryozoan turf habitat (which grows on sand and mud sediments) along the edge of the continental shelf. The impact on habitat and ecosystem is considered low because gear is not dragged and the fishing footprint is considered insignificant relative to the size of the habitat area.</p>
<p>Assessment</p>	
<p>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.</p> <ol style="list-style-type: none"> 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 	<p>Partially meets – An ERA is not considered necessary for the scale of the fishery but a proxy ERA is used.</p> <p>Ecosystem components 1 and 3 are not applicable to the nature and scale of the fishery for the reasons mentioned in 2.3.1. No information has been collated and/or collected regarding component 2 and therefore, an analysis on the potential risk and impact on food chains has not been conducted in the fishery. The rock lobster pot fishery ERA was used as a substitute for a giant crab ERA in relation to marine mammals impact. The operation of the fishery is considered to have a low impact on the ecosystem and environment generally.</p>
<p>Management responses</p>	

<p>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.</p>	<p>Not applicable.</p> <p>No specific management actions to mitigate potential damage to ecosystems arising from described impacts in 2.3.1 is in place. The impact on habitat and ecosystems is considered low because fishing gear is not dragged. The fishing footprint is considered insignificant relative to the size of the habitat area.</p>
<p>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.</p>	<p>Not applicable.</p> <p>No performance measures are implemented and no decision rules are in place for the ecosystem generally because the level of risk is considered negligible to low.</p>
<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>	<p>Meets – The management arrangements are considered to have a high chance of meeting their objective</p> <p>Management arrangements are considered likely to achieve the objective of the fishery being conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally.</p>

SECTION 3: ASSESSMENT OF THE FISHERY AGAINST THE REQUIREMENTS OF THE EPBC ACT

The table below is not a complete or exact representation of the EPBC Act. It is intended to show that the relevant sections and components of the EPBC Act have been taken into account in the formulation of advice on the fishery in relation to decisions under Part 13 and Part 13A.

Part 12 – Identifying and monitoring biodiversity and making bioregional plans

Section 176 Bioregional Plans	Comment
(5) Minister must have regard to relevant bioregional plans	<p>Meets</p> <p>The Marine Bioregional Plan (the Plan) for the South-East Marine Region 2015 identifies a number of key ecological features present in the area of the Tasmanian Giant Crab Fishery (TGCF), including; the east Tasmania subtropical convergence zone, the west Tasmania canyons, and the seamounts south and east of Tasmania. The Plan lists these key ecological features as having a high productivity and high aggregations of marine life. However, there is no evidence to suggest any systematic change to species diversity or richness caused by this fishery, indicating fishing effort is not having a material impact on the food chain or trophic structure. Given the low impact of fishing methods used in the fishery, impact to key ecological features is considered low.</p>

Part 13 – Species and communities

Accreditable plan, regime or policy (Division 1, Division 2, Division 3, Division 4)	Comment
<p>s. 208A (1) (a-e) , s.222A (1) (a-e), s.245 (1) (a-e), s.265 (1) (a-e)</p> <p>Does the fishery have an accreditable plan of management, regime or policy?</p>	<p>Meets</p> <p>There is an accreditable management regime. The TGCF is managed in accordance with the <i>Fisheries (Giant Crab) Rules 2013</i> in force under the <i>Living Marine Resources Management Act 1995</i>, and arrangements established under this legislation.</p>

Division 1 Listed threatened species, Section 208A Minister may accredit plans or regimes	Comment
<p>(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>	<p>Meets Listed threatened species that may interact with the fishery due to geographic overlap include some large whale species and some seabird species. The management regime for the TGCF prescribes limits and restrictions on fishing gear used in the fishery, as described in Section 2. Given these limits and restrictions, that keep fishing effort constrained enough that the risk of whale entanglements is low, coupled with the relatively benign fishing methods that do not pose a risk to seabirds, the Department of the Environment and Energy (the Department) considers that the management regime for the TGCF still requires operators to take all reasonable steps to ensure that members of listed threatened species are not killed or injured in Commonwealth waters as a result of the fishing.</p> <p>The management regime for the TGCF was accredited under section 208A (Part 13) of the EPBC Act in July 2014. The management arrangements for the TGCF have not significantly changed since this accreditation was granted. Consequently, a new Part 13 declaration is not needed at this time.</p>
<p>(g) And, is the fishery likely to adversely affect the survival or recovery in nature of the species?</p>	<p>Meets Reports provided by the Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) indicate that there has been no interactions with listed threatened species in the fishery in 2014/2019. Therefore, the Department considers the current operation of the fishery is not likely to adversely affect the survival or recovery in nature of the species.</p>
Division 2 Migratory species, Section 222A Minister may accredit plans or regimes	Comment
<p>(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>	<p>Meets Listed migratory species that may interact with the fishery due to geographic overlap include large whale species and some seabird species. The management regime for the TGCF prescribes limits and restrictions on fishing gear used in the fishery, as described in Section 2. Given these limits and restrictions, that keep fishing effort constrained enough that the risk of whale entanglements is low, coupled with the relatively benign fishing methods that do</p>

	<p>not pose a risk to seabirds, the Department considers that the management regime for the TGCF still requires operators to take all reasonable steps to ensure that members of listed migratory species are not killed or injured in Commonwealth waters as a result of the fishing.</p> <p>The management regime for the TGCF was accredited under section 222A (Part 13) of the EPBC Act in July 2014. The management arrangements for the TGCF have not significantly changed since this accreditation was granted. Consequently, a new Part 13 declaration is not needed at this time.</p>
<p>(g) And, is the fishery likely to adversely affect the conservation status of a listed migratory species or a population of that species?</p>	<p>Meets</p> <p>Reports provided by the DPIPWE indicate that there has been no interactions with listed migratory species in the fishery in 2014/2019. Therefore, the Department considers the current operation of the fishery is not likely to adversely affect the conservation status of a listed migratory species or a population of that species.</p>
<p>Division 3 Whales and other cetaceans, Section 245 Minister may accredit plans or regimes</p>	<p>Comment</p>
<p>(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?</p>	<p>Meets</p> <p>There are a number of cetacean species that may interact with the fishery due to geographic overlap of fishing effort with migration routes, particularly for humpback whales and southern right whales, although there have been no reported interactions in the history of the fishery. The management regime of the TGCF prescribes limits and restrictions on fishing gear used in the fishery, as described in Section 2. Given these limits and restrictions keep fishing effort constrained enough that the risk of whale entanglements is low, particularly over the winter whale migration season, the Department considers that the management regime for the TGCF still requires operators to take all reasonable steps to ensure cetaceans are not killed or injured in Commonwealth waters as a result of the fishing.</p> <p>The management regime for the TGCF was accredited under section 245 (Part 13) of the EPBC Act in July 2014. The management arrangements for the TGCF have not significantly changed since this accreditation was granted. Consequently, a new Part 13 declaration is not needed at this time.</p>

<p>(g) And, is the fishery likely to adversely affect the conservation status of a species of cetacean or a population of that species?</p>	<p>Meets Reports provided by the DPIPWE indicate that there has been no interactions with cetacean species or a population of that species in the fishery in 2014/2019. Therefore, the Department considers the current operation of the fishery is not likely to adversely affect the conservation status of a species of cetacean or a population of that species.</p>
<p>Division 4 Listed marine species, Section 265 Minister may accredit plans or regimes</p>	<p>Comment</p>
<p>(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?</p>	<p>Meets Listed marine species that may interact with the fishery due to geographic overlap include pinniped species and seabird species. The management regime for the TGCF prescribes limits and restrictions on fishing gear used in the fishery, as described in Section 2. Given the relatively benign fishing methods that do not pose a risk to seabirds and the distance of fishing effort from coastal pinniped colonies, the Department considers that the management regime for the TGCF still requires operators to take all reasonable steps to ensure that members of listed marine species are not killed or injured in Commonwealth waters as a result of the fishing.</p> <p>The management regime for the TGCF was accredited under section 265 (Part 13) of the EPBC Act in July 2014. The management arrangements for the TGCF have not significantly changed since this accreditation was granted. Consequently, a new Part 13 declaration is not needed at this time.</p>
<p>(g) And, is the fishery likely to adversely affect the conservation status of a listed marine species or a population of that species?</p>	<p>Meets Reports provided by the DPIPWE indicate that there has been no interactions with listed marine species or a population of that species in the fishery in 2014/2019. Therefore, the Department considers the current operation of the fishery is not likely to adversely affect the conservation status of a listed marine species or a population of that species.</p>
<p>Section 303AA Conditions relating to accreditation of plans, regimes and policies</p>	<p>Comment</p>

<p>(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.</p>	<p>Recommend accreditation under sections 208A, 222A, 245 and 265. The Department considers that the accreditation of the TGCF's management regime remains valid under sections 208A, 222A, 245 and 265.</p>
<p>(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:</p> <p>(a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with.</p> <p>In such a case, the instrument of accreditation is to specify the period, circumstances or condition.</p>	<p>No conditions required. The Department considers that no conditions are required for the accreditation of the management regime for the TGCF under Part 13.</p>
<p>(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.</p>	<p>Not applicable.</p>

Part 13A – International movement of wildlife specimens

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>	<p>The management arrangements for the TGCF have been assessed as consistent with the general guidance provided in the objects of Part 13A as:</p> <ul style="list-style-type: none"> • the fishery will not harvest any Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed species • there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Section 2) • the operation of the TGCF is unlikely to be unsustainable and threaten biodiversity within the next five years, and • the Environment Protection and Biodiversity Conservation Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens.

Section 303 CG Minister may issue permits (CITES species)	Comment
<p>(3) The Minister must not issue a permit unless the Minister is satisfied that:</p> <p>(a) the action or actions specified in the permit will not be detrimental to, or contribute to trade which is detrimental to:</p> <p>(i) the survival of any taxon to which the specimen belongs; or</p>	<p>Not applicable. The fishery does not harvest species listed under CITES.</p>
<p>(ii) the recovery in nature of any taxon to which the specimen belongs; or</p>	<p>Not applicable. The fishery does not harvest species listed under CITES.</p>
<p>(iii) any relevant ecosystem (for example, detriment to habitat or biodiversity); and</p>	<p>Not applicable. The fishery does not harvest species listed under CITES.</p>
Section 303DC Minister may amend list (non CITES species)	Comment
<p>(1) The Minister may, by legislative instrument, amend the list referred to in section 303DB [list of exempt native specimens] 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; or</p> <p>(b) correcting an inaccuracy or updating the name of a species.</p>	<p>The Department recommends that specimens that are or are derived from fish or invertebrates, other than specimens that belong to species listed under Part 13 of the EPBC Act, taken in the TGCF, as defined in the <i>Tasmanian Fisheries (Giant Crab) Rules 2013</i> in force under the <i>Tasmanian Living Marine Resources Management Act 1995</i> be included in the list of exempt native specimens until 10 January 2025.</p>
<p>(1A) In deciding to amend the LENS, the Minister must rely primarily on outcomes an assessment under Part 10, Divisions 1 or 2</p>	<p>Not applicable. The fishery is not managed by the Commonwealth.</p>
<p>(1C) The above does not limit matters that may be considered when deciding to amend LENS.</p>	<p>Meets The Department considers that it 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.</p>

<p>(3) Before amending the LENS, the 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>	<p>Meets</p> <p>The Department considers that the consultation requirements have been met.</p> <p>The submission from the DPIPWE was made available on the Department's website from 27 June 2019 to 31 July 2019. No comments were received.</p>
<p>(5) A copy of an instrument made under section 303DC is to be made available for inspection on the internet.</p>	<p>Yes, the instrument made under section 303DC(1)(a) for the fishery will be registered on the Federal Register of Legislation (FRL), and a link to the instrument made available through the Department's website.</p> <p>Under subsection 56(1) of the <i>Legislation Act 2003</i> (CTH), registration on the FRL meets the requirements for gazettal.</p>

Part 16 – Precautionary principle and other considerations in making decisions

Section 391 Minister must consider precautionary principle in making decisions	Comment
<p>(1) Minister must take account of the precautionary principle in making a decision, to the extent that the decision is consistent with other provisions under this Act.</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>	<p>Meets</p> <p>Having regard to the precautionary management measures in place in the fishery, summarised in Section 2, and given the annual monitoring of stocks against prescribed performance measures and the used of selective low impact fishing gear, the Department considers that precautionary measures are in place to prevent serious or irreversible environmental damage being caused by this fishery.</p>

SECTION 4: SUMMARY OF ISSUES REQUIRING CONDITIONS AND RECOMMENDATIONS

Issue	Conditions and recommendations
<p><u>General Management</u></p> <p>The export of Australian native flora and fauna is regulated by the Department of the Environment and Energy (the Department) under the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act). The EPBC Act export approval process is based on an assessment of the fishery's management arrangements that are in force at the time of the decision.</p> <p>Any reference to the Tasmanian legislation can only be incorporated in the Commonwealth instruments as point-in-time references (that is, the fishery's management arrangements at the time the Commonwealth instrument commences). Therefore, any changes that are made to Tasmanian legislation (including changes to Acts, regulations or management plans) after the Commonwealth instruments commence may not be covered by the export approval.</p> <p>To ensure that these decisions remain valid and export approval continues uninterrupted, the Department of the Environment and Energy (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, protected species or the ecosystem.</p>	<p>Condition 1:</p> <p>Operation of the fishery will be carried out in accordance with the <i>Tasmanian Fisheries (Giant Crab) Rules 2013</i> in force under the <i>Tasmanian Living Marine Resources Management Act 1995</i>.</p> <p>Condition 2:</p> <p>The Tasmanian Department of Primary Industries, Parks, Water and Environment (DPIPWE) to inform the Department of any intended material changes to the Tasmanian Giant Crab Fishery (TGCF) management arrangements that may affect the assessment against which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are made.</p>
<p><u>Annual Reporting</u></p> <p>DPIPWE provided annual reports for 2015-16, 2016-17 and 2017-18. The annual report for 2018-19 has not been finalised yet and is expected to be provided to the Department early 2020. 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 and recommendations in this report and other managerial commitments to be monitored and assessed throughout</p>	<p>Condition 3:</p> <p>DPIPWE 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'.</p>

Issue	Conditions and recommendations
<p>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 recommendations identified in the previous assessment report. Electronic copies of the guidelines are available from the Department of the Environment and Energy's website at http://www.environment.gov.au/resource/guidelines-ecologically-sustainable-management-fisheries.</p>	

Issue	Conditions and recommendations
<p><u>Data Collection</u></p> <p>The Department notes that improved data collection remains a high priority for DPIPWE. Over the 2019 season DPIPWE continued to work with fishers to improve data collection in the fishery however, as with previous initiatives to improve data collection, progress has been limited due to the difficulty for fishers to record relevant data and measurements considering the inherent difficulties and time constraints in handling giant crabs. The <i>Institute for Marine and Antarctic Studies (IMAS)</i> distributed data collection kits to fishers and the Department will be expecting an update once IMAS has followed up with fishers.</p> <p>In its submission, DPPIWE informed the Department of the cross-jurisdictional Fisheries Research and Development Corporation (FRDC) project “<i>Giant Crab Enhanced Data Collection</i>” that is underway with the other two South Australian and Victorian and giant crab fisheries and IMAS scientists. Following its 2019 application submission, DPIPWE provided on request the finalised application of the expression of interest for the FRDC project 2019-114.</p>	<p>Recommendation 1:</p> <p>a) DPIPWE to continue working with fishers to improve data collection in the fishery and to keep contributing to the development and implementation of the FRDC enhanced data collection project for the giant crab in south east Australia.</p> <p>b) DPIPWE to provide the Department with regular updates on the progress of:</p> <ul style="list-style-type: none"> - data collection with fishers; - the development and outcomes from the cross-jurisdictional project via annual reporting (as per Condition 3).
<p><u>Harvest Strategy</u></p> <p>In its 2019 submission to the Department, DPIPWE advised that the draft harvest strategy presented in the 2014 fishery assessment had not progressed due to: the lack of giant crab data and biomass estimates required to run a stock assessment model; and the contraction of spatial coverage of catch and effort data since the reduction in the Tasmanian giant crab fleet influenced by significant reductions in total allowable catch (TAC) over time.</p> <p>The Department notes that the Tasmanian Giant Crab fishery has taken an alternative approach to respond to declining giant crab catch rates by reducing TAC to reverse the declining catch rate trends. DPIPWE is yet to see the response of the giant crab catch rate to reduced annual TAC and advised that IMAS will be providing an update of the fishery catch rate data from the 2018-19 quota year towards the end of 2019.</p>	<p>Recommendation 2:</p> <p>a) DPIPWE to provide the IMAS report on the analysis of the fishery catch rate data for the 2018-19 quota year to the Department, and to take the appropriate management response measures to reported trends of giant crab rates accordingly to IMAS assessment report. DPIPWE to provide the scientific fishery assessment report for the TGCF every couple of years.</p> <p>b) DPIPWE to assess alternative assessment methods to determine biomass estimates to assist scientific research to develop a new giant crab stock assessment model that will be used to draft and finalise a harvest strategy for the TGCF.</p>

Issue	Conditions and recommendations
<p><u>Cross-jurisdictional management</u></p> <p>The Department notes the collaborative work undertaken between DPIPWE and the Australian Fisheries Management Authority (AFMA) to investigate the impacts of bottom trawling on the Tasmanian giant crab stock and the TGCF. DPIPWE shared with the Department the outcomes from the research undertaken by IMAS on the interactions between the TGCF and the south east benthic trawl fisheries. The research report showed the high potential for interactions between fishing gear and that trawl effort tended to be concentrated in grounds used for giant crab fishing and on bryozoan habitat. The report also demonstrated that voluntary exclusion zones were not adhered to by the trawl sector of the overlapping Commonwealth Southern and Eastern Scalefish and Shark Fishery (SESSF). This recent IMAS study seems to concur with past research on the impact of bottom trawling on giant crab habitat around Tasmania and suggests that further detailed analysis is required of waters adjacent to Tasmania. The Department notes that DPIPWE is seeking a coordinated and targeted management response limiting bottom trawl activities by deploying appropriate spatial management arrangements around Tasmania to mitigate potential damage to the TGCF and the bryozoan habitat. The Department also notes that the mortality of non-retained crabs coming in contact with trawl gear is unknown; has not been addressed in any research; and represents an important research need for the TGCF due to the impact such contact could have on the ability of giant crab stock to recover.</p>	<p>Recommendation 3:</p> <p>DPIPWE to continue collaborative work with AFMA in relation to:</p> <ul style="list-style-type: none"> a) developing coordinated management responses to the potential impact of trawl activities on the TGCF; b) investigating further waters adjacent to Tasmania to progress with the fisheries interaction issue.

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