



Australian Government

Department of the Environment and Energy

Assessment of the
**TAKE OF SCALLOP, SEA URCHIN, SPECIMEN SHELLS
AND TURBAN SHELL IN THE SOUTH AUSTRALIAN
MISCELLANEOUS FISHERY**

May 2018

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This report should be attributed as '*Assessment of the Take of Scallops, Sea Urchin, Specimen Shells and Turban Shells in the South Australian Miscellaneous Fishery May 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 TAKE OF SCALLOPS, SEA URCHIN, SPECIMEN SHELLS, AND TURBAN SHELL IN THE SOUTH AUSTRALIAN MISCELLANEOUS FISHERY

In February 2018, the Department of Primary Industries and Regions, South Australia (PIRSA) submitted an application for re-assessment of the take of scallops, sea urchins, turbo, and specimen shells in the SA Miscellaneous Fishery (the fishery) under the wildlife trade provisions of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The sustainability of the management arrangements for the take of these species has also been assessed against the Australian Government's 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'. A public comment period was open from 23 February 2018 until 29 March 2018.

Fishery management regime

The fishery operates in marine waters adjacent to the SA coast from Victoria to the WA border (with restrictions) and encompasses multiple dive fisheries for management purposes. The fishery is managed by PIRSA in accordance with the *Fisheries Management Act 2007* (SA), the Fisheries Management (Miscellaneous Fishery) Regulations 2015 (SA), the Fisheries Management (General) Regulations 2017 (SA), and the *Policy for the management of the South Australian commercial miscellaneous dive fishing activities* (Management Policy). The Management Plan for Recreational Fishing in South Australia 2017 forms the basis for managing recreational fishing (excluding Aboriginal traditional fishing). The Fisheries Management Act allows PIRSA to develop Aboriginal Traditional Management Plans.

The fishery is defined, in part, by low production and/or low value species. The Management Policy includes objectives, performance indicators and reference points for all target species. PIRSA has also developed and implemented a harvest strategy to ensure each target species or species group is sustainably fished. Harvesting must be undertaken by diving only. Licence conditions specify key aspects including the permitted species, fishing areas, and gear used. Harvest controls vary according to the species being harvested, and include total allowable commercial catch for Turban Shell, and daily catch limits for specimen shells. There are no catch limits for scallops and Purple Sea Urchin. Size limits apply to scallops, but not to other species or species groups. Mandatory logbook records include catch and effort data, fishing area fished, time of fishing are provided to PIRSA each month. Catch and effort data for all species is maintained by the SA Research and Development Institute (SARDI).

Target stocks

The Management Policy guides the harvesting of scallop species (*Pectinidae*), Purple Sea Urchin (*Heliocidaris erythrogramma*), Turban Shell (*Turbo undulatus*), and a range of specimen shells in the phylum Mollusca. Native Oyster (*Ostrea angasi*) is also managed under this management policy, but SA is not seeking export approval for this species so is not included in the Department's assessment. All target species are widely distributed along Australia's southern coastline. PIRSA does not undertake species stock assessments for any target species, but does not consider any stocks to be at risk of overfishing due to the small scale of harvesting. PIRSA consider the catch levels for all target species is set at levels that aim to sustain the fished stocks.

A risk assessment workshop conducted in 2014, using the national ecological sustainable development framework for Australian fisheries, found in most cases, the risks were low for impacts to target stocks, threatened, endangered and protected species (TEPS), and the marine environment. Concerns were identified for populations of scallops, which have experienced localised depletion. The harvest strategy for scallop species includes reference points that accounts for increased catches in each marine fishing area. It is important that PIRSA continue to monitor populations of scallops to ensure the sustainability for these species and to minimise the risk for overfishing.

The annual harvest by the recreational sector and Aboriginal traditional fishers is not clear because surveys are undertaken irregularly. However, the estimated take by these sectors is not considered likely to have a significant impact on the respective populations.

Research and monitoring

PIRSA has identified a number of key research and monitoring activities in relation to miscellaneous commercial dive fishing activities including:

- Growth, ageing, settlement, recruitment and reproductive periodicity for Sea Urchin
- Inter-annual variability of spatial distribution and biomass of scallops
- Age and size-at-first-maturity of Turban Shell to determine biologically appropriate size limits
- Distribution, growth and biomass of Turban Shell in SA to refine setting of catch limits, and
- Distribution, abundance, growth and reproduction data for most species of specimen shells.

Protected species and ecosystems

Fishers are required to report any interactions with threatened, endangered and protected species (TEPS). There have been no reported interactions with protected species during harvest for any miscellaneous dive fishing activities. Given the benign fishing methods and gear used, the fishery is unlikely to have any detrimental impact on TEPS. While there is no requirement to record interactions or impacts on threatened ecological communities, there is unlikely to be any impacts from fishing.

Ecosystem impacts

PIRSA does not require fishers to record impacts on the marine ecosystem in which the fishery operates. The risk assessment report considered ecosystem impacts and found the risks to be low. Given the benign fishing methods and gear used, the fishery is unlikely to have any detrimental impact on the marine ecosystem in which the fishery operates.

Conclusion

The Department considers the harvesting operations will not be detrimental to the survival or conservation status of the taxon to which it relates in the short term. However, it is important that PIRSA continue to collect up-to-date harvesting data on all species, and undertake species specific research. It is also important that PIRSA continue to monitor the harvesting of scallops to minimise the risk of localised depletion to ensure stocks remain sustainable.

On this basis, the Department considers that the take of scallop species, Sea Urchin, specimen shells and Turban Shell taken in the South Australian Miscellaneous Fishery should be included in the list of exempt native specimens under Part 13A of the EPBC Act until 25 July 2025.

SECTION 1: ASSESSMENT SUMMARY OF THE TAKE OF SCALLOPS, SEA URCHIN, SPECIMEN SHELLS, AND TURBAN SHELL IN THE SOUTH AUSTRALIAN MISCELLANEOUS FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Guidelines	Meets	Partially meets	Does not meet	Details
Management regime	7/9 1 N/A	1/9		<p>The management regime is effective.</p> <p>The South Australian (SA) Miscellaneous Fishery (the fishery) managed by the Department of Primary Industries and Regions SA (PIRSA), and regulated by the management regime in force under the <i>Fisheries Management Act 2007</i> (SA). PIRSA has developed a management policy to guide the <i>management of miscellaneous dive fishing activities</i> in state waters. Stakeholder consultation is mandated under the Fisheries Management Act. The management arrangements are closely linked to conditions placed on individual licences or permits. Harvesting is limited entry to six licences or permits in operation at this time. The target species are collected by hand using dive equipment and approved hand-held implements.</p> <p>partially meets - There are no recognised representative industry bodies or fishery management committees in place, PIRSA consult directly with licence holders.</p>
Principle 1 (target stocks)	7/11 2 N/A	2/11		<p>Target stocks are generally well managed.</p> <p>PIRSA consider that no target species is overfished due to the small scale of the fishery. High catches for scallops has resulted in localised depletion, and was identified as a high risk in the ecological risk assessment (ERA). There are no resource concerns for byproduct species. Catch and effort logbooks are mandatory with monthly reporting to PIRSA, and maintained by the SA Research and Development Institute (SARDI). Recreational and Aboriginal traditional take is considered negligible.</p> <p>1.1.2 – no stock assessment reports for any target species. 1.1.5 - insufficient information to determine the potential productivity of the fished stocks.</p>
Principle 2 (bycatch and TEPS)	9/11 2 N/A			<p>Risks to bycatch and protected species are minimal.</p> <p>There is no bycatch due to the highly selective fishing methods used (hand collection with the use of permitted hand-held implements). Likewise, the hand collection methods and gear used ensures that impacts to threatened, endangered or protected species are negligible. There are no reported TEP interactions for the fishery.</p>
Principle 2 (ecosystem impacts)	5/5			<p>Ecological risk is inherently low due to the fishing method used.</p> <p>Licence conditions restrict harvesting to hand collection whilst diving, which minimises the potential for damage to the marine environment. Therefore, the Department considers the fishery is 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				<p>Not applicable. The fishery operates within state waters only, and therefore does not impact on a Commonwealth marine area.</p>

Part 13				Not applicable. The fishery operates within state waters only, and therefore does not require Part 13 accreditation for managing impacts in Commonwealth waters.
Part 13A	Met			The fishery is consistent with the provisions of Part 13A. The Department recommends that the target species identified in this report be placed in the list of exempt native specimens for seven years, until 25 July 2025.
Part 16	Met			The Department considers that precautionary measures are in place to prevent serious or irreversible environmental damage being caused by this fishery.

Notes:

Assessment history:

Scallop and Turbo Fishery

The EPBC Act assessment history for the Scallop and Turbo Fisheries is available at <http://www.environment.gov.au/marine/fisheries/sa/scallop-turbo>.

- 1st assessment finalised September 2007 – Declared an approved wildlife trade operation (WTO) until 12 September 2010. Export approval was subject to three conditions and five recommendations.
- 2nd assessment finalised September 2010 – Exempt from wildlife trade provisions until 12 September 2014. Export approval was subject to two conditions and four recommendations.
- A number of extensions have been granted while a new management plan was being developed.

Sea Urchin Fishery

The EPBC Act assessment history for the Sea Urchin Fishery is available at <http://www.environment.gov.au/marine/fisheries/sa/sea-urchin>.

- 1st assessment finalised October 2005 – Declared an approved WTO until 20 October 2008. Export approval was subject to three conditions and six recommendations.
- 2nd assessment finalised October 2008 – Declared an approved WTO until 01 October 2011. Export approval was subject to four conditions and four recommendations.
- 3rd assessment finalised September 2011 – Exempt from wildlife trade provisions until 01 October 2016. Export approval was subject to five recommendations.
- A number of extensions have been granted while a new management plan was being developed.

Specimen Shell Fishery

The EPBC Act assessment history for the Specimen Shell Fishery is available at <http://www.environment.gov.au/marine/fisheries/sa-specimen-shell>.

- 1st assessment finalised November 2004 – Exempt from wildlife trade provisions until 15 November 2009. Export approval was subject to three recommendations.
- 2nd assessment finalised May 2010 – Exempt from wildlife trade provisions until 20 May 2015. Export approval was subject to three recommendations.
- A number of extensions have been granted while a new management plan was being developed.

Fishery reporting:

Annual report – Primary Industries and Regions South Australia has not provided annual reports for these fisheries since the most recent assessments for each fishery (see above).

Key links:

Fishery information is available on the following Department of Primary Industries and Regions, South Australia web links:

- SA commercial fisheries – <http://pir.sa.gov.au/fishing>.
- Aboriginal traditional fishing – http://pir.sa.gov.au/fishing/aboriginal_traditional_fishing.
- Recreational fishing information – http://pir.sa.gov.au/fishing/recreational_fishing.
- Miscellaneous Fishery website – http://www.pir.sa.gov.au/fishing/commercial_fishing/fisheries/miscellaneous_fishery.
- SA Research and Development Institute (SARDI) – <http://pir.sa.gov.au/research>.
- Recreational Fishing Advisory Council SA (RecFish SA) – <https://recfishsa.org.au/>.

Management plan or policy

- Policy for the management of the SA commercial miscellaneous dive fishing activities – http://pir.sa.gov.au/fishing/commercial_fishing/fisheries/miscellaneous_fishery.

Enforcing legislation

- South Australian legislation – <https://www.legislation.sa.gov.au/index.aspx>.
- Fisheries Management Act 2007 (SA) – <https://www.legislation.sa.gov.au/LZ/C/A/FISHERIES%20MANAGEMENT%20ACT%202007.aspx>.

- Fisheries Management (General) Regulations 2017 – [https://www.legislation.sa.gov.au/LZ/C/R/Fisheries%20Management%20\(General\)%20Regulations%202017.aspx](https://www.legislation.sa.gov.au/LZ/C/R/Fisheries%20Management%20(General)%20Regulations%202017.aspx).
- Fisheries Management (Miscellaneous Fishery Regulations 2015 – [https://www.legislation.sa.gov.au/LZ/C/R/Fisheries%20Management%20\(Miscellaneous%20Fishery\)%20Regulations%202015.aspx](https://www.legislation.sa.gov.au/LZ/C/R/Fisheries%20Management%20(Miscellaneous%20Fishery)%20Regulations%202015.aspx).

Harvest strategy or document that articulates control rules

- A harvest strategy is included in the Management Policy (see link above).

Ecological Risk Assessment

- An ecological risk assessment was provided as part of the application for reassessment, and is available on the Department's website at <http://www.environment.gov.au/marine/fisheries/sa/three-fisheries-application-2018>.

Publicly available stock assessment

- No stock assessment reports have been undertaken due to the low scale of the fishery.

SECTION 2: DETAILED ANALYSIS OF THE TAKE OF SCALLOPS, SEA URCHIN, SPECIMEN SHELLS, AND TURBAN SHELL IN THE SOUTH AUSTRALIAN MISCELLANEOUS FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Guidelines for the Ecologically Sustainable Management of Fisheries – (2nd edition)	Comment
THE MANAGEMENT REGIME	
The management regime does not have to be a formal statutory fishery management plan as such, and may include non-statutory management arrangements or management policies and programs. The regime should:	
Be documented, publicly available and transparent.	<p>Meets</p> <p>The management regime is documented, publicly available, and transparent (see Section 1). The Miscellaneous Fishery (the fishery) is managed by the Department of Primary Industries and Regions, South Australia (PIRSA). The fishery is regulated by the Fisheries Management (Miscellaneous Fishery) Regulations 2015 (SA), and the Fisheries Management (General) Regulations 2017 (SA) in force under the <i>Fisheries Management Act 2007</i> (SA).</p> <p>The fishery includes the Scallop and Turbo, Sea Urchin, and Specimen Shell Fisheries. These fisheries have been previously assessed by the Department under the wildlife trade provisions of the EPBC Act (see Section 1). In 2015, PIRSA developed the ‘<i>Policy for the management of the SA commercial miscellaneous dive fishing activities</i>’ (Management Policy). The Management Policy reflects the common harvesting methods and fishing gear used to harvest the target species. Harvesting is also restricted via conditions on individual licences.</p> <p>Recreational fishing (excluding Aboriginal traditional fishing) is managed separately under the <i>Draft Management Plan for Recreational Fishing in South Australia</i>. The Fisheries Management Act allows PIRSA to develop separate management plans for Aboriginal traditional fishing.</p>
Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public.	<p>Meets</p> <p>The general public is involved in consultation processes when there are any changes, reviews or revocation of the management plan or policy. The Management Policy was placed on public exhibition for a minimum 60 days. In July 2014, a stakeholder workshop was held as part of developing a risk assessment based on the ecological sustainable development (ESD) guidelines (Fletcher et al. 2002; Commonwealth of Australia 1992). The workshop was attended by representatives from the SA Research and Development Institute (SARDI), PIRSA, industry, SA Malacological Society, RecFish SA, and Conservation Council of SA.</p> <p>PIRSA also consults with other state government agencies including the Department of Environment and Water, the Department of Planning, Transport and Infrastructure, the Department of State Development, and local governments as required.</p>
Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process.	<p>Partially meets</p> <p>There are no recognised representative industry bodies or fishery management committees in place. PIRSA consult directly with licence holders in relation to changes in management arrangements in the absence of an industry body. PIRSA consider that this method would be effective given the low number of licence holders involved in commercial dive fishing.</p>
Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured.	<p>Meets</p> <p>The Management Policy includes objectives, strategies, performance indicators and reference points to measure the effectiveness of harvesting operations. A harvest strategy has been developed for each target species or species group. Industry codes of conduct may be introduced in the future.</p>

<p>Be capable of controlling the level of harvest in the fishery using input and/or output controls.</p>	<p>Meets</p> <p>Effective controls are in place. Harvesting controls are attached to licence or exemption permit conditions. Input (effort) controls apply to all sectors. There are no output (catch) controls for harvesting scallops and Sea Urchin.</p> <p><u>Limited entry</u> – Operators must hold a Miscellaneous Fishery Licence, or an exemption permit. Licences are non-transferable and expire on 30 June each year. Licence holders are restricted to the species identified in individual licence or permit conditions. In the most recent licencing period, PIRSA issued three licences to harvest scallops and Sea Urchin, two exemption permits to take Turban Shell. There is no licence or permit to harvest specimen shells, however PIRSA is considering applications for Exploratory or Developmental Permits to harvest Turban Shell and specimen shells. All applications for exploratory and developmental permits are assessed fairly, and in accordance with the objects of the <i>Fisheries Management Act 2007</i> (SA), including the principles of ecologically sustainable development (ESD). PIRSA consider the cumulative impacts when assessing all applications for exploratory or developmental permits. Draft permit conditions published in 2015 as part of the public consultation phase for this fishery lists a number of families. These draft conditions are available at http://www.pir.sa.gov.au/data/assets/pdf_file/0010/257383/Proposed_arrangements_for_Exploratory_Specimen_Shell_Fishery_Permit.pdf.</p> <p><u>Harvest limits</u> - Annual total allowable commercial catch applies to harvesting Turban Shell. Daily catch limits (per bag and per boat) apply for other target species.</p> <p><u>Area restrictions</u> – In general, harvesting for all species is restricted to waters adjacent to the SA coastline with the exception of intertidal rocky reef areas. The available harvesting area is further defined through individual licence or permit conditions. Closed areas apply for the take of scallops and Turban Shell.</p> <p><u>Season</u> – In general, the fishery is open year round from 1 July. Seasonal closures may be specified in individual licence conditions. Sea urchin is harvested from May to December. Restrictions apply to the take of scallops in Coffin Bay.</p> <p><u>Size limits</u> apply for some species. Minimum size limit for scallops is 65 mm. There is no size limit for Sea Urchin.</p> <p><u>Gear and methods</u> – Harvesting is restricted to hand collection methods with the use of hand-held implements, and dive equipment (SCUBA, hookah or snorkelling). The use of scallop dredges is prohibited. Restrictions apply to the size and number of vessels used and the number of crew per vessel. PIRSA is considering two Exploratory and Developmental Permits that may include the use of remotely operated underwater vehicles (ROVs). No commercial licences or permits conducting miscellaneous dive fishing activities are currently permitted to use ROVs. PIRSA is assessing one application for an exploratory or developmental permit to harvest specimen shells in SA that includes the use of a ROV.</p> <p><u>Reporting and monitoring</u> – Logbook records are compulsory for all sectors. Monthly logbook reports are provided to PIRSA. This information is maintained by the SA Research and Development Institute (SARDI). Vessel monitoring systems are not required on vessels undertaking miscellaneous dive fishing activities in South Australia (Note this does not include the Abalone Fishery).</p> <p><u>Take by other sectors</u> – PIRSA has introduced separate management arrangements for the harvesting of the target species by recreational and Aboriginal fishers.</p>
<p>Contain the means of enforcing critical aspects of the management arrangements</p>	<p>Meets</p> <p>The fishery is small in scale with low participation and low catch and effort. Enforcement measures rely on voluntary compliance in accordance with licence conditions, random compliance operations by fisheries officers, and deterrence measures such as financial and other penalties described in state and federal legislation. Similar enforcement measures apply to the recreational and traditional sectors. No observer coverage is required for miscellaneous dive fishing activities in SA at this time.</p> <p>Monitoring of ROVs (if approved for use on an exploratory or developmental permit fishing licence) would require reporting of latitudes and longitudes of activity and video footage (linked to location by GPS) to be recorded when the ROV is used. A copy of the ROV footage would be provided to PIRSA.</p>

Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria	Meets There are no annual stock assessments for any target species.. Performance reviews for this fishery occur at five or 10 year intervals which is considered appropriate for the scale and complexity of this fishery. Fishery management plans or policies are reviewed at five year intervals under the Fisheries Management Act, although its effectiveness may be assessed at any time. Regulatory reviews come into effect every 10 years.
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	Meets While there is limited capacity to assess or monitor for adverse impacts on the wider marine ecosystem, the fishery is small in scale with very low fishing effort, and uses benign fishing methods. Given the management arrangements identified above, any impacts on wider marine ecosystem is considered unlikely.
Requires compliance with relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under the policy	Not applicable There is no significant intersection with Commonwealth plans or policies.
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.	Meets Mandatory logbooks are used to record important data for the commercial sector including fishing dates, port of landing, area fished, target species (name and numbers), processing methods used, and status (live or dead). Logbook data is cross-referenced with processor records. These records are maintained by SARDI. No records are available for recreational and Aboriginal fishing. The SA Museum and the SA Malacological Society are able to collect Sea Urchin specimens under scientific permits. The target species are Commercial (or King) Scallop (<i>Pecten fumatus</i>), Queen Scallop (<i>Chlamys bifrons</i>), Turban Shell (<i>Turbo undulatus</i>), Purple Sea Urchin (<i>Heliocidaris erythrogramma</i>), and a broad range of specimen shells in the phylum Mollusca. The fishery also targets Native Oyster (<i>Ostrea angasi</i>), however this species is not being exported. Doughboy Scallop (<i>Chlamys asperrima</i>) may be taken as byproduct.
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 The population dynamics is known for most target species. The fishery is small in scale, and stock assessments are not conducted for the target species due to low catch and effort. The stock status for each of the target species is 'undefined'. That is, there is not enough information to determine the stock status. However, PIRSA considers it unlikely that any stock is at risk of overfishing. The ERA workshop raised some concerns regarding high catches for scallops that has resulted in localised depletion. It is important that PIRSA continue to actively monitor scallop catches, and take appropriate management actions to ensure that harvesting remains sustainable.
1.1.3 The distribution and spatial structure of the stock(s) has been established and factored into management responses.	Meets All target species have a broad distribution in southern waters from NSW to Western Australia, including Tasmania. The spatial structure is well-known for most target species in SA waters. A broad range of specimen shells are collected, but there are

	knowledge gaps in relation to distribution and stock numbers for many of these species. The Management Policy includes a number of research and monitoring priorities for miscellaneous dive fishing activities.
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.	Meets PIRSA collect reliable information on amount of stock removed by the commercial sector. In the absence of population estimates, the catch limits for all target species is set at what is considered sustainable levels given the available biological information for the species and compared to historical catch levels. Due to the small-scale of the fishery, no stock assessments are undertaken for any target species. The estimated removals by recreational and traditional fishers is uncertain due to the limited number of surveys conducted since 2000. Surveys have been undertaken in 2000–01 (Henry and Lyle 2003), 2007 (Jones 2009) and 2013–14 (Giri and Hall 2015). The results indicate a decrease in the overall recreational harvest for marine shellfish (Giri and Hall 2015).
1.1.5 There is a sound estimate of the potential productivity of the fished stock/s and the proportion that could be harvested.	Partially meets There is insufficient information to determine the potential productivity of the fished stocks. No stock assessments are undertaken to estimate stock abundance for any target species. However, SA miscellaneous dive fisheries are defined, in part, by low productivity and/or low value. Biological information is used to determine sustainable levels for harvesting. The ERA has identified areas for further research, including the size at maturity for scallops and Sea Urchin.
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.	Meets The Management Policy includes a harvest strategy that broadly outlines objectives, performance indicators and reference points for each of the target species. The adopted harvest strategy for scallops includes a trigger reference point related to localised increases in catches for each marine fishing area. This is aimed at ensuring that the potential risk of localised depletion for scallops is monitored and acted on if required. In addition, the minimum legal size limit in place for scallops mitigates the potential risk to scallop populations.
1.1.7 There are management strategies in place capable of controlling the level of take.	Meets The management arrangements identified in 1.1.6 includes adequate harvest control strategies.
1.1.8 Fishing is conducted in a manner that does not threaten stocks of byproduct species.	Meets The fishery is unlikely to impact on byproduct species due to the selective hand collection methods used, and licence and permit conditions imposing restrictions on the permitted species.
(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.	Meets The management arrangements has a high chance of achieving the objective to ensure that catches for all target species are maintained at ecologically viable stock 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	

<p>1.2.1 A precautionary recovery strategy is in place specifying management actions, or staged management responses, which are linked to reference points. The recovery strategy should apply until the stock recovers, and should aim for recovery within a specific time period appropriate to the biology of the stock.</p>	<p>Not applicable Fished stocks are not considered overfished, and therefore no precautionary recovery strategy is required for any target stocks.</p>
<p>1.2.2 If the stock is estimated as being at or below the biological and / or effort bottom line, management responses such as a zero targeted catch, temporary fishery closure or a 'whole of fishery' effort or quota reduction are implemented.</p>	<p>Not applicable No target stocks is considered at or below the biological or effort bottom line.</p>
<p>PRINCIPLE 2 - Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.</p>	
<p>Objective 1 - The fishery is conducted in a manner that does not threaten bycatch species.</p>	
<p>Information requirements</p>	
<p>2.1.1 Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.</p>	<p>Not applicable No bycatch is harvested due to the direct targeting of species by hand (assisted by hand-held implements and dive gear). Epiphytes may be disturbed during the collection of specimen shells.</p>
<p>Assessments</p>	
<p>2.1.2 There is a risk analysis of the bycatch with respect to its vulnerability to fishing.</p>	<p>Meets An ecological risk assessment (ERA) was conducted in 2014. The ERA found the impacts on bycatch species, including the disturbance of epiphytes, to be negligible.</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 See 2.1.1 and 2.1.2 above.</p>
<p>2.1.4 An indicator group of bycatch species is monitored.</p>	<p>Not applicable See 2.1.1 above.</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 See 2.1.1 above.</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 has a high chance of achieving the objective to conducting the fishery in a manner that does not threaten bycatch species.</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.	
Information requirements	
2.2.1 Reliable information is collected on the interaction with endangered, threatened or protected species and threatened ecological communities.	Meets Operators are required to record any interaction with endangered, threatened or protected species (TEPS) via logbooks. While there is no requirement for operators to record interactions with threatened ecological communities (TECs), operators are unlikely to enter these areas.
Assessments	
2.2.2 There is an assessment of the impact of the fishery on endangered, threatened or protected species.	Meets Attendees at the 2014 ERA workshop identified the risks to TEPS as low.
2.2.3 There is an assessment of the impact of the fishery on threatened ecological communities.	Meets PIRSA consider the impact on TECs is low, and suitable management practices are in place to minimise any impacts. PIRSA consider that the methods and gear used will ensure that any impact to the marine environment is very low.
Management responses	
2.2.4 There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.	Meets Management measures are in place including selective harvesting methods, and operators are required to report TEPS interactions.
2.2.5 There are measures in place to avoid impact on threatened ecological communities.	Meets The fishery is unlikely to have a significant impact on TECs.
2.2.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Meets The management arrangements are adequate to ensure the fishery avoids mortality of, or injuries to, TEPS and avoids or minimises any impact on TECs.
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 management arrangements include adequate methods of data collection. PIRSA has identified areas for future research in the Management Policy.
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.	Meets In 2014, PIRSA conducted an ERA based on the national ESD framework. The ERA considered any impacts from the fishery on retained species, non-retained species, the general marine environment, and external factors that may affect the fishery's performance. ERA attendees identified a high risk of localised depletion for scallops, and a medium risk of localised depletion for specimen shells and Turban Shell. No significant concerns were identified for impacts on ecological communities, the food

<p>1. Impacts on ecological communities</p> <ul style="list-style-type: none"> • Benthic communities • Ecologically related, associated or dependent species • Water column communities <p>2. Impacts on food chains</p> <ul style="list-style-type: none"> • Structure • Productivity/flows <p>3. Impacts on the physical environment</p> <ul style="list-style-type: none"> • Physical habitat • Water quality 	<p>chain or the physical environment. Climate change related impacts were considered a medium risk to the physical environment.. The impact from humans was also identified as a medium risk. These issues may have indirect impacts on fishing through the introduction of exotic species, toxins and diseases. Water quality, in particular, is important for filter-feeding species such as scallops. The management arrangements include measures to minimise the impact of fishing to the marine environment. In addition, PIRSA has identified the following research priorities:</p> <ul style="list-style-type: none"> • Distribution, growth and biomass of Turban Shell in SA to refine setting of catch limits • Distribution, abundance, growth and reproduction data for most species of specimen shells • Growth, ageing, settlement, recruitment and reproductive periodicity for Sea Urchin • Inter-annual variability of spatial distribution and biomass of scallops, and • Age and size-at-first-maturity of Turban Shell to determine biologically appropriate size limits.
Management responses	
<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>Meets</p> <p>Adequate management actions are in place to ensure the fishery does not have an impact on the ecosystem.</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>Meets</p> <p>Performance measures are in place to ensure fishing activities do not have a significant impact on the marine ecosystem in which the fishery operates.</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</p> <p>The management regime has a high chance of achieving the objective of minimising the impact of fishing operations on the ecosystem generally.</p>

SECTION 3: ASSESSMENT OF THE TAKE OF SCALLOPS, SEA URCHIN, SPECIMEN SHELLS, AND TURBAN SHELL IN THE SOUTH AUSTRALIAN MISCELLANEOUS 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

Section 176 Bioregional Plans	Comment
(5) Minister must have regard to relevant bioregional plans	Not applicable. The fishery operates in state waters, and therefore will not impact on Commonwealth Marine Bioregional Plans.

Part 13

The provisions of Part 13 of the EPBC Act are not applicable because the fishery operates within state waters only.

Part 13A

Section 303BA Objects of Part 13A	Comments
<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) ensure ethical conduct during any research associated with the utilisation of wildlife; and</p> <p>(g) 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 fishery has 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 1) the operation of the fishery is unlikely to be unsustainable and threaten biodiversity within the next seven 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 303DC Minister may amend list (non CITES species)	Comments
<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>The Department recommends that specimens derived from species harvested in the fishery, but not including:</p> <ul style="list-style-type: none"> specimens that belong to eligible listed threatened species, as defined under section 303BC of the EPBC Act, or

<ul style="list-style-type: none"> (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. 	<ul style="list-style-type: none"> • specimens that belong to taxa listed under section 303CA of the EPBC Act (Australia's CITES List). <p>be included in the list of exempt native specimens until 25 July 2025.</p>
<p>(1A) In deciding to amend the LENS, the Minister must rely primarily on outcomes of Part 10, Div 1 or 2 assessment.</p>	<p>The harvesting operations are not undertaken in Commonwealth waters and therefore no assessment under Part 10 of the EPBC Act has been completed.</p>
<p>(1C) The above does not limit matters that may be considered when deciding to amend LENS.</p>	<p>The fishing operation is consistent with Objects of Part 13A.</p>
<p>(3) Before amending the LENS, the Minister must consult:</p> <ul style="list-style-type: none"> (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. 	<p>The submission from the Department of Primary Industries and Regions, South Australia (PIRSA) was made available on the Department of Environment and Energy's website from 23 February 2018 until 29 March 2018. No comments were received.</p>
<p>Section 303FR Public consultation</p>	<p>Comment</p>
<p>(1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice:</p> <ul style="list-style-type: none"> (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. <p>(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.</p>	<p>A public notice was released for public comment from 23 February 2018 until 29 March 2018. The public notice set out the proposal to grant export approval to the SA Scallop and Turbo Fishery, the SA Sea Urchin Fishery and the SA Specimen Shell Fishery, and included the application from PIRSA.</p> <p>Public comments were open for a total of 23 business days.</p>
<p>(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.</p>	<p>No public comments about the proposal were received.</p>

Part 16

Section 391 Minister must consider precautionary principle in making decisions	Comment
<p>(1) Minister must take account of precautionary principle</p> <p>(2) The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.</p>	<p>Precautionary measures are considered to be in place to prevent serious or irreversible environmental damage being caused by miscellaneous commercial dive activities in the SA Miscellaneous Fishery.</p>

SECTION 4: TAKE OF SCALLOPS, SEA URCHIN, SPECIMEN SHELLS, AND TURBAN SHELL IN THE SOUTH AUSTRALIAN MISCELLANEOUS FISHERY SUMMARY OF ISSUES AND RECOMMENDATIONS, MAY 2018

Issue	Recommendation
<p><u>General Management</u></p> <p>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 of the Environment and Energy 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.</p>	<p>Recommendation 1:</p> <p>Operation of the South Australian Miscellaneous Fishery will be carried out in accordance with management regime in force under the <i>Fisheries Management Act 2007</i> (SA).</p> <p>Recommendation 2:</p> <p>The Department of Primary Industries and Regions, South Australia to inform the Department of the Environment and Energy of any intended material changes to the 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>It is important that reports be produced and presented to the Department of the Environment and Energy annually in order for the performance of the fishery and progress in implementing the recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports should follow Appendix B to the '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 recommendations. Electronic copies of the guidelines are available from the Department's website at http://www.environment.gov.au/resource/guidelines-ecologically-sustainable-management-fisheries.</p>	<p>Recommendation 3:</p> <p>The Department of Primary Industries and Regions, South Australia to produce and present reports to the Department of the Environment and Energy annually as per Appendix B of the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i>.</p>

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