



**Australian Government**

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**Department of Sustainability, Environment, Water, Population and Communities**

Assessment of the  
**Western Australian**  
**Shark Bay Scallop Managed Fishery**

January 2013

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#### **Disclaimer**

This document is an assessment carried out by the Department of Sustainability, Environment, Water, Population and Communities 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 Sustainability, Environment, Water, Population and Communities 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 Sustainability, Environment, Water, Population and Communities or the Australian Government.

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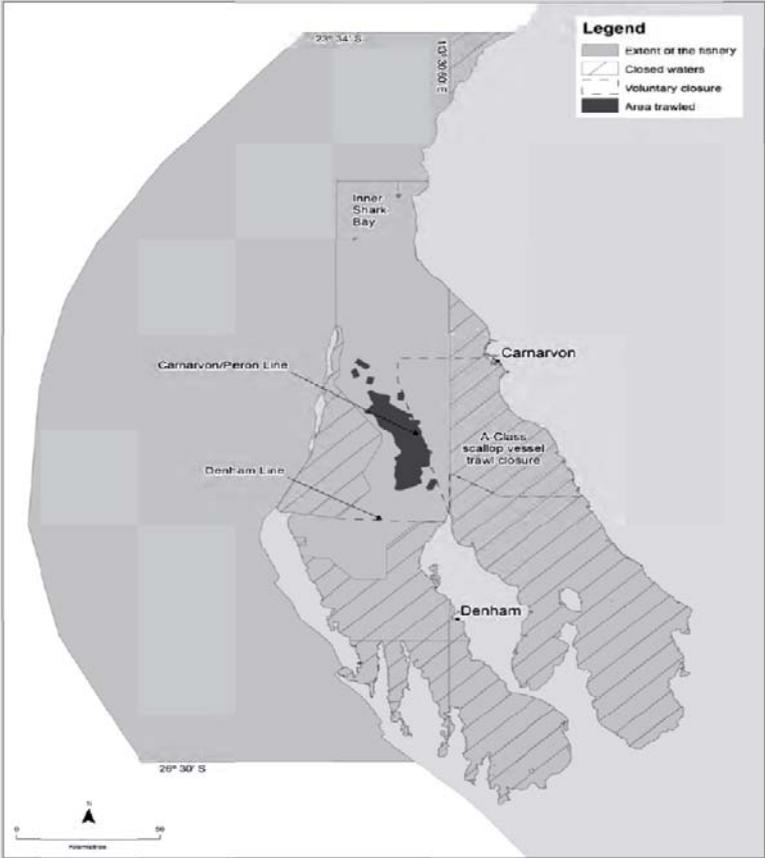
This section contains the department's assessment of the Shark Bay Scallop Managed Fishery performance against the Australian Government's 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition' and outlines the reasons the department recommends that the product derived from the fishery be included in the list of exempt native specimens.

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Table 4 contains a description of the issues identified by the department with the current management regime for the Shark Bay Scallop Managed Fishery and outlines the proposed recommendations that would form part of the delegate's decision to include product derived from the fishery in the list of exempt native specimens.

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**Table 1: Summary of the Western Australian (WA) Shark Bay Scallop Managed Fishery**

<p><b>Publicly available information relevant to the fishery</b></p>	<ul style="list-style-type: none"> <li>• WA Fish Resources Management Act 1994 (FRM Act)</li> <li>• WA Fish Resources Management Regulations 1995 (FRM Regulations)</li> <li>• WA Shark Bay Scallop Management Plan 1994</li> <li>• Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</li> <li>• WA Department of Fisheries Application to the Department of Sustainability, Environment, Water, Population and Communities for the WA Shark Bay Scallop Managed Fishery, November 2012</li> <li>• WA Department of Fisheries State of the Fisheries Reports 2007/08 to 2011/12</li> <li>• Marine Bioregional Plan for the North west Marine Region</li> </ul>
<p><b>Area</b></p>	<p>The Shark Bay Scallop Managed Fishery operates in Western Australian and Commonwealth waters, with specific coordinates provided in the <i>Shark Bay Scallop Management Plan 1994</i> (Figure 1). The boundaries for the Class A (scallop only) boats are the waters of Shark Bay and Denham Sound west of longitude 113°30'36" E and north of a line running due east from the northern extremity of Cape Bellefin to Peron Peninsula.</p> <p>The boundaries for the Class B (Shark Bay Prawn Managed fishery) are located between latitudes 23°34' S and 26°30' S and adjacent to the WA coastline on the landward side of the 200 m isobath.</p>  <p><b>Figure 1: Map of the Shark Bay Prawn and Scallop Managed Fisheries showing permitted trawl area and area trawled in 2011.</b></p>

<b>Target Species</b>	<p>Saucer scallops (<i>Amusium balloti</i>).</p> <p>Saucer scallops are predominantly sub-tropical species that occur along the continental shelf of Australia, however have been known to occur as far down as Jervis Bay on the east coast (Dredge, 1998). The gonochoristic (unisexualist) saucer scallop is known to have two breeding seasons in winter and spring in which the larval phase is believed to be 15-25 days in duration (Joll and Caputi, 1995). Saucer scallops develop rapidly, growing to a size of 90mm in just 6-12 months and are characteristic of short lived species with high natural mortality, making their populations susceptible to a "boom and bust" trends (Dredge, 1994).</p> <p>Further information on the biology of this species can be found in the 2002 Assessment Report of the fishery located on the Department of Sustainability, Environment, Water, Population and Communities (SEWPaC) website.</p>
<b>Fishery status</b>	<p>The target species is fully fished and has been assessed by the WA Department of Fisheries as having an 'adequate' spawning stock. This assessment indicates that annual variations in recruitment to the parental biomass are due to environmental impacts, rather than fishing pressure, and that this parental biomass is sufficient for ongoing successful spawning.</p> <p>Scallop landings have varied over the last 15 years depending primarily on the strength of recruitment. Since the last assessment by the department in 2007, annual stock assessments undertaken by the WA Department of Fisheries have found breeding stock levels to be 'adequate', although in 2012 indicators for recruitment were below trigger levels that prescribed closure of the fishery to protect breeding stock. The Denham Sound area of the fishery was also closed in 2011 due to low recruitment.</p>
<b>Byproduct Species</b>	<p>Blue swimmer crabs (<i>Portunicus armatus</i>), squid, cuttlefish and bugs (<i>Thenus orientalis</i> and <i>perindicus</i>).</p> <p>Crustacean byproduct landings by Class A vessels (scallop only vessels) for 2011 were 2 t of blue swimmer crabs and &lt;1 t of bugs.</p> <p>Invertebrate byproduct landings by Class B vessels (primarily prawn with limited scallop quota) for 2011 were 293 t of blue swimmer crabs, 2 t of coral crabs, 14 t of squid, 20 t of cuttlefish, 1 t of bugs and &lt;1 t of octopus. Historical catches of blue swimmer crabs by Class B vessels, have been between 150 t and 250 t.</p>
<b>Gear</b>	<p>Twin gear otter trawl with 10mm ground chain. These trawl nets are dragged along the seafloor, with the trawl nets kept open by otter boards on either side attached to the wings of the net. The inner wings of the trawl nets are attached to a sledge (a steel frame which drags along the benthos) which keeps the nets on the bottom.</p> <p>Class A vessels (scallop only vessels) currently tow a pair of seven fathom nets. Class B vessels (primarily prawn vessels with limited scallop quota) have traditionally towed a pair of eight fathom nets. However, over the past two fishing seasons, these vessels have been fishing with four 5.5 fathom nets under a quad gear trial. Following this trial, the ongoing use of quad gear is to be formalised through management plan amendments and other relevant approvals for Class B vessels.</p>

<b>Season</b>	<p>Opening and closing dates vary each year depending on the pre-season predictions of recruitment dynamics, moon phase and environmental conditions. Fishing in Denham Sound commences prior to the opening of the Shark Bay Scallop Managed Fishery season. The northern grounds of the fishery are formally closed (generally November to April/May) in line with the Shark Bay Scallop Managed Fishery, but fishing usually ceases once the catch rate threshold has been reached if it is reached before the formal closure comes into place.</p> <p>The catch rate cut-off threshold for the season is determined following pre-season research surveys (which determine the size and abundance of scallops in the fishing grounds) and through discussion with industry. The pre-spawning catch rate level is chosen to ensure that up to 40% of the standing scallop stock will be left to spawn. When recruitment of scallops is low, the fishery will only open for a short period of time. The WA Department of Fisheries Research Division monitors the catch rate throughout the season, and when the fleet reaches the threshold catch rate over two consecutive days, the boats cease fishing for scallops. This allows spawning to occur with the remaining stock. The Class B licensees (prawn fleet) then continue fishing after the spawning period (July/August) until either the catch rate cut off, or the proportional scallop catch sharing limit, is reached.</p>
<b>Commercial harvest</b>	<p>The total scallop landings for both Class A and B vessels in 2011 was 295 t whole weight, of which the Class A boats landed 206 t (70%) and the Class B boats landed 89 t (30%). The total landings were considerably below the predicted catch, after the 2010 scallop survey provided a catch forecast of 1,500 t for the Shark Bay Scallop Managed Fishery for 2011.</p> <p>Scallop landings fluctuate naturally from year to year due to variations in recruitment success. This is reflected in the range in catches from the previous three seasons – in 2010 the total catch was 1,592 t whole weight, 3,391 t in 2009, and 3,674 t in 2008.</p>
<b>Value of commercial harvest</b>	<p>Estimated annual value to fishers for 2011 was \$1.5 million.</p>
<b>Take by other sectors</b>	<p>Saucer scallops are also taken by the Shark Bay Prawn Managed Fishery (Class B) through a catch sharing arrangement implemented in 2011.</p>
<b>Commercial licences issued</b>	<p>11 Class A licenses and 18 Class B licenses.</p> <p>In 2009 a Voluntary Fisheries Adjustment Scheme reduced the number of Class A licences from 14 to 11.</p> <p>In 2010 a Voluntary Fisheries Adjustment Scheme reduced the number of Class B licences from 27 to 18.</p>
<b>Management arrangements</b>	<p>The fishery is managed under the WA <i>Shark Bay Scallop Management Plan 1994</i>, the FRM Act and the FRM Regulations. Management of the fishery is based on input controls which include limited entry, seasonal and area closures, gear controls including bycatch reduction devices (grids) and crew limits.</p> <p>A catch sharing arrangement between the Class A and B Shark Bay Scallop Managed Fishery Licence holders was trialled in 2007</p>

	and 2008 and formally adopted in 2011. Under this arrangement, the Class A licensees (dedicated scallop fishers) are managed on the basis of taking 70% of the estimated sustainable catch, while the Class B licensees (who predominantly target prawns in the Shark Bay Prawn Managed Fishery but may also retain scallops) are managed to take the remaining 30%.
<b>Export</b>	Frozen scallop meat is exported to Asian markets.
<b>Bycatch</b>	<p>Class A vessels - Due to the large legislated mesh size of the nets (100 mm) and the relatively short time spent fishing in this fishery, the total bycatch of fish is low.</p> <p>Class B vessels - All vessels are required to fish with a bycatch reduction device (BRD) and a fish escapement device (FED) in each net.</p>
<b>Interaction with Protected Species<sup>1</sup></b>	<p>Protected species, including whales, dolphins, dugongs, turtles and seasnakes, are abundant in Shark Bay however only seasnakes are regularly seen in the trawl catches. Capture of protected species is only occasional and these animals are generally released alive due to the relatively short duration of trawls.</p> <p>During 2003, BRD grids were installed in all nets to minimise the capture of large animals on Class A scallop boats. The risk to these animals is considered negligible now that grids have been fully implemented.</p> <p>Class B boats are also required to have BRD and FED in each net, which has generally eliminated the occasional capture of turtles in trawl nets.</p> <p>Under sections 199, 214, 232 and 256 of the <i>Environment Protection and Biodiversity Conservation Act 1999</i>, persons who interact with a protected species must report that interaction within seven days of the incident occurring to the Department of Sustainability, Environment, Water, Population and Communities.</p> <p>A Memorandum of Understanding between the Western Australian Department of Fisheries and the Department of Sustainability, Environment, Water, Population and Communities is currently being negotiated for the Reporting of Fisheries Interactions with Protected Species. Once in place this will streamline reporting requirements for interactions with protected species, assisting fishers in meeting their requirements under the <i>Environment Protection and Biodiversity Conservation Act 1999</i>.</p>
<b>Ecosystem Impacts</b>	<p>According to the 2011 State of the Fisheries Report, the risk to ecosystem structure and biodiversity is considered low in the Shark Bay area.</p> <p>The permanent area closures and other temporal closures that are applied in the fishery provide protection to the key life history stages of the majority of the bycatch species caught. The Shark Bay Prawn and Scallop Fisheries- Final Review Report identified that the 10-20 most common species of fish and invertebrates could be used as indicator species (for trends in abundance and diversity measures) in Shark Bay. These species are all relatively short-lived, abundant and widespread in both trawled and</p>

<sup>1</sup> 'Protected species' means all species listed under Part 13 of the EPBC Act, including whales and other cetaceans and threatened, marine and migratory species.

	<p>untrawled areas.</p> <p>The area of the Shark Bay Scallop Managed Fishery overlaps the area of the North-west Marine Bioregion in which impacts to benthic habitats is listed as of concern. The management arrangements for the Shark Bay Scallop Managed Fishery ensure that only 40% of the fishery is open to trawling which lowers the impact on benthic habitats in untrawled areas.</p>
<p><b>Impacts on World Heritage property/RAMSAR site</b></p>	<p>The previous assessment considered the possible impacts on the World Heritage values of the Shark Bay World Heritage Area. The Shark Bay region was declared a World Heritage Area in 1991 and this fishery operates within the declared area. Fishing for scallops in this area has occurred since the late 1960s, well before the World Heritage declaration.</p> <p>Shark Bay's listed World Heritage values are located primarily in areas that are protected from or unsuited to trawling. On this basis DSEWPaC considers that an action taken by an individual fisher, acting in accordance with the <i>WA Shark Bay Scallop Management Plan 1994</i> would not be expected to have a significant impact on a matter protected under the EPBC Act.</p>

**Table 2: Progress in implementation of recommendations made in the previous assessment of the Shark Bay Scallop Managed Fishery**

Recommendation	Progress	Recommended Action
<p><b>Recommendation 1:</b> Operation of the fishery will be carried out in accordance with the <i>Shark Bay Scallop Management Plan 1994</i> made under the Western Australian <i>Fish Resources Management Act 1994</i>.</p> <p><b>Recommendation 2:</b> WA Department of Fisheries to advise DEWHA of any intended material change to the SBSMF legislated management regime and management arrangements that could affect the criteria on which EPBC Act decisions are based.</p>	<p>The Western Australian (WA) Department of Fisheries advises that the WA Shark Bay Scallop Managed Fishery continues to operate in accordance with the <i>Shark Bay Scallop Management Plan 1994</i> under the <i>Fish Resources Management Act 1994</i></p> <p>The WA Department of Fisheries have advised the department that there have been no material changes to the Shark Bay Scallop Managed Fishery management regime since the previous (2007) assessment.</p>	<p>The Department of Sustainability, Environment, Water, Population and Communities (the department) considers that this recommendation has been met.</p> <p>The department recommends that this action be continued (see <b>Recommendation 1, Table 4</b>).</p> <p>The department considers that this recommendation has been met.</p> <p>The department recommends that this action be continued (see <b>Recommendation 2, Table 4</b>).</p>
<p><b>Recommendation 3:</b> WA Department of Fisheries to produce and present reports to DEWHA annually as per Appendix B of the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i></p>	<p>The Shark Bay Scallop Managed Fishery is included in the WA Department of Fisheries publication, the Annual State of the Fisheries and Aquatic Resources which is provided to the department. The Report includes all available information on the fishery.</p>	<p>The Department considers that this recommendation has been met.</p> <p>The department recommends that this action be continued (see <b>Recommendation 3, Table 4</b>).</p>

Recommendation	Progress	Recommended Action
<p><b>Recommendation 4:</b> By mid 2008, WA Department of Fisheries to advise the WA Minister for Fisheries on the outcomes of the Shark Bay Prawn and Scallop Fisheries Review process, and to commence implementing subsequent Ministerial decisions arising from the Review findings.</p>	<p>The <i>Fisheries Management Paper 235: Shark Bay Prawn and Scallop Fisheries Final Review report</i> was released in April 2010.</p> <p>The review sought evidence to determine if trawl induced mortality was a primary cause of scallop recruitment failure. A Fisheries Research and Development Corporation (FRDC) project investigated and determined there was no clear correlation between high effort levels and low scallop recruitment.</p> <p>The review also proposed the formalisation of scallop catch share arrangements between Shark Bay Scallop and Prawn licensees. In April 2011 the WA minister for fisheries approved the implementation of a formal catch sharing arrangement in the Shark Bay Scallop Fishery to allow A class (scallop only licensees) 70% and B class (scallop and prawn licensees) 30% of annual scallop quota.</p>	<p>The department considers that this recommendation has been met.</p>
<p><b>Recommendation 5:</b> WA Department of Fisheries to review, and adjust if necessary, the spawning stock indicator and performance measure for scallops to ensure the ongoing ecological sustainability of the SBSMF.</p>	<p>The WA Department of Fisheries has advised that the Shark Bay Scallop Managed Fishery is managed using a catch rate threshold which ensures some residual stock is carried over for the following fishing season. The WA Department of Fisheries advises that a regular review (every 2-3 years) will be made of the appropriateness of the catch rate threshold to maintain spawning stocks. A methodology is currently under development to determine the quantity of scallops to be harvested after the spawning closure to ensure some carryover of stock for future fishing seasons.</p>	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p><b>Recommendation 6:</b> WA Department of Fisheries to continue to investigate the causes contributing to the ongoing low recruitment of scallops, and develop and implement strategies where appropriate to ensure the ongoing ecological sustainable management of the SBSMF.</p>	<p>The WA Department of Fisheries has advised that it is continuing to investigate the issue of low recruitment of scallops. Further, an FRDC funded project was undertaken to consider the environmental factors that may be influencing recruitment patterns and variability in the fishery.</p> <p>The outcomes achieved through the project included:</p> <p>A correlation between the survival rates of discarded scallops being higher in winter than in summer which suggested that the discarding of scallops by the prawn fleet in 2004 in summer was detrimental to the catch and spawning stock. Current management arrangements take this result into consideration however continued discarding during spawning and post spawning months has been highlighted as an ongoing issue by the WA Department of Fisheries.</p> <p>Hydrodynamic modelling and larval movement identified areas of Shark Bay that are highly susceptible to flushing, while it also identified other areas that had higher retention rates of larvae. The project identified areas for management focus which would maintain a healthy spawning stock level in each of the main fishing grounds and after larval settlement.</p> <p>The project evaluated the historical and recent catch and effort data of the prawn and scallop fisheries and found that changes in trawl effort distribution were not a major driver of scallop recruitment in Shark Bay.</p>	<p>The department considers that this recommendation has been met. However imposing further management measures on fishing practises could be implemented to strengthen the ecological sustainable management of the fishery.</p> <p>The department recommends that a similar action be continued (see <b>Recommendation 4, Table 4</b>).</p>

Recommendation	Progress	Recommended Action
<p><b>Recommendation 7:</b> WA Department of Fisheries to continue to investigate the impact of gear interaction in those areas of the Shark Bay Prawn and Scallop Fisheries where the distribution of the target species overlap, and where appropriate implement management responses to address and mitigate the impacts identified.</p>	<p>The WA Department of Fisheries has advised that an FRDC funded project aimed to determine the impact of gear interactions between the Shark Bay prawn and Shark Bay scallop fisheries in areas of overlap. The project found that smaller codend mesh sizes (55mm and 60mm) retained significantly less small scallops than the current 100mm diamond mesh codend and significantly reduced bycatch. The report found that moving to square mesh codends could result in a significant reduction in discards and that the 60mm square mesh codend presented a good basis to use in commercial trials in the fishery.</p>	<p>The department considers that this recommendation has been met. The department notes that the WA Department of Fisheries is trialling smaller mesh codends in the fishery to lower the amount of discarding of small scallops caught by prawning licensees.</p> <p>The department recommends that a similar action be continued (see <b>Recommendation 5, Table 4</b>).</p>
<p><b>Recommendation 8:</b> WA Department of Fisheries to finalise, adopt and implement the Bycatch Action Plan for the SBSMF, including ongoing review and progress reporting on its implementation</p>	<p>The WA Department of fisheries has advised the department that due to the findings of previous research that bycatch is a low risk in the Shark Bay Scallop Managed Fishery, the WA Department of Fisheries has determined that a formal bycatch action plan is unnecessary.</p> <p>As an alternative, a Bycatch Action Plan (BAP) matrix covering a range of fisheries was developed in 2010 to manage ongoing bycatch issues. The BAP matrix was produced by reviewing and identifying issues in the fisheries and assessing what improvements could be made. The WA Department of Fisheries has stated that it aims to review the BAP matrix every two years. Under the current BAP matrix, all trawl nets in the fishery are required to be fitted with bycatch reduction grids and fish exclusion devices, along with other measures.</p>	<p>The department considers that this recommendation has been partially met.</p> <p>Although bycatch has been historically low in this particular fishery, it is important to ensure that the information being used to inform the matrix is current and underpinned by ongoing research and/or monitoring. (<b>Recommendation 6, Table 4</b>).</p>

**Table 3: The Department of Sustainability, Environment, Water, Population and Communities' assessment of the Western Australian (WA) Shark Bay Scallop Managed Fishery against the requirements of the EPBC Act related to decisions made under Parts 13 and 13A.**

**Please Note** – the table below is not a complete or exact representation of the EPBC Act. It is intended as a summary of relevant sections and components of the EPBC Act to provide advice on the fishery in relation to decisions under Parts 13 and 13A. A complete version of the EPBC Act can be found on the department's website.

**Part 13**

<p><b>Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes</b></p>	<p><b>The department's assessment of the Shark Bay Scallop Managed Fishery</b></p>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"> <li>i. made by a State or self-governing Territory; and</li> <li>ii. in force under a law of the State or self-governing Territory;</li> </ul> <p>if <b>satisfied</b> that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed threatened species (other than conservation dependent species) are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the survival or recovery in nature of the species.</p>	<p>The Western Australian Shark Bay Scallop Managed Fishery will be managed under the <i>Shark Bay Scallop Management Plan 1994</i> in force under the <i>WA Fisheries Resources Management Act 1994</i>.</p> <p>The Management Plan for the WA Shark Bay Scallop Managed Fishery was accredited under Part 13 of the EPBC Act in February, 2003. The department considers that the management arrangements have not significantly changed and continue to require persons engaged in fishing under the plan to take all reasonable steps to ensure that listed threatened species are not killed or injured as a result of the fishing.</p> <p>Information provided by the WA Department of Fisheries indicates that there have been no interactions with listed threatened species in Commonwealth waters and the likelihood of interactions with listed threatened species is low. Therefore, the department considers the current operation of the WA Shark Bay Scallop Managed Fishery is not likely to adversely affect the survival or recovery in nature of any listed threatened species. The department therefore recommends that the management regime for the WA Shark Bay Scallop Managed Fishery be reaccredited under Part 13 of the EPBC Act.</p>

**Part 13 (cont.)**

<b>Division 2 Migratory species Section 222A Minister may accredit plans or regimes</b>	<b>The department's assessment of the Shark Bay Scallop Managed Fishery</b>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"><li>i. made by a State or self-governing Territory; and</li><li>ii. in force under a law of the State or self-governing Territory;</li></ul> <p>if <b>satisfied</b> that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed migratory species or a population of that species.</p>	<p>The Western Australian Shark Bay Scallop Managed Fishery will be managed under the <i>Shark Bay Scallop Management Plan 1994</i> in force under the <i>WA Fisheries Resources Management Act 1994</i>.</p> <p>The management regime for the WA Shark Bay Scallop Managed Fishery was accredited under Part 13 of the EPBC Act in February 2003. The department considers that the management arrangements have not significantly changed and continue to require persons engaged in fishing under the plan to take all reasonable steps to ensure that listed migratory species are not killed or injured as a result of the fishing</p>

**Part 13 (cont.)**

<b>Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes</b>	<b>The department's assessment of the Shark Bay Scallop Managed Fishery</b>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"><li>i. made by a State or self-governing Territory; and</li><li>ii. in force under a law of the State or self-governing Territory;</li></ul> <p>if <b>satisfied</b> that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a species of cetacean or a population of that species.</p>	<p>The Western Australian Shark Bay Scallop Managed Fishery will be managed under the <i>Shark Bay Scallop Management Plan 1994</i> in force under the <i>WA Fisheries Resources Management Act 1994</i>.</p> <p>The management regime for the WA Shark Bay Scallop Managed Fishery was accredited under Part 13 of the EPBC Act in February 2003. The department considers that the management arrangements have not significantly changed and continue to require persons engaged in fishing under the plan to take all reasonable steps to ensure that whales and cetaceans are not killed or injured as a result of the fishing.</p> <p>Information provided by the WA Department of Fisheries indicates that although whales and other cetaceans are known to occur in the Shark Bay area, there have been no interactions with whales and other cetaceans in Commonwealth waters and the likelihood of interactions with whales and other cetaceans is low. Therefore, the department considers the current operation of the WA Shark Bay Scallop Managed Fishery is not likely to adversely affect the conservation status of any listed migratory species. The department therefore recommends that the management regime for the WA Shark Bay Scallop Managed Fishery be reaccredited under Part 13 of the EPBC Act.</p>

**Part 13 (cont.)**

<b>Division 4 Listed marine species Section 265 Minister may accredit plans or regimes</b>	<b>The department's assessment of the Shark Bay Scallop Managed Fishery</b>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"><li>i. made by a State or self-governing Territory; and</li><li>ii. in force under a law of the State or self-governing Territory;</li></ul> <p>if <b>satisfied</b> that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed marine species or a population of that species.</p>	<p>The Western Australian Shark Bay Scallop Managed Fishery will be managed under the <i>Shark Bay Scallop Management Plan 1994</i> in force under the <i>WA Fisheries Resources Management Act 1994</i>.</p> <p>The management regime for the WA Shark Bay Scallop Managed Fishery was accredited under Part 13 of the EPBC Act in February 2003. The department considers that the management arrangements have not significantly changed and continue to require persons engaged in fishing under the plan to take all reasonable steps to ensure that listed marine species are not killed or injured as a result of the fishing.</p> <p>Listed marine species such as turtles, dugongs, and sea snakes are known to occur in the Shark Bay area. Information provided by the WA Department of Fisheries indicates that there have been no interactions between any protected species in the Shark Bay Scallop Managed Fishery due to the design of the nets (which use 100mm mesh) and the relatively short duration of the fishery.</p> <p>The department therefore considers that the current operation of the WA Shark Bay Scallop Managed Fishery is not likely to adversely affect the conservation status of a listed marine species or a population of that species. The department therefore recommends that the management regime for the WA Shark Bay Scallop Managed Fishery be reaccredited under Part 13 of the EPBC Act.</p>

**Part 13 (cont.)**

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

**Part 13A**

<b>Section 303BA Objects of Part 13A</b>
(1) The objects of this Part are as follows:  (a) to ensure that Australia complies with its obligations under CITES <sup>2</sup> and the Biodiversity Convention;  (b) to protect wildlife that may be adversely affected by trade;  (c) to promote the conservation of biodiversity in Australia and other countries;  (d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically

<sup>2</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora

sustainable way;

- (e) to promote the humane treatment of wildlife;
- (f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and
- (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.

**Part 13A**

Section 303DC Minister may amend list	The department's assessment of the Shark Bay Scallop Managed Fishery
<p>(1) Minister may, by instrument published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by:</p> <ul style="list-style-type: none"> <li>(a) including items in the list;</li> <li>(b) deleting items from the list; or</li> <li>(c) imposing a condition or restriction to which the inclusion of a specimen in the list is subject; or</li> <li>(d) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or</li> <li>(e) correcting an inaccuracy or updating the name of a species.</li> </ul>	
<p>(1A) In deciding whether to amend the list referred to in section 303DB (list of exempt native specimens) to include a specimen derived from a commercial fishery, the Minister must rely primarily on the outcomes of any assessment in relation to the fishery carried out for the purposes of Division 1 or 2 of Part 10.</p>	<p>No assessment of the Shark Bay Scallop Managed Fishery has been carried out under Part 10 of the EPBC Act.</p>
<p>(1C) The above does not limit the matters that may be taken into account in deciding whether to amend the list referred to in section 303DB (list of exempt native specimens) to include a specimen derived from a commercial fishery.</p>	<p>It is not possible to list exhaustively the factors that you may take into account in amending the list of exempt native specimens. The objects of Part 13A, which are set out above this table, provide general guidance in determining factors that might be taken into account. A matter that is relevant to determining whether an amendment to the list is consistent with those objects is likely to be a relevant factor.</p> <p>The department considers that the amendment of the list of exempt native specimens to include product taken in the WA Shark Bay Scallop Managed Fishery until 31 January 2018 would be consistent with the provisions of Part 13A as:</p> <ul style="list-style-type: none"> <li>▪ the fishery will not harvest any Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed species</li> <li>▪ there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Table 1)</li> <li>▪ the operation of the WA Shark Bay Scallop Managed Fishery is</li> </ul>

	<p>unlikely to be unsustainable and threaten biodiversity within the next 5 years, and</p> <ul style="list-style-type: none"> <li>the Environment Protection and Biodiversity Conservation Regulations 2000 do not specify scallops or other marine invertebrates as a class of animal in relation to the welfare of live specimens.</li> </ul>
<p>(3) Before amending the list referred to in section 303DB (list of exempt native specimens), the Minister:</p> <p>(a) must consult such other Minister or Ministers as the Minister considers appropriate; and</p> <p>(b) must consult such other Minister or Ministers of each State and self-governing Territory as the Minister considers appropriate; and</p> <p>(c) may consult such other persons and organisations as the Minister considers appropriate.</p>	<p>The department considers that the consultation requirements have been met. The application from the WA Department of Fisheries for the WA Shark Bay Scallop Managed Fishery was released for public comment from 14 November 2012 to 13 December 2012. The public comment period sought comment on:</p> <ul style="list-style-type: none"> <li>the proposal to amend the list of exempt native specimens to include product derived from the WA Shark Bay Scallop Managed Fishery; and</li> <li>the Department of Fisheries, Western Australia application.</li> </ul> <p>No public comments were received.</p>
<p>(5) A copy of an instrument made under section 303DC is to be made available for inspection on the Internet.</p>	<p>The instrument for the WA Shark Bay Scallop Managed Fishery made under section 303DC will be gazetted and made available on the department's website.</p>

## Part 16

<b>Section 391 Minister must consider precautionary principle in making decisions</b>	<b>The department's assessment of the Shark Bay Scallop Managed Fishery</b>
<p>(1) The Minister must take account of the precautionary principle in making a decision under section 303DC and/or section 303FN, to the extent he or she can do so consistently with the other provisions of this Act.</p>	<p>Having regard to the precautionary management measures in place in these fisheries, summarised in Table 1, the department considers that the precautionary principle has been accounted for in the preparation of advice in relation to a decision under section 303DC and section 303FN.</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>	

**Part 12**

<b>Section 176 Bioregional Plans</b>	<b>The department's assessment of the WA Shark Bay Scallop Managed Fishery</b>
(5) Subject to this Act, the Minister must have regard to a bioregional plan in making any decision under this Act to which the plan is relevant.	The <i>Marine Bioregional Plan for the North-west Marine Region 2012</i> has been considered in the preparation of advice in relation to decisions under section 303DC and section 303FN. While the Shark Bay Scallop Managed Fishery is found in the North-west Marine Region, there are no key ecological features identified within the fishery that are impacted by fishing operations.

## **The Department of Sustainability, Environment, Water, Population and Communities' draft recommendations to the Western Australian Department of Fisheries for the Western Australian Shark Bay Prawn and Scallop Managed Fisheries**

The material submitted by the Western Australian (WA) Department of Fisheries indicates that the WA Shark Bay Prawn and Scallop Managed Fisheries operate in accordance with the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2<sup>nd</sup> Edition'.

Overall, the department recognises that the sophisticated management regime of real time monitoring, gear restrictions and a seasonal closure based on stock levels are conservative and suggest that the fishery is being managed in an ecologically sustainable way.

### **Stock Status**

According to the WA Annual State of the Fisheries and Resources Report 2011, the target scallop stocks have been assessed to be 'adequate'. This assessment indicates that annual variations in recruitment to the parental biomass are due to environmental impacts, rather than fishing pressure.

In 2009 a voluntary fisheries adjustment scheme reduced the number of licences operating in the Shark Bay Scallop Managed Fishery scallop trawl fleet from 14 to 11. In addition, fishery independent surveys are regularly conducted to establish recruitment strength in the fishery. Management measures in place in the fishery include:

- limited entry
- seasonal and area openings and closures
- mandatory use of bycatch reduction devices, and
- gear controls and a limit on crew numbers.

The department considers that the range of management measures is sufficient to ensure that the fishery is conducted in a manner that does not lead to over-fishing and that stocks are not currently overfished.

### **Ecosystem Impacts**

Taking into account the management measures for the target and byproduct species and the mandatory requirements for all trawl operators to use bycatch reduction devices, the department considers that the fishing operations under the *Shark Bay Scallop Management Plan 1994* will be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

The department considers that product taken in the fishery should be included in the list of exempt native specimens under Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999* for a period of five years. To contain and minimise the risks in the longer term the recommendations listed in Table 4 have been made. Unless a specific time frame is provided, each recommendation should be addressed during the five year period.

**Table 4: Shark Bay Scallop Managed Fishery Assessment – Summary of Issues and Recommendations January 2013.**

	<b>Issue</b>	<b>Recommendation</b>
1	<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 Sustainability, Environment, Water, Population and Communities (SEWPaC) 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><b>Recommendation 1:</b></p> <p>Operation of the WA Shark Bay Scallop Managed Fishery will be carried out in accordance with the <i>Shark Bay Scallop Managed Fishery Management Plan 1994</i> in force under the <i>Western Australian Fish Resources Management Act 1994</i>.</p> <p><b>Recommendation 2:</b></p> <p>WA Department of Fisheries to advise the department of any intended material change to the fishery's legislated management regime and management arrangements that could affect the assessment against which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are based.</p>
2	<p><u>Annual reporting</u></p> <p>It is important that reports be produced and presented to SEWPaC 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 accreditation. Annual reports should include: a description of the fishery, management arrangements in place, research and monitoring outcomes, recent catch data for all sectors of the fishery, status of target stock, interactions with protected species, impacts of the fishery on the ecosystem in which it operates and information outlining progress in implementing recommendations resulting from the previous accreditation of the fishery (for a complete description of annual reporting requirements, see Appendix B of the 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2<sup>nd</sup> Edition' available from the department's website at <a href="http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html">http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html</a>).</p>	<p><b>Recommendation 3:</b></p> <p>WA Department of Fisheries to produce and present reports to the department annually as per Appendix B of the 'Guidelines for the Ecologically Sustainable Management of Fisheries 2<sup>nd</sup> Edition'.</p>

3	<p><u>Protected Species Reporting</u></p> <p>The department is aware that the WA Department of Fisheries has already implemented measures to reduce the mortality of sea snakes and turtles in the fishery. However, species specific identification for remaining interactions could be improved. Given that two EPBC Act listed threatened sea snake species occur in north western Australian waters, and that all marine turtle species that occur in Australia are listed as threatened, it is important to determine which species are being caught as bycatch.</p> <p>The department recognises that species level identification is difficult for sea snakes, however species level reporting remains important for the future management of protected species. The department therefore recommends that the WA Department of Fisheries investigate methods of improving species level reporting for protected species interactions in the fishery, with particular attention to sea snakes and turtles.</p>	<p><b>Recommendation 4:</b></p> <p>WA Department of Fisheries to investigate measures to improve protected species interaction reporting, including species level identification, with particular attention to turtles and sea snake species.</p>
4	<p><u>Maintaining target stocks</u></p> <p>The department accepts that scallop stocks undergo natural variation in abundance due to environmental fluctuations and is aware of ongoing research undertaken by the WA Department of Fisheries to investigate low recruitment of scallops when that occurs.</p> <p>The department notes that the WA Department of Fisheries regularly conducts fishery independent surveys to estimate recruitment strength in the fishery and has put in place a range of measures to ensure that the target species is not overfished. In 2011 and 2012, this annual assessment resulted in a closure of the fishery in the years following (2012 and 2013) to protect breeding stock, although some bycatch of scallops may still occur by vessels in the Shark Bay Prawn Managed Fishery. The department recommends that the WA Department of Fisheries continue to investigate alternate management arrangements to ensure potential discarding is not detrimental to the spawning stock when recruitment is low.</p> <p>A Fisheries Research and Development Corporation project undertaken from 2008 - 2011 included examination of the interaction of gear used by the scallop and prawn fisheries in Shark Bay. The mesh shape and size of codends in the Shark Bay Scallop Fishery were evaluated to determine if the selectivity of scallops (and their impact on damage to and retention of prawns) could be improved by adopting a square mesh codend as an alternative to the conventional diamond mesh codend.</p> <p>The research project found that smaller codend square mesh sizes (55 mm and 60 mm) retained significantly less (22-33%) smaller scallops than the current 100mm diamond mesh codend and significantly reduced bycatch. However, 50mm square</p>	<p><b>Recommendation 5:</b></p> <p>WA Department of Fisheries to:</p> <ol style="list-style-type: none"> <li>a) continue to investigate the causes contributing to the ongoing low recruitment of scallops, and develop and implement strategies to address these where appropriate.</li> <li>b) continue evaluation of alternative fishing gears to reduce bycatch and the retention of smaller scallops, and encourage uptake of alternative gears where appropriate.</li> </ol>

	<p>mesh codends performed poorly with relatively high retention rates of small scallops. The overall 5% mean loss in commercial sized scallops and significant bycatch reductions of up to 95% across all three square mesh codends compared to diamond mesh codends is a positive result for the project. The department recommends the WA Department of Fisheries continue the investigation of smaller square mesh codends with the aim of reducing bycatch and retention of unwanted small scallops.</p>	
5	<p><u>Monitoring bycatch</u></p> <p>A major biodiversity survey completed in 2002 found that trawled areas in Shark Bay had similar biodiversity to larger adjacent untrawled areas, indicating that the impact of trawling on bycatch species was low. Since this time, the strategy adopted by the WA Department of Fisheries to ensure that risk to bycatch species remains low has been to focus on reducing effort and trawl area in the fishery. Direct bycatch management measures have also been imposed, including the mandating of bycatch reduction grids and fish escapement devices. Ongoing bycatch management actions for the Shark Bay Scallop Managed Fishery are informed by the Bycatch Action Plan (BAP) Matrix for all trawl fisheries in the Gascoyne Coast Bioregion. This BAP Matrix is scheduled for review every two years.</p> <p>The department is aware that bycatch has been historically low in this fishery, that fishing effort and trawled area have been substantially reduced since the last comprehensive biodiversity survey and that bycatch reduction devices are used in all nets. The department concurs it is likely that impact on bycatch species remains low, however considers that the WA Department of Fisheries should undertake an appropriate level of ongoing research and/or monitoring to ensure that the actions directed through the BAP matrix remain relevant to the fishery.</p>	<p><b>Recommendation 6</b></p> <p>WA Department of Fisheries to conduct appropriate ongoing research and/or monitoring to determine whether the actions undertaken in the Bycatch Action Plan Matrix are sufficient to minimise risk to bycatch species in the fishery.</p>

## References

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