



Australian Government

Department of Sustainability, Environment, Water, Population and Communities

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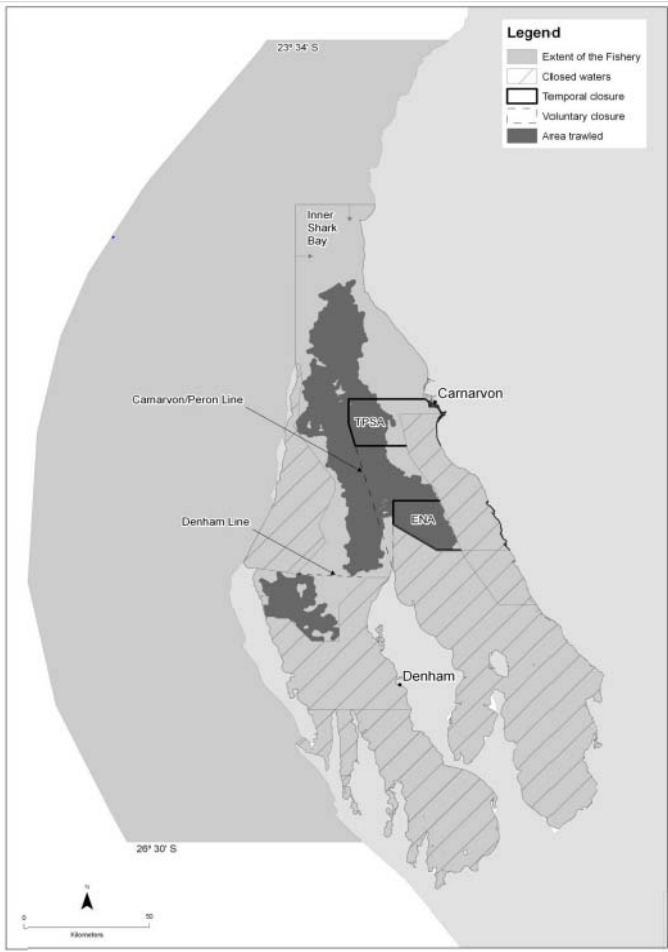
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Table 4 contains a description of the issues identified by the department with the current management regime for the Shark Bay Prawn Managed Fishery and outlines the proposed recommendations that would form part of the delegate's decision to include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

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

<p>Key Documents</p>	<ul style="list-style-type: none"> • <i>WA Fish Resources Management Act 1994 (FRM Act)</i> • <i>WA Fish Resources Management Regulations 1995 (FRM Regulations)</i> • <i>WA Shark Bay Prawn Management Plan 1993</i> • <i>Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act)</i> • <i>WA Department of Fisheries Application to the Department of Sustainability, Environment, Water, Population and Communities for the WA Shark Bay Prawn Managed Fishery, November 2012</i> • <i>Department of Environment and Heritage Assessment Report 2007</i> • <i>WA Department of Fisheries State of the Fisheries Reports from 2006/07 to 2010/11</i> • <i>Marine Bioregional Plan for the North-west Marine Region 2012</i>
<p>Area</p>	<p>The WA Shark Bay Prawn Managed Fishery operates in both Commonwealth and state waters and overlaps with the Shark Bay Scallop Managed Fishery. The WA Shark Bay Prawn Managed fishery is 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 (Figure 1).</p>  <p>Figure 1. Map of the Shark Bay Prawn Managed Fisheries</p>

Target Species	<p>The WA Shark Bay Prawn Managed Fishery predominantly targets western king prawns (<i>Penaeus latisulcatus</i>) and brown tiger prawns (<i>P.esculentus</i>).</p> <p>Shark Bay Prawn Managed Fishery Licence holders also hold Class B Shark Bay Scallop Managed Fishery Licences which entitle them to retain scallops caught in their prawn trawl gear. A scallop catch sharing arrangement was formally implemented in 2011 under which Shark Bay Prawn Managed fishery/Class B Shark Bay Scallop Managed Fishery licensees were allocated approximately 30% of the annual scallop catch.</p>																																																																								
Fishery status	<p>The target species have been assessed by the WA Department of Fisheries as having 'adequate' spawning stocks. This assessment indicates that annual variations in recruitment to parental biomass are due to environmental impacts, rather than fishing pressure, and that parental biomass is sufficient for ongoing successful spawning.</p> <p>The main performance measures for the Shark Bay Prawn Managed Fishery relate to maintenance of breeding stocks for each of the major target prawn species. In 2011, the breeding stock indicators for tiger prawns were below the 25 – 30 kg/hr threshold but were still considered to be adequate.</p> <p>Catches of the target species vary annually. According to the 2011 State of the Fisheries report, the take of king and tiger prawns in the fishery were within the historical target range. However from 2006 – 2009 the catch of king prawns in the fishery were below historical catch levels (1100 t – 1600 t). In addition, tiger prawns fell below historical catch levels (400 t - 700 t) in both 2008 and 2009, but have been slightly above historical catch levels in 2006/07 and 2010.</p>																																																																								
Byproduct Species	<p>The Shark Bay Prawn Managed Fishery takes a range of byproduct species including blue swimmer crabs, squid, cuttlefish and mixed finfish species. Catch of blue swimmer crabs in this fishery is accounted for in the management of the Shark Bay Crab (Interim) Managed Fishery.</p> <p>Landings since 2007</p> <table><tr><th>Byproduct</th><th>2007</th><th>2008</th><th>2009</th><th>2010</th><th>2011</th></tr><tr><td>blue swimmer crab</td><td>256 t</td><td>135 t</td><td>251 t</td><td>338 t</td><td>293 t</td></tr><tr><td>squid</td><td>23 t</td><td>10 t</td><td>21</td><td>45 t</td><td>14 t</td></tr><tr><td>cuttlefish</td><td>9 t</td><td>10 t</td><td>22 t</td><td>29 t</td><td>20 t</td></tr><tr><td>tuna</td><td></td><td>10 t</td><td>15 t</td><td></td><td></td></tr><tr><td>bugs</td><td>< 1 t</td><td>2 t</td><td>2 t</td><td>13 t</td><td>1 t</td></tr><tr><td>mulloway</td><td></td><td>< 1 t</td><td>< 1 t</td><td>1 t</td><td></td></tr><tr><td>coral crabs</td><td></td><td></td><td>1 t</td><td>2 t</td><td>2 t</td></tr><tr><td>octopus</td><td></td><td></td><td>< 1 t</td><td>< 1 t</td><td>< 1 t</td></tr><tr><td>mantis shrimp</td><td></td><td></td><td>< 1 t</td><td></td><td></td></tr><tr><td>snapper</td><td></td><td>< 1 t</td><td>< 1 t</td><td></td><td></td></tr><tr><td>other finfish species</td><td></td><td></td><td>< 1 t</td><td>< 1 t</td><td>< 1 t</td></tr></table>	Byproduct	2007	2008	2009	2010	2011	blue swimmer crab	256 t	135 t	251 t	338 t	293 t	squid	23 t	10 t	21	45 t	14 t	cuttlefish	9 t	10 t	22 t	29 t	20 t	tuna		10 t	15 t			bugs	< 1 t	2 t	2 t	13 t	1 t	mulloway		< 1 t	< 1 t	1 t		coral crabs			1 t	2 t	2 t	octopus			< 1 t	< 1 t	< 1 t	mantis shrimp			< 1 t			snapper		< 1 t	< 1 t			other finfish species			< 1 t	< 1 t	< 1 t
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Gear	<p>Otter (prawn) trawl nets with a quad gear configuration are the permitted fishing method in the fishery. Otter trawl nets are towed along the seabed and are held open by a pair of otter boards. Vessels have traditionally towed a pair of eight fathom nets. However, over the past few fishing seasons, four 5.5 (10.1m) fathom nets have been used.</p> <p>Both bycatch reduction grids and fish escape devices are mandatory in all trawl nets in the fishery.</p>																																																																								

Season	<p>Opening and closing dates vary each year depending on the results of recruitment surveys, moon phase and environmental conditions. Some nursery areas are permanently closed in order to prevent the take of small prawns. In addition, spatio-temporal closures are in place to maintain tiger prawn breeding stocks.</p> <p>During the season flexible fishing arrangements and voluntary industry closures are implemented based on survey assessments of both king and tiger prawn sizes. In 2011, the Shark Bay Prawn fishing season formally commenced on 3 March and closed on 10 October (a total of 171 nights fishing). The tiger prawn spawning area was closed on 25 June.</p>
Commercial harvest	<p>The total landings of major prawn species in 2011 was 2014 t. This comprised of 1,310 t of king prawns, 689 t of tiger prawns and 15 t of endeavour prawns. In addition 117 t of coral prawns were also landed. The take of coral prawns and other minor penaeids in the fishery is varied and has ranged from 115 t taken in 2006, to 197 t in 2009.</p> <p>In 2011, total prawn landings in the fishery were within the historical target range (1501 t – 2330 t). From 2007 – 2009 the total of prawns caught in the fishery were below historical catch levels, however in 2006, 2010 and 2011 prawn catches were above historical levels.</p>
Value of commercial harvest	<p>Estimated annual value (to fishers) for year 2011 was \$25.6 million.</p> <p>Ex-vessel prices for prawns vary depending on the type of product and the market forces operating at any one time. Average ex-boat prices were as follows:</p> <p>King prawns \$11.90/kg</p> <p>Tiger prawns \$14.60/kg</p> <p>Coral prawns \$3.80/kg</p>
Take by other sectors	No significant take of target species by other sectors.
Commercial licences issued	18 boats were licensed to operate in the Shark Bay Prawn Managed Fishery in 2011.
Management arrangements	The Shark Bay Prawn Managed Fishery is managed under the WA <i>Shark Bay Prawn Management Plan 1993</i> , the FRM Act and the FRM Regulations. The fishery is primarily managed through input controls which include limited entry, seasonal and area openings and closures, gear controls and limits on crew numbers.
Export	Major markets for tiger prawns are Japan and Taiwan. Australia, Europe, United States of America and Taiwan are the major markets for western king prawns.
Bycatch	<p>Bycatch reduction devices (BRDs) for protected species are mandatory for all prawn trawl nets. Secondary BRDs, such as fish escape devices, are also compulsory for prawn trawls due to the small size mesh codends that are used in the fishery.</p> <p>Bycatch in the fishery is generally low with the composition of the bycatch mostly comprising of dead wire weed, small size fish species and crustacean species that are often returned to sea alive.</p>
Interaction with Protected Species¹	Protected species, including whales, dolphins, dugongs, turtles and seasnakes, are abundant in Shark Bay however only seasnakes are

¹ '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>regularly seen in the trawl catches, The majority of those that are caught are returned to sea alive. In 2011, 119 seasnakes were reported as captured and subsequently returned to the sea alive, another 24 were reported as dead.</p> <p>The WA Department of Fisheries; State of the Fisheries Report for 2011 also notes that during the 2011 season 15 turtles were caught in nets, however all of these individuals were returned to the sea alive.</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>
Ecosystem Impacts	<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. Surveys have indicated that similar levels of diversity exist in trawled areas as those in adjacent untrawled grounds.</p> <p>The <i>Marine Bioregional Plan for the North-west Marine Region</i> has identified that there are pressures in the area of the fishery from bycatch, the extraction of living resources and physical habitat modification.</p> <p>The management arrangements of the fishery, including mandatory use of BRDs to reduce protected species bycatch to low risk levels and the permanent and temporary trawl area closures, lowers the risk of the pressures identified in the bioregional plan. In addition trawling is undertaken in deeper areas of the fishery with the majority of sponge and coral habitats in areas specifically closed to trawling.</p>
Impacts on World Heritage property/RAMSAR site	<p>The original assessment of the fishery 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 the Shark Bay Prawn Managed Fishery operates within the declared area. Fishing for prawns in this area has occurred since 1962, 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 the department considers that an action taken by an individual fisher, acting in accordance with the WA <i>Shark Bay Prawn Management Plan 1993</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 2007 assessment of the Western Australian (WA) Shark Bay Prawn Managed Fishery

Recommendation	Progress	Recommended Action
<p>Recommendation 1: Operation of the fishery will be carried out in accordance with the <i>Shark Bay Prawn Managed Fishery Management Plan 1993</i> made under the Western Australian <i>Fish Resources Management Act 1994</i>.</p>	<p>The Western Australia (WA) Department of Fisheries advises that the WA Shark Bay Prawn Managed Fishery continues to operate in accordance with the <i>Shark Bay Prawn Management Plan 1993</i> under the <i>Fish Resources Management Act 1994</i></p>	<p>The Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) considers that this recommendation has been met.</p> <p>The department recommends that this action be continued (see Recommendation 1, Table 4).</p>
<p>Recommendation 2: DFWA to advise DEWHA of any intended material change to the SBPMF legislated management regime and management arrangements that could affect the criteria on which EPBC Act decisions are based.</p>	<p>The WA Department of Fisheries have advised that no significant changes that would affect the assessment of the fisheries against criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are based have been made in the fisheries.</p> <p>The WA Department of Fisheries is working towards amending the management plan for the fishery to remove boats greater than 375 boat units from operating in the fishery. In addition the amendment will allow for the reconfiguring of net head rope length.</p>	<p>The Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) considers that this recommendation has been met.</p> <p>The department recommends that this action be continued (see Recommendation 2, Table 4).</p>
<p>Recommendation 3: DFWA 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 Prawn 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 of Sustainability, Environment, Water, Population and Communities (DSEWPaC) considers that this recommendation has been met.</p> <p>The department recommends that this action be continued (see Recommendation 3, Table 4).</p>

Recommendation	Progress	Recommended Action
<p>Recommendation 4: By mid 2008, DFWA 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 of Sustainability, Environment, Water, Population and Communities (DSEWPaC) considers that this recommendation has been met.</p>
<p>Recommendation 5: DFWA 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>An FRDC research project investigating the impact of gear interaction and resource sharing issues was completed in 2011 and is publicly available on the WA Department of Fisheries website.</p> <p>Some of 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. The results supported current management arrangements in which both the prawn and scallop fleet fish prior to spawning. The report also highlighted the importance of minimising discarding during the summer months, and the protection of small scallops from</p>	<p>The Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
	<p>trawl disturbances in winter.</p> <p>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 the number of prawns caught, and that the 60mm square mesh codend presented a good basis to use in commercial trials in the fishery.</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>Recommendation 6: By December 2008, DFWA to finalise, adopt and implement the Bycatch Action Plan for the SBPMF, 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 Prawn 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</p>	<p>The Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) 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. (Recommendation 6, Table 4).</p>

Recommendation	Progress	Recommended Action
	<p>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>Recommendation 7: By December 2010, DFWA to conduct an ERA on impacts from the changes to the fishery – the use of quad gear, unitization of head rope length, removal of the 375 boat unit rule and any fleet restructure – on target, byproduct, bycatch (including protected species) and the marine environment. Should risks be identified, DFWA to investigate measures to ensure that issues identified at risk are minimised.</p>	<p>In 2008 and 2010 the WA Department of Fisheries reviewed the existing ecological risk assessment for the fishery. The risk assessments focused on the impact of quad gear, unitization of head rope length, removal of the 375 boat unit rule and any possible fleet restructure on target, byproduct, bycatch and the environment.</p> <p>In its the submission to the department the WA Department of Fisheries stated that the changes to the ecological risk ratings from 2008 to 2010 were minimal, with only one change being made. The risk rating for blue swimmer crab increased from low to moderate due to the increased targeting and retention of this particular species.</p> <p>The existing sustainability management framework has remained unchanged.</p>	<p>The Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) considers that this recommendation has been met.</p>

Table 3: The Department of Sustainability, Environment, Water, Population and Communities' assessment of the Western Australian (WA) Shark Bay Prawn 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

Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes	The department's assessment of the WA Shark Bay Prawn Managed Fishery
<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> <p>i. made by a State or self-governing Territory; and</p> <p>ii. in force under a law of the State or self-governing Territory;</p> <p>if satisfied 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 WA Shark Bay Prawn Managed Fishery will be managed under the <i>Shark Bay Prawn Management Plan 1993</i> in force under the <i>WA Fisheries Resources Management Act 1994</i>.</p> <p>The Management Plan for the WA Shark Bay Prawn 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 Prawn Managed Fishery is not likely to adversely affect the survival or recovery in nature of any threatened species. The department therefore recommends that the management regime for the WA Shark Bay Prawn Managed Fishery be recredited under Part 13 of the EPBC Act.</p>

Part 13 (cont.)

Division 2 Migratory species Section 222A Minister may accredit plans or regimes	The department's assessment of the WA Shark Bay Prawn Managed Fishery
<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> <p>i. made by a State or self-governing Territory; and</p> <p>ii. in force under a law of the State or self-governing Territory;</p> <p>if satisfied 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 Prawn Managed Fishery will be managed under the <i>Shark Bay Prawn Management Plan 1993</i> in force under the <i>WA Fisheries Resources Management Act 1994</i>.</p> <p>The management regime for the WA Shark Bay Prawn 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> <p>Information provided by the WA Department of Fisheries indicates that there have been no interactions with listed migratory species in Commonwealth waters and the likelihood of interactions with listed migratory species is low. Therefore, the department considers the current operation of the WA Shark Bay Prawn 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 Prawn Managed Fishery be reaccredited under Part 13 of the EPBC Act.</p>

Part 13 (cont.)

Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes	The department's assessment of the WA Shark Bay Prawn Managed Fishery
<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">i. made by a State or self-governing Territory; andii. in force under a law of the State or self-governing Territory;iii. <p>if satisfied 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 Prawn Managed Fishery will be managed under the <i>Shark Bay Prawn Management Plan 1993</i> in force under the <i>WA Fisheries Resources Management Act 1994</i>.</p> <p>The management regime for the WA Shark Bay Prawn 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 other 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 Prawn Managed Fishery is not likely to adversely affect the conservation status of a species of cetacean or a population of that species. The department therefore recommends that the management regime for the WA Shark Bay Prawn Managed Fishery be reaccredited under Part 13 of the EPBC Act.</p>

Part 13 (cont.)

Division 4 Listed marine species Section 265 Minister may accredit plans or regimes	The department's assessment of the WA Shark Bay Prawn Managed Fishery
<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">i. made by a State or self-governing Territory; andii. in force under a law of the State or self-governing Territory; <p>if satisfied 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 Prawn Managed Fishery will be managed under the Shark Bay Prawn Management Plan 1993 in force under the <i>WA Fisheries Resources Management Act 1994</i>.</p> <p>The management regime for the WA Shark Bay Prawn 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 other than turtles and seasnakes.</p> <p>Due to the reporting of sea snake captures not being recorded down to species level, it is difficult to determine which species are being captured. The WA Department of Fisheries has advised that of the 143 interactions with seasnakes, 119 were released alive.</p> <p>The WA Department of Fisheries has also advised the department of the capture of turtles in the fishery. In 2011 a total of 15 turtles were recorded as being caught and were returned to the sea alive. The specific species that were caught is unclear. The Department of Fisheries WA has advised the department that in general turtles</p>

	<p>caught in the fishery are listed as unknown or not noted, with loggerhead and green turtles being the exception. The department has recommended the Department of Fisheries WA works towards improving protected species identification in the fishery.</p> <p>The department is aware that the use of BRDs in the fishery is mandatory and has resulted in a decrease in the numbers of sea snakes and turtles being caught in prawn trawl nets. The department is satisfied that steps have been taken to avoid and reduce the capture of sea snakes and turtles in the fishery.</p> <p>The department therefore considers that the current operation of the WA Shark Bay Prawn 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 Prawn Managed Fishery be reaccredited under Part 13 of the EPBC Act.</p>
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Part 13 *(cont.)*

Section 303AA Conditions relating to accreditation of plans, regimes and policies	The department's assessment of the WA Shark Bay Prawn Managed Fishery
(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 WA Shark Bay Prawn 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: <ul style="list-style-type: none"> (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 WA Shark Bay Prawn 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

Section 303BA Objects of Part 13A

(1) The objects of this Part are as follows:

- (a) to ensure that Australia complies with its obligations under CITES² and the Biodiversity Convention;
- (b) to protect wildlife that may be adversely affected by trade;
- (c) to promote the conservation of biodiversity in Australia and other countries;
- (d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;
- (e) to promote the humane treatment of wildlife;
- (f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and
- (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.

² Convention on International Trade in Endangered Species of Wild Fauna and Flora

Part 13A

Section 303DC Minister may amend list	The department's assessment of the WA Shark Bay Managed Prawn 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"> (a) including items in the list; (b) deleting items from the list; or (c) imposing a condition or restriction to which the inclusion of a specimen in the list is subject; or (d) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or (e) correcting an inaccuracy or updating the name of a species. 	
<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 WA Shark Bay Prawn 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 Prawn Managed Fishery until 31 January 2018 would be consistent with the provisions 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 Table 1)

	<ul style="list-style-type: none"> the operation of the WA Shark Bay Prawn Managed Fishery is unlikely to be unsustainable and threaten biodiversity within the next 5 years, and the Environment Protection and Biodiversity Conservation Regulations 2000 do not specify prawns or other marine invertebrates as a class of animal in relation to the welfare of live specimens.
<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 Prawn 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"> the proposal to amend the list of exempt native specimens to include product derived from the WA Shark Bay Prawn Managed Fishery; and the WA Department of Fisheries application. <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 Prawn Managed Fishery made under section 303DC will be gazetted and made available on the department's website.</p>

Part 16

Section 391 Minister must consider precautionary principle in making decisions	The department's assessment of the WA Shark Bay Prawn Managed Fishery
<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

Section 176 Bioregional Plans	The department's assessment of the WA Shark Bay Prawn Managed Fishery
(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</i> has been considered in the preparation of advice in relation to decisions under section 303DC and section 303FN. While the Shark Bay Prawn Managed Fishery is found in the North-west Marine Region, there are no key ecological features have been identified as occurring within the fishery.

The Department of Sustainability, Environment, Water, Population and Communities' final recommendations to the Western Australian Department of Fisheries for the Western Australian Shark Bay Prawn Managed Fishery

The material submitted by the Western Australian (WA) Department of Fisheries indicates that the WA Shark Bay Prawn Managed Fishery operates in accordance with the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'.

Stock Status

According to the WA Annual State of the Fisheries and Resources Report 2011, the target prawn 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 Prawn Managed Fishery from 27 to 18. In addition, fishery independent surveys are regularly conducted to establish recruitment strength (and spawning stock for brown tiger prawns) 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 Prawn Management Plan 1993 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: WA Shark Bay Prawn Managed Fishery Assessment – Summary of Issues and Recommendations January, 2013

	Issue	Recommendation
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>Recommendation 1:</p> <p>Operation of the fishery will be carried out in accordance with the <i>WA Shark Bay Prawn Managed Fishery Management Plan 1993</i> in force under the <i>Western Australian Fish Resources Management Act 1994</i>.</p> <p>Recommendation 2:</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 the department 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..</p> <p>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 - 2nd Edition' available from the department's website at http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html).</p>	<p>Recommendation 3:</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 – 2nd 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>Recommendation 4:</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>Reviewing king prawn catch levels</u></p> <p>The target catch range for king prawns in the fishery is between 1100 – 1 600 t annually. According to the State of the Fisheries Reports from 2006-2009, the total landings of king prawns were below average over this period, ranging from 771 to 927 t. In 2011 the total landing of king prawns was 1310 t, due to unprecedented environmental conditions which increased prawn survival and recruitment levels. However, even with favourable environmental conditions the take of king prawns was not near the upper levels of the target catch range.</p> <p>The department is aware that in the past five years there has been a shift towards catching larger prawns, which may account for the lower catch levels. The department also 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 in the fishery are not overfished. However, given the variability of historical landings of king prawns in the fishery, a review of the target catch range of king prawns to ensure that it reflects current fishing/targeting strategies and effort levels may be appropriate.</p>	<p>Recommendation 5:</p> <p>WA Department of Fisheries to review the target catch range for king prawns in the fishery to ensure that it reflects current fishing strategies and effort levels.</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 escape devices. Ongoing bycatch management actions for the Shark Bay Prawn 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>Recommendation 6</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>
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