



**Australian Government**

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**Department of the Environment, Water, Heritage and the Arts**

Assessment of the

**Western Australian Temperate Shark Fisheries**

(comprising the Joint Authority Southern Demersal Gillnet and Demersal Longline Managed Fishery and the West Coast Demersal Gillnet and Demersal Longline (Interim) Managed Fishery)

April, 2009

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#### **Disclaimer**

This document is an assessment carried out by the Department of the Environment, Water, Heritage and the Arts of a commercial fishery against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2<sup>nd</sup> Edition*. It forms part of the advice provided to the Minister for the Environment, Heritage and the Arts on the fishery in relation to decisions under Parts 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. The views expressed do not necessarily reflect those of the Minister for the Environment, Heritage and the Arts or the Australian Government.

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**Table 1: Summary of the Western Australian (WA) Temperate Shark Fisheries (WATSF)**

<p><b>Publicly available information relevant to the fishery</b></p>	<ul style="list-style-type: none"> <li>• <i>Application to the Australian Government Department of the Environment, Water, Heritage and the Arts (DEWHA) on the WATSF – December 2008 (the 2008 Submission)</i></li> <li>• <i>WA Fish Resources Management Act 1994 (FRM Act)</i></li> <li>• <i>WA Fish Resources Management Regulations 1995.</i></li> <li>• <i>Department of the Environment and Heritage (DEH) ‘Assessment of the Western Australian Temperate Shark Fisheries, January 2006’</i></li> <li>• <i>WA State of the Fisheries Reports 2005/06 and 2006/07.</i></li> <li>• <i>Joint Authority Southern Demersal Gillnet and Demersal Longline Management Plan 1992</i></li> <li>• <i>Joint Authority Southern Demersal Gillnet and Demersal Longline Managed Fishery (JASDGDLF) Licence</i></li> <li>• <i>West Coast Demersal Gillnet and Demersal Longline (Interim) Management Plan 1999</i></li> <li>• <i>West Coast Demersal Gillnet and Demersal Longline (Interim) Managed Fishery (WCDGDLF) Permit</i></li> </ul>
<p><b>Area</b></p>	<p>The JASDGDLF covers the waters from latitude 33°S to the WA/South Australia (SA) border. For the purposes of management, the fishery is composed of two zones. Zone 1 extends from latitude 33°S around the coast as far as longitude 116° 30'E, and Zone 2 from 116°30'E to the WA/SA border (129°E).</p> <p>The WCDGDLF extends north from latitude 33°S to latitude 26°S. However, shark fishing has been prohibited between Steep Point (26°30'S) and North West Cape since 1993, effectively making Steep Point the fishery's northern boundary.</p>
<p><b>Fishery status</b></p>	<p>Stock Assessments of breeding stock levels for the four key target shark species by the Department of Fisheries WA (DFWA) show –</p> <p>Gummy shark: Adequate</p> <p>Dusky shark: Inadequate</p> <p>Sandbar shark: Inadequate</p> <p>Whiskery shark: Recovering</p>
<p><b>Target Species</b></p>	<p>Key species:</p> <p>Gummy shark (<i>Mustelus antarcticus</i>)</p> <p>Dusky shark (<i>Carcharhinus obscurus</i>)</p> <p>Sandbar shark (<i>Carcharhinus plumbeus</i>)</p> <p>Whiskery shark (<i>Furgaleus machi</i>)</p> <p>Other target species:</p> <p>Sharks and rays (including hammerhead shark, wobbegong, longnose grey shark, tiger shark and shovelnose ray) and other scalefish.</p>
<p><b>Byproduct Species</b></p>	<p>Research undertaken in the WATSF between 1994-1999 found that, in addition to the shark catch, between 11 and 17% of the total demersal</p>

	gillnet and longline catch was composed of scalefish (teleost) species that were retained for sale. For example in 2005/06, scalefish landings totalled 148 t in the JASDGDLF and 88 t in the WCDGDLF.																																																
<b>Gear</b>	<p>The JASDGDLF and the WCDGDLF employ demersal gillnets and demersal longlines with power-hauled reels along the south and lower west coasts of WA.</p> <p>Currently, a unit of entitlement allows:</p> <ul style="list-style-type: none"> <li>• JASDGDLF licence holders to use either 270 m of demersal gillnet (15 or 20 mesh drop) or 90 demersal longline hooks during a calendar month, although there are a small number of units that permit the use of 378 m of gillnet per month (a ‘days fished’ scheme will be introduced in the JASDGDLF in 2009); and</li> <li>• WCDGDLF permit holders to fish for 12 days by means of 270 m of demersal gillnet or 9 hooks on a demersal longline for a fishing season (1 June – 31 May).</li> </ul>																																																
<b>Season</b>	12 months, from 1 June to 31 May. However, in 2006, 2007 and 2008 a two month closure (from 16 August – 15 October) occurred in the WATSF in order to provide protection to near-term pregnant whiskery sharks. DFWA’s Research Division intends to complete a formal assessment of the effectiveness of the closure in assisting the recovery of whiskery shark stocks.																																																
<b>Commercial harvest</b>	<p>In 2005/06 the total reported catch of shark and rays for the WATSF was 1,357 t. The four key shark stocks accounted for 1,121 t (more than 80% of the total shark catch). Catch of scalefish taken in the fisheries was 236 t. The following table provides a greater breakup of the commercial harvest in 2005/06 as reported in DFWA’s <i>State of the Fisheries Report 2006/07</i>.</p> <table border="1"> <thead> <tr> <th>Species</th> <th>JASDGDLF</th> <th>WCDGDLF</th> <th>Total</th> </tr> </thead> <tbody> <tr> <td>Gummy</td> <td>451</td> <td>12</td> <td>463</td> </tr> <tr> <td>Dusky</td> <td>165</td> <td>109</td> <td>274</td> </tr> <tr> <td>Sandbar</td> <td>13</td> <td>185</td> <td>197</td> </tr> <tr> <td>Whiskery</td> <td>159</td> <td>28</td> <td>187</td> </tr> <tr> <td>Hammerhead</td> <td>31</td> <td>26</td> <td>57</td> </tr> <tr> <td>Wobbegong</td> <td>21</td> <td>21</td> <td>42</td> </tr> <tr> <td>Longnose grey</td> <td>4</td> <td>20</td> <td>24</td> </tr> <tr> <td>Tiger</td> <td></td> <td>12</td> <td>12</td> </tr> <tr> <td>Shovelnose rays</td> <td></td> <td>10</td> <td>10</td> </tr> <tr> <td>Other sharks and rays</td> <td>65</td> <td>26</td> <td>91</td> </tr> <tr> <td>Scalefish</td> <td>148</td> <td>88</td> <td>236</td> </tr> </tbody> </table>	Species	JASDGDLF	WCDGDLF	Total	Gummy	451	12	463	Dusky	165	109	274	Sandbar	13	185	197	Whiskery	159	28	187	Hammerhead	31	26	57	Wobbegong	21	21	42	Longnose grey	4	20	24	Tiger		12	12	Shovelnose rays		10	10	Other sharks and rays	65	26	91	Scalefish	148	88	236
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<b>Value of commercial harvest</b>	In 2005/06 the total value of the fishery was estimated at \$6.4 million.																																																
<b>Take by other sectors</b>	In 2005/06, 108 t of shark was caught off the south and west coasts by a limited number of other commercial fisheries, including 95 t taken by “wetliners”. However, in November 2006, retention of sharks and rays by vessels not operating in the managed target-shark fisheries was																																																

	<p>prohibited, which is likely to result in reduced catches of shark in other sectors.</p> <p>Recreational take is estimated at 15-20 t of sharks per year.</p>
<b>Commercial licences issued</b>	<p>In 2005/2006, there were 57 licences in the JASDGDLF, 24 in Zone 1 and 33 in Zone 2.</p> <p>In 2005/2006, there were 26 licences in the WCDGDLF.</p>
<b>Management arrangements</b>	<p>The JASDGDLF was declared a limited entry fishery in 1988 and is jointly managed by the WA and Commonwealth Governments. The fishery is primarily managed through effort controls in the form of time/gear units, which allow fishers to use one net or an equivalent number of hooks per month.</p> <p>The WCDGDLF is managed as a limited entry fishery, under an interim management plan introduced in 1997. Under the interim plan, the fishery is managed using effort controls in the form of time/gear units.</p> <p>Management measures recently introduced for both fisheries include:</p> <ul style="list-style-type: none"> <li>• a seasonal closure between 26° 30' S latitude and 118° E longitude on the south coast to protect pupping female whiskery sharks;</li> <li>• a reduction of the permissible maximum size for dusky sharks;</li> <li>• improved management arrangements for shark caught in commercial fisheries that do not target shark;</li> <li>• improved management measures for recreational fishers, including maximum size limits for all whaler sharks in the west coast and south coast bioregions;</li> <li>• longline gear restrictions to restrict the use of longlines to target large sharks and reduce the mortality of any incidental catch of large sharks;</li> <li>• the “Days Fished” Scheme of Entitlement. Monthly effort controls (where the value of a unit of entitlement is a set length of demersal gillnet or number of hooks on a demersal longline, fished during a calendar month) was changed to days fished arrangements in the WCDGDLF (where a unit of entitlement permits a set amount of gear to be used for a maximum number of days per season). This will be introduced in the JASDGDLF in 2009; and</li> <li>• development and implementation of an effort management regime aimed at reducing and constraining effort in the fishery at sustainable levels.</li> </ul>
<b>Export</b>	Exported after processing to Asian markets.
<b>Bycatch</b>	<p>Considered low due to the large number of species considered as target or secondary species. During the ecological risk assessment of the WATSF in 2002, impacts on bycatch species was considered to be low. With the substantial reduction of effort in the fishery, this risk is likely to have decreased further.</p>

<p><b>Interaction with Protected Species<sup>1</sup></b></p>	<p>Low levels of reported interactions. Interactions may include great white sharks, grey nurse sharks, turtles, cetaceans, billfish (commercially protected under the FRM Act), pinnipeds and seabirds.</p> <p>A 2003 report (McAuley and Sempendorfer) found that marine mammals were caught at a rate of just over 1 per 10,000 km of gillnet hours, seabirds at 1 per 25,000 km gillnet hours and turtles at 1 per 100,000 km gillnet hours.</p>
<p><b>Ecosystem Impacts</b></p>	<p>The management arrangements of the WATSF are considered unlikely to have an unsustainable impact on the marine ecosystem in which it operates. The recent reduction in fishing effort is also likely to reduce any impact which may occur. However, consistent with the principles of ecosystem-based fisheries management, as part of this assessment, DEWHA have recommended DFWA investigate in greater detail the impacts of the fishery on non-target biota, including byproduct, bycatch (including protected species) and the marine ecosystem. For example, information on the effects of removing large quantities of juvenile sharks on the trophic ecology of the marine ecosystem.</p>

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<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.

**Table 2: Progress in implementation of conditions and recommendations from the latest Wildlife Trade Operation (WTO) declaration's for the WATSF.**

Condition	Progress	Recommended Action
<p>1. Operation of the Fishery will be carried out in accordance with the JASDGDLF and WCDGDLF's management regime in force under the <i>Fish Resources Management Act 1994</i>.</p>	<p><i>Ongoing</i> DFWA has continued to manage the JASDGDLF and the WCDGDLF in accordance with their respective management plans, the WA FRM Act and its subsidiary legislation. In addition to this, DFWA has informally introduced interim arrangements that require the JASDGDLF participants to operate under a more prescriptive "days fished" management regime (as approved by the Western Australian Fisheries Joint Authority), ahead of the formal introduction of that regime on 1 June 2009. While the current regime is delivering benefits in the form of effort reductions for the Fishery, its legislated introduction next year will formally complete the suite of changes that was developed to reduce recent effort in the Fishery by 40% (and return to 2001/02 levels).</p>	<p>DEWHA considers that this condition has been met and will remain in force for a further three years under the new export declaration for the fisheries (<b>Condition 1</b>, Table 4).</p>
<p>2. DFWA to advise DEWHA of any material change to the JASDGDLF or the WCDGDLF legislated management plan and/or arrangements that could affect the criteria on which <i>Environment Protection and Biodiversity Conservation Act</i></p>	<p><i>Ongoing</i> In the 2007 report to DEWHA, DFWA reported that the majority of the approved management plan amendments had then been implemented, including:</p> <ul style="list-style-type: none"> <li>• a seasonal closure of the fisheries between 26° 30' S latitude and 118° E longitude on the south coast to protect pupping female whiskery sharks;</li> </ul>	<p>DEWHA considers that this condition has been met and will remain in force for a further three years under the new export declaration for the fisheries (<b>Condition 2</b>, Table 4).</p>

	<ul style="list-style-type: none"> <li>• a reduction of the permissible maximum size for dusky sharks; and</li> <li>• longline gear restrictions to both restrict the use of longlines to target large sharks and reduce the mortality of any incidental catch of large sharks.</li> </ul> <p>On 24 November 2008, the WA Minister for Fisheries signed Order No. 14 of 2008 Prohibition on Line Fishing (Metal in Lines and Traces) Order 2008.</p> <p>In combination with the commercial protection of sharks and rays, the Order will prevent the commercial targeting of several higher-risk shark stocks (in particular dusky, sandbar, tiger and hammerhead sharks). It will also reduce the incidental take and mortality of large (breeding) sharks by commercial fishermen targeting other species, by allowing sharks to either bite through or break the snood after their initial capture.</p>	
<p>3. DFWA to provide DEWHA with six monthly reporting on progress with implementing the management arrangements and DEWHA's conditions and recommendations.</p>	<p><i>Ongoing</i> DFWA have produced and presented these reports to DEWHA as requested, with the most recent submitted on 18 June 2008.</p>	<p>DEWHA considers that this condition has been met. A new annual reporting condition will apply under the new export declaration for the fisheries (<b>Condition 3</b>, Table 4).</p>
<p><b>Recommendation</b></p>	<p><b>Progress</b></p>	<p><b>Recommended Action</b></p>
<p>1. DFWA to monitor compliance</p>	<p>A new statutory return based on "Daily/Trip"</p>	<p>DEWHA considers that this recommendation has</p>



	<p>catch and effort reporting was introduced in June 2006. However, the transition to the new reporting regime has proven highly problematic for some fishers. Consequently, a large amount of misreported data has been identified in the submitted returns. Since becoming aware of these issues, DFWA has been reprioritising staff resources to:</p> <ul style="list-style-type: none"> <li>(i) rectify levels of uncertainty in the reported data;</li> <li>(ii) develop ‘real-time’ data validation procedures; and</li> <li>(iii) re-implement the returns program with an appropriate level of ongoing training and data validation to ensure the integrity of reported data into the future.</li> </ul> <p>Until these processes are completed, catch and effort statistics (and hence compliance with the fisheries’ objectives, performance indicators and measures) cannot be quantitatively reported with sufficient confidence. However, DEWHA considers DFWA is committed to addressing these issues and improving logbook reporting and validation of catch and effort data within the fisheries.</p>	<p>been partially met, noting the recent misreporting of logbook data within the fisheries.</p> <p>A recommendation will remain in force, in an amended form, for a further three years under the new export declaration for these fisheries, seeking to improve the logbook reporting and validation of catch and effort data (<b>Recommendation 1</b>, Table 4).</p> <p>In addition, a new recommendation seeking a review of the ESD report for the WATSF has been developed (<b>Recommendation 4</b>, Table 4). This recommendation will provide for review off risk levels for key components of the fisheries and the objectives, performance measures, indicators, management responses and information requirements used to assess the performance of the WATSF.</p>
<p>2. DFWA to conduct a compliance risk assessment for the JASDGLF and WCDGDLF, and DFWA to develop compliance strategies</p>	<p>While DFWA has not undertaken a formal quantitative compliance risk assessment on these fisheries it has held a number of compliance workshops over the past 5 years. The workshops have identified and assessed</p>	<p>DEWHA considers that this recommendation has been partially met through the compliance workshops undertaken over the last five years. However, compliance strategies are yet to be developed and implemented. A recommendation will remain in</p>

	<p>the compliance risks associated with the fisheries to allow the development of action plans to address high-risk compliance gaps. Although DFWA has limited compliance resources available to develop and implement a compliance program specifically developed for the WATSF, DFWA will conduct opportunistic inspections of catch and fishing operations and undertake intelligence driven investigations into alleged offences in the shark fisheries.</p>	<p>force, in an amended form, for a further three years under the new export declaration for these fisheries seeking to improve DFWA's delivery of effective compliance activities (<b>Recommendation 5</b>, Table 4).</p>
<p>3. DFWA to ensure that adequate validation of logbook data is undertaken.</p>	<p>As evidenced by the above-reported Daily/Trip return data issues, adequate data validation has not occurred over the last two years. However, since becoming aware of the invalid data reported since 2006, DFWA has been reprioritising staff resources to rectify the issue. DFWA is working to quantify the misreported data and to re-implement and manage the logbook program with an appropriate level of ongoing training and data validation to ensure the integrity of reported data into the future. It is anticipated that a dedicated full-time demersal gillnet and longline fishery logbook data validation officer will be in place in early 2009. Rectifying the daily-trip returns data reported during the last two and a half years should take approximately 12 months, depending on the full extent of the misreporting problems.</p>	<p>DEWHA acknowledges the complexities DFWA has experienced in attempting to meet this recommendation, therefore an amended recommendation will remain in force under the new export declaration for these fisheries (<b>Recommendation 3</b>, Table 4).</p>
<p>4. DFWA to implement, review</p>	<p>Recovery of target shark stocks that have</p>	<p>DEWHA considers this recommendation has been</p>

	<p>historically suffered from varying degrees of over-exploitation is reviewed annually and no further recovery actions are currently deemed necessary at this point. Stock assessments indicate that gummy and whiskery sharks were recovering adequately up to and including 2005/06. Additionally, the annual two-month Whiskery Shark Pupping Closure is designed to ensure and accelerate recovery of the whiskery shark stock through reduced catches and improved stock recruitment. However, the full benefits of this measure will not be evident for another three to four years when anticipated increases in neonate survival will be reflected in catch data from five year-old sharks.</p> <p>Apart from a total prohibition on targeted shark fishing in the Western Australian northern shark fisheries, measures for mitigating external sources of dusky and sandbar shark mortality has been introduced across all WA managed commercial fisheries. These include:</p> <ul style="list-style-type: none"> <li>• commercial protection of all sharks and rays;</li> <li>• introduction of Bycatch Reduction Devices in most WA-managed trawl fisheries;</li> <li>• significant increases in penalties for taking commercially protected sharks and rays or contravention of existing anti-</li> </ul>	<p>met and acknowledges the progress DFWA has made in this area. However, the recovery of overfished stocks to ecologically viable levels remains a priority for the WATSF and accordingly a new condition has been developed seeking a review of the recovery actions undertaken to date for these stocks and the public release of a report detailing the effectiveness of measures implemented (<b>Condition 4</b>, Table 4).</p>
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	<ul style="list-style-type: none"> <li>• a maximum size limit for dusky sharks in the WATSF to reduce incidental capture mortality of older sharks (which demographic analysis indicates are critical for stock sustainability);</li> <li>• maximum size limit (70 cm inter-dorsal fin length) for all whaler sharks for recreational fishers in the West Coast and South Coast bioregions; and</li> <li>• a prohibition on the use of metal snood material and large hooks for all commercial fisheries (except the northern shark fisheries).</li> </ul> <p>Despite the implementation of these and other measures sandbar and dusky sharks stocks continue to show signs of decline. As previously indicated, however, the benefit of the measures introduced to date for these two species are unlikely to be known for 3-4 years.</p>	
<p>5. Where a statistically significant increase in the rate of protected species interactions is identified, DFWA will initiate a management response within 3 months to mitigate the risk of further interactions.</p>	<p>The reduction in effort capacity and actual fishing effort associated with the new input control regime is expected to have already reduced the rate of protected species interactions below their previously assessed low levels. Nevertheless DFWA will continue to monitor protected species interaction rates reported in “Daily/Trip” logbooks. However, as there are no readily-comparable historical</p>	<p>DEWHA considers that, given the significant level of spatial overlap that exists between the operating area of the WATSF and the foraging range of WA populations of Australian sea lions, it is possible that unreported interactions are occurring. DEWHA considers the determination of the nature and frequency of interactions with protected species including Australian sea lions as a priority for DFWA to pursue in the next 3 years. A new condition has</p>

	<p>data, it is likely to take a number of years to develop an informative time-series of such low frequency events.</p> <p>In the 2006/07 <i>State of the Fisheries Report</i>, no interactions with protected species were reported for the fisheries.</p>	<p>been developed determine the level of interactions occurring with a higher degree of confidence (<b>Condition 5</b>, Table 4).</p>
<p><b>6.</b> DFWA to ensure that recreational, indigenous and illegal harvest are factored into the stock assessment.</p>	<p>As dusky and sandbar shark stock assessments are based on fishing mortality rates estimated from tagging (rather than commercial Catch per Unit Effort data), recreational and illegal harvests have already been included to the extent of the available data. Indigenous harvests of these species are believed to be negligible; however, there is no data to support this assumption. Although gummy and whiskery shark assessments are solely based on commercial fishery data, creel survey data indicate that recreational fishing mortality is likely to be insignificant for these species relative to the level of commercial exploitation. However, if and when new data become available from non-commercial and illegal sources, it will be appropriately assessed.</p>	<p>DEWHA considers that this recommendation has been partially met through a recreational fishing survey of the west coast region which commenced in 2005, and from this DFWA was hoping to ascertain more current levels of recreational take of WATSF species. At the time of this assessment, outcomes of this recreational survey were unknown. DFWA acknowledges that the level of recreational effort has increased since the original estimates were collected in 1996/7, and, therefore, it is likely that the level of shark catch has also increased. As such, an amended recommendation will remain in force for a further three years under the new export declaration (<b>Recommendation 7</b>, Table 4).</p>

**Table 3: The Department of the Environment, Water, Heritage and the Arts (DEWHA) assessment of the WATSF 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 fisheries in relation to decisions under Parts 13 and 13A. A complete version of the EPBC Act can be found on the DEWHA website.

**Part 13**

<b>Division 1 Listed threatened species</b> <b>Section 208A Minister may accredit plans or regimes</b>	<b>DEWHA assessment of the WATSF</b>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p style="padding-left: 20px;">(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <p style="padding-left: 40px;">i. made by a State or self-governing Territory; and</p> <p style="padding-left: 40px;">ii. in force under a law of the State or self-governing Territory;</p> <p>if <b>satisfied</b> that:</p> <p style="padding-left: 20px;">(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 style="padding-left: 20px;">(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 WATSF are managed under the <i>Joint Authority Southern Demersal Gillnet and Demersal Longline Management Plan 1992</i> and the <i>West Coast Demersal Gillnet and Demersal Longline (Interim) Management Plan 1999</i>, both made under the FRM Act.</p> <p>The Management Plans for the JASDGDLF and the WCDGDLF were accredited in February 2006. The management arrangements for these fisheries have not significantly changed since this accreditation was granted. Consequently, a new Part 13 declaration is not needed at this time.</p> <p>DEWHA considers the current operation of the WATSF is not likely to adversely affect the survival or recovery in nature of a listed threatened species or a population of that species.</p>
<b>Division 2 Migratory species</b> <b>Section 222A Minister may accredit plans or regimes</b>	<b>DEWHA assessment of the WATSF</b>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p style="padding-left: 20px;">(c) a plan of management, or a policy, regime or any other</p>	<p>The WATSF are managed under <i>Joint Authority Southern Demersal</i></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> <ul style="list-style-type: none"> <li>(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</li> <li>(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.</li> </ul>	<p><i>Gillnet and Demersal Longline Management Plan 1992 and the West Coast Demersal Gillnet and Demersal Longline (Interim) Management Plan 1999</i>, both made under the FRM Act.</p> <p>The Management Plans for the JASDGDLF and the WCDGDLF were accredited in February, 2006. The management arrangements for these fisheries have not significantly changed since this accreditation was granted. Consequently, a new Part 13 declaration is not needed at this time.</p> <p>DEWHA considers the current operation of the WATSF is not likely to adversely affect the survival or recovery in nature of a listed migratory species or a population of that species.</p>
<p><b>Division 3 Whales and other cetaceans</b>  <b>Section 245 Minister may accredit plans or regimes</b></p>	<p><b>DEWHA assessment of the WATSF</b></p>
<p>1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <ul style="list-style-type: none"> <li>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is: <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> </li> </ul> <p>if <b>satisfied</b> that:</p> <ul style="list-style-type: none"> <li>(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</li> </ul>	<p>The WATSF are managed under <i>Joint Authority Southern Demersal Gillnet and Demersal Longline Management Plan 1992 and the West Coast Demersal Gillnet and Demersal Longline (Interim) Management Plan 1999</i>, both made under the FRM Act.</p> <p>The Management Plans for the JASDGDLF and the WCDGDLF were accredited in February, 2006. The management arrangements for these fisheries have not significantly changed since this accreditation was granted. Consequently, a new Part 13 declaration is not needed at this time.</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>DEWHA considers the current operation of the WATSF is not likely to adversely affect the survival or recovery in nature of a whale or other cetacean or a population of whales and other cetaceans.</p>
<p><b>Division 4 Listed marine species</b> <b>Section 265 Minister may accredit plans or regimes</b></p>	<p><b>DEWHA assessment of the WATSF</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> <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 <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 WATSF are managed under <i>Joint Authority Southern Demersal Gillnet and Demersal Longline Management Plan 1992</i> and the <i>West Coast Demersal Gillnet and Demersal Longline (Interim) Management Plan 1999</i>, both made under the FRM Act.</p> <p>The Management Plans for the JASDGDLF and the WCDGDLF were accredited in February, 2006. The management arrangements for these fisheries have not significantly changed since this accreditation was granted. Consequently, a new Part 13 declaration is not needed at this time.</p> <p>DEWHA considers the current operation of the WATSF is not likely to adversely affect the survival or recovery in nature of a listed marine species or a population of a listed marine species.</p>
<p><b>Section 303AA Conditions relating to accreditation of plans, regimes and policies</b></p>	<p><b>DEWHA assessment of WATSF</b></p>
<p>(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.</p>	<p>The WATSF are accredited under sections 208A, 222A, 245 and 265.</p>
<p>(2) The Minister may accredit a plan, regime or policy under that section even though he or she considers that the plan, regime or policy should be accredited only:</p> <p>(a) during a particular period; or</p>	<p>No condition has been imposed on WATSF to satisfy sections 208A, 222A, 245 and 265.</p>



<p>(b) while certain circumstances exist; or  (c) while a certain condition is complied with.</p> <p>In such a case, the instrument of accreditation is to specify the period, circumstances or condition.</p>	
<p>(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.</p>	

### Part 13A

<b>Section 303DC Minister may amend list</b>	<b>DEWHA assessment of the WATSF</b>
<p>(1) Minister may, by instrument in published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by:</p> <p>(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 of 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>	<p>No amendment to the current inclusion of product harvested in the WATSF on the list of exempt native specimens (LENS) is required.</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 WATSF, made under section 303DC, is available on the DEWHA website.</p>
<b>Section 303FN Approved wildlife trade operation</b>	<b>DEWHA assessment of the WATSF</b>
<p>(2) The Minister may, by instrument published in the <i>Gazette</i>, declare that a specified wildlife trade operation is an <b><i>approved wildlife trade operation</i></b> for the purposes of this section.</p>	
<p>(3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is <b>satisfied</b> that:</p> <p>(a) the operation is consistent with the objects of Part 13A of the Act; and</p>	<p>The WATSF is consistent with objects of Part 13A (listed after this table) as:</p> <ul style="list-style-type: none"> <li>▪ the fisheries will not harvest any species listed under the Convention for International Trade in Endangered Species (CITES);</li> <li>▪ there are management arrangements in place to ensure that the</li> </ul>

<p>(b) the operation will not be detrimental to:</p> <ol style="list-style-type: none"> <li>i. the survival of a taxon to which the operation relates; or</li> <li>ii. the conservation status of a taxon to which the operation relates; and</li> </ol> <p>(ba) the operation will not be likely to threaten any relevant ecosystem including (but not limited to) any habitat or biodiversity; and</p> <p>(c) if the operation relates to the taking of live specimens that belong to a taxon specified in the regulations – the conditions that, under the regulations, are applicable to the welfare of the specimens are likely to be complied with; and</p> <p>(d) such other conditions (if any) as are specified in the regulations have been, or are likely to be, satisfied.</p>	<ul style="list-style-type: none"> <li>▪ the operation of the WATSF is unlikely to be unsustainable and threaten biodiversity over the next three years; and</li> <li>▪ the EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens.</li> </ul> <p>DEWHA considers that the WATSF will not be detrimental to the survival or conservation status of a taxon to which it relates within the next 3 years, given the management measures currently in place, which include: limited entry; gear restrictions; stock assessments for the four key shark stocks; introduction of maximum size limits for dusky sharks to reduce mortality of older individuals (critical to the rebuilding of dusky shark stocks); improved management arrangements for non-target shark fisheries that retain sharks; maximum size limits for all whaler sharks in the west coast and south coast bioregions for recreational fishers; implementation of temporal closures for whiskery shark pupping areas; management of effort levels, including a recent reduction in latent effort; and implementation of a daily/trip catch and effort logbook, with proposed improvements to data validation processes to ensure integrity and accuracy of logbook data.</p> <p>DEWHA considers that the WATSF will not threaten any relevant ecosystem within the next 3 years, given the management arrangements in place for the WATSF, as detailed above.</p> <p>The EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens.</p> <p>No other conditions are specified in relation to commercial fisheries in the EPBC Regulations 2000.</p>
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<p>(4) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have <b>regard</b> to:</p> <p>(a) the significance of the impact of the operation on an ecosystem (for example, an impact on habitat or biodiversity); and</p> <p>(b) the effectiveness of the management arrangements for the operation (including monitoring procedures).</p>	<p>DEWHA considers that the WATSF will not have a significant impact on any relevant ecosystem within the next 3 years, given the management arrangements in place for the WATSF, as detailed above.</p> <p>DEWHA considers the management arrangements that will be employed for the WATSF are likely to be effective.</p>
<p>(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have <b>regard</b> to:</p> <p>(a) whether legislation relating to the protection, conservation or management of the specimens to which the operation relates is in force in the State or Territory concerned; and</p> <p>(b) whether the legislation applies throughout the State or Territory concerned; and</p> <p>(c) whether, in the opinion of the Minister, the legislation is effective.</p>	<p>The WATSF are managed under <i>Joint Authority Southern Demersal Gillnet and Demersal Longline Management Plan 1992</i> and the <i>West Coast Demersal Gillnet and Demersal Longline (Interim) Management Plan 1999</i>, both made under the FRM Act.</p> <p>The FRM Act applies throughout WA waters.</p> <p>The management arrangements that will be employed for the WATSF are likely to be effective.</p>
<p>(10) For the purposes of section 303FN, an operation is a wildlife trade operation if, and only if, the operation is an operation for the taking of specimens and:</p> <p>(d) the operation is a commercial fishery.</p>	<p>The WATSF is a commercial fishery.</p>
<p><b>Section 303FR Public consultation</b></p>	<p><b>DEWHA assessment of the WATSF</b></p>
<p>(1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice:</p> <p>(a) setting out the proposal to make the declaration; and</p> <p>(b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and</p> <p>(c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments</p>	<p>DEWHA considers that consultation requirements of the EPBC Act for declaring a WTO have been met. A public notice, which set out the proposal to declare the WATSF an approved WTO and included the submission for assessment provided by DFWA, was released for public comment, which closed on 20 January 2009, with two submissions received.</p>

(2) A period specified in the notice must not be shorter than 20 business days after the date on which the notice was published on the Internet.	A public notice, which set out the proposal to declare the WATSF a WTO, was released for public comment closing on the 20 January 2009 for a total of 22 business days.
(3) In making a decision about whether to make a declaration under section 303FN, the Minister must consider any comments about the proposal to make the declaration that were given in response to the invitation in the notice.	The public comments received with regards to the WATSF were considered as part of the assessment of the fisheries and form part of the recommendation to declare the fisheries as approved WTO's. The DEWHA assessment has considered the public comments received on the submission.
<b>Section 303FT Additional provisions relating to declarations</b>	<b>DEWHA assessment of the WATSF</b>
(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.	A declaration for the WATSF will be made under section 303FN.
(4) The Minister may make a declaration about a plan or operation even though he or she considers that the plan or operation should be the subject of the declaration only: <ul style="list-style-type: none"> <li>(a) during a particular period; or</li> <li>(b) while certain circumstances exist; or</li> <li>(c) while a certain condition is complied with.</li> </ul> <p>In such a case, the instrument of declaration is to specify the period, circumstances or condition.</p>	<p>The standard conditions applied to commercial fishery WTOs include:</p> <ul style="list-style-type: none"> <li>• operation in accordance with the management regime;</li> <li>• notifying DEWHA of changes to the management regime; and</li> <li>• annual reporting in accordance with the requirements of the Australian Government <i>Guidelines for the Ecologically Sustainable Management of Fisheries – 2<sup>nd</sup> Edition</i>.</li> </ul> <p>The WTO instruments for the JASDGDLF and the WCDGDLF specify the standard conditions and an two additional conditions: relating to a review of recovery actions undertaken in the fishery and improving DFWA's understanding of the nature and frequency of interactions with protected species.</p>
(8) A condition may relate to reporting or monitoring.	One of the standard conditions relates to reporting.
(9) The Minister must, by instrument published in the <i>Gazette</i> , revoke a declaration if he or she is satisfied that a condition of the declaration has been contravened.	
(11) A copy of an instrument under section 303FN, or this section is to be made available for inspection on the Internet.	The instruments for the JASDGDLF and the WCDGDLF made under sections 303FN and the conditions under section 303FT will be gazetted

	and made available on the DEWHA website.
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**Part 16**

<b>Section 391 Minister must consider precautionary principle in making decisions</b>	<b>DEWHA assessment of the WATSF</b>
(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.	The precautionary principle must be considered when making a decision to include specimens on the LENS.
(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.	

**Objects of Part 13A**

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

**Conditions and recommendations to Department of Fisheries, Western Australia (DFWA) for the Joint Authority Southern Demersal Gillnet and Demersal Longline Fishery (JASDGDLF) and the West Coast Demersal Gillnet and Demersal Longline (Interim) Managed Fishery (WCDGDLF)**

The material submitted by DFWA demonstrates that the management arrangements for the JASDGDLF and the WCDGDLF meet most of the requirements of the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries - 2<sup>nd</sup> Edition*. DEWHA recognises that the commercial protection of sharks and rays, maximum size limits for dusky sharks and whalers in the commercial and recreational fisheries, the prohibition on the use of metal snood material and large hooks, and use of temporal closures for whiskery shark pupping closures render it somewhat robust to fishing. As such, DEWHA considers that overall the management regime aims to ensure that fishing is conducted in a manner that does not lead to over-fishing and for fishing operations to be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

While the fisheries are relatively well managed, DEWHA has identified a number of risks and uncertainties that must be managed to ensure that impacts are minimised:

- The need to ensure the ongoing stock rebuilding of dusky and sandbar sharks;
- The need to determine the level of interaction with Australian sea lions with a high level of confidence;
- The need to review the ESD report for the fisheries;
- Ensuring the catch validation program is effective;
- Improving the long-term monitoring of bycatch species;
- The need to address the high risk compliance issues that have already been identified; and
- The need to ensure that catch information is accurately recorded in commercial logbooks.

DEWHA is satisfied that the fisheries will not be detrimental to the survival or conservation status of the taxon to which they relate in the short to medium term. Similarly, they are not likely to threaten any relevant ecosystem in the short to medium term. To contain and minimise the risks in the longer term the recommendations listed below have been made. The key challenges for these fisheries will be ensuring dusky, sandbar and whiskery shark stocks continue to be managed to rebuild their breeding stocks and to determine the nature and frequency of interactions between fishers and Australian sea lions. DEWHA considers that, until it can be demonstrated that these issues have been adequately dealt with, a three-year Wildlife Trade Operation (WTO) declaration is appropriate.

DEWHA considers that the operation of the fisheries does not, or is not likely to, adversely affect the survival in nature of a listed threatened species or population of that species, or the conservation status of a listed migratory species, cetacean or listed marine species or a population of any of those species. DEWHA also considers that under the management plan operators are required to take all reasonable steps to avoid the killing or injuring of protected species, and the level of interaction under current fishing operations is low.

For these reasons, the management arrangements were accredited under Part 13 of the EPBC Act in February 2006. As there have been no significant changes to the

management arrangements since the initial assessment of the fisheries, DEWHA considers that the existing Part 13 accreditations remain valid.

Unless a specific time frame is provided in the condition or recommendation each condition or recommendation must be addressed within the life of the declaration (three years). Note that a standard condition of a WTO is an annual reporting requirement.

**Table 4: WATSF Assessment– Summary of Issues, Conditions and Recommendations April, 2009.**

	ISSUE	CONDITION
1	<p><b>General Management</b>  Export decisions relate to the arrangements in force at the time of the decision. In order to ensure that these decisions remain valid and export approval continues uninterrupted, DEWHA needs to be advised of any changes that are made to the management arrangements 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>DFWA has continued to manage the JASDGDLF and the WCDGDLF in accordance with the FRM Act, their respective management plans and other subsidiary legislation. In addition, DFWA has informally introduced interim arrangements that require the JASDGDLF participants to operate under a more prescriptive "days fished" management regime (as approved by the WA Fisheries Joint Authority), ahead of the formal introduction of that regime on 1 June 2009. While the current regime is delivering benefits in the form of effort reductions for the fisheries, its legislated introduction next year will formally complete the suite of changes that were developed to reduce recent effort in the fisheries by 40% (and return it to 2001/02 levels).</p> <p>The WA Fisheries Joint Authority recently approved that the following arrangements be applied to the JASDGDL (via amendments to the management plan for the Fishery);</p> <ul style="list-style-type: none"> <li>• that the authorisation holders be the persons to be consulted before the management plan is amended or revoked;</li> <li>• that the Chief Executive Officer of DFWA have the power to provide for a whiskey pupping closure on advice from the DFWA Director Research and following consultation with authorisation holders;</li> <li>• that Vessel Monitoring System be introduced on all vessels less than 6.9m in length from 1 June 2010 (this follows the introduction of VMS arrangements to all vessels 6.9m and above in length from 1 June 2009); and</li> </ul>	<p><b>Condition 1:</b> Operation of the JASDGDLF and the WCDGDLF will be carried out in accordance with the management arrangements in force under the FRM Act.</p> <p><b>Condition 2:</b> DFWA to advise DEWHA of any intended change to the JASDGDLF and WCDGDLF management arrangements that may affect the assessment of the fisheries against the criteria on which EPBC Act decisions are based.</p>



	<ul style="list-style-type: none"> <li>that the days fished scheme of entitlement convert daily time gear units to hourly time gear units on the basis of 24 hours for Zones 1 and 3 and 20 hours for Zone 2.</li> </ul>	
2	<p><b>Annual reporting</b> Reports must be produced and presented to DEWHA annually in order for the performance of the fisheries and progress in implementing the conditions and recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports are to be provided prior to the anniversary of the WTO declaration.</p> <p>Annual reports should follow Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2<sup>nd</sup> Edition</i> (the Guidelines) and include a description of the fishery, management arrangements in place, research and monitoring outcomes, recent catch data for all sectors of the fishery, status of target stock, interactions with protected species, impacts of the fishery on the ecosystem in which it operates and progress in implementing DEWHA conditions and recommendations. Electronic copies of the Guidelines are available from the DEWHA 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>Condition 3:</b> DFWA to produce and present reports to DEWHA annually as per Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries – 2<sup>nd</sup> Edition</i>.</p>
3	<p><b>Rebuilding stocks of dusky, sandbar and whiskery sharks</b> Recent annual status reports for the WATSF have detailed concerns regarding the stock status of dusky (<i>Carcharhinus obscurus</i>), sandbar (<i>Carcharhinus plumbeus</i>) and whiskery (<i>Furgaleus macki</i>) sharks. While whiskery sharks have recently shown evidence of recovery, DEWHA remains concerned with the continuing decline of the breeding biomass for dusky and sandbar sharks. This concern was also raised during the public comment period for the fisheries.</p> <p>In response to these concerns DFWA developed a Fisheries Management Paper (FMP) 180, <i>Future Management Arrangements for Western Australia's Temperate Shark Fisheries</i> to characterise the risks to these stocks and provide management options and actions capable of recovering them. This paper was released in 2004, with many of the key actions implemented in recent seasons. For example:</p> <ul style="list-style-type: none"> <li>the development and implementation of an effort management regime aimed at reducing and constraining effort in the fisheries at sustainable levels;</li> </ul>	<p><b>Condition 4:</b> DFWA to:</p> <ol style="list-style-type: none"> <li>review and report against the outcomes of actions taken to date to rebuild dusky and sandbar shark stocks, and publicly release the report; and,</li> <li>continue to further develop strategies to ensure the recovery of dusky, sandbar and whiskery shark stocks within an appropriate timeframe relevant to the biology of the stock.</li> </ol>

	<ul style="list-style-type: none"> <li>• maximum size limit for dusky sharks in the Temperate Shark Fisheries to reduce incidental capture mortality of older sharks (which demographic analysis indicates are critical for stock sustainability);</li> <li>• maximum size limit (70 cm inter-dorsal fin length) for all whaler sharks for recreational fishers in the West Coast and South Coast bioregions;</li> <li>• prohibition on the use of metal snood material and large hooks for all commercial fisheries (excepting the northern shark fisheries); and</li> <li>• annual two-month Whiskery Popping Closure, designed to ensure and accelerate recovery of the whiskery shark stock through reduced catches and improved stock recruitment.</li> </ul> <p>The FMP was released in 2004. Since this time dusky and sandbar stocks have continued to decline, although DEWHA does acknowledge that the immediate benefits of many of the introduced measures may not be apparent for some years given the longevity and low fecundity of these species. Despite this, DEWHA considers the recovery actions undertaken to date should be reviewed, with a report publicly available. The review should reflect the improved knowledge of the species, the significant shift and improvement in WATSF management arrangements and consider the suitability of the current objectives, including reference points and timeframes for recovery. The review could consider future management options available to DFWA should stocks continue to decline, and show no sign of recovery, and the circumstances under which they would be implemented.</p> <p>The report should be released and made publicly available to ensure transparency in decision making and provide clear justification for management arrangements in place for the fisheries with regard to these higher risk species.</p>	
4	<p><u>Australian sea lion interactions</u> Between July 1994 and June 1999, DFWA staff observed the capture of one fur seal and one Australian sea lion in the demersal gillnet and demersal longline fisheries. Both species are protected under Federal and State legislation, with the Australian sea lion being endemic to Australian waters.</p> <p>A significant level of spatial overlap exists between the operating area of the WATSF and the</p>	<p><b>Condition 5:</b> DFWA to;</p> <p>(a) by 30 March 2011, undertake a study to estimate risk of interactions between fishers and Australian sea lions and determine scientifically robust levels of observer coverage required for the purposes of designing an appropriate and</p>

	<p>foraging range of WA populations of Australian sea lions and it is possible that unreported interactions are occurring. Recent research using independent observers in the Gillnet, Hook and Trap sector of the Southern and Eastern Scalefish and Shark Fishery (SESSF, a Commonwealth fishery managed by the Australian Fisheries Management Authority) found high levels of interaction between Australian sea lions and the gillnet sector often resulting in injury and mortality of Australian sea lions. While anecdotal evidence suggests interactions are not as common between Australian sea lions and the WATSF, DEWHA considers further investigation is needed to determine the level of interaction with a high level of confidence and to identify whether further action is needed to ensure the management arrangements for the fishery require that fishers take all reasonable steps to avoid interactions. The unusual life cycle of the Australian sea lion and its extreme natal site-fidelity make it particularly susceptible to even low levels of anthropogenic mortality.</p> <p>If the observer program finds that the level of interaction is greater than currently reported, DFWA will need to take appropriate steps to mitigate the interactions.</p>	<p>(b) subject to the outcomes of Condition 5(a) implement an appropriate observer program to determine the nature and frequency of interactions with Australian sea lions.</p>
	<p><b>ISSUE</b></p>	<p><b>RECOMMENDATION</b></p>
<p>5</p>	<p><u>Collection and validation of species-specific catch data</u></p> <p>Given the reliance on fishery dependant data to support management of the JASDGDLF and WCDGDLF and the lack of fishery independent data collection, robust and reliable catch information from commercial logbooks is vital for the sustainable management of the fisheries. The key target species for the fisheries include gummy, sandbar, dusky and whiskery sharks, while the remaining sharks, rays and finfish retained in the fishery are considered byproduct.</p> <p>To improve assessments of key target stocks and achieve more detailed data requirements, a new statutory return based on "Daily/Trip" catch and effort reporting was introduced in June 2006. DFWA advises that the transition to the new reporting regime has proven problematic. A large amount of misreported data has been identified in the submitted commercial logbook reports over the last two years and adequate data validation has not occurred. Since becoming aware of the invalid data being reported since 2006, DFWA has reprioritised staff resources to rectify and quantify the misreported data. DFWA will also re-implement and manage the logbook program with an appropriate level of ongoing training for fishers and data validation to</p>	<p><b>Recommendation 1:</b> DFWA to implement a robust system to validate commercial logbook reporting of catch and effort for all target and byproduct species.</p> <p><b>Recommendation 2:</b> DFWA to continue to improve accuracy and recording of species-specific catch data for all chondrichthyans, including target and byproduct species.</p>

	<p>ensure the integrity of logbook data into the future. DFWA anticipates that a dedicated fishery logbook data validation officer will be in place in early 2009, and expects that the process to rectify the issues could take up to 12 months.</p> <p>DEWHA consider it imperative that DFWA has good data validation systems to ensure that current information provided by fishers on the catch and effort patterns within the fisheries is robust, providing greater confidence in the subsequent management decisions. DFWA has indicated that an audit of the Catch and Effort statutory data collection system is underway across all fisheries in WA, to be completed in early 2009. DFWA will implement recommended improvements as appropriate. DEWHA recommends DFWA rectifies the identified issues with the current program and continues to improve the implementation of the catch validation system as a matter of priority.</p> <p>The <i>National Plan of Action for the Conservation and Management of Sharks</i> (Shark-plan) highlights the importance of species-specific reporting in commercial logbooks as a priority area for the improvement of shark management in Australian fisheries. DEWHA considers this reporting is likely to be fairly accurate for key target species in the WATSF, however better identification and reporting of byproduct species will be invaluable to ensure byproduct species are appropriately managed. This reporting will also complement and provide greater confidence in the catch validation program used in the fisheries. Additionally, continuous improvement in the quality of shark catch data will allow more robust performance indicators and performance measures to be developed for byproduct species.</p>	
6	<p><u>Monitoring of bycatch species</u></p> <p>The introduction of improved catch and effort reporting for target and byproduct species has been an important development in the management of the fisheries, however, this program does not provide ongoing recording or information collection for bycatch species impacted by the fishery (except for protected species). As fishing techniques change or adapt, increased effects of fishing on some bycatch species could occur. This could be especially significant in the context of the new management arrangements to be introduced into the WATSF. DEWHA considers a monitoring program capable of detecting any trends in bycatch impacted by the fishery should be a key feature in the ecological sustainable management of the WATSF.</p>	<p><b>Recommendation 3:</b> DFWA, in collaboration with industry and relevant stakeholders, to develop and implement a long-term monitoring program for bycatch species, sufficient to identify long-term trends in their composition and quantity.</p>

	<p>DEWHA recommends that DFWA develops and implements monitoring and assessment measures to ensure that changes in quantity and/or composition of bycatch can be monitored and verified over time. DFWA should consider the long-term monitoring program in the context of the pending changes to the management arrangements for the WATSF that will come into force in June 2009. These changes are likely to result in a shift in fishing technique which may impact on some bycatch species. A long-term monitoring program will improve the information available to fishery managers and inform the ecological risk assessment for bycatch species.</p> <p>DFWA should consider this Recommendation along with Condition 5 which requires DFWA to implement an observer program to determine the nature and frequency of interactions with protected species, with particular focus on the Australian sea lion.</p>	
7	<p><u>ESD report</u>  Previous submissions to DEWHA for the WATSF included ESD reports providing: a comprehensive overview of the fishery and details operational objectives, performance measures, indicators, management responses and information requirements used to assess the performance of the WATSF. DFWA’s annual publication <i>State of the Fisheries</i> reports on the evaluation of performance of this fishery against these sets of “agreed” objectives/performance measures. These reports also include appropriately detailed justifications for the levels of risk chosen for each component of the fisheries and the methods used.</p> <p>The reporting framework used by DFWA to generate an ESD report is the National ESD Framework for Fisheries (Fletcher et al., 2002). This framework operates by identifying the relevant issues for a fishery, completing a risk assessment on each of the identified issues and then providing suitably detailed reports on their status.</p> <p>The last ESD report submitted to DEWHA was in November 2005. DFWA have committed to conducting a review of these ESD reports every five years with more regular review of key management components, as appropriate. The 5 year review falls during the course of this WTO declaration and, therefore, DEWHA recommends that the review be completed within the five year timeframe to ensure the WATSF remain ecologically sustainable and maintain</p>	<p><b>Recommendation 4:</b>  By November 2010, DFWA to review and update the ESD report for the WATSF including:</p> <ul style="list-style-type: none"> <li>– a review of risk levels; and,</li> <li>– update or development of new objectives, performance measures, management responses and information requirements as appropriate,</li> </ul> <p>for target species, byproduct, bycatch (including protected species) and impacts on the marine environment. DFWA to implement appropriate management measures to ensure identified risks are addressed and minimised.</p>

	<p>precautionary management principles.</p> <p>DEWHA expects that the ESD report, once reviewed and updated, will be made publicly available by DFWA as part of its ESD Report Series, which allows for clear articulation and justification of management arrangements in place for the fisheries.</p> <p>DFWA reports on the performance of the fisheries against performance measures that relate to the sustainability of the fisheries in its annual <i>State of the Fisheries Report</i>. Within three months of becoming aware that a performance measure has not been met, DFWA should identify and implement an appropriate management response, and clearly articulate the incident and any subsequent action in its annual <i>State of the Fisheries Report</i>.</p>	
8	<p><u>Compliance</u></p> <p>While DFWA has not undertaken a formal quantitative compliance risk assessment on the WATSF, it has held a number of compliance workshops over the past five years. The workshops have identified and assessed the compliance risks in the WATSF and will allow for the development of action plans to address high-risk compliance gaps. DEWHA acknowledges the progress DFWA has made in this area, and notes the limited compliance resources available to develop and implement a compliance program specifically for these fisheries. However, DEWHA considers a formal quantitative compliance risk assessment should be undertaken and high-risk compliance issues addressed. A compliance risk assessment will enable DFWA to better direct available resources to further increase the effectiveness of compliance activities, as well as inform the appropriateness and effectiveness of management arrangements used in the fisheries (e.g. the effectiveness of using fin to meat ratios as a deterrent to illegal finning at sea).</p> <p>DFWA has advised that opportunistic inspections of catch and fishing operations will continue, in combination with intelligence driven investigations into alleged offences in the shark fisheries. DEWHA considers a compliance risk assessment will complement and strengthen this initiative, further improving compliance within the fisheries.</p>	<p><b>Recommendation 5:</b> DFWA to:</p> <ul style="list-style-type: none"> <li>(a) Undertake a formal quantitative compliance risk assessment for the WATSF; and</li> <li>(b) apply the outcomes of that assessment within its internal compliance planning processes.</li> </ul>
9	<p><u>Ongoing research</u></p> <p>DEWHA notes and commends the level of research undertaken by DFWA to inform stock</p>	<p><b>Recommendation 6:</b> DFWA to pursue and support</p>

	<p>assessments for key target species in the WATSF. For example:</p> <ul style="list-style-type: none"> <li>• formal assessment of the effectiveness of the whiskery shark pupping closure in assisting the recovery of whiskery shark stocks;</li> <li>• research into the state of demersal scalefish stocks on the West Coast; and</li> <li>• a recently completed Fisheries Research Development Corporation funded project, which provided revised demographic techniques and updated biological and fishing mortality parameters.</li> </ul> <p>DEWHA recommends DFWA continues this research in cooperation with other management agencies, research institutions, scientific committees and industry to identify and undertake projects that seek to improve the ecologically sustainable management of WATSF. In addition, consistent with the principles of Ecosystem Based Fisheries Management, DEWHA recommends DFWA starts to investigate in greater detail, the impacts of the fisheries on non-target biota, including byproduct, bycatch (including protected species) and the marine ecosystem. For example, information on the effects of removing large quantities of juvenile sharks on the trophic ecology of the marine ecosystem would be valuable in the ongoing ecosystem based management of the WATSF.</p>	<p>ongoing research for target species, byproduct, bycatch (including protected species) and impacts on the ecosystem to continue to improve the ecologically sustainable management of the fisheries.</p>
10	<p><u>Recreational take</u></p> <p>DEWHA notes that the estimated recreational catch of target and byproduct sharks species based on a trailer boat survey conducted between Augusta and Kalbarri in 1996/7. From this survey, DFWA was able to estimate that the recreational component made up less than 5% of the total shark catch, with the total recreational take at approximately 15-20 tonnes. DFWA acknowledges that the level of recreational effort has increased since 1996/7 and, therefore, it is likely that the level of shark catch has also increased. A recreational fishing survey of the west coast region commenced in 2005, and from this DFWA was hoping to ascertain more current levels of recreational take of WATSF species. At the time of this assessment, outcomes of this recreational survey were unknown.</p> <p>DEWHA notes the measures that DFWA has implemented to increase the sustainability of total shark landings, which includes, along with a range of restrictions in the commercial fisheries, a maximum recreational size limit (70 cm inter-dorsal fin length) for all species of whaler sharks</p>	<p><b>Recommendation 7:</b> DFWA to:</p> <ul style="list-style-type: none"> <li>(a) continue to improve estimates of harvest from the recreational sector; and</li> <li>(b) factor this information into stock assessments to ensure harvest levels are ecologically sustainable.</li> </ul>

<p>in the West Coast and South Coast bioregions. The decision to put in place recreational management measures for all whaler sharks, rather than only dusky whalers, was made on the basis that the ability of recreational fishers to accurately identify whalers to species level is more limited than for commercial fishers. DEWHA commends DFWA's appropriate use of the precautionary principle in this instance.</p> <p>Due to the likely increase in the recreational take of some WATSF target species, DEWHA considers it is important that the management arrangements for the fisheries continue to take into account catch from all sectors with estimates incorporated into stock assessments to ensure that the total catch from all sectors is sustainable. DEWHA recommends that DFWA identifies a means to continue to improve the estimates of harvest from the recreational sector. DEWHA also recommends that, upon analysis and publication of the data from the 2005 recreational fishing survey, the updated recreational catch estimates should be incorporated into the stock assessments and management of the fishery to ensure that the overall harvest levels remain sustainable.</p>	
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## References

McAuley, R. and Simpfendorfer, C. 2003. *Catch composition of the Western Australia temperate demersal gillnet and demersal longline fisheries, 1994 to 1999*. Fisheries Research Report No. 146, Department of Fisheries Western Australia. 78 pp.

## Acronyms

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DEWHA	Department of the Environment, Water, Heritage and the Arts
DFWA	Department of Fisheries, Western Australia
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ESD	Ecologically Sustainable Development
FMP	Fisheries Management Paper
FRM Act	<i>Fish Resources Management Act 1994 (WA)</i>
JASDGDLF	Joint Authority Southern Demersal Gillnet and Demersal Longline Fishery
LENS	List of Exempt Native Specimens
SA	South Australia
VMS	Vessel Monitoring System
WA	Western Australia
WATSF	Western Australia Temperate Shark Fisheries
WCDGDLF	West Coast Demersal Gillnet and Demersal Longline (Interim) Managed Fishery
WTO	Wildlife Trade Operation