



Australian Government

Department of the Environment, Water, Heritage and the Arts

Assessment of the
South Coast Purse Seine Managed Fishery and West
Coast Purse Seine Managed Fishery

January 2009

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Assistant Secretary
Marine Environment Branch
Department of the Environment, Water, Heritage and the Arts
GPO Box 787
Canberra ACT 2601

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Table 1: Summary of the South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery

<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • The South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery chapters of the WA State of the Fishery Reports • <i>West Coast Purse Seine Limited Entry Fishery Notice 1989</i> • <i>South Coast Purse Seine Limited Entry Fishery Notice 1994</i> • <i>WA Fish Resources Management Act 1994 (FRM Act)</i> • <i>WA Fish Resources Management Regulations 1995 (FRM Regulations)</i> • <i>Management of the South Coast Purse Seine Fishery, Fisheries management paper No. 99</i> • Department of the Environment and Heritage (DEH) ‘Assessment of the Western Australian South Coast and West Coast Purse Seine Managed Fisheries’, November 2005.
<p>Area</p>	<p>The South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery (SCPSMF and WCPSMF) extend in WA managed waters from Lancelin in the west, down and around to the South Australian (SA) border, within the range of the primary target species, Pilchards (also called sardines), which are found in WA coastal waters between Shark Bay and South Australia.</p> <p>Both fisheries operate in State and Commonwealth waters, however under the Offshore Constitutional Settlement (OCS), which came into effect in 1988, most small pelagic fish species in the Australian Fishing Zone came under State jurisdictional control.</p> <p><i>SCPSMF</i></p> <p>The SCPSMF operates in State and Commonwealth waters between Cape Leeuwin to South Australian (SA) border, broken into 5 zones. Fishing along the south coast is concentrated in three geographical locations (and management zones): Albany, Bremer Bay and Esperance.</p> <p><i>WCPSMF</i></p> <p>The WCPSMF operates in State and Commonwealth waters between Lancelin 31°00’ S latitude to Cape Bouvard 33°00’ S latitude and is centred on the port of Fremantle (14 licences).</p> <p>Two Development Zones (DZ) exist on either side of the WCPSMF: the Northern DZ operates from Steep Point 26° 08’ S latitude to WCPSMF and the Southern DZ, which operates from WCPSMF to Cape Leeuwin 34° 40’ S latitude, both include State and Commonwealth waters. The Northern DZ is centred of the coast of Geraldton (one boat) taking only scaly mackerel, and the southern DZ is centred on Geographe Bay (three boats).</p>

	The WCPSMF will be extended to include the Northern and Southern DZs under the proposed new management plan.
Fishery status	<p>The primary target species for both fisheries are pilchards and mackerel. Pilchards are considered fully exploited, and the status of scaly mackerel is uncertain.</p> <p><i>SCPSMF</i></p> <p>The fishery-independent estimates of pilchard spawning biomass and the age-composition data for each zone are analysed together within a population simulation model that provides a forecast of mature biomass.</p> <p>The most recent assessment has shown that the fishery-independent and fishery-dependent methods applied to Western Australia’s pilchard fisheries cannot currently provide precise estimates of the size of the pilchard spawning biomass in each management region. Although the trends indicated by the age-structured simulation model are reliable and provide good evidence for a strong recovery of pilchard stocks, the magnitude of changes in stock size from year-to-year are not known with sufficient certainty to allow high rates of exploitation.</p> <p><i>WCPSMF</i></p> <p>Stock assessment is completed only for pilchards. Spawning biomass estimates have very wide confidence intervals and this level of uncertainty must be considered when using the stock assessment information.</p> <p>Therefore, rather than relying each year on point estimates against which an agreed exploitation rate can be applied, a holistic view of the biomass trends over the past 14 years or so has been used to provide a longer-term prognosis of the likely stock size of pilchards.</p> <p>The likely future pilchard biomass on the west coast, if average-to-strong recruitment has been experienced over a number of years and environmental conditions favour pilchards as the dominant baitfish species, is 20,000 – 30,000t. This range is considered to equate to the carrying capacity for small pelagic fish in this fishery.</p>
Target Species	The two nominated target species for the SCPSMF and WCPSMF are pilchards <i>Sardinops sagax</i> and scaly mackerel <i>Sardinella lemuru</i> . The SCPSMF and Southern DZ of the WCPSMF target pilchards, while the Northern DZ of the WCPSMF focuses on scaly mackerel; the remainder of the WCPSMF takes a mixture of pilchards and scaly mackerel.
Byproduct Species	Several byproduct species are taken in the SCPSMF and WCPSMF, including: Perth herring (<i>Nematalosa vlaminghii</i>); yellowtail scad (<i>Trachurus novazelandiae</i>); Australian anchovy (<i>Engrualis australis</i>); sandy sprat (<i>Hyperlophus vittatus</i>), blue sprat (<i>Spratelloides robustus</i>)

	<p>and Moray (<i>Etrumeus teres</i>).</p> <p>The take of these species is comparably small and collectively they contributed less than 5 % of the total catch of target species in the WCPSMF in 2003/04 (Gaughan <i>et al.</i>, 2005a). For the SCPSMF, less than 5 t of byproduct was taken in 2003/04 equating 0.3 % of the 1,592 t of pilchards landed that year (Gaughan <i>et al.</i>, 2005b).</p>
Gear	The method used to commercially take harvest in the SCPSMF and WCPSMF is purse seine fishing (a mixture of power and hand hauled nets).
Season	Year round (officially 1st April to 31st March).
Commercial harvest	<p>Estimates of commercial removals are derived from fishery dependent data from the two fisheries.</p> <p><i>SCPSMF</i></p> <p>Following the apparent recovery of the pilchard stocks from the 1999 mass mortality, pilchard Total Allowable Catches (TACs) were at 1,500t for each of the 3 regions of the south coast for several years. The TAC for the Albany zone was increased to 2,683t commencing in 2008.</p> <p>Catches of other small pelagic species – at 3t – were again a minor component of the catch in 2005/06.</p> <p>Landings of pilchards for the 2005/06 season were: Albany zone: 1,342t Bremer Bay zone: 391t Esperance zone: 138t</p> <p>These figures represent an overall increase in catch for the fishery from 2004/2005. There was a catch increase for Albany and Esperance (31% and 2% respectively) over the previous year, while Bremer Bay had an 18% decrease of catch over the same period.</p> <p><i>WCPSMF</i></p> <p>The combined catch of pilchards, sardinella and other minor species for the metropolitan and Southern Development Zone fishery areas increased to 494 t from 379 t last season, but is still significantly lower than previous years' catches of 763 t in 2004 and 1,164 t in 2003. Pilchards dominated the total catch (67%) with sardinella comprising almost all of the remaining catch (32%).</p>
Value of commercial harvest	Most of the catch in both fisheries is used as angling bait, with some going for tuna aquaculture feed and pet food. There is also a variable demand for sardines for human consumption, both as fresh whole fish, fish processed for supermarkets, and as canned fish for export and

	<p>domestic consumption.</p> <p><i>SCPSMF</i></p> <p>The total catch value calculated for the SCPSMF for 2005/06 was \$1.87 million.</p> <p>The recreational bait market remains the most common destination for south coast pilchards, mainly in block/tray form, with some individually quick frozen (IQF) fish finding interstate markets for human consumption (the potential exists for local processing for human consumption, but this requires a steady supply of appropriately sized fish).</p> <p>Tuna grow-out feed, commercial trap bait and, to a lesser extent, pet food accounted for the remainder of the catch.</p> <p><i>WCPSMF</i></p> <p>The total catch value calculated for the WCPSMF for 2006 was \$475,000.</p> <p>Most small pelagic fish caught on the west coast were destined for human consumption (most typically sold as 'Fremantle sardines') this year, with lesser amounts directed to recreational bait, tuna feed, commercial rock lobster and finfish trap bait.</p>
Take by other sectors	<p><i>Recreational and Indigenous removals</i></p> <p>Usually considered bait fish, sardines are exempt from size or bag limits for recreational fishing. However, since sardines must be caught in nets and few recreational or Indigenous fishers have suitable gear, most people buy them. As a result, the recreational component of pilchard fishing is negligible.</p> <p><i>Commonwealth take</i></p> <p>Commonwealth licensed tuna fishers are also permitted to take small quantities of small pelagic fish for use as bait.</p>
Commercial licences issued	<p>There are 33 SCPSMF licences and a variety of licences and endorsements in the WCPSMF.</p> <p>In the WCPSMF there are: eight full managed licences; five supplementary licences; one endorsement under a Fishing Boat Licence (FBL). The Northern DZ: has one endorsement under a FBL, and the Southern DZ has three endorsements under a FBL; one exemption to operate through an objection process.</p>
Management	<p>The fisheries are managed under the <i>West Coast Purse Seine Limited</i></p>

<p>arrangements</p>	<p><i>Entry Fishery Notice 1989 and the South Coast Purse Seine Limited Entry Fishery Notice 1994 (the management plans) as appropriate and in accordance with the Fish Resources Management Act 1994 (FRMA).</i></p> <p>Consultation mechanisms for the management of the fisheries are the Purse Seine Management Advisory Committee and meetings between the Department of Fisheries, Western Australia (DFWA) and industry.</p> <p>Catch Disposal Records are used within the SCPSMF to validate catch data for landed species.</p> <p>Each fishery has its own specific management arrangements under the management plans.</p> <p><i>SCPSMF</i></p> <ul style="list-style-type: none"> • South Coast Purse Seine Managed Fishery Licence <p>This fishery is primarily managed through output controls in the form of individually transferable quota (ITQ) units. Each zone in the fishery has been allocated a set amount of ITQ units whose values are reviewed annually and changed, if necessary, depending on the results of stock assessment.</p> <p>Output:</p> <ul style="list-style-type: none"> • TAC with Individual Transferable Quotas (ITQs) reviewed annually. <p>Input:</p> <ul style="list-style-type: none"> • limited entry; • limited species (those listed as target or byproduct); • restrictions on zones that can be fished as a condition of licences; and • spatial and seasonal closures,. <p><i>WCPSMF current management arrangements (including Northern and Southern DZ)</i></p> <ul style="list-style-type: none"> • West Coast Purse Seine Managed Fishery Licence • Fisheries Notice no. 312 – Purse Seine Prohibition • Fisheries Notice no. 571 – Pilchard Fishing Prohibition • Fisheries Notice no. 476 – Net Hauling Restrictions • Condition 176 on a Fishing Boat Licence • Condition 93 on a Fishing Boat Licence (specific area) <p>This fishery is managed though a combination of input and output controls incorporating limited entry, capacity setting and controls on gear and boat size.</p> <p>Currently a combined total allowable catch (TAC), covering both the</p>
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	<p>Perth metropolitan fishery and the Southern Development Zone, is set for pilchards, while another is set for other small pelagic species. These TACs are divided amongst the fishery participants, but are not tradeable, as individually transferable quota units would be.</p> <p>Output:</p> <ul style="list-style-type: none"> • TAC, reviewed annually. <p>Input:</p> <ul style="list-style-type: none"> • limited entry; • boat size (maximum 16 m); • type of net hauling equipment (power or hand); • length of net (max 350 m); • mesh size (min 18 mm); • limited species (those listed as target or byproduct); and • closed areas. <p><i>WCPSMF proposed management arrangements</i></p> <p>Output:</p> <ul style="list-style-type: none"> • TAC with ITQs. <p>Input:</p> <ul style="list-style-type: none"> • limited entry; • net type (purse seine or lampara); • mesh size (min 18 mm) • limited species (those listed as target or byproduct); and closed areas.
Export	<p>Export of canned product from the fisheries is sporadic depending on the market.</p> <p>The relatively low and fluctuating productivity of the Western Australian fisheries also places local fish processors at a disadvantage when selling into high volume national and international markets or competing locally with cheaper imports.</p>
Bycatch	<p>The SCPSMF and WCPSMF target schools of small pelagic fish, so incidental bycatch is considered to be negligible. Bycatch includes some small pelagic fish, fish predators of the target species, and other fish species accidentally captured when nets contact the benthos.</p>
Interaction with Protected Species¹	<p>On occasion the SCPSMF and WSPSMF operators interact with dolphins and seabirds, and there is potential for interactions with other marine mammals.</p> <p>There are confirmed interactions with seabirds, in particular the Japan</p>

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>and Australia Migratory Bird Agreement (JAMBA) listed flesh-footed shearwater, and dolphins in the SCPSMF. There is also potential for interactions with dolphins in the WCPSMF.</p> <p>The SCPSMF licensees have also been issued a Code of Practice provides correct handling and releasing protocols for flesh –footed shearwaters.</p> <p>If detected, purse seine operators are also able to release bycatch such as sharks, dolphins and seals before the net is retrieved.</p>
<p>Ecosystem Impacts</p>	<p>The SCPSMF and WCPSMF do not significantly impact on physical habitat and water quality. Fishing methods are pelagic, although direct interaction with the benthos is minimal.</p> <p><i>Food chain effects</i></p> <p>Small pelagic fish occupy a pivotal role as a conduit between primary (phytoplankton) and secondary (zooplankton) production and the higher trophic levels.</p> <p>The quota for pilchards and other small pelagic species is set at a maximum of 10% of the spawning biomass, leaving more than 90% of the total biomass available to natural predators.</p> <p><i>Habitat effects</i></p> <p>Purse seining generally has very little direct effect on the habitat. Although the purse seine gear used in these fisheries can contact the sea floor in some fishing areas, the relatively light construction of the gear suggests that there is no significant impact occurring to the benthos. Areas of hard reef are specifically avoided, minimizing the percentage of ground actually touched, as it is hazardous to the fishing gear.</p>
<p>Impacts on CITES-listed specimens – please note, if a fishery has, or is seeking a permit to export CITES listed species, it can only be accredited as a WTO, <u>not</u> an Exemption.</p>	<p>No specimens listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) are permitted to be harvested in the fishery. Therefore no assessment of the SCPSMF and WCPSMF’s impact on specimens listed under CITES has been conducted.</p>
<p>Impacts on World Heritage property/RAMSAR site</p>	<p>The SCPSMF and WCPSMF do not interact with any World Heritage properties or RAMSAR sites. Therefore no assessment of the South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery’s impact on these areas has been conducted.</p>

Table 2: Progress in implementation of recommendations and conditions made in initial assessment of the South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery

Condition	Progress	Recommended Action
<p>1. Operation of the fisheries will be carried out in accordance with the South Coast Purse Seine Managed Fishery and the West Coast Purse Seine Managed Fishery management regimes in force under the <i>South Coast Purse Seine Limited Entry Fishery Notice 1994</i> and the <i>West Coast Purse Seine Limited Entry Fishery Notice 1989</i>, respectively, and the <i>Western Australian Fish Resources Management Act 1994</i>.</p>	<p>Both the West Coast Purse Seine Managed Fishery (WCPSMF) and the South Coast Purse Seine Managed Fishery (SCPSMF) have continued to be managed in accordance with their respective plans and the <i>Western Australian Fish Resources Management Act 1994</i>.</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 these fisheries, (see Conditions 1, Table 4).</p>
<p>2. The Department of Fisheries, Western Australia to advise the Department of the Environment and Heritage of any material change to the South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery's legislated management plans that could affect the criteria on which Environment Protection and</p>	<p>Since 2005 there has been only one material change to the Management Plans of either fishery that could affect sustainability of the target species or negatively impact on bycatch, protected species or the ecosystem.</p> <p>In 2007, DFWA amended the SCPSMF Management Plan to increase the Total Allowable Catch (TAC) for the Albany zone of the SCPSMF from 1500t to 2683t per annum. This increase was supported by research, which showed an increase in biomass estimates</p>	<p>DEWHA considers that this condition has been partially met and will remain in force, in a slightly amended form, for a further three years under the new export declaration for these fisheries, (see Condition 2, Table 4).</p>

	<p>for the preceding year. However, DEWHA is concerned that it was only advised of this change as part of DFWA's WTO reassessment application, yet 1,183t per annum is a significant increase in harvest and could affect sustainability of the affected pilchard stock.</p> <p>As yet there have been no changes to the WCPSMF Management Plan. DFWA have indicated that should any changes occur to the WCPSMF management plan then the DFWA will inform the DEWHA within the specified time frame.</p>	
<p>3. Reports to be produced and presented to the Department of the Environment and Heritage annually, and to include:</p> <ul style="list-style-type: none"> i. information sufficient to allow assessment of the progress of the Department of Fisheries, Western Australia in implementing the recommendations made in the Assessment of the South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery; ii. a description of the status 	<p>DFWA produced annual reports on the performance of each fishery annually through the WA State of the Fisheries Reports for WA-managed fisheries, however DFWA did not submit these reports to DEWHA as they were published. DFWA therefore did not provide annual progress reports of the SCPSMF and WCPSMF in implementing the against the 2005 WTO recommendations.</p> <p>DFWA provided DEWHA with copies of the relevant sections of the 2004/05, 2005/06, and 2006/07 as appendices to their 2008 reassessment application. The annual State of the Fisheries Report are available on the DFWA website at www.fish.wa.gov.au/docs/sof/</p>	<p>DEWHA considers that this condition has been partially met and will remain in force, in an amended form, for a further three years under the new export declaration for these fisheries, (see Condition 3, Table 4).</p>

<p>of the fisheries and catch and effort information;</p> <p>iii. a statement of the performance of the fisheries against objectives, performance indicators and measures once developed; and</p> <p>iv. research undertaken or completed relevant to the fisheries.</p>		
Recommendation	Progress	Recommended Action
<p>1. DFWA to advise the Department of the Environment and Heritage of any material change to the SCPSMF and WCPSMF's legislated management plans that could affect the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) decisions are based, within three months of that change being made.</p>	<p>See Condition 2 above.</p>	<p>This recommendation remains in force, in a slightly amended form, for a further three years under the new export declaration for these fisheries (see Condition 2, Table 4).</p>
<p>2. The Ecologically Sustainable Development Report, including all performance measures, responses and information requirements to</p>	<p>DEWHA considers that the outcomes of the risk assessment framework and analysis within the SCPSMF and WCPSMF Ecologically Sustainable Development (ESD) Report have not been incorporated into the management</p>	<p>DEWHA considers that this recommendation has not been met and will remain in force, in an amended form, for a further three years under the new export declaration for these fisheries, (see Recommendation 1, Table 4).</p>

	<p>regime and decision making process for the fisheries.</p> <p>DEWHA expects that DFWA has incorporated at least some recommendations of the ESD Report into the management regime and decision making process for each fishery, however this information has not been provided or detailed in other publicly available documentation. DFWA currently summarises the performance of each fishery against generic reporting criteria within the annual State of the Fishery Report. There does not appear to be an assessment of the effectiveness of the management arrangements for each fishery in any publicly available forum.</p> <p>DFWA advised that it liaises with Industry on an annual basis to review and determine the management arrangements for the coming fishing year.</p>	
<p>3. DFWA to incorporate into the management regime, objectives to maintain at sustainable levels the take of all target and byproduct species, minimise protected/listed species interactions, to minimise or maintain at sustainable levels the take of other non-retained</p>	<p>DEWHA considers the way in which DFWA manages stocks of the fisheries key target species, pilchards, precautionary and is within defined precautionary levels of take. However, DEWHA is concerned that DFWA has not incorporated sustainability objectives for all target and byproduct species and objectives for minimising bycatch/protected species interactions, and complementary performance measures and indicators, into the management</p>	<p>DEWHA considers that this recommendation has not been met and will remain in force, in an amended form, for a further three years under the new export declaration for these fisheries, (see Recommendation 2, Table 4).</p>

	<p>regime.</p> <p>DFWA uses a catch matrix model to arrive at a TAC. With this model the fishery is only allowed to take 10% of the spawning biomass. The catch and catch rate performance levels of the Fisheries are reviewed annually. The review of performance measures considers whether the biological reference points are being compromised and if catch needs to be adjusted. It is unclear however, how the catch levels are set and maintained for target and byproduct species other than for pilchards. Stock assessments are undertaken for pilchards and the SCPSMF TACs are for all small pelagic species targeted by the fishery, while the WCPSMF TACs are split between pilchards and other small pelagic fishes.</p> <p>DEWHA commends DFWA's use of management zones within the fishery, and the associated mechanisms for catch adjustment that are in place in the management plan whereby the TAC within each zone can be adjusted.</p> <p>DEWHA acknowledges that the Purse Seine fishing technique is very effective at specifically targeting particular species, resulting in insignificant levels of bycatch. The annual State of the Fisheries Report includes a report on non-retained species in its assessment of the fishery. However, DEWHA again notes</p>	
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	<p>that this assessment is against generic performance measures, and is not quantified with regard to the effectiveness of the relevant management arrangements of the fisheries. These fisheries specifically targets schools of pilchards</p> <p>The environmental risk assessment conducted by DFWA as part of its 2005 assessment application gave a risk rating of “negligible” for seabirds, seals and dolphins and other finfish. Even so fishers have adopted a Code of Practice on handling unwanted catch.</p> <p>The SCPSMF also currently has a monitoring and mitigation program for the protected flesh-footed shearwater. Further detail is provided at Recommendation 7.</p>	
<p>4. DFWA, in its Annual State of the Fisheries Report, to report on the performance of the fisheries against performance measures that relate to the sustainability of the fisheries.</p>	<p>DFWA reports annually on the catch levels and catch performance measures for both fisheries in the annual State of the Fisheries Report. As stated earlier the performance measures are generic and qualitative, and do not assess the performance of the relevant management measures within the fisheries.</p>	<p>DEWHA considers that this recommendation has been met and will remain in force for a further three years under the new export declaration for these fisheries, (see Recommendation 3, Table 4).</p>
<p>5. DFWA to commence, in the 2006/07 fishing season, ongoing monitoring of the age composition of commercial catches of scaly</p>	<p>DEWHA is concerned that DFWA has not commenced ongoing monitoring of the age composition of commercial catches of scaly mackerel in the WCPSMF.</p>	<p>DEWHA considers that this recommendation has not been met and will remain in force, in an amended form and expanded to incorporate the SCPSMF, for a further three years under the new export declaration for these fisheries, (see Recommendation 5, Table 4).</p>

	<p>DEWHA notes that DFWA did not implement this recommendation due to the relatively low catch levels of scaly mackerel by this fishery since 2005. Scaly mackerel represented 23% of the total catch in 2006/07, which overall was significantly lower than previous years' catches due to low effort and poor market conditions. Consequently, DFWA considered that the risk to the WCPSMF scaly mackerel stocks had been lowered to a point where there was no need to undertake the prescribed monitoring.</p> <p>DFWA made the risk-based decision to delay undertaking such detailed monitoring until scaly mackerel catch levels in the WCPSMF begin to consistently approach the TAC (i.e. > 75% of TAC).</p> <p>Monitoring of the WCPSMF will continue through the monthly catch and effort statistics system (CAESS) provided by commercial fishers. The CAESS data has provided a valuable and consistent long-term source of information for monitoring the stocks.</p>	
<p>6. DFWA to finalise and implement the proposed new management plan for the WCPSMF in time for the 2008/09 season. In the interim, DFWA to develop a</p>	<p>The new management plan is still being developed for this fishery. The new plan will include the Southern and Northern Development Zones. These two areas, along with the metropolitan fishery, will therefore be managed as three zones within a single West</p>	<p>DEWHA considers that this recommendation has not been met and will remain in force, in a slightly amended form, for a further three years under the new export declaration for these fisheries, (see Recommendation 4, Table 4).</p>

	<p>Coast Purse Seine Fishery. An individually transferable quota (ITQ) arrangement has been agreed upon by stakeholders within the industry.</p> <p>The progress of the new management plan has been stalled due to staff resources being allocated elsewhere to deal with significant sustainability issues in other fisheries. DFWA intends to commence drafting of the new plan in 2009.</p> <p>DEWHA regrets that DFWA does not appear to have developed a catch validation system for the WCPSMF.</p>	
<p>7. DFWA to implement a program sufficient to obtain base-line data on abundance and composition of bycatch and level of interactions with protected/listed species.</p>	<p>DEWHA commends DFWA's actions with regard to addressing the information needs for mitigating flesh-footed shearwater interactions. DFWA has devoted significant resources to collecting data on interactions with, and the effect of voluntary mitigation measures on flesh-footed shearwaters in the SCPSMF. However, presumably due to limited resources, there has been little attention given to obtaining data on the abundance and composition of bycatch in either fishery.</p> <p>In their reassessment application DFWA reported that in 2006, following directives from the Minister for Fisheries, the industry met to develop a strategy to manage bycatch</p>	<p>DEWHA considers that this recommendation has been partially met and will remain in force, in an amended form, for a further three years under the new export declaration for these fisheries, (see Recommendation 7, Table 4).</p>

	<p>and interactions with protected/listed species in the SCPSMF. The measures proposed focused on Zone 1 (King George Sound, Albany) where most of the identified problems have been occurring. A committee was formed to address the issue of interaction with the Flesh-Footed Shearwater, a protected species. The Conservation Council of WA directed the program. From the 2006 /07 season the fishery undertook a range of measures to monitor the shearwater interactions during the peak interaction period between 1 March and 15 April 2007 and again from 1 March to 30 April 2008. These measures included the submission of <i>Daily Report of Interactions with Protected Species</i> reporting forms and an observer program. Two observers were engaged to record the outcomes of fishing operations during the monitoring / mitigation period.</p> <p>The target/byproduct species catch and protected species record sheets indicate that there were 264 fishing trips in this fishery between 1 March and 30 April 2008 of which 64 (24.2%) were observed. There were 161 trips in 2007. Forty-eight trips were observed in this season giving an observer rate of 29.8 %, slightly higher than 2008. The relative reduction in coverage is the result of a 31% increase in effort in 2008. DFWA emphasised that the interactions occur within state waters, no more than 3 NM from land.</p>	
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<p>8. DFWA to provide a mechanism, within 1 year, which allows fishers to record interactions with protected/listed species. DFWA to implement relevant protected species identification and handling procedures from the Manual for Setting Protocol, Wildlife Interactions and Species Identification to ensure that industry has the capacity to make these reports at an appropriate level of accuracy.</p>	<p>DFWA have provided all SCPSMF operators with the <i>Daily Report of Interactions with Protected Species</i> reporting form. This form is primarily being used by operators to record interactions with flesh-footed shearwaters. These data are reviewed annually to assess whether fishing practices require adjustment.</p> <p>Relevant handling procedures for protected species including seabirds can be found in the Code of Practice. This code is found within the Manual for Setting Protocol, Wildlife Interaction and Species Interaction, which each licensee has been issued with. This manual includes comprehensive details on how to free a seabird or dolphin from fishing gear and was included in the 2005 assessment application.</p>	<p>DEWHA considers that this recommendation has been met.</p>
<p>9. DFWA to develop specific performance measures and indicators for interactions with flesh-footed shearwaters and dolphins and to report annually on the performance of the SCPSMF and WCPSMF at minimising seabird and dolphin interactions.</p>	<p>DFWA reports that in 2007 the Department received the full support of all fishers in Zone 1 (the affected area) of the SCPSMF to comply with the mitigation program. All licensees have agreed to minimise interactions with protected species, however it was reported in 2008 that one vessel was not complying and that a second vessel was under-performing. There is continuing support of the Code of Practice by operators who have amended and signed off on the Code of Practice for 2009. Operators self-imposed a limit of 0.84 birds per trip for 2009, with the aim to reduce this</p>	<p>DEWHA considers that this recommendation has not been met and will remain in force, in an amended form, for a further three years under the new export declaration for these fisheries, (see Recommendation 6, Table 4).</p>

figure annually.

The Table below summarizes comparative levels of shearwater interactions between the 2006/07 and 2007/08 seasons. There was a reduction in mortality rate between the seasons, despite a 31% increase in fishing effort in 2007/08.

Season	No. of observed trips	Number entangled	Entanglement Rate (% birds / trip)	Number of mortalities	Mortality rate (% birds / trip)	% mortalities per entanglement
2006/07	48	512	10.66	54	1.12	10.5
2007/08	64	395	6.17	54	0.84	13.6

The 2008 shearwater mortality was estimated at 203 individuals. Mortality was estimated to be around 1000 prior to mitigation techniques being trialled.

Two annual reports (2006/07 and 2007/08) were produced on the protected species interaction monitoring and mitigation program. This research is ongoing and annual reports will continue to be developed.

Interaction with Dolphins within both fisheries is extremely rare. There have been no reported or documented interactions with flesh footed shearwaters in the WCPSMF since the 2005 WTO declaration.

10. Within 1 year, DFWA to trial mitigation mechanisms to

DEWHA congratulates DFWA on the success of the SCSDMF flesh-footed shearwater

DEWHA considers that this recommendation has been met and will remain in force, in an amended form, for a further

	<p>monitoring and mitigation program. Within the last three years DFWA trialled a number of mitigation measures including the following voluntary mitigation techniques:</p> <p><i>Diurnal closures</i> Prohibiting fishing around dawn (i.e. within two hours of sunrise) between 1 March and 15 April 2007 and between 1 March and 30 April 2008.</p> <p><i>Fishing pauses</i> Three lots of four-day fishing pauses were trialled in 2007 and this measure was deemed unsuccessful.</p> <p><i>Code of Practice</i> The code issued to licensees provides correct handling and releasing protocols.</p> <p><i>Compulsory three crew</i> In 2008 all vessels fishing during daylight hours between 1 March and 30 April were required to have three crew members (including the skipper) and to utilize the extra hand to either tow-off the net with the dinghy to maintain net tension or to train a constant water spray over the lifted stern third of the net during hauling. The tension in the net dramatically reduced entanglements with the shearwaters.</p> <p><i>Closures</i></p>	<p>three years under the new export declaration for these fisheries, (see Recommendation 6, Table 4).</p>
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	DFWA has implemented closures in the SCPSMF management plan in a number of high risk areas between 1 March and 15 April in any year.	
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Table 3: The Department of the Environment, Water, Heritage and the Arts (DEWHA) assessment of the South Coast Purse Seine Managed Fishery and West Coast Purse Seine 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 DEWHA website.

Part 13

<p>Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes</p>	<p>DEWHA assessment of the WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery</p>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p style="padding-left: 40px;">(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <p style="padding-left: 80px;">i. made by a State or self-governing Territory; and</p> <p style="padding-left: 80px;">ii. in force under a law of the State or self-governing Territory;</p> <p>if satisfied that:</p> <p style="padding-left: 40px;">(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>The management regime for the SCPSMF and WCPSMF is under the WA FRM Act and the FRM Regulations.</p> <p>Accreditation under Part 13 of the EPBC Act in relation to protected species interactions was granted in November 2005. DEWHA was satisfied that persons engaged in fishing under the SCPSMF and WCPSMF’s management regime took all reasonable steps to ensure that species listed under Part 13 of the EPBC Act were not killed or injured as a result of the fishing.</p> <p>DFWA has made progress in improving management arrangements for the SCPSMF and WCPSMF since the initial assessment application was submitted in 2005, including enabling pilchard stocks to increase in the SCPSMF, introducing a protected species interaction monitoring</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>and mitigation program, and reducing flesh-footed shearwater bycatch. DEWHA considers that the management regime for the fisheries in force under the FRM Act and the FRM Regulations is appropriately precautionary and is unlikely to represent a significant impact on protected species noting management arrangements in place and the existing low rate of interaction with listed threatened species.</p> <p>Given the management regime in force for the fisheries under the FRM Act and the FRM Regulations, DEWHA considers that all reasonable steps are being taken to prevent the killing or injuring of listed threatened species and any interaction with threatened species would be incidental to and not the purpose of the operation of the SCPSMF and WCPSMF.</p> <p>Current evidence suggests that the SCPSMF and WCPSMF only have minimal interactions with listed threatened species, including sawfish species. Therefore, DEWHA considers the current operation of the SCPSMF and WCPSMF is not likely to adversely affect the survival or recovery in nature of any listed threatened species.</p>
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<p>Division 2 Migratory species Section 222A Minister may accredit plans or regimes</p>	<p>DEWHA assessment of the WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery</p>
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; 	<p>The management regime for the SCPSMF and WCPSMF will be managed under the FRM Act and the FRM Regulations.</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>DFWA has made progress in improving management arrangements for the SCPSMF and WCPSMF since the initial assessment application was submitted in 2005, including enabling pilchard stocks to increase in the SCPSMF, introducing a protected species interaction monitoring and mitigation program, and reducing flesh-footed shearwater bycatch. DEWHA considers that the management regime for the fisheries in force under the FRM Act and the FRM Regulations is appropriately precautionary and is unlikely to represent a significant impact on protected species noting management arrangements in place and the existing low rate of interaction with listed migratory species.</p> <p>Given the management regime in force for the fisheries under the FRM Act and the FRM Regulations, DEWHA considers that all reasonable steps are being taken to prevent the killing or injuring of listed migratory species and any interaction with migratory species would be incidental to and not the purpose of the operation of the SCPSMF and WCPSMF.</p> <p>Current evidence suggests that the SCPSMF and WCPSMF only have minimal interactions with listed migratory species. Therefore, DEWHA considers the current operation of the SCPSMF and WCPSMF is not likely to adversely affect the survival or recovery in nature of any listed migratory species.</p>
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<p>Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes</p>	<p>DEWHA assessment of the WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery</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</p>	<p>The management regime for the SCPSMF and WCPSMF will be</p>

Section 265 Minister may accredit plans or regimes	Fishery and West Coast Purse Seine 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; and ii. 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</p>	<p>The management regime for the SCPSMF and WCPSMF will be managed under the FRM Act and the FRM Regulations.</p> <p>DFWA has made progress in improving management arrangements for the SCPSMF and WCPSMF since the initial assessment application was submitted in 2004, including enabling pilchard stocks to increase in the SCPSMF, introducing a protected species interaction monitoring and mitigation program, and reducing flesh-footed shearwater bycatch. DEWHA considers that the management regime for the fisheries in force under the FRM Act and the FRM Regulations is appropriately precautionary and is unlikely to represent a significant impact on protected species noting management arrangements in place and the existing low rate of interaction with listed marine species. DFWA have advised that operators collecting listed marine species only do so within WA state waters.</p> <p>Given the management regime in force for the fisheries under the FRM Act and the FRM Regulations, DEWHA considers that all reasonable steps are being taken to prevent the killing or injuring of listed marine species and any interaction with listed marine species would be incidental to and not the purpose of the operation of the SCPSMF and WCPSMF.</p> <p>Current evidence suggests that the SCPSMF and WCPSMF only have minimal interactions with listed marine species. Therefore, DEWHA</p>

	considers the current operation of the SCPSMF and WCPSMF is not likely to adversely affect the survival or recovery in nature of any listed marine species.
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Section 303AA Conditions relating to accreditation of plans, regimes and policies	DEWHA assessment of WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery
(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.	DEWHA recommends that SCPSMF and WCPSMF 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.	
(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 303DC Minister may amend list	DEWHA assessment of the WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery
(1) Minister may, by instrument in published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by: <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 of revoking a condition or restriction to which the 	In November 2005, the then Minister for the Environment and Heritage amended the list of exempt native specimens established under section 303DB of the EPBC Act by including in the list: <ul style="list-style-type: none"> • Specimens that are or are derived from fish or invertebrates, other than specimens that belong to species listed under Part 13 of the Act, taken in the Western Australian West Coast Purse Seine

<p>(e) correcting an inaccuracy or updating the name of a species.</p>	<p>And</p> <ul style="list-style-type: none"> • Specimens that are or are derived from fish or invertebrates, other than specimens that belong to species listed under Part 13 of the Act, taken in the Western Australian South Coast Purse Seine Managed Fishery <p>The inclusion of the specimens in the list is subject to the following notations:</p> <ul style="list-style-type: none"> • The specimen, or the fish or invertebrate from which it is derived, was taken lawfully; • The specimens are covered by the declaration of an approved Wildlife Trade Operation under s.303FN of the Act in relation to the fishery. <p>The specimens are covered by the declaration of an approved Wildlife Trade Operation under section 303FN of the EPBC Act in relation to the fishery.</p>
<p>(3) Before amending the list referred to in section 303DB (list of exempt native specimens), the Minister:</p> <ul style="list-style-type: none"> (a) must consult such other Minister or Ministers as the Minister considers appropriate; and (b) must consult such other Minister or Ministers of each State and self-governing Territory as the Minister considers appropriate; and (c) may consult such other persons and organisations as the Minister considers appropriate. 	<p>DEWHA considers that the consultation requirements have been met. The public comment period on the DFWA submission sought comment on the submission for the SCPSMF and WCPSMF and provided sufficient opportunity for consultation with other persons and organisations.</p> <p>A letter to the Hon Norman Moore MLC advises him of the intention to declare the fisheries an approved WTO under the EPBC Act.</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 SCPSMF and WCPSMF made under sections 303DC will be gazetted and made available on the DEWHA website.</p>

Section 303FN Approved wildlife trade operation	DEWHA assessment of the WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery
<p>(2) The Minister may, by instrument published in the <i>Gazette</i>, declare that a specified wildlife trade operation is an <i>approved wildlife trade operation</i> 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 satisfied that:</p> <p>(a) the operation is consistent with the objects of Part 13A of the Act; and</p> <p>(b) the operation will not be detrimental to:</p> <p>i. the survival of a taxon to which the operation relates; or</p> <p>ii. the conservation status of a taxon to which the operation relates; and</p> <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>The SCPSMF and WCPSMF is consistent with objects of Part 13A (listed after this table) as:</p> <ul style="list-style-type: none"> ▪ there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Table 1); ▪ the fishery will not harvest any CITES listed species; ▪ the operation of the SCPSMF and WCPSMF is unlikely to be unsustainable and threaten biodiversity within the next three years; and ▪ the EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens. <p>DEWHA considers that the SCPSMF and WCPSMF will not be detrimental to the survival or conservation status of a taxon to which it relates within the next three years, given the management measures currently in place, which include limited entry, catch and gear restrictions and area closures.</p> <p>DEWHA considers that the SCPSMF and WCPSMF will not threaten any relevant ecosystem within the next three years, given the management measures currently in place, which include limited entry, catch limits, gear restrictions and area closures.</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>	<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>
<p>(4) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard 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 SCPSMF and WCPSMF will not have a significant impact on any relevant ecosystem within the next three years, given the management measures currently in place, which include limited entry, catch and gear restrictions.</p> <p>The management arrangements that will be employed for the SCPSMF and WCPSMF are likely to be effective. Management arrangements for the fisheries are included in the management regime, in force under the FRM Act and the FRM Regulations. Management arrangements include limited entry, fishing zones, gear/fishing method restrictions, spatial and seasonal closures, and catch limits for target species.</p>
<p>(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard 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</p>	<p>The SCPSMF and WCPSMF will be managed under the management regime in force under the FRM Act and the FRM Regulations.</p> <p>The FRM Act and the FRM Regulations applies throughout WA waters.</p> <p>The management arrangements that will be employed for the SCPSMF</p>

	and WCPSMF are likely to be effective. Management arrangements for the fisheries are included in the management regime, in force under the FRM Act and the FRM Regulations. Management arrangements include limited entry, fishing zones, gear/fishing method restrictions, spatial and seasonal closures, and catch limits for target species .
(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: (d) the operation is a commercial fishery.	The SCPSMF and WCPSMF is a commercial fishery.

Section 303FR Public consultation	DEWHA assessment of the WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery
(1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice: (a) setting out the proposal to make the declaration; and (b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and (c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal.	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 SCPSMF and WCPSMF a WTO and included the submission <i>Application to the Department of the Environment, Heritage, Water and the Arts on the West Coast Purse Seine Managed Fishery and the South Coast Purse Seine Managed Fishery, October 2008</i> , was released for public comment which closed on 18 December 2008 with one submission received.
(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 SCPSMF and WCPSMF a WTO and included the submission <i>Application to the Department of the Environment, Water, Heritage and the Arts on the West Coast Purse Seine Managed Fishery and the South Coast Purse Seine Managed Fishery, October, June 2008</i> was released for public comment on 20 November 2008 and closed on 18 December 2008, a total of 20 business days.
(3) In making a decision about whether to make a declaration under	The DEWHA assessment has considered the public comment received

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.	on the submission.
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Section 303FT Additional provisions relating to declarations	DEWHA assessment of the WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery
(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.	A declaration for the SCPSMF and WCPSMF 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"> (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. <p>In such a case, the instrument of declaration is to specify the period, circumstances or condition.</p>	The standard conditions applied to commercial fishery WTOs include: <ul style="list-style-type: none"> • operation in accordance with the management regime; • notifying DEWHA of changes to the management regime; and • annual reporting in accordance with the requirements of the Australian Government <i>Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition</i>. <p>The WTO instrument for the SCPSMF and WCPSMF specifies the standard and any additional conditions applied.</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 instrument for the SCPSMF and WCPSMF made under sections 303FN and the conditions under section 303FT will be gazetted and made available on the DEWHA website.

Part 16

Section 391 Minister must consider precautionary principle in making decisions	DEWHA assessment of the WA South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery
(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 List of Exempt Native Specimens (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.

Final recommendations to Department of Fisheries, Western Australia (DFWA) for the South Coast Purse Seine Managed Fishery (SCPSMF) and West Coast Purse Seine Managed Fishery (WCPSMF)

The material submitted by the DFWA demonstrates that the management regime for the SCPSMF and WCPSMF meets most of the requirements of the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries, 2nd Edition*. The Department of the Environment, Water, Heritage and the Arts (DEWHA) recognises that limited entry, fishing zones, gear/fishing method restrictions, spatial and seasonal closures, and catch limits for target species 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.

Noting that the SCPSMF and WCPSMF is relatively well managed, DEWHA has identified a number of risks and uncertainties that must be managed to ensure that their impacts are minimised, including, but not limited to, the need to:

- reviewing risk levels for target, byproduct, bycatch (including protected species) and impacts on the environment for the SCPSMF and WCPSMF, and where appropriate, updating or developing new objectives and complementary species-specific indicators and performance measures for target, byproduct species and bycatch (including protected species);
- working towards finalising and implementing the proposed new Management Plan for the WCPSMF;
- developing and implementing a catch validation system for the commencement of the 2009/10 season;
- developing and implementing a comprehensive monitoring strategy for all target and byproduct species, which will be triggered by a defined precautionary catch reference point; and,
- developing and implementing a bycatch strategy for mitigating interactions with flesh-footed shearwaters and dolphins and to identify long-term trends in composition and quantity of other bycatch species.

On balance DEWHA is satisfied that the fishery will not be detrimental to the survival or conservation status of the taxon to which it relates in the short to medium term. Similarly, it is not likely to threaten any relevant ecosystem in the short to medium term. However, to further contain and minimise the risks in the longer term, the conditions and recommendations listed below have been made. DEWHA considers that, until it can be demonstrated that these issues have been adequately dealt with, a three year Wildlife Trade Operation declaration is appropriate. Such a declaration would enable DFWA to address some of the uncertainties in the fishery, incorporate any new information into the management regime and allow DEWHA to review progress of the fishery through DFWA reporting on progress with the conditions and recommendations on an annual basis.

DEWHA considers that the operation of the fishery 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 regime was accredited under Part 13 of the EPBC Act in November 2005. Since there have been no changes to the management arrangements since the initial assessment of the fishery, DEWHA considers that the existing Part 13 accreditation remains valid.

Conditions and recommendations are provided below with a brief explanation of the related issue/intent. Unless a specific time frame is provided in the recommendation, each 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, the details of which are provided in Condition 3.

Table 4: South Coast Purse Seine Managed Fishery and West Coast Purse Seine Managed Fishery Assessment– Summary of Issues, Conditions and Recommendations, February 2009

	Issue	DEWHA WTO Condition
1	<p><u>General Management</u> 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, the Department of the Environment, Water, Heritage and the Arts (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 by-product, bycatch, protected species or the ecosystem.</p> <p>In 2007, DFWA amended the SCPSMF Management Plan to increase the Total Allowable Catch (TAC) for the Albany zone of the SCPSMF from 1500t to 2683t per annum. This increase was supported by research, which showed an increase in biomass estimates for the preceding year.</p>	<p>Condition 1: Operation of the [West Coast Purse Seine Managed Fishery (WCPSMF) and South Coast Purse Seine Managed Fishery (SCPSMF)] will be carried out in accordance with the management arrangements in force under the <i>WA Fish Resources Management Act 1994</i>.</p> <p>Condition 2: The Department of Fisheries, Western Australia (DFWA) to advise the Department of Environment, Water, Heritage and the Arts (DEWHA) of any intended change to the SCPSMF and WCPSMF management arrangements that may affect the assessment of the fishery against the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) decisions are based.</p>
2	<p><u>Annual reporting</u> Reports must be produced and presented to DEWHA annually in order for the performance of the fishery and progress in implementing the conditions and recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports are to be provided prior to the anniversary of the WTO declaration.</p>	<p>Condition 3: DFWA to produce and present reports to DEWHA annually as per Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i>.</p>

	<p>Annual reports should follow Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd 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 http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html.</p>	
	Issue	DEWHA Recommendation
1	<p><u>Strategic management framework</u></p> <p>The 2005 application to DEWHA for assessment under the EPBC Act included an ESD Report, which provided: a comprehensive overview of the fishery and detailed operational objectives, performance measures, indicators, management responses and information requirements used to assess the performance of the SCPSMF and WCPSMF. Detailed justifications for the levels of risk chosen and methods used are also documented in the report. The 2005 application also states that DFWA intends to complete and review the ESD report, including examination of the validity of the objectives and performance measures, every five years.</p> <p>DEWHA commends DFWA on this commitment to review the risk levels for all components of the fishery every five years. DEWHA recommend the review be completed within the five year timeframe and provided for appropriate consultation with relevant stakeholders. DFWA should then develop and implement appropriate measures to address and mitigate identified risks and maintain precautionary management principles to ensure the ongoing ecological sustainability of the SCPSMF and WCPSMF.</p> <p>In 2005 DEWHA recommended that DFWA incorporate key aspects of the ESD Report into the management regime and decision making process for the fisheries, including:</p> <ul style="list-style-type: none"> - sustainability objectives for all target and byproduct species; - objectives for minimising bycatch/protected species interactions; and - complementary performance measures and indicators. 	<p>Recommendation 1: By 30 June 2010, DFWA to identify and review risk levels for target species, byproduct, bycatch (including protected species) and impacts on the marine environment for the SCPSMF and WCPSMF. DFWA to implement appropriate management measures to ensure identified risks are addressed and minimised.</p> <p>Recommendation 2: At the completion of Recommendation 1, DFWA to review, and where appropriate, update or develop new objectives, performance measures, management responses and information requirements for target species, byproduct, bycatch (including protected species) and the marine environment, for the SCPSMF and WCPSMF.</p>

	<p>Based on the review of the ESD Report, where appropriate, DFWA should update or develop new objectives, performance measures, management responses and information requirements for all target species, byproduct, bycatch (including protected species) and the marine environment for the two fisheries.</p> <p>Details and results of the reviews should be documented and made publicly available, to clearly articulate and justify management arrangements in place for the fishery. DFWA should report on the performance of the fisheries against performance measures that relate to the sustainability of the fisheries in its annual State of the Fisheries Report. Within 3 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 State of the Fisheries Report.</p>	<p>Recommendation 3: DFWA to monitor the status of the fishery in relation to performance measures and within 3 months of becoming aware of a performance measure not being met, implement an appropriate management response in a transparent manner.</p>
2	<p><u>WCPSMF Management Plan</u></p> <p>DEWHA notes that the new WCPSMF Management Plan has been delayed due to other DFWA priorities, and that DFWA intends to commence drafting the new plan in 2009. While the current management arrangements have not been amended, DFWA has outlined the key management changes it intends to implement through the new Management Plan. DEWHA considers that these changes will contribute to an improved management framework for the WCPSMF.</p> <p>DEWHA considers it beneficial to continue to pursue amending the Management Plan, including incorporating the other governing legislative instruments into the one document. One overarching legislative management arrangements document will provide stakeholders with improved transparency and access to understanding the management of the fishery.</p>	<p>Recommendation 4: DFWA to work towards finalising and implementing the proposed new management plan for the WCPSMF.</p>
3	<p><u>Validation of catch data</u></p> <p>Given the reliance on fishery dependant data to support management of the SCPSMF and WCPSMF and the lack of fishery independent data collection, robust and reliable catch information from commercial logbooks is vital for the sustainable management of the fishery.</p>	<p>Recommendation 5: DFWA to develop and implement a robust system to validate commercial logbook reporting of catch and effort for all target and byproduct species prior to the commencement of the 2009/10</p>

	<p>Currently, the SCPSMF and WCPSMF utilise different validation systems of varying quality. DEWHA consider it imperative that DFWA have good data validation systems to ensure that current information provided by fishers on the catch and effort patterns within the fishery are robust, providing greater confidence in the subsequent management decisions.</p> <p>DEWHA recommend DFWA develop a robust system to validate commercial logbook reporting of catch and effort for all target and byproduct species and implement it prior to the start of the 2009/10 season.</p> <p>DFWA has indicated that they are currently carrying out an audit of the Catch and Effort statutory data collection system across all fisheries in WA, which will be completed in early 2009. DFWA will implement recommended improvements as appropriate. In addition, DFWA has advised that a generic catch and disposal recording book will be released for both fisheries in early 2009.</p>	<p>season.</p>
4	<p><u>Stock assessment and monitoring</u></p> <p>DEWHA is concerned that DFWA has not commenced ongoing monitoring of the age composition of commercial catches of scaly mackerel in the WCPSMF.</p> <p>DEWHA notes that DFWA did not implement this recommendation due to the relatively low catch levels of scaly mackerel by this fishery since 2005. However, DEWHA regards a monitoring strategy fundamental to precautionary sustainable management of target and byproduct species. DEWHA therefore recommends that DFWA by 19 December 2009, develop and implement a comprehensive monitoring strategy that should include age composition monitoring if appropriate, and defines precautionary catch reference points which, once reached, would trigger a monitoring response appropriate to the increased level of catch for a particular species. This would be not only for scaly mackerel, but for all target and byproduct species as part of a process of progressing towards precautionary harvest limits for these species.</p> <p>DEWHA understand stock assessments have been conducted for pilchards based on independent spawning biomass surveys between 1993 and 2004 and fishery dependent methods. Accordingly, this Recommendation should focus on other target and bycatch species.</p>	<p>Recommendation 6: By 19 December 2009, DFWA to develop and implement a comprehensive monitoring strategy for all target and byproduct species, which will be triggered by a defined precautionary catch reference point.</p>

	<p>One function of the monitoring strategy is to improve the transparency of management decisions. For example, a monitoring strategy might articulate the circumstances under which a species would warrant the commencement of an age structured monitoring program. This would also require a justification for those circumstances and for a particular species, and this might be based on a defined precautionary catch reference point trigger.</p>	
5	<p><u>Bycatch, including protected/listed species interactions</u> DEWHA congratulates DFWA on the success of the SCPSMF flesh-footed shearwater monitoring and mitigation program. Within the last three years DFWA trialled a number of mitigation measures, some of which have been adopted through the industry’s Code of Practice on a voluntary basis.</p> <p>However, it is unclear which mitigation measures discussed in the submission and the <i>Protected species bycatch in Zone of the south coast purse-seine fishery 2007/08</i> report, DFWA intends to implement on an ongoing basis, and what further research will be undertaken. DFWA has indicated that there may not be much more that can be learnt from observer programs in the absence of new mitigation techniques. DEWHA considers the management of the fishery would benefit from developing a ‘strategy’ to articulate the work to date on these issues and actions or research the fishery may undertake in the future in order to improve the mitigation of interactions with protected species.</p> <p>For transparency and clarity of DFWA’s intentions regarding protected species interactions, DEWHA recommends that DFWA develop, implement, and make publicly available, a strategy for mitigating interactions with flesh-footed shearwaters and dolphins in the SCPSMF and WCPSMF. The strategy should highlight, where appropriate, further research needs, the appropriateness of compulsory mitigation measures, compliance, progress reporting on its implementation and ongoing review.</p> <p>The protected species report stated that “the 2008 data suggest that one vessel was not complying in any way with the voluntary bycatch mitigation program and at least one other is significantly under-performing”. DEWHA considers this to be a significant concern and encourages DFWA to improve bycatch reporting and compliance with mitigation measures.</p>	<p>Recommendation 7: By 19 December 2009, DFWA to develop, implement and make publicly available for the SCPSMF and WCPSMF a bycatch strategy:</p> <ul style="list-style-type: none"> - for mitigating interactions with flesh-footed shearwaters and dolphins; and - to identify long-term trends in composition and quantity of other bycatch. <p>This should identify, where appropriate, further research needs, the appropriateness of compulsory mitigation measures, compliance needs, progress reporting on the strategy’s implementation and appropriate ongoing review periods.</p>

Noting that the bycatch reports demonstrate a relationship between the level of fishing effort in areas flesh-footed shearwaters inhabit and shearwater mortalities, DEWHA also advises caution to DFWA when considering any TAC increase in the fisheries in the future, as any increase in fishing effort in sensitive areas is likely to increase flesh-footed shearwater mortality.

DEWHA recommends that DFWA focus on characterising trends in bycatch composition and quantity during the term of the new WTO. This is because concerns raised in the 2005 assessment about the need to implement a program sufficient to obtain base-line data on abundance and composition of bycatch remain. DEWHA recognises that DFWA has devoted significant resources to collecting data on interactions with, and the effect of voluntary mitigation measures on, flesh-footed shearwaters in the SCPSMF. However, presumably due to limited resources, there has been little attention given to obtaining data on the abundance and composition of bycatch in either fishery.

DEWHA acknowledges that as the SCPSMF and WCPSMF relies on the use of the purse seine method on free swimming schools and is considered to be highly selective, bycatch levels are considered to be low. However, there is currently no process in place to validate bycatch and as such the nature and quantity of bycatch in the SCPSMF and WCPSMF have not been well characterised.

References

Gaughan, D. J., Leary, T. I. & McCarthy, K. 2005a. West Coast Pure Seine Managed Fishery Status Report. In: *State of the Fisheries Report 2003/04*, eds J.W. Penn, W.J. Fletcher and F. Head, Department of Fisheries, Western Australia, pp. 45-47.

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Nardi, A., Lenanton, R., and Newman, S.J. 2007. West Coast Purse Seine Managed Fishery Status Report. In: *State of the Fisheries Report 2006/07*, eds W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp 67-69.

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Acronyms

DFWA	Department of Fisheries, Western Australia
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DEWHA	Department of the Environment, Water, Heritage and the Arts
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
SCPSMF	South Coast Purse Seine Managed Fishery
WCPSMF	West Coast Purse Seine Managed Fishery