



Australian Government

Department of the Environment, Water, Heritage and the Arts

Assessment of the
**Western Australian Marine Aquarium Fish Managed
Fishery**

OCTOBER 2008

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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 – 2nd 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 WA Marine Aquarium Fish Managed Fishery

<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • WA <i>Fish Resources Management Act 1994</i> (FRM Act) • WA <i>Fish Resources Management Regulations 1995</i> (FRM Regulations) • WA <i>Marine Aquarium Fish Management Plan 1995</i> • ‘Instrument of exemption (No. 288)’ for the take of invertebrates, 8 June 2008. • ‘Prohibition on fishing (coral, ‘live rock’ and algae) order’, section 43 order. • WA Marine Aquarium Fish Managed Fishery Licence • The Department of Fisheries Western Australia (DFWA) State of the Fisheries Report 2005/06 • DFWA State of the Fisheries Report 2006/07 • Department of The Environment and Heritage (DEH) ‘Assessment of the Western Australian Marine Aquarium Fish Fishery’, August 2005
<p>Area</p>	<p>The WA Marine Aquarium Fish Managed Fishery (MAF) operates throughout all WA waters, spanning the coastline from the Northern Territory to South Australia (Figure 1). Operators may fish below high tide water mark on the landward side of the 200m isobath.</p> <p>The effort is spread over a total gazetted area of 20,781 km. From 2004/05 to 2006/07 the fishery has been active in waters from Esperance to Broome, with popular areas being around Dampier, Exmouth, Perth and Albany.</p> <p>Licenseses are not permitted to operate within any waters closed to fishing (e.g. WA Rowley Shoals Marine Park, Reed Observation Areas, and sanctuary zones within marine parks).</p>
<p>Fishery status</p>	<p>Unknown. However, DFWA considers that the operating extent of the fishery is low relative to the distribution of the species targeted. As no other fisheries exploit these species and the take of individual species is not high there is likely to be a low risk of impact on breeding stocks.</p>
<p>Target Species</p>	<p>The MAF targets more than 250 species of fish under its management plan to sell live to the aquarium trade. By way of endorsement, fishers also take coral, algae, live rock, live sand and invertebrates.</p> <p>The fishery targets a wide array of species including hermit crabs, cardinal fishes, goatfish, gobys, goatfish and hardyheads. The most common invertebrates collected by the MAF are corals and hermit crabs. Recently, the species targeted by the MAF have changed, resulting in the decrease in fish landings and an increase in the take of invertebrates.</p> <p>The fishery also targets giant clams (<i>Tridacna</i> spp), hard coral and <i>Hippocampus</i> species (seahorses and pipefish) that are listed on Appendix II under the Convention on International Trade of Endangered</p>

	Species of Wild Flora and Fauna (CITES). <i>Hippocampus</i> species (seahorses and pipefish) are also protected under section 248 of the EPBC Act. MAF retains a number of <i>Hippocampus</i> species, however it primarily targets the Western Australian seahorse (<i>Hippocampus elongates</i>) and the Western spiny seahorse (<i>Hippocampus angustus</i>), which are both endemic to WA. MAF operators are prohibited from taking leafy seadragons (<i>Phycodurus eques</i>) under State legislation.
Byproduct Species	No byproduct is taken in the fishery.
Gear	MAF is primarily a dive-based fishery that uses hand-held nets to capture the desired target species from boats up to 8 m in length. The collection of live rock and corals is achieved through the use of a hammer and chisel. Fish are mostly collected in buckets that remain attached to a drop line until fishing is completed. During hauling, buckets are held on the drop lines a few metres below the water surface for a period to allow for gradual decompression of the captured fish.
Season	MAF operators may fish year round, although fishing operations are heavily weather dependent, owing to the small vessels used and the potentially hazardous conditions (e.g. waves and swell) encountered. Therefore, unfavourable weather conditions, especially during the wet season in northern areas, may limit fishing activity.
Commercial harvest	<p>Summary of the reported catch landed from the MAF in 2006:</p> <p>Fish 28,203 individuals Syngnathidae 1,116 individuals Hermit crabs 160,774 individuals Invertebrates 136,331 individuals Algae 722kg Hard coral 4,552kg Soft coral 2,289kg Living rock, living sand, sponge, other 13,243kg</p> <p>While the MAF operates throughout all Western Australian waters, catches are relatively low in volume, due to the special handling requirements maintaining a high quality live fish product. In addition, human constraints (i.e. the physiological effects of decompression) limit the amount of effort exerted in the fishery, the depth of water and the extent offshore to where collections can occur.</p>
Value of commercial harvest	The catch value for the MAF has not been assessed, and the commercial value of the fishery has not been estimated.
Take by other sectors	The harvest by the recreational and indigenous sectors is unknown, but believed to be low. There are no specific regulations on collecting fish for personal aquaria other than recreational fishing rules and regulations on minimum size and possession limits. There is a complete ban on the recreational take of coral, live rock, and protected species.
Commercial licences issued	There is a cap of 13 licences in the fishery and in most years all licences are used. In 2006, 11 licences operated in the fishery.

<p>Management arrangements</p>	<p>The MAF is managed under conditions specified on Aquarium Fishing/Display licences, in force under the FRM Act and the FRM Regulations and subsidiary legislation including the Western Australian <i>Marine Aquarium Fish Management Plan 1995</i>. ‘Instrument of exemption (No. 288)’ for the take of invertebrates, which now includes annual catch limits for the various taxa listed (approved 8 June 2008). DFWA also implemented the ‘Prohibition on fishing (coral, ‘live rock’ and algae) order’, section 43 order, which consolidated and superseded the ‘permissive conditions on Commercial Fishing Licences’, and specifies the amount of coral and ‘live rock’ that may be taken annually under each licence.</p> <p>The fishery is managed primarily through input controls, in the form of limited entry of the fishery, permanent closed areas, catch limits, and gear restrictions.</p>
<p>Export</p>	<p>Not all operators export their MAF product, and the amount of MAF product exported is likely to be less than the amount that is retained for the domestic market. For those who do export, the primary markets are Asia, USA, Canada and Europe (mainly France and Germany).</p>
<p>Bycatch</p>	<p>Divers in the MAF use hand-held nets or hammer and chisel to capture the desired target species. As a result of these highly selective fishing methods there is no bycatch in this fishery.</p>
<p>Interaction with Protected Species¹</p>	<p>Under sections 199, 214, 232 and 256 of the EPBC Act, persons who interact with a protected species must report that interaction within seven days of the incident occurring to DEWHA, unless reporting is in accordance with a Memorandum of Understanding between DFWA and DEWHA for the Reporting of Fisheries Interactions with Protected Species.</p> <p>The MAF is permitted to take syngnathids (excluding leafy seadragons) and has retained at least 14 species of syngnathids, although only 5 are generally targeted: the Western Australian seahorse (<i>Hippocampus elongatus</i>), the western spiny seahorse (<i>Hippocampus angustus</i>), common or weedy seadragon (<i>Phyllopteryx taeniolatus</i>), knobby seahorse (<i>Hippocampus tuberculatus</i>) and spotted pipefish (<i>Stigmatopora argus</i>). These species are widely distributed in Western Australian waters and occur in both shallow and deep waters in both urban and remote locations. DFWA estimated that 80% of populations occur in areas that receive little to no impact from fishing. Special attention must be given to syngnathids as they may be vulnerable to over fishing because they reproduce relatively slowly, have low rates of dispersal and are highly habitat dependent.</p>
<p>Ecosystem Impacts</p>	<p>The MAF, being a highly selective and relatively small-scale fishery has minimal impacts on the broader ecosystem. The fishery is able to operate over the whole of the WA coast, however there is only a limited amount of this area that is targeted by the fishermen and their impacts</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>are considered negligible.</p> <p>DFWA conducted an Ecological Risk Assessment in 2004, which did not identify any issues that posed greater than a negligible or low risk to the ecosystem and hence there is currently no need to implement specific monitoring for such impacts.</p>
<p>Impacts on CITES-listed specimens</p>	<p>The assessment considered the possible impacts on species harvested in the MAF which are listed under CITES (see Table 3). As a party to the Convention, Australia must apply all CITES provisions of the EPBC Act to CITES imports and exports as appropriate.</p> <p>CITES species that are or are permitted to be harvested in the MAF include:</p> <ul style="list-style-type: none"> • Seahorses (<i>Hippocampus</i> spp); • Hard coral (e.g. staghorn corals, stony corals, black corals); and • Giant fluted clams (<i>Tridacna squamosa</i>). <p>As Part 13A of the EPBC Act incorporates the requirements of CITES, there are no changes to the criteria for export approval, aside from administrative changes to the permits issued. In addition to WTO declaration, a separate CITES export permit is also required to export CITES listed specimens taken from the wild.</p>
<p>Impacts on World Heritage Property</p>	<p>The assessment also considered the possible impacts on the World Heritage values of the Shark Bay region of Western Australia, which is an area of major zoological importance, and is renowned for its marine fauna. Shark Bay is also an important nursery ground for larval stages of crustaceans, fishes and medusae.</p> <p>The ‘Prohibition on commercial fishing (Shark Bay Marine Park) order 2004’, No. 7 of 2004, specifies that MAF operators may only take specimens in the park, which lies within the World Heritage Area, in waters of the Parks General Use Areas.</p> <p>DEWHA considers that an action taken by an individual fisher, acting in accordance with the MAF management regime, would not be expected to have a significant impact on the World Heritage matter protected by the EPBC Act.</p>

Table 2: Progress in implementation of conditions and recommendations made in the 2005 assessment of the WA Marine Aquarium Fish Managed Fishery

Condition	Progress	Recommended Action
<p>1. Operation of the fishery will be carried out in accordance with the Western Australian Marine Aquarium Fish Management Plan 1995 and associated management regime in force under the Western Australian Fish Resources Management Act 1994 and the Western Australian Fish Resources Management Regulations 1995.</p>	<p>The fishery has operated in accordance with the WA <i>Marine Aquarium Fish Management Plan 1995</i> and associated management regime in force under the FRM Act and the FRM Regulations over the course of the fishery's export approval.</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 this fishery, (see Condition 1, Table 4).</p>
<p>2. DFWA will advise DEH² of any material change to the MAF's legislated management plan and/or arrangements that could affect the criteria on which EPBC decisions are based, within three months of that change being made.</p>	<p>There have been no changes to the management arrangements that may affect sustainability of the target species or negatively impact on bycatch, protected species or the ecosystem. However, there is concern regarding a change in the management of sygnathids which is outlined below under Recommendation 3.</p> <p>DFWA conducted a review of the management arrangements for the MAF, and subsequently amended the 'Instrument of exemption (No. 288)' for the take of invertebrates, which now includes annual catch limits for various taxa listed (approved 8 June 2008). The main amendments to the invertebrate exemption (No. 288) include a new category to allow licensees to collect a restricted amount of</p>	<p>DFWA has kept DEWHA informed of intended amendments to the management regime for the fishery through direct liaison and publication of the annual State of the Fishery Reports. Additionally, DFWA will consult with DEWHA regarding a proposed marginal increase in coral quota across all MAF licensees once the proposal is finalised.</p> <p>This condition remains in force for a further three years under the new export declaration for this fishery (see Condition 2, Table 4).</p>

² Now the Department of the Environment, Water, Heritage and the Arts

	<p>corallimorphs and zooanthids and also to permit the take of seagrasses.</p> <p>DFWA also implemented the ‘Prohibition on fishing (coral, ‘live rock’ and algae) order’, section 43 order, which consolidated and superseded the ‘permissive conditions on Commercial Fishing Licences’ and specifies the amount of coral and ‘live rock’ that may be taken annually under each licence.</p> <p>DEWHA considered these amendments did not affect the Part 13 or 13A accreditations of the fishery.</p>	
<p>3. The declaration covers the Western Australian Marine Aquarium Fish Managed Fishery only to the extent that the Western Australian Marine Aquarium Fish Managed Fishery relates to specimens that:</p> <ul style="list-style-type: none"> i. are not listed under Part 13 of the EPBC Act, or ii. are listed marine species that are not taken in the Commonwealth marine area, or iii. are listed marine species that are taken in the Commonwealth marine area according to the specifications of a wildlife conservation plan negotiated between DFWA and DEH. 	<p>Since 2005, the MAF has not been permitted to export any species listed under Part 13 of the EPBC Act (excluding listed marine species taken in WA waters), except for syngnathids. No recorded export compliance breaches from the fishery have been reported to date. <i>Hippocampus</i> species, giant clams (<i>Tridacna sp.</i>) and hard corals have been exported under an appropriate CITES export permit.</p>	<p>Syngnathids, which are a target species in the fishery, are listed marine species under the EPBC Act. Seahorses (<i>Hippocampus</i> species) are also listed under CITES.</p> <p>DEWHA considers that the managed harvest of these species from WA waters is not inconsistent with Part 13 accreditation and export should be allowed to continue, under export permits for non-CITES listed syngnathid species and CITES export permits for <i>Hippocampus</i> species, giant clams (<i>Tridacna sp.</i>) and hard corals (<i>Antipatharia</i> spp., <i>Helioporidae</i> spp., <i>Scleractinia</i> spp., <i>Milleporidae</i> spp.). DFWA will need to apply for a CITES permit to export CITES listed species independently from this process.</p>

<p>4. Reports to be produced and presented to DEH annually, and to include:</p> <ul style="list-style-type: none"> - information sufficient to allow assessment of the progress of DFWA in implementing the recommendations made in the Assessment of the Western Australian Marine Aquarium Fish Managed Fishery 2005; - A description of the status of the fishery and catch and effort information; - A statement of the performance of the fishery against objectives, performance indicators and measures once developed; and - Research undertaken or completed relevant to the fishery. 	<p>DFWA has provided annual progress reports of the MAF against the 2005 WTO Conditions and Recommendations.</p> <p>DFWA reports on the performance of the fishery annually through the WA State of the Fisheries Reports for WA fisheries. The 2000/01 to 2006/07 reports contain reference to the MAF and are publicly available from the DFWA website at: http://fish.wa.gov.au/docs/sof/index.php?0706</p> <p>From 2003/04 onwards, the MAF section of the State of the Fisheries Reports include information on catch and effort trends and protected species interactions, in addition to a description of the management arrangements.</p>	<p>DEWHA considers that this condition has been met and notes that this condition remains in force for a further three years under the new export declaration for this fishery (see Condition 3, Table 4).</p>
Recommendation	Progress	Recommended Action
<p>1. DFWA to advise DEH of any material change to the MAF's legislated management plan and/or arrangements that could affect the criteria on which 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 for a further three years under the new export declaration for this fishery (see Condition 2, Table 4).</p>
<p>2. The ESD Report, including all</p>	<p>DFWA conducted a review of the management</p>	<p>DEWHA considers this recommendation has</p>

	<p>arrangements for the MAF, and subsequently amended the ‘Instrument of exemption (No. 288)’ for the take of invertebrates, which now includes annual catch limits for various taxa listed (approved 8 June 2008). DFWA also implemented the ‘Prohibition on fishing (coral, ‘live rock’ and algae) order’, section 43 order, which consolidated and superseded the ‘permissive conditions on Commercial Fishing Licences’ and specifies the amount of coral and ‘live rock’ that may be taken annually under each licence.</p> <p>DFWA continues to review the management regime annually and the status of the Fishery is recorded in the annual State of the Fisheries Report. If required (for example a performance measure is exceeded) the management plan, Order or Exemption can be amended to respond to the issue.</p>	<p>been partially met and supports further development. DEWHA recommends that DFWA develop fishery specific triggers, performance indicators, performance measures, and management responses, linked to objectives and existing catch limits, for hermit crabs, CITES listed species and EPBC Act listed species (see Recommendation 1, Table 4).</p>
<p>3. DFWA to consult with DEH prior to a change to the management arrangements for a CITES or EPBC Act listed species being implemented.</p>	<p>Syngnathids (seahorses, sea-dragons and pipefish) are listed under Part 13 of the EPBC Act, and <i>Hippocampus</i> species are CITES listed. In 2008 DFWA increased its trigger reference point from 750 individual syngnathids to 2,000 syngnathids. This change was on the basis that the initial 750 limit “was not based on any biological and sustainability assessment but rather that the historical numbers between 1994 and 1999”. DFWA considers that there is no evidence of a decline as catches continue to increase while the level of effort in the fishery is stable. Catches for 2005, 2006, and 2007 were 480, 1,116, and 1,476 individuals respectively. Not all licensees collect syngnathids, and DFWA considers that individual quotas for licensees is not practical at</p>	<p>DEWHA considers that this recommendation was partially met. DFWA consulted with DEWHA regarding potential changes to catch limit changes for <i>Tridacna</i> species, however, DEWHA was not informed of the change to increasing the syngnathids catch limit until after it had been implemented. This recommendation remains in force for a further three years under the new export declaration for this fishery (see Condition 4, Table 4), and DEWHA will pay particular attention to monitoring CITES listed <i>Hippocampus</i> species, see Recommendation 2, Table 4.</p>

	<p>this stage.</p> <p>Should the 2,000 trigger be reached, the management arrangements will be reviewed and the possibility of species-specific spatial catch or effort limits may be investigated. Catch is currently monitored through monthly catch and effort returns, with plans to introduce daily logbooks.</p> <p>MAF operators also collect stony corals which belong to the Order Scleractinia and giant clams of the genus <i>Tridacna</i>, which are CITES listed. DFWA, in consultation with licensees, is considering a marginal increase in coral quota across all MAF licensees provided any additional quota is taken from outside the Dampier region. DEWHA will be consulted once the proposal is finalised.</p> <p>The prohibition on the take of the stony coral <i>Catalaphyllia jardinei</i> in the greater Dampier Archipelago region will remain in place until information on the abundance and distribution of this coral species becomes available.</p> <p>The Aquarium Specimen Collectors Association requested an increase in the number of <i>Tridacna</i> clams taken in the fishery. DFWA consulted with DEWHA in February 2008 prior to seeking Ministerial approval for the amendment to the invertebrate exemption. The Minister did not support any increase and the current catch limit was retained at 200 <i>Tridacna</i> clams per year per licensee.</p>	
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<p>4. Within 18 months DFWA to develop and implement strategies to address identified compliance risks within the fishery.</p>	<p>On 9 August 2008, DWFA conducted a compliance risk assessment workshop to follow up on issues of concern identified in the 2003 compliance risk assessment workshop. As a result of this workshop DFWA implemented strategies to mitigate compliance risks, including notification of fishing and the introduction of daily logbooks for quota management. Written notification of fishing for coral and live rock was introduced in September 2007 in the 'Prohibition on fishing (coral, 'live rock' and algae) order' (section 43 order). This assisted the planning of compliance activities for inspections both at sea and at the point of landing. A nomination to fish via a phone-in type service, which is more practical and efficient, is currently being investigated.</p> <p>At the time of the first MAF strategic assessment submission a Code of Conduct for the fishery had been drafted. A final version of the Code of Conduct will be incorporated into the Environmental Management System (EMS) Report, which was undertaken for the MAF, and will be finalised by the WA Fishing Industry Council in October 2008. A compliance risk analysis does not appear to have been undertaken as part of the MAF EMS.</p> <p>Daily logbooks for quota species will be in use by the end of 2008. These will enable DFWA to monitor catches of species as they move towards defined catch limits.</p>	<p>DEWHA considers this recommendation has been met and supports further development. DFWA to define an audit program for checking compliance by operators in completing daily logbooks and monthly returns (see Recommendation 6, Table 4).</p>
<p>5. DFWA to implement data validation mechanisms for CITES and EPBC Act listed</p>	<p>Validation of CITES and EPBC Act listed species will occur by notifications of fishing/landing in conjunction with the use of daily logbooks to allow</p>	<p>DEWHA acknowledges DFWA's progress towards meeting this recommendation and recommend it is fully implemented in the</p>

	<p>inspections of reported catches. Notification of departure, fishing and landing for coral has been legislated in the new Order. The Department has worked with industry and developed and trialled a comprehensive daily logbook for the fishery. The use of the daily logbooks is nearly finalised and requires catch numbers and locations for syngnathids, coral and <i>Tridacna</i> clams. The daily logsheets are required to remain with the catch and be completed before departing the point of landing. Together with the notification of fishing, fisheries and marine officers will be able to validate catch and effort data for all quota-managed species including those that are CITES and EPBC Act listed.</p> <p>Completion of the daily logbooks will be enforced by way of a licence condition on the Commercial Fishing Licences of the nominated operators.</p>	<p>fishery within the next 12 months (see Recommendation 5, Table 4).</p>
<p>6. Within 2 years DFWA to develop and implement a research strategy to gather further information on the stock status, biology and ecology of CITES and EPBC Act listed species. DEH notes that the research strategy will need to be implemented within the constraints of available resources.</p>	<p>DFWA acknowledges that research on the abundance and distribution of many of the collected species in WA is required. However, the marine aquarium fishery catches hundreds of different species and is a non-cost recovered fishery. Licensees make no financial contribution to management, research or compliance activities (they pay only for the annual renewal of their Managed Fishery, Fishing Boat and Commercial Fishing Licences) meaning that these activities are currently entirely reliant on WA Government Consolidated Revenue funding. Competing research priorities mean that there are insufficient resources to undertake research at the present time on the broad range of species taken. In addition, the current quota on invertebrates is</p>	<p>DEWHA considers this recommendation has not been met, noting the difficulties associated with competing research priorities and the expense to a small number of operators. DFWA to identify key research actions that will be undertaken as part of the performance management framework to be developed (see Recommendation 1, Table 4). DFWA to develop a research strategy for CITES listed <i>Hippocampus</i> species to assess the potential impact of the increased syngnathid catch limit (see Recommendation 2, Table 4).</p>

	<p>considered to be appropriately precautionary.</p> <p>However, it should be noted that the Department of Environment and Conservation are conducting surveys on giant clams in the Coral Bay region and coral surveys in the Dampier Archipelago as part of a long term monitoring project. This should provide some valuable information of the distribution and abundance of these species.</p> <p>Regular liaison with staff at the WA Museum and Mscience, a consulting company, provides valuable information on the ecology and biology of some species.</p> <p>DEWHA is concerned that while there a limitations in conducting research within the fishery, a research strategy to prioritise the use of available resources has not been completed.</p>	
<p>7. Within 2 years DFWA to identify species at risk of localised and serial depletion and to implement management measures to mitigate these risks in the fishery.</p>	<p>Catch and effort statistics are monitored to identify the fishery’s “hot spots” and any information on local or serial depletion is investigated. Similar to the prohibition put in place for the coral <i>Catalaphyllia jardinei</i> following anecdotal reports that this species was locally depleted in the Dampier region, there are mechanisms available to minimise these risks.</p> <p>Much of the coral quota within the fishery is taken from the Dampier Archipelago, thus the new daily logbooks requires this take to be recorded from 5 nm blocks rather than the 10 nm blocks currently used for the rest of the fishery. Information derived from</p>	<p>DEWHA considers this recommendation has been partially met and supports further development. This recommendation will be addressed as part of DFWA developing a fishery specific management response framework (see Recommendation 1, Table 4); and specifically addressed in Recommendation 4, Table 4.</p>

	<p>this information will guide management decisions to ensure local depletion risks are minimal.</p>	
<p>8. Within 12 months DFWA to develop a timeline for the implementation of proposed changes to the Management Plan for the MAF, as outlined in the DFWA submission.</p>	<p>Delays in the management plan amendments are expected to be ongoing. As a result, the coral, live rock and algae Order was legislated as an alternative mechanism to regulate the take of this component of the fishery. Furthermore, the invertebrate exemption has recently been amended to define the catch and, from a management perspective, is working well. Both the invertebrate exemption and the Coral and Live Rock Order are considered to be “stepping stones” towards a management plan that includes all components of the fishery. In any event, in an environment of emerging marine parks and changing market dynamics for the fishery, there is a need to further develop future management arrangements in liaison with Industry and compliance officers before drafting instructions for a management plan can be finalised.</p>	<p>DEWHA considers this recommendation has been partially met, noting difficulties in accessing the appropriate resources to implement Management Plan amendments. DEWHA recommends that DFWA continue to pursue amendments, with the aim to merge the various subordinate legislative instruments in one document (see Recommendation 7, Table 4).</p>
<p>9. DFWA to provide a mechanism which allows fishers to record interactions with protected/listed species. DFWA to ensure that industry has the capacity to make these reports at an appropriate level of accuracy</p>	<p>The monthly catch and effort logbooks have been modified to include a section where licensees can record interactions with protected species. All licensees have been provided with a copy of the “Protected marine species identification guide”.</p> <p>Under the EPBC Act operators are currently required to report interactions with a protected species to DEWHA within seven days of the incident occurring. However, DFWA and DEWHA are developing a Memorandum of Understanding for the Reporting of Fisheries Interactions with Protected Species, which</p>	<p>DEWHA commends DFWA for revising logbooks and developing identification guides for fishers, and considers that this recommendation will be met in the near future. DFWA to implement the daily logbook program within the fishery within 12 months (see Recommendation 5, Table 4).</p>

	will require DFWA to provide consolidated reporting of protected species interactions.	
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Table 3: DEWHA assessment of the WA Marine Aquarium Fish 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 Marine Aquarium Fish 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 MAF is under the 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 October 2005. DEWHA was satisfied that persons engaged in fishing under the MAF’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 MAF since the initial assessment application was submitted in 2004, including introducing finer scale spatial reporting in the Dampier Archipelago, and passing two legislative instruments to place limits on the take of different invertebrate taxa. DFWA has also drafted a daily</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>logbook, which is scheduled to be in use by the end of 2008. DEWHA considers that the management regime for the fishery 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 fishery 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 MAF.</p> <p>Current evidence suggests that the MAF only has minimal interactions with listed threatened species, including sawfish species. Therefore, DEWHA considers the current operation of the MAF 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 Marine Aquarium Fish 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>if satisfied that:</p>	<p>The management regime for the MAF will be managed under the FRM Act and the FRM Regulations.</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 MAF since the initial assessment application was submitted in 2004, including introducing finer scale spatial reporting in the Dampier Archipelago, and passing two legislative instruments to place limits on the take of different invertebrate taxa. DFWA has also drafted a daily logbook, which is scheduled to be in use by the end of 2008. DEWHA considers that the management regime for the fishery 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 fishery 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 MAF.</p> <p>Current evidence suggests that the MAF only has minimal interactions with listed migratory species. Therefore, DEWHA considers the current operation of the MAF is not likely to adversely affect the survival or recovery in nature of any listed migratory species.</p>
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Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes	DEWHA assessment of the WA Marine Aquarium Fish 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 	<p>The management regime for the MAF 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 cetaceans are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a species of cetacean or a population of that species.</p>	<p>DFWA has made progress in improving management arrangements for the MAF since the initial assessment application was submitted in 2004, including introducing finer scale spatial reporting in the Dampier Archipelago, and passing two legislative instruments to place limits on the take of different invertebrate taxa. DFWA has also drafted a daily logbook, which is scheduled to be in use by the end of 2008. DEWHA considers that the management regime for the fishery 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 whales and other cetaceans.</p> <p>Given the management regime in force for the fishery 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 whales and other cetaceans and any interaction with whales and other cetaceans would be incidental to and not the purpose of the operation of the MAF.</p> <p>Current evidence suggests that the MAF only has minimal interactions with whales and other cetaceans. Therefore, DEWHA considers the current operation of the MAF is not likely to adversely affect the survival or recovery in nature of any whales and other cetaceans.</p>
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<p>Division 4 Listed marine species Section 265 Minister may accredit plans or regimes</p>	<p>DEWHA assessment of the WA Marine Aquarium Fish 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>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed marine species or a population of that species.</p>	<p>The management regime for the MAF will be managed under the FRM Act and the FRM Regulations.</p> <p>DFWA has made progress in improving management arrangements for the MAF since the initial assessment application was submitted in 2004, including introducing finer scale spatial reporting in the Dampier Archipelago, and passing two legislative instruments to place limits on the take of different invertebrate taxa. DFWA has also drafted a daily logbook, which is scheduled to be in use by the end of 2008. DEWHA considers that the management regime for the fishery 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 fishery 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 MAF.</p> <p>Currently, evidence suggests that the MAF only has minimal interactions with listed marine species (including CITES listed species: hard corals, seahorses and pipefish (<i>Hippocampus</i> species), and giant clams (<i>Tridacna</i> species)). Therefore, DEWHA considers the current operation of the MAF is not likely to adversely affect the survival or recovery in nature of any listed marine species.</p>
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Section 303AA Conditions relating to accreditation of plans, regimes and policies	DEWHA assessment of WA Marine Aquarium Fish 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 MAF 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.	To satisfy the requirements of sections 208A, 222A, 245 and 265 we recommend that the MAF be accredited under Part 13 subject to a condition that requires the fishery not to retain any species listed under Part 13 of the EPBC Act killed or injured in Commonwealth waters as a result of aquarium fishing. The Part 13 instrument for MAF specifies this 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 303 CG Minister may issue permits (CITES species)	DEWHA assessment of the WA Marine Aquarium Fish Managed Fishery
(3) The Minister must not issue a permit unless the Minister is satisfied that: <ul style="list-style-type: none"> (a) the action or actions specified in the permit will not be detrimental to, or contribute to trade which is detrimental to: <ul style="list-style-type: none"> i. the survival of any taxon to which the specimen belongs; or 	Given the catch limits for CITES specimens (hard corals, giant fluted clams and <i>Hippocampus</i> species) and catch monitoring that have been implemented by DFWA, DEWHA considers that the harvest of these species from the fishery will not be detrimental to the survival of the taxon to which the CITES specimen belongs in the medium term. Conditions on the WTO declaration for the fishery includes annual reporting requirements, which will allow DEWHA to monitor the status of CITES specimens harvested in the fishery and the need for DFWA to advise DEWHA of any additional CITES species being, likely to be, or able to be harvested in the fishery to ensure that EPBC Act

<p>ii. the recovery in nature of any taxon to which the specimen belongs; or</p> <p>iii. any relevant ecosystem (for example, detriment to habitat or biodiversity).</p>	<p>requirements are met in relation to CITES-listed species.</p> <p>The CITES specimens harvested from the fishery are not considered to be over fished in the WA. Managements arrangements in place including limited entry, catch limits, gear restrictions and area closures to assist in ensuring their ecologically sustainable harvest.</p> <p>Recognising the nature of harvest and gear used in the fishery, the potential for the MAF to impact unacceptably and unsustainably on any relevant ecosystem generally is considered quite low. DEWHA is satisfied that the fishery is conducted in a manner that minimises the impact of fishing operations on the ecosystem generally.</p>
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Section 303DC Minister may amend list	DEWHA assessment of the WA Marine Aquarium Fish Managed Fishery
<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> <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 inclusion of a specimen in the list is subject; or (e) correcting an inaccuracy or updating the name of a species. 	
<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 	<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 MAF and provided sufficient opportunity for consultation with other persons and organisations.</p>

(c) may consult such other persons and organisations as the Minister considers appropriate.	A letter to the Hon Norman Moore MLC advises him of the intention to declare the fishery an approved WTO under the EPBC Act
(5) A copy of an instrument made under section 303DC is to be made available for inspection on the Internet.	The instrument for the MAF made under sections 303DC will be gazetted and made available on the DEWHA website.

Section 303FN Approved wildlife trade operation	DEWHA assessment of the WA Marine Aquarium Fish Managed Fishery
(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>(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> <ol style="list-style-type: none"> i. the survival of a taxon to which the operation relates; or ii. the conservation status of a taxon to which the operation 	<p>The MAF 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); ▪ there are management arrangements in place to ensure that the harvest of CITES species from the fishery will not be detrimental to the survival of the taxon to which the specimen belongs in the medium term; ▪ the operation of the MAF 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 MAF 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</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>(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>closures.</p> <p>DEWHA considers that the MAF 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>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 MAF 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 and area closures.</p> <p>The management arrangements that will be employed for the MAF are likely to be effective. Management arrangements for the fishery are included in the management regime, in force under the FRM Act and the FRM Regulations. Management arrangements include limited entry, catch limits, gear restrictions and area closures.</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 effective.</p>	<p>The MAF 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 MAF are likely to be effective. Management arrangements for the fishery are included in the management regime, in force under the FRM Act and the FRM Regulations. Management arrangements include limited entry, catch limits, gear restrictions and area closures.</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 MAF is a commercial fishery.</p>

Section 303FR Public consultation	DEWHA assessment of the WA Marine Aquarium Fish Managed Fishery
<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 about the proposal.</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 MAF a WTO and included the submission <i>Application to the Department of the Environment, Water, Heritage and the Arts on the Western Australia Aquarium Fishery, June 2008</i>, was released for public comment which closed on 8 August 2008 with one submission received.</p>
<p>(2) A period specified in the notice must not be shorter than 20 business days after the date on which the notice was published on the Internet.</p>	<p>A public notice, which set out the proposal to declare the MAF a WTO and included the submission <i>Application to the Department of the Environment, Water, Heritage and the Arts on the Western Australia</i></p>

	<i>Aquarium Fishery, June 2008</i> was released for public comment on 10 July 2008 and closed on 8 August 2008, a total of 20 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 DEWHA assessment has considered the public comment received on the submission.

Section 303FT Additional provisions relating to declarations	DEWHA assessment of the WA Marine Aquarium Fish Managed Fishery
(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.	A declaration for the MAF 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 MAF 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 MAF 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 Marine Aquarium Fish Managed Fishery
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(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 conditions and recommendations to DFWA for the WA Marine Aquarium Fish Managed Fishery

The material submitted by DFWA indicates that the management arrangements for the MAF meet most of the requirements of the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition*. While the fishery is relatively well managed and has seen substantial progress in improving management arrangements, the Department of the Environment, Water, Heritage and the Arts (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 report catch at species level for CITES listed species and species listed under Part 13 of the EPBC Act, including hard corals, seahorses (*Hippocampus* species), pipefish and giant clams (*Tridacna* species);
- the need to pursue targeted and strategic research to improve knowledge on the stock status, biology and ecology of key target species in the fishery and into ecological and ecosystem impacts, including risk from localised and serial depletion for susceptible species;
- the need to pursue further measures to validate logbook data in the fishery; and
- the preference to include the various management arrangement legislation into the Management Plan, and/or to consolidate catch limits and other management controls, and reporting requirements into a management arrangements document for fishers.

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 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 believes that the fishery should be declared a Wildlife Trade Operation (WTO) for a period of three years. Such a declaration would enable DFWA to address some of the uncertainties in the fishery, incorporate any new information into the management arrangements and allow DEWHA to review progress of the fishery through DFWA reporting on progress with the conditions and recommendations on an annual basis. The WTO declaration would also allow exporters to seek Convention on International Trade in Endangered Species (CITES) export permits to export CITES species (hard corals, *Hippocampus* species and giant fluted clams (*Tridacna* species)) harvested from the fishery.

DFWA has made progress in improving management arrangements for the MAF since the initial assessment application was submitted in 2004, including introducing finer scale spatial reporting (10 x 10 nautical mile blocks), and passing two legislative instruments to place limits on the take of different invertebrate taxa. DFWA has also drafted a daily logbook, which is scheduled to be in use by the end of 2008.

DEWHA considers that the operation of the fishery does not, and 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.

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 (3 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: WA Marine Aquarium Fish Managed Fishery – Summary of Issues, Conditions and Recommendations, October 2008

Issue	DEWHA WTO Condition
<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 regime and make an assessment that the new arrangements are equivalent or better, in terms of ecological sustainability, than those in place at the time of the original decision.</p> <p>DEWHA notes that future assessment needs for the MAF are made available through the annual WA Fishery Status Reports, which outlines potential intended changes to the fishery’s management arrangements. DEWHA supports the continued reporting of future assessment needs for the fishery, but reinforces the need for DFWA to advise DEWHA of any intended change to the MAF management arrangements, including legislated amendments that may affect sustainability of the target species or negatively impact on by-product, bycatch, protected species or the ecosystem.</p>	<p>Condition 1: Operation of the Western Australia (WA) Marine Aquarium Fishery (MAF) will be carried out in accordance with the management regime in force under <i>WA Fish Resources Management Act 1994</i> (FRM Act) and the <i>WA Fish Resources Management Regulations 1995</i> (FRM Regulations).</p> <p>Condition 2: The Department of Fisheries Western Australia (DFWA) to advise Department of the Environment, Water, Heritage and the Arts (DEWHA) of any intended change to the MAF management arrangements that could 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>
<p><u>Annual Reporting</u> It is important that reports be produced and presented to DEWHA annually in order for the performance of the fishery and progress in implementing the recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports should follow Appendix B to the <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 recommendations. Electronic copies of the Guidelines are available from the DEWHA website at http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html</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><u>Convention for the International Trade of Endangered Species (CITES) or EPBC Act listed</u></p>	<p>Condition 4: DFWA to consult with</p>

<p><u>species</u></p> <p>This assessment considered the possible impacts on species harvested in the MAF which are listed under CITES. As a party to the Convention, Australia must apply all CITES provisions of the EPBC Act to CITES imports and exports as appropriate.</p> <p>DEWHA has assessed the possible impacts on the following CITES species that have been identified by DFWA to be harvested (and possibly exported) in the fishery:</p> <ul style="list-style-type: none"> • hard corals (e.g. staghorn corals, stony corals, black corals); • seahorses (<i>Hippocampus</i> species) and pipefish; and • giant clams (<i>Tridacna</i> species). <p>To ensure that EPBC Act requirements are met in relation to CITES-listed species, DFWA need to advise DEWHA of any additional CITES species being, likely to be, or able to be harvested in a fishery, including the level of harvest. If CITES specimens are not identified to DEWHA, the assessment will not have considered possible impacts on the species harvested in the fishery as required under the EPBC Act and therefore CITES export permits may not be granted.</p> <p>In general, DFWA has consulted with DEWHA with regard to potential management changes that would affect CITES or EPBC Act listed species. However, DEWHA is concerned that DFWA implemented an increase in the 2008 catch limit for sygnathids from 750 individuals to 2,000 individuals without consultation with DEWHA.</p> <p>All CITES specimens listed above still require a CITES export permit to export the specimens.</p>	<p>DEWHA prior to a change to the management arrangements for a CITES or EPBC Act listed species being implemented.</p>
<p>Issue</p>	<p>DEWHA Recommendation</p>
<p><u>Review of risk levels for all components of the fishery</u></p> <p>The 2005 submission to DEH for assessment under the EPBC Act included a draft ESD Report, which provided: 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 MAF. Detailed justifications for the levels of risk chosen and methods used are also documented in the report. The ESD Report also states that a broad review of the ESD Report and its component sections shall be undertaken every five years that will encompass all aspects of the fishery.</p>	<p>Recommendation 1: By July 2009, DFWA to identify and review risk levels for target species, bycatch (including protected species) and impacts on the environment for the MAF. DFWA to implement appropriate measures to ensure identified risks are addressed and minimised.</p>

<p>DEWHA recommended that DFWA identify and review the risk levels for all components of the fishery and provide for appropriate consultation with relevant stakeholders (including recreational, indigenous, conservation and community groups) by July 2009. 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 MAF. Where appropriate, DFWA shall update or develop new objectives, indicators, performance measures, management responses and information requirements.</p> <p>Details and results of the review should be documented and made publicly available, to clearly articulate and justify management arrangements in place for the fishery.</p>	
<p><u>Research</u></p> <p>It was also recommended in 2005 that DFWA develop and implement a research strategy to gather further information on the stock status, biology and ecology of CITES and EPBC Act listed species within two years. DEWHA noted the resource constraints on the fishery in trying to implement this recommendation. DFWA was not able to implement this recommendation due to difficulties associated with competing research priorities and the expense to a small number of operators. The exception, was a survey being conducted on giant clams in the Coral Bay region and coral surveys in the Dampier Archipelago as part of a long term monitoring project.</p> <p>Although hermit crabs are not CITES or EPBC Act listed species, DEWHA is also concerned about the high harvest of hermit crabs within the fishery (160,774 individuals in 2006), given the limited knowledge of, and lack of research undertaken with regard to this group of species.</p> <p>DEWHA recommends DFWA continue to ensure that priority research is undertaken to improve the ecologically sustainable management of the fishery, particularly research which focuses on the stock status of key target species, especially those that are CITES or EPBC Act listed.</p> <p>As mentioned above, DEWHA is concerned that DWFA implemented an increase in the 2008 catch limit for syngnathids from 750 individuals to 2,000 individuals without consultation with DEWHA. Overall the catch of syngnathids for 2005, 2006 and 2007 increased from 480, 1,116, and 1,476 individuals respectively. The 2006 and 2007 catches exceeded the 750 catch limit, which was not reported to DEWHA.</p> <p>Within the syngnathid group, DWFA reported high catches of two <i>Hippocampus</i> species, <i>Hippocampus elongates</i> (Western Australian seahorse) and <i>Hippocampus angustus</i> (Western spiny</p>	<p>Recommendation 2: DFWA to continue to pursue and take account of research to support management of the fishery, with specific reference to <i>Hippocampus</i> species.</p>

<p>seahorse, 136 individuals in 2007), which are both EBPC Act and CITES listed species. <i>Hippocampus elongates</i> catches for 2005, 2006, and 2007 were 307, 648 and 1,025 individuals respectively. <i>Hippocampus angustus</i> catches for 2005, 2006, and 2007 were 60, 177 and 136 individuals respectively. Both species are endemic to WA.</p> <p>DEWHA therefore recommends that DFWA specifically take account of <i>Hippocampus</i> species in developing its research strategy in order to assess the potential impact of the increased sygnathid catch limit.</p> <p>MAF operators will also benefit from the existence of a transparent process and basis for determining catch limits through positive public perception.</p>	
<p><u>Mortality</u> Total take, including any mortality must be considered as part of any assessment of stock sustainability. DEWHA recognises that there is low mortality of target species due to the highly selective nature of harvesting in the MAF, and that the fishers are motivated to retain specimens in top condition in order to command the highest possible prices for product. However, despite fishers best efforts mortality may occur. DEWHA recommends that this mortality be captured in the daily logbooks, when they are implemented in late 2008, in order to obtain an accurate assessment of the impact of harvesting in the MAF on target species.</p>	<p>Recommendation 3: All mortality of target species to be recorded in daily logbooks and accounted for in any analysis of stock sustainability and potential localised and serial depletion.</p>
<p><u>Localised and serial depletion</u> In 2005, DEWHA made a recommendation for DFWA to identify species at risk of localised and serial depletion and to implement management measures to mitigate these risks in the fishery, within two years. DFWA maintains ongoing monitoring of catch and effort statistics to identify the fishery's "hot spots" and any information on local or serial depletion is investigated. Finer scale reporting of coral take within the Dampier Archipelago will be implemented in the new daily logbooks.</p> <p>Localised depletion of resources was identified as an issue in the risk analysis contained within the MAF Environmental Management System (EMS). The issue was ranked as low risk, and in response a target and performance indicator were defined. The fishery target is to: "Prescribe a limit to the quantity of a species or benthos collected in a location. Support research into growth rates and MAF impacts concerning collected organisms. Undertake research which assesses the impact of the take of coral and live rock for communication with public." The Performance Indicator was: "Increased reporting of taxonomic resolution of species collected... Initiate/support</p>	<p>Recommendation 4: DFWA to:</p> <ul style="list-style-type: none"> ~ ensure catch and effort data collected in daily logbooks is at an appropriate spatial scale that allows DFWA to identify species and areas at potential risk from localised and serial depletion; and ~ implement appropriate management measures to mitigate identified risks. <p>Recommendation 5: Within 12 months, DFWA to implement the daily logbook program within the fishery.</p>

research into impacts of MAF operations and growth rates.” The EMS also noted specific concerns from stakeholders regarding localised depletion of corals, live rock or alteration of ecosystem function, and responded with a similar target and performance indicator.

DEWHA acknowledges DFWA’s strategy to deal with localised and serial depletion, noting the limited resources available to the MAF. DEWHA considers that there is potential for more progress to be made on this issue as the current resolution of data collected is not adequate for identifying localised depletion, and that the development of a fishery specific management response framework in **Recommendation 1** will in part address the issue.

DEWHA proposes higher resolution of catch and effort data collected across the whole fishery, as DFWA is not currently able to detect small scale, e.g. by reef, localised and serial depletion using the low resolution data collected. DEWHA recommends that the daily logbooks, which are due to be implemented in late 2008, be revised to include mandatory fine scale reporting, using GPS coordinates, latitudes and longitudes, or specific mapped features of fished areas to acquire more detailed information on the distribution of catch and effort in the fishery.

DEWHA also considers that logbook data needs to be analysed on an ongoing basis to determine spatial and seasonal variations in the harvest of target species to ensure any potential localised depletion is managed appropriately. DEWHA therefore also recommends that DFWA articulate an approach to analyse logbook data needs to monitor any shift towards stock depletion within a fishing area. This is particularly important with regard to the relatively high level of harvest for sygnathids, in addition to limited knowledge of some target species.

DFWA and MAF operators may benefit from increased spatial resolution and analysis through increased confidence in subsequent reporting. Comprehensive recording of harvest will help alleviate the need for a more stringent compliance regime.

Compliance

DEWHA commends DFWA on implementing strategies to mitigate compliance risks identified for the fishery in the 2003, but notes a more recent compliance risk analysis has not been undertaken as part of the MAF EMS.

Logbook records are used by DFWA as the primary tool for observing fishing trends and managing the fishery generally, however there is no formal compliance and research program for

Recommendation 6: DFWA to investigate and implement appropriate compliance measures to ensure the accuracy of logbook data.

<p>validating the data collected. Understanding the relatively small value of the fishery, and noting the lack of a formalised observer program, DEWHA recommends DFWA pursue further measures to validate logbook data and continue to promote and take account of independent research projects which monitor or assess aquarium fisher’s activities. Such research or data validation measures should be included in the annual WA State of Fisheries Reports. In recognition that it is difficult to obtain resources to undertake research, DFWA could consider complementing any research undertaken by implementing an audit program to verify the data entered into logbooks. More regular onshore compliance checks will provide additional confidence in logbook data, which remain the basis for assessing and monitoring within the MAF.</p>	
<p><u>Management Plan</u> DEWHA notes that the new Management Plan is not expected to be drafted in under 2 years due to other DFWA priorities, and that while the actual Management Plan has not been amended, DFWA has introduced other governing forms of legislation and management tools in lieu of these delays such as the coral and live rock Order and the invertebrate exemption which is subject to conditions. DEWHA considers that these legislative tools contribute to an improved management framework for the MAF.</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 7: DFWA continue to pursue amendments to the MAF Management Plan, with the aim to contain the various subordinate legislative instruments into one document.</p>