



Australian Government

Department of the Environment and Water Resources

Assessment of the
**Queensland East Coast Spanish
Mackerel Fishery**

October 2007

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This document is an assessment carried out by the Department of the Environment and Water Resources of a commercial fishery against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries*. It forms part of the advice provided to the Minister for the Environment and Water Resources 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 and Water Resources or the Australian Government.

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Table 1: Summary of the Queensland East Coast Spanish Mackerel Fishery

<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • <i>QLD Fisheries Act 1994</i> • <i>QLD Fisheries Regulation 1995</i> • <i>Great Barrier Reef Marine Park Act 1975</i> • <i>QLD Marine Parks Act 2004</i> • <i>Annual Status Report 2006 – East Coast Spanish Mackerel Fishery</i> • <i>Summary Report – East Coast Spanish Mackerel Fishery – 2007</i> • <i>Annual Status Report 2005 and Fisheries Regulation 1995 biennial review</i> • <i>Department of the Environment and Heritage Assessment of the Queensland East Coast Spanish Mackerel Fishery – October 2004.</i> • <i>Experimental results from the third statewide Recreational Fishing Information diary program (2002).</i> • <i>Management Strategy Evaluation for the Queensland East Coast Spanish Mackerel Fishery, 2002.</i> • <i>Exploitation dynamics and biological characteristics of the Queensland East Coast Spanish mackerel (<i>Scomberomorus commerson</i>) fishery – Cooperative Research Centre (CRC) Reef Research Centre, JCU.</i>
<p>Area</p>	<p>The area of the East Coast Spanish Mackerel Fishery (ECSMF) includes Queensland east coast waters and out to the outer edge of the Australian Exclusive Economic Zone. The Fishery is managed by Queensland under an Offshore Constitutional Settlement (OCS) agreement.</p>
<p>Fishery status</p>	<p>The Queensland Department of Primary Industries and Fisheries (DPI&F) report that the ECSMF remains in a state of adjustment following the introduction of the Spanish mackerel Individual Transferable Quotas (ITQs) in early 2004 and the rezoning of the Great Barrier Reef Marine Park (GBRMP) in July 2004. This period of adjustment has contributed to the quota not being met in the last two years.</p> <p>An age-structured stock assessment model has been developed to assess the status of the fishery. The last published stock assessment to be completed for Spanish mackerel was in 2002, with a Management Strategy Evaluation updated in 2003. Those assessments concluded that the probability that the Spanish mackerel stock was overfished at the time was low. DPI&F report that the current stock assessment for the ECSMF indicates that, at 2001 levels of fishing effort, the fishery is sustainable.</p> <p>The Spanish mackerel stock assessment, utilising commercial fisheries logbook data, age and length frequency data from long term monitoring program (LTMP) and recreational catch data, is currently underway. The assessment will be completed shortly, and the report is expected to be available in March 2008.</p>
<p>Target Species</p>	<p>Spanish mackerel – <i>Scomberomorus commerson</i>. Spanish mackerel are the largest of the mackerel species in Queensland and are highly sought after by both commercial and recreational fishers.</p>

	<p>Information on the biology of this species can be found in 2004 Department of the Environment and Heritage's (DEH) initial assessment of the fishery at: http://www.environment.gov.au/coasts/fisheries/qld/east-coast-spanish-mackerel/report.html</p>
Byproduct Species	<p>The level of byproduct in the ECSMF is considered to be low and mainly comprised of undersized mackerel. A large proportion of the other species caught whilst targeting Spanish mackerel are retained as byproduct for sale and consumption.</p> <p>The fishing technique used in the ECSMF is highly selective and therefore, the take of non-target species is very limited. Non-target species currently retained are mainly other mackerel species (school and spotty mackerel) (<i>Scomberomorus</i> spp), black kingfish (<i>Rachycentron canadus</i>), sharks (<i>Carcharhinus</i> spp, <i>Sphyrnidae</i> spp), dolphin fish (<i>Coryphaena</i> spp), trevally (Family <i>Carangidae</i>) and certain species of tuna (Family <i>Scombridae</i>).</p> <p>The only 'regulated' fish byproduct species (no take) under the Spanish mackerel fishery symbol are billfish, northern blue fin tuna and southern blue fin tuna.</p>
Gear	<p>The ECSMF is a line-only fishery in which both commercial and recreational fishers are permitted to use a maximum of three lines and up to six hooks. Spanish mackerel are generally caught by trolling rigged baitfish and/or artificial lures.</p>
Season	<p>The Spanish mackerel season is predominantly late spring/early summer, but Spanish mackerel can be caught all year round.</p>
Commercial harvest 2005-06	<p>Commercial harvest 2005-06: Approximately 271 tonnes. With 297 licences in November 2006.</p> <p>Management arrangements for the ECSMF are based on a Total Allowable Commercial Catch (TACC) of 619 520 units shared among commercial fishers through ITQs. The buyback of units under the GBRMP Structural Adjustment Package (approximately 10% of the total number of Spanish mackerel units are now held with the Department of the Environment and Water Resources (DEW), leaves the commercial TAC available to industry at approximately 560 tonnes. With the introduction of the catch quota system, a quota reporting system was established that requires commercial fishers to report trip catches to DPI&F prior to landing.</p> <p>DPI&F report that there was an increase in catch post 1997, which corresponded to speculative fishing following the 1997 investment warning for the Coral Reef Fin Fish Fishery. DPI&F report that this increase in catch was followed by a sharp reduction in commercial catch between 2002-03 and 2003-04, and the decline continued in the 2005-06 period.</p> <p>DPI&F report that there are several factors that have collectively contributed to the reduction in the total catch and effort in the ECSMF,</p>

	<p>including:</p> <ul style="list-style-type: none"> • Fisher difficulty with the introduction of the commercial TAC and associated administrative requirements; • Transfer of effort to the coral reef fin fish and net/crab fisheries; • Further closures to areas within the Great Barrier Reef, through the rezoning of the Marine Park in 2004; • Inclement weather; • Rising fuel prices; • Difficulty in employing and maintaining reliable crew; and • Increased competition from imports. <p>Concurrent with the decreases in effort, the catch per unit effort continues to rise (67kg/day in 2005-06, compared with 65.3 kg/day in 2004-05 and 53.3 kg/day in 2003-04).</p>
Value of commercial harvest 2005-06	Approximately \$4 million
Take by other sectors	<p>In 2002, approximately 425 tonnes was taken by the recreational sector. The recreational sectors take has been reduced from 10 to 3 fish per person.</p> <p>The Indigenous harvest is uncertain, but considered negligible.</p> <p>The level of harvest taken by charter in 2005 was estimated at approximately 33 tonnes.</p>
Commercial licences issued	<p>Commercial operators with a Spanish mackerel fishery symbol (SM) and who possess a line fishing endorsement (L) are permitted to take Spanish mackerel in east coast Queensland waters. The L symbol dictates the area in which they can fish. The harvest of Spanish mackerel in the Gulf of Carpentaria is managed separately to the east coast.</p> <p>As of November 2006, there were 297 licences in the ECSMF. In 2005-06, 154 commercial fishing boats accessed the ECSMF.</p>
Management arrangements	<p>The fishery is managed under the Queensland <i>Fisheries Act 1994</i> and the <i>Fisheries Regulation 1995</i>. The ECSMF is managed by the Queensland DPI&F. A range of input and output controls are set out in the <i>Fisheries Regulation 1995</i> and are used to manage the harvest of Spanish mackerel. These controls include:</p> <ul style="list-style-type: none"> • A commercial TAC, shared through ITQs; • A minimum size limit of 75cm; • A recreational in-possession limit of three fish; • Total closures on the take of Spanish mackerel in certain areas; • Permits to commercially fish for Spanish mackerel in grey nurse designated areas in southern Queensland; • A mandatory requirement for recreational fishers to remove a pectoral fin from a retained fish; • Restrictions on the maximum size of boats permitted in the commercial fishery. <p>Further closures to fishing for Spanish mackerel are implemented</p>

	<p>through marine parks zoning (marine national park and other no take or no entry zoning).</p> <p>Changes to the ECSMF since the last DEW assessment in 2004 include:</p> <p><u>Reporting changes</u></p> <ul style="list-style-type: none"> • Under the Quota Monitoring Units fishers no longer report the total number of fish taken. Rather, they report the weight of fish. However, fishers still record the number of fish, weight of the catch, the product form (whether the product is whole, fillet, trunked etc.), and the trip total boxes of fillets in the Queensland logbooks. • Spanish mackerel fishers are now allowed to continue to take up to five more Spanish mackerel, once a prior notice has been given, provided that they amend the prior notice to include these fish before they enter the area within 0.5 nautical miles of the landing place; • Fishers can retain fish (restrictions apply) within the entire area of the fishery – previously the ability to retain fish was limited to a certain area and time period; • Automated Interactive Voice Response call flows can now be tailored to suit individual fishing operations; and • The 1% maximum allowable margin for error in reporting fish numbers prior to landing still exists, however can be appealed depending on individual circumstances. <p><u>Management arrangements</u></p> <ul style="list-style-type: none"> • From March 2005, DPI&F requires recreational fishers to clip a pectoral fin of a retained fish in order to deter black marketing of recreational catch. • From 1 July 2006, existing licence holders have been able to trade fishery symbols, subject to certain conditions, such as boat length limitations. <p>DPI&F are proposing to take the Spanish mackerel management arrangements out of the <i>Fisheries Regulation 1995</i> and combine these with the <i>Fisheries (Coral Reef Fin Fish) Management Plan 2003</i> to create the <i>Fisheries (Coral Reef Fin Fish and East Coast Spanish Mackerel Fishery) Management Plan</i>. The purpose of the combined management plan is to create a concise document that covers the similarities between the fisheries and removes any repetition in legislation.</p>
Export	Limited exports to Taiwan and south east Asia.
Bycatch	<p>The level of bycatch in the ECSMF is considered to be low and mainly comprised of undersized mackerel. A large proportion of the other species caught whilst targeting Spanish mackerel are retained as byproduct for sale and consumption.</p> <p>A bycatch and byproduct risk assessment workshop with key stakeholders was held in November 2005 to formally assess the level of risk to bycatch and byproduct species associated with the fishery. The risk assessment results indicated that the ECSMF poses only a low risk</p>

	<p>to the majority of the bycatch or byproduct species identified. Sharks caught incidentally, but not retained, were the only species identified as moderate risk, in recognition that they are highly vulnerable to overexploitation as a result of their life history traits.</p>
<p>Interaction with Protected Species</p>	<p>Spanish mackerel commercial fishers are required to record interactions with protected species in their Species of Conservation Interest (SOCI) logbook. No interactions have been reported in the 2005-06 quota year. Results of the risk assessment indicated that the risk to protected species associated with the fishery is low as a result of the targeted nature of the fishery.</p> <p>A comprehensive protected species education program for commercial and recreational fishers was developed and implemented in late 2005.</p> <p>The risk of possible interactions with protected species such as dugongs, cetaceans, seabirds and marine turtles, exists in the ECSMF.</p>
<p>Ecosystem Impacts</p>	<p>DPI&F report that it is unlikely that there is any significant physical impact on the ecosystem from the fishery due to the relatively benign line fishing method used.</p>
<p>Impacts on World Heritage property</p>	<p>The assessment also considered the possible impacts on the World Heritage values of the GBRMP World Heritage Area.</p> <p>About two-thirds of the area and about 90% of the catch of the ECSMF is within the area of the Great Barrier Reef World Heritage Area (GBRWHA). DPI&F states its commitment to protecting the values of the GBRMP and that the fishery is managed to minimise impacts on the GBRMP, noting that trolling gear has negligible impacts on benthic ecological communities. As a result of the rezoning of the GBRMP in 2004, 33% of the GBRMP is closed to fishing in no take green zones. This process has increased the protection of the World Heritage Area values of the GBRMP.</p> <p>On this basis DEW considers that an action taken by an individual fisher, acting in accordance with the Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries Act 1994</i>, would not be expected to have a significant impact on a matter protected by the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act).</p>

Table 2: Progress in implementation of recommendations and conditions made in initial assessment of the Queensland East Coast Spanish Mackerel Fishery

Condition	Progress	Recommended Action
<p>1. Operation of the fishery will be carried out in accordance with the Queensland East Coast Spanish Mackerel Fishery management regime made under the Queensland <i>Fisheries Regulations 1995</i> in force under the <i>Fisheries Act 1994</i></p>	<p>Addressed and Ongoing</p> <p>The fishery has operated in accordance with the legislated management regime over the course of the current export approval.</p>	<p>This condition has been met, however will continue to apply to the ECSMF.</p>
<p>2. The Department of Primary Industries and Fisheries to inform the Department of the Environment and Heritage of any intended amendments to the management arrangements that may affect sustainability of the target species or negatively impact on bycatch, protected species or the ecosystem</p>	<p>Addressed and Ongoing</p> <p>DPI&F has informed DEW of relevant amendments to new arrangements. Reporting arrangements have been reviewed and minor changes have been made to enhance industry flexibility.</p> <p>Changes to the ECSMF since the last DEW assessment in 2004 are reported in Table 1.</p>	<p>DPI&F have informed DEW of any changes to the management arrangements for the ECSMF, and the condition will continue to apply to the ECSMF.</p>
<p>3. 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 DPI&F in implementing the recommendations made in the 	<p>Addressed and Ongoing</p> <p>Annual status reports for the ECSMF were prepared for 2005, 2006 and 2007. These reports are publicly available from the Department of Primary Industries</p>	<p>DPI&F has produced and presented annual reports on the ECSMF to DEW, and this condition will continue to apply to the ECSMF.</p>

<p><i>Assessment of the Queensland East Coast Spanish Mackerel Fishery 2004;</i></p> <ul style="list-style-type: none"> • 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>and Fisheries (DPI&F) website. The reports contain information on progress in implementing recommendations, catch and effort trends and research undertaken or completed relevant to the fishery. DPI&F are yet to finalise a PMS for the ECSMF that includes performances measures and reference points for key target species and ecosystem impacts. DPI&F will report on the performance of the ECSMF against the performance measures in the annual status reports.</p>	
Recommendation	Progress	Recommended Action
<p>Recommendation 1 - DPI&F to inform DEH of any intended amendments to the management arrangements that may affect sustainability of the target species or negatively impact on bycatch, protected species or the ecosystem.</p>	<p>Addressed and Ongoing See progress against Condition 2.</p>	<p>This recommendation has been met, however will continue to apply to the ECSMF as a condition.</p>
<p>Recommendation 2 - From 2005, DPI&F to report publicly on the status of the fishery on an annual basis, including explicit reporting against each performance measure once developed.</p>	<p>Addressed and Ongoing See progress against Condition 3.</p>	<p>This recommendation has been met, however will continue to apply to the ECSMF as a condition.</p>

<p>Recommendation 3 - As part of the biennial review of the ECSMF, DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target, bycatch, protected species and impacts on the ecosystem.</p>	<p>In progress DPI&F report that the development of the Performance Measurement System (PMS) is a priority task, and is currently in final draft form. The performance measures have been developed based on previous recommendations, including target, bycatch, and protected species.</p> <p>DPI&F report that their PMS will be applied to the fishery from 2007 onwards.</p> <p>A measure for impact on the ecosystem could not be defined, based on no available data or information available to set a performance measure. This has been highlighted as a common problem across several single species fisheries. For some multi-species fisheries, species composition has been used as a proxy for ecosystem structure. This is not applicable to the ECSMF, which has a low diversity of species caught.</p>	<p>DEW has recommended that DPI&F finalise the PMS and to apply it to the ECSMF from January 2008 onwards. As part of the biennial review of the ECSMF, DPI&F to review the fishery specific objectives linked to performance indicators and performance measures for target, bycatch and protected species. DPI&F to determine if an appropriate measure for impact on the ecosystem can be defined (Recommendation 2, Table 4)</p>
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<p>Recommendation 4 - DPI&F to monitor the status of the fishery in relation to the performance measures once developed. Within 3 months of becoming aware of a performance measure not being met, DPI&F to finalise a clear timetable for the implementation of appropriate management responses.</p>	<p>Ongoing Performance measures will be assessed annually once developed.</p>	<p>This recommendation will apply once the PMS for the ECSMF has been finalised (Recommendation 2, Table 4)</p>
<p>Recommendation 5 - DPI&F to monitor the size composition of the retained commercial catch of Spanish mackerel and conduct a review of the fishery appropriate to the magnitude of the change if the proportion of catch of pre-mature fish increases above 5% of the TACC. If necessary DPI&F to introduce additional management measures to ensure sustainability.</p>	<p>Addressed and Ongoing The DPI&F Long term Management Program (LTMP) continues to collect information on commercial and recreationally caught Spanish mackerel, to monitor the size composition of the commercial catch, and to allow DPI&F to ensure the proportion of pre-mature fish does not increase above 5% of the total allowable catch.</p>	<p>DEW has recommended that DPI&F continue monitoring the size composition of the retained commercial catch of Spanish mackerel and to assess the effectiveness of a size limit in protecting juvenile fish. DPI&F are to continue to investigate more effective size selection gear to reduce the capture of undersized and large Spanish mackerel in the ECSMF (Recommendation 7, Table 4).</p>
<p>Recommendation 6 - That DPI&F, at its biennial review of the ECSMF, consider means of reducing the capture of undersized and large Spanish mackerel including more effective size selective gear.</p>	<p>Addressed and Ongoing A review was conducted as part of the ECSMF Ecological Risk Assessment (ERA), which was completed in 2004. Based on the results of the risk assessment and research previously undertaken, Reef Management Advisory Committee (MAC) and Reef</p>	<p>DEW has recommended that DPI&F continue monitoring the size composition of the retained commercial catch of Spanish mackerel and to assess the effectiveness of a size limit in protecting juvenile fish. DPI&F are to continue to investigate more effective size selection gear to reduce the capture of undersized and large Spanish mackerel in the ECSMF (Recommendation 7, Table 4).</p>

	<p>(Scientific Advisory Group) SAG resolved that there is limited catch of undersize fish. The SAG noted that there was a small proportion (LTMP data indicates 3%) of Spanish mackerel taken which are immature (<90 cm) but still above the minimum legal size limit (>75 cm), and that in general, the commercial fishery is highly selective for mature fish.</p>	
<p>Recommendation 7 - DPI&F to develop a compliance strategy for the ECSMF. The strategy will explicitly address the following issues and provide for the periodic review of the effectiveness of the strategy:</p> <ul style="list-style-type: none"> • Effectiveness of shore based compliance activity • Non- compliance with size and bag limits • The possible existence of a black market • Compliance with reporting of protected species interaction • Compliance benefits in the adoption of new technology • Fishers and processor knowledge of new compliance requirements. 	<p>In progress</p> <p>Compliance and enforcement in the ECSMF is the responsibility of the DPI&F, Queensland Boating and Fisheries Patrol (QBFP). During the 2006/07 quota year, a total of 735 units were inspected in the Fishery, including 85 commercial vessels. During this period, 20 offences were detected, corresponding to a compliance rate of 97.4% on units inspected. The two main offences were: the take or possession of Spanish mackerel by recreational fishers regulated by size; and the possession on board a boat by recreational fishers of a dead Spanish mackerel with the pectoral fin not removed.</p> <p>The compliance risk assessment</p>	<p>DEW has recommended that DPI&F finalise the compliance risk strategy by June 2008, which incorporates and addresses the updated compliance risks identified in the May 2007 Compliance Risk Assessment. (Recommendation 1, Table 4).</p>

was completed in May 2007. As part of the compliance risk assessment process, the compliance risk assessment report will be considered by the Reef fisheries Management Advisory Committee (ReefMAC) in November prior to finalisation in December 2007.

DPI&F report that the compliance risk assessment identified the following activities in the ECSMF as having a high or extreme level or risk. QBFP will therefore direct their compliance resources to addressing:

- Take, possession and sale of Spanish mackerel regulated by size;
- Recreational fishers taking fish for commercial purposes;
- Retaining Spanish mackerel taken in other fisheries without appropriate symbols;
- Failure to comply with Quota and other reporting/documentation requirements;
- Recreational fishers possessing fish not in the prescribed form

	<p>e.g. without pectoral fin removed, with skin removed on board a boat.</p> <p>DPI&F report that there are a number of activities rated as having moderate risk, which will be addressed, but at a lower priority.</p> <p>DPI&F report that detailed strategies to address the risks identified by this assessment will be developed through the QBFP strategic and operational planning processes that are reviewed annually.</p>	
<p>Recommendation 8 - As part of the next biennial review of the ECSMF, DPI&F to develop a robust and regular fishery assessment process, that provides a basis for management decisions which are precautionary and recognise the uncertainty and level of risk. The assessment process will examine the ecological sustainability of the target species using robust stock assessments.</p>	<p>In progress</p> <p>The preliminary stock assessment for this fishery was conducted in 2002. The next assessment is planned for 2007 using updated data obtained from LTMP, Commercial Fisheries Information System (CFISH) and Recreational Fishing Information System (RFISH). Similar predictor models will be used for the 2007 assessment to enable comparisons between the periods.</p>	<p>DPI&F report that the 2007 stock assessment is currently underway, which will provide DPI&F with the means to adequately review the current TAC.</p> <p>DEW recommend that as part of the stock assessment, DPI&F to review the current TAC for the ECSMF to ensure it is set at a sustainable level. (Recommendation 4, Table 4)</p>

<p>Recommendation 9 - As part of the biennial review of the ECSMF, DPI&F to consider the protection of Spanish mackerel spawning aggregations. If necessary, DPI&F to implement measures to protect them within 18 months of such finding</p>	<p>Addressed and Ongoing The Reef SAG agreed in 2005 that current impacts on spawning aggregations are probably low in context of under-catch of quota and reduced fishing pressure. DPI&F in conjunction with Reef MAC, will review in context of all spatial and temporal closures in place, the impact upon the ECSMF.</p>	<p>DPI&F report that a review of the protection provided to Spanish mackerel aggregation sites in the context of spatial and temporal closures in the Coral Reef Fin Fish Fishery has not been conducted. ReefSAG provided advice in 2005 that impacts on spawning aggregations were low given significant under catch of quota i.e. reduced fishing pressure.</p> <p>DPI&F report that at this stage, the update of the stock assessment in 2007 will be used to provide information on resource sustainability and the need to further investigate, perhaps through a Management Strategy Evaluation, the need for an enhanced level of protection to spawning aggregation sites.</p> <p>DEW recommend that DPI&F consider the protection of Spanish mackerel spawning aggregations as part of the update of the stock assessment. Based on the results of the stock assessment, DPI&F to further investigate the need for an enhanced level of protection to spawning aggregation sites. (Recommendation 5, Table 4)</p>
<p>Recommendation 10 - DPI&F to develop a system to ensure that catch data collected in compulsory logbooks and voluntary diaries is validated on an ongoing basis and to investigate methods for documenting and validating effort in the fishery.</p>	<p>Addressed and ongoing DPI&F's logbook validation strategy encompasses a range of activities that may be undertaken across different fisheries. For the purpose of the ECSMF, DPI&F intends to use quota monitoring and observer coverage to validate logbook data. Independent fisheries observers have recently been introduced into the fishery on a voluntary basis.</p>	<p>DEW recommends that DPI&F undertake a further assessment of the minimum level of observer coverage needed in the ECSMF. (Recommendation 3, Table 4)</p>

	<p>DPI&F report that the observers are DPI&F staff, who collect fishery independent information through the Fisheries Observer Program (FOP) section of the Assessment and Monitoring Unit. DPI&F report that there have only been 4 days of observer coverage in the Spanish mackerel Fishery since January 2005. This is where the records begin for the Fisheries Observer Program (FOP) as a stand-alone, statewide program. In 2007, a review of the observer program was undertaken to maximise the effectiveness of the program across the 15 "standard" fisheries that are observed and allowing observer time for other "developmental" fisheries.</p> <p>The Spanish mackerel line fishery has been assessed as a lower priority for bycatch and will be a focus of the FOP in 2009 with 50 sea days of observer coverage allocated.</p>	
<p>Recommendation 11 - Within one year, to support the implementation of the Species of Conservation Interest Logbooks, DPI&F to ensure that an</p>	<p>Completed A protected species education program was released in September 2005. Material was delivered to both recreational and</p>	<p>None. DEW suggests that if changes are made to the SOCI logbooks, DPI&F should ensure that the education program for fishers, both recreational and commercial are made aware of these changes.</p>

<p>education program for fishers, both recreational and commercial, is developed and implemented, to promote the importance of protected species protection and accurate incident reporting.</p>	<p>commercial fishers about ways to minimise interactions with protected species, how to handle them should an interaction occur and the importance of accurate reporting of interactions.</p>	
<p>Recommendation 12 - DPI&F, as part of the development of performance indicators and performance measures for the fishery, to include a mechanism to identify and respond to changes in the composition and quantity of bycatch in the ECSMF</p>	<p>Completed DPI&F completed a report on the bycatch and byproduct risk assessment for the ECSMF in early 2006. It was determined that the ECSMF poses low risk to most bycatch and/or byproduct species. It also highlighted the highly targeted nature of the fishery and that the proportion of undersize fish caught by fishers is extremely low.</p>	<p>Development of performance indicators and performance measures for the ECSMF, including those for bycatch, will be developed in PMS (Recommendation 2, Table 4).</p>
<p>Recommendation 13 - Within 18 months, DPI&F to provide reliable estimates of recreational take, and factor these into stock assessments and management controls to ensure overall catch levels are sustainable.</p>	<p>In progress DPI&F employed a consultant from the Australian Bureau of Statistics in 2005 to review the differences between the RFISH surveys and the National Recreational and Indigenous Fishing Survey (NRIFS) and investigate possible new methods to improve future RFISH surveys. A preliminary investigation was also undertaken into the power of the data collected through the</p>	<p>DEW recommend that DPI&F provide reliable estimates of recreational take and factor this take into stock assessments and management control, and to continue to investigate measures designed to control Spanish mackerel take by recreational fishers to ensure overall catch levels are sustainable (Recommendation 6, Table 4).</p>

	<p>RFISH program, in context of whether it could be converted to the location of catch rather than the location of residence. A workshop was held in April 2006 to further investigate improvements to estimates of recreational participation and catch.</p>	
<p>Recommendation 14 - As part of its biennial review, DPI&F to examine measures designed to control Spanish mackerel harvest by recreational fishers to ensure that they are appropriate and adequately constrain recreational effort to within sustainable levels. Should the review indicate that existing measures are not appropriate DPI&F will develop new measures within 12 months.</p>	<p>In progress DPI&F are looking to investigate the effectiveness of current recreational possession limits through the use of RFISH surveys. Results from 2005 RFISH survey should be available for analysis mid-2007.</p>	<p>DEW recommend that DPI&F provide reliable estimates of recreational take and factor this take into stock assessments and management control, and to continue to investigate measures designed to control Spanish mackerel take by recreational fishers to ensure overall catch levels are sustainable (Recommendation 6, Table 4).</p>

Table 3: The Department of the Environment and Water Resources (DEW) assessment of the ECSMF against the requirements of the EPBC Act related to decisions made under Parts 13 and 13A

Part 13

Section 208A Minister may accredit plans or regimes	DEW assessment of the ECSMF
<p>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 threatened species (other than conservation dependent species) are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the survival or recovery in nature of the species.</p>	<p>The ECSMF will be managed under the Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries Act 1994</i>.</p> <p>The management regime for the ECSMF was accredited in November 2004. DPI&F advised DEW of minor amendments to the management regime for the ECSMF in 2004/05 and 2005/06. DEW agreed that the amendments did not significantly affect the sustainability of the ECSMF and that a new Part 13 declaration was not required at that time.</p> <p>Currently, logbook and observer data suggests that the ECSMF has an extremely low level of interaction with listed threatened species. No protected species interactions have been reported between 2004 and 2006. Therefore, DEW considers the current operation of the ECSMF is not likely to adversely affect the survival or recovery in nature of any threatened species.</p>

Section 222A Minister may accredit plans or regimes	DEW assessment of the ECSMF
<p>Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <ul style="list-style-type: none"> (c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is: <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> <ul style="list-style-type: none"> (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 (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>The ECSMF will be managed under the Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries Act 1994</i>.</p> <p>The management regime for the ECSMF was accredited in November 2004. DPI&F advised DEW of minor amendments to the management regime for the ECSMF in 2004/05 and 2005/06. DEW agreed that the amendments did not significantly affect the sustainability of the ECSMF and that a new Part 13 declaration was not required at that time.</p> <p>The report provided by DPI&F indicates that no interactions with migratory species have been recorded since the introduction of the Species of Conservation Interest Logbook in late 2004. Therefore, DEW considers the current operation of the ECSMF is not likely to adversely affect the survival or recovery in nature of any listed migratory species.</p>

Section 245 Minister may accredit plans or regimes	DEW assessment of the ECSMF
<p>Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <ul style="list-style-type: none"> (c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is: <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 ECSMF will be managed under the Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries Act 1994</i>.</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>The management regime for the ECSMF was accredited in November 2004. DPI&F advised DEW of minor amendments to the management regime for the ECSMF in 2004/05 and 2005/06. DEW agreed that the amendments did not significantly affect the sustainability of the ECSMF and that a new Part 13 declaration was not required at that time.</p> <p>The report provided by DPI&F indicates that no interactions with cetaceans have been recorded since the introduction of the Species of Conservation Interest Logbook in late 2004. Therefore, DEW considers the current operation of the ECSMF is not likely to adversely affect the survival or recovery in nature of any species of cetacean or a population of that species.</p>
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Section 265 Minister may accredit plans or regimes	DEW assessment of the ECSMF
<p>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> <ol 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>The ECSMF will be managed under the Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries Act 1994</i>.</p> <p>The management regime for the ECSMF was accredited in November 2004. DPI&F advised DEW of minor amendments to the management regime for the ECSMF in 2004/05 and 2005/06. DEW agreed that the amendments did not significantly affect the sustainability of the ECSMF and that a new Part 13 declaration was not required at that time.</p>

<p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed marine species or a population of that species.</p>	<p>The report provided by DPI&F indicates that no interactions with a listed marine species have been recorded since the introduction of the Species of Conservation Interest Logbook in late 2004. Therefore, DEW considers the current operation of the ECSMF is not likely to adversely affect the conservation status of a listed marine species or a population of that species.</p>
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Section 303AA Conditions relating to accreditation of plans, regimes and policies	DEW assessment of the ECSMF
<p>This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.</p>	<p>The ECSMF is accredited under sections 208A, 222A, 245 and 265.</p>
<p>The Minister may accredit a plan, regime or policy under that section even though he or she considers that the plan, regime or policy should be accredited only:</p> <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 accreditation is to specify the period, circumstances or condition.</p>	<p>To satisfy the requirements of section 208A we recommend that the ECSMF be accredited under Part 13. No condition has been imposed on the ECSMF to satisfy sections under sections 208A, 222A, 245 and 265 under Part 13.</p>
<p>The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.</p>	

Part 13A

Section 303DC Minister may amend list	DEW assessment of the ECSMF
Minister may, by instrument published in the <i>Gazette</i> , amend the list referred to in section 303DB (list of exempt native specimens) by: (a) including items in the list;	No amendment to the list of exempt native specimens (LENS) is required as product sourced from the ECSMF approved wildlife trade operation is already included on the LENS.

Section 303FN Approved wildlife trade operation	DEW assessment of the ECSMF
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.	
The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is satisfied that: (a) the operation is consistent with the objects of Part 13A of the Act; and (b) the operation will not be detrimental to: i. the survival of a taxon to which the operation relates; or ii. the conservation status of a taxon to which the operation relates; and	The ECSMF is consistent with objects of Part 13A (listed after this table) as: <ul style="list-style-type: none">▪ the fishery will not harvest any Convention on International Trade in Endangered Species of Wild Flora and Fauna (CITES) listed species;▪ there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Table 1);▪ the operation of the ECSMF 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. DEW considers that the ECSMF 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 a commercial TAC – shared through ITQs, a minimum size limit of 75cm, a recreational in-possession limit of three fish, total closures to the take of Spanish mackerel in certain areas and

<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>restrictions on the maximum boat size in the commercial fishery.</p> <p>DEW considers that the ECSMF will not threaten any relevant ecosystem within the next three years, given the management measures currently in place, which include a commercial TAC – shared through ITQs, a minimum size limit of 75cm, a recreational in-possession limit of three fish, total closures to the take of Spanish mackerel in certain areas and restrictions on the maximum boat size in the commercial fishery.</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>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>DEW considers that the ECSMF will not have a significant impact on any relevant ecosystem within the next three years, given the management measures currently in place, which include a commercial TAC – shared through ITQs, a minimum size limit of 75cm, a recreational in-possession limit of three fish, total closures to the take of Spanish mackerel in certain areas and restrictions on the maximum boat size in the commercial fishery.</p> <p>The management arrangements that will be employed for the ECSMF are likely to be effective. Management arrangements for the ECSMF are included in the <i>Queensland Fisheries Regulation 1995</i> and the <i>Queensland Fisheries Act 1994</i>. Management arrangements include a</p>

	<p>commercial TAC – which is shared through ITQs. In addition, size limits, gear restrictions are employed, as well as area restrictions. The DPI&F Fisheries long term monitoring program involves fishery-dependent sampling of age and size structured catch data from commercial fisheries and recreational anglers and the sex structure and spawning extent at four regions along the Queensland coast.</p>
<p>In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to:</p> <ul style="list-style-type: none"> (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 (b) whether the legislation applies throughout the State or Territory concerned; and (c) whether, in the opinion of the Minister, the legislation is effective. 	<p>The ECSMF will be managed under the under the Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries Act 1994</i>.</p> <p>The Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries Act 1994</i> apply throughout Queensland waters.</p> <p>The management arrangements that will be employed for the ECSMF are likely to be effective. Management arrangements for the ECSMF are included in the Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries Act 1994</i>. Management arrangements include a commercial TAC available to industry of approximately 560 tonnes – which is shared through ITQs. In addition, size limits, gear restrictions are employed, as well as area restrictions. The DPI&F Fisheries long term monitoring program involves fishery-dependent sampling of age and size structured catch data from commercial fisheries and recreational anglers and the sex structure and spawning extent at four regions along the Queensland coast.</p>
<p>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> <ul style="list-style-type: none"> (d) the operation is a commercial fishery. 	<p>The ECSMF is a commercial fishery.</p>
<p>In deciding whether to declare that a commercial fishery is an approved wildlife trade operation for the purposes of this section, the</p>	<p>No assessment of the ECSMF has been carried out under Part 10 of the EPBC Act.</p>

Minister must rely primarily on the outcomes of any assessment in relation to the fishery carried out for the purposes of Division 1 or 2 of Part 10.	
The above does not limit the matters that may be taken into account in deciding whether to declare that a fishery is an approved wildlife trade operation for the purposes of this section.	

Section 303FR Public consultation	DEW assessment of the ECSMF
<p>Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice:</p> <ul style="list-style-type: none"> (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. 	DEW 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 ECSMF a WTO and included the annual reports, was released for public comment which closed on 21 September 2007 with no submissions received.
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 scientific surveys a WTO and included the annual reports was released for public comment on 22 August 2007 and closed on 21 September 2007, a total of 23 business days.
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.	No public comments about the proposal were received.

Section 303FT Additional provisions relating to declarations	DEW assessment of the ECSMF
This section applies to a declaration made under section 303FN, 303FO	A declaration for the ECSMF will be made under section 303FN.

or 303FP.	
<p>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:</p> <p>(a) during a particular period; or</p> <p>(b) while certain circumstances exist; or</p> <p>(c) while a certain condition is complied with.</p> <p>In such a case, the instrument of declaration is to specify the period, circumstances or condition.</p>	<p>The standard conditions applied to commercial fishery WTOs include:</p> <ul style="list-style-type: none"> • operation in accordance with the management regime; and • notifying DEW of changes to the management regime; and • annual reporting. <p>It is recommended the standard conditions are applied to the ECSMF WTO declaration.</p> <p>The WTO instrument for the ECSMF specifies the conditions applied.</p>
A condition may relate to reporting or monitoring.	One of the standard conditions relates to reporting.
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.	
A copy of an instrument under section 303FN, 303FO or 303FP or this section is to be made available for inspection on the Internet.	The instrument for the ECSMF made under sections 303FN and 303FT will be gazetted and made available on the DEW website.

Section 391 Minister must consider precautionary principle in making decisions	DEW assessment of the Queensland East Coast Spanish Mackerel Fishery
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.	No amendment to the list of exempt native specimens (LENS) is required as product sourced from the ECSMF approved WTO is already included on the LENS.
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 DPI&F for the ECSMF

The material submitted by the Department of Primary Industries and Fisheries (DPI&F) for assessment of the East Coast Spanish Mackerel Fishery (ECSMF) suggests the fishery generally operates in accordance with the Australian Government's *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition*.

There are currently 261 licences in the ECSMF, which is a line-only fishery using trolling of rigged baitfish and/or artificial lures. Management arrangements include a range of input and output controls, set out in the Queensland *Fisheries Regulation 1995*. These management arrangements include:

- A commercial Total Allowable Catch (TAC) shared through individual transferable quotas (ITQs);
- A minimum size limit of 75cm;
- A recreational in-possession limit of three fish;
- Total closures to the take of Spanish mackerel in certain areas; and
- Restrictions on the maximum boat size in the commercial fishery.

DPI&F has, in conjunction with ReefMAC (the Queensland line fisheries management advisory committee) and industry, introduced a commercial TAC and reduced the recreational bag limit to address sustainability issues.

Since the 2004 assessment, there has been a reduction in the total catch and effort in the ECSMF for a number of reasons, including: the introduction of the commercial TAC, a transfer of effort to the coral reef fin fish and net/crab fisheries and area closures in the Great Barrier Reef Marine Park. The buy-back of Spanish mackerel fishery symbols and associated line units through the Australian Government's Great Barrier Reef Marine Park Structural Adjustment Package, and a reduction in the recreational bag limit have also reduced effort in the fishery. DPI&F report that there has been an increase in catch per unit effort observed in the ECSMF since the last assessment, which could be the result of more active and efficient operators remaining in the fishery.

As such, DEW 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.

DEW has identified a number of risks and uncertainties that must be managed in the ECSMF to ensure that impacts are minimised:

- Lack of a finalised PMS, with specific objectives linked to performance indicators and performance measures for target, bycatch, protected species and impacts on the ecosystem;
- Need for the Compliance Risk Assessment to be finalised and implemented to address non-compliance with gear restrictions, bag and size limits and anecdotal evidence of a black market;
- Large recreational take (RFISH data from 2005 indicates that the recreational take is decreasing, compared to commercial take);
- Ongoing concerns with recommendations from the 2004 DEW assessment needing to be finalised and implemented.
- Minimum size limit is smaller than the size at first maturity, and the survival rate of released fish is low – the potential risk to juveniles and fish at first maturity.

DEW is satisfied that the ECSMF will not be detrimental to the survival or conservation status of the taxa to which they relate in the short term. Similarly, it is not likely to threaten any relevant ecosystem in the short term. At present, DPI&F do not have an objective and performance measure related to ECSMF impacts on the ecosystem. However, this could be investigated at a later stage. To contain and minimise the risks in the longer term the recommendations listed below have been made. DEW considers that due to the risks outlined above a three-year Wildlife Trade Operation (WTO) declaration, subject to the conditions and recommendations listed below, is appropriate for the ECSMF.

DEW 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. DEW 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.

DPI&F advised DEW of minor amendments to the management regime for the ECSMF in 2004/05 and 2005/06. DEW agreed that the amendments did not significantly affect the sustainability of the ECSMF and that a new Part 13 declaration was not required at that time. There have not been any reported protected species interactions in the fishery since reporting began in the Species of Conservation Interest Logbook in late 2004. The existing Part 13 accreditation for this fishery in relation to protected species provisions under the EPBC Act still applies.

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 at the end of the recommendations.

Table 4: East Coast Spanish Mackerel Fishery Assessment– Summary of Issues and Recommendations - November 2007

	Issue	Recommendation
1	<p>Compliance risk issues in the ECSMF</p> <p>The compliance risk assessment was conducted for the ECSMF in May 2007 in order to determine compliance priorities and allow the most effective use of QBFP resources.</p> <p>There have been anecdotal reports of a black market element in this fishery that needs to be managed – for both the recreational and commercial sectors of this fishery. From the risk assessment, recreational fishers taking Spanish mackerel for commercial purposes (i.e. black marketing), was rated as a high risk to the sustainability of Spanish mackerel stocks and community perception of the delivery of the compliance function.</p> <p>DPI&F report that QBFP are addressing black marketing using a combination of strategies including, but not limited to, inspections of recreational, charter and commercial fishers to ensure compliance with regulated fish provisions and pectoral fin clipping of recreationally caught Spanish mackerel.</p> <p>DPI&F report that the 2007 compliance risk assessment identified the following activities in the ECSMF as having a high or extreme level of risk. QBFP will therefore direct their compliance resources to addressing:</p> <ul style="list-style-type: none"> • Take/possession/sale of Spanish mackerel regulated by size; • Recreational fishers taking fish for commercial purposes; • Retaining Spanish mackerel taken in other fisheries without appropriate symbols; • Failure to comply with Quota and other reporting/documentation requirements; • Recreational fishers possessing fish not in the prescribed form eg. Without pectoral fin removed, with skin removed on board a boat. <p>DPI&F report that detailed strategies to address the risks identified by this assessment</p>	<p>1. DPI&F to finalise and implement the annual district operational plans by June 2008, which incorporate and address the updated, compliance risks identified in the May 2007 Compliance Risk Assessment and future risk assessments.</p>

	<p>will be developed through the QBFP strategic and operational planning processes that are reviewed annually.</p>	
2	<p>Development and monitoring of Fishery specific objectives, indicators and targets Recommendations from the 2004 assessment required DPI&F to develop fishery specific objectives linked to performance indicators and performance measures for target, bycatch, protected species and impacts on the ecosystem, and to then monitor the status of the fishery once these have been developed. Within three months of becoming aware of a performance measure not being met, DPI&F to finalise a clear timetable for the implementation of appropriate management responses.</p> <p>DPI&F report that the development of the PMS is a priority task, and is currently in final draft form. The performance measures have been developed based on previous recommendations, including target, bycatch, and protected species.</p> <p>DPI&F report that a measure for impact on the ecosystem could not be defined based on no available data or information available to set a performance measure. This has been highlighted as a common issue across several single species fisheries. For some multi-species fisheries, species composition has been used as a proxy for ecosystem structure. This is not applicable to the ECSMF, which has a low diversity of species caught.</p>	<p>2. DPI&F to finalise and implement the ECSMF PMS in sufficient time for the outcomes to be reported in the 2008 Annual Status Reports. Once implemented, DPI&F to monitor the status of the ECSMF in relation to the PMS. Within three months of becoming aware of a performance measure not being met, DPI&F to develop an appropriate management response</p>
3	<p>Validation of Logbook data A recommendation from the 2004 assessment required DPI&F to develop a system to ensure that catch data collected in compulsory logbooks is validated on an ongoing basis and to investigate methods for documenting and validating effort in the fishery.</p> <p>DPI&F report that there has only been 4 days of observer coverage in the Spanish mackerel Fishery since January 2005 (this is where the records begin for the Fisheries Observer Program (FOP) as a stand-alone, statewide program). The observers are DPI&F staff, who collect fishery information in the FOP section of the Assessment and</p>	<p>3. DPI&F to consider undertaking a further assessment of the minimum level of observer coverage needed in the ECSMF.</p>

	<p>Monitoring Unit.</p> <p>DPI&F report that in 2007, a review of the observer program was undertaken to maximise the effectiveness of the program across the 15 standard fisheries that are observed and allowing observer time for other developmental fisheries. The result was the formulation of a strategic plan to cover each of the 15 standard fisheries over a three year time frame. DPI&F highlight that if they were to conduct observer work in all fisheries on an annual basis (within the current budget), this would provide levels of observer coverage for each fishery that would be so low, that no effective conclusions or value for management would be obtained.</p> <p>DPI&F report that the primary focus of the FOP has been to investigate those fisheries that have high levels of bycatch. Line fisheries are somewhat more targeted fishing and have lower levels of bycatch and interaction with species of conservation interest than netting or trawl. The Spanish mackerel line fishery has been assessed as a lower priority for bycatch and will be a focus of the FOP in 2009 with 50 sea days of observer coverage allocated.</p>	
4	<p>Stock assessments</p> <p>In the 2004 DEW assessment it was reported that a preliminary stock assessment of the ECSMF suggested that the exploitable biomass in 2002 had declined to approximately 44% of the estimated unfished biomass. The stock assessment recommended that fishing effort should not be increased above the 2002 level (~750 tonnes – the peak catch levels in the fishery).</p> <p>In July 2004, the TAC of 619 520 units were shared among commercial fishers through ITQs. Since then, the fishery has undergone a period of readjustment based on the introduction of the TAC which incorporated the introduction of the SM fishery symbol (allowing only fishers that had historical evidence of reliance on the fishery to obtain</p>	<p>4. As part of the 2007 stock assessment, DPI&F to review the current Total Allowable Catch (TAC) for the ECSMF to ensure it is set at a sustainable level.</p>

	<p>quota), buy back of boats (through the GBRMP Structural Adjustment Package), and the introduction of a quota reporting system. This has meant a decline in the catch levels, with the 2005-06 commercial harvest being 271 tonnes, which is significantly lower than the TAC.</p> <p>DEW are concerned that although current fishing levels are relatively low, and are well below the TAC – if fishing effort increases and the full TAC is taken in the future, what impacts will this have on Spanish mackerel stocks?</p> <p>DPI&F note that this concern will be addressed by the following activities:</p> <ol style="list-style-type: none"> 1. Measurement against the PMS to be implemented in 2008 2. Stock assessments occur on a triennial basis, and outcomes of the SA considered in the review management arrangements (in particular the TAC). <p>DPI&F report that the current stock assessment for the ECSMF indicates that, at 2001 levels of fishing effort (which is above the current TAC), the fishery is sustainable. DPI&F highlight that for this reason, if effort significantly increased and the TAC was met, the fishery would be fully fished at sustainable levels.</p> <p>DPI&F report that the 2007 stock assessment is currently underway, which will provide DPI&F with the means to adequately review the current TAC.</p>	
5	<p>Spanish Mackerel spawning aggregations A recommendation from the 2004 assessment required DPI&F to consider the protection of Spanish mackerel spawning aggregations.</p> <p>DPI&F report that a review of the protection provided to Spanish mackerel aggregation sites in the context of spatial and temporal closures in the Coral Reef Fin Fish Fishery has <i>not</i> been conducted. ReefSAG provided advice in 2005 that impacts on spawning aggregations were low given significant under catch of quota i.e. reduced fishing</p>	5. DPI&F will incorporate the issue of spawning aggregations into the process for review of the Spanish mackerel TAC, and investigate the need for an enhanced level of protection to aggregations if necessary

	<p>pressure.</p> <p>At this stage, the update of the stock assessment in 2007 will be used to provide information on resource sustainability and the need to further investigate, perhaps through a Management Strategy Evaluation, the need for an enhanced level of protection to spawning aggregation sites.</p>	
6	<p>Recreational harvest in the ECSMF</p> <p>Recommendations from the 2004 assessment required DPI&F to provide reliable estimates of recreational take of Spanish mackerel and to examine measures to control Spanish mackerel take by recreational fishers.</p> <p>The DPI&F submission states that the recreational take in 2002 was estimated at 425 tonnes, which is significantly higher than the current commercial take in 2005/06 of 271 tonnes.</p> <p>DPI&F report that a final report on all diary rounds, up to 2005 will be available early in 2008. A regional boat ramp survey based on the bus route survey method is being piloted in southeast Queensland between October 2007 and June 2008. This survey will collect finer resolution catch and effort data which will complement the current statewide recreational diary program that is running concurrently.</p> <p>In the 2007 Summary Report, DPI&F provided evidence which showed that the catch rate of Spanish mackerel was 1.4 fish per trip (as per the 2005 diary program), which is well under the bag limit of 3 fish. As their management objective was to limit the catch to 3 fish in-possession limit, DPI&F believe this has been achieved.</p>	<p>6. DPI&F to provide reliable estimates of recreational take and factor this take into stock assessments and management control, and to continue to investigate measures designed to control Spanish mackerel take by recreational fishers to ensure overall catch levels are sustainable.</p>

7	<p>Size composition</p> <p>Recommendations from the 2004 assessment required DPI&F to monitor the size composition of the retained commercial catch of Spanish mackerel and to consider means of reducing the capture of undersized and large Spanish mackerel.</p> <p>DPI&F report that, ReefSAG in 2007 agreed to reconsider the issue following the stock assessment process to be completed by the end of 2007. Previous evaluation of the Minimum Legal Size (MLS) in 2002 identified that increasing the MLS would result in high release mortality and danger to fishers handling large active fish. These factors outweighed the small benefits to egg protection from setting legal size above the size at maturity (Hoyle 2002).</p> <p>DPI&F highlight that commercial gear is highly selective for mature fish. On the current size limit, monitoring of the commercial and recreational catch is in place through the LTMP. Size composition of the commercial catch is also monitored to ensure the proportion of pre-mature fish does not exceed 5% of the TAC. LTMP data indicates around 3% of Spanish mackerel taken are immature. Therefore, DPI&F have met with recommendation 7 from the last DEW assessment.</p> <p>DPI&F report that the current bycatch and byproduct risk assessment for the ECSMF (2005) lists the risk ranking of catching undersize Spanish mackerel as ‘low’ for both the commercial and recreational sectors. A Fisheries Research and Development Corporation (FRDC) report on the exploitation dynamics of Spanish mackerel on Queensland’s east coast (Tobin and Mapleston 2003) highlights that the recreational sector harvests proportionally more, larger mackerel than the commercial sector, due to targeting of ‘trophy’ fish.</p>	<p>7. DPI&F to continue monitoring the size composition of the retained commercial catch of Spanish mackerel and investigate options for protecting juvenile and large fish if identified as necessary.</p>
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References

RFISH report

Acronyms

CFISH	Commercial Fisheries Information System
CITES	Convention on International Trade in Endangered Species of Wild Flora and Fauna
DEH	Department of the Environment and Heritage
DEW	Department of the Environment and Water Resources
DPI&F	Queensland Department of Primary Industries and Fisheries
ECSMF	East Coast Spanish Mackerel Fishery
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERA	Ecological Risk Assessment
FRDC	Fisheries Research and Development Corporation
GBRMP	Great Barrier Reef Marine Park
GBRWHA	Great Barrier Reef World Heritage Area
ITQ	Individual Transferable Quota
LENS	List of Exempt Native Specimens
LTMP	Long-term Management Program
NRIFS	National Recreational and Indigenous Fishing Survey
OCS	Offshore Constitutional Settlement
PMS	Performance Measurement System
QBFP	Queensland Boating and Fisheries Patrol
ReefMAC	Reef Management Advisory Committee
RFISH	Recreational Fishing Information System
SAG	Scientific Advisory Group
SOCI	Species of Conservation Interest
TAC	Total Allowable Catch
WTO	Wildlife Trade Operation