



Australian Government

Department of the Environment and Water Resources

Assessment of the
East Coast Otter Trawl Fishery

November, 2007

© Commonwealth of Australia 2007

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission from the Commonwealth, available from the Department of the Environment and Water Resources. Requests and inquiries concerning reproduction and rights should be addressed to:

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

ISBN: 978-0-642-55438-3

Disclaimer

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.

While reasonable efforts have been made to ensure that the contents of this report are factually correct, the Australian Government does not accept responsibility for the accuracy or completeness of the contents, and shall not be liable for any loss or damage that may be occasioned directly or indirectly through the use of, or reliance on, the contents of this report. You should not rely solely on the information presented in the report when making a commercial or other decision.

Table 1: Summary of the East Coast Otter Trawl Fishery (ECOTF)

<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • Queensland (QLD) <i>Fisheries (East Coast Trawl) Management Plan 1999</i> (Trawl Plan). • <i>QLD Fisheries Act 1994</i>. • <i>QLD Fisheries Regulation 1995</i>. • <i>QLD Marine Parks Act 2004</i>. • <i>Great Barrier Reef Marine Park Act 1975</i> (Commonwealth) • Annual Status Report 2004 – QLD East Coast Trawl Fishery. • Annual Status Report – East Coast Trawl Fishery, October 2006 (reporting for the 2005 calendar year). • Interim report for ecological assessment - East Coast Trawl Fishery, 2007 (reporting for the 2006 calendar year). • Ecological Assessment of the Queensland East Coast Otter Trawl Fishery. Queensland Fisheries Service, 2002. • Assessment of the Queensland East Coast Otter Trawl Fishery, November 2004. Department of the Environment and Heritage.
<p>Area</p>	<p>All tidal waters (excluding estuaries) of Eastern QLD, east to the outer edge of the Exclusive Economic Zone, south to the New South Wales border and north to Cape York. Approximately 42% of the fishery area is permanently closed to trawling.</p>
<p>Fishery status</p>	<p>Varies between sectors from fully-exploited to under-exploited. Stock assessments are available for several, but not all, target species. A preliminary risk assessment has been conducted on byproduct species.</p>
<p>Target Species</p>	<p>Prawns (tiger, king, banana, endeavour), scallops, Moreton Bay bugs and squid.</p> <p>Information on the biology of these/this species can be found in the 2004 assessment of the fishery located on the Department of the Environment and Water Resources' website.</p>
<p>Byproduct Species</p>	<p>Permitted species include Balmain bugs, barking crayfish, cuttlefish, two species of pipefish, mantis shrimp, octopus, pinkies, blue swimmer crabs and redspot crabs.</p>
<p>Gear</p>	<p>Demersal otter trawl nets. Gear restrictions vary between different sectors and areas of the fishery in net size, configuration and mesh.</p>
<p>Season</p>	<p>Several seasonal closures specific to areas and fishers.</p>
<p>Commercial harvest (2004-2006)</p>	<p>2004: 8453 t principal species; approximately 316 t permitted species. 2005: 7350 t principal species; approximately 260 t permitted species. 2006: 6717 t principal species; approximately 276 t permitted species</p> <p>Since 2004 prawn catches have declined by almost 25% due to a number of factors, including the Structural Adjustment Package (SAP) buy-out, increased closed areas since the rezoning of the Great Barrier Reef Marine Park (GBRMP), increased fuel prices and competition from imports.</p> <p>Effort has decreased by 20.6% between 2004 and 2006. Effort in 2006</p>

	was the lowest on record.
Commercial Gross Value of product 2006	Approximately \$90 million.
Take by other sectors	Approximately 140 t of blue swimmer crabs, 8 t of banana prawns and 50 t of squid were estimated to be taken by recreational fishers in 2005. Indigenous harvest levels are uncertain but considered negligible.
Commercial licences issued 2006	498 in June 2006 (39 of which are restricted to Moreton Bay). The 2007 Annual Status Report reports that 21 of these have been acquired by the Commonwealth through the SAP and are no longer active in the fishery. 422 boats in 2006.
Management arrangements	Target species are input controlled through: limited entry, effort allocation, boat and gear restrictions, spatial and temporal closures. Byproduct species are output controlled through: possession limits, and restrictions on size, sex and reproductive condition.
Export	Significant export of frozen product.
Bycatch	Approximately 1000 species, although the majority are rarely taken. Composition and quantity varies between sectors of the fishery.
Interaction with Protected Species	Data for 2006 indicate that the largest interactions are with seasnakes, with the majority released alive. 14 interactions were recorded with 3 species of marine turtle, all of which were released alive. Low levels of interaction also recorded with seahorses, sawfish species and seabirds.
Ecosystem Impacts	Potentially high impacts on benthic assemblages given the use of demersal otter trawl nets.
Impacts on World Heritage property	The assessment also considered the possible impacts on the World Heritage values of the Great Barrier Reef World Heritage Area (GBRWHA). Since the rezoning of the GBRMP came into effect on 1 July 2004, 66.2% of the GBRMP is protected from trawling, offering significant benefits to benthic habitats and the communities that these support. On this basis, the Department of Environment and Water Resources (DEW) considers that an action taken by an individual fisher, acting in accordance with the Trawl Plan, would not be expected to have a significant impact on the World Heritage values of the Great Barrier Reef. Any significant change to existing practices, which is likely to significantly impact on the Great Barrier Reef's World Heritage values, may require approval by the Australian Government Minister for the Environment and Water Resources.

Table 2: Progress in implementation of recommendations and conditions made in initial assessment of the ECOTF

Condition	Progress	Recommended Action
Operation in accordance with the management regime.	The fishery has operated in accordance with the legislated management regime over the course of the current export approval.	This condition has been met and will continue to apply under the new Wildlife Trade Operation (WTO) declaration for this fishery for the next three years (WTO Condition 1).
<p>Annual reporting on the following:</p> <ul style="list-style-type: none"> • Progress on implementation of the recommendations; • Status of the fishery and annual catch and effort information; • Performance against objectives, performance measures and reference points once developed; and • Research undertaken or completed relevant to the fishery. 	Annual status reports for the ECOTF have been prepared for the 2004, 2005 and 2006 fishing seasons. These reports are publicly available from the Department of Primary Industries 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 has developed a draft Performance Measurement System (PMS) for the East Coast Trawl Fishery that includes performance measures and reference points for principal and permitted species. DPI&F will report on the performance of the ECOTF against the performance measures outlined in the PMS, once finalised, in the annual status reports.	DEW considers that this condition has been met and notes that, as part of the new WTO declaration for this fishery, this condition remains in force for a further three years (WTO Condition 3).
Recommendation	Progress	Recommended Action
DPI&F to inform the Department of the Environment and Heritage (DEH, now the Department of Environment and Water Resources) of any intended amendment to the management arrangements that may affect the sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.	<p>Several amendments have been made to the Trawl Plan since the last assessment of the <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) in 2004. In June 2006 two new bycatch reduction devices (BRDs) were added to the Trawl Plan and are now in use in the fishery.</p> <p>After a two-year trial, the Trawl Plan was amended in October 2006 to make the minimum legal size for scallops 90 mm from 1 November to 31 December annually (reduced from 95 mm).</p>	DEW expects that DPI&F will advise of any changes to the management regime in the future, especially in light of the general review of the Trawl Plan scheduled for 2008. This becomes a condition in force under this new export approval (WTO Condition 2).

<p>DPI&F to monitor the status of the fishery in relation to the performance measures (review events and/or reference points) specified in the Trawl Plan. Within three months of becoming aware that a performance measure has not been met, DPI&F to finalise a clear timetable for the implementation of appropriate management responses.</p>	<p>DPI&F reports on the performance of the ECOTF against review events currently including in the Trawl Plan in the ASR. When a review event is triggered, DPI&F include a proposed response.</p> <p>In 2006, 3 review events were triggered for Moreton Bay bugs, scallops and bay prawns. All review events related to catches being below 70% of average Catch Per Unit Effort (CPUE) during specific reference periods. With respect to bay prawns and Moreton Bay bugs DPI&F's proposed response is to continue monitoring. A quantitative stock assessment of saucer scallops is currently underway, with results expected by mid-2008.</p>	<p>DPI&F are partly meeting this recommendation by reporting against review events in annual status reports. DEW expects that when the PMS is finalised it will include a 3 month timeframe for the development of a timetable for the implementation of appropriate management responses.</p>
<p>From 2005, DPI&F to report publicly on the status of the fishery on an annual basis, including explicit reporting against each performance measure specified in the Trawl Plan.</p>	<p>Annual status reports for the broader East Coast Trawl Fishery were prepared for the 2004 and 2005 fishing seasons. An interim report for the 2006 fishing year has been provided to DEW to allow assessment of the fishery while the 2007 status report is being finalised. Finalised annual status reports are publicly available from the 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 will report on the performance of the ECOTF against the performance measures outlined in the PMS, once finalised, in the annual status reports.</p>	<p>DEW considers that DPI&F has met this recommendation.</p>
<p>By the end of 2005, DPI&F to review the adequacy of the current Long Term Monitoring Program (LTMP) for the ECOTF in terms of survey design and the value of the survey data for fishery assessment purposes. DPI&F to implement changes to the LTMP based on the results of this review and within</p>	<p>The Commonwealth Scientific and Industrial Research Organisation (CSIRO) reviewed the LTMP survey design with respect to the value of the data collected for fishery assessment purposes. DPI&F's proposed eastern king prawn recruitment survey was also reviewed by CSIRO.</p> <p>DPI&F have developed an implementation team and will</p>	<p>DEW considers that this recommendation has been met.</p>

<p>available resources.</p>	<p>introduce appropriate recommendations as resources are available.</p> <p>The annual tiger and endeavour prawn surveys were found to provide reliable abundance indices and the data would be further improved by increasing the number of sites surveyed. The review also recommended that these data be incorporated into future stock assessments and future modelling of the time series of abundance and recruitment indices should be considered.</p> <p>As a direct outcome from the review, the LTMP will survey eastern king prawn recruitment from 2007.</p> <p>The scallop survey undertaken to assess the performance of the rotational harvest strategy and the scallop replenishment areas could not provide a reliable index of abundance for use in stock assessment. The data collected do provide valuable information on the scallop stock recruitment relationship. DPI&F intends to re-design the scallop survey based on the outcomes of the review to provide a more robust abundance index.</p>	
<p>By the end of 2006, DPI&F to develop and implement a robust system to validate catch logbook and Species of Conservation Interest (SOCI) logbook data.</p>	<p>DPI&F undertook a validation exercise, comparing trawl logbook data held on the CFISH database against vessel monitoring system (VMS) records in 2006. Results illustrated that discrepancies between the two sources are negligible, with mis-reporting of fishing location or non-fishing activity averaging approximately 2%.</p> <p>In 2006 DPI&F commenced the fisheries observer program (FOP) in the ECOTF. Given the different species and gear types utilised in the ECOTF the observer program is based around sectors. In 2007 observers operated in the tiger/endeavour prawn sector</p>	<p>DEW considers that this recommendation has been met and notes that the observer program in the ECOTF will be ongoing.</p>

	<p>(130 days) and the red spot king prawn sector (80 days). Future observer work is planned for the scallop (130 days) and banana/bay prawn sectors (80 days) in 2008 and in the eastern king prawn sector (140 days) in 2009.</p> <p>Validation of SOCI logbook data with observer records indicated some discrepancies and DPI&F are currently working with the fishing industry to identify methods of improving the accuracy of SOCI reporting.</p>	
<p>DPI&F to develop, and make publicly available, a strategic research plan within one year. The research plan will identify information gaps in the knowledge required to manage the fishery sustainably, priorities for future research, and consider strategies through which research needs can be met on a continued basis.</p>	<p>A five year research plan (2006 to 2011) has been developed for the East Coast Trawl Fishery (ECTF). The research plan is publically available on the DPI&F website.</p> <p>The highest priority actions identified in the ECTF 2006-2011 Research Plan include: obtaining life history data (growth rates, natural mortality and spawning patterns) for tiger/endeavour prawns and banana prawns and a suite of bycatch related research, including identification of bycatch species at risk and improving the effectiveness of BRDs.</p>	<p>DEW considers that this recommendation has been implemented. DEW will review the implementation of the 2006-2011 Research Plan in the next EPBC Act review of the ECOTF in 2010.</p>
<p>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 principal and permitted species and bycatch, within three years, using stock or risk assessments. Appropriate management responses will be developed to reduce risks to the high-risk species or groups.</p>	<p>Stock assessments undertaken in 2004/05 suggested that eastern king prawn, saucer scallops and tiger/endeavour prawn were being fished at Maximum Sustainable Yield (MSY).</p> <p>Since 2005 DPI&F has made an ongoing commitment to undertake regular stock assessments for the principal species on a rolling, 3 year cycle. Risk assessments will be undertaken for permitted species and bycatch.</p> <p>A stock assessment of banana prawns has recently been undertaken, the age-structured model indicating that the current exploitable biomass levels were approximately</p>	<p>The implementation of this recommendation is ongoing. DEW notes DPI&F's commitment to undertake regular stock assessments for principal species every 3 years. A number of stock assessments for principal species will occur during 2008 and 2009, therefore DEW will review the progress in the roll-out of the stock assessment cycle for ECOTF principal species in the next EPBC Act assessment of the fishery in 2010.</p>

	<p>50 to 70% of virgin biomass. The stock assessment recommended that the biomass at MSY (BMSY) should be adopted as a biologically based limit reference point.</p> <p>Stock assessments for eastern king prawn, tiger and endeavour prawns, red spot king prawns and saucer scallop are proposed for completion by the end of 2008, in line with the 3 year rolling assessment cycle for principal species.</p>	
<p>DPI&F to implement an effort cap in the Great Barrier Reef World Heritage Area, which changes periodically in line with the most current estimates of effort creep. DPI&F to implement appropriate management arrangements to account for effort creep across the fishery.</p>	<p>The Trawl Plan legislated an agreement between the Queensland and Australian Governments for an effort cap in the GBRWHA. Until 2003 the effort cap decreased in line with what was estimated to be the level of effort creep in the fishery (3%). In 2004 the effort cap from 2003 was rolled over. An effort cap for the 2005, 2006 and 2007 fishing years was not legislated in the Trawl Plan, however, fishing effort continued to reduce and remained well below the 2003 effort cap level.</p> <p>DPI&F have established estimates of annual effort creep which have been scientifically peer reviewed. The submission provided by DPI&F indicate that proposals to implement a new system for reducing the GBRWHA effort cap in line with annual effort creep estimates and a one-off removal of the effort units bought out by the Commonwealth as part of the SAP are currently being prepared for public comment and legislative amendment.</p>	<p>This recommendation has not been implemented. DEW notes that effort in the GBRWHA has continued to decrease since 2004 and is now well below the 2003 effort cap level (46% of the 2003 World Heritage Area (WHA) effort cap level was utilised in 2006). However, DEW considers that a legislative WHA effort cap is an important step in ensuring that the WHA values of the GBRMP are protected. Therefore DEW recommends that a WHA effort cap be legislated at the first available opportunity (Recommendation 1). DEW expects that this effort cap will decrease by the effort units bought out in the SAP and levels of annual effort creep since the 2003 level.</p>
<p>DPI&F to manage effort in the ECOTF at ecologically sustainable levels. DPI&F to identify appropriate management issues and options flowing from the General Effort Review (GER), make the findings publicly available, and</p>	<p>The GER final report was publicly released in September 2004 (Kerrigan <i>et al.</i>, 2004). Key findings of the GER were the reductions between 1996 and 2003 in fishing days (40%) and effort units (32%). The number of boats in the ECOTF also decreased by 45% between 1990 and 2003.</p>	<p>DEW considers that this recommendation has been implemented.</p>

<p>implement any necessary management changes before the end of 2005.</p>	<p>Since the release of the GER report, effort levels in the ECOTF have continued to decline as a result of factors such as the high cost of fuel and equipment and increased competition from imported and aquacultured products. Effort levels in 2006 were the lowest on record, with 46 400 days fished and approximately 2 million effort units utilised.</p>	
<p>DPI&F to investigate the feasibility of implementing finer scale spatial management in the ECOTF.</p>	<p>DPI&F advise that finer scale spatial management options for target stocks will be considered as part of the legislated General Review of the Trawl Plan, which is proposed to commence in 2008.</p>	<p>The implementation of this recommendation is ongoing. Given the 2004/05 recent stock assessments for a number of the principal species in the ECOTF indicated that they were being fished at MSY levels, DEW still considers it important that finer scale spatial management is implemented, to ensure specific species are not fished unsustainably (Recommendation 2).</p>
<p>As part of the Review of the Trawl Plan (to be completed and changes implemented before November 2006), DPI&F to revise current review events and develop appropriate limit and target reference points for principal and permitted species by the end of 2005.</p>	<p>DPI&F have developed a draft PMS for the ECOTF that incorporates performance measures for principal species (prawns, scallops, Moreton bay bugs and squid) and permitted species (other bugs, barking crayfish, blue swimmer crabs, cuttlefish, mantis shrimp, octopus, pinkies, pipefish and three-spot crabs). An interim, precautionary bycatch performance measure is also included in the draft PMS.</p> <p>It is DPI&F's intention that the PMS, when finalised and approved, will be the main instrument for measuring the performance of the ECOTF.</p>	<p>The implementation of this recommendation is ongoing. DEW notes that no objectives or performance measures are included for protected species interactions or ecosystem impacts in the draft PMS (Recommendation 5).</p> <p>DEW encourages DPI&F to finalise the PMS as a priority, so reporting against the specified performance measures can be included in the 2008 annual status report.</p>
<p>DPI&F to continue to cooperate with other relevant jurisdictions to pursue complementary management and research of shared stocks for all principal</p>	<p>DPI&F attend and contribute to the Northern Australian Fisheries Managers Forum (NAFM), the Australian Fisheries Managers Forum (AFMF) and the Protected Zone Joint Authority (PZJA) which facilitates discussion</p>	<p>DEW considers that this recommendation has been implemented.</p>

<p>and permitted species, which may be affected by cross-jurisdictional issues. In particular, DPI&F will cooperate with AFMA, WA and NT fisheries management agencies in relation to squid and with NSW Fisheries in relation to eastern king prawn.</p>	<p>of complementary management arrangements for shared stocks.</p> <p>Annual fishery manager meetings between QLD and NSW have occurred and are proposed to continue. Eastern king prawn catch data has been obtained from NSW for incorporation into the stock assessment for this species.</p>	
<p>By the end of 2006, DPI&F to develop and implement a system sufficient to identify changes in the composition and quantity of bycatch in the ECOTF over time.</p>	<p>The FOP commenced in the ECOTF in early 2006 (see details above for 2007-2009 planned observer work in the ECOTF). Observers recorded total bycatch weight, species composition data, and the numbers of protected species caught.</p> <p>As an ongoing mechanism, DPI&F are developing the ECTF Bycatch Monitoring Strategy (BMS). This program will seek to document the composition and quantity of bycatch characteristic of high and low effort areas in each of the fishery sectors on a triennial basis. Special consideration will be given to protected species, species taken in other fisheries and Queensland endemic species. The program may be extended in the future to incorporate additional indicator species and communities. The BMS sets out protocols for sampling, selection of sampling sites and reporting procedures.</p> <p>A draft of the ECTF BMS was produced in early 2007. It is expected to be finalised and publicly released in 2008.</p>	<p>DEW considers that this recommendation has been implemented. DEW will assess the implementation of the BMS in the next EPBC Act review of the ECOTF in 2010.</p>
<p>DPI&F to continue to pursue a reduction in the amount of bycatch taken in the ECOTF through the refinement of bycatch mitigation technology and to support the investigation of methods for</p>	<p>DPI&F and industry have worked together to investigate and develop more effective BRDs.</p> <p>A research project regarding the impact of the fishery and effectiveness of specific BRD designs on sea snakes,</p>	<p>DEW considers that this recommendation has been implemented and recommends DPI&F to continue work on improving the effectiveness of bycatch reduction technology, with a specific focus on</p>

<p>increasing the survivability of bycatch species. Any effective and appropriate methods identified should be implemented in the Trawl Plan within 18 months.</p>	<p>including an assessment on survivability is currently underway. The project is due for completion by mid-2008.</p>	<p>mitigating interactions with protected species (Recommendations 6 and 7).</p>
<p>DPI&F to develop sustainability risk indicators for bycatch based on the Seabed Biodiversity Mapping Project (FRDC Project number 2003/021). In the interim, DPI&F to, by the end of 2005, implement precautionary performance measures related to bycatch.</p>	<p>In late 2005 the Trawl Scientific Advisory Group (Trawl SAG) developed a precautionary bycatch performance measure. This was that non-compliance with BRD and Turtle Excluder Device (TED) regulations should not exceed 5%.</p> <p>The Seabed Biodiversity Mapping Project is expected to provide estimates on the distribution of benthic habitats, assemblages, species groups and numerous individual species. Biomass estimates should also be available for each species/species group located in the inter-reefal habitats of the GBRWHA that are open to trawling. DPI&F intend to develop risk profiles on inter-reefal benthic habitats and assemblages, relatively homogenous species groups and the most commonly occurring individual species located in these areas.</p> <p>The final Seabed Biodiversity Mapping Project was completed in July 2007 and its outputs will guide the development of alternative bycatch performance measures for inclusion in the PMS.</p>	<p>The implementation of this recommendation is ongoing. DEW notes the interim bycatch performance measure that was developed by the Trawl SAG, however the performance of the fishery against this interim performance measure has not been reported on in the 2006 annual status report or the 2007 interim annual status report.</p> <p>DEW recommends that performance measures aiming at reducing bycatch levels be incorporated in the PMS (Recommendation 5).</p>
<p>DPI&F to promote research into the impact of the fishery on protected species including syngnathids and seasnakes, and to take all reasonable steps to reduce protected species interactions. Each year, the DPI&F to report publicly on interactions with protected species,</p>	<p>In November 2005, DPI&F released a report, <i>Syngnathids in the East Coast Trawl Fishery: a review and trawl survey</i>. A key finding from this report was that commercial logbook data was not a good source for identifying fine scale areas of syngnathid presence or absence. The highest areas of syngnathid abundance were found in areas closed to trawling.</p>	<p>DEW considers that this recommendation has been implemented. Recommendation 7 requires the specific mitigation of protected species interactions. DEW expects that to implement this recommendation, research into the fishery's interactions with protected</p>

<p>incorporating the latest research findings.</p>	<p>A research project investigating the distribution, abundance and vulnerability of seasnakes to trawling is currently underway. The three key objectives of this project are to implement a crew-based observer program to collect information on seasnake catch rates, species composition and distribution; quantify post-trawling mortality rates of seasnakes by undertaking survival trials at sea on commercial vessels; and to test the effectiveness of existing BRDs on seasnake catch rates. As at July 2007 the crew based observer program had seasnake catch and mortality data from 100 fishing trips across many of the ECTF sectors. The at sea trials indicate that significant reductions in seasnake catch rates can be achieved with various BRD/TED/distance from the codend configurations. The final outputs of this project are due in mid-2008.</p>	<p>species will continue.</p>
<p>Within 12 months, DPI&F to amend the definition of “recognised TEDs” in the Trawl Plan to ensure that TEDs used in the ECOTF allow the effective escape of those turtle species caught in the fishery. DPI&F to undertake sufficient and effective enforcement activities, including at-sea and in-port inspections, to monitor the compliance with the TED provisions of the Trawl Plan.</p>	<p>The Trawl Plan has not been amended as per this recommendation. DPI&F advise that this amendment is expected to be progressed in 2008.</p>	<p>This recommendation has not been implemented. Given the importance of effective TEDs in ensuring the escape and survival of marine turtles, DEW will place this requirement as a condition on the Part 13 accreditation for the ECOTF (Part 13 Condition 1).</p>
<p>DPI&F to, within three years, initiate a review and provide a preliminary report on the adequacy of protection provided to species and benthic habitats in the</p>	<p>DPI&F have initiated a review of marine biodiversity south of the GBR, in collaboration with CSIRO and regional natural resource management bodies. Stage 1 of the project (2007-2008) involves collation and synthesis</p>	<p>The implementation of this recommendation is ongoing. DEW will review the preliminary assessment of the adequacy of protection provided by trawl</p>

<p>ECOTF by the current system of closures within and outside the GBRMP, and whether additional closures are required outside the GBRMP.</p>	<p>of current information on marine benthic habitats and biodiversity for southern Queensland and northern New South Wales and preparation of field methodologies. Stage 2 of the project (2009-2011, subject to funding availability) will refine the methods and obtain new data.</p> <p>A preliminary assessment of the adequacy of protection provided by trawl closures to benthic habitats, protected species and higher risk species as determined by the Seabed Biodiversity Mapping Project is underway and is expected to be available in late 2007.</p>	<p>closures to benthic habitats, protected species and higher risk species once it is finalised.</p>
--	--	--

Table 3: The DEW assessment of the ECOTF 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 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 DEW website.

Part 13

Section 208A Minister may accredit plans or regimes	DEW assessment of the ECOTF
<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 the Minister is satisfied that:</p> <ul style="list-style-type: none"> (f) the plan or regime 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 (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>The ECOTF will be managed under the <i>QLD Fisheries (East Coast Trawl) Management Plan 1999</i> and the <i>QLD Fisheries Regulation 1995</i>, in force under the <i>QLD Fisheries Act 1994</i>.</p> <p>The management regime for the ECOTF was accredited in November 2004. Two changes to the management arrangements for the ECOTF have occurred since this accreditation was granted. In addition, a 2004 recommendation regarding the modification of TEDs to ensure large animals were effectively released from the nets has not been implemented. In order to satisfy 208(A) (d), DEW considers a new Part 13 declaration with an associated condition is required. DEW considers the condition should require DPI&F to amend the definition of “recognised TEDs” in the Trawl Plan to ensure that TEDs used in the ECOTF allow the effective escape of those turtle species caught in the fishery.</p> <p>From 2002 to 2006, average annual marine turtle interactions have been 14. Main species encountered included green and flatback turtles and 2006 SOCI logbooks data indicates that all marine turtles caught</p>

	were released alive. Therefore, DEW considers the current operation of the ECOTF is not likely to adversely affect the survival or recovery in nature of any threatened species.
--	--

Section 222A Minister may accredit plans or regimes	DEW assessment of the ECOTF
<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 the Minister is 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 survival or recovery in nature of a listed migratory species. 	<p>The ECOTF will be managed under the <i>QLD Fisheries (East Coast Trawl) Management Plan 1999</i> and the <i>QLD Fisheries Regulation 1995</i>, in force under the <i>QLD Fisheries Act 1994</i>.</p> <p>The management regime for the ECOTF was accredited in November 2004. Two changes to the management arrangements for the ECOTF have occurred since this accreditation was granted. Consequently, a new Part 13 declaration related to migratory species is required at this time.</p> <p>The report provided by DPI&F indicates that there have been no interactions with migratory species in the ECOTF. Therefore, DEW considers the current operation of the ECOTF 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 ECOTF
<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 	<p>The ECOTF will be managed under the <i>QLD Fisheries (East Coast Trawl) Management Plan 1999</i> and the <i>QLD Fisheries Regulation 1995</i>, in force under the <i>QLD Fisheries Act 1994</i>.</p>

<p style="text-align: center;">Territory;</p> <p>if the Minister is satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan 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 ECOTF was accredited in November 2004. Two changes to the management arrangements for the ECOTF have occurred since this accreditation was granted. Consequently, a new Part 13 declaration related to cetaceans is required at this time.</p> <p>The report provided by DPI&F indicates that there have been no interactions with cetaceans in the ECOTF. Therefore, DEW considers the current operation of the ECOTF is not likely to adversely affect the conservation status of a species of cetacean or a population of that species.</p>
--	---

Section 265 Minister may accredit plans or regimes	DEW assessment of the ECOTF
<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 the Minister is satisfied that:</p> <p>(f) the plan 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 ECOTF will be managed and the <i>QLD Fisheries (East Coast Trawl) Management Plan 1999</i> and the <i>QLD Fisheries Regulation 1995</i>, in force under the <i>QLD Fisheries Act 1994</i>.</p> <p>The management regime for the ECOTF was accredited in November 2004. Two changes to the management arrangements for the ECOTF have occurred since this accreditation was granted. Consequently, a new Part 13 declaration related to listed marine</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>species is required at this time.</p> <p>2006 SOCI logbook data indicated interactions with seasnakes (1526, the majority of which were released alive) and seahorses (4). In addition, two species of pipehorses (<i>Solegnathus hardwickii</i> and <i>S. dunkeri</i>) incidentally captured in the ECOTF are permitted to be retained. Trip limits of 50 individuals in total are placed on each of these species to limit their harvest and ensure they are not targeted. Annual catches of the pipehorse species have remained relatively stable between 2001 and 2006, averaging 8300 individuals annually.</p> <p>The level of capture of seasnakes is relatively high, however, the majority of animals are released alive and DPI&F is doing considerable research into methods to reduce seasnake capture in the ECOTF.</p> <p>Therefore, DEW considers the current operation of the ECOTF is not likely to adversely affect the conservation status of a listed marine species or a population of that species.</p>
--	--

Section 303AA Conditions relating to accreditation of plans, regimes and policies	DEW assessment of the ECOTF
<p>This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.</p>	<p>DEW recommends that the ECOTF be 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 ECOTF be accredited under Part 13 subject to a condition that requires DPI&F to amend the definition of “recognised TEDs” in the Trawl Plan to ensure that TEDs used in the ECOTF allow the effective escape of those turtle species caught in the fishery, by 30 November 2008.</p> <p>The Part 13 instrument for the ECOTF specifies this condition.</p>

The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.	
--	--

Part 13A

Section 303DC Minister may amend list	DEW assessment of the ECOTF
Minister may, by instrument in published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by: <ul style="list-style-type: none"> (a) including items in the list; 	No amendment to the list of exempt native specimens (LENS) is required as product sourced from the ECOTF approved wildlife trade operation is already included on the LENS.

Section 303FN Approved wildlife trade operation	DEW assessment of the ECOTF
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>The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is satisfied that:</p> <ul style="list-style-type: none"> (a) the operation is consistent with the objects of Part 13A of the Act; and <p>(b) the operation will not be detrimental to:</p>	<p>The ECOTF is consistent with objects of Part 13A (listed after this table) as:</p> <ul style="list-style-type: none"> ▪ there is no harvest of species listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES); ▪ 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 ECOTF is unlikely to be unsustainable and threaten biodiversity within the next 3 years; and ▪ the EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens. <p>DEW considers that the ECOTF will not be detrimental to the survival</p>

<p>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</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>or conservation status of a taxon to which it relates within the next 3 years, given the management measures currently in place, which include limited entry, a fishery-wide effort cap, a series of permanent and seasonal closures, gear restrictions, minimum and maximum size limits for some byproduct species and ongoing observer coverage.</p> <p>DEW considers that the ECOTF will not threaten any relevant ecosystem within the next 3 years, given the management measures currently in place, which include limited entry, a fishery-wide effort cap, a series of permanent and seasonal closures, gear restrictions, minimum and maximum size limits for some byproduct species and ongoing observer coverage.</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 ECOTF will not have a significant impact on any relevant ecosystem within the next 3 years, given the management measures currently in place, which include limited entry, a fishery-wide effort cap, a series of permanent and seasonal closures, gear restrictions, minimum and maximum size limits for some byproduct species and ongoing observer coverage.</p> <p>The management arrangements that will be employed for the ECOTF are likely to be effective. Management arrangements for the ECOTF are included in the Trawl Plan. Management arrangements include</p>

	<p>limited entry, a fishery-wide effort cap, a series of permanent and seasonal closures, gear restrictions, minimum and maximum size limits for some byproduct species and ongoing observer coverage. The performance of the ECOTF will be reviewed annually, against a series of objectives, performance measures and reference points for target, byproduct, bycatch and protected species.</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 ECOTF will be managed under the <i>QLD Fisheries Act 1994</i>, the <i>QLD Fisheries Regulation 1995</i>, and the Trawl Plan.</p> <p>The <i>QLD Fisheries Act 1994</i>, the <i>QLD Fisheries Regulation 1995</i> and the Trawl Plan apply throughout QLD waters.</p> <p>The management arrangements that will be employed for the ECOTF are likely to be effective. Management arrangements for the ECOTF are included in the Trawl Plan. Management arrangements include limited entry, a fishery-wide effort cap, a series of permanent and seasonal closures, gear restrictions, minimum and maximum size limits for some byproduct species and ongoing observer coverage. The performance of the ECOTF will be reviewed annually, against a series of objectives, performance measures and reference points for target, byproduct, bycatch and protected species.</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 ECOTF 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 Minister must rely primarily on the outcomes of any assessment in</p>	<p>No assessment of the ECOTF has been carried out under Part 10 of the EPBC Act.</p>

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 ECOTF
<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. 	<p>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 ECOTF a WTO and included the annual reports, was released for public comment on 24 September 2007.</p>
<p>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 ECOTF a WTO and included the annual reports, was released for public comment on 24 September 2007 and closed on 29 October 2007, a total of 24 business days.</p>
<p>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.</p>	<p>No public comments about the proposal were received.</p>

Section 303FT Additional provisions relating to declarations	DEW assessment of the ECOTF
<p>This section applies to a declaration made under section 303FN, 303FO or 303FP.</p>	<p>A declaration for the ECOTF will be made under section 303FN.</p>
<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> <ul style="list-style-type: none"> (a) during a particular period; or 	<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.

(b) while certain circumstances exist; or (c) while a certain condition is complied with.	It is recommended the standard conditions are applied to the ECOTF WTO declaration.
In such a case, the instrument of declaration is to specify the period, circumstances or condition.	The WTO instrument for the ECOTF specifies the conditions applied.
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 ECOTF 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 ECOTF
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.	You must consider the precautionary principle when making a decision to declare an approved WTO.
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 ECOTF

The material submitted by DPI&F demonstrates that the management arrangements for the ECOTF meet most of the requirements of the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition*. Management arrangements include limited entry, a fishery-wide effort cap, a series of permanent and seasonal closures, gear restrictions, minimum and maximum size limits for some byproduct species and ongoing observer coverage. 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.

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

- several principal species are currently being harvested at maximum sustainable yield levels;
- DPI&F currently has limited mechanisms by which to reduce total effort or to partition effort across the different sectors of the fishery if required for ecological sustainability purposes;
- the lack of a legislated effort cap for the GBRWHA; and
- the need to incorporate performance measures and reference points for bycatch, protected species interactions and ecosystem impacts into the Performance Measurement System for the ECOTF.

DEW 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 term. To contain and minimise the risks in the longer term the recommendations listed below have been made. DEW considers that, until it can be demonstrated that these issues have been adequately dealt with, a 3-year WTO declaration is appropriate.

Given the low level of protected species interactions under current fishing operations, 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. Given a 2004 DEW assessment recommendation to amend the definition of “recognised TEDs” in the Trawl Plan that is still outstanding, DEW considers a new Part 13 accreditation should be granted, with a condition requiring DPI&F amend the definition of “recognised TEDs” in the Trawl Plan to ensure the effective escape of turtle species caught in the ECOTF by 30 November 2008.

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 Table 4.

Table 4: Queensland East Coast Otter Trawl Fishery Assessment - Issues, Conditions and Draft Recommendations

	Issue	DEW Part 13 Condition
1	<p>Amend definition of recognised TEDs in the Trawl Plan In 2004, advice from USA TED experts and the findings of a DPI&F study into the morphometrics of turtle species found in the ECOTF area concluded that in order to effectively remove some of the larger individuals from the net, the TED specifications outlined in the Trawl Plan would need to be modified. In the 2004 EPBC Act assessment of the ECOTF, DEW made a recommendation for DPI&F to amend the definition of ‘recognised TEDs’ in the Trawl Plan to ensure that the TEDs used in the ECOTF allow the effective escape of those marine turtle species caught in the fishery. This has not occurred. While DEW acknowledges the major advances that have been made with regard to reducing the mortality of marine turtles in the ECOTF, DEW considers that amending the definition of TEDs in the Trawl Plan is a necessary step to meet the ‘all reasonable steps to avoid killing or injuring listed threatened species’ requirement of the EPBC Act. As such this will be placed as a condition on the Part 13 accreditation for the ECOTF.</p>	<p>Condition 1: DPI&F to amend the definition of “recognised TED” in the Trawl Plan to ensure that TEDs used in the ECOTF allow the effective escape of those turtle species caught in the fishery, by 30 November 2008.</p>
2	<p>General Management Export decisions relate to the arrangements in force at the time of the decision. In order to ensure that these decisions remain valid, DEW 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>Condition 1: Operation of the ECOTF will be carried out in accordance with the Queensland <i>Fisheries Regulation 1995</i> and the Queensland <i>Fisheries (East Coast Trawl) Management Plan 1999</i> in force under the Queensland <i>Fisheries Act 1994</i>.</p> <p>Condition 2: DPI&F to inform DEW of any intended amendments to the management arrangements that may affect the criteria on which EPBC Act decisions are</p>

3	<p>Annual Reporting</p> <p>It is important that reports be produced and presented to DEW 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 (3 years). 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 DEW recommendations. Electronic copies of the Guidelines are available from the DEW website at</p> <p>http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html</p>	<p>based.</p> <p>Condition 3: DPI&F to continue to produce and present reports to DEW annually as per Appendix B of the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i>.</p>
---	---	---

	Issue	DEW Recommendation
4	<p>GBRWHA effort cap</p> <p>A recommendation was made in the 2004 EPBC Act assessment of the ECOTF to implement an effort cap in the GBRWHA. Until 2003, the GBRWHA effort cap decreased in line with what was estimated to be the level of effort creep in the ECOTF when the Trawl Plan was first developed (3%). In 2004 the effort cap from 2003 was rolled over without adjustment. No effort cap has been implemented for 2005, 2006 or 2007. While DEW acknowledges that the effort levels in the GBRWHA have decreased significantly, the implementation of a GBRWHA effort cap is viewed as being an important management response to ensure that the World Heritage</p>	<p>Recommendation 1: By 30 November 2008, DPI&F to implement an effort cap in the GBRWHA that takes account of effort units removed from the fishery by the Australian Government's 2004 Structural Adjustment Package and estimated effort creep since 2003. The effort cap should periodically change in line with the latest estimates of effort creep.</p>

	<p>Area values of the Great Barrier Reef Marine Park are protected. Therefore, DEW recommends that DPI&F implement an effort cap in the GBRWHA that takes into account the effort units bought out by the Australian Government under the Structural Adjustment Package that followed rezoning of the Great Barrier Reef Marine Park on 1 July 2004 and the estimated effort creep since 2003. The effort cap should periodically change in line with the latest estimates of effort creep.</p>	
5	<p>Finer scale spatial management DEW remains concerned that while total effort across the ECOTF is capped there is potential for an unsustainable level of fishing effort to be applied to a specific sector within the fishery. DPI&F has in place a number of spatial management arrangements that significantly reduces the risk to principal species but it has limited mechanisms by which to reduce total effort or to partition effort across the different sectors of the fishery if required for ecological sustainability purposes. Raised as a recommendation in the 2004 assessment of the ECOTF, this remains an issue, given that several of the ECOTF principal species are considered to be fully-exploited.</p>	<p>Recommendation 2: DPI&F to investigate options for incorporating finer scale spatial management in the ECOTF to ensure that all principal species are sustainably harvested.</p>
6	<p>Compliance The Compliance Risk Assessment completed for the Queensland East Coast Trawl Fishery in 2005 identified compliance with the BRD and TED provisions of the Trawl Plan to be a high risk issue for the sustainability of bycatch species and marine turtles. Noting the pending changes to TED specifications in the Trawl Plan (Part 13 Condition 1), DEW recommends that DPI&F undertake sufficient compliance activity to ensure that the TED and BRD provisions of the Trawl Plan are being implemented.</p> <p>Anecdotal evidence suggests that the chemical scrubbing of egg-bearing bugs may be becoming a widespread practice in the ECOTF (Minutes of Trawl MAC meeting 1/2006). DEW understands that DPI&F are considering a number of options, including prohibiting the take of female bugs and increasing the minimum size limit but allowing the take of egg-bearing bugs.</p>	<p>Recommendation 3: DPI&F to undertake sufficient and effective compliance and enforcement activities to monitor compliance with the TED and BRD provisions of the Trawl Plan.</p> <p>Recommendation 4: DPI&F to investigate options for detecting chemical scrubbing of egg-bearing bugs by 30 November 2008.</p>

	<p>DEW recommends that DPI&F investigate the methods of detecting chemical scrubbing of bugs in order to determine whether the current management arrangements can be effectively enforced.</p>	
7	<p>Performance measures for bycatch, protected species and ecosystem impacts</p> <p>DEW notes that the draft PMS does not include objectives or performance measures for protected species or ecosystem impacts. In addition, the current bycatch performance measure is an interim measure and requires further refinement. DEW notes that DPI&F are currently reviewing the results of the Seabed Biodiversity Monitoring Program with a view to developing additional performance measures for bycatch, protected species and ecosystem impacts.</p> <p>DEW recommends that objectives and performance measures, that aim for reductions in bycatch levels, protected species interactions and ecosystem impacts, are incorporated into the PMS by 30 November 2008.</p>	<p>Recommendation 5: By 30 November 2008, DPI&F to finalise the draft PMS in consultation with Trawl MAC, ensuring that performance measures aiming for a reduction in bycatch levels, protected species interactions and ecosystem impacts are incorporated.</p>
8	<p>Bycatch and protected species</p> <p>DEW congratulates DPI&F on the large reductions in bycatch achieved in the ECOTF since the introduction of the Trawl Plan and notes that Trawl Management Advisory Committee (Trawl MAC) and industry have keenly supported the development and implementation of more effective bycatch mitigation technology.</p> <p>DEW recommends that DPI&F continue to pursue a reduction in the amount of bycatch taken in the ECOTF through the implementation of best practice bycatch mitigation technology. Associated research and development should also be promoted.</p> <p>Given the EPBC Act requirements to take all reasonable steps to avoid the</p>	<p>Recommendation 6: DPI&F to continue to pursue a reduction in the amount of bycatch taken in the ECOTF through the implementation of best practice bycatch mitigation technology and the promotion of associated research and development.</p> <p>Recommendation 7: DPI&F to continue to take all</p>

<p>killing or injuring of listed threatened and listed marine species, DEW recommends that specific consideration should be given to minimising interactions with protected species, including seasnakes, syngnathids and marine turtles.</p> <p>In response to a 2004 assessment recommendation, DPI&F commenced the FOP in the ECOTF to validate SOCI logbook data. Some discrepancies have been identified and DPI&F have commenced work on improving compliance with SOCI reporting requirements.</p>	<p>reasonable steps to avoid interactions with protected species (including seasnakes, syngnathids and marine turtles), including the promotion of relevant research.</p> <p>Recommendation 8: DPI&F to continue to validate SOCI logbook data and work to improve compliance with SOCI reporting requirements.</p>
---	--

Acronyms

AFMF	Australian Fisheries Management Forum
BMS	Bycatch Monitoring Strategy
BRDs	Bycatch Reduction Devices
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPUE	Catch per unit effort
CSIRO	Commonwealth Scientific and Industrial Research Organisation
DEH	Department of the Environment and Heritage
DEW	Department of the Environment and Water Resources
DPI&F	Department of Primary Industries and Fisheries
ECOTF	East Coast Otter Trawl Fishery
ECTF	East Cost Trawl Fishery
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FOP	Fishery Observer Program
GBRMP	Great Barrier Reef Marine Park
GBRWHA	Great Barrier Reef World Heritage Area
GER	General Effort Review
LENS	List of Exempt Native Specimens
LTMP	Long term monitoring program
MSY	Maximum Sustainable Yield
NAFM	Northern Australian Fisheries Management Forum
PMS	Performance Measurement System
PZJA	Protected Zone Joint Authority
QLD	Queensland
RFISH	Recreational Fishing Information System
SAP	Structure Adjustment Package
SOCI	Species of Conservation Interest
TED	Turtle Excluder Device
Trawl MAC	Trawl Management Advisory Committee
Trawl SAG	Trawl Scientific Advisory Committee
VMS	Vessel Monitoring System
WHA	World Heritage Area
WTO	Wildlife Trade Operation

