



**Australian Government**

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**Department of Sustainability, Environment, Water, Population and Communities**

Assessment of the  
**New South Wales  
Estuary Prawn Trawl Fishery**

**November, 2011**

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#### **Disclaimer**

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

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## Contents

### **Table 1: Summary of the New South Wales Estuary Prawn Trawl Fishery .....1**

Table 1 contains a brief overview of the operation of the fishery including: the gear used, species targeted, byproduct species, bycatch species, annual catch, management regime and ecosystem impacts.

### **Table 2: Progress in implementation of conditions and recommendations made in the 2008 assessment of the New South Wales Estuary Prawn Trawl Fishery .....8**

Table 2 contains an update on the progress that has been made by the fishery's management agency in implementing the conditions and recommendations that formed part of the fishery's previous approved wildlife trade operation declaration.

### **Table 3: The Department of Sustainability, Environment, Water, Population and Communities' assessment of the New South Wales Estuary Prawn Trawl Fishery against the requirements of the EPBC Act related to decisions made under Part 13A. ....13**

Table 3 contains the department's assessment of the New South Wales Estuary Prawn Trawl Fishery management arrangements against all the relevant parts of the *Environment Protection and Biodiversity Conservation Act 1999* that the delegate of the Minister for Sustainability, Environment, Water, Population and Communities must consider before making a decision.

### **The Department of Sustainability, Environment, Water, Population and Communities' final conditions and recommendations to the New South Wales Department of Primary Industries for the New South Wales Estuary Prawn Trawl Fishery .....20**

This section contains the department's assessment of the New South Wales Estuary Prawn Trawl Fishery performance against the Australian Government's *Guidelines for the Ecologically Sustainable Management of Fisheries - 2<sup>nd</sup> Edition* and outlines the reasons the department recommends that the fishery be declared an approved wildlife trade operation.

### **Table 4: The New South Wales Estuary Prawn Trawl Fishery Assessment – Summary of Issues, Conditions and Recommendations, November 2011 .....21**

Table 4 contains a description of the issues identified by the department with the current management regime for the New South Wales Estuary Prawn Trawl Fishery and outlines the proposed conditions and recommendations that would form part of the minister's (or delegate's) decision to declare the fishery an approved wildlife trade operation.

### **References .....23**

### **Acronyms .....23**



**Table 1: Summary of the New South Wales Estuary Prawn Trawl Fishery**

<p><b>Publicly available information relevant to the fishery</b></p>	<ul style="list-style-type: none"> <li>• New South Wales (NSW) <i>Fisheries Management Act 1994</i></li> <li>• NSW <i>Fisheries Management (General) Regulation 2010</i></li> <li>• NSW <i>Fisheries Management (Supporting Plan) Regulation 2006</i></li> <li>• NSW <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i></li> <li>• Estuary Prawn Trawl Fishery Environmental Impact Statement – February 2002</li> <li>• Fishery Management Strategy for the Estuary Prawn Trawl Fishery – February 2003</li> <li>• Status of Fisheries Resources in NSW 2008/2009</li> <li>• NSW Department of Primary Industries - Submission to the Department of Sustainability, Environment, Water, Population and Communities on behalf the NSW fishing industry seeking export approval for the NSW Estuary Prawn Trawl Fishery, September 2011</li> </ul>
<p><b>Area</b></p>	<p>The NSW Estuary Prawn Trawl Fishery area is limited to three NSW estuaries being the estuaries of Clarence (which includes Lake Wooloweyah), Hunter and Hawkesbury Rivers. Fishing may only occur in estuarine waters that are defined as waters ordinarily subject to tidal influences (other than ocean waters). The fishery area does not include the waters of Port Jackson.<sup>1</sup></p> <p>Schedule 3 of the <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i> outlines waters permanently closed to fishing.</p> <p>For a detailed description of the fishery area please see Schedule 1 of the NSW <i>Fisheries Management Act 1994</i> and Part 3 of the <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i> at:  <a href="http://www.dpi.nsw.gov.au/aboutus/about/legislation-acts/fisheries-management">http://www.dpi.nsw.gov.au/aboutus/about/legislation-acts/fisheries-management</a></p>
<p><b>Target Species</b></p>	<p><u>Clarence River:</u>  School prawn (<i>Metapenaeus macleayi</i>)</p> <p><u>Hunter River:</u>  School prawn (<i>Metapenaeus macleayi</i>)  Eastern king prawn (<i>Melicertus plebejus</i>)</p> <p><u>Hawkesbury River:</u>  School prawn (<i>Metapenaeus macleayi</i>)  Eastern king prawn (<i>Melicertus plebejus</i>)  Broad squid (<i>Photololigo etheridgei</i>)  Slender squid (<i>Loliigo sp.</i>)  Bottle squid (<i>Lolilus noctiluca</i>)  Bubble squid (<i>Eupyrnna stenodactyla</i>)  Candy-striped squid (<i>Sepioloida lineolata</i>)</p>

<sup>1</sup> NSW *Fisheries Management Act 1994*

<b>Target Species</b> <i>(cont'd)</i>	<p>Both prawn and squid target species are relatively short lived, generally not living past two years of age<sup>2</sup>. Between February and May, school prawns spawn in inshore ocean waters and within weeks the post-larval prawns move into the estuaries and travel upstream. In the following spring, adolescent prawns return to the sea to mature and spawn.</p> <p>Broad squid are generally fast growing, with females reaching a maximum size of 20 centimetres (mantle length) and males reaching a maximum size of 30 centimetres (mantle length)<sup>3</sup>. The 2008/09 <i>Status of Fisheries Resources in NSW</i> suggests that broad squid spawn numerous times during their short lifetime.</p>										
<b>Fishery status</b>	<p>The 2008/09 <i>Status of Fisheries Resources in NSW</i> describes the exploitation status for the following target species:</p> <table border="0"> <tr> <td>School prawn (<i>Metapenaeus macleayi</i>)</td><td>fully fished</td></tr> <tr> <td>Eastern king prawn (<i>Melicertus plebejus</i>)</td><td>growth overfished</td></tr> <tr> <td>Broad squid (<i>Photololigo etheridgei</i>)</td><td>fully fished</td></tr> <tr> <td>Slender squid (<i>Loliigo sp.</i>)</td><td>undefined</td></tr> <tr> <td>Bottle squid (<i>Lolilus noctiluca</i>)</td><td>undefined</td></tr> </table> <p>In the 2006/07 <i>Status of Fisheries Resources in NSW</i>, school prawns were categorised as growth overfished<sup>4</sup>. In the most recent <i>Status of Fisheries Resources in NSW</i> (2008/09), school prawns have since decreased in their ranking to fully fished. Research results have found that environmental factors such as river flow significantly affect abundances of prawns and as such it is not appropriate to categorise them as 'growth overfished.'</p> <p>Biological information is only available for the broad squid species. Slender and bottle squid only comprise a small quantity of the landed catch in the fishery and a formal stock assessment is not available.</p>	School prawn ( <i>Metapenaeus macleayi</i> )	fully fished	Eastern king prawn ( <i>Melicertus plebejus</i> )	growth overfished	Broad squid ( <i>Photololigo etheridgei</i> )	fully fished	Slender squid ( <i>Loliigo sp.</i> )	undefined	Bottle squid ( <i>Lolilus noctiluca</i> )	undefined
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Bottle squid ( <i>Lolilus noctiluca</i> )	undefined										
<b>Byproduct Species</b>	<p>The following list is the prescribed byproduct species for the Estuary Prawn Trawl Fishery:</p> <p><u>Clarence River:</u></p> <p>Eastern king prawn (<i>Melicertus plebejus</i>)  Greasyback prawn (<i>Metapenaeus bennettiae</i>)  Tiger prawn (<i>Penaeus esculentus</i>)  Trumpeter whiting (<i>Sillago maculate</i>)  Silver biddy (<i>Gerres subfasciatus</i>)  Fork-tailed catfish (<i>Euristhmus lepturus</i>)  Estuary catfish (<i>Cnidoglanis macrocephalus</i>)  Striped catfish (<i>Plotosis lineatus</i>)  Blue swimmer crab (<i>Portunus pelagicus</i>)  Mud crab (<i>Scylla serrata</i>)  Arrow squid (<i>Nototodarus gouldi</i>)  Broad squid (<i>Photololigo etheridgei</i>)  Slender squid (<i>Loliigo sp.</i>)</p>										

<sup>2</sup> Status of Fisheries Resources in NSW 2008/09

<sup>3</sup> Status of Fisheries Resources in NSW 2008/09

<sup>4</sup> Yield per recruit would increase if length at first capture was increased or fishing mortality decreased (Status of Fisheries Resources in NSW 2006/07)

<b>Byproduct Species</b> <i>(cont'd)</i>	<p><u>Hunter River:</u>  Greasyback prawn (<i>Metapenaeus bennettiae</i>)  Tiger prawn (<i>Penaeus esculentus</i>)  Arrow squid (<i>Nototodarus gouldi</i>)  Broad squid (<i>Photololigo etheridgei</i>)  Slender squid (<i>Loliigo sp.</i>)  Bottle Squid (<i>Loliolus noctiluca</i>)</p> <p><u>Hawkesbury River:</u>  Greasyback prawn (<i>Metapenaeus bennettiae</i>)  Tiger prawn (<i>Penaeus esculentus</i>)  Trumpeter whiting (<i>Sillago maculate</i>)  Large-toothed flounder (<i>Pseudorhombus arsius</i>)  Small-toothed flounder (<i>Pseudorhombus jenynsii</i>)  Black sole (<i>Synaptura nigra</i>)  Silver biddy (<i>Gerres subfasciatus</i>)  Striped trumpeter (<i>Pelates quadrilineatus</i>)  Whitebait spp. (Family: Clupeidae)  Fork-tailed catfish (<i>Euristhmus lepturus</i>)  Striped catfish (<i>Plotosis lineatus</i>)  Bullseyes (<i>Pempherididae</i>)  Hairtail (<i>Trichiurus lepturus</i>)  Yellowtail scad (<i>Trachurus novaezelandiae</i>)  Blue swimmer crab (<i>Portunus pelagicus</i>)  Mud crab (<i>Scylla serrata</i>)  Octopus spp. (Order Octopoda)  Mantis shrimp (<i>Erugosquilla grahami</i>)  Mantis shrimp (<i>Harpionsquilla harpex</i>)</p>
<b>Bycatch</b>	<p>Bycatch is not currently reported in any NSW fishery including the Estuary Prawn Trawl Fishery. There is, however, a requirement through the <i>Fishery Management Strategy for the Estuary Prawn Trawl Fishery</i> to implement a scientific observer program. The NSW Department of Primary Industries has advised that this program is being implemented on a cross-fishery basis throughout NSW with resources firstly being invested in those fisheries that pose the greatest risk of environmental impacts. The NSW Department of Primary Industries advised that a prioritisation model was used to assess the overall research priority of the fisheries. As a result, ocean line fishing methods were deemed the highest priority and therefore a three year scientific observer program commenced on 1 September 2007. It has not been identified when the observer program will start for the Estuary Prawn Trawl Fishery (ranked ninth on the list), however the NSW Department of Primary Industries has assured the department that it is likely to occur in the near future.</p>

<b>Bycatch</b> ( <i>cont'd</i> )	<p>Since 2005, the use of bycatch reduction devices has been mandatory in all waters of the Estuary Prawn Trawl Fishery. In 2008 a review was undertaken to limit the types of approved bycatch reduction devices to those proven to be effective and/or amend the specifications to improve their effectiveness. The approved devices were brought into force in February 2009. The NSW Department of Primary Industries has since advised that permits have been issued to allow the use of the diamond bycatch reduction devices in the Clarence River despite it not being approved. This issue was raised by industry who had concerns regarding the level of weed present in the estuary which in effect made the approved devices difficult to use and impacted upon product quality. The permits expire on 20 June 2012 and it is noted that similar permits were issued in the two previous fishing seasons. Industry is now cooperating with the NSW Department of Primary Industries to trial the effectiveness of this gear type specifically in relation to weed removal.</p>
<b>Gear</b>	<p>Otter trawl net (prawns).</p> <p>Net configurations vary for each estuary, with general characteristics outlined below<sup>5</sup>;</p> <ul style="list-style-type: none"> <li>• mesh size of nets range from 40–60 millimetres;</li> <li>• mesh size of codends range from 40–50 millimetres;</li> <li>• maximum number of nets range from 1–2;</li> <li>• maximum headline length of 11 metres (except when towing twin gear in the Clarence river whereby 7.5 metres is the maximum);</li> <li>• mandatory square mesh codends; and</li> <li>• mandatory bycatch reduction devices.</li> </ul> <p>It is also mandatory for each operator in the fishery to have an approved bycatch reduction device fitted on their otter trawl nets. In 2009, the following devices were approved for use in the Estuary Prawn Trawl Fishery:</p> <p>Clarence River:</p> <ol style="list-style-type: none"> <li>1. Blubber chute (100 millimetre mesh)</li> <li>2. Nordmore grid</li> </ol> <p>Hunter River:</p> <ol style="list-style-type: none"> <li>1. Blubber chute (100 millimetre mesh)</li> <li>2. Nordmore grid</li> <li>3. Hawkesbury square mesh panel</li> </ol> <p>Hawkesbury River:</p> <ol style="list-style-type: none"> <li>1. Blubber chute (175 millimetre mesh)</li> <li>2. Nordmore grid</li> <li>3. Hawkesbury square mesh panel</li> <li>4. Quality Clarence panel</li> </ol>

<sup>5</sup> Specific gear characteristics for each of the three estuaries in the NSW Estuary Prawn Trawl Fishery are located in table 4 of the NSW Department of Primary Industries 2011 submission.



Season	<p><u>Clarence River:</u> Monday nearest to 1 December each year to Friday nearest 31 May each following year.</p> <p><u>Lake Wooloweyah:</u> First Tuesday on or nearest 1 October each year to Friday nearest 31 March each following year.</p> <p><u>Hunter River:</u> The first weekday on or after 1 November each year to the last Friday in May each following year.</p> <p><u>Hawkesbury River:</u> 1 July to 30 June each following year.</p> <p>For a more detailed description of operating hours see Table 3 of the submission at: <a href="http://www.environment.gov.au/coasts/fisheries/nsw/prawntrawl/submission-11.html">http://www.environment.gov.au/coasts/fisheries/nsw/prawntrawl/submission-11.html</a>.</p>																				
Commercial harvest 2009/10	<p>Commercial harvest of reported landings in 2009/10 was 236 tonnes. In the 2008/09 fishing season, catches peaked at 633 tonnes. The decline in landings can be attributed to the substantial decrease in Clarence River catches (from approximately 348 tonnes in 2008/09 to approximately 50 tonnes in 2009/10).</p> <p>The information below represents the weight (kilograms) of reported landings for each estuary in the Estuary Prawn Trawl Fishery.</p> <table><tr><td></td><td>2007/08</td><td>2008/09</td><td>2009/10</td></tr><tr><td>Clarence River</td><td>404,654</td><td>348,726</td><td>50,180</td></tr><tr><td>Hunter River</td><td>75,169</td><td>85,394</td><td>29,837</td></tr><tr><td>Hawkesbury River</td><td>145,233</td><td>199,612</td><td>156,854</td></tr><tr><td><b>Total</b></td><td><b>625,056</b></td><td><b>633,732</b></td><td><b>236,871</b></td></tr></table> <p>The NSW Department of Primary Industries has advised that the overall decline in reported landings from the Clarence River is resultant of numerous variables. This includes environmental/weather conditions (major flood events in the Clarence River<sup>6</sup>) which impacts upon prawn abundances whilst hindering fishing effort and also the lack of fishing caused by the implementation of voluntary and legislated closures due to the continued catch of juvenile prawns. The NSW Department of Primary Industries also advised that effort (days/fished) in 2009/10 was 17 per cent of the average effort for the period 2000/01 to 2009/10 indicating that the decrease in catch does not directly correlate with a stock collapse.</p>		2007/08	2008/09	2009/10	Clarence River	404,654	348,726	50,180	Hunter River	75,169	85,394	29,837	Hawkesbury River	145,233	199,612	156,854	<b>Total</b>	<b>625,056</b>	<b>633,732</b>	<b>236,871</b>
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<b>Total</b>	<b>625,056</b>	<b>633,732</b>	<b>236,871</b>																		
Value of commercial harvest 2008/09	\$3.8 million (based on Sydney Fish Market prices). A value for the 2009/10 fishing season is not yet available.																				
Commercial licences issued	There were 173 shareholders as of June 2011 with 168 of those eligible for an endorsement to harvest (i.e. they hold the minimum number of shares to allow fishing to occur).																				

<sup>6</sup> NSW Department of Primary Industries, *Submission to the Department of Sustainability, Environment, Water, Population and Communities on behalf the NSW fishing industry seeking export approval for the NSW Estuary Prawn Trawl Fishery – September 2011*.

<p><b>Take by other sectors</b></p>	<p>Target species such as school prawns, eastern king prawns and various squid species form part of the bycatch and byproduct in the NSW Estuary General Fishery and NSW Ocean Prawn Trawl Fishery.</p> <p>It was estimated that approximately 600 tonnes of eastern king prawns, close to 1000 tonnes of school prawns and approximately 20 tonnes of squid were retained in the Ocean Prawn Trawl Fishery in the 2008/09 fishing season (Rowling <i>et al.</i> 2010). In the same season the Estuary General Fishery harvested less than 100 tonnes of eastern king prawns and approximately 300 tonnes of school prawns.</p> <p>Recreational harvest of eastern king prawns within all NSW waters was estimated to be less than 110 tonnes while harvest of school prawns was estimated to be less than 30 tonnes and take of squid less than 1 tonne (Rowling <i>et al.</i> 2010).</p> <p>A recent study of recreational fishing in the Hawkesbury River quantified the recreational harvest of fish, crabs and squid which is included in the annual resource assessment process (Steffe and Murphy 2011). The NSW Department of Primary Industries has also advised that upon receipt of adequate funding, a state-wide recreational survey is likely to be carried out.</p> <p>Indigenous fishers take target and byproduct species for traditional purposes, however take is considered insignificant and estimates are not available.</p> <p>There is no estimate available for illegal catch, however as the value of individual species from the fishery is low, it is thought illegal catch is low.</p>
<p><b>Management arrangements</b></p>	<p>The fishery is managed by the NSW Department of Primary Industries under the:</p> <ul style="list-style-type: none"> <li>• NSW <i>Fisheries Management Act 1994</i>;</li> <li>• NSW <i>Fisheries Management (General) Regulation 2010</i>;</li> <li>• NSW <i>Fisheries Management (Supporting Plan) Regulation 2006</i>; and</li> <li>• NSW <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i></li> </ul> <p>The NSW <i>Fisheries Management (General) Regulation 2002</i> was automatically repealed on 1 September 2010 and replaced with the NSW <i>Fisheries Management (General) Regulation 2010</i>.</p> <p>Key amendments were made to the regulations including minimum size limits for recreational and commercial fishers, bag limits for recreational fishers, gear specifications and requirements, licensing and penalties.</p> <p>Management controls currently in place for the fishery include:</p> <p><u>Input controls</u></p> <ul style="list-style-type: none"> <li>• limited entry (limited to shareholders in the fishery who hold a number of shares greater than the prescribed minimum shareholding);</li> <li>• gear restrictions;</li> <li>• vessel restrictions;</li> <li>• mandatory bycatch reduction devices of approved designs;</li> <li>• trawl seasons and operating hours; and</li> <li>• area closures.</li> </ul>

<b>Management arrangements</b> ( <i>cont'd</i> )	<p><u>Output controls</u></p> <ul style="list-style-type: none"> <li>• maximum prawn counts for eastern king prawns and school prawns;</li> <li>• limits on incidental catch (incidental catch ratios)<sup>7</sup>;</li> <li>• size limits (commercial and recreational fishers); and</li> <li>• recreational bag limits.</li> </ul> <p>An independent review of current commercial fishing arrangements for NSW commercial fisheries has been commissioned by the NSW Government, which will examine fisheries policy, management and administration. This project is expected to be completed in early 2012.</p> <p>The NSW <i>Fisheries Management Act 1994</i> is also currently experiencing a statutory review to evaluate the current management objectives.</p>
<b>Export</b>	<p>Product sourced from the Estuary Prawn Trawl Fishery is sold to wholesalers who subsequently export some of the product overseas.</p>
<b>Interaction with Protected Species</b> <sup>8</sup>	<p>Since 2005, reporting of threatened species interactions for all commercial fishers in NSW has been mandatory, and since then there have been no reported interactions with protected species in this fishery.</p> <p>The <i>Estuary Prawn Trawl Fishery Environmental Impact Statement – February 2002</i> suggests that current area closures are efficient at protecting threatened species habitats and as a result, the risk to such species was assessed as low.</p>
<b>Ecosystem Impacts</b>	<p>The <i>Estuary Prawn Trawl Fishery Environmental Impact Statement – February 2002</i> concluded that the assessment of the impacts on the marine ecosystem was difficult due to the lack of targeted/specific research. Therefore outcomes of other relevant studies were used to infer potential trawl impacts. As a result, management arrangements have been implemented and include fishing closures of seagrass beds, area closures if high amounts of bycatch or small prawns are caught and mandatory bycatch reduction devices.</p> <p>An estuarine mapping project has commenced. The project aims to define key habitats or environmentally sensitive areas, fished and not fished within the permitted area within each estuary.</p>

<sup>7</sup> the ratio, by weight, of the target prawn species to all other species in the catch (incidental catch) of a trawl.

<sup>8</sup> 'Protected species' means all species listed under Part 13 of the EPBC Act, including whales and other cetaceans and threatened, marine and migratory species.

**Table 2: Progress in implementation of conditions and recommendations made in the 2008 assessment of the New South Wales Estuary Prawn Trawl Fishery**

Condition	Progress	Recommended Action
1. Operation of the EPTF will be carried out in accordance with the NSW <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i> in force under the NSW <i>Fisheries Management Act 1994</i> .	The New South Wales (NSW) Department of Primary Industries has advised that the Estuary Prawn Trawl Fishery continues to be managed in accordance with the management regime made under the NSW <i>Fisheries Management Act 1994</i> , the <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i> and other relevant legislation.	<p>The Department of Sustainability, Environment, Water, Population and Communities considers that this condition has been met.</p> <p>The department recommends that a new approved wildlife trade operation declaration for the Estuary Prawn Trawl Fishery specify a similar condition (see <b>Condition 1</b>, Table 4).</p>
2. NSW Department of Primary Industries (DPI) to advise the Department of Environment, Heritage and the Arts (DEWHA) of imminent and substantive changes to the EPTF management arrangements that may affect the assessment of the fishery against the criteria upon which the EPBC Act decisions are based.	The NSW Department of Primary Industries has informed the department of all management changes over the course of the last approved wildlife trade operation declaration, including the replacement of the NSW <i>Fisheries Management (General) Regulation 2002</i> with the NSW <i>Fisheries Management (General) Regulation 2010</i> and approval of specific bycatch reduction devices for each fishery.	<p>The department considers that this condition has been met.</p> <p>The department recommends that a new approved wildlife trade operation declaration for the Estuary Prawn Trawl Fishery specify a similar condition (see <b>Condition 2</b>, Table 4).</p>
3. NSW DPI to produce and present reports to DEWHA annually as per Appendix B of the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2<sup>nd</sup> Edition</i> .	The NSW Department of Primary Industries has provided the department with annual reports.	<p>The department considers that this condition has been met.</p> <p>The department recommends that a new approved wildlife trade operation declaration for the Estuary Prawn Trawl Fishery specify a similar condition (see <b>Condition 3</b>, Table 4).</p>

Recommendation	Progress	Recommended Action
<p>1. NSW DPI should continue to review the stock status of species categorised as growth overfished and implement improved measures as appropriate to ensure stocks are maintained at ecologically viable levels.</p>	<p>The NSW Department of Primary Industries has advised that the exploitation status of both target and byproduct species in the Estuary Prawn Trawl Fishery are determined and then reviewed annually as part of a resource assessment process.</p> <p>Resource assessments have been utilised since 2004. It is a process which examines available information on all harvested species, including catch and effort data, biological information, management arrangements, research outcomes and cross jurisdictional inputs. As a result, a current Resource Assessment Class is awarded to each species which correlates to the amount of information currently known about the species. The results of the resource assessment process appear in the <i>Status of Fisheries Resources NSW</i> reports.</p> <p>As mentioned above (Fishery status, page 2), school prawns were previously categorised as growth overfished yet through the annual resource assessment, have since improved in their ranking to fully fished.</p>	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p>2. NSW DPI should continue to develop and implement a new catch information management system for the major NSW commercial fisheries (including EPTF) to improve reporting and data analysis. A robust system to validate catch and effort logbook data should be included as part of the implementation of the catch information system.</p>	<p>The NSW Department of Primary Industries has advised that revised catch and effort reporting arrangements were introduced from 1 July 2009. New logbooks have been developed, which capture an increased level of detail and require reporting at a finer spatial scale. The NSW Department of Primary Industries reports that the improved method of reporting allows for streamlined and effective auditing between reported landings (logbooks) and fish receiver data.</p> <p>The NSW Department of Primary Industries has advised that validation of catch and effort logbook data occurs during the annual resource assessments (see Recommendation 1 above) and if inconsistencies occur, a review can be initiated.</p> <p>Additionally, when the cross-fishery scientific observer program commences for the fishery (see Bycatch, page 3), the data collected may be used as part of a catch validation process.</p>	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p><b>3.</b> NSW DPI to:</p> <ul style="list-style-type: none"> <li>- implement research and monitoring priorities identified within the Strategic Research and Monitoring Plan for the EPTF;</li> <li>- and continue to collaborate, where appropriate, with other jurisdictions to actively pursue consistent and/or complementary research needs and management arrangements for target species.</li> </ul>	<p>The NSW Department of Primary Industries has advised that research projects are reviewed and assessed annually. Research completed since the last Australian Government assessment has focussed on investigating methods in which to reduce bycatch, minimise discard mortality and increase gear selectivity.</p> <p>The NSW Department of Primary Industries acknowledge that some species occur cross-jurisdictionally and that it is important that they collaborate with other agencies.</p> <p>The NSW Department of Primary Industries reports that scientific representatives from the Australian Government and Queensland Government attend the resource assessment workshops held annually. They provide input on shared fish stocks including catch information, stock status assessments, research updates, research outcomes and relevant changes to the management arrangements.</p>	<p>The department considers that this recommendation has been met.</p>
<p><b>4.</b> NSW DPI to implement appropriate measures to ensure risks identified in relation to bycatch and byproduct species are addressed and minimised.</p>	<p>The NSW Department of Primary Industries has advised that a study into the effectiveness of various bycatch reduction devices was commenced in 2008 and outcomes implemented in 2009. Consequently, there are now a limited number of bycatch reduction devices approved for each of the estuaries in the Estuary Prawn Trawl Fishery (see Gear, page 4).</p>	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p>5. NSW DPI to ensure that stock assessments and management arrangements for target and byproduct species, take account of all removals, including best estimates of recreational, Indigenous and illegal catch.</p>	<p>The NSW Department of Primary Industries has advised that estimates of recreational catch are taken into consideration when completing a resource assessment for each species. As a result of low to non-existent estimates for Indigenous and illegal catch estimates (see take by other sectors, page 5), this information is not included in annual resource assessments. Nonetheless, if the information becomes available in the future, the resource assessment process allows for this information to be captured.</p> <p>The NSW Department of Primary Industries has advised that a state-wide recreational survey for NSW fisheries is to be carried out upon the receipt of funding. The department believes that the information collected from this survey will provide updated estimates of recreational take within the fishery and feed into the resource assessment process.</p>	<p>The department considers that this recommendation has been met.</p>



**Table 3: The Department of Sustainability, Environment, Water, Population and Communities’ assessment of the New South Wales Estuary Prawn Trawl Fishery against the requirements of the EPBC Act related to decisions made under Part 13A.**

**Please Note** – the table below is not a complete or exact representation of the EPBC Act. It is intended as a summary of relevant sections and components of the EPBC Act to provide advice on the fishery in relation to decisions under Part 13A. A complete version of the EPBC Act can be found on the department’s website.

**Part 13A**

<b>Section 303BA Objects of Part 13A</b>
<p>(1) The objects of this Part are as follows:</p> <ul style="list-style-type: none"> <li>(a) to ensure that Australia complies with its obligations under CITES<sup>9</sup> and the Biodiversity Convention;</li> <li>(b) to protect wildlife that may be adversely affected by trade;</li> <li>(c) to promote the conservation of biodiversity in Australia and other countries;</li> <li>(d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;</li> <li>(e) to promote the humane treatment of wildlife;</li> <li>(f) to ensure ethical conduct during any research associated with the utilisation of wildlife; and</li> <li>(h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.</li> </ul>

<sup>9</sup> Convention on International Trade in Endangered Species of Wild Fauna and Flora

**Part 13A (cont.)**

Section 303FN Approved wildlife trade operation	The department's assessment of the New South Wales Estuary Prawn Trawl Fishery
(2) The Minister may, by instrument published in the <i>Gazette</i> , declare that a specified wildlife trade operation is an <b><i>approved wildlife trade operation</i></b> for the purposes of this section.	
<p>(3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is <b>satisfied</b> that:</p> <p>(a) the operation is consistent with the objects of Part 13A of the Act; and</p> <p>(b) the operation will not be detrimental to:</p> <ol style="list-style-type: none"> <li>i. the survival of a taxon to which the operation relates; or</li> <li>ii. the conservation status of a taxon to which the operation relates; and</li> </ol>	<p>The department considers that the operation of the New South Wales (NSW) Estuary Prawn Trawl Fishery is consistent with the objects of Part 13A (listed above) as:</p> <ul style="list-style-type: none"> <li>▪ the fishery will not harvest any CITES listed species;</li> <li>▪ there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Table 1);</li> <li>▪ the operation of the Estuary Prawn Trawl Fishery during the period of the recommended declaration as an approved wildlife trade operation is unlikely to be unsustainable and threaten biodiversity; and</li> <li>▪ the EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens.</li> </ul> <p>The department considers that the Estuary Prawn Trawl Fishery 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:</p> <ul style="list-style-type: none"> <li>▪ limited entry;</li> <li>▪ vessel and gear restrictions (including the mandatory use of approved bycatch reduction devices in otter trawls);</li> <li>▪ seasonal and area closures;</li> <li>▪ species-specific minimum size limits;</li> <li>▪ incidental catch ratios; and</li> <li>▪ recreational bag limits.</li> </ul>

<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>The department considers that the Estuary Prawn Trawl Fishery will not threaten any relevant ecosystem within the next three years, given the management measures currently in place, which include:</p> <ul style="list-style-type: none"> <li>▪ limited entry;</li> <li>▪ vessel and gear restrictions (including the mandatory use of approved bycatch reduction devices in otter trawls);</li> <li>▪ seasonal and area closures;</li> <li>▪ species-specific minimum size limits;</li> <li>▪ incidental catch ratios; and</li> <li>▪ recreational bag limits.</li> </ul> <p>The <i>Environment Protection and Biodiversity Conservation Regulations 2000</i> (EPBC Regulations) 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.</p>
<p>(4) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have <b>regard</b> to:</p> <p>(a) the significance of the impact of the operation on an ecosystem (for example, an impact on habitat or biodiversity); and</p>	<p>The department considers that the Estuary Prawn Trawl Fishery will not have a significant impact on any relevant ecosystem within the next three years, given the management measures currently in place, which include:</p> <ul style="list-style-type: none"> <li>▪ limited entry;</li> <li>▪ vessel and gear restrictions (including the mandatory use of approved bycatch reduction devices in otter trawls);</li> <li>▪ seasonal and area closures;</li> <li>▪ species-specific minimum size limits;</li> <li>▪ incidental catch ratios; and</li> <li>▪ recreational bag limits.</li> </ul>

<p>(b) the effectiveness of the management arrangements for the operation (including monitoring procedures).</p>	<p>The management arrangements that will be employed for the Estuary Prawn Trawl Fishery are likely to be effective. Incidental catch ratios are set out in the <i>Fishery Management Strategy for the Estuary Prawn Trawl Fishery</i> to ensure the landed weight of byproduct species does not exceed the landed weight of target species. If the limit is reached it triggers the NSW Department of Primary Industries to close that area of the fishery until it is deemed appropriate to reopen.</p> <p>The fishery has limited entry and requires an operator to hold a minimum shareholding in order to operate in the fishery.</p>
<p>(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to:</p> <p>(a) whether legislation relating to the protection, conservation or management of the specimens to which the operation relates is in force in the State or Territory concerned; and</p> <p>(b) whether the legislation applies throughout the State or Territory concerned; and</p> <p>(c) whether, in the opinion of the Minister, the legislation is effective.</p>	<p>The Estuary Prawn Trawl Fishery will be managed under the:</p> <ul style="list-style-type: none"> <li>• NSW <i>Fisheries Management Act 1994</i>;</li> <li>• NSW <i>Fisheries Management (General) Regulation 2010</i>;</li> <li>• NSW <i>Fisheries Management (Supporting Plan) Regulation 2006</i>; and</li> <li>• NSW <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i>.</li> </ul> <p>The legislation, including the:</p> <ul style="list-style-type: none"> <li>• NSW <i>Fisheries Management Act 1994</i>;</li> <li>• NSW <i>Fisheries Management (General) Regulation 2010</i>;</li> <li>• NSW <i>Fisheries Management (Supporting Plan) Regulation 2006</i>; and</li> <li>• NSW <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i></li> </ul> <p>applies throughout NSW waters.</p> <p>The legislation is likely to be effective.</p>

<p>(10) For the purposes of section 303FN, an operation is a wildlife trade operation if, and only if, the operation is an operation for the taking of specimens and:</p> <p>(d) the operation is a commercial fishery.</p>	<p>The Estuary Prawn Trawl Fishery is a commercial fishery.</p>
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**Part 13A** (*cont.*)

<b>Section 303FR Public consultation</b>	<b>The department's assessment of the New South Wales Estuary Prawn Trawl Fishery</b>
<p>(1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice:</p> <p>(a) setting out the proposal to make the declaration; and</p> <p>(b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and</p> <p>(c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal.</p>	<p>The department considers that the consultation requirements of the EPBC Act for declaring an approved wildlife trade operation have been met. A public notice, which set out the proposal to declare the Estuary Prawn Trawl Fishery an approved wildlife trade operation and included the NSW Department of Primary Industries submission, was released for public comment which closed on 19 October 2011 with no submissions received.</p>
<p>(2) A period specified in the notice must not be shorter than 20 business days after the date on which the notice was published on the Internet.</p>	<p>A public notice, which set out the proposal to declare the Estuary Prawn Trawl Fishery an approved wildlife trade operation and included the NSW Department of Primary Industries submission, was released for public comment on 19 September 2011 and closed on 19 October 2011, a total of 21 business days.</p>
<p>(3) In making a decision about whether to make a declaration under section 303FN, the Minister must consider any comments about the proposal to make the declaration that were given in response to the invitation in the notice.</p>	<p>No public comments about the proposal were received.</p>

**Part 13A (cont.)**

<b>Section 303FT Additional provisions relating to declarations</b>	<b>The department's assessment of the New South Wales Estuary Prawn Trawl Fishery</b>
(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.	A declaration for the Estuary Prawn Trawl Fishery will be made under section 303FN.
(4) The Minister may make a declaration about a plan or operation even though he or she considers that the plan or operation should be the subject of the declaration only: (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with.  In such a case, the instrument of declaration is to specify the period, circumstances or condition.	The standard conditions applied to the declaration of a commercial fishery as an approved wildlife trade operation include: <ul style="list-style-type: none"><li>• operation in accordance with the management regime;</li><li>• notifying the department of changes to the management regime; and</li><li>• annual reporting in accordance with the requirements of the Australian Government <i>Guidelines for the Ecologically Sustainable Management of Fisheries – 2<sup>nd</sup> Edition</i>.</li></ul> The instrument of declaration for the Estuary Prawn Trawl Fishery specifies the standard and any additional conditions applied.
(8) A condition may relate to reporting or monitoring.	One of the standard conditions relates to reporting.
(9) The Minister must, by instrument published in the <i>Gazette</i> , revoke a declaration if he or she is satisfied that a condition of the declaration has been contravened.	
(11) A copy of an instrument under section 303FN, or this section is to be made available for inspection on the Internet.	The instrument for the Estuary Prawn Trawl Fishery made under section 303FN and the conditions under section 303FT will be gazetted and made available on the department's website.

**Part 16**

<b>Section 391 Minister must consider precautionary principle in making decisions</b>	<b>The department's assessment of the New South Wales Estuary Prawn Trawl Fishery</b>
(1) The Minister must take account of the precautionary principle in making a decision under section 303DC and/or section 303FN, to the extent he or she can do so consistently with the other provisions of this Act.	The precautionary principle has been considered in the preparation of advice in relation to a decision under section 303FN.
(2) The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.	

**The Department of Sustainability, Environment, Water, Population and Communities' final conditions and recommendations to the New South Wales Department of Primary Industries for the New South Wales Estuary Prawn Trawl Fishery**

The material submitted by the New South Wales (NSW) Department of Primary Industries demonstrates that the management arrangements for the Estuary Prawn Trawl Fishery continue to meet most of the requirements of the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries - 2<sup>nd</sup> Edition*.

**Stock Status and Recovery**

The department considers that overall, the management regime for the Estuary Prawn Trawl Fishery aims to ensure that fishing is conducted in a manner that does not lead to overfishing. Management measures in place in the fishery include;

- limited entry;
- vessel and gear restrictions (including the mandatory use of bycatch reduction devices in otter trawls);
- seasonal and area closures;
- species-specific minimum size limits;
- incidental catch ratios; and
- recreational bag limits.

**Ecosystem Impacts**

Taking into account management measures for the fishery and the mandatory requirement for all otter trawl operators to use bycatch reduction devices, the department considers that the management regime for the Estuary Prawn Trawl Fishery provides 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, the department has identified an ongoing need to understand the risks and uncertainties relating to bycatch species that must be managed to ensure that impacts are minimised. The NSW Department of Primary Industries has advised the department that a prioritised cross-fishery scientific observer program is currently being undertaken and depending on the priority of the Estuary Prawn Trawl Fishery, will be completed in the future. The department considers that the outcomes of the observer program for the Estuary Prawn Trawl Fishery will allow the NSW Department of Primary Industries to better manage bycatch species in the long term.

The department considers that, until it can be demonstrated that this issue has been adequately addressed, declaration of the harvest operations of the Estuary Prawn Trawl Fishery as an approved wildlife trade operation for three years, until 27 November 2014, is appropriate. The department considers that the declaration should be subject to the conditions listed in Table 4 below. To contain and minimise the risks in the longer term the recommendations outlined in Table 4 have been made.



**Table 4: The New South Wales Estuary Prawn Trawl Fishery Assessment – Summary of Issues, Conditions and Recommendations, November 2011**

ISSUE	Condition
<p><u>General Management</u></p> <p>Export decisions relate to the arrangements in force at the time of the decision. To ensure that these decisions remain valid and export approval continues uninterrupted, the Department of Sustainability, Environment, Water, Population and Communities 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. This includes operational and legislated amendments that may affect sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.</p>	<p><b>Condition 1</b></p> <p>Operation of the New South Wales Estuary Prawn Trawl Fishery will be carried out in accordance with the New South Wales <i>Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006</i> in force under the New South Wales <i>Fisheries Management Act 1994</i>.</p> <p><b>Condition 2</b></p> <p>The New South Wales Department of Primary Industries to inform the Department of Sustainability, Environment, Water, Population and Communities of any proposed substantive changes to the New South Wales Estuary Prawn Trawl Fishery management arrangements that may affect the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are based.</p>
<p><u>Annual Reporting</u></p> <p>It is important that reports be produced and presented to the department annually in order for the performance of the fishery and progress in implementing the conditions and recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports should follow Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2<sup>nd</sup> Edition</i> 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 the department's conditions. Electronic copies of the guidelines are available from the department's website at <a href="http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html">http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html</a>.</p>	<p><b>Condition 3</b></p> <p>The New South Wales Department of Primary Industries to produce and present reports to the Department of Sustainability, Environment, Water, Population and Communities annually as per Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2<sup>nd</sup> Edition</i>.</p>

### Bycatch Monitoring and Management

The 2008 Australian Government assessment identified a need for ongoing monitoring to identify changes in quantity and composition of bycatch over time. The NSW Department of Primary Industries has since advised the department of;

- a number of completed research programs which concentrate on maximising the survival of bycatch species<sup>10</sup>; and
- a review of the types of bycatch reduction devices approved for use in the fishery and amendments of the *Fisheries Management (Estuary Prawn Trawl Share Management Plan) Regulation 2006* to specify approved bycatch reduction devices.

Under the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2<sup>nd</sup> Edition*, fishery independent and dependent research and monitoring is important to ensure that catches of target, discards, byproduct and bycatch species are maintained at ecologically viable levels with acceptable levels of probability.

The *Fishery Management Strategy for the Estuary Prawn Trawl Fishery* commits to minimising the level of bycatch in the fishery. The performance indicators associated with this objective focus on limiting bycatch to acceptable levels. In line with the recommendations from previous assessments to reduce the risks to bycatch species in the fishery, the department recommends that the NSW Department of Primary Industries review the bycatch performance indicators following completion of the scientific observer program and give consideration to introducing new performance indicators related to reducing bycatch.

The department acknowledges that the work plan for the cross-fishery scientific observer program will depend on priority setting across all fisheries. The department considers that inclusion of the Estuary Prawn Trawl Fishery into the cross-fishery scientific observer program remains a priority for the ongoing sustainable management of the fishery.

The department commends the initiative taken by the NSW Department of Primary Industries and recommends that the cross-fishery scientific observer program includes the collection of data on bycatch quantity and composition in the Estuary Prawn Trawl Fishery to ensure the sustainability of incidental catch species.

### **Recommendation 1:**

As part of the cross-fishery scientific observer program, the New South Wales Department of Primary Industries to develop and implement appropriate data collection and reporting for bycatch quantity and composition in the Estuary Prawn Trawl Fishery.

### **Recommendation 2:**

Taking into account the results from the scientific observer program for the Estuary Prawn Trawl Fishery, the NSW Department of Primary Industries to:

- i. ensure that the performance indicators and trigger points related to minimising bycatch, contained in the *Fishery Management Strategy for the Estuary Prawn Trawl Fishery*, are reviewed as appropriate to ensure that they remain relevant; and
- ii. continue to implement appropriate management measures, as indicated by ongoing monitoring and review, to ensure sustainability of bycatch species.

<sup>10</sup> Broadhurst and Miller 2009, Broadhurst *et al.* 2009a, Broadhurst *et al.* 2009b, Broadhurst *et al.* 2010

## References

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## Acronyms

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DEWHA	Department of the Environment, Water, Heritage and the Arts
DPI	Department of Primary Industries
EPTF	Estuary Prawn Trawl Fishery
kg	kilogram
NSW	New South Wales