

**APPLICATION TO THE DEPARTMENT OF THE ENVIRONMENT,  
WATER, HERITAGE AND THE ARTS  
ON THE  
BROOME PRAWN MANAGED FISHERY  
KIMBERLEY PRAWN MANAGED FISHERY  
ONSLow AND NICKOL BAY PRAWN MANAGED FISHERY**

*Against the Guidelines for the Ecologically Sustainable Management of Fisheries*

October 2009



**Government of Western Australia  
Department of Fisheries**



*Fish for the future*

**DEPARTMENT OF FISHERIES, WESTERN AUSTRALIA  
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PERTH, WESTERN AUSTRALIA, 6000**

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Appendix 2	State of the Fisheries Report Minor Trawl Fisheries: 2005-2006 <a href="http://www.fish.wa.gov.au/docs/sof/index.php?0706">http://www.fish.wa.gov.au/docs/sof/index.php?0706</a>
Appendix 3	State of the Fisheries Report Minor Trawl Fisheries: 2006-2007 <a href="http://www.fish.wa.gov.au/docs/sof/index.php?0706">http://www.fish.wa.gov.au/docs/sof/index.php?0706</a>
Appendix 4	State of the Fisheries Report Minor Trawl Fisheries: 2007-2008 <a href="http://www.fish.wa.gov.au/docs/sof/index.php?0706">http://www.fish.wa.gov.au/docs/sof/index.php?0706</a>
Appendix 5	Broome Prawn Managed Fishery Report July 2004 <a href="http://www.environment.gov.au/coasts/fisheries/wa/broome-prawn/pubs/application-broome-prawn.pdf">http://www.environment.gov.au/coasts/fisheries/wa/broome-prawn/pubs/application-broome-prawn.pdf</a>
Appendix 6	Kimberly Prawn Managed Fishery Report June 2004 <a href="http://www.environment.gov.au/coasts/fisheries/wa/kimberley-prawn/pubs/kimberley-prawn-fishery.pdf">http://www.environment.gov.au/coasts/fisheries/wa/kimberley-prawn/pubs/kimberley-prawn-fishery.pdf</a>
Appendix 7	Onslow and Nickol Bay prawn Managed Fishery Report October 2003 <a href="http://www.environment.gov.au/coasts/fisheries/wa/onslow/pubs/onslow-nickol-bay-submission.pdf">http://www.environment.gov.au/coasts/fisheries/wa/onslow/pubs/onslow-nickol-bay-submission.pdf</a>

## 1. BACKGROUND OF TRAWL FISHERIES

The purpose of this report is to update the Department of the Environment, Water, Heritage and the Arts (DEWHA) on changes in the:

- Broome Prawn Managed Fishery (BPF)
- Kimberley Prawn Managed Fishery (KPF)
- Onslow and Nickol Bay Prawn Managed Fisheries, (OPF& NBPf)

To enable the reassessment of the Fisheries against the *Guidelines for Ecologically Sustainable Management of Fisheries* under Part 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

The WA Department of Fisheries (DFWA) submitted applications to DEWHA for assessments of these Fisheries against the *Guidelines for the Ecologically Sustainable Management of Fisheries*, under Part 13 and 13A of the EPBC Act.

The (then) Minister for the Environment and Heritage amended the list of exempt native specimens to include all specimens that are or are derived from fish or invertebrates, taken in accordance with these Fisheries Management Plans effectively declaring the Fishery as exempt from Part 13 and 13A of the EPBC Act for a period of five years (**Table 1**).

**Table 1: Minor Trawl Fishery Exemption Dates**

Fishery Management Plan	Exemption submitted to DEWHA	Date list amended	Date Exemption Expires
<i>Broome Prawn Managed Fishery Management Plan 1999</i>	July 2004	19 August 2004	30 April 2010
<i>Kimberley Prawn Managed Fishery Management Plan 1993</i>	June 2004	9 November 2004	30 April 2010
<i>Onslow Prawn Managed Fishery and Nickol Bay Prawn Managed Fishery Management Plans 1991</i>	September 2004	18 November 2004	30 April 2010

These fisheries exemptions were all extended to the 30 April 2010 as a result of discussions between DFWA and DEWHA due to the amalgamation of these trawl fisheries ESD Reports. This report comes with recommendations, focusing on ensuring continued good management practices in these Fisheries.

A copy of the DFWA applications and the DEWHA assessment reports and letters of approval are available on the DEWHA website:

<http://www.environment.gov.au/coasts/fisheries/wa/egprawn/index.html>

## 1.1 Risk Assessment Workshops

Risk assessment workshops, attended by management, compliance and research were conducted on 6 November 2008.

The aim of these workshops was to revisit the risk ratings identified in previous reports and determine whether they were still relevant or whether they require amendment. In addition, consideration was given to whether new risks existed. The workshops outcomes were sent to stakeholders for their comments.

This report provides the outcomes of the workshop and details the progress in meeting the recommendations arising from the original ESD assessments, outlining what has been achieved in addressing each recommendation.

The following documentation has been attached to this application to assist the re-assessment process:

1. Copies of the fisheries annual reports, published in the State of the fisheries reports (2004/05-2007/08) refer to Annexes 1-4;
2. Copies of the Fisheries previous ESD reports refer to Annexes 5-7.

### Contact

This report should provide sufficient information for DEWHR to re-assess the Fisheries against the guidelines for *Guidelines for the Ecologically Sustainable Management of Fisheries*, under Part 13 and 13A of the *EPBC Act 1999*. However, should you require any further information regarding the details of the contents of this report please contact Julie Wakefield on (08) 9482 7306 or via email [Julie.Wakefield@fish.wa.gov.au](mailto:Julie.Wakefield@fish.wa.gov.au)

## 2. OVERVIEW OF FISHERIES

The Onslow (OPMF) and Nickol Bay (NBPMF) Prawn Managed Fisheries operate along the western part of the North-West Shelf and OPMF targets western king prawns (*Penaeus latisulcatus*), brown tiger prawns (*Penaeus esculentus*), endeavour prawns (*Metapenaeus* spp.) and whereas NBPMF primarily targets banana prawns (*Penaeus merguianus*) using otter trawls.

The Broome Prawn Managed Fishery (BPMF) operates in a designated trawl zone off Broome and targets western king prawns (*Penaeus latisulcatus*) and coral prawns (a combined category of small penaeid species) using otter trawl.

The Kimberley Prawn Managed Fishery (KPMF) operates off the north of the State between Koolan Island and Cape Londonderry. It predominantly targets banana prawns (*Penaeus merguianus*) but also catches tiger prawns (*Penaeus esculentus*), endeavour prawns (*Metapenaeus endeavouri*) and western king prawns (*Penaeus latisulcatus*). Fishing is undertaken using otter trawls.

Season opening and closing dates vary every year in each fishery and general opening and closing months are shown in **Table 2**.

**Table 2: Official season arrangements for various areas**

Fishery	Primary Species	Trawl Areas	Date Open	Date Closed
Broome	Western King Prawns Coral Prawns	The boundaries of the BPF are shown in <b>Figure 1</b> (Page 8)  Open and Closing periods usually coincides with seasonal closures of the NPF and KPF to avoid over fishing.	May	August*
Kimberley	Banana Prawns Tiger Prawns Endeavour Prawns Western King Prawns	The boundaries of the BPF are shown in <b>Figure 2</b> (Page 8) Cap of 600 days if first part of the season is opened. Cap of 900 days for the latter part of the season.  Open and Closing periods usually coincides with seasonal closures of the NPF to avoid latent effort as a number of vessels hold authorisations for both fisheries.	April and May August	June November*
Onslow	Western King Prawns Brown Tiger Prawns Endeavour Prawns  Banana Prawns	The boundaries of the OPMF and NBPMF are shown in <b>Figure 3</b> (Page 9) Boundaries of this fishery are divided into 3 fishing zones with Size Management Fish Grounds (SMFG) and nursery areas.  Areas1, 2, 3 Fortescue SMFG Ashburton SMFG Weld Island Mangrove Island SFMG	April May June May May	October* September* August* September* October*
Nickol Bay	Banana Prawns Western King Prawns Brown Tiger Prawns Endeavour Prawns	The boundaries of the OPF and NBPF are shown in <b>Figure 3</b> Generally the season opening for 2008 other than major fishing areas below: Nickol Bay & Depuch SMFG (Day fishing only 22 May-6 June) Extended Nickol Bay & De Gray SMFG	March May May	November August* November*

\* **Note:** Season opening and closing dates vary every year depending on the lunar phase as well as the results of pre-season surveys to determine size and abundance. The dates used are from the 2008 season.

## **Stock Assessment**

For the northern prawn fishery stocks, their short life cycle, high fecundity and dispersed nature prevent fishing from reducing breeding biomass to critical levels. Historical catch levels from periods where it is known that recruitment was not affected by fishing effort have been used as the basis for calculating acceptable catch ranges. These catch ranges are used as an indicator of breeding stock adequacy.

Permanent inshore closures that have been implemented in the Onslow and Kimberley fisheries, in addition size management fish grounds in the OPF, NBPF and KPF fisheries provides added protection to smaller prawns with the aim increasing the spawning biomass.

### **Banana prawns**

Banana prawn catches are highly variable in the OPF, NBPF and KPF and mainly related to the amount of rainfall recorded in the region, with consecutive high rainfall years providing the optimal conditions for banana prawn recruitment.

The catch projection for banana prawns in NBPF is based on the summer rainfall level between December and March each year.

For KPF no formal stock assessment based on catches and fishing effort has been completed for the prawn stocks, the relationships identified between the early season rainfall and catches of banana prawns (the dominant species taken in this area) provides a degree of forecasting. The projected catch based on the rainfall in Kalumburu and Derby in January and February 2009 each year.

### **Tiger prawns**

For tiger prawns in OPF, KPF and NBPF the catches are mostly related to the level of effort on the stocks under normal environmental conditions (non cyclone years). Current catch and effort levels are considered adequate to maintain breeding stocks because they are distributed in discrete areas and not all areas of tiger prawn stocks are necessarily fished each year.

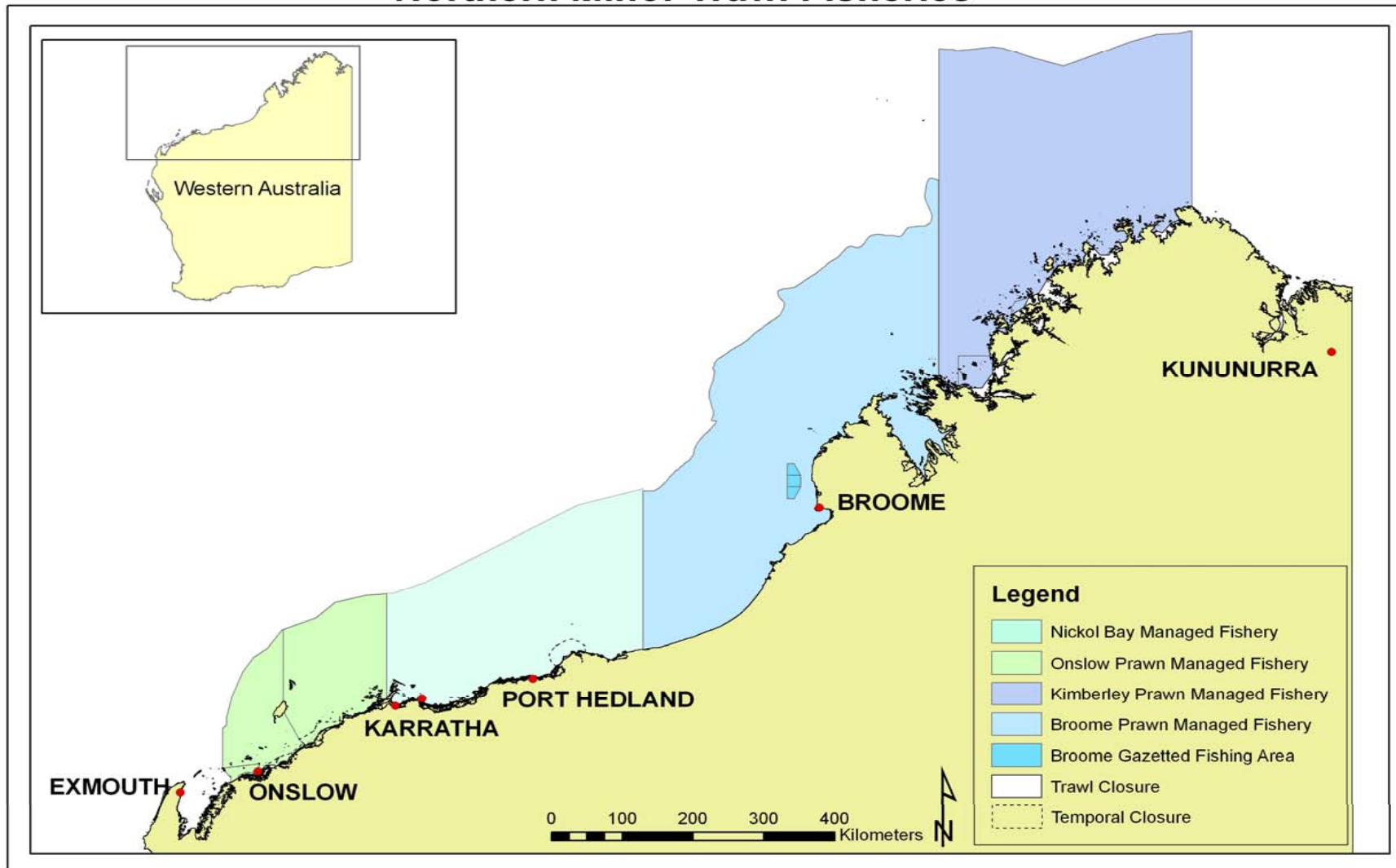
### **King prawns**

King prawns are the main target species in the BPF. This fishery is confined to a relatively small area "the box" within the legislated fishery boundary. This species is generally widespread and caught in low abundance outside the box and the fishery has a short fishing period set around lunar phases that suit the mid season closure dates for the NPF.

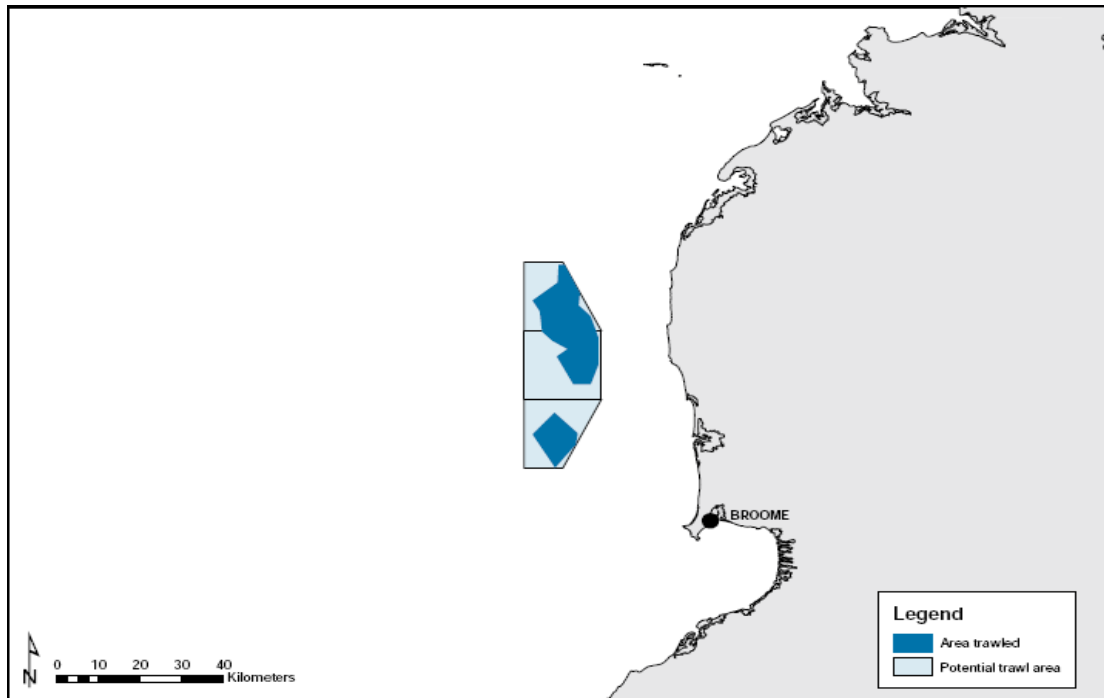
### **Endeavour and coral prawns**

The Endeavour and coral prawns are not specifically targeted for all northern fisheries, so the exploitation levels are low and there is adequate protection of breeding stock.

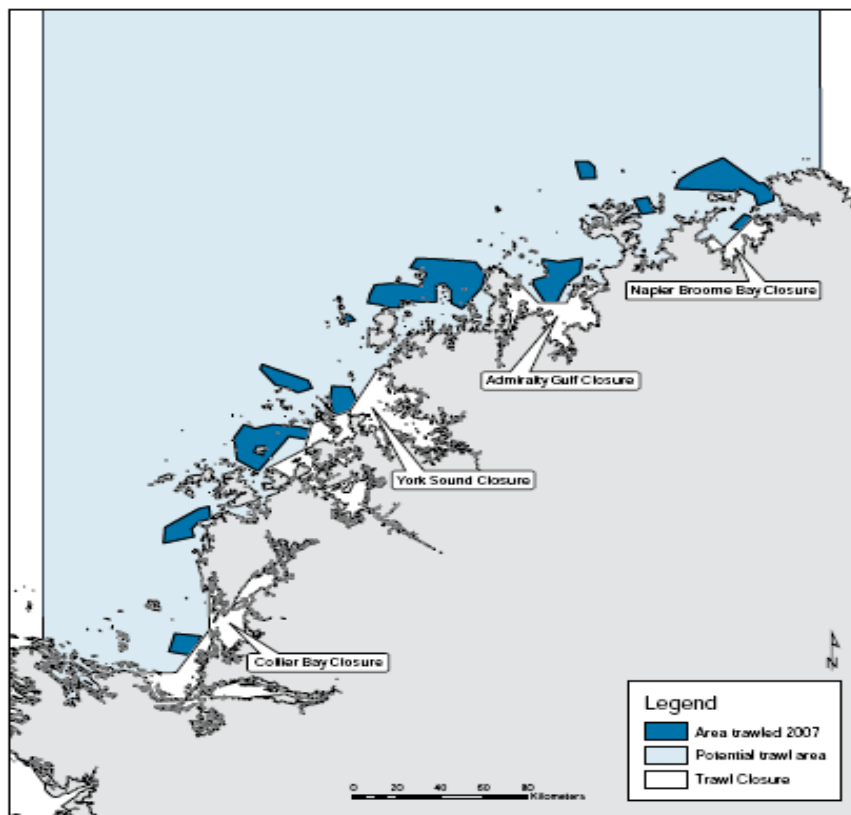
# Northern Minor Trawl Fisheries



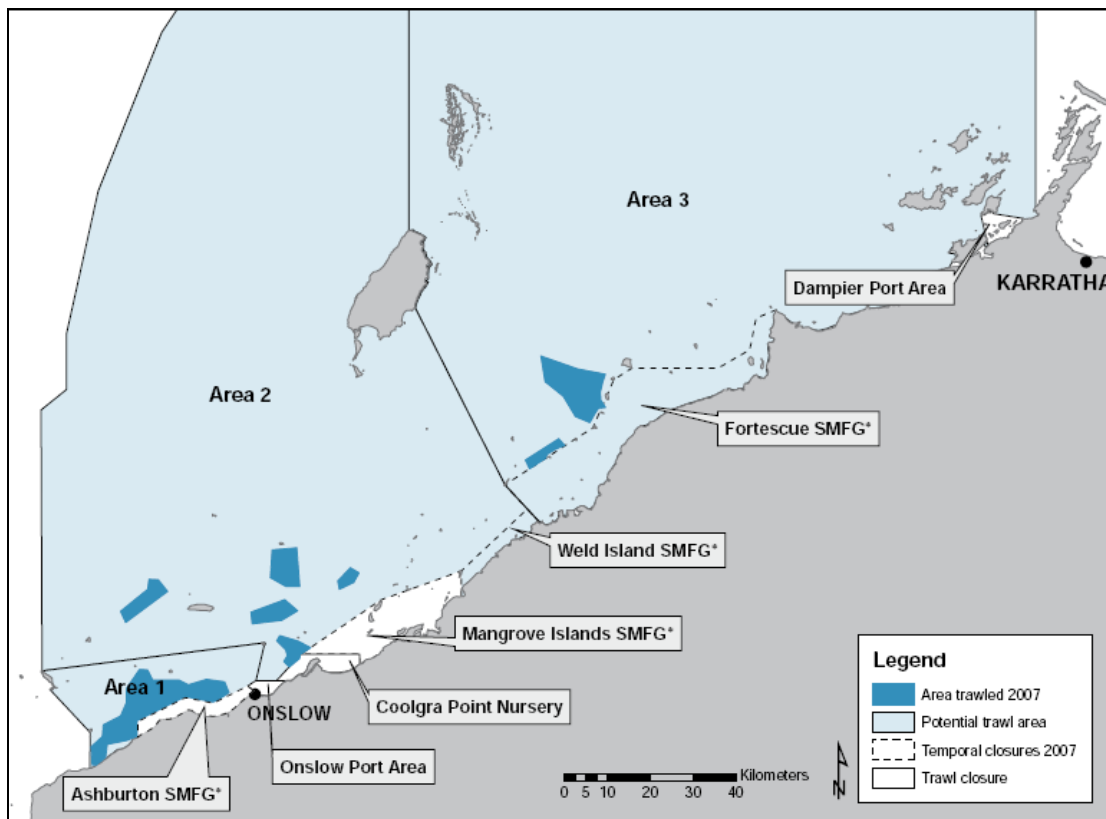
## 2.1 Maps of trawled areas



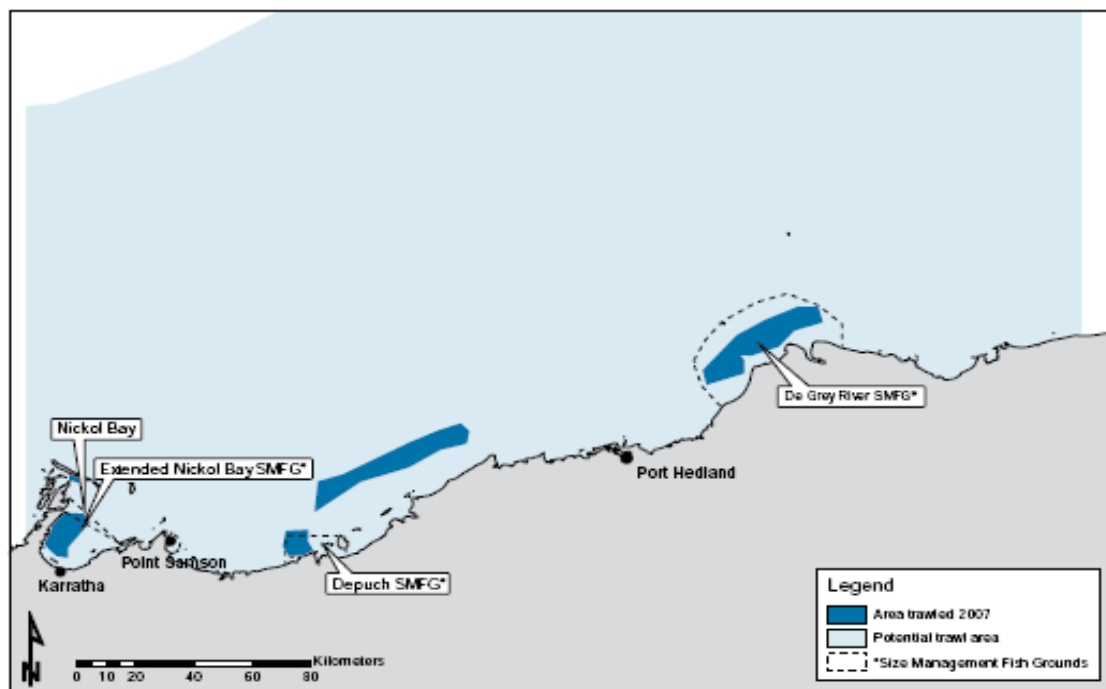
**FIGURE 1: BROOME PRAWN FISHERY – Boundaries of the BPF and trawled area 2007**



**FIGURE 2: KIMBERLEY PRAWN MANAGED FISHERY – Areas fished in the KPF in 2007 and inshore trawl closures implemented**



**FIGURE 3: ONSLOW PRAWN MANAGED FISHERY – Boundaries of the OPF indicating trawl closures and size management fish grounds and area trawled in 2007**



**FIGURE 4: NICKOL BAY PRAWN MANAGED FISHERY- Boundaries of the NBPf indicating nursery areas and size management fish grounds and areas trawled in 2007.**

### 3. CHANGES IN THE FISHERIES

A moderate level of fisheries management, compliance and research services has been maintained in these fisheries since the initial ESD certifications.

Changes in these Fisheries since their initial assessment and the results of research studies were considered when reviewing the risk ratings on target, byproduct and bycatch species and the marine environment. Details are outlined below.

<b>Management Arrangements in all Fisheries</b>
<b>Management Controls</b>
Management controls for all northern Fisheries are based on limited entry, seasonal and area closures, effort cap (KPF) and gear controls including bycatch reduction devices (BRD's). In the KPF there are also restrictions on boat replacements and a 1500-day effort cap for the season.
<b>Annual Meetings</b>
Annual meetings are held with licence holders to consider research information, the status of stocks and recommended changes to fishing season opening and closing dates.
<b>Moon Closures</b>
Moon closures are implemented on a voluntary basis (OPF). The moon closure period is a minimum of three days around each full moon during the fishing season across all areas.
<b>Bycatch Reduction Devices</b>
BRD's, grids and Fish Escape Devices (FED's) are now fully implemented in these fisheries as a condition on their Managed Fisheries Licenses (MFL). Since 2006/07 boats are required to have grids and FED's fitted to all nets (except try nets) These devices further reduce the capture of bycatch species, including protected species, such as turtles.
A bycatch action plan is currently being developed for all trawl fisheries. (See below)
<b>Exemptions - Gear Amalgamations</b>
Vessels in the OPF and NBPF are presently exempted to use a total headrope length greater than that specified in the Management Plan. This required the amalgamation of net for purpose of reducing boat numbers and effort for efficiency gains resulting in a reduction of total headrope length of 8-10%.
Gear amalgamation reduces the cost of fishing for licensees. Standardisation of net size and configuration across trawl fisheries would be desirable so boats can fish in multiple fisheries with the same size nets to reduce overall costs.
<b>Vessel Monitoring System</b>
The DFWA's Vessel Monitoring System (VMS) continues to monitor the activities of all boats. Management Plans have been amended to alter the VMS requirements and incorporate Approved Directions for the use of Automatic Location Communicators (ALC's).

### **Exemptions – 375 Boat unit rule**

Since the last assessments, class Exemptions were granted to these fisheries to allow licensees to operate boats greater than the prescribed 375-boat unit limit.

An amendment to the Management Plan has been made to the BPF to permit boats exceeding the 375-boat rule to operate in the Fishery. Other northern fisheries require amendments to their Management Plans.

### **Daily Log Book returns**

Daily logbook returns are statutory catch and effort returns these fisheries, they are required to be submitted under regulation 64 of the *Fish Resource Management Regulations 1995*.

Research uses the information from daily logbooks to help manage these fisheries utilising the monthly return data information provided by industry and boat skippers. This system has been developed to validate commercial logbook reporting of catch and effort of all targets and by product species. The logbooks also allow fishers to record interactions with protected/listed species.

In 2009 a section was added to the logbooks where the name of the processor is stated to enable catch validation.

## **Implementing a Bycatch Action Plan:**

As advised by DEWHA in its initial evaluation a proactive approach has been made within these fisheries towards mitigating protected species interactions and minimising bycatch through the compulsory implementation of BRD's into their Fisheries Management Plans.

The Department is currently implementing By-catch action Plans (BAP) for Fisheries by the following steps:

1. Departmental meeting to determine contents of a BAP
2. Complete Draft BAP for minor trawl fisheries listed in this report
3. Final draft BAP sent to stakeholders for comment
4. Submissions received and incorporated into final Draft
5. Implementation of BAP
6. Ongoing review and progress reporting in conjunction with the DEWHA ESD five yearly reports.

DEWHA has recommended that the major trawl fisheries Shark Bay Prawn, Shark Bay Scallop and Exmouth Gulf Prawn, finalise, adopt and implement BAP's. These are presently under development (SBP at final draft). Once these BAP's have been implemented they will be used as a model for minor trawl fisheries.

## **4. PROGRESS IN IMPLEMENTING RECOMMENDATIONS**

### **4.1 Broome Prawn Managed Fishery**

- 1. DFWA to advise DEWHA of any material change to the fisheries legislation management plan that could affect the criteria on which EPBA decisions are based, within three months of that change being made.**

#### ***Current Status: Completed***

There have been no major amendments to the management plan or managerial arrangements since accreditation.

An amendment was made in the Management Plan to permit boats exceeding the 375-boat unit to continue to operate in the fishery.

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- 2. DFWA to ensure, where appropriate, that any relevant indigenous, conservation and recreational interests in the fisheries are considered through consultative mechanisms.**

#### ***Current Status: Completed***

Consultation regarding the management arrangements for the Fishery is by DFWA industry meetings. An annual management meeting is held to discuss research, compliance, VMS and management issues. Additional meetings are convened throughout the year as required.

To ensure that relevant indigenous, conservation and recreational interests are considered, a summary of the issues discussed at the annual management meetings will be forwarded to these groups where appropriate.

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- 3. The ESD report, including all performance measures, responses and information requirements, should be formally incorporated into the management regime and decision making process.**

#### ***Current Status: Completed***

The Department reports against the performance measures for the Fishery in the annual State of the Fisheries Report. The Department liaises with Industry on an annual basis to determine the fishing arrangements and catch rate thresholds for the coming year. This regular review ensures management arrangements are conducive with maintaining resource sustainability.

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- 4. DFWA in its Annual State of the Fisheries Report, to report on the performance of the fishery against performance measures that relate to the sustainability of the fishery.**

#### ***Current Status: Completed***

The main performance measures for the BPF relate to maintenance of breeding stocks for each of the major target prawn species. The Department reports on the performance of the Fishery against these performance measures in the Annual State of the Fisheries Report.

- 5. DFWA to incorporate into the management regime, an objective to minimize protect/listed species interactions, to minimise or maintain at sustainable levels the take of other non-retained species and to minimise impacts on the marine environment.**

**Current Status: Completed**

Since the last assessment, DFWA has made progress towards addressing bycatch issues and developing a bycatch action plan, including full implementation of bycatch reduction devices (grids and FED's).

The BPF operates in relatively deep water, and this fact, combined with the short season, restricted trawl area and small number of boats involved, means that the impact on bycatch species is low and interactions with protected species is minimal.

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- 6. DFWA to provide a mechanism, which allows fishers to record interactions with protected/listed species. DFWA to implement an educational program to ensure that industry has the capacity to make these reports at an appropriate level of accuracy.**

**Current Status: Completed**

Under the Environmental Protection and Biodiversity Conservation Act 1999, any interaction with protected species should be reported to DEWHA within 7 days. Currently it is the individual fishers' responsibility to report interactions. Reporting requirements are included as a standing item on the agenda for annual pre-season briefings. Fishers' are also given a Protected Marine Species Identification Guide, which contains:

- pictures and a brief description of relevant protected species;
- specific details to include in interaction reports, and;
- current contact details for interaction reports.

Logbooks contain an additional section to report any interactions with protected species. The Department commenced discussions with DEWHA to consider altering the reporting process so that the Department will report the take of protected species on behalf of skippers but this has not been finalised.

## **4.2 Kimberley Prawn Managed Fishery**

- 1. DFWA to advise DEWHA of any material change to the KPF's legislated management plan that could affect the criteria on which EPBC decisions are based, within three months of that change being made.***

### ***Current Status: Ongoing Reviews***

There have been no major amendments to the management plan since accreditation.

The Department has recognised that the management plan is in need of a major review. Currently the management arrangements for the KPF are largely dependent on the arrangements of the NPF. The fishing season opening and closing dates are set to mirror the dates for the NPF in order to prevent latent fishing effort from the adjacent NPF. These season dates, however, do not seem to provide the ideal fishing time for the banana prawn stocks and this is presently being reviewed.

These issues were discussed at the 2006 annual management meeting held on 30 January and it was agreed to form a Working Group consisting of representative licensees to work towards developing a process to reduce the number of licensees in the fishery; and determining the best time to fish for prawns rather than relying on the NPF season dates.

The Working Group met in January 2008, a discussion paper was written and provided to the Working Group for comment. The paper documented the historical policy decisions relating to the fishery and represented Phase 1 of a 2-step review process. It was released to licensees for comment in April 2008 with submissions closing in mid July 2008. Phase 2 was to be initiated in late 2008 but has lapsed and in early 2010 there will be a re-engagement of the working group.

The Department adopted four permanent inshore closures for the 2007 KPF fishing season and further modification of these closures were made in consultation with industry in 2008. These closures remained place for the whole fishing season in 2009. In addition in 2007 and 2008 the fishery only opened in the second half of the season (August to December) to optimise prawn size. This addresses possible growth over-fishing and also ensures adequate stock remains for spawning. In 2009 the first part of the season opened to fishing and size management fish grounds were closed during this period.

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- 2. The ESD report, including all performance measures, responses and information requirements, should be formally incorporated into the management regime and decision making process.***

### ***Current Status: Completed***

The Department reports against the performance measures for the Fishery in the Annual State of the Fisheries Report. The Department liaises with Industry on an annual basis to determine the fishing arrangements and catch rate thresholds for the coming year. This regular review ensures management arrangements are conducive with maintaining resource sustainability.

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- 3. DFWA to ensure, where appropriate, that any relevant indigenous, conservation and recreational interests in the fisheries are considered through consultative mechanisms.***

***Current Status: Completed***

Consultation regarding the management arrangements for the Fishery is by DFWA industry meetings. A management meeting for the fishery is held each year to discuss research, compliance, VMS and management issues. Additional meetings are convened throughout the year as required.

To ensure that relevant indigenous, conservation and recreational interests are considered, a summary of the issues discussed at the annual management meetings will be forwarded to these groups where appropriate.

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- 4. DFWA in its Annual State of the Fisheries Report is to report on the performance of the fishery against performance measures that relate to the sustainability of the fishery.***

***Current Status: Completed***

The main performance measures for the fishery relate to maintenance of breeding stocks for each of the major target prawn species. The DFWA reports on the performance of the fishery against these performance measures in the Annual State of the Fisheries report.

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- 5. DFWA to incorporate into the management regime, an objective to minimise protected/listed species interactions, to minimise or maintain at sustainable levels the take of other non-retained species and to minimise impacts on the marine environment.***

***Current Status: Completed***

The majority of the catch in this fishery comprises banana prawns, which usually form schools that are specifically targeted. Overall, the fishery is likely to have a low impact on bycatch species.

BRD's (grids and FED's) are fully implemented in the fishery as a licence condition. These devices will further reduce the capture of bycatch species, including protected species, such as turtles.

A combined BAP is planned for all northern prawn fisheries modelled on the major prawn trawl fisheries BAP (being developed).

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- 6. DFWA to develop and implement a system to validate fishery dependent data on catch and effort for all target and byproduct species within two years.***

***Current Status: Completed***

Prior to 2008 commercial fishers filled in CAES monthly returns and some skippers completed daily research logbooks. The research logbooks comprise various sections,

including a section where skippers' can record catch and effort data for all target and byproduct species that provides data requirements for ESD purposes.

These logbooks became mandatory in 2008. Daily logbook returns are statutory catch and effort returns for the KPF, they are required to be submitted under regulation 64 of the *Fish Resource Management Regulations 1995*. In 2009 a section was added to the logbooks where the name of the processor is stated to enable validation.

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**7. DFWA to review, within one year, the performance measures for all target species in the KPF to ensure they are appropriately precautionary and sufficient to detect significant changes in stock abundance.**

***Current Status: Action Required***

This has not been completed to date. However during 2009-10 DFWA plan to undertake an autoregressive moving average estimating technique to determine the catch ranges for all target species, which is a more rigorous method.

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**8. DFWA to develop, within one year, an interim performance indicator and performance measure for squid, based on the best available information.**

***Current Status: Action Required***

This has not been completed to date. However during 2009/10 DFWA plan to undertake an autoregressive moving average estimating technique to determine catch ranges of byproduct species, which is a more rigorous method. The catches of squid in the last four years have been minimal (<200kg reported in catch returns) in this fishery.

A combined BAP is planned for all northern prawn fisheries modelled on the major prawn trawl fisheries BAP (being developed).

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### **4.3 Onslow and Nickol Bay Prawn Managed Fisheries**

- 1. DFWA to advise DEWHA of any material change to the OPF or NBPF legislated management plans and/or arrangements that could affect the criteria on which EPBC decisions are based, within three months of that change being made.***

#### ***Current Status: Ongoing***

There have been no major amendments to the management plan since accreditation. However for the 2006-2009 fishing seasons, a Ministerial Exemption was granted from clauses 14 (1) and (3) and 15 of the Onslow Prawn Management Plan 1991 and clauses 12 and 13 of the Nickol Bay Prawn Management Plan 1991, to allow licensees to use a boat greater than the prescribed 375 boat units, provided that the measured length of the boat is not greater than 24.99 metres.

It is DFWA's intention to remove the 375-boat unit rule (and introduce net unitisation and a maximum boat length) from the Western Australian trawl fisheries' management plans. However, due to the complexity of the amendments and more urgent priorities within the Department, the amendments to remove the 375-boat unit rule from the management plans have not been finalised as yet.

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- 2. The ESD report, including all performance measures, responses and information requirements, should be formally incorporated into the management regime and decision making process.***

#### ***Current Status: Completed***

The Department reports against the performance measures for the OPF & NBPF in the Annual State of the Fisheries Report. The Department liaises with Industry on an annual basis to determine the fishing arrangements. This regular review ensures management arrangements are conducive with maintaining resource sustainability.

- 
- 3. DFWA to ensure, where appropriate, that any relevant indigenous, conservation and recreational interests in the fisheries are considered through consultative mechanisms.***

#### ***Current Status: Completed***

Consultation regarding the management arrangements for the Fishery is by DFWA industry meetings. A management meeting for the fishery is held each year to discuss research, compliance, VMS and management issues. Additional meetings are convened throughout the year as required.

To ensure that relevant indigenous, conservation and recreational interests are considered, a summary of the issues discussed at the annual management meetings will be forwarded to these groups where appropriate.

The Department also plans to include the OPF & NBPF's as part of the annual Broome Regional Forum. This Forum will provide the opportunity for varying public interests to discuss any issues surrounding these fisheries.

- 4. DFWA, in its Annual State of the Fisheries Report, to report on the performance of the fisheries against performance measures that relate to the sustainability of the fisheries.**

**Current Status: Completed**

The main performance measures for both the OPF & NBPF's relate to maintenance of breeding stocks for each of the major target prawn species. The Department reports on the performance of the fisheries against these performance measures in the relevant Annual State of the Fisheries report.

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- 5. DFWA to develop and implement a robust system to validate commercial logbook reporting of catch and effort for all target and byproduct species.**

**Current Status: Completed**

Prior to 2008 commercial fishers filled in CAES monthly returns and some skippers completed daily research logbooks. The research logbooks comprise various sections, including a section where skippers' can record catch and effort data for all target and byproduct species that provides data requirements for ESD purposes. These logbooks became mandatory in 2008.

Daily logbook returns are statutory catch and effort returns for these fisheries, they are required to be submitted under regulation 64 of the *Fish Resource Management Regulations 1995*. In 2009 a section was added to the logbooks where the name of the processor is stated to enable validation.

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- 6. DFWA to incorporate into the management regime, an objective to minimise protected/listed species interactions, to minimise or maintain at sustainable levels the take of other non-retained species and to minimise impacts on the marine environment.**

**Current Status: Completed**

The NBPF operates predominantly by specifically targeting schools of banana prawns. This results in relatively low effort and minimal bycatch compared with other trawl fisheries. Bycatch from the OPF is typical of tropical trawl fisheries, but the effort level and spatial coverage are too low to impact bycatch species populations.

Results from the FRDC Biodiversity project on the biodiversity of trawled versus untrawled areas within Onslow Area 1 showed that there was not a significant difference between the biodiversity in trawled and untrawled areas, however, some species groups were more vulnerable than others. Other factors, such as habitat and depth seemed to have a greater influence on biodiversity than trawl effort.

Bycatch monitoring in NBPF was undertaken in 2005 and 2006 providing some baseline data of bycatch caught during banana prawn fishing.

BRD's are fully implemented in these fisheries as a licence condition. These devices will further reduce the capture of bycatch species, including protected species, such as turtles.

A combined BAP is planned for all northern prawn fisheries modelled on the major prawn trawl fisheries BAP (being developed).

7. ***DFWA to provide a mechanism, which allows fishers to record interactions with protected/listed species. DFWA to implement an education program to ensure that industry has the capacity to make these reports at an appropriate level of accuracy.***

***Current Status: Completed***

Under the Environmental Protection and Biodiversity Conservation Act 1999, any interaction with protected species should be reported to DEWHA within 7 days. Currently it is the individual fishers' responsibility to report interactions. Reporting requirements are included as a standing item on the agenda for annual pre-season briefings. Fishers' are also given a Protected Marine Species Identification Guide, which contains:

- pictures and a brief description of relevant protected species;
- specific details to include in interaction reports, and;
- current contact details for interaction reports.

From 2008 both the OPF & NBPF's use logbooks for reporting catch returns during the season. Daily logbook returns are statutory catch and effort returns, they are required to be submitted under regulation 64 of the *Fish Resource Management Regulations 1995* and in 2009 a section was added to the logbooks where the name of the processor is stated to enable validation.

Logbooks contain an additional section to report any interactions with protected species. The DFWA commenced discussions with DEWHA to consider altering the reporting process so that the DFWA will report the take of protected species on behalf of skippers but this has not been finalised.

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8. ***DFWA to review the specifications of the Bycatch Reduction Device (BRD) grids used in the OPMF and NBPMF to ensure they are effective at reducing the incidental catch of turtles and other large bycatch species likely to be encountered in the fishery.***

***Current Status: Completed***

For these fisheries, the grid specifications that are in place are adequate to minimise the capture of large bycatch species.

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9. ***DFWA to, in collaboration with licence holders, develop and implement a spatial management system within the OPF and NBPF that takes account of the impacts of fishing on:***

- ***Important nursery areas for target species;***
- ***Important feeding/spawning/breeding/refuge grounds for key byproduct and protected species, and;***
- ***Benthic habitats present in the fishery area.***

***Current Status: Completed for Onslow***

- a) Implementation of a spatial management system that takes account of the impacts of fishing on important nursery areas for target species:

Within the OPF, the Department (in collaboration with licence holders) has identified important nursery areas for target species. As a result, a permanent trawling closure, termed

Nursery Area, has been implemented. In addition, a number of prawn size management fish grounds have also been identified to prevent growth over fishing. These areas provide for the protection of spawning stock and habitat. They are opened to fishing during certain periods of the year in order to maximise the size of prawns caught in the fishery.

DFWA has identified and implemented a number of prawn size management fish grounds within the NBPF. Important nursery areas for target species may need to be identified in this fishery. This will be reviewed within three years.

- b) Implementation of a spatial management system that takes account of the impacts of fishing on important feeding/spawning/breeding/refuge grounds for key byproduct and protected species:

Daily logbooks provide information on byproduct and protected species at a higher resolution than what was provided in CAES (for byproduct only). Size limits and the return of berried individuals of bugs and crabs provide protection from growth and recruitment over fishing. In addition the size management fish grounds and permanently closed areas (in Onslow) may provide additional protection to other species than for just the target species. It should be noted also that the actual area fished by boats in both fisheries is less than 5% of the total area of the fishery.

- c) Implementation of a spatial management system that takes account of the impacts of fishing on benthic habitats present in the fishing area:

Within the extensive licensed fishing zone of the OPF, relatively few discrete areas offshore from the prawn size management fish grounds are fished. The fishery is restricted to sand and mud substrates, where trawling has minimal long-term physical impact.

The NBPF fleet also fishes on a limited number of discrete fishing grounds, which make up approximately 5% of the coastal habitat within the fishery. Habitat types on the trawl areas associated with banana and king prawns are mud and sand respectively, which are not impacted significantly by trawl gear.

The Department considers that the spatial closures in place in both fisheries are adequate to ensure the protection of benthic habitats present in the area.

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## **5. ECOLOGICAL RISK ASSESSMENTS**

### **Re- Assessment Process**

Risk assessment workshops for these Fisheries were conducted and attended by management, compliance, and research representatives.

The aim of these workshops was to revisit the risk ratings identified in previous reports and determine whether they were still relevant or whether they require amendment. In addition, consideration was given to whether new risks now existed. The workshops outcomes were then sent to stakeholders for their comments.

The reports below provide the outcomes from the workshops and detail the progress in meeting all required recommendations arising from the original ESD assessments and outlining what has been achieved in addressing each recommendation.

## 5.1 BROOME PRAWN MANAGED FISHERY

### Ecological Risk Assessment– Internal Review: 6 November 2008

**Please Note:**

The page numbers in the first column are from the prior ESD reports for each fishery and can be found in Appendix's 1-4.

Risk (Appendix 5)	ERA Risk Rating – July 2004	Comments	New ERA Risk Rating
<b>Primary Species</b>			
Western King Prawns (Pages 39-43)	Impact on breeding stock <b>C1 L6 Low</b>		No change to risk rating
<b>By Product Species</b>			
Coral Prawns (Page 43-46)	Impact on breeding stock <b>C1 L6 Low</b>		No change to risk rating
Fish (Page 47)	Impact on breeding stock <b>C0 L3 Negligible</b>		No change to risk rating
Invertebrates (Page 47)	Impact on breeding stock <b>C0 L3 Negligible</b>		No change to risk rating
<b>Non-Retained Species</b>			
Sharks	Impact on breeding stock <b>C0 L5 Negligible</b>		<b>*See Below Added</b>
Protected/Listed Species Sea snakes (Page 50)	Impact on breeding stock <b>C0 L5 Negligible</b>		No change to risk rating
Fish (Page 51-52)	Impact on breeding stock <b>C1 L4 Low</b>		No change to risk rating
Invertebrates (Page 52)	Impact on breeding stock <b>C1 L4 Low</b>		No change to risk rating
<b>Interaction but no capture</b>			
Protected/Listed Species Turtles (Page 50-51)	Impact on breeding stock <b>C0 L5 Negligible</b>	No change to risk rating	
Humpback whales and migrating whales	Impact on breeding stock <b>C1 L4 Low</b>		<b>*See Below Added</b>
<b>Impacts from removal of or damage to the environment</b>			
Tropic Interaction (Page 53-54)	Impact on tropic associations <b>C1 L3 Low</b>		No change to risk rating
Impacts to Benthic Biota Sand and Mud (Pages 55-56)	Impact on habitats <b>C0 L3 Negligible</b>		No change to risk rating
<b>Addition/Movement of Biological Material</b>			
Discarding/Provisioning Page 55-56)	Impact on community structure <b>C0 L3 Negligible</b>		No change to risk rating
<b>New or Preciously unidentified Risks</b>			
None Identified			

## 5.2 KIMBERLEY PRAWN MANAGED FISHERY

### Ecological Risk Assessment– Internal Review: 6 November 2008

Risk (Appendix 6)	ERA Risk Rating – June 2004	Comments	Revised ERA Risk Rating
<b>Primary Retained Species</b>			
Banana Prawns (Page 47-51)	Impact on breeding ground <b>C2 L5 Moderate</b>	Reduced due to current industry agreed arrangement to not opening for the first part of the 2007/2008 seasons and refining the nursery closure area.	<b>Revised Rating: C2 L4 Moderate</b>
Brown Tiger Prawns (Page 51-54)	Impact on breeding ground <b>C3 L4 Moderate</b>		No change to risk Rating
Endeavour Prawns (Page 54-57)	Impact on breeding ground <b>C2 L3 Low</b>		No change to risk Rating
<b>By Product Retained Species</b>			
Black Tiger Prawns, Coral Prawns and Western King. (Page 57-62)	Impact on breeding stock <b>C1 L6 Low</b>	These species were previously listed separately but have been aggregated as they are rarely caught in this fishery.	<b>Revised Rating: C1 L4 low</b>
Bugs (Page 62-63)	Impact on breeding stock <b>C0 L6 Negligible</b>		No change to risk Rating
Fish (Page 63)	Impact on breeding stock <b>C0 L6 Negligible</b>		No change to risk Rating
Squid (Page 63-65)	Impact on breeding ground <b>C3 L4 Moderate</b>	This was previously rated moderate due to spawning aggregates previously being targeted.	<b>Revised Rating: C2 L3 low</b>
Other Invertebrates (Page 65)	Impact on breeding stock <b>C0 L6 Negligible</b>		No change to risk Rating
<b>Non-Retained Species</b>			
Sharks	Impact on breeding stock <b>C0 L5 Negligible</b>		<b>Revised Rating: C0 L5 Negligible</b>
Sea snakes (Page 66-67)	Impact on breeding stock <b>C0 L5 Negligible</b>		*See Below No change to risk Rating
Syngnathids (Page 67)	Impact on breeding stock <b>C1 L2 Low</b>		No change to risk Rating
Fish (Page 68)	Impact on breeding stock <b>C1 L4 Low</b>	No change to risk Rating	
<b>Interaction but no capture</b>			
Turtles (Page 67-68)	Impact on breeding stock <b>C0 L5 Negligible</b>		No change to risk Rating
Humpback and migrating whales	Impact on breeding <b>C1 L4 Low</b>		*See Below Added
<b>General Environmental impacts</b>			
Tropic Interactions-taking of prawns (Page 69-70)	Impact on tropic structure <b>C1 L3 Low</b>		No change to risk Rating
Impact to sand and Mud (Page 70-71)	Impact on habitat ecology and structure <b>C1 L3 Low</b>		No change to risk Rating

General Environment – Addition/Movement of Biological material		
Discarding/Provisioning (Page 71-72)	Impact to environment <b>C0 L3 Negligible</b>	No change to risk Rating
New or previously unidentified risks		
None identified		

### 5.3 ONSLOW AND NICKOL BAY PRAWN MANAGED FISHERIES

#### Ecological Risk Assessment– Internal Review: 6 November 2008

Risk (Appendix 7)	ERA Risk Rating – Oct 2003	Comments	Revised ERA Risk Rating
Primary Retained Species			
Banana Prawns (Page 55-60)	Impact on breeding stock <b>C2 L5 Moderate</b>		No change to risk Rating
Brown Tiger Prawns (Page 60-63)	Impact on breeding stock <b>C3 L4 Moderate</b>		No change to risk Rating
Western King Prawns (Page 67-67)	Impact on exploitable biomass <b>C1 L6 Low</b>		No change to risk Rating
Endeavour Prawns (Page 68-71)	Impact on exploitable biomass <b>C2 L3 Low</b>		No change to risk Rating
By Product species			
Coral Prawns (Page 71)	Impact on breeding stock <b>C1 L6 Low</b>		No change to risk Rating
Black Tiger Prawns (Page 74-77)	Impact on breeding stock <b>C3 L3 Moderate</b>	<b>Revised Rating: C2 L3 Moderate</b> This species is generally not present in this fishery but appear occasionally when certain tidal activity and seasonal conditions arise.	
Bugs (Page 77-78)	Impact on breeding stock <b>C1 L6 Low</b>		No change to risk Rating
Squid	Impact on breeding stock <b>C2 L3 Low</b>		No change to risk Rating
Other Invertebrates (Page 78)	Impact on breeding stock <b>C0 L6 Negligible</b>	No change to risk Rating	
Crabs (Page 79)	Impact on breeding stock <b>C0 L6 Negligible</b>		No change to risk Rating
Fish (Page 79)	Impact on breeding stock <b>C0 L6 Negligible</b>		No change to risk Rating
Non-Retained Species			
Sharks	Impact on breeding stock <b>C0 L5 Negligible</b>		<b>*See Below Added</b>
Protected Species Sea snakes (Page 81)	Impact on breeding stock <b>C0 L5 Negligible</b>		No change to risk Rating
Protected Species Syngnathids (Page 81)	Impact on breeding stock <b>C1 L2 low</b>		No change to risk Rating
Fish (Page 82-83)	Impact on breeding stock <b>C1 L4 low</b>		No change to risk Rating

Invertebrates (83-84)	Impact on breeding stock <b>C1 L4 low</b>	No change to risk Rating
<b>Interaction but no capture</b>		
Protected/Listed Species Turtles (Page 82)	Impact on breeding stock <b>C0 L5 Negligible</b>	No change to risk Rating
Protected/Listed Species Dugongs (Page 84)	Impact on breeding stock <b>C0 L5 Negligible</b>	No change to risk Rating
<b>Impacts from Removal of or Damage to the Environment</b>		
Tropic Interactions (Page 85-86)	Impact on tropic levels <b>C1 L3 Low</b>	No change to risk Rating
Impacts to Benthic Biota Sand and Mud (Pages 87)	Impact on habit and ecology <b>C1 L3 Low</b>	No change to risk Rating
Impacts to Benthic Biota Sea grass (Pages 87-88)	Impact on habit and ecology <b>C0 L2 Negligible</b>	No change to risk Rating
Impacts to Benthic Biota Soft coral and sponges (Pages 87-88)	Impact on habit and ecology <b>C0 L2 Negligible</b>	No change to risk Rating
<b>Addition/Movement of Biological Material</b>		
Discarding/Provisioning (Page 88-89)	Impact on environment <b>C0 L2 Negligible</b>	No change to risk Rating
<b>New or Previously Unidentified Risks</b>		
None identified		

**\*Non-Retained Species:**

**Sharks (C0 L5 Negligible – Added to Report)**

Sharks are Commercially Protected so cannot be retained and should be classified as ‘Non-retained species’.

The full implementation of grids in these Fisheries has also greatly reduced any likelihood of capture.

After review sharks have been added to the risk assessment. The assessed risk is ‘negligible’ largely due to the elimination of capture of large sharks due to grids and also due to the very minimal catch of small sized sharks which may swim through the grid bar spacing and be caught in the cod end occasionally.

**\*Interaction but no capture:**

**Humpback and Migrating Whales (C1 L4 Low – Added to Report)**

It has come to DFWA’s attention that the humpback migration on the West Coast coincides with fisheries trawling seasons from Camden Sound to the Exmouth Gulf. (See **Table 1, Page 26**) After review Humpback and migrating whales have been added to the risk assessment for the BPF and KPF.

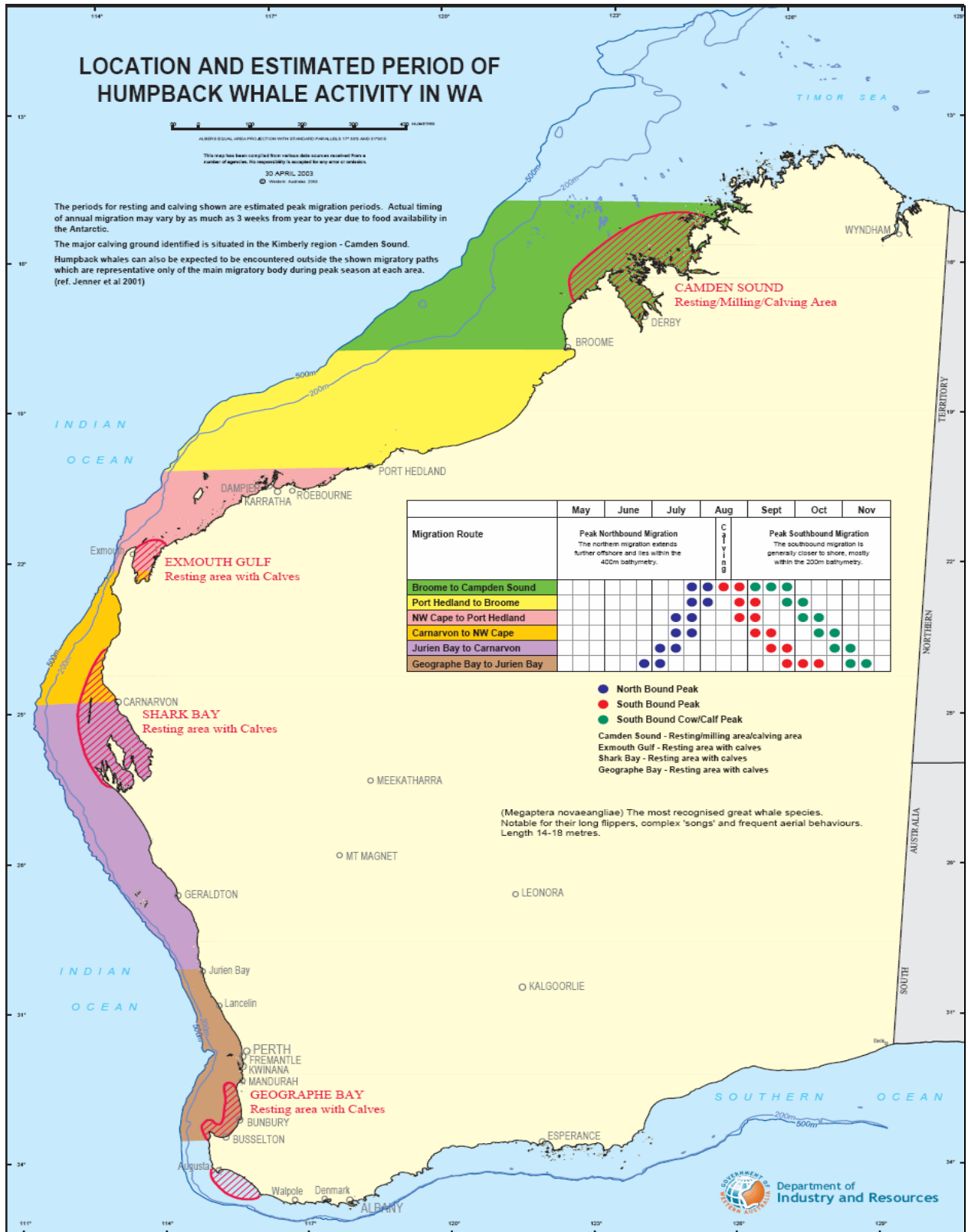
While trawling activities coincide with the area being used as a resting place for migrating humpback whales and their calves, and there are frequent sightings of these whales by

fishers particularly in the BPF, it is not considered that the fishery has any significant impact on this species.

There have been no reports of adverse interactions involving trawlers and humpback whales and, while migrating humpbacks are known to opportunistically feed on prawns and schooling fish, most of their feeding activity takes place in Antarctic waters. With the exception of banana prawns that aggregate in the Camden Sound area, the targeted prawn species also do not school and therefore are unlikely to be taken by humpbacks.

Although, it is considered likely that the sound that trawlers make while fishing may keep whales a safe distance from fishing boats, there is no evidence that disturbance from trawling is having any significant or adverse effect on the normal resting and migrating behaviour of the humpbacks. The observed numbers of humpbacks migrating along the west coast and using these known calving and resting areas has continued to increase over recent decades.

**Table 1: HUMPBACK ACTIVITY IN WA**



## 6. ERA GUIDE TO RISK ASSESSMENT TABLES

Table 1. ERA Risk table

Likelihood (L)	Consequence (C)					
	Negligible C0	Minor C1	Moderate C2	Severe C3	Major C4	Catastrophic C5
Remote L1						
Rare L2						
Unlikely L3						
Possible L4						
Occasional L5						
Likely L6						

For each identified risk issue, reporting and a management response appropriate to the Risk rating were detailed (Table 2).

Table 2. ERA Risk ratings and required response

RISK Rating	Rank	Likely Management Response	Reporting
Negligible (N)	0	Nil.	Short justification.
Low (L)	1	None specific.	Full justification.
Moderate (M)	2	Specific management needed.	Full performance Report.
High (H)	3	Possible increases to management activities needed.	Full performance Report.
Extreme (E)	4	Likely additional management activities needed.	Full performance Report.

## **7. CONCLUSION**

These reports should provide sufficient information for DEWHA to re-assess the Fisheries against the *Guidelines for the Ecologically Sustainable Management of Fisheries*, under Part 13 and 13A of the *EPBC Act 1999*. However, should you require any further information please contact Julie Wakefield on (08) 9482 7306 email [Julie.Wakefield@fish.wa.gov.au](mailto:Julie.Wakefield@fish.wa.gov.au) or contact Errol Sporer on (08) 9203 0167 on email [Errol.Sporer@fish.wa.gov.au](mailto:Errol.Sporer@fish.wa.gov.au)

## **8. GLOSSARY OF ACRONYMS**

ALC	Automatic Location Communicators
BPF	Broome Prawn Managed Fishery
BRD	Bycatch reduction device
CAES	Catch and effort statistics
DEWHA	Department of Environment, Water, Heritage and the Arts
DFWA	Department of Fisheries
EPBC	Environmental Protection and Biodiversity Conservation (Act 1999)
ESD	Ecological Sustainable Development
FED	Fish escape device
FRDC	Fisheries Research and Development Corporation
KPF	Kimberly Prawn Managed Fishery
MFL	Managed Fishery Licence
NBPF	Nickol Bay Prawn Managed Fishery
NPF	Northern Prawn Fishery
OPF	Onslow Prawn Managed Fishery
VMS	Vessel Monitoring System
WTO	Wildlife Trade Operation