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## **Shark Bay Prawn Trawl Fishery**

### **MSC Surveillance Report #1**

Prepared for the Shark Bay Prawn Trawler Operators' Association

Certificate No: **MRAG-F-0048**

**MRAG Americas, Inc.**

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## 1. General Information

Fishery name	Shark Bay Prawn Trawl Fishery		
Unit(s) of assessment	Brown tiger prawn ( <i>Penaeus esculentus</i> ) and western king prawn ( <i>Penaeus latisulcatus</i> ) in Shark Bay within the Gascoyne Coast Bioregion of Western Australia		
Date certified	22 October 2015	Date of expiry	22 October 2020
Surveillance level and type	<i>Surveillance level 1, on-site surveillance</i>		
Date of surveillance audit	24-27 October 2016		
Surveillance stage (tick one)	1st Surveillance	X	
	2nd Surveillance		
	3rd Surveillance		
	4th Surveillance		
	Other (expedited etc)		
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## 2. Background

This report outlines the process and outcome of the first annual surveillance audit for the MSC-certified Shark Bay Prawn Trawl Fishery (SBPMF). The fishery is conducted by members of the Shark Bay Prawn Trawler Operators' Association.

The SBPMF operates in the waters of Shark Bay, a tropical gulf, 26°S, which is an enclosed marine embayment (approx. 13,000 km<sup>2</sup>) within the Gascoyne Coast Bioregion of Western Australia. The area stretches approximately 250 km from the northern point of Bernier Island to the southern end of Freycinet Harbour. The Bay is enclosed in the north by Bernier, Dorre and Dirk Hartog Is. The assessment covers two species – brown tiger prawn (*Penaeus esculentus*), and Western king prawns (*P. latisulcatus*). Catches of these target species range from 400-700 tonnes of brown tiger prawns and 700 to 1,300 tonnes of western king prawns. The Fishery is separated into three distinct fishing areas; Koks Island north (north of 24°45.18'); northern Shark Bay, which includes the Northern Carnarvon/Peron line (CPL) area (formerly the tiger prawn spawning area, or TPSA) and the Southern CPL area

(formerly the extended nursery area, or ENA); and Denham Sound, as well as permanently closed nursery areas.

Management of the fishery is through input controls that began as limited entry, with controls on maximum boat and twin trawl net sizes. This system has specific effort controls based on maximum headrope length and the maximum fishing days (season duration). These controls have allowed fleet rationalisation to occur in response to improvements in vessel and gear efficiency. This basic management framework has been supported by a sophisticated system of seasonal, spatial and temporal closures (nursery and spawning area). These management controls, in particular the spatial and temporal closures, are designed to ensure the maintenance of breeding stocks for all prawn species, maximise the size of the prawns at capture, and minimize environmental impacts of the fishery.

Vessels in the SBPMF use low-opening demersal otter trawl nets in quad-rigged formation. For the 2015 and 2016 fishing seasons, all 18 vessels actively fished and continued to fish using quad net configurations (4 x 5.5 fathom nets), permitted by exemption. Eighteen boats operate in the fishery. Each trawl shot ranges from 50 to 180 minutes in duration. The first part of the season (from mid-March) focuses primarily on larger western king prawns caught in the area outside the CPL and north of the Denham Sound line, and avoiding small prawns moving through areas of the fishery. Catch rates from of western king and brown tiger prawns from both recruitment surveys determine when and what areas open to fishing during the main part of the season. Catch rates above target levels permit an area to open to fishing. Catch rates below the limit result in an area remaining closed to fishing. The purpose of these control rules is to limit total effort through spatial and temporal closures in order to reduce exploitation of the spawning stock biomass.

The yearly cycle of operation for the fishery is dynamic and multi-faceted. Opening and closing dates vary each year depending on environmental conditions, moon phase and the results of surveys; which predict recruitment and monitor the size distribution of prawns. The timing of the opening of the season allows the harvesting of the current season's recruits and the large residual prawns not caught the previous season.

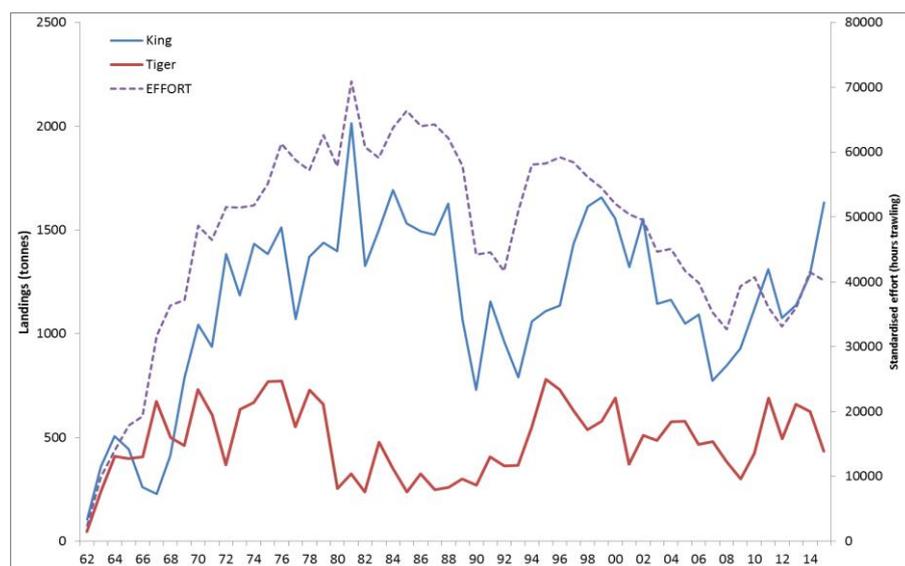
Implementation of the fishing season arrangements occurs via a determination under Shark Bay Prawn Managed Fishery Management Plan 1993. In 2015 this was in March, outlining the areas, date and times where fishing was permitted and prohibited in the SBPMF. In addition to the specifications of the determination, several of the management areas were opened (fully or partly) and closed throughout the season under a co-operative framework between the Department and licensees. Through this framework, seven moon closures were implemented around each full moon (each 5-11 days). All areas were monitored by the Department using VMS.

The 2015 fishing season commenced on 9 April and finished on 20 November. Taking into consideration the moon closures (minimum of seven nights surrounding each full moon), the 2015 season arrangements provided for 176 nights of fishing. The total landings (whole weight) of major prawn species for this fishery was 2089 tonnes which was the highest since 2000, comprising 1633 t of western king prawns, 434 t of brown tiger prawns and 22 t of endeavour prawns (Figure1; Table 1).

The 2016 fishing season commenced on 4 April and is anticipated to finish on 1 December. Taking into consideration the moon closures, the 2016 season arrangements provide for 177 nights of fishing. The total number of fishing nights for 2016 is consistent with the harvest strategy, and was established to accommodate fishing for scallops toward the end of the season, when scallop meat weight is expected to have improved.

The SBPMF operates in conjunction with the Shark Bay Scallop Managed Fishery (all Shark Bay Prawn licence holders also hold a Class B Shark Bay Scallop licence). Following consultation with licence holders a second determination was made to provide additional protection to the scallop stock by implementing a spatial closure for prawn fishing around an area of high scallop abundance.

As per the harvest strategy, a specified area below the Snapper Trawl Line (STL) in Denham Sound may open once a season for a maximum period of ten nights, subject to the results of the Department's August survey. The required performance indicators were met in 2015 and an opening of this region occurred. In 2016, the required performance indicators were not met (i.e. combined prawn catch rate did not meet 50 kilograms per hour), and as such the area remained closed.



**Figure 1: Annual prawn landings (t) and fishing effort (total adjusted hours to twin gear units) for the Shark Bay Prawn Managed Fishery 1962-2015.**

**Table 1: Catch and effort of major prawn species in the SBPMF between 2002 and 2015.**

Year	Brown tiger		Western king		Endeavour catch (t)	Total prawn (t)	Scallop (t)	Nominal effort (hrs)	Adjusted effort (hrs)	No. boats
	Catch (t)	Catch rate (kg/hr)	Catch (t)	Catch rate (kg/hr)						
2002	510	10.3	1554	31.4	11	2075	74	49494	49494	27
2003	485	10.9	1145	25.7	3	1632	70	44616	44616	27
2004	576	12.8	1164	25.8	8	1748	96	45112	45112	27
2005	579	13.9	1049	25.1	<1	1628	167	39327	41716	25
2006	467	11.7	1091	27.4	<1	1559	86	37066	39827	25
2007	480	13.6	772	21.9	<1	1252	142	25675	35304	18
2008	384	11.8	848	26.0	<1	1232	168	23761	32671	18
2009	300	7.6	927	23.6	<1	1228	215	28571	39285	18
2010	423	10.4	1122	27.5	<1	1545	95	29629	40739	18
2011	689	19.1	1310	36.3	15	2014	18	26226	36060	18
2012	494	14.9	1075	32.4	23	1592	0	24106	33146	18
2013	661	18.4	1139	31.7	15	1815	0	26153	35961	18
2014	625	15.1	1282	30.9	17	1924	0	30206	41533	18
2015	434	10.8	1633	40.7	22	2089	33	29210	40164	18

The *Fish Resources Management Act 1994* (FRMA) provides the overarching legislative framework to implement the statutory management arrangements for SBPMF and contains the head powers to determine a management plan, in this case the *Shark Bay Prawn*

*Managed Fishery Management Plan 1993.* WA management plans are subsidiary legislation which set out the operational rules that control managed commercial fishing activities and should be viewed in conjunction with other specific relevant subsidiary legislation and strategies in place for the fishery. The FRMA also sets out the procedure for determining and amending a management plan.

In preparation for this surveillance audit, stakeholders were first contacted by email on 9 September and by follow up emails to key stakeholders between 20 September and 21 October 2016, and invited to submit comments. The notification of the surveillance audit was also published on the MSC website on the 8<sup>th</sup> September 2016. The audit was carried out at the offices of Western Australia's Department of Fisheries (DoF) Hillarys research facility, Perth, between 25 October and 28 October, 2016, by the surveillance team consisting of Richard Banks and Kevin McLoughlin. One written comment was received from a stakeholder, Jenita Enevoldsen, the Wilderness Society WA on the issue of the impact of the sea grass declines.

The WA Fisheries Research Division monitors the prawn fleet daily catch and effort, providing real time advice when to open and close areas and is part of the fishery's management strategy for the control of spatial and temporal closures. A vessel monitoring system is in place to monitor the activities of all boats.

Western king prawn landings (1633 t) were the highest since 1999 and exceeded their target catch range (950-1350 t), while brown tiger prawn landings (434 t) were within their target catch range (400-700 t).

Scallop retention was limited to Denham Sound under a trial quota management system. Catch was allocated by a number of exemptions across both fleet classes. The B Class fleet (i.e. able to target prawn and scallop) retained 32.8 t of scallops.

Other retained species landings comprised of 188 t of blue swimmer crabs (now under quota management) and 126 t of coral prawns (various species, but mainly *Metapenaeopsis crassissima*). Other non-targeted invertebrate species landings were 23 t of cuttlefish, 6 t of squid and 5 t bugs. Fifty-eight t of finfish, including whiting, flathead and flounder were also recorded as landed product, the highest finfish retention since 1998.

The table below specifies the species and number of ETP species interactions in the SBPMF. It is the same as provided in the MSC report supplied for the initial assessment of this fishery (Western Australian Marine Stewardship Council Report Series No.2). At the time of publication the 2014 data were unavailable, that year, as well as 2015 has been included in this updated table. Note that increases in numbers reported are attributed to increases in reporting rates not in interaction rates.

**Table 2. Endangered and threatened species interactions**

Species / Group	No. of Interactions										
	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	
<b>Dolphins</b>											
Alive					1						
Dead											
Unknown							1				
<b>Marine turtles</b>											
Alive	14	2	10	5	9	15	6	35	27	35	
Dead								1			
Unknown											
<b>Sea snakes</b>											
Alive					47	119	387	351	511	1133	
Dead					17	24	44	12	53	143	
Unknown	206	49	60	236	270						
<b>Seahorses</b>											
Alive			4		10				30	17	
Dead										3	
Unknown							9				
<b>Sawfish</b>											
Alive										3	
Dead										2	
Unknown											

There have been no organisational and personnel changes at the management authority, WA Department of Fisheries. There have been no changes to the scientific provider. There has been a change to the position of Executive Officer of the Association, with Felicity Horn now replacing Phil Bruce, who retired. This change will have no effect on the certification of the fishery.

There have been no major changes in management arrangement for the fishery. DoF is progressing an amendment to the SBPMF Management Plan) primarily to:

- include the current quad trawl net configurations and authorise the Chief Executive Officer to permit future changes to trawl net configurations;
- introduce smaller units of entitlement as increments of headrope, which will improve the flexibility for the transfer of units between licences; and
- more effectively manage compliance with closed areas.

The Department intends to release a discussion paper to licence holders seeking their views on the proposed amendments.

Formal arrangements for the provision of aggregated vessel monitoring information relating to voluntary closures to the Prawn Trawler's Association were developed and implemented in the 2016 season. This initiative was developed to support voluntary compliance in the fishery and enhance the cooperative management framework supporting the use of spatial closures in the SBPMF to manage the fishery.

The status of the stocks of brown tiger prawns and western king prawns is assessed annually using a weight-of-evidence approach that considers all available information about the stock, primarily based on monitoring of fishery-independent indices of recruitment and spawning stock levels relative to specified reference points. Although these abundance indices represent key indicators for the stocks, other information collected throughout the season (e.g. commercial catches, effort, grade categories and environmental data) is also evaluated to provide insight on, for example, environmental factors affecting prawn recruitment (Kangas et al. 2016b).

The fishery is managed in accordance with the Shark Bay Prawn Managed Fishery Harvest Strategy 2014 - 2019 to achieve the long and short term management objectives for the fishery. The Harvest Strategy outlines performance indicators, reference levels and harvest control rules designed to maintain the prawn resources at target levels and to achieve the management objectives for the fishery.

The assessment approach is described in Kangas et al. 2016a. For 2015, the western king and brown tiger prawn mean catch rates during the combined recruitment surveys (March and April) in northern Shark Bay were 101.5 kg/hr and 47.2 kg/hr respectively and the catch predictions for western king and brown tiger prawns were 1134 t (905 to 1360 tonnes) and 511 t (410 to 615 tonnes) respectively, for the total fishery. The actual landed catch of western king prawns was well above the predicted range, while the brown tiger prawn landings were within the predicted range.

To control fishing effort and maintain adequate brown tiger prawn breeding stock levels, fishing is delayed on the brown tiger prawn stock by not opening the CPL at the commencement of the season. The aim is to close the north CPL at a target catch rate level of 25 kg/hr and to manage the abundance of brown tiger prawn in the south CPL, particularly if catch rates are low in the north CPL (Kangas et al. 2016a).

There is no evidence of a declining trend in western king prawn recruitment in fishery independent survey indices since 2000 (Kangas et al. 2016b) with the annual recruitment indices being well above the target reference level each year (25 kg/hr), indicating most of recruitment variability is driven by environmental factors. The introduction of seasonal, moon and area-closures since the early 1990's provides additional restriction on the overall fishing effort, which increases protection for the breeding stock (Kangas et al. 2016b). The fishery-independent recruitment survey in 2015 indicated a mean catch rate which was the fourth highest since surveys commenced in 2000 with a catch prediction between 940 and 1410 t. The spawning stock surveys target key brown tiger prawn areas but they also cover some of the western king prawn spawning areas and are considered to be indicative of overall spawning stock abundance for this species (Kangas et al. 2016b). In 2015 the mean spawning stock survey catch rate (mean of 54.1 kg/hr) was the highest since surveys commenced.

Historical catch and catch rates from 1989 to 1998, when it was known that recruitment was not affected by fishing effort, were used as the basis for calculating target catch ranges for western king prawn (950 to 1350 t) and mean catch rate (21 kg/hr; range 16 to 29 kg/hr). Total commercial catch for 2015 of 1633 t was above the target catch range and an overall mean catch rate of 40.7 kg/hr was well above the target and the highest on record. DoF conclude on the basis of this evidence that the biomass is unlikely to be recruitment overfished and that the current level of fishing mortality is unlikely to cause the management unit to become recruitment overfished, and classify western king prawn as a **sustainable stock** (Kangas et al. 2016b).

A spawning stock–recruitment relationship exists for brown tiger prawns and the maintenance of adequate spawning stock (using a target catch rate) is the key management

objective (Kangas et al. 2016b). Brown tiger prawns are managed to reference catch rates and accompanying control rules. A mandatory closure of the brown tiger prawn northern spawning area is enforced on a set date (around June to July), to protect the spawning stock. As fishing ceases, fishery-independent surveys are then conducted to verify catch rates in the northern (as well as the southern) spawning areas.

The June 2015 spawning stock survey showed a mean standardised catch rate of 7.0 kg/hr in the northern spawning area, well below the target level of 25 kg/hr (Kangas et al. 2016b). A survey in August indicated a catch rate of 13 kg/hr just above the limit level (10 kg/hr), so it is still considered that the biomass of this management unit is unlikely to be recruitment overfished and it appears that overall there was an adequate spawning stock during the key spawning period in 2015. This conclusion was supported by very high catch rates of brown tiger prawns in the southern spawning area (148 kg/hr in June and 56 kg/hr in August) which were also protected during the spawning period in 2015 (Kangas et al. 2016b).

The harvest strategy has an annual target catch range of 400 to 700 t for brown tiger prawn. The catch prediction (based on fishery independent recruitment surveys) was 410 to 615 t. The total catch (434 t) was within the target catch range and the catch prediction. The level of fishing effort since 2007, when all boats adopted quad gear (4 standardised nets), has remained between 33 and 41 thousand trawl hours (standardised to twin nets) with fishing effort in 2015 being 40 thousand trawl hours. DoF conclude that the current level of fishing mortality is unlikely to cause brown tiger prawn in the SBPMF to become recruitment overfished and that it is a **sustainable stock** (Kangas et al. 2016b).

**Table 1a. Catch Data (TACs not in place for the fishery) – Brown Tiger Prawn**

TAC	Year	na	Amount	na
UoA share of TAC	Year	na	Amount	na
UoC share of TAC	Year	na	Amount	na
Total green weight catch by UoC (all operators in the fishery are within the UoC)	Year (most recent)	2015	Amount	434 t
	Year (second most recent)	2014	Amount	625 t

**Table 1b. Catch Data (TACs not in place for the fishery) – Western King Prawn**

TAC	Year	na	Amount	na
UoA share of TAC	Year	na	Amount	na
UoC share of TAC	Year	na	Amount	na
Total green weight catch by UoC (all operators in the fishery are within the UoC)	Year (most recent)	2015	Amount	1633 t
	Year (second most recent)	2014	Amount	1282 t

**Table 2. Summary of Assessment Conditions**

Condition number	Performance indicator (PI)	Status	PI original score	PI revised score
1	1.1.2 – brown tiger prawn	On target	75	Not revised
2	1.1.2 – western king prawn	On target	75	Not revised
3	2.2.3	On target	75	Not revised
4	2.3.3	On target	65	Not revised
5	2.4.3	Behind target	65	Not revised
6	3.1.2	Closed (closed at surveillance 1)	75	95

### 3. Assessment Process

The surveillance team met with the client, Shark Bay Prawn Trawler Operators' Association along staff of the Western Australia Department of Fisheries (DoF). The client and Department requested a collective meeting, since the response to the conditions were developed and presented by a coordinated industry / government group.

Discussions covered all issues as laid out in Annex CG of the MSC Certification Requirements, including the principal changes occurring to the fishery within the first year of certification and the outcomes as outlined in the Client Action Plan (CAP) against the conditions set.

The Shark Bay prawn trawl fishery was certified in October 2015 using MSC Version 1.3. The annual audit covers the first Certification period, from 21 October, 2015 to 20 October, 2020.

A wide range of stakeholders were contacted including Government organisations, charitable trusts, academia, recreational fisheries and indigenous groups, as well as NGOs. The full list of stakeholders contacted is shown in Appendix 3.

### 4. Results

Table 3: Condition 1 – Brown tiger prawn

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.1.2	<b>c. The target reference point is such that the stock is maintained at a level consistent with <math>B_{MSY}</math> or some measure or surrogate with similar intent or outcome.</b>	75
<b>Condition</b>	Demonstrate that target reference points are consistent with $B_{MSY}$ or a surrogate.		
<b>Milestones</b>	Year 1: By the first surveillance audit, the fishery client must present evidence that a plan is in place to address this condition. Year 2: By the second surveillance the fishery client must present evidence that the plan has been implemented. Year 3: By the third surveillance audit the fishery client must demonstrate that this condition has been satisfied, at which time the fishery will be scored at least SG80. Year 4: Adequacy of information will be evaluated by the fourth surveillance audit.		
<b>Client action plan</b>	Year 1: Complete data extractions for historical surveys and commercial data from respective databases to develop a combined database for analysis. Year 2: Compare spawning stock and recruitment survey time series of CPUE to ensure that factors impacting catch rates are understood and accounted for. Conduct statistical analyses to develop target reference points. Year 3: Complete statistical analyses and further test that target reference points are appropriate, including consideration of uncertainty in the data (i.e. provide confidence intervals).		
<b>Progress on Condition [Year 1]</b>	WA Fisheries provided the audit team with several background documents to indicate progress (DoF-SBPMF 2016a; DoF-SBPMF 2016b). A steering group has been formed to address all conditions in place for both the EGPMF and the SBPMF. Membership of the Steering Group comprises DoF staff members relevant to the fishery, as well as representatives of the client organisations, the MG Kailis Group and Shark Bay Prawn Trawler Operators' Association. The		

	<p>Group meets quarterly and receives input from the project teams working on each of the conditions. Terms of Reference of the Group have been defined (DoF. 2015).</p> <p>Monitoring of reference levels is also fully reviewed as part of the cycle of management meetings, both reviewing survey data to enact changes to fishing plans to protect Brown Tiger spawning stock in real time and review of the Harvest Strategy over a longer time interval.</p> <p>A single Project Plan for both the EGPMF and the SBPMF (DoF. 2016a) outlines the objectives, scope and approach adopted to addressing the P1 conditions. The initial activities are to assemble and extract data to enable future analysis of reference points.</p> <p>The client has reported that these data extractions have been undertaken and that the data are now in a form that will allow the required analysis to be undertaken in the coming year. The client reports progress for brown tiger prawn as follows:</p> <ul style="list-style-type: none"> <li>• extraction complete, consolidation ongoing, preliminary investigation of uncertainty undertaken for the recruitment survey data.</li> <li>• extraction complete, consolidation ongoing for the spawning stock data.</li> </ul>
<b>Status of condition</b>	The first milestone was met in the 2015/2016 year and progress for the condition is <b>on target</b> .

**Table 4: Condition 2 – Western king prawn**

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	1.1.2	<b>c. The target reference point is such that the stock is maintained at a level consistent with <math>B_{MSY}</math> or some measure or surrogate with similar intent or outcome.</b>	<b>75</b>
<b>Condition</b>	Demonstrate that target reference points are consistent with $B_{MSY}$ or a surrogate.		
<b>Milestones</b>	<p>Year 1: By the first surveillance audit, the fishery client must present evidence that a plan is in place to address this condition.</p> <p>Year 2: By the second surveillance the fishery client must present evidence that the plan has been implemented.</p> <p>Year 3: By the third surveillance audit the fishery client must demonstrate that this condition has been satisfied, at which time the fishery will be scored at least SG80.</p> <p>Year 4: Adequacy of information will be evaluated by the fourth surveillance audit.</p>		
<b>Client action plan</b>	<p>Year 1: Complete data extractions of historical surveys and commercial data from respective databases to develop a combined database for analysis. Examine data series for the current survey sites to see if a subset of these could be representative of a king prawn spawning area. Depending on the success of this exercise, additional or alternative survey sites may be investigated.</p> <p>Year 2: Compare spawning stock and recruitment survey time series of CPUE to ensure that factors impacting catch rates are understood and accounted for. Conduct statistical analyses to develop target reference points.</p> <p>Year 3: Complete statistical analyses and further test that target reference points are appropriate, including consideration of uncertainty in the data (i.e. provide confidence intervals).</p>		
<b>Progress on Condition [Year 1]</b>	As indicated for Condition 1, a single Project Plan for both the EGPMF and the SBPMF (DoF. 2016a) outlines the objectives, scope and approach adopted to addressing the P1 conditions. The initial activities are to assemble and extract data to enable future analysis of reference points.		

	<p>The client has reported that these data extractions have been undertaken and that the data is in now in a form that will allow the required analysis to be undertaken in the coming year. The client reports progress for western king prawn as follows:</p> <ul style="list-style-type: none"> <li>• extraction complete, consolidation ongoing, preliminary investigation of uncertainty undertaken for the recruitment survey data.</li> <li>• Extraction complete, consolidation ongoing for the spawning stock data.</li> </ul>
<b>Status of condition</b>	The first milestone was met in the 2015/2016 year and progress for the condition is <b>on target</b> .

**Table 5: Condition 3**

	<b>Insert relevant PI number(s)</b>	<b>Insert relevant scoring issue/ scoring guidepost text</b>	<b>Score</b>
<b>Performance Indicator(s) &amp; Score(s)</b>	<b>2.2.3</b>	<b>d. Sufficient data continue to be collected to detect any increase in risk to main bycatch species (e.g., due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).</b>	<b>75</b>
<b>Condition</b>	Provide sufficient data to detect any increase in risk to main bycatch species.		
<b>Milestones</b>	<p>Year 1: By the first surveillance audit, the fishery client must present evidence that a plan is in place to address this condition.</p> <p>Year 2: By the second surveillance the fishery client must present evidence that the plan has been implemented.</p> <p>Year 3: By the third surveillance the fishery client must demonstrate that this condition has been satisfied, at which time the fishery will be scored at least SG80.</p> <p>Year 4: Adequacy of information will be evaluated by the fourth surveillance audit.</p>		
<b>Client action plan</b>	<p>Year 1: The Department of Fisheries and the Client will upgrade current programs through implementation of an experimental design to collect bycatch data at temporal and spatial scales sufficient to represent the main finfish and invertebrate assemblages identified in the earlier biodiversity study. The aim of the data collection is to ascertain if there has been any change in composition and catch of the main species compared to that previously determined in the earlier study. Bycatch sampling will at least initially be conducted by upgrading existing fishery independent surveys that are carried out every year (and have Departmental staff on board) on 2-3 occasions per year over two years to generate a data set for comparison against the historical results. This sampling work will be undertaken on commercial (Client) trawl vessels with Departmental staff on board through an ongoing agreement between the Department and the Client, both of whom are integral part of the action plan. The samples will be processed in Perth and the quantities of bycatch determined annually with the ongoing full re-assessment of risk status to occur every three years if the risks remain low; if risk increases above low the re-assessment will occur more frequently.</p> <p>Complete first year of data collection for main bycatch species.</p> <p>Year 2: Complete second year of data collection for main bycatch species. Undertake preliminary checks of data to determine if they are in fact suitable to address potential changes in risk levels. If data looks to be insufficient then plan to collect another year of data and review the program.</p> <p>The intention would then be to continue this periodic re-assessment of risk to the indicator bycatch species in an ongoing manner (e.g. at three yearly intervals or more regularly if the risk level rises).</p> <p>Year 3: Assess catch data for bycatch species against the (i) more intensive, historical biodiversity study and (ii) changes in fleet behaviour over the past ~10 years to determine if risk levels have changed. If there is sufficient uncertainty regarding increased risk, then an ERA will be conducted; this would include consideration of the following.</p>		

	<p>Complete arrangements to maintain ongoing collection of bycatch data at a level sufficient to detect any increased risk to the main bycatch species. If the fishery-independent surveys (i.e. those with Departmental staff) to collect bycatch (non-retained) species composition data 2-3 times per year is insufficient to maintain an acceptable understanding of risk to the main bycatch species the sample size will need to be increased; this may entail investigation of a crew-member observer program (CMOP) as an ongoing sample collection system. Crew-member training in sample collection will be undertaken during this initial period of re-assessment.</p>																						
<p><b>Progress on Condition [Year 1]</b></p>	<p>A Plan is in place (DoF. 2016b). The Plan highlights a number of activities to be completed in 2016 including:</p> <ul style="list-style-type: none"> <li>• 2015 samples from SB (3-4) and EG (2) collected and sorted for all species sampled.</li> <li>• Feb/Mar 16 samples from SB and EG collected and sorted for all species sampled</li> <li>• Data entry completed for samples processed.</li> </ul> <p>Preliminary analysis of first year of sampling undertaken with a review of the appropriateness of the sampling plan and focus on indicator species. DoF-SBPMF (2016b) describes the actions taken in respect to annual bycatch sampling. The sampling was undertaken on commercial trawl vessels by Departmental staff on board and processed at the DoF Research Centre in Perth. The commitment is to sample over the next two years (CAP) to generate a data set for comparison against the historical results. DoF (2016b) reports that: 10 sites were sampled in: Nov 2014, June 2015, Nov 2015, March 2016 and June 2016; all bycatch from one net (boat towing 2 nets) was sampled, but excluding target prawns species and scallops and sponges. Large species not suitable for boxing i.e. rays and protected species were retained and sorted and each species counted and weighed in the laboratory. At the time of this audit 132 fish species (21,577 individuals) and 60 invertebrate species (9,768 individuals) were identified. As yet, there have been no estimates on the weight of bycatch relative to total catch. Early indications are that the bycatch volume data and composition looks unchanged from the 2002-2003 sampling.</p> <table border="1" data-bbox="384 1178 1393 1753"> <thead> <tr> <th data-bbox="384 1178 900 1218">10 Most Common Fish</th> <th data-bbox="900 1178 1393 1218">10 Most common Invertebrates</th> </tr> </thead> <tbody> <tr> <td data-bbox="384 1218 900 1258"><i>Upeneus asymmetricus</i> – asymmetrical goatfish**</td> <td data-bbox="900 1218 1393 1258"><i>Metapenaeopsis crassissima</i> – Coral Prawn**</td> </tr> <tr> <td data-bbox="384 1258 900 1299"><i>Leiognathus leuciscus</i> – ponyfish**</td> <td data-bbox="900 1258 1393 1299"><i>Portunus rubromarginatus</i> – crab**</td> </tr> <tr> <td data-bbox="384 1299 900 1339"><i>Paramonacanthus choirocephalus</i> – leathjacket**</td> <td data-bbox="900 1299 1393 1339"><i>Portunus rugosus</i> – crab**</td> </tr> <tr> <td data-bbox="384 1339 900 1379"><i>Pelates quadrilineatus</i> – trumpeter**</td> <td data-bbox="900 1339 1393 1379"><i>Metapenaeus endeavouri</i> – prawn**</td> </tr> <tr> <td data-bbox="384 1379 900 1420"><i>Saurida undosquamis</i> – large scaled grinner**</td> <td data-bbox="900 1379 1393 1420"><i>Eduarctus martensii</i> – slipper lobster**</td> </tr> <tr> <td data-bbox="384 1420 900 1460"><i>Lethrinus genivittatus</i> – threadfin emperor**</td> <td data-bbox="900 1420 1393 1460"><i>Metapenaeopsis rosea</i> – coral prawn</td> </tr> <tr> <td data-bbox="384 1460 900 1500"><i>Callionymus goodladi</i> – stinkfish**</td> <td data-bbox="900 1460 1393 1500"><i>Metapenaeus dalli</i> – school prawn**</td> </tr> <tr> <td data-bbox="384 1500 900 1541"><i>Paracentropogon vespa</i> – bullrout**</td> <td data-bbox="900 1500 1393 1541"><i>Trachypeaneus granulosus</i> – prawn</td> </tr> <tr> <td data-bbox="384 1541 900 1581"><i>Torquigener hicksi</i> – blowfish+</td> <td data-bbox="900 1541 1393 1581"><i>Philine</i> sp. -**</td> </tr> <tr> <td data-bbox="384 1581 900 1621"><i>Engyproson grandisquama</i> – flounder**</td> <td data-bbox="900 1581 1393 1621"><i>Sepia pharaonis</i> – cuttlefish</td> </tr> </tbody> </table> <p data-bbox="384 1760 411 1787">☐</p> <p data-bbox="384 1816 916 1843">**most common in 2002-03 + - new species</p> <p data-bbox="384 1877 1362 1966">The schedule expected outputs for the programme are outlined below along with a schedule of for all activities (DoF. 2016b). The activities are to be completed November, 2018.</p>	10 Most Common Fish	10 Most common Invertebrates	<i>Upeneus asymmetricus</i> – asymmetrical goatfish**	<i>Metapenaeopsis crassissima</i> – Coral Prawn**	<i>Leiognathus leuciscus</i> – ponyfish**	<i>Portunus rubromarginatus</i> – crab**	<i>Paramonacanthus choirocephalus</i> – leathjacket**	<i>Portunus rugosus</i> – crab**	<i>Pelates quadrilineatus</i> – trumpeter**	<i>Metapenaeus endeavouri</i> – prawn**	<i>Saurida undosquamis</i> – large scaled grinner**	<i>Eduarctus martensii</i> – slipper lobster**	<i>Lethrinus genivittatus</i> – threadfin emperor**	<i>Metapenaeopsis rosea</i> – coral prawn	<i>Callionymus goodladi</i> – stinkfish**	<i>Metapenaeus dalli</i> – school prawn**	<i>Paracentropogon vespa</i> – bullrout**	<i>Trachypeaneus granulosus</i> – prawn	<i>Torquigener hicksi</i> – blowfish+	<i>Philine</i> sp. -**	<i>Engyproson grandisquama</i> – flounder**	<i>Sepia pharaonis</i> – cuttlefish
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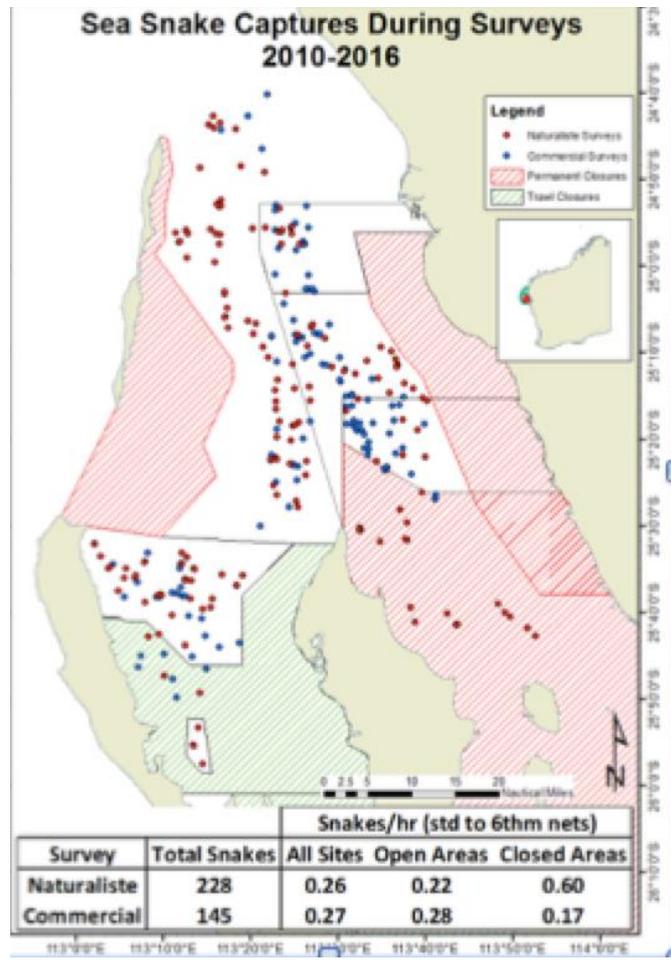
	The key outputs for the project are:		
	<b>Deliverable</b>	<b>Responsible Officer</b>	
	To determine if there has been any change in composition and catch of the main (indicator) bycatch species compared to that previously determined in the trawl biodiversity study conducted between 2002 and 2004 in SB and EG.	Mervi Kangas	
	Re-assessment of risk to the indicator bycatch species in SB and EG.	Mervi Kangas and Lynda Bellchambers	
	Develop a cost-effective, appropriate plan to determine the risks to the indicator bycatch species in an ongoing manner (e.g. at three yearly intervals or more regularly if the risk level rises).	Mervi Kangas	
	<b>Completion date</b>	<b>Condition Activities</b>	<b>Responsible Officer</b>
	31 July 16	2015 samples from SB (3-4) and EG (2) collected and sorted for all species sampled.	Dean Meredith/Sharon Wilkin
	23 Sep 16	Feb/Mar 16 samples from SB and EG collected and sorted for all species sampled	Sharon Wilkin
	20 Oct 16	Data entry completed for samples processed.	Sharon Wilkin
	15 Nov 2016	Preliminary analysis of first year of sampling undertaken with a review of the appropriateness of the sampling plan and focus on indicator species.	Mervi Kangas and Eva Lai
15 June 17	End of season 16 and start of season 17 samples collected in SB and EG sorted and counted and weighed for indicator species.	Sharon Wilkin	
15 Nov 2017	Mid-season sampling in SB and end of season sampling in EG undertaken with sorting for indicator species ongoing. Data analysis for 15/16 sampling undertaken with assessment of risk to bycatch species and determination of appropriateness of scale of sampling program.	Mervi Kangas and Eva Lai	
31 July 2018	End of 17 season sampling in SB and start of 18 seasons in SB and EG sampling and sorting completed.	Sharon Wilkin	
15 Nov 2018	Full analysis of all data and risk assessments completed and evaluation of future requirements for bycatch monitoring.	Mervi Kangas	
<b>Status of condition</b>	The first milestone was met the year 2015/2016 and progress for the condition is <b>on target</b> .		

**Table 6: Condition 4**

	<b>Insert relevant PI number(s)</b>	<b>Insert relevant scoring issue/ scoring guidepost text</b>	<b>Score</b>
<b>Performance Indicator(s) &amp; Score(s)</b>	<b>2.3.3</b>	<b>a. Sufficient information is available to allow fishery related mortality and the impact of fishing to be quantitatively estimated for ETP species. b. Information is sufficient to determine whether the fishery may be a threat to protection and recovery of the ETP species.</b>	<b>65</b>
<b>Condition</b>	Provide relevant information to support the management of fishery impacts on ETP species, including: <ul style="list-style-type: none"> <li>Sufficient information to allow fishery related mortality and the impact of fishing to be quantitatively estimated; and</li> <li>Sufficient information to determine whether the fishery may be a threat to protection and recovery of the ETP species, with a focus on sea snakes and sea turtles.</li> </ul>		
<b>Milestones</b>	Year 1: By the first surveillance audit, the fishery client must present evidence		

	<p>that a plan is in place to address this condition.</p> <p>Year 2: By the second surveillance the fishery client must present evidence that the plan has been implemented.</p> <p>Year 3: By the third surveillance the fishery client must demonstrate that this condition has been satisfied, at which time the fishery will be scored at least SG80.</p> <p>Year 4: The adequacy of information will be evaluated by the fourth surveillance audit.</p>
<p><b>Client action plan</b></p>	<p>Year 1: The Department will review current programs to upgrade education for industry (Client) to increase awareness of the importance of sea snake protection, to promote sensible handling techniques and improve species identification through training in sea snake identification to the species level. Training will be undertaken to address options for determining the species of snake caught and crew safety.</p> <p>The Department will also improve its ability in species identification utilizing external expertise. This will include identifying (i) the current methods used to deal with sea snakes and (ii) relevant methods/tools, reference material and availability of expertise. Preliminary work on testing of photography as a tool to assist with species identification has already been implemented as part of the Bycatch Action Plan (DoF. 2014).</p> <p>The focus on sea snakes is part of a broader commitment by the Department and the Client to develop protocols to improve consistency of reporting for all ETP species interactions in the fishery including:</p> <ul style="list-style-type: none"> <li>(a) species-level identification training for skippers / crew;</li> <li>(b) independent monitoring to validate crew reporting (e.g. program using cameras or observers);</li> <li>(c) engagement with external stakeholders and experts to provide estimates of fishery-related mortality of seasnakes within Shark Bay; and</li> <li>(d) providing interactions with ETP species to the Department of Parks and Wildlife and the Commonwealth Department of the Environment to assist with evaluation of whether impacts to ETPs species' populations are unacceptable.</li> </ul> <p>The Client is also committed to further developing and testing the effectiveness of BRDs in reducing ETP interactions in the fishery.</p> <p>Year 2: Complete second year of data collection. The Department will document outcomes of the data collection from the first year and in consultation with the Client will scope methods to implement ongoing quantification and identification of ETP species interactions. Annual updates on interactions with ETP species will be provided to the Department of Parks and Wildlife, the Commonwealth Department of the Environment and other stakeholders such as the WA Conservation Council and the Shark Bay World Heritage Advisory Committee.</p> <p>Year 3: Analyse data and assess against most up to date information available for ETP species of concern, in particular for sea snakes and sawfish, to determine if the fishery is having a significant impact on ETP species' populations. The Department will engage with other relevant agencies and stakeholders to discuss findings, including conducting an ERA on sea snakes.</p>
<p><b>Progress on Condition [Year 1]</b></p>	<p>A Plan is in place (DoF. 2016c). The Plan highlights a number of activities to be completed in 2016 including:</p> <ul style="list-style-type: none"> <li>• Review of current level of industry knowledge and reporting for SS and SF.</li> <li>• Development of educational material and learning opportunities (ETP species guide, broader workshop, additional materials etc.).</li> <li>• Provision of draft ETP species guide for fisher comment.</li> <li>• Development of SF and SS safe handling procedures to ensure fisher and ETP well-being.</li> <li>• SS ID and live training workshop(s) on-site</li> <li>• Provision of training to Departmental staff</li> <li>• Review of whether educational materials and SS workshop are fit-for-purpose and revise material as appropriate.</li> <li>• Development of framework for regular annual training.</li> </ul> <p>The Department reported that they had encountered five species of seasnake</p>

during their experimental surveys: *Hydrophis elegans*, *Hydrophis major*, *Aipysurus foliosquama*, *Aipysurus pooleorum*, *Emydocephalus annulatus* (DoF. 2016f). Seven species have been recorded in Shark Bay ((Storr *et al.* 2002). The survey work relies on the use of Photographic/photo log evidence, and follows the identification process first adopted in August 2014.



Identifications made from photos are currently being verified by taxonomists, which coupled with the total number of interactions, can be used to extrapolate the breakdown of the species compliments in the trawl grounds. This is linked with metadata on date / time / location / shot duration / species / dead or alive. In order to increase awareness of the importance of sea snake protection the Department has developed material to aid fishers in reporting any interactions they have with ETP species (The Marine Protected Species Identification Guide). This guide is based around detailed illustrations and photographs of many of the marine protected species that may interact with the State's fisheries. All major groups are covered, including marine mammals, reptiles, sea and shorebirds as well as protected species of bony fish and elasmobranchs.

The Department, supported by funding from Coles/WWF Sustainable Seafood Grant, has also developed industry educational material (DoF. 2016g). This was supported using expertise from Adelaide University. The supporting material identifies sea snake species and also deals with safe handling practices. The aim of this project is to promote and facilitate the safe handling and awareness of sea snakes in the Prawn fisheries of Shark Bay (and Exmouth Gulf). The means by which this has been achieved is through training seminars specifically tailored to those locations delivered at regional centres operating as the fisheries' bases. Seminars engaged directly with members of the fishing crews who deal with the snakes on a day-to-day basis, and were tailored to meet the

needs of those crew-members.

The primary focus of the seminars was the safe handling of the snakes, with the specific intention of maximising the safety of the crew while minimising harm to the snakes. This was designed to raise the awareness and appreciation for sea snakes within the fisheries, and to enhance future reporting as well future research goals through fishery/research/management linkages. A second point of training was the identification of the most common species in the fishery. The next tranche of materials will be focussed on making species-level identifications practicable.

In addition to achieving the primary goals above, the project has had several other additional benefits (DoF-SBPMF. 2016b) including: The forging of positive cooperative links among industry, regulators and research institute with the common goal of improving ETP conservation efforts and deconstructing perceived barriers; and identifying specific members of the fishery that have an interest and aptitude for ETP work to engage with on ongoing and more advanced projects.

Completed milestones to date include the training material for the workshops has been compiled, including the collation of species lists, presentation material and reference material. This material has been stored for use in future training exercises for this and other fisheries in the state; and delivery of training seminars on-site in Carnarvon for trawl crew. Delegates from DoF and DPaW regional offices were all in attendance.

Repeat of training seminars are to be held in Perth for relevant Department of Fisheries and DPaW staff. DoF and DPaW will also review the training materials for improvement and refinement. It is also planned to generate a stock of video material to compile a permanent training aid. The Industry has seen clear benefits to the project and has expressed interest in incorporating this and similar ETP training into their annual crew training package.

Following on from this work, the Department and Association propose to investigate the feasibility for establishing a Crew Member Observer Programme (DoF. 2016g).

It is noteworthy that researchers at the Australian Institute of Marine Science (AIMS) are currently working on a program through the National Environmental Science Program (NESP) to explore the status of Western Australian sea snakes, along with their related mortalities. Initial phases of the project, which are already underway, are collating all of the available data on sea snakes of the region to provide a synthesis of species compliment, abundance, distributions and threatening processes. This research is designed to guide future research, species' conservation status' and management actions. DoF also proposes to assess fishery related mortality for sea snakes using the methodology employed in the Northern Prawn Fishery and documented in Zhou, Milton and Fry, *Integrated risk analysis for rare marine species impacted by fishing: sustainability assessment and population trend modelling*, (2012).

Preliminary examination of the available data indicates that this technique should be appropriate.

Five sawfish were identified from the ETP logbook returns (DoF-SBPMF. 2016b), with three released alive. Sawfish have been included in the overall focus on improving reporting ETP species interactions. This includes improving reporting accuracy as well as provision of identification material in the form of the Draft Marine Protected Species Identification Guide. While the educational program in the first audit period has been piloted using sea snakes, this will be broadened to particularly include sawfish into the future. This will involve provision of more detailed identification material and training, as well as engagement with the fishers to provide greater resolution on the sawfish species they catch in the nets.

Due to expectedly low encounter rates, sawfish have not been captured in research trawls. As such, no useable information on species composition has been gained from this source. The number of captures reported by the commercial fishery in 2014 and 2015 have been collected and updated in this document, as well as through the Department's other reporting mechanisms.

<b>Status of condition</b>	The first milestone was met in the 2015/2016 year and progress for the condition is <b>on target</b> .
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**Table 7: Condition 5**

	<b>Insert relevant PI number(s)</b>	<b>Insert relevant scoring issue/ scoring guidepost text</b>	<b>Score</b>
<b>Performance Indicator(s) &amp; Score(s)</b>	<b>2.4.3</b>	<p><b>b. Sufficient data are available to allow the nature of the impacts of the fishery on habitat types to be identified and there is reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear.</b></p> <p><b>c. Sufficient data continue to be collected to detect any increase in risk to habitat (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures)</b></p>	<b>65</b>
<b>Condition</b>	Provide sufficient data to allow the nature of the impacts of the fishery on habitat types to be identified and provide reliable information on the spatial extent of interaction, and the timing and location of use of the fishing gear. Collect sufficient data to detect any increase in risk to habitat.		
<b>Milestones</b>	<p>Year 1: By the first surveillance audit, the fishery client must present evidence that a plan is in place to address this condition.</p> <p>Year 2: By the second surveillance the fishery client must present evidence that the plan has been implemented.</p> <p>Year 3: By the third surveillance the fishery client must demonstrate that this condition has been satisfied, at which time the fishery will be scored at least SG80.</p> <p>Year 4: The adequacy of information will be evaluated by the fourth surveillance audit.</p>		
<b>Client action plan</b>	<p>Year 1: The full assessment draft report has not identified any increased risk to habitat from existing fishing activities, which are well below historical levels of trawl effort. Previous biodiversity studies have shown that there was no significant impact of trawling on the fish and invertebrate communities of Shark Bay, which indicates that there would be unlikely to be any long term damage to the benthic habitats that these communities occupy. DoF will assign appropriate staff to review the issues and develop a plan in consultation with the client. Implementation will get picked up in surveillance</p> <p>Although management measures are in place to restrict the extent of trawling on benthic habitats, periodic checks on habitat will contribute to ongoing risk assessments. The Department and the Client will develop methods to cost effectively monitor habitats types in Shark Bay into the future. In addition, existing habitat data for Shark Bay will be sourced so as to redraw maps using a contemporary software platform that permits overlay of the trawl location data which is collated annually. Analysis of the spatial extent of key habitats and monitoring the extent of trawling will permit an examination of risk levels posed by interaction of fishing gear with benthic habitats. The results of the first year of trial-sampling will be completed by the first audit.</p> <p>Year 2: The Department and the Client will use the assessment of habitat data to develop cost—effective methods for remote sampling of habitat throughout Shark Bay to obtain an updated habitat map. If remote sampling methods appear a feasible option, then sampling could be conducted for ground-truthing; in the first ground-truth sampling year this would aim at wide coverage.</p> <p>Year 3: Complete the review of second year of ground-truthing at a more detailed level in specified habitat areas as identified from analysis of the</p>		

	<p>broader-scale ground-truthing. This will allow completion of a validated benthic habitat map against which to examine the extent of trawling. In turn, this will provide the basis for assessing the risk level for key habitats.</p>
<p><b>Progress on Condition [Year 1]</b></p>	<p>A Plan is in place (DoF. 2016d). The Plan highlights a number of activities to be completed in 2016 including:</p> <ul style="list-style-type: none"> <li>• Identify, source and collate existing benthic habitat maps and data for Exmouth Gulf and Shark Bay into a contemporary geospatial database format. Including, where available; biotic and abiotic features, areas of high conservation value, high-value assets, marine reserves, and specific-use areas.</li> <li>• Identification (with consultation) of “key habitats” within those spatial data sets.</li> <li>• Collate time series VMS trawl footprint data for Exmouth Gulf and Shark Bay into a contemporary geospatial database for analysis of impacts to benthic habitats caused by trawling including frequency of disturbance. (by September 2016).</li> <li>• Develop datasets on benthic habitat types within trawl footprint (and directly adjacent) based on currently available data. (by end of November 2016).</li> <li>• Based on outcomes of desktop study and identification of key areas, compare the trawl data sets with “key habitats” to identify any areas of overlap or conflict which may result in impacts on those “key habitats”. (by end of November 2016).</li> <li>• Establish the percentage of total area occupied by these ‘key habitats’ in the wider Bay that is impacted by trawling (by end of November 2016).</li> <li>• Verify findings in consultation with Department of Parks and Wildlife. (by end of November 2016).</li> <li>• Develop methodology for development of datasets on benthic habitat types within trawl footprint (and directly adjacent) based on currently available data. (by December 2016).</li> </ul> <p>The spatial extent of effort for the SBPMF is monitored through compulsory fishery dependent daily logbooks and the Departments vessel monitoring system (DoF-SBPMF. 2016b). For the daily logbooks, fishers are required to record the start location of each trawl shot (latitude and longitude) along with the temporal duration of the shot (minutes) and catch of species. The spatial reporting arrangements of this fishery require a start location of each shot to be recorded. There is no directional information of the trawl for the duration of the shot. To reduce uncertainty around the spatial extent of the fishery a data review is underway to assess the feasibility of combining locational data from the Departments commercial vessel monitoring system and the fishery dependent daily log book. If feasible, combining the two data sets will allow for greater spatial resolution of movement of vessels whilst trawling and therefore a greater resolution on spatial effort within the fishery. Preliminary results from the study will be available by the second audit period.</p> <p>Benthic habitat data for the SBPMF have been collated from existing information. The map developed by CALM (1996) has the largest spatial coverage to assess fishery and habitat associations for the SBPMF. Mapping of the Shark Bay Marine Park is currently under review by the Department of Parks and Wildlife (K Murray 2016, pers. comm). Current habitat data is largely limited to the Shark Bay Marine Park, with a paucity of habitat data for the SBPMF outside this area. The Department is also currently reviewing cost effective options to value add to the habitat data available in the SBPMF, including satellite imagery and acoustic sounding, with results of the review available in subsequent audits. A project to increase habitat monitoring in Exmouth Gulf has recently been submitted to the FRDC for funding consideration. If granted, the outcomes of the project will include the development of a comprehensive GIS environment, with all available historical habitat and environmental data for Exmouth Gulf and Shark Bay ecosystems, and the development of new habitat maps for these regions.</p>

	<p>Comparisons of habitat and trawl effort will be assessed using the habitat data provided in CALM (1996), or more recent data if available, and the estimated trawl effort based on the combined fishery dependent logbook and vessel monitoring system, when available, to provide the best estimate of effort over habitats. Further refinement and updating of the habitat categories and boundaries are currently being reviewed by the Department, which would increase confidence and accuracy of fishery and habitat associations. Results of this research and review will be available in subsequent audits (DoF. SBPMF. 2016b).</p> <p>Analysis of trawl footprint data for multiple years for both EGPMF and SBPMF, is ongoing. The data have been collated for Exmouth Gulf and Shark Bay and are currently being reviewed to enable efficient combination of the two datasets and comparison against existing benthic habitat mapping described above. DoF have undertaken considerable work in the past 12 months to address the condition. Progress has been made against several of the activities indicated above. The compilation of a geospatial database of habitats has not yet been completed for the 1<sup>st</sup> audit and will require further work in the coming year. In addition, there has been no trial sampling undertaken in Shark Bay. A field survey was undertaken between the 27th Sept and 7th October 2016 to trial sampling of habitat data in the EGPMF, however, equipment failure meant the planned data collection did not take place. The aim is to repair equipment and retrial sampling techniques before the second audit period.</p>
<b>Status of condition</b>	Several activities relating to milestone 1 are not scheduled to be completed until November 2016, and therefore achievement of the first milestone is <b>behind target</b> .

**Table 8: Condition 6**

<b>Performance Indicator(s) &amp; Score(s)</b>	<b>Insert relevant PI number(s)</b>	<b>Insert relevant scoring issue/ scoring guidepost text</b>	<b>Score</b>
	<b>3.1.2</b>	<b>c. The consultation process provides opportunity for all interested and affected parties to be involved.</b>	<b>75</b>
<b>Condition</b>	Demonstrate that the consultation process provides opportunity for all interested and affected parties to be involved.		
<b>Milestones</b>	<p>Year 1: By the first surveillance audit, the fishery client must present evidence that a plan is in place to address this condition.</p> <p>Year 2: By the second surveillance the fishery client must present evidence that the plan has been implemented.</p> <p>Year 3: By the third surveillance the fishery client must demonstrate that this condition has been satisfied, at which time the fishery will be scored at least SG80.</p> <p>Year 4: The adequacy of information will be evaluated by the fourth surveillance audit.</p>		
<b>Client action plan</b>	<p>Year 1: The Department and Client will extend stakeholder participation to provide greater opportunities for interested and affected parties to provide input into management arrangements for the Shark Bay Prawn Fishery. New processes to be developed will be two regular forums with key stakeholders:</p> <ol style="list-style-type: none"> <li>1. Invitation to six (6) monthly or annual briefings and discussion with governing bodies of the State Marine Park and World Heritage areas that neighbour and overlap with the Shark Bay Prawn fishery's operations, the Department of Parks and Wildlife and the Shark Bay World Heritage Advisory Committee. Briefings may include presentations from the Department of Fisheries in relation to research, fisheries and ecosystem management as well as compliance matters, and will also include representations from industry (Client and /or WAFIC) and will provide opportunity for two-way communication and information sharing.</li> <li>2. Invitation to annual briefings between the Department of Fisheries and the Gascoyne Development Commission (which incorporates representation from the Carnarvon and Shark Bay Shire Councils), local community interests and other stakeholders to be identified (such as indigenous groups). Briefings may</li> </ol>		

	<p>also representation from industry (i.e. WAFIC and/or the client) and will provide an opportunity for two way communication and information sharing.</p> <p>3. Further to this, the Department will seek to broaden stakeholder participation through providing opportunities for comment and feedback on key fisheries policy matters and initiatives. This will include direct consultation with the stakeholders and/or notification of public comment opportunities through the Department's website.</p> <p>Year 2: Review new consultation process implemented in year 1 and amend as required.</p> <p>Year 3: The Department and Client to provide evidence that consultation arrangements have been reviewed and new processes implemented to broaden stakeholder consultation.</p>
<p><b>Progress on Condition [Year 1]</b></p>	<p>A Plan is in place (DoF. 2016d). The Plan highlights a number of activities to be completed in 2016 including:</p> <ul style="list-style-type: none"> <li>• Review CAB feedback across numerous WA fisheries with regard to Performance Indicator 3.1.2.</li> <li>• Identify fishery specific interested and affected parties: <ul style="list-style-type: none"> <li>○ Who are they;</li> <li>○ Level of interest;</li> <li>○ Areas of interest relevant to the fishery;</li> <li>○ Potential representatives.</li> </ul> </li> <li>• Outline current fishery specific consultation arrangements.</li> <li>• Review agency wide consultation protocols (i.e. SLA) to identify aspects of current engagement that are <b>already</b> and that <b>could be</b> extended to non-fishers.</li> <li>• Investigate existing forum structure held by governing bodies of Marine Park &amp; World Heritage areas to evaluate opportunities for offering attendance and/or briefings.</li> <li>• Develop protocols that outline opportunities for communication and information sharing and information to be shared.</li> <li>• Outline strategies and opportunities to incorporate into fishery specific consultation processes that provide opportunity to non-fisher groups (interested and affected parties)<sup>1</sup>.</li> <li>• Develop communication package modifiable to suit the needs of specific groups.</li> <li>• Implement revised consultation arrangements.</li> </ul> <p>The Department developed and implemented a <i>Stakeholder Engagement Guideline</i> (SEG) that reflects best practice public policy and meets the MSC standard and the future needs under the proposed new Aquatic Resources Management Act (ARMA). A list of guiding questions used for the identification of key stakeholders was developed.</p>

<sup>1</sup> Important to take note of outcomes of agency-wide project

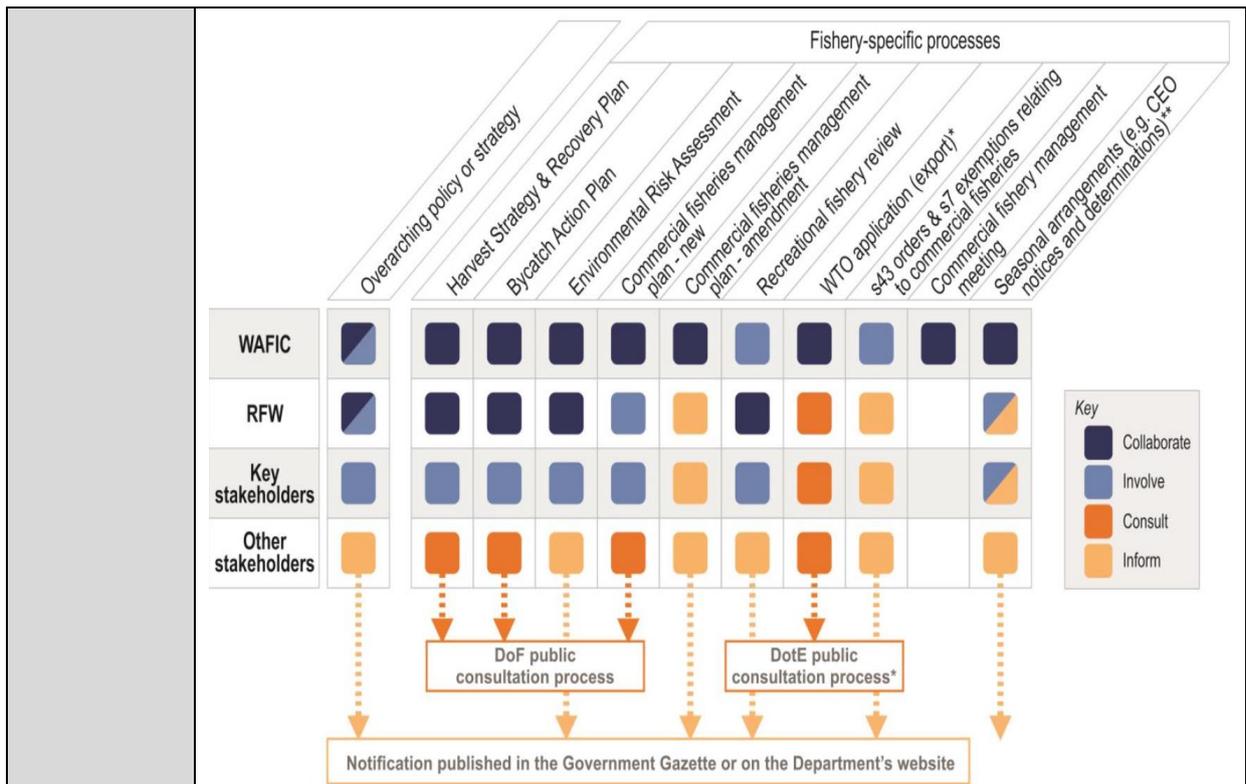
Guiding questions Key Stakeholder	
Is the proposal, issue or proposed change likely to:	
Affect commercial fishers, pearlers or aquaculture venture operators?	WAFIC/sector bodies / licence holders
Affect recreational fishers or fishing charter operators?	Recfishwest / fishing charter operators
Affect interests associated with Native Title or customary fishing rights or an Aboriginal community?	Native Title representative bodies (including the prescribed Body Corporate) / Department of Aboriginal Affairs (DAA)/or other structure <sup>3</sup>
Have a material effect on the environment?	Conservation sector NGOs
Have an effect on environmental or cultural values of the Houtman Abrolhos Islands?	Houtman Abrolhos Islands Bodies Corporate
Have an effect on World Heritage sites or values?	World Heritage Committee (WHC)
Affect the community (e.g. by affecting social use-related activities)?	Local Government (e.g. council, shire)
Affect WA Marine Park / Reserve values or have implications for an endangered, threatened or otherwise protected species/community?	Department of Parks and Wildlife (DPaW)
Have implications for conserving, protecting and managing water resources?	Department of Water (DoW)
Have implications for Rottnest Island Marine Reserve values?	Rottnest Island Authority (RIA)
Have implications for Swan Canning Riverpark values?	Swan River Trust (DPaW)
Affect Environmental Values established for Cockburn Sound?	Cockburn Sound Management Council
Have implications for a Joint Managed or Commonwealth fishery?	Australian Fisheries Management Authority (AFMA - Commonwealth)
Have implications for matters of national environmental significance (MNES) under the EPBC Act?	Department of the Environment (DotE - Commonwealth)

During the consultation phase (Jan-Mar) more than 25 non-fisher stakeholders were contacted by DoF resulting in 24 interviews with representatives from 20 organisations (including conservation sector NGO's, other government departments, catchment councils, community and Aboriginal groups). Meetings with WAFIC and RFW as the peak bodies for the commercial and recreational fishing sectors were also held.

A summary of the comments was presented and discussed during a Steering Group meeting in March before a conceptual guideline was developed. The Draft SEG was sent out for key stakeholder consultation in May 2016 to all stakeholders who participated during the consultation phase. WAFIC and RFW were also provided with an opportunity to provide comment (June 2016).

All comments were considered and a final draft was approved by the Director General in July. The guideline (DoF, 2016i) was published on the Department's website (<http://www.fish.wa.gov.au/About-Us/News/Pages/New-framework-to-strengthen-community-engagement.aspx>) in August 2016 and a communications plan was developed to facilitate and audit the implementation process.

The guideline suggested levels of stakeholder engagement for each stakeholder group and for each of a number of key processes associated with the management of the State's fisheries and aquatic resources.



All stakeholders who had participated in the project received notification by email and those that had provided comments on the Draft were additionally provided with information on how their comments had influenced the outcome.

To broaden stakeholder participation on key fisheries policy matters and initiatives, the Department of Fisheries has created a public comment space on its website. This allows all interested and affected parties to view information and make submissions on draft documents released for public comment for specified periods of time. Key stakeholders are invited directly to provide comment through this forum.

The public consultation space can be accessed at the following web address:

<http://www.fish.wa.gov.au/About-Us/Public-Comment/Pages/default.aspx>,

This shows all of the documents currently open for public comment.

Further to the above, a Stakeholder Engagement Project specific to the EGPMF and SBPMF fisheries was developed to improve non-fisher stakeholder consultation processes (referenced above). Below is a summary of fishery specific consultation during 2016.

- The Department initiated the establishment of an Annual Management Meeting between the Department, WAFIC and industry. The inaugural meeting was held 11 August 2016.
- Fishery-specific stakeholder lists have been developed in an effort to implement the new SEG (referred above) and for each stakeholder group on the list the 'area of interest' and 'level of interest' has been described.
- The governing bodies of the State Marine Park and World Heritage Areas relevant to both fisheries (Conservation and Parks Commission, Department of Parks and Wildlife (DPaW), the two World Heritage Advisory Committees), and the Shires of Shark Bay and Exmouth have been identified as key (non-fisher) stakeholders affected by the SBPMF.
- The Department has established the key contacts within these stakeholder groups to develop processes for opportunity to be involved in or informed of management decisions where relevant.
- A number of discussions were held with staff relevant to the governing bodies of the relevant State Marine Park and World Heritage Areas (DPaW & DoFa, 2015) to develop strategies for better collaboration and communication with these key stakeholders going forward.

	<ul style="list-style-type: none"> <li>A fishery-specific communication protocol has been developed between DoF and DPaW (DPaW &amp; DoF, 2016) to provide for two way communication and sharing of information to support effective management of prawn trawling activities within and adjacent to the Shark Bay and Ningaloo Marine Parks and Muiron Islands Marine Management Area. The scope of this protocol includes the Exmouth Gulf and Shark Bay Prawn trawl fisheries; and the Shark Bay and Ningaloo Marine Parks and Muiron Islands Marine Management Area. Over time the scope of this communication protocol may develop to address communication and information sharing for a range of commercial and recreational fisheries management issues relevant to the Gascoyne marine reserve network, and Shark Bay and Ningaloo Coast World Heritage Areas.</li> <li>The Department attended the inaugural joint Ningaloo Coast and Shark Bay World Heritage Advisory Committee Meeting held in Carnarvon on 21 September to brief the committees regarding the management of the SBPMF, EGPMF, and discuss ongoing communication with these committees.</li> <li>The trawl team liaised with Recfishwest on a number of occasions during the 2016 season to discuss priorities and in-season fishing arrangements that may be of interest to recreational fishers.</li> </ul> <p>Lists of stakeholders consulted or fishery specific issues has been provided (DoFj &amp; k, 2016)</p>
<b>Status of condition</b>	Milestones 1, 2, and 3 were met in the 2015/2016 year, which satisfied the scoring requirement ' <i>The consultation process provides opportunity for all interested and affected parties to be involved</i> '. This condition is <b>closed</b> . Refer to the full evaluation table in Appendix 1 for the revised scoring. (The PI was scored at 95 because there was insufficient evidence that explains how the information is used or not used.)

**Table 9: Recommendation 1**

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	2.1.1	N/A	90
<b>Recommendation</b>	Strengthen the basis to support knowledge of the impact of the fishery on retained species other than brown tiger prawn and western king prawn. A substantial amount of fishery-independent information has been collected from spawning stock and recruitment surveys of the fishery. Analysis of this information has the potential to improve on the current catch-based reference levels adopted in the SBPMF harvest strategy.		
<b>Milestones</b>	N/A		
<b>Client action plan</b>	N/A		
<b>Progress on Recommendation [Year 1]</b>	Main retained species Saucer Scallops and Blue Swimmer crabs form the basis of other formally managed fisheries and are managed as such. An update on recent management changes in those fisheries is available in documentation provided to the audit team and further information is available on request. Minor retained species continue to be managed according to the existing catch-based reference levels stated in the harvest strategy. The relatively low catches of these species has meant that they are not currently a priority for more in-depth stock assessment methods.		
<b>Status of recommendation</b>	N/A		

**Table 10: Recommendation 2**

Performance Indicator(s) & Score(s)	Insert relevant PI number(s)	Insert relevant scoring issue/ scoring guidepost text	Score
	2.3.1	N/A	90
<b>Recommendation</b>	Evaluate the direct effects of prawn trawling on ETP species, with emphasis on sea snakes.		

<b>Milestones</b>	N/A
<b>Client action plan</b>	N/A
<b>Progress on Recommendation [Year 1]</b>	The existing ETP project framework covers EG and SB and incorporates work on PIs 2.3.1 and 2.3.3. The data collection components cover both fisheries, 2.3.1 should be addressed in SB as well as EG. It is recommended that SB develop the strategy to ensure that there is evidence that localized depletion does not occur, or if it does, that is not a problem for the stock. If a problem is identified, the SB fishery will need to further evaluate gear selectivity issues. These activities will need to be implemented within the time frame of the current assessment. Attention is drawn to the work of Wakefield et al in respect to mitigation of sea snake interactions (EG Annual audit, 2016).
<b>Status of recommendation</b>	N/A

**Table 11: Recommendation 3**

<b>Performance Indicator(s) &amp; Score(s)</b>	<b>Insert relevant PI number(s)</b>	<b>Insert relevant scoring issue/ scoring guidepost text</b>	<b>Score</b>
		<b>2.4.1</b>	<b>N/A</b>
<b>Recommendation</b>	An explicit reference to habitats in the Bycatch Action Plan and define a limit set for prawn trawl footprint.		
<b>Milestones</b>	N/A		
<b>Client action plan</b>	N/A		
<b>Progress on Recommendation [Year 1]</b>	The BAP will be updated with an explicit reference to habitat. This will be performed in conjunction with any other revisions that are also required. Likely to occur in audit period 2 or 3. The trawl footprint limit will be informed by results of Condition 5 project.		
<b>Status of recommendation</b>	N/A		

**Table 12: Recommendation 4**

<b>Performance Indicator(s) &amp; Score(s)</b>	<b>Insert relevant PI number(s)</b>	<b>Insert relevant scoring issue/ scoring guidepost text</b>	<b>Score</b>
		<b>3.2.1</b>	<b>N/A</b>
<b>Recommendation</b>	Strengthening commitment to continuous data collection through trawl surveys should be specified as a Bycatch specific objective within the Bycatch Action Plan.		
<b>Milestones</b>	N/A		
<b>Client action plan</b>	N/A		
<b>Progress on Recommendation [Year 1]</b>	A specific objective will be included in BAP. This will be performed in conjunction with any other revisions that are required (as above).		
<b>Status of recommendation</b>	N/A		

## 5. Conclusion

The assessors found that progress is on target against for four of the six conditions at the time of the first annual audit. One condition (Condition 5 – Habitats information) was behind target, and one condition (Condition 6) was closed ahead of schedule. The MRAG Americas Certification Committee concurs that the certification of the Shark Bay prawn fishery against the MSC Principles and Criteria for Sustainable Fishing be continued for a further year.

## 6. References

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- DoF. 2015. Shark Bay and Exmouth Gulf Prawn Managed Fisheries. MSC Conditions Steering Group. Terms of Reference.
- DoF. 2016a. MSC Certification Conditions Project Plan. Exmouth Gulf Prawn Managed Fishery; Shark Bay Prawn Managed Fishery. 2015-2019 Assessment Period. Draft Condition Project Plan. Principle 1 Conditions.
- DoF. 2016b. MSC Certification Conditions Project Plan. Exmouth Gulf Prawn Managed Fishery; Shark Bay Prawn Managed Fishery. 2015-2019 Assessment Period. Draft Condition Project Plan. Principle 2.2 – Bycatch Conditions.
- DoF. 2016c. MSC Certification Conditions Project Plan. Exmouth Gulf Prawn Managed Fishery; Shark Bay Prawn Managed Fishery. 2015-2019 Assessment Period. Draft Condition Project Plan. Principle 2.3 ETP – Conditions.
- DoF. 2016d. MSC Certification Conditions Project Plan. Exmouth Gulf Prawn Managed Fishery; Shark Bay Prawn Managed Fishery. 2015-2019 Assessment Period. Draft Condition Project Plan. Principle 2.4 Habitat – Conditions.
- DoF. 2016e. MSC Certification Conditions Project Plan. Exmouth Gulf Prawn Managed Fishery; Shark Bay Prawn Managed Fishery. 2015-2019 Assessment Period. Draft Condition Project Plan. Principle 3.2 Stakeholder Engagement – Conditions.
- DoF. 2016f. Exmouth Gulf and Shark Bay Prawn MSC AUDIT, PPT
- DoF. 2016g. Shark Bay and Exmouth Gulf Prawn Managed Fisheries Endangered Threatened and Protected species projects (Conditions 4 & 5 Shark Bay Condition 4), PPT.
- DoF. 2016h. Marine Protected species guide (draft), March 2016.
- DoF. 2016i. Guideline for stakeholder engagement on aquatic resource management-related processes (Fisheries Occasional Publication No. 131) (the Guideline) in September 2016.
- DoF. 2016j. EGP consultation summary October 2015 - October 2016 - V2, xlxs.
- DoF. 2016k. SBP Consultation Summary 2015-16. Pdf.
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- DoF-SBPMF. 2016b. Shark Bay Gulf Prawn Managed Fishery MSC certification. Audit 1 material. 2016. Checklist of Conditions, CAP milestones and project progress.
- DPaW & DoF. Communication Protocol: Shark Bay/Ningaloo Marine Parks & Exmouth Gulf/Shark Bay Prawn Trawl Fisheries (Draft).
- Kangas, M., Sporer, E., Wilkin, S., Koefoed, I., Meredith, D., Breheny, N. and Sanders, C. 2016. Shark Bay Prawn Managed Fishery. 2015 Season Report. Compiled by WA Fisheries Prawn and Scallop Research in consultation with the Shark Bay Prawn Fishing Industry.
- Kangas, M.I., Sporer, E.C., Wilkin, S., Koefoed, I., Cavalli, P. and Pickles, L. 2016b. Shark Bay Gulf Prawn Managed Fishery. Status Report 2015. (Draft).
- Storr, G.M., Smith, L.A. and Johnstone, R.E. (2002). Snakes of Western Australia. Western Australian Museum, Perth, WA.

Zhou S., Milton, D.A., Fry, G., Integrated risk analysis for rare marine species impacted by fishing: sustainability assessment and population trend modeling, *CES Journal of Marine Science* (2012), 69(2), 271–280. doi:10.1093/icesjms/fss009

# Appendices

## Appendix 1. Re-scoring evaluation table for PI 3.1.2

Condition 7 is assessed as having been completed and is rescored below.

Evaluation Table for PI 3.1.2

<b>PI 3.1.2</b>		<b>The management system has effective consultation processes that are open to interested and affected parties.</b>		
		<b>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties</b>		
<b>Scoring Issue</b>		<b>SG 60</b>	<b>SG 80</b>	<b>SG 100</b>
<b>A</b>	<b>Guide post</b>	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are generally understood.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for key areas of responsibility and interaction.	Organisations and individuals involved in the management process have been identified. Functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction.
	<b>Met?</b>	Y	Y	Y
	<b>Justification</b>	There is explicit definition of the role of the Federal (AFMA) and State level of fisheries management. Critically, this includes clearly stating where overall responsibility for fisheries is divided between state and Commonwealth according to the Offshore Constitutional Settlement. Within DoF WA, there is explicit definition and understanding of the roles of research, enforcement and management policy teams. The executive structure of the department brings all key aspects of fisheries management, such as research, policy, compliance & enforcement under a single dedicated department umbrella. This increases clarification of roles and responsibilities. The roles of other departments such as Department of the Environment are also explicitly defined and it is understood how these relate to each other. The functions, roles and responsibilities are explicitly defined and well understood for all areas of responsibility and interaction and meet SG 60, SG 80 and SG 100.		
<b>B</b>	<b>Guide post</b>	The management system includes consultation processes that obtain relevant information from the main affected parties, including local knowledge, to inform the management system.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.	The management system includes consultation processes that regularly seek and accept relevant information, including local knowledge. The management system demonstrates consideration of the information and explains how it is used or not used.
	<b>Met?</b>	Y	Y	N
	<b>Justification</b>	Section 65 of the FRMA sets out the legislative consultation requirements the Minister must adhere to when amending an existing management plan. Section 65 has 'natural justice' origins, in that a person whose rights may be about to be		

<p><b>PI 3.1.2</b></p>	<p><b>The management system has effective consultation processes that are open to interested and affected parties.</b></p> <p><b>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties</b></p>			
		<p>affected should have an opportunity to be heard before any adverse action / impact is given effect.</p> <p>The statutory consultation function is presently conducted by WAFIC on behalf of the Department under the SLA, and when required, delegated to the relevant associations. This process of consultation via the two peak agencies appears to have been regular and effective at engagement with stakeholders in the commercial and recreational sectors, but not in the ENGO sector.</p> <p>DoF have also strengthened consultation to include participation on key fisheries policy matters and initiatives. The Department of Fisheries has created a public comment space on its website. This allows all interested and affected parties to view information and make submissions on draft documents released for public comment for specified periods of time. Key stakeholders are invited directly to provide comment through this forum.</p> <p>The public consultation space can be accessed at the following web address: <a href="http://www.fish.wa.gov.au/About-Us/Public-Comment/Pages/default.aspx">http://www.fish.wa.gov.au/About-Us/Public-Comment/Pages/default.aspx</a>, This shows all documents currently open for public comment.</p> <p>There is a process that allows other organisations to provide submissions, and engage directly.</p> <p>Evidence does show consideration of the information obtained from stakeholders that respond. Therefore, the consultation process meets the SG 60 and SG 80 requirements. The assessors will review at the next audit, whether there is sufficient evidence to illustrate how information is used and not used.</p>		
<p><b>C</b></p>	<p><b>Guide post</b></p>		<p>The consultation process provides opportunity for all interested and affected parties to be involved.</p>	<p>The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement.</p>
	<p><b>Met?</b></p>		<p>Y</p>	<p>Y</p>
	<p><b>Justification</b></p>	<p>The existing system for consultation includes both statutory and non-statutory opportunities for interested stakeholders to be involved in the management system. Opportunities for stakeholder input are provided through calls for submissions on Fisheries Management Papers (<i>see above reference to the public consultation space</i>), and through expert reference groups which are open to stakeholders. To ensure coverage and engagement during the consultation period with stakeholders and the wider community, the Department uses a variety of processes including: Management meetings, Direct consultation in writing; Press releases; newspaper, radio and television interviews; information posted on the Department's website information; inviting stakeholders to sit on tasked working groups, scientific reviews / workshops, risk assessments and management reviews.</p> <p>Specific to the EGPMF and SBPMF fisheries, an engagement process has been implemented to improve non-fisher stakeholder consultation processes. These include:</p> <ul style="list-style-type: none"> <li>• An Annual Management Meeting between the Department, WAFIC and industry.</li> <li>• Fishery-specific stakeholder lists have been developed in an effort to implement the new SEG and for each stakeholder group on the list the 'area of interest' and 'level of interest' has been described. The governing bodies of the State Marine Park and World Heritage Areas relevant to both fisheries (Conservation and Parks Commission, Department of Parks and Wildlife (DPaW), the two World Heritage Advisory Committees), and the Shires of Shark Bay and Exmouth have been identified as key (non-fisher) stakeholders affected by the SBPMF.</li> </ul>		

<p><b>PI 3.1.2</b></p>	<p><b>The management system has effective consultation processes that are open to interested and affected parties.</b></p> <p><b>The roles and responsibilities of organisations and individuals who are involved in the management process are clear and understood by all relevant parties</b></p>	
	<ul style="list-style-type: none"> <li>• The Department has established the key contacts within these stakeholder groups to develop processes for opportunity to be involved in or informed of management decisions where relevant.</li> <li>• A number of discussions are held with staff relevant to the governing bodies of the relevant State Marine Park and World Heritage Areas (DPaW &amp; DoFa, 2015) to develop strategies for better collaboration and communication with these key stakeholders going forward.</li> <li>• A fishery-specific communication protocol has been developed between DoF and DPaW (DPaW &amp; DoF, 2016) to provide for two-way communication and sharing of information to support effective management of prawn trawling activities within and adjacent to the Shark Bay and Ningaloo Marine Parks and Muiron Islands Marine Management Area. The scope of this protocol includes the Exmouth Gulf and Shark Bay Prawn trawl fisheries; and the Shark Bay and Ningaloo Marine Parks and Muiron Islands Marine Management Area. Over time the scope of this communication protocol may develop to address communication and information sharing for a range of commercial and recreational fisheries management issues relevant to the Gascoyne marine reserve network, and Shark Bay and Ningaloo Coast World Heritage Areas.</li> <li>• The Department now attends the joint Ningaloo Coast and Shark Bay World Heritage Advisory Committee meeting to brief the committees regarding the management of the SBPMF, EGPMF, and discuss ongoing communication with these committees.</li> <li>• The trawl team liaises with Recfishwest during the fishing seasons to discuss priorities and in-season fishing arrangements that may be of interest to recreational fishers.</li> </ul>	
<p><b>References</b></p>	<p>Western Australian Government Fisheries Policy Statement March 2012 (DoF 2012a)</p> <p>OCS 1995 arrangements</p> <p>DoF, Annual Report, <a href="http://www.fish.wa.gov.au/About-Us/Publications/Pages/Annual-Report.aspx">http://www.fish.wa.gov.au/About-Us/Publications/Pages/Annual-Report.aspx</a></p> <p>Western Australian Fishing Industry Council inc, <a href="http://www.wafic.org.au/">http://www.wafic.org.au/</a></p> <p>Recfishwest, <a href="http://www.recfishwest.org.au/">http://www.recfishwest.org.au/</a></p> <p>DoF, Letters to WAFIC, STBOA of 15 August, 2014</p> <p>DoF, 2016i, Guideline for stakeholder engagement on aquatic resource management-related processes (Fisheries Occasional Publication No. 131) (the Guideline) in September 2016.</p> <p>DoF, 2016j, EGP consultation summary October 2015 - October 2016 - V2, xlxs.</p> <p>DoF, 2016k, SBP Consultation Summary 2015-16. Pdf.</p> <p>DoF-SBPMF. 2016b. Shark Bay Prawn Managed Fishery MSC certification. Audit 1 material. 2016. Checklist of Conditions, CAP milestones and project progress.</p> <p>DPaW &amp; DoF Communication Protocol: Shark Bay/Ningaloo Marine Parks &amp; Exmouth Gulf/Shark Bay Prawn Trawl Fisheries, 2016.</p>	
<p><b>OVERALL PERFORMANCE INDICATOR SCORE:</b></p>		<p><b>95</b></p>
<p><b>CONDITION NUMBER 7:</b> The consultation process provides opportunity for all interested and affected parties to be involved.</p>		

## Appendix 2. Stakeholder submissions (if any)

A comment was received from Jenita Enevoldsen ([jenita.enevoldsen@wilderness.org.au](mailto:jenita.enevoldsen@wilderness.org.au)) on 8 September, 2016 about concerns over the most recent research around mass die out of sea grass beds in Shark Bay, and call on the company to ensure that regular seagrass monitoring is a mandatory in decision making for catch limits to ensure the health of the ecosystem for endangered species like dugong and sea turtles. No changes were made to the scoring as there was no evidence to suggest damage caused by trawlers to sea grass beds. Sea grass beds situated in closed areas. The Association and DoF are also committed to a process (Condition 5) of improving habitat mapping.

### Appendix 3. Surveillance audit information (if necessary)

The list of stakeholders for Shark Bay and Exmouth Gulf

Stakeholder category	Organisation	Position	Key contact	Phone	Email	Fishery
State Government Department	Department of Parks and Wildlife (DPaW)	Assistant Director Conservation	Fran Stanley		fran.stanley@dpaw.wa.gov.au	EGP/SBP
		Manager Planning Branch	Kathleen Lowry	(08) 9219 9109	Kathleen.Lowry@dpaw.wa.gov.au	EGP/SBP
	Conservation Parks Commission (previously MPRA)				<a href="mailto:Jennifer.Sutey@conservation.wa.gov.au">Jennifer.Sutey@conservation.wa.gov.au</a>	EGP/SBP
Commonwealth Department	Department of the Environment (DotE)	Assistant Director	Kerry Cameron	(02) 6648 3906	kerry.cameron@environment.gov.au	EGP/SBP
	Australian Fisheries Management Authority (AFMA)	North West Slope Fishery Officer	Shane Fava	(02) 6225 5409	shane.fava@afma.gov.au	EGP/SBP
Peak industry body (commercial fishers)	WAFIC	Industry Project Leader	Guy Leyland	0417 907 967	gleyland@wafic.org.au	EGP/SBP
Peak industry body (recreational fishers)	Recfishwest	CEO	Andrew Rowland	(08) 9246 3366	andrew@recfishwest.org.au	EGP/SBP
World Heritage Advisory Committees	Shark Bay WH Advisory Committee	WHAC Executive Officer (DPaW)	Cheryl Cowell	(08) 9948 2226	cheryl.cowell@dpaw.wa.gov.au	SBP
	Ningaloo Coast WH Advisory Committee	WHAC Executive Officer (DPaW)	Heather Barnes	(08) 9947 8014 / 0438 450 556	<a href="mailto:Tegan.Gourlay@DPaW.wa.gov.au">Tegan.Gourlay@DPaW.wa.gov.au</a>	EGP
Conservation Sector NGO's	Cape Conservation Group				<a href="mailto:info@ccg.org.au">info@ccg.org.au</a>	EGP
	Conservation Council of Western Australia	President	Piers Verstegen	(08) 9420 7266	conswa@conservationwa.asn.au	EGP/SBP
	WWF	Manager, Global Ocean Campaign	Paul Gamblin		pgamblin@wwf.org.au	EGP/SBP
	Wilderness Society		Jenita Enevoldsen		jenita.enevoldsen@wilderness.org.au	EGP/SBP
Regional Aboriginal Corporation (contact for assistance in identifying and contacting relevant Native Title Parties)	Yamatji Marlpa Aboriginal Corporation	Program Manager - Land and Sea Management	Jose Kalpers		jkalpers@ymac.org.au	EGP/SBP
Native Title Parties	Gnulli Working Group	YMAC Lawyer (GWG contact)	Maimbo Chilala		mchilala@ymac.org.au	EGP/SBP
	Malgana Working Group	YMAC Lawyer (MWG contact)	Daniel Wells		dwells@ymac.org.au	SBP
Aboriginal community groups	Baiyungu Aboriginal Corporation		Paul Baron		baiyungu@westnet.com.au	Coral Bay?
	Malgana Aboriginal Corporation		Darren Capewell		info@wulaguda.com.au	SBP

NRM regional body and relevant affiliate groups	Rangelands NRM	Operations Manager	John Silver	0427 087 670	johns@rangelandswa.com.au	EGP/SBP
Regional Development Commission	Gascoyne Development Commission	CEO	Gavin Robins	(08) 9941 7000	gavin.robins@gdc.wa.gov.au	EGP
Local Government	Shire of Exmouth	Shire President	Turk Shales	9949 1265 / 0427 890 029	<a href="mailto:Cr_Shales@exmouth.wa.gov.au">Cr_Shales@exmouth.wa.gov.au</a>	EGP
	Shire of Carnarvon	Shire President	Karl Brandenburg	(08) 9941 0000 / 0427 471 554	cr.brandenburg@carnarvon.wa.gov.au	SBP
	Shire of Shark Bay	Shire President	Cheryl Cowell	(08) 9948 1538 / 0417 180 307	chezza@westnet.com.au	SBP
		CEO	Paul Anderson	0427948925	-	SBP
Tertiary institutions	Curtin University	Professor	Euan Harvey	92669674	Euan.Harvey@curtin.edu.au	EGP/SBP
	Murdoch University	Professor	Neil Loneragan		N.Loneragan@murdoch.edu.au	EGP/SBP
	University of Western Australia		Simon Allen	(61-0) 416 083 653	<a href="mailto:simon.allen@uwa.edu.au">simon.allen@uwa.edu.au</a>	EGP
	CEBEL/Flinders University		Tim Hunt		tim.hunt@flinders.edu.au	EGP
Research Institutions	Australian Institute of Marine Science	Principal Research Scientist	Mark Meekan	6369 4039	m.meekan@aims.gov.au	EGP/SBP
Tourism associations	Shark Bay Tourism Association				committee@sharkbaytourism.com	SBP
	Exmouth Visitor Centre (which is an association with tourism members)		Ben Knaggs		communications@exmouthwa.com.au	EGP
Industry	Licensee contact details are provided under the 'Licensees' tab below					
DoF Regional Services	DoF (Geraldton office)	Regional Manager	Ron Shepherd	(08) 9920 8403	ron.shepherd@fish.wa.gov.au	EGP/SBP
	DoF (Exmouth office)	Compliance Manager	Graeme Meinema	(08) 9949 2755	graeme.meinema@fish.wa.gov.au	EGP/SBP
	DoF (Geraldton office)	Compliance Manager	Mick Kelly	(08) 9920 8405	mick.kelly@fish.wa.gov.au	EGP/SBP
DoF Bioregion Manager	DoF (Perth HO)	Manager Northern Bioregion	Shane O'Donoghue	(08) 9482 7393	shane.odonoghue@fish.wa.gov.au	EGP/SBP
DoF Fisheries Managers	DoF (Perth HO)	Principal Management Officer	Patrick Cavalli	(08) 9482 7261	patrick.cavalli@fish.wa.gov.au	EGP/SBP
		Fishery Management Officer	Lauren Pickles	(08) 9482 7261	lauren.pickles@fish.wa.gov.au	EGP/SBP
		Fishery Management Officer	Rebecca Oliver	(08) 9482 7358	rebecca.oliver@fish.wa.gov.au	EGP/SBP
DoF Research Division	DoF (Hillarys)	Principal Research Scientist	Mervi Kangas	(08) 9203 0191	mervi.kangas@fish.wa.gov.au	EGP/SBP
DoF MSC team	DoF (HO and Hillarys)		Kim Walsh (HO)	(08) 9482 7364	Kim.walsh@fish.wa.gov.au	EGP/SBP

			Dan Gaughan (Hillarys)	(08) 9203 0156	daniel.gaughan@fish.wa.gov.au	EGP/SBP
			Mat Hourston (Hillarys)	(08) 9203 0332	Mat.Hourston@fish.wa.gov.au	EGP/SBP
			Lynda Bellchambers	(08) 9203 0175	lynda.bellchambers@fish.wa.gov.au	EGP/SBP
MSC	MSC (WA)	Oceania and SE Asia Fisheries Outreach Officer	Matt Watson	0475 086 696	matt.watson@msc.org	EGP/SBP

\* Yellow denotes those stakeholders responding during the assessment stage

**Appendix 4. Additional detail on conditions/ actions/ results (if necessary)**

No changes were made to the Conditions set, or the required CAP milestones.

**Appendix 5. Revised Surveillance Program (if necessary)**

No adjustment is needed to the surveillance programme.