

MSC FINAL REPORT

WESTERN AUSTRALIA ROCK LOBSTER FISHERY

January 2012

The fishery evaluated in this report:

Species: *Panulirus cygnus*
Geographic Area: Western Australia from Cape Leeuwin (34°24'S) in the south to North West Cape (21°44'S) in the north
Fishing Method: Baited pots / traps
Fishery Management: Western Australia Minister for Fisheries, Western Australia Department of Fisheries

Accredited Certification Body:
Scientific Certification Systems
2000 Powell Street, Suite 600
Emeryville, CA 94608
USA

Assessment Team
Malcolm Haddon, PhD
Stewart Frusher, PhD
Bruce Phillips, PhD
Sabine Daume, PhD

Versions Issued

Version No.	Date	Description Of Amendment
1	August 2011	Client Draft Report
2	September 2011	Peer Review Report
3	December 2011	Public Comment Draft Report
4	January 2012	Final Report
5		

MSC scheme documents:

MSC Accreditation Manual Issue 4

MSC Fisheries Assessment Methodology (FAM) Version 2.1

MSC Certification Requirements (CR) Version1.1

MSC TAB Directives

MSC Policy Advisories

Contents

Preamble	3
Abbreviations	4
1. Introduction	5
2. Summary	5
2.1 The Assessment Process	5
2.2 Meeting Conditions for Continued Certification	7
2.2.1 General Conditions for Continued Certification	7
2.2.2 Specific Conditions for Continued Certification	8
2.3 Certification Determination	8
3. Background to the Report	9
3.1 Assessment Team/Authors	9
3.2 Peer Reviewers	10
3.3 Summary of Meetings	10
3.4 Submission of Data on the Fishery	11
4. Western Australia Rock Lobster	12
4.1 Unit of Certification	12
4.2 Target Species and Life History	12
4.3 Distribution	13
5. Fishery and Management System	13
6. Stock status and Harvest Strategy	15
7. Fishery's impact on ecosystem	16
7.1 Bycatch - Retained and discard species	17
8.1.1 Retained species	17
8.1.2 Discard species	18
7.2 Endangered, threatened and protected (ETP) species	18
7.3 Habitats	19
7.4 Trophic relationships	19
8. Tracking and Tracing of Fish and Fish Products and target eligibility date	20
8.1 Traceability within the fishery	20
8.2 Eligibility to enter Chains of Custody	20
8.3 Points of landing	20
8.4 At-sea processing	20
8.5 Risk of vessels fishing outside the unit of certification	21
8.6 Risk of substitution at landing	21
8.7 Actual target eligibility date	21
9. Other Fisheries in the Area	21
10. Summary of Previous Certification Evaluations	21
11. MSC Principles and Criteria	22
11.1 MSC Principle 1 – Stock Status and Harvest Strategy	22
11.2 MSC Principle 2 – Ecosystem	22
11.3 MSC Principle 3 – Management	23
11.4 Interpretations of MSC Principles for Performance Assessments	24
12. Assessment Team Fishery Performance Evaluations	26
12.1 MSC Principle 1	26
12.2 MSC Principle 2	32
12.3 MSC Principle 3	48
12.4 Certification Recommendations and Performance Scores	59

13. Action Plan for Meeting Conditions	60
14. Peer Review, Public Comment and Objections	62
15. MSC Logo Licensing Responsibilities	62
16. References	63
Appendix I – Stakeholder comments received during the onsite visits	66
Appendix II – WWF comments received for the onsite visit in December 2010	70
Appendix III – WWF comments received for the meeting in May 2011	102
Appendix IV – Peer Review Comments	111
Appendix V – Comments on PCDR and Team Responses	135
Appendix VI – Landing Sites For Western Australian Rock Lobster	140

PREAMBLE

This report is the sole responsibility of SCS. All advice and comments from Assessment Team members, peer reviewers, client, fishery managers and the MSC have been reviewed by SCS and incorporated into the report by SCS as deemed warranted. This fishery was determined to be in scope and in compliance with the MSC first Technical Advisory Board Directive (TAB D-001 v2).

ABBREVIATIONS

AHP	Analytical Hierarchy Process
ASI	Accreditation Services International
B and B ₀	Biomass and un-fished biomass
CB	Certifying Body
CDR	Catch Disposal Record
CPUE	Catch Per Unit Effort
CR	Certification Requirements
DAT	Default Assessment Tree
ETP	Endangered, Threatened and Protected species
ERA	Ecological Risk Assessment
ESD	Ecologically Sustainable Development
FAM	Fisheries Assessment Methodology v2.1
FAO	Food and Agriculture Organization [of the United Nations]
IUCN	International Union for Conservation of Nature
MSC	Marine Stewardship Council
MSY	Maximum Sustainable Yield
PI	Performance Indicator
SCS	Scientific Certification Systems
SG	Scoring Guidepost
SSB and R	Spawning Stock Biomass and Recruitment
t	Metric ton
TAB	Technical Advisory Board [of the MSC]
TAC	Total Allowable Catch
WA	Western Australia
WRLC	Western Australian Rock Lobster Council
WWF	World Wildlife Fund

1. INTRODUCTION

The Marine Stewardship Council (MSC) is a non-profit organization dedicated to the long-term protection or “sustainability” of marine fisheries and related habitats. First started as a joint initiative between Unilever and the World Wildlife Fund (WWF), the MSC is now a fully independent organization that is governed by an independent Board of Directors advised by a panel of scientific, economic, and fishery experts.

The MSC’s original mission statement promoted responsible, environmentally appropriate, socially beneficial, and economically viable fisheries practices, as well as the maintenance of biodiversity, productivity and ecological processes of the marine environment. The current MSC mission statement (redrafted in 2001) provides a slightly more focused mission and reads,

“Our mission is to use our ecolabel and fishery certification programme to contribute to the health of the world’s oceans by recognizing and rewarding sustainable fishing practices, influencing the choices people make when buying seafood, and working with our partners to transform the seafood market to a sustainable basis.”

Dedicated to promoting “well-managed” or “sustainable” fisheries, the MSC initiative intends to identify such fisheries through means of independent third-party assessments and certification. Once certified, fisheries will be awarded the opportunity to utilize an MSC promoted eco-label to gain economic advantages in the marketplace. Through certification and eco-labeling, the MSC intends to promote and encourage better management of world fisheries, many of which have been suggested to suffer from poor management.

The Marine Stewardship Council developed the original standards for sustainable fisheries management in a three-step process: 1) Assemble a group of experts in Bagshot (UK) to draft an initial set of Principles and Criteria; 2) Conduct an 18-month process to review the standard in 8 major international venues; and 3) Convene a second set of experts in Warrenton, Virginia (Airlie Conference Center, USA) to revise and finalize the MSC Principles and Criteria.

The MSC Fisheries Certification Methodology used for this report, the Marine Stewardship Council Fisheries Assessment Methodology (FAM) and Guidance to Certification Bodies Including Default Assessment Tree and Risk-Based Framework Version 2.1 was issued on 1 May 2010.

2. SUMMARY

2.1 The Assessment Process

Scientific Certification Systems, Inc. conducted a pre-assessment of the fishery as recommended by the MSC program for the initial certification. After review of the pre-assessment, the applicants for certification authorized the formal, full assessment of the fishery for the first time and a certificate was issued in 2000. The fishery was re-certified in 2006. The 2nd re-assessment started in December 2010. All aspects of the assessment process were carried out under the auspices of Scientific Certification Systems, Inc., an accredited MSC certification body, and in direct accordance with MSC requirements.

In order to ensure a thorough and robust assessment process, and a process in which all interested stakeholders could and would participate, SCS sought comment from the public through direct mailing and

posting advisories on the MSC website and was available for comment throughout the assessment process. SCS responded to requests for information and participation within two days of any inquiry.

To be thorough and transparent, SCS provided opportunities for input at all stages of the assessment process. The general steps followed were:

- **Announcement of the Intention for the fishery to undergo a full re-assessment (5th October 2010)**
At this first step of the assessment process, SCS provided the MSC thorough background information on the fishery and informed the public that the fishery intended to undergo a full MSC assessment. Identified stakeholders were informed of that intention directly through email, phone calls or both.
- **Team Selection (5th -22nd October 2010)**
At this second step of the assessment process, SCS sought input from interested parties and invited comment on the suitability of the selected assessment team members. SCS sent out an advisory through direct email and posting on the MSC web site requesting comment on the nominations of persons capable of providing the expertise needed in the assessment. After a comment period of 10 working days, SCS was able to confirm the assessment team.
- **Determining Performance Indicators and Scoring Guideposts (22nd October 2010)**
In accordance with the assessment procedures required by the MSC, review of the Default Assessment Tree (DAT) was conducted by the assessment team for applicability to the fishery. It was determined that the DAT was sufficient and no modifications were necessary. The suitability of using the DAT for this fishery was up for public comment for a period of 30 days. No comments were received and the DAT was confirmed to use for this fishery.
- **Input on fishery performance (October 2010 – May 2011)**
Once performance indicators were finalized, SCS requested that the clients compile and submit written information to the assessment team illustrating the fishery's compliance with the required performance indicators. At the same time, SCS requested that stakeholders submit their views on the fishery functions and performance against the MSC principles. Within 2 days of each announcement (entering full re-assessment, proposed team members, onsite visits, etc) emails were sent to a list of stakeholders and interested parties.
- **Meetings with industry, managers, and stakeholders (7-9th December 2010 and 25th May 2011)**
SCS planned for and conducted meetings in Perth, Western Australia on 2 separate occasions. Stakeholders provided inputs verbally and in writing during the onsite meetings on the 7th December 2010 and 25th May 2011 (see Appendix 1).
- **Scoring fishery (25th May 2011)**
After the second re-assessment meeting in May 2011 the two Major Non-conformances were closed out and the re-assessment process was therefore allowed to progress to the next stage. The assessment team scored the fishery using the required MSC methodology including the DAT found in the Fisheries Assessment Methodology (FAM). Scores were determined by the assessment team and team leader by consensus in a closed meeting.

- Drafting report (May-August 2011)
The assessment team in collaboration with the SCS lead assessor, Dr. Daume, drafted the report in accordance with MSC required process.
- Selection of peer reviewers (August-30th September 2011)
SCS released an advisory of potential peer reviewers and solicited comments from stakeholders on the merits of the selected reviewers. Stakeholders were informed of the 10 day comment period by direct email as well as the online posting. No negative comments were received and two peer reviewers were confirmed to review the report.
- Release of Public Comment Draft Report (December 2011)
SCS releases this draft report for public comment, soliciting stakeholder response through posting on MSC website and direct email to known stakeholders and interested parties.
- Release of Final Report with certification decision (January 2012)
SCS releases the final report with the certification decision for a 15 day objection period. Stakeholders were informed through posting on the MSC website and direct email.

2.2 Meeting Conditions for Continued Certification

To be awarded an MSC certificate for the fishery, the applicants must agree in written contract to develop an action plan for meeting the required 'Conditions'; a plan that must provide specific information on what actions will be taken, who will take the actions, and when the actions will be completed. The Action Plan must be approved by SCS as the certification body of record. The applicant must also agree in a written contract to be financially and technically responsible for surveillance visits by an MSC accredited certification body, which would occur at a minimum of once a year, or more often at the discretion of the certification body (based on the applicant's action plan or by previous findings by the certification body from annual surveillance audits or other sources of information). The contract must be in place prior to certification being awarded. Surveillance audits will be comprised in general of (1) checking on compliance with the agreed action plan for meeting pre-specified 'Conditions', and (2) sets of selected questions that allow the certifier to determine whether the fishery is being maintained at a level of performance similar to or better than the performance recognized during the initial assessment.

2.2.1 General Conditions for Continued Certification

The general 'Conditions' set for the Client, Western Rock Lobster Council are:

- Client must recognize that MSC standards require regular monitoring inspections at least once a year, focusing on compliance with the 'Conditions' set forth in this report (as outlined below) and continued conformity with the standards of certification.

- Client must agree by contract to be responsible financially and technically for compliance with required surveillance audits by an accredited MSC certification body, and a contract must be signed and verified by SCS prior to certification being awarded.
- Client must recognize that MSC standards require a full re-evaluation for certification (as opposed to yearly monitoring for update purposes) every five years.
- Prior to receiving final certification, the Client shall develop an 'Action Plan for Meeting the Condition for Continued Certification' and have it approved by SCS.

2.2.2 Specific Conditions for Continued Certification

In addition to the general requirements outlined above, the Client must also agree in a written contract with an accredited MSC certification body to meet the specific conditions as described in Section 12 and summarized below (within the timelines that will be agreed in the Action Plan for Meeting the Condition for Continued Certification – to be approved by SCS). Conditions are set for any Performance Indicator that has scored less than 80 (out of 100).

Specific Conditions are:

1.2.2: There are well defined and effective harvest control rules in place.

Score 75

Condition 1.2.2:

By the 2nd annual surveillance audit the client shall provide control rules that are “well defined”.

1.2.3: Relevant information is collected to support the harvest strategy.

Score 75

Condition 1.2.3

By the 2nd annual surveillance audit the client shall provide evidence on how the information that is currently collected is used to inform/assess the formal control rules developed as part of condition 1.2.2.

2.4.3: Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types.

Score 70

Condition 2.4.3:

By the 2nd annual surveillance audit the client shall provide evidence to the CB, that sufficient reliable information on the spatial extent of the fishery has been collected to identify the nature of the impacts of the fishery on different habitat types. In order to do so the client shall provide information on the spatial extent of both the key habitats and the associated fishing effort.

2.3 Certification Determination

It is the consensus judgment of the assessment team and of the SCS Certification Determination Committee that the Western Australian Rock Lobster Fishery complies with the MSC Principles and

Criteria. Therefore, SCS as the certification body of record recommends that the fishery be issued an MSC Fishery certificate. The lead assessor for the assessment team presented all evidence to the SCS Certification Panel, which agreed with the assessment team's decision and authorized certification of the fishery. The client has submitted for approval, and SCS has approved, an Action Plan (See Section 12) for meeting all Conditions placed on the certificate.

3. BACKGROUND TO THE REPORT

3.1 Assessment Team/Authors

Dr. Sabine Daume, Program Manager and Team Leader, SCS

Dr. Daume is responsible for leading SCS's Sustainable Seafood Certification program, which includes both fishery and chain of custody certification under the auspices of the Marine Stewardship Council (MSC), using the MSC methodology and standards. Dr. Daume has been involved and/ or led numerous pre and full assessments. Dr. Daume is a marine biologist with special expertise in the biology and ecology of exploited marine resources. She has over 10 years experience working closely with the fishing and aquaculture industry in Australia. In her role as the Senior Research Scientist at the Department of Fisheries in Western Australia, she led research projects related to fishery and fisheries habitats of temperate and tropical invertebrate species. Dr. Daume is also a certified lead auditor under the International Standard Organization (ISO) 90011:2008 certification requirement.

Principle 1 Expert: Dr. Malcolm Haddon, CSIRO Hobart, Tasmania, Australia

Dr. Haddon is the Senior Fisheries Modeler at CSIRO Marine & Atmospheric Research and an internationally recognized expert in fisheries stock assessment, modeling, and devising sustainable harvest strategies. He has conducted assessments of the Tasmanian rock lobster and giant crab fisheries, and continues to work with Tasmanian abalone. He has been an Australian delegate to the CCAMLR scientific committee, and he currently chairs the Australian Commonwealth's Sub-Antarctic Fisheries Assessment Group. Dr. Haddon is also a scientific member to the South Management Advisory Committee and a member of the stock assessment groups for the South-East Fishery, and the Northern Prawn fishery. He has participated in and led numerous national and international fishery reviews.

Principle 2 Expert: Dr. Stewart Frusher, University of Tasmania, Hobart, Tasmania, Australia

Dr. Stewart Frusher is an Associate Professor at the Tasmanian Aquaculture and Fisheries Institute, University of Tasmania. He has over 30 years of experience in marine science with the majority of his career focused on crustacean fisheries research. He has over 50 international peer-reviewed publications with an emphasis on techniques for assessing lobster fisheries and ecosystem impacts. In addition to fisheries assessment, Dr Frusher has led large projects in understanding the effects of fishing on the marine ecosystem and the impacts of climate change on fisheries. In 2002 he received the Dean's award for academic excellence and was convenor of the 2004 International Workshop and Conference on Lobster Biology and Management. He is a member of NOAA's Centre of Independent Experts for assessing USA fisheries, a reviewer of lobster proposals for the American sea grant organisation as well as a member of a range of fishery advisory and steering committees in Australia.

Principle 3 Expert: Dr. Bruce Phillips, Curtin University, Perth, Western Australia

Dr. Phillips has been on the Assessment Team for Western Australian Rock Lobster fisheries since its original assessment in 2000. He is an Adjunct Professor at Curtin University, where he supervises PhD students and teaches Fisheries Resource Management to Undergraduate Students. He is conducting research into recruitment and sustainability of spiny lobsters. Dr. Phillips worked as a Research Scientist, Assistant Chief and Officer-in-Charge, at the Hobart Marine Laboratories, Division of Fisheries, CSIRO, Hobart, Tasmania for 28 years. From 1992-1996 he worked as the Chief Scientist with the Australian Fisheries Management Authority (AFMA) in Canberra. He was involved in developing a research program for all Commonwealth managed fisheries, including trawl fisheries, finfish, sharks, tuna and prawns. Dr. Phillips has a special interest in sustainability and certification of fisheries and has coauthored two books on this subject. He was a member of the Assessment team for the Western Australian Rock Lobster Fishery and the Baja Californian Mexican Rock Lobster Fishery. Dr. Phillips knowledge of the management of State and Commonwealth managed fisheries in general and the MSC evaluation process specifically will be invaluable to the project.

3.2 Peer Reviewers

1. Dr Caleb Gardner – Institute of Marine & Antarctic Studies, University of Tasmania, Australia

Dr Gardner leads the Fisheries Program, at the Institute of Marine and Antarctic Studies, University of Tasmania. This program is responsible for delivery of research advice for management of Tasmanian fisheries and also participates in fisheries research around Australia and globally. Within Tasmania, Dr Gardner is active in the delivery of research on crustacean fisheries (rock lobster and giant crab), and also the economically important abalone fishery. Dr Gardner is especially interested in the use of economics in fisheries science, including improving the utilization of fisheries though a focus on maximizing economic yield. This interest is applied in his role as leader of the Future Harvest Theme in the Seafood CRC, which is aiming to increase economic yield from Australia's largest fisheries sectors.

2. Mr. Richard Allen - University of Rhode Island, USA

Mr. Allen holds a Masters in Marine Affairs from the University of Rhode Island, has over 30 years of wide-ranging experience in commercial fishing, fisheries consulting, and fisheries journalism and conservation, including 20 years of fishing experience from deckhand to owner/ operator. Mr. Allen served as the policy advisor to the Atlantic deep-sea red crab fishing industry in the development of the red crab fishery management plan. He developed an innovative mechanism through which the red crab industry was able to reduce excess capacity in the red crab fleet through private contracting. In addition, Mr. Allen served on the Assessment Team for the Atlantic deep-sea red crab and the Louisiana blue crab fisheries MSC assessment as a management expert.

3.3 Summary of Meetings

The sites and people chosen for visits and interviews were based on the assessment team's need to acquire information about the management operations of the fisheries under evaluation. Agencies and their respective personnel responsible for fishery management, fisheries research, fisheries compliance, and habitat protection were identified and contacted with the assistance of the client group and stakeholders.

The assessment team met with managers and scientists on 8th and 9th December, 2010 in Perth, Australia. As with all assessments, there are always a number of issues that come to light when reviewing all the information with critical management and scientific personnel. Questions that arose after the meetings were

handled through email and phone calls with the client and any other necessary entities. In addition a meeting, followed by the scoring meeting was conducted in Perth on the 25th May 2011.

Table 1. Assessment Meetings & Attendees 8th and 9th December, 2010 and 25th May 2011

Name	Role	Affiliation	Dec 2010	May 2011
Dr. Sabine Daume	Team Leader	SCS	+	+
Dr. Malcolm Haddon	Principle 1 Expert	CSIRO	+	+
Dr. Stewart Frusher	Principle 2 Expert	UTAS	+	+
Dr. Bruce Philips	Principle 3 Expert	Curtin University	+	+
John Cole	Client Representatives	Western Rock	+	-
Nic Sofoulis		Lobster Council	-	+
Rhys Brown	MSC coordinator	DoF	+	+
Dr. Simon de Lestang	Stock status/ harvest strategy	DoF	+	+
Peter Stephenson	Stock status/ harvest strategy	DoF	+	-
Dr. Norm Hall	Stock status/ harvest strategy	DoF	+	+
Dr. Jason How	Stock status/ harvest strategy	DoF	+	-
Dr. Lynda Bellchambers	Ecosystem	DoF	+	-
Dr. Matthew Pember	Ecosystem	DoF	+	-
Graeme Baudains	Management	DoF	+	+
Joanne Kennedy	Management	DoF	+	+
Dr. Rick Fletcher	Director Research	DoF	+	-
Dr. Nick Caputi	Research	DoF	+	+
Jo-anne McCrea	Stakeholder	Consultant WWF	+	-
Peter Trott	Stakeholder	WWF	-	+
Gil Waller	Stakeholder	Pro Fish Association Inc.	+	-

3.4 Submission of Data on the Fishery

One of the most significant, and difficult, aspects of the MSC certification process is ensuring that the assessment team gets a complete and thorough grounding in all aspects of the fishery under evaluation. In even the smallest fishery, this is no easy task as the assessment team typically needs information that is fully supported by documentation in all areas of the fishery from the status of stocks, to ecosystem impacts, through management processes and procedures.

Under the MSC program, it is the responsibility of the applying organizations or individuals to provide the information required proving the fishery or fisheries comply with the MSC standards. It is also the responsibility of the applicants to ensure that the assessment team has access to any and all scientists, managers, and fishers that the assessment team identifies as necessary to interview in its effort to properly understand the functions associated with the management of the fishery. Last, it is the responsibility of the assessment team to make contact with stakeholders that are known to be interested, or actively engaged in issues associated with fisheries in the same geographic location. Submissions were received from stakeholders verbally and in writing during or prior to the onsite visits on the 7th December 2010 and 25th May 2011 (see Appendix 1).

4. WESTERN AUSTRALIA ROCK LOBSTER

A brief description of the Western Australia Rock Lobster fishery assessed in this project is provided in the following subsections. The descriptions are general in nature and brief, since a good deal of this information is more fully discussed in Section 11, Assessment Team Performance Evaluations.

4.1 Unit of Certification

The fishery under assessment is the Western Australia Rock Lobster (*Panulirus cygnus*) fishery that operates in Western Australia from Cape Leeuwin (34°24'S) in the south to North West Cape (21°44'S) in the north (see Figure 1).

4.2 Target Species and Life History

The life cycle of the western rock lobster, *Panulirus cygnus*, includes a long (~9 month) oceanic larval phase during which mortality is high, especially during El Niño events. Hatching of eggs occurs in summer (mainly December-January) on the outer continental shelf. The larvae disperse up to 1500 km offshore spending the better part of the year in the south-eastern Indian Ocean. The larvae then return to the continental shelf from about July onwards and metamorphose into the 'puerulus, the first post-larval stage, which swims shoreward and settles in shallow reefs, mostly less than 30 m of water (Kailola et al. 1993; Phillips and Pearce 1997, De Lestang et al. 2010). Juveniles remain on shallow coastal reefs for 3-4 years before recruiting to the fishery (Philips et al. 1991, Melville-Smith et al. 2009, de Lestang et al., 2011).

Adults mate between July and December and females carry the spermatophores until eggs are spawned between August and January. Depending upon the female's size, 100 000 to 1 million eggs are spawned. These eggs are carried on the underside of the female's abdomen until hatched, which may take up to 10 weeks depending on the water temperature.

The size at which lobsters reach sexual maturity has been assessed for both males and females and varies with location (Melville-Smith et al. 2009). The size at first maturity for both males and females decreases significantly from north to south (e.g. females 87.5 mm at Fremantle and 65 mm at the Abrolhos Is) and has declined since 1970 (Melville-Smith et al. 2009). Generally females are sexually mature at approximately 5–6 years of age, when their carapace length measures about 85–95 mm, except at the Abrolhos Is. were many mature at 3 -4 years of age and the bulk are below the legal size of 76 mm (Melville-Smith et al. 2009). The sex ratio is usually 1:1.

Growth rates vary considerably along the coast, with faster juvenile growth occurring in the warmer northern waters. In general, pueruli settle at approximately 8 mm carapace length. One year after settlement, juveniles are about 25 mm in carapace length, 3-year post settlement lobsters range in length from 55 to 70 mm and four-year-post settlement lobsters between 65 and 80 mm carapace length (de Lestang et al. 2011).

P. cygnus are omnivorous and feed at night. Their diet changes according to moult stage, season and habitat. Postmoult lobsters prefer epiphytic coralline algae (e.g. *Corallina* species, *Metagonolithon* species) and intermoult forms prefer molluscan items. Adults eat similar but larger food to that of juveniles — epiphytic coralline algae, molluscs, small crustaceans, polychaete worms and sipunculids (Department of Fisheries 2011a). Predators include, but are not limited to, reef fish, sharks and octopus (*Octopus* species).

4.3 Distribution

The western rock lobster *Panulirus cygnus* (George 1962) is found in temperate to subtropical waters off the west coast of Western Australia, with greater abundances off the mid west coast (Geraldton – Perth) than the northern and southern parts of the west coast (Figure 1). Postlarval stages inhabit the continental shelf from 1 to 200 m in depth. The highest densities occur in waters less than 60 m in depth (Kailola et al., 1993, de Lestang et.al. 2010). Juveniles populate shallow inshore reefs (< 40 m depth) and adults (> 80 mm Carapace Length) form the bulk of the population in deepwater offshore habitats (> 40 m depth) including coral reefs at the Abrolhos Islands.

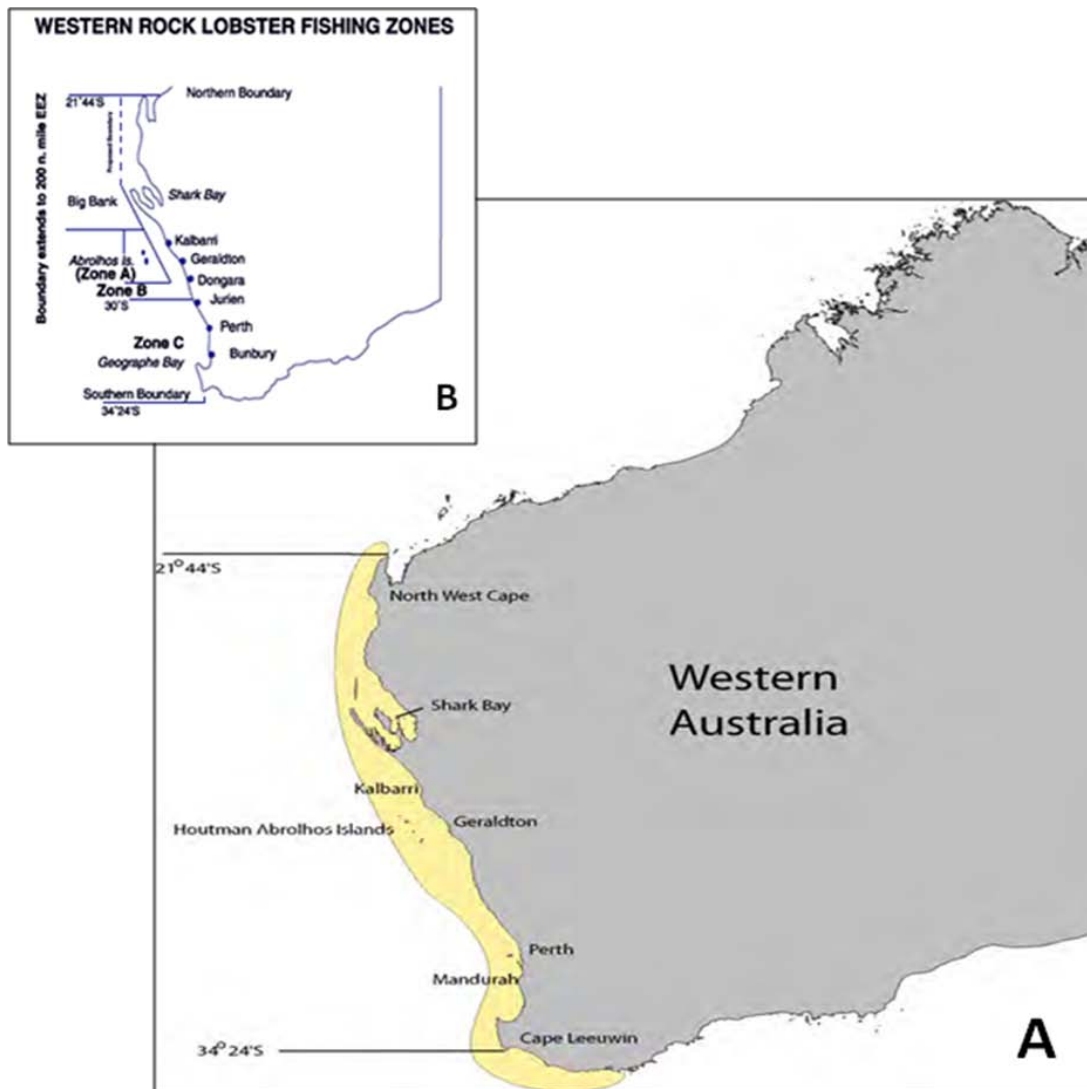


Figure 1: A. Distribution of the western rock lobster (*Panulirus cygnus*) along the Western Australian coastline. B. Western Rock Lobster Fishing zones (WA Fisheries Occasional Publications No. 89, 2011).

5. FISHERY AND MANAGEMENT SYSTEM

The Western Australia Rock Lobster Fishery (WRLF) is undergoing rapid change. In summary: The fishery was managed by a total allowable effort (TAE) system and associated input controls up until 2009/10. The main control mechanism was the number of units (pots/traps) for the fishery, together with a proportional usage rate and the number of days allowed to fish, which created the TAE in pot lifts (i.e.

number of pots in the fishery multiplied by the maximum number of days in the season). This is known as an individually transferable effort (ITE) management system. The number of units allowed in the fishery was set at 68961 in the early 1990s, and since 1993/94 a usage rate of 82% has operated to keep the TAE at a sustainable level. In 2005/06 and 2007/08 further reductions in the usage rate were introduced in zones A and B. Significant reductions in fishing effort were introduced in 2008/09 and 2009/10 to achieve a nominal catch limit that took into account low puerulus settlement (Table 2).

Table 2: Commercial catch of Western Australian Rock Lobster

	TAE				TACC	
YEAR	2005/6	2006/7	2007/8	2008/9	2009/10	2010/11
Commercial Catch (t)	10,326	8,577	8,920	7,593	5,899	5,500
Projected Catch (t)	10,050-10,450	9,450	9,250	7,800	5,500 ± 10%	5,500

A major flow on effect of the low puerulus settlements and the strategies and objectives to deal with them has been the decision to move from an input (effort control) to an output (catch quota) management system. The change to quota was made because it was not possible to control, in real time, the TACC with sufficient accuracy using the complex and cumbersome effort control system, which had led to inequities between fishing regions and individual fishers.

2010/11 Season specific management arrangements:

Total Allowable Commercial Catch (TACC) of 5,500 tonnes set.

Individual catch limits were introduced with the following number of kilograms per unit for the different licensees and other management controls:

- Zone A – 36 kg from 15 November to 14 March
- Zone A – 51 kg from 15 March to end of season (to be taken in Zone B)
- Zone B – 81 kg for entire season
- Zone C – 75 kg for entire season
- Fishing prohibited on weekends (between 15 Nov 2010 and 24 June 2011)
- Big Bank region to remain closed
- Season extended to 31 August
- Zone C start date moved from 25 November to 15 November
- 20 fathom rule removed
- Introduction of crate tags catch and disposal records, authorised receivers, holding over book and catch weighing procedures to monitor fishers' catch.
- Limited "within-season" transferability of entitlement

To ensure a sustainable balance between commercial, recreational and customary catches, the Minister for Fisheries determined (in March 2008), through the Integrated Fisheries Management (IFM) process that the allocated shares of the sectors or the West Coast Rock Lobster Fishery would be 95% to the commercial Sector, 5% to the recreational sector and one tonne to customary fishers. The 2009/10 season was the first season where these shares were formally allocated for all sectors

The Department of Fisheries has implemented Ecosystem Based Fisheries Management (EBFM) and it is the main policy driver for ensuring sustainable fish stocks and marine ecosystems in Western Australia. This policy is set out in the *State of the Fisheries and Aquatic Resources Report 2009/10* pages 21 to 27 (Department of Fisheries 2010) and in greater detail in Fletcher et al (2010).

From 1 July 2010, the licence fees for all fisheries were subject to a new funding model aimed at addressing some of the inequity in the previous cost recovery model. For all commercial fisheries in Western Australia (including the WRLF), an access fee of 5% of gross value of production (GVP) is payable along with 0.75% of GVP to fund industry bodies such as Western Australian Fishing Industry Council (WAFIC) and the Western Rock Lobster Council (WRLC) and contributions to the Fisheries Research and Development Corporation (FRDC). Recreational licence fees are used to support the peak body Recfishwest and research, management, compliance, education etc for the recreational fishing sector. Government consolidated revenue provided 52% of the Department's total expenditure in 2009/10.

The Department of Fisheries, in consultation with major stakeholders (e.g. DoF, WAFIC and WRLC), is currently developing a new WRLF management plan to provide a robust and flexible platform for the new quota management system.

The new management plan for the Fishery is due to be implemented prior to January 2013.

6. STOCK STATUS AND HARVEST STRATEGY

Levels of recruitment into all three zones of the western rock lobster fishery have been well below average levels since 2006/07. This has occurred even though egg production has been at or above limit reference points. The reduction in puerulus settlement first impacted on recruitment to the 'reds' fishery (March to June) in 2009/10 and it is expected to continue to impact until at least 2014/15. The low recruitments and the micro management action required to protect the breeding stock was a catalyst for the transition from an input controlled fishery (managing effort) to one managed through output controls (managing catch). The input controls were based on allocations of pot numbers within three regions and included closed seasons. The catch controls being implemented involve a Total Allowable Commercial Catch that will be allocated as individual transferrable quotas. At the same time as this transition in management regime there has been a significant reduction in catch levels in preparation for the flow on effects of the low recruitment settlements into the breeding stock (the bulk of recruitment to the breeding stock occurs 5-6 years after settlement). The recent effort reductions and TACC have produced a major reduction in the number of fishers operating in the fishery. The significant reduction in catch and effort has led to a greater than 200% increase in observed catch rates, indicating there had been strong competition between pots. The recent adoption of the theory of Maximum Economic Yield as the target objective/reference point for the fishery reflects this improvement in fishery performance. The fishery is expected to be able to maintain itself over the next few years, albeit at a

lower catch level than historically, because of the significant, extensive and timely management interventions that have occurred.

A detailed size-based spatially explicit stock assessment model has been developed to generate the model based reference points that summarize the stock status. This model explicitly considers uncertainty in the key population processes and thus permits this uncertainty to be captured as risk levels in the management decision processes. All of this management is novel and the processes and systems are still being tested.

The western rock lobster fishery is one of the most valuable fisheries in Australia and these radical management revisions demonstrate the commitment that Western Australia has to maintaining this fishery and industry.

7. FISHERY'S IMPACT ON ECOSYSTEM

The Western Australia Rock Lobster Fishery operates on the West Coast of Australia from Cape Leeuwin ($34^{\circ}24'S$) in the south to North West Cape ($21^{\circ}44'S$) in the north and up to 60 km offshore (Figure 1), though the main fishing grounds are between Bunbury in the south and Shark Bay in the north (Figure 1B). The Western Rock Lobster Fishery has experienced a series of very low puerulus settlements (Figure 2) and predicted catches and exploitable biomass are expected to be substantially lower than previously experienced. To better manage this future lower exploitable biomass, a quota management system has been introduced into the fishery and the quota has been set at 5,500 tonnes (Table 2), a reduction of almost 50% from the 2005/06 catch. As the fishery is heavily reliant on recruits, effort/catch controls were implemented in 2008/09, 2009/10 and 2010/11 to restrict the catch and enable legal-sized biomass to flow into the future low recruitment years and into the breeding stock. The introduction of a TACC, combined with individual fisher catch limits and effort controls has seen a significant increase in catch rates and reduction in fishing effort (pot lifts), which has important flow on effects for the ecosystem, for example reductions in by-catch and habitat impacts due to pots.

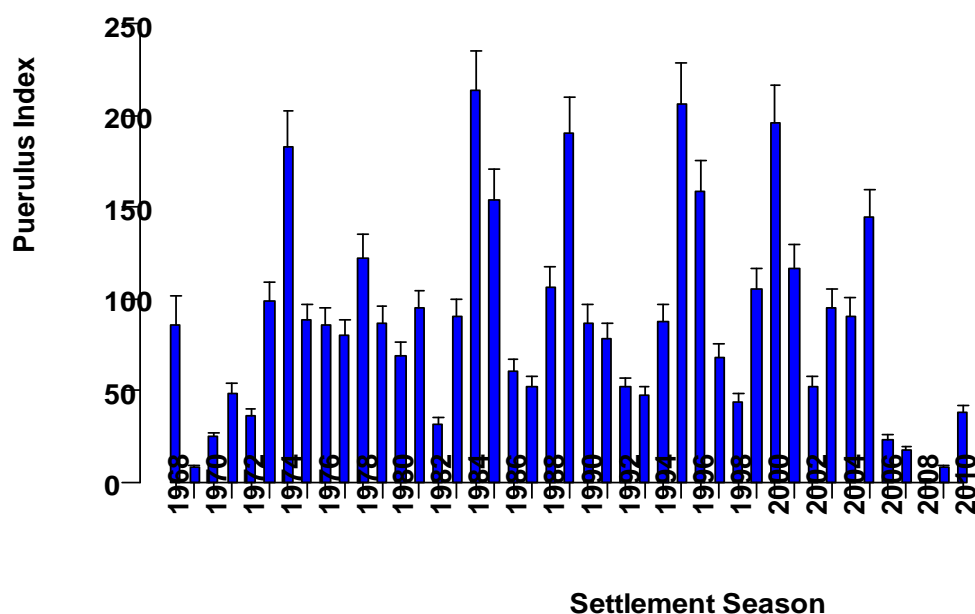


Figure 2: Puerulus settlement index in Dongara/ Jurien (1968-2010).

Thus, the changed circumstances in the fishery will result in ecosystem impacts being substantially less than was the case for previous assessments and this assessment is likely to be conservative. However, while this might be the case for the fishery as a whole, there is a possibility that effort could remain concentrated spatially so that certain areas (e.g. areas that are more expensive to fish) will be very lightly fished whereas other areas could maintain existing pressures. The ecosystems are not distributed evenly throughout the fishery (e.g. deep and shallow water, sub-tropical and temperate), therefore ecosystem issues will need to be assessed at appropriate spatial scales. As such, improved spatial resolution of retained species, by-catch and habitats was seen as the key needed to ensure that impacts on the range of ecosystems that the fishery operates within do not pose a risk of serious or irreversible harm or damage.

7.1 Bycatch - Retained and discard species

Bycatch consists of the incidental catch of non-target species that may or may not be landed. Under MSC Guidelines (FAM v2.1, 7.1.1), the discarded species are designated “bycatch” (PI 2.2.1 - 2.2.3) while the species that are retained for sale or are required to be kept due to management rules are considered “retained” (PI 2.1.1 - 2.1.3). Species that are caught or affected by the fishery that are considered endangered, threatened or protected are considered separately (PI 2.3.1 - 2.3.3). Seabirds and marine mammals are covered under those PIs (see also section 7.3).

The Scoring Guidepost (SG) 60 and SG 80 in the Default Assessment Tree (DAT) refer to “main” species in the retained species and “main” species in the bycatch. Main species are those that comprise 5% or more of the total catch by weight or if the species is particularly vulnerable. The SG 100 considers all species regardless of the percent of the total catch. Prior to scoring Principle 2, the Assessment Team decided whether a species would be considered a “main” retained species or “main” bycatch species.

In a MSC assessment, the bait used in the fishery, if caught by the same fishermen or bought from other sources, is considered “bycatch” (FAM v2.1, 2010). Species that are not caught in the fishery, but are used as bait or species that may be affected indirectly by the fishery are also considered and discussed in Principle 2 Performance Indicator rationales for “bycatch species.” Lobsters are fished by baited pots, which also capture a range of invertebrates and vertebrates. As a passive gear, the majority of animals that are caught in pots are brought to the surface alive. However, in waters greater than 7m barotrauma, the inflation of the swim bladder due to declining pressure is a problem for most finfish species.

8.1.1 Retained species

In addition to all species of rock lobsters, fishermen are allowed to retain deep sea crabs in accordance with the West Coast Rock Lobster Management Plan Amendment (No.11) 2010 (section 5A(1) of the Plan) and octopus.

Only octopus (*Octopus tetricus*) was considered as a retained species as very few deep sea crabs are caught. During the 2008/2009 fishing season an estimated 120,337 octopus were caught. While the average weight of octopus is unknown, an average weight of over 3kg per octopus would be required for octopus to be at least 5% of the commercial rock lobster catch and thus a main retained species. However, octopus are normally only caught in shallower waters (<40m) and it is possible that it would be close to 5% of the commercial catch in this area. The assessment team considered that octopus should, from a precautionary perspective, be assessed as a retained species.

8.1.2 Discard species

Table 3.1 of the *Western Rock Lobster Ecology: State of Knowledge* report (Department of Fisheries 2011a) lists the estimated bycatch caught in the 2006/2007 and 2009/2010 fishing seasons. Only 16 of the 37 species recorded in 2006/2007 were recorded in 2009/2010 which is reflective of the reduced number of pot lifts in the latter survey and the increased focus for identifying species in the former surveys. While the average weight will vary for species, at an average weight of 1 kg/species, the entire estimated bycatch in the 2008/2009 and 2009/2010 fishing seasons was equivalent to 0.6% and 0.3% of the total commercial rock lobster catch respectively. As such, the assessment team did not consider any of the bycatch species as main.

In contrast, the fishery uses an amount of bait approximately equivalent to the total catch of rock lobsters, although it had fallen from 1.4 to 0.8 kg of bait per kg of lobster caught from the 2008/2009 to 2009/2010 fishing seasons. In the 2009/2010 fishing seasons 86% of the bait used in the fishery was imported and 71% of imported bait is derived from New Zealand. Fortunately New Zealand has open reporting on the assessment of their fisheries and thus the impact of bait removal can be determined. Although each of Taiwan, Mauritius, Indonesia and Thailand only account for approximately 1% of the total amount of bait used, there is no available assessment of their fisheries to determine if the bait used by the western rock lobster fishery is being sourced from an unsustainable fishery.

7.2 Endangered, threatened and protected (ETP) species

ETP species are those that are recognized by national legislation and/or binding international agreements to which the jurisdictions controlling the fishery under assessment are party (FAM 2.1, 2010). The Assessment Team considered any species that is listed on the Convention on International Trade in Endangered Species (CITES) list to be an ETP species and/ or recognized by national legislation.

In the Western Rock Lobster Fishery it is mandatory that all interactions between the rock lobster fishery and ETP species need to be recorded on a Catch and Disposal Record.

Interactions with ETPs occur via both direct capture (e.g. sea lions) and indirectly via entanglement in the buoy ropes attached to pots (e.g. turtles and cetaceans) and discarded bait bands (e.g. elasmobranchs, seals, etc).

In Western Australia, all whaler sharks (Family Carcharhinidae), including the dusky shark *Carcharhinus obscurus*, are “Totally protected Fish in the South Coast and West Coast regions” (schedule 2 Part 2 Division 2 of the Fish Resources Management Regulations 1995).

In the 2007 ERA (Stoklosa, 2007), dusky whalers were identified as at moderate risk from mortality associated with entanglement with bait bands although the attribution of the bands to specific fisheries was not possible. Legislation that will effectively ban the disposal of bait bands at sea from all WA fishing vessel (commercial, recreational and charter) has been drafted and is expected to be implemented by the 15th November 2011.

Sea Lion Exclusion Devices (SLEDs) are mandatory in all regions of the fishery that are adjacent to sea lion breeding sites (i.e. waters less than 20 m within approximately 30 km of breeding colonies).

7.3 Habitats

After a protracted larval period of up to 12 months in oceanic waters in the eastern Indian Ocean, post-larvae known as puerulus settle on shallow water limestone reefs, seagrass and algal meadows. Either during or shortly after settling, the puerulus seek shelter in small holes in the limestone reef system. As they grow they move into progressively larger holes or “dens” and move from a solitary to a gregarious lifestyle, sharing their den with other lobsters (Fitzpatrick *et al.* 1990). After spending 3-4 years in the coastal reef systems, sub-adult lobsters migrate from these juvenile habitats on inshore reefs to adult / spawning habitats on deeper offshore reefs adjacent to the continental shelf. This migration is referred to as the “whites migration” as the colour of the shell is much lighter than of sedentary lobsters.

The western rock lobster fishery operates across a range of habitats from coral reefs in northern regions of the fishery to temperate limestone reefs in southern regions of the fishery. Habitat maps are available for many regions of the fishery although these have been mapped for a range of different projects and contain different amounts of detail. A comprehensive summary of the existing habitat data is outlined in the *Western Rock Lobster Ecology: State of Knowledge* report (Department of Fisheries 2011a).

The coral reefs around the Abrolhos Islands region are considered the most sensitive of habitats within the rock lobster fishing grounds. The Abrolhos region is considered unique due to its combination of tropical coral reef communities that mix with algae and seagrasses that are predominately of temperate origin. Within the Abrolhos 32% of the regions where fishing effort has been recorded are in regions of high sensitivity (Table 5.1; *Western Rock Lobster Ecology: State of Knowledge* report. Department of Fisheries 2011a). The Department of Fisheries is undertaking a comprehensive study to provide more detailed maps of the sensitive regions in the Abrolhos and there is consultation with the fishing industry to develop a “code of practice” to minimise impacts in these areas.

7.4 Trophic relationships

The *Western Rock Lobster Ecology: State of Knowledge* report (Department of Fisheries 2011a) summarises the studies undertaken to determine lobster diet, lobster predators and modelling approaches undertaken to understand trophic dynamics in the Western Australian region where the lobster fishery operates. These include the impact of removal of lobsters and the addition of bait from lobster fishing activities. Most of these studies are spatially confined and the assessment team expressed concerns about extrapolation from specific study sites to broader regions of the fishery.

Dietary studies have been primarily undertaken in shallow water ecosystems and reflect the post-larvae and juvenile stages (Edgar, G.J. 1990; Jernakoff *et al.*, 1993; Joll *et al.*, 1984, Department of Fisheries 2011a). Early studies were undertaken in the Seven Mile Beach and Cliff Head regions and the later modelling studies in the Jurien Bay Marine Park (Lozano-Montes *et al.*, *in press*). Initial dietary studies undertaken in the 1980s and early 1990s were based on observations of gut contents from dissected lobsters. More recently (late 2000s), stable isotope analyses have been used as an alternative measure of the importance of specific prey types/groups (Waddington *et al.*, 2008, Guest *et al.*, 2009, Department of Fisheries 2011a).

While prey type is expected to vary between habitats, these studies all indicate that although rock lobsters are a functional omnivore, their role in ecosystem energy transfers is more of a carnivore with mobile invertebrates such as molluscs and crustaceans being key dietary items. Studies of sub-adult and

adult lobsters in nearshore and deeper-water ecosystems indicate that bait makes a substantial addition to the ecosystem (Waddington and Meeuwig, 2009, Department of Fisheries 2011a).

Predators of rock lobsters remain poorly understood and studies have been restricted to shallow water regions and reflect predation on smaller size classes of lobsters (Howard, 1988). Given the broad distribution and different ecosystems that lobsters occupy and the diversity of potential predators, spatial and temporal quantification of predation of lobsters will remain a challenge. However, new technologies such as stable isotopes (Waddington et al, 2008, Guest et al, 2009) and dietary DNA studies (Redd et al, 2008) have the potential to address specific predator-prey interactions in cost effective and non-lethal ways.

The utilisation of qualitative models to categorise impacts from fishing of lobsters on both species and/or guilds of predator and prey species should help refine and prioritise trophic studies including which specific predator-prey interactions to target.

The declaration of a non-fishing region within a central deeper-water region of the fishery and the development of proposals to compare impacts of fishing between fished and non-fished regions should, in time, provide an improved understanding of the trophic impacts due to both the removal of lobsters and the addition of substantial amounts of bait (e.g. between 0.8 – 1.4 kg for every kg of lobster removed from the ecosystem).

8. TRACKING AND TRACING OF FISH AND FISH PRODUCTS AND TARGET ELIGIBILITY DATE

This report does not cover processing beyond the point of landing. This report acknowledges that sufficient monitoring takes place to identify the fishery of origin for all landed lobster. MSC chain of custody certifications were not undertaken in this project, and therefore, needs to be undertaken on a separate and individual basis for those entities that may wish to identify and/or label products derived from the fishery.

8.1 Traceability within the fishery

For the WA lobster fishery, all landings are recorded and reported via mandatory catch and disposal records (CDRs), where the amount of catch and the fishing area are recorded for each fishing trip. This is sufficient to allow a Chain of Custody to be established from the point of landing forward for all products derived from the fishery.

8.2 Eligibility to enter Chains of Custody

All fishing operators in the area are covered under the unit of certification and therefore all WA rock lobster that is landed in WA is eligible to enter into chain of custody.

8.3 Points of landing

WA lobster is landed in 50 ports and sites along the West Coast of Australia. For a complete list of landing sites see Appendix VI.

8.4 At-sea processing

Processing at sea does not occur in this fishery.

8.5 Risk of vessels fishing outside the unit of certification

All fishing operators in the area are covered under the unit of certification. The other Australian Rock Lobster fisheries are geographically separated from the WARL. WARL processors are well established. There are 4 main buyers, Kailis Bros. Pty Ltd. and Geraldton Fishermen's Co-operative Ltd, Indian Ocean Rock Lobster Pty Ltd, and Blue Wave Pty Ltd. that buy directly from the fishermen. Current chain of custody certificates exists for this fishery.

8.6 Risk of substitution at landing

Since all fishing operators in the area are covered under the unit of certification, there is no risk of substitution at landing. When change of ownership occurs they are accompanied by a copy (receiver copy) of the catch and disposal records (CDRs).

8.7 Actual target eligibility date

The fishery is currently certified. This is the 2nd re-assessment. The target eligibility date is the date when the current certificate expires (12 March 2012) and is less than 6 months before the release of the PCDR.

9. OTHER FISHERIES IN THE AREA

There are significant commercial fisheries for other invertebrates in the west coast bioregion including scallops (*Amusium balloti*), abalone (*Haliotis roei*) and blue swimmer crabs (*Portunus pelagicus*). Commercial fishers take a range of finfish species including dhufish (*Glaucosoma hebraicum*) snapper (*Pagrus auratus*), baldchin groper (*Choerodon rubescens*) and emperors (*Lethrinus miniatus*) using demersal line and net methods..

10. SUMMARY OF PREVIOUS CERTIFICATION EVALUATIONS

The Western Australia Rock Lobster Fishery was first certified in 2000 and recertified in 2006. During the 2006 recertification 18 conditions were raised for continued certification. After the 4th annual surveillance audit in December 2010, several of the conditions remained open. These outstanding conditions have been addressed in detail in this assessment (Table 3). In summary, two conditions relating to Principle 1 remained open and two conditions in each of Principle 2 and 3 are still open. At the 4th annual surveillance audit, six conditions in Principle 1, four conditions in Principle 2 were also rescored by the assessment team and closed.

Table 3: Summary of Condition status after the December 2010 and May 2011 recertification meetings showing outstanding issues and mapping to Performance Indicators (PIs) of the new Fishery Assessment Methodology - FAM v2 (2009) used for the reassessment of the fishery.

Performance Indicator	Status of Condition/ Non-Conformances	PI of new FAM v.2.1
1.1.4.4	Open – On Target, will be addressed with new condition	1.2.3
1.1.5.3	Open – On Target, will be addressed with new condition	1.2.3
2.1.1.1	Open – On target, will be addressed with new condition	2.4.3
2.1.3.1	Open – On Target, will be addressed with new condition	2.5.1
2.1.4.2	Open – Behind Target – transferred to P3 will be addressed under 3.3.1	

3.1.4.2	Open – Behind Target, Major Non-Conformance (2010), closed after documents were received for the May 2011 meeting. The remaining issue, which will not be required for a SG80 score, will be addressed with a recommendation.	3.2.4
3.3.1	Open – Behind Target, Major Non-Conformance (2010), closed after documents were received for the May 2011 meeting.	3.1.2

The second full reassessment of the Western Australia Rock Lobster Fishery in May 2011 was undertaken using the default assessment tree with the Performance indicators (PI) and Scoring guideposts (SGs) of the new Fishery Assessment Methodology - FAM v2 (2009). All aspects of any conditions that remained open after the 4th annual surveillance audit in December 2010 were explicitly assessed against the new SGs of this FAM. The different requirements of the new SGs meant that there would not necessarily be a direct correspondence between these outstanding conditions and new ones from the reassessment. Where direct correspondence to a new condition was not logical the reasoning has been explained.

11. MSC PRINCIPLES AND CRITERIA

11.1 MSC Principle 1 – Stock Status and Harvest Strategy

A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted; the fishery must be conducted in a manner that demonstrably leads to their recovery.

Intent:

The intent of this principle is to ensure that the productive capacities of resources are maintained at high levels and are not sacrificed in favor of short term interests. Thus, exploited populations would be maintained at high levels of abundance designed to retain their productivity, provide margins of safety for error and uncertainty, and restore and retain their capacities for yields over the long term.

MSC Criteria:

1. The fishery shall be conducted at catch levels that continually maintain the high productivity of the target population(s) and associated ecological community relative to its potential productivity.
2. Where the exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level consistent with the precautionary approach and the ability of the populations to produce long-term potential yields within a specified time frame.
3. Fishing is conducted in a manner that does not alter the age or genetic structure or sex composition to a degree that impairs reproductive capacity.

11.2 MSC Principle 2 – Ecosystem

Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

Intent:

The intent of this principle is to encourage the management of fisheries from an ecosystem perspective under a system designed to assess and restrain the impacts of the fishery on the ecosystem.

MSC Criteria:

1. The fishery is conducted in a way that maintains natural functional relationships among species and should not lead to trophic cascades or ecosystem state changes.
2. The fishery is conducted in a manner that does not threaten biological diversity at the genetic, species or population levels and avoids or minimizes mortality of, or injuries to endangered, threatened or protected species.
3. Where exploited populations are depleted, the fishery will be executed such that recovery and rebuilding is allowed to occur to a specified level within specified time frames, consistent with the precautionary approach and considering the ability of the population to produce long-term potential yields.

11.3 MSC Principle 3 – Management

The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

Intent:

The intent of this principle is to ensure that there is an institutional and operational framework for implementing Principles 1 and 2, appropriate to the size and scale of the fishery.

MSC Criteria:

A. Management System Criteria:

1. The fishery shall not be conducted under a controversial unilateral exemption to an international agreement.

The management system shall:

2. demonstrate clear long-term objectives consistent with MSC Principles and Criteria and contain a consultative process that is transparent and involves all interested and affected parties so as to consider all relevant information, including local knowledge. The impact of fishery management decisions on all those who depend on the fishery for their livelihoods, including, but not confined to subsistence, artisanal, and fishing-dependent communities shall be addressed as part of this process;
3. be appropriate to the cultural context, scale and intensity of the fishery – reflecting specific objectives, incorporating operational criteria, containing procedures for implementation and a process for monitoring and evaluating performance and acting on findings;
4. observe the legal and customary rights and long term interests of people dependent on fishing for food and livelihood, in a manner consistent with ecological sustainability;
5. incorporates an appropriate mechanism for the resolution of disputes arising within the system;
6. provide economic and social incentives that contribute to sustainable fishing and shall not operate with subsidies that contribute to unsustainable fishing;

7. act in a timely and adaptive fashion on the basis of the best available information using a precautionary approach particularly when dealing with scientific uncertainty;
8. incorporate a research plan – appropriate to the scale and intensity of the fishery – that addresses the information needs of management and provides for the dissemination of research results to all interested parties in a timely fashion;
9. require that assessments of the biological status of the resource and impacts of the fishery have been and are periodically conducted;
10. specify measures and strategies that demonstrably control the degree of exploitation of the resource, including, but not limited to:
 - a) set catch levels that will maintain the target population and ecological community's high productivity relative to its potential productivity, and account for the non-target species (or size, age, sex) captured and landed in association with, or as a consequence of, fishing for target species;
 - b) identify appropriate fishing methods that minimize adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas;
 - c) provide for the recovery and rebuilding of depleted fish populations to specified levels within specified time frames;
 - d) have mechanisms in place to limit or close fisheries when designated catch limits are reached;
 - e) establish no-take zones where appropriate;
11. contain appropriate procedures for effective compliance, monitoring, control, surveillance and enforcement which ensure that established limits to exploitation are not exceeded and specify corrective actions to be taken in the event that they are.

B. MSC Operational Criteria:

Fishing operations shall:

12. make use of fishing gear and practices designed to avoid the capture of non-target species (and non-target size, age, and/or sex of the target species); minimize mortality of this catch where it cannot be avoided, and reduce discards of what cannot be released alive;
13. implement appropriate fishing methods designed to minimize adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas;
14. not use destructive fishing practices such as fishing with poisons or explosives;
15. minimize operational waste such as lost fishing gear, oil spills, on-board spoilage of catch, etc.;
16. be conducted in compliance with the fishery management system and all legal and administrative requirements; and
17. assist and co-operate with management authorities in the collection of catch, discard, and other information of importance to effective management of the resources and the fishery.

11.4 Interpretations of MSC Principles for Performance Assessments

Along with developing a standard for sustainable fisheries management, the MSC also developed a certification methodology that provides the process by which all fisheries are to be evaluated. Accreditation Services International (ASI) accredits certification bodies that can show that the expertise and experience necessary to carry out MSC evaluation is present in the organization. In addition, each certification body must demonstrate its fluency with the MSC standards and evaluation methods through the use of these in a fishery evaluation

The methods are provided in great detail through documents that can be downloaded from the MSC website (www.msc.org). The Fisheries Assessment Methodology (FAM) Version 2.1, released 1 May 2010 is being used for the assessment of the fishery.

The MSC Principles and Criteria are general statements describing what aspects need to be present in fisheries to indicate that they are moving toward sustainable management. The certification approach or methodology adopted by the MSC requires that any assessment of a fishery or fisheries move beyond a management verification program that simply provides third-party assurances that a company's stated management policies are being implemented. The MSC's 'Certification Methodology' is designed to be an evaluation of a fishery's performance to determine if the fishery is being managed consistent with emerging international standards of sustainable fisheries.

12. ASSESSMENT TEAM FISHERY PERFORMANCE EVALUATIONS

After completing all the reviews and interviews, the assessment team is tasked with utilizing the information it has received to assess the performance of the fishery. Under the MSC program, an Assessment Tree is determined for this task. The proposed Assessment Tree is made available for public comment for a period of 30 days. All comments are considered and the Assessment Tree revised where appropriate. The finalized Assessment Tree is used to evaluate the performance of the fishery. Unless determined unsuitable for the particular fishery, the MSC Default Assessment Tree is used whereby the weighting of the Performance Indicators is pre-determined. The Risk-Based Framework may also be used for data poor fisheries. The Assessment Tree may also be modified to suit the specifics of the fishery. In such a case, the process for assessing the fishery is performed by prioritizing and weighting the Performance Indicators (PI) relative to one another at each level of the performance hierarchy established when the assessment team develops the Assessment Tree for the fishery. Each PI has three associated Scoring Guideposts (SG) set at 60, 80 and 100. The SGs have specific elements that must be met for the fishery to get at least a partial score for the particular SG. Each PI under each Principle is weighted so that each of the three Principles is equal to one another. If a fishery scores less than 60 for any PI, it is excluded from certification. The process requires that all team members work together to discuss and evaluate the information they have received for a given performance indicator and come to a consensus decision on weights and scores. Scores and weights are then combined to get overall scores for each of the three MSC Principles. A fishery must have normalized scores of 80 or above on each of the three MSC Principles to be recommended for certification. Should an individual PI receive a score of less than 80, a 'Condition' is established that when met, would bring the fishery's performance for that indicator up to the 80 level score representing a well-managed fishery.

The Default Assessment Tree v.2.1 was used for this assessment.

Below is a written explanation of the assessment team's evaluation of the information it received and the team's interpretation of the information as it pertains to the fishery's compliance with the MSC Principles and Criteria.

12.1 MSC Principle 1

A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations and, for those populations that are depleted, the fishery must be conducted in a manner that demonstrably leads to their recovery.

1.1.1		
The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing.		
SG 60	SG 80	SG 100
It is <u>likely</u> that the stock is above the point where recruitment would be impaired.	It is <u>highly likely</u> that the stock is above the point where recruitment would be impaired. The stock is at or fluctuating around its target reference point.	There is a <u>high degree of certainty</u> that the stock is above the point where recruitment would be impaired. There is a <u>high degree of certainty</u> that the

	The stock is at or fluctuating around its target reference point.	stock has been fluctuating around its target reference point, or has been above its target reference point, <u>over recent years</u> .
--	---	--

Score: 90

1.1.1 Scoring Rationale

The current assessment (de Lestang *et al.*, 2011) and recent fishery performance provides evidence for meeting all the elements in SG60 and SG80. The stock assessment model is a size-based spatially explicit Integrated Assessment that synthesizes an array of different data streams in a manner that permits the characterization of the related uncertainty. In this way risk-based conclusions can be drawn regarding the relative likelihood of meeting the specified target reference points; thus meeting the elements of SG60 and SG80. The current spawning stock biomass is such that there is a high degree of certainty that the first element of the SG100 is met. However, it is now proposed to include the Maximum Economic Yield (MEY) in the target reference point (Section 6, de Lestang *et al.*, 2011) and this is new and is estimated by referring only to a few years so its performance has still to be tested. Because the operational definition of MEY is new (and not fully defined) and experience is still being gathered with respect to its use, the second element of SG100 has still to be met.

1.1.1 Trace References

de Lestang *et al.*, 2011

1.1.2		
Limit and target reference points are appropriate for the stock.		
SG 60	SG 80	SG 100
<u>Generic</u> limit and target reference points are based on justifiable and reasonable practice appropriate for the species category.	<p>Reference points are appropriate for the stock and can be estimated.</p> <p>The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity.</p> <p>The target reference point is such that the stock is maintained at a level consistent with BMSY or some measure or surrogate with similar intent or outcome.</p> <p>For low trophic level species, the target reference point takes into account the ecological role of the stock.</p>	<p>The limit reference point is set above the level at which there is an appreciable risk of impairing reproductive capacity following consideration of relevant <u>precautionary issues</u>.</p> <p>The target reference point is such that the stock is maintained at a level consistent with BMSY or some measure or surrogate with similar intent or outcome, <u>or a higher level</u>, and takes into account relevant precautionary issues such as the ecological role of the stock with a high degree of certainty.</p>

Score: 90

1.1.2 Scoring Rationale

The limit reference point refers directly to egg production and this is commonly used in successfully managed crustacean fisheries. It is proposed that the target reference point now includes the MEY, which is usually a more conservative biomass target than MSY and thus has better ecological implications than MSY. Thus, all the elements of SG60 and SG80 are met. The first element of the SG100 requirements is met through the Limit Reference Point being the egg production level that occurred in the 1980s, which, through experience, was found fully capable of sustaining the resource (de Lestang *et al.*, 2011). This Limit Reference Point is now implemented in a manner that accounts for the risks and uncertainties within the assessment that calculates the level of egg production. However, the final element under SG100 (taking into account the ecological role of the stock with a high degree of certainty) is only simply met and with the current understanding it would be very difficult to meet this element for the whole of the stock on the west coast of Australia.

1.1.2 Trace References

de Lestang *et al.*, 2011

1.1.3		
Where the stock is depleted, there is evidence of stock rebuilding.		
SG 60	SG 80	SG 100
Where stocks are depleted rebuilding strategies which have a <u>reasonable expectation</u> of success are in place. Monitoring is in place to determine whether they are effective in rebuilding the stock within a <u>specified</u> timeframe.	Where stocks are depleted rebuilding strategies are in place. There is <u>evidence</u> that they are rebuilding stocks, or it is highly likely based on simulation modeling or previous performance that they will be able to rebuild the stock within a <u>specified</u> timeframe	Where stocks are depleted, strategies are <u>demonstrated</u> to be rebuilding stocks continuously and there is strong evidence that rebuilding will be complete within the <u>shortest practicable</u> timeframe.

Score: N.A.

The stock is not currently in a depleted state. There is a process in place to avoid the depletion expected due to the recent below average recruitment. The complete management system has recently been changed as an expression of this process. Performance Indicator 1.1.3 is not scored when the stock is not depleted and there is no stock rebuilding mechanism in operation.

1.2.1		
There is a robust and precautionary harvest strategy in place.		
SG 60	SG 80	SG 100

<p>The harvest strategy is <u>expected</u> to achieve stock management objectives reflected in the target and limit reference points.</p> <p>The harvest strategy is <u>likely</u> to work based on prior experience or plausible argument.</p> <p><u>Monitoring</u> is in place that is expected to determine whether the harvest strategy is working.</p>	<p>The harvest strategy is responsive to the state of the stock and the elements of the harvest strategy <u>work together</u> towards achieving management objectives reflected in the target and limit reference points.</p> <p>The harvest strategy may not have been fully tested but monitoring is in place and <u>evidence</u> exists that it is achieving its objectives.</p>	<p>The harvest strategy is responsive to the state of the stock and is <u>designed</u> to achieve stock management objectives reflected in the target and limit reference points.</p> <p>The performance of the harvest strategy has been <u>fully evaluated</u> and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels.</p> <p>The harvest strategy is <u>periodically reviewed and improved</u> as necessary.</p>
---	---	---

Score: 85

1.2.1 Scoring Rationale

There is a well designed Harvest Strategy in place, which is described clearly in the stock assessment document and is also publically available (de Lestang *et al.*, 2011, Donohue *et al.*, 2010). There is a letter from the Minister saying that he endorses the Harvest Strategy, which is a response to a condition from the previous MSC assessment. The Harvest Strategy includes an array of monitoring tools that gather the data required to determine the status of the stock in the three regions with respect to the limit and target reference points. The final element of SG80 has been demonstrated recently through the changes to the fishery. However, the target reference point is new and the harvest strategy has not been formally evaluated and tested. It is certainly designed to achieve stock management objectives so the first element of SG100 is met. However, being so new there has not been time to review its structure. Therefore the other two elements of the SG 100 are not met and a higher score cannot be justified.

1.2.1 Trace References

de Lestang *et al.*, 2011; Donohue *et al.*, 2010

1.2.2		
There are well defined and effective harvest control rules in place.		
SG 60	SG 80	SG 100
<p><u>Generally understood</u> harvest control rules are in place that are consistent with the harvest strategy and which act to reduce the exploitation rate as limit reference points are</p>	<p><u>Well defined</u> harvest control rules are in place that are consistent with the harvest strategy and ensure that the exploitation rate is reduced as limit reference points are approached.</p> <p>The <u>selection</u> of the harvest control rules</p>	<p>The <u>design</u> of the harvest control rules take into account a <u>wide</u> range of uncertainties.</p> <p><u>Evidence clearly shows</u> that the tools in use are effective in achieving the exploitation levels required under</p>

approached. There is <u>some evidence</u> that tools used to implement harvest control rules are appropriate and effective in controlling exploitation.	takes into account the <u>main</u> uncertainties. <u>Available evidence indicates</u> that the tools in use are appropriate and effective in achieving the exploitation levels required under the harvest control rules.	the harvest control rules.
--	---	----------------------------

Score: 75

1.2.2 Scoring Rationale

A Harvest Strategy has three components 1) monitoring to provide data for an assessment, 2) reference points (limit and target) that act as criteria against which to compare the assessment, 3) control rules that respond to the assessment relative to the reference points and guide the management of harvest rates in some predetermined fashion in order to move away from the limit reference point and towards the target reference point. The western rock lobster fishery has the monitoring and the assessment against reference points and so it meets the elements of SG60 (de Lestang *et al.*, 2011). There is no doubt that exploitation levels can be controlled, as the recent halving of catches demonstrates, however, there are, as yet, no “well-defined” control rules; the first part of the first element of SG80. The intent is clearly there but strictly, without being formally defined, the elements of SG80 cannot be said to have been met.

1.2.2 Trace References

de Lestang *et al.*, 2011

Condition 1.2.2:

By the 2nd annual surveillance audit the client shall provide control rules that are “well defined”.

1.2.3		
Relevant information is collected to support the harvest strategy.		
SG 60	SG 80	SG 100
<u>Some</u> relevant information related to stock structure, stock productivity and fleet composition is available to support the harvest strategy. Stock abundance and fishery removals are monitored and at least one indicator is available and	<u>Sufficient</u> relevant information related to stock structure, stock productivity, fleet composition and other data is available to support the harvest strategy. Stock abundance and fishery removals are <u>regularly monitored at a level of accuracy and coverage consistent with the harvest control rule</u> , and one or more indicators are available and monitored with	A <u>comprehensive range</u> of information (on stock structure, stock productivity, fleet composition, stock abundance, fishery removals and other information such as environmental information), including some that may not be directly relevant to the current harvest strategy, is available. <u>All information</u> required by the harvest control rule is monitored with high frequency and a high degree of certainty,

monitored with sufficient frequency to support the harvest control rule.	sufficient frequency to support the harvest control rule. There is good information on all other fishery removals from the stock.	and there is a good understanding of the inherent <u>uncertainties</u> in the information [data] and the robustness of assessment and management to this uncertainty.
--	--	---

Score: 75

1.2.3 Scoring Rationale

There is a wide range of data gathering and monitoring so all the elements relating to monitoring in SG60 are met (de Lestang *et al.*, 2011). However, while there is a collection of information sufficient to support the harvest strategy, in terms of being able to estimate the reference points in a risk-based framework, there remains a lack of clarity over how monitoring will be used to inform the harvest strategy's control rules. The monitoring is there and capable but it doesn't relate to the control rules because these have yet to be defined. As such while both the first and third elements of SG80 appear to have been met this does not meet the second element in SG80. In addition, there is a wide range of ancillary information collected with respect to the oceanography, habitats, biological communities and dynamics of the Western Australian coast (e.g. Caputi *et al.*, 2010). Nevertheless, without defining how the information collected will be used in the context of formal control rules we cannot justify a higher score.

1.2.3 Trace References

de Lestang *et al.*, 2011, Caputi *et al.*, 2010

Condition 1.2.3:

By the 2nd annual surveillance audit the client shall provide evidence on how the information that is currently collected is used to inform/assess the formal control rules developed as part of condition 1.2.2.

1.2.4		
There is an adequate assessment of the stock status.		
SG 60	SG 80	SG 100
The assessment estimates stock status relative to reference points. The major sources of uncertainty are identified.	The assessment is appropriate for the stock and for the harvest control rule, and is evaluating stock status relative to reference points. The assessment takes uncertainty into account. The stock assessment is subject to peer review.	The assessment is appropriate for the stock and for the harvest control rule and takes into account the major features relevant to the biology of the species and the nature of the fishery. The assessment takes into account uncertainty and is evaluating stock status relative to reference points in a probabilistic way. The assessment has been tested and shown to be robust. Alternative hypotheses and assessment approaches have been rigorously explored.

		The assessment has been <u>internally and externally</u> peer reviewed.
--	--	---

Score: 90

1.2.4 Scoring Rationale

The new stock assessment determines stock status relative to both limit and target reference points and being a size-based spatially explicit integrated stock assessment model it synthesizes many data streams in a manner that permits the representation the various sources of uncertainty in the data collected (de Lestang et al., 2011). Such models are typical for use with difficult to age species such as rock lobsters and this model has received both national and International review. As such this meets all the elements of SG60 and SG80. In addition, the new assessment model takes account of many details of the growth and spatial dynamics expressed by the western rock lobster. This therefore also meets the first two elements of SG100. The assessment and management strategy is new and remains to be tested and while the assessment has already been reviewed it has only been run once, which limits the detail of any review. So while the fourth element of SG100 has been approached the third element has yet to begin.

1.2.4 Trace References

de Lestang *et al.*, 2011

12.2 MSC Principle 2

Fishing operations should allow for the maintenance of the structure, productivity, function and diversity of the ecosystem (including habitat and associated dependent and ecologically related species) on which the fishery depends.

2.1.1

The fishery does not pose a risk of serious or irreversible harm to the retained species and does not hinder recovery of depleted retained species.

SG 60	SG 80	SG 100
<p>Main retained species are <u>likely</u> to be within biologically based limits or if outside the limits there are <u>measures</u> in place that are <u>expected</u> to ensure that the fishery does not hinder recovery and rebuilding of the depleted species.</p> <p>If the status is poorly known there are measures or practices in place that are expected to result in the fishery not causing the retained species to be outside biologically based limits or hindering recovery.</p>	<p>Main retained species are <u>highly likely</u> to be within biologically based limits, or if outside the limits there is a <u>partial strategy</u> of <u>demonstrably effective</u> management measures in place such that the fishery does not hinder recovery and rebuilding.</p>	<p>There is a <u>high degree of certainty</u> that retained species are within biologically based limits.</p> <p>Target reference points are defined and retained species are at or fluctuating around their target reference points.</p>

Score: 80

2.1.1 Scoring Rationale: Rock lobster trap fisheries tend to retain extremely low numbers of non-lobster species per trap-lift, but the fishery can harvest substantial numbers of these species due to the large number of trap-lifts undertaken (Frusher and Gibson, 1999). The Assessment Team determined that the main retained species for this fishery is octopus (*Octopus tetricus*). Although it is only around 3% of the total catch (Department of Fisheries. 2011a) and therefore does not meet the retained species criteria for assessment, octopus are generally caught in shallower water and would represent a higher proportion of the catch in this region. Octopus have becoming increasingly valuable and considered an important byproduct species for the fishery. In response to this increased value and importance the Department of Fisheries are preparing management plans for the WA octopus fishery. It is anticipated that this plan will contain target reference points and provide the certainty that the octopus catch is being harvested within biologically based limits after all sources of mortality are accounted for. Therefore the fishery meets all elements of the 60 and 80 guideposts.

2.1.1 Trace References

Frusher and Gibson, 1999; Department of Fisheries. 2011a

2.1.2

There is a strategy in place for managing retained species that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to retained species.

SG 60	SG 80	SG 100
<p>There are <u>measures</u> in place, if necessary, that are expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>The measures are considered <u>likely</u> to work, based on plausible argument (eg, general experience, theory or comparison with similar fisheries/species).</p>	<p>There is a <u>partial strategy</u> in place, if necessary that is expected to maintain the main retained species at levels which are highly likely to be within biologically based limits, or to ensure the fishery does not hinder their recovery and rebuilding.</p> <p>There is some <u>objective basis for confidence</u> that the partial strategy will work, based on some information directly about the fishery and/or species involved.</p> <p>There is <u>some evidence</u> that the partial strategy is being <u>implemented successfully</u>.</p>	<p>There is a <u>strategy</u> in place for managing retained species.</p> <p>The strategy is mainly based on information directly about the fishery and/or species involved, and <u>testing</u> supports <u>high confidence</u> that the strategy will work.</p> <p>There is <u>clear evidence</u> that the strategy is being <u>implemented successfully</u>, and intended changes are occurring.</p> <p>There is some evidence that the strategy is <u>achieving its overall objective</u>.</p>

Score: 90

2.1.2 Scoring Rationale:

The identified retained species in the rock lobster fishery are octopus, deep-sea crabs (*Hypothalassia acerba*), slipper lobsters (Scyllaridae) and demersal scalefish (Department of Fisheries. 2011a). Strategies for managing retained species include the development of species specific management plans and the implementation of catch limits. For deepsea crabs there is a limit of 12 crabs for personal consumption and demersal finfish which can only be harvested for personal use. This meets the first element of SG100.

There is high confidence that these strategies are working as there have been no concerns raised about the magnitude of the bycatch of these species or suggestions for further restriction on the catch limits (second element SG100). The recorded catch is low for these finfish species (see Table 3.1 of the *Western Rock Lobster Ecology – The State of Knowledge* (Department of Fisheries, 2001a) report). However, it is only mandatory that individuals of retained species that are kept on board are recorded in the CDR form. If fish are returned to the sea then they are not recorded on the CDR form. This is possibly only likely for small individuals and while this figure is expected to be very low, the survival of any discarded fish would be low due to barotrauma. Although expected to be very minor it does constitute a source of unrecorded mortality.

There have been no convictions by Fisheries and Marine Compliance Officers, which indicates that there has been good compliance with the implementation of these catch limits (second element SG100).

The strategy for managing octopus was to maintain the catch rate within historical limits. Given the substantial reduction in effort in the fishery with the introduction of the quota system, the interpretation of catch rates for octopus will be challenging. The Department of Fisheries has appointed a cephalopod scientist to develop an octopus stock assessment and management plan to ensure sustainable utilisation of this resource. However, until the plan has been implemented and analyses undertaken to determine sustainable harvest limits, it is not possible to determine if the strategy of maintaining historical catch rates will meet the objective of a sustainable octopus fishery and thus does not meet the fourth element of SG100.

2.1.2 Trace References

Department of Fisheries, 2011a

2.1.3		
Information on the nature and extent of retained species is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage retained species.		
SG 60	SG 80	SG 100
<u>Qualitative information</u> is available on the amount of main retained species taken by the fishery. Information is <u>adequate</u> to <u>qualitatively</u> assess	<u>Qualitative information</u> and some quantitative information are available on the amount of main retained species taken by the fishery. Information is <u>sufficient</u> to estimate outcome status with respect to biologically based limits.	Accurate and verifiable information is available on the catch of all retained species and the consequences for the status of affected populations. Information is <u>sufficient</u> to <u>quantitatively</u> estimate outcome status with a <u>high</u> degree of certainty.

<p>outcome status with respect to biologically based limits.</p> <p>Information is adequate to support <u>measures</u> to manage <u>main</u> retained species.</p>	<p>Information is adequate to support a <u>partial strategy</u> to manage <u>main</u> retained species.</p> <p>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the strategy).</p>	<p>Information is adequate to support a <u>comprehensive strategy</u> to manage retained species, and evaluate with a <u>high degree of certainty</u> whether the strategy is achieving its objective.</p> <p>Monitoring of retained species is conducted in sufficient detail to assess ongoing mortalities to all retained species.</p>
--	--	---

Score: 80

2.1.3 Scoring Rationale:

There is both qualitative and quantitative information available on the amount of octopus caught by the fishery (SG80) (see Department of Fisheries, 2011a) and this information is sufficient to estimate outcome status with respect to biologically based limits (SG80). Recording the catch of octopus is a component of the mandatory CDRs that fishers use to record their daily fishing activities. This information is ongoing and considered appropriate to support a partial strategy for managing the impact of the fishery on octopus (SG80). However, there is limited knowledge available on the life history components to be able to determine biologically based limits and to provide the degree of certainty required to meet SG 100. In addition, monitoring, assessment and management strategy for each of the other minor retained species would be required to achieve a score of 100.

2.1.3 Trace References

Department of Fisheries, 2011a

2.2.1

The fishery does not pose a risk of serious or irreversible harm to the bycatch species or species groups and does not hinder recovery of depleted bycatch species or species groups.

SG 60	SG 80	SG 100
<p>Main bycatch species are <u>likely</u> to be within biologically based limits, or if outside such limits there are mitigation <u>measures</u> in place that are <u>expected</u> to ensure that the fishery does not hinder recovery and rebuilding.</p> <p>If the status is poorly known there are measures or practices in place that are expected result in the fishery not causing the bycatch species to be biologically based limits or hindering recovery.</p>	<p>Main bycatch species are <u>highly likely</u> to be within biologically based limits or if outside such limits there is a <u>partial strategy of demonstrably effective</u> mitigation measures in place such that the fishery does not hinder recovery and rebuilding.</p>	<p>There is a <u>high degree of certainty</u> that bycatch species are within biologically based limits.</p>

Score: 95

2.2.1 Scoring Rationale:

None of the bycatch species are caught in sufficient numbers to be classified as main. The average weight of each bycatch species caught in rock lobster pots is not reported. Assuming an average weight of 1kg (please note that this is for illustrative purposes and not an indication of the specific weight of any species), Break Sea Cod (*Epinephelides armatus*), the most numerous species caught, represented 0.2% and 0.1% of the total lobster catch in 2006/07 and 2009/10 respectively. With the decline in effort in the fishery, the total estimated number of Break Sea Cod caught by the fishery reduced by 67% between 2006/07 and 2009/10.

Thirty seven species or groups were recorded in a survey of bycatch species undertaken in 2006/07 (Department of Fisheries. 2011a). Sixteen of these species were recorded as bycatch in 2009/10 in a less intensive study. Species and catch rates are recorded in Table 3.1 of the *Western Rock Lobster Ecology – The State of Knowledge* (Department of Fisheries 2001a) report. Of the bycatch species that are of commercial importance (e.g. Breaksea Cod and Baldchin Grouper), the catch taken by the rock lobster fishery are accounted for in the Fishery assessments of these species. For these species there is a high degree of certainty that they are within biologically based limits. However, for the non-commercial species there are no reference points and thus a degree of uncertainty if they were within the limits (<SG100). However, the Assessment Team considered that it was highly unlikely that any of the bycatch species were being captured outside their biologically based limits due to the combination of low catch rates and the substantial reduction in total catch of each species due to the reduced effort associated with the new management plan (>SG80).

Due to their life history (i.e. low fecundity, long lived, age at maturity) elasmobranchs are a group of special interest as they are highly vulnerable to fishing activity and the assessment team considered these separately. In the WA rock lobster fishery, elasmobranchs are represented by wobbegong (*Orectolobus* spp.) and Port Jackson sharks (*Heterodontus portusjacksoni*) and are a major component of the bycatch. In 2006/2007 and 2009/10 they represented 45 and 37% of the total number of bycatch species caught. Although no average weight of each bycatch species is recorded, the average weight of these species would have to be 3kgs in 2006/2007 and 10kgs in 2009/2010 for these sharks to represent 1% by weight of the lobster catch. Unlike finfish species, sharks do not suffer from barotrauma and survive capture and release. In addition to the decline in the proportion of sharks in the catch, the reduced effort in the fishery resulted in a 66% and 90% decline in the total number of wobbegong and Port Jackson sharks caught respectively. There is considered to be a high degree of certainty that these sharks are within biologically based limits (SG100).

The western rock lobster fishery is dependent on bait to induce lobsters to enter pots and used between 0.8 to 1.4 kgs of bait for every kg of lobsters harvested in the fishery. Table 3.3 of the *Western Rock Lobster Ecology – The State of Knowledge* report (Department of Fisheries 2001a) provides a detailed list of the species and source of bait used in the western rock lobster fishery. Nearly 86% of bait is imported from overseas with the majority (37%) being Blue mackerel (*Scomber australasicus*) from New Zealand. A further 34% of imported overseas bait comes from heads of processed fish. From Australia, Blue mackerel from South Australia makes up 50% of the bait used and a further 24% is derived from heads of processed fish. With the exception of bait sourced from Taiwan (0.9%), Thailand (0.9%), Mauritius (1.6%) and Indonesia (1.0%), were there is no information available on the sustainability of their fisheries, there are no reports either nationally or internationally that any of the fisheries from which bait is sourced are operating outside their biologically based limits (SG100).

With the substantial reduction in pot-lifts (>70% from 2007/08 to 2009/10) in the new management plan there is expected to be a concomitant reduction in the amount of bait used. However there has been a tendency for increasing the amount of bait used per trap from 1.25 kg/trap lift in 2007/08 to 2.08 kg/trap lift in 2009/10, due to fishers using more bait to last over the weekend closures that applied in 2008/09 and 2009/10. Despite the increased use of bait there has been an overall reduction in the total amount of bait used between these fishing seasons of approximately 55%. The Assessment Team considered that bait usage was not a significant component of their respective fisheries to pose serious or irreversible harm. However for several international species it was not possible to know whether they were within biologically based limits (<SG100). Therefore a score of 95 was awarded.

2.2.1 Trace References

Department of Fisheries 2011a; Waddington and Meeuwig, 2009

2.2.2		
There is a strategy in place for managing bycatch that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to bycatch populations.		
SG 60	SG 80	SG 100
<p>There are <u>measures</u> in place, if necessary, which are expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.</p> <p>The measures are considered <u>likely</u> to work, based on plausible argument (e.g general experience, theory or comparison with similar fisheries/species).</p>	<p>There is a <u>partial strategy</u> in place, if necessary, for managing bycatch that is expected to maintain main bycatch species at levels which are highly likely to be within biologically based limits or to ensure that the fishery does not hinder their recovery.</p> <p>There is <u>some objective basis for confidence</u> that the partial strategy will work, based on some information directly about the fishery and/or the species involved.</p> <p>There is <u>some evidence</u> that the partial strategy is being implemented successfully.</p>	<p>There is a <u>strategy</u> in place for managing and minimising bycatch. The strategy is mainly based on information directly about the fishery and/or species involved, and testing supports <u>high confidence</u> that the strategy will work.</p> <p>There is <u>clear evidence</u> that the strategy is being implemented successfully, and intended changes are occurring. There is some evidence that the strategy is achieving its objective.</p>

Score: 80

2.2.2 Scoring Rational:

A partial strategy was not considered necessary as there are no main bycatch species. Apart from reporting bycatch, there is no strategy to minimize bycatch in the fishery and neither element of SG100 is met.

There was no strategy to manage or minimize the amount of bait being used and despite substantial declines in overall bait usage due to the current management plan, the amount of bait per trap lift has increased by 66% over the last 2 fishing seasons (<SG100). However, the change from a competitive quota system to an ITQ system and the removal of weekend closures were fishers increased bait usage to keep the pots active over the closed period is expected to result in a decline in the amount of bait per trap lift. At the present time, a higher score than 80 was not justified

2.2.2 Trace References

Department of Fisheries, 2011a

2.2.3		
Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch.		
SG 60	SG 80	SG 100
<p><u>Qualitative information</u> is available on the amount of main bycatch species affected by the fishery.</p> <p>Information is <u>adequate to broadly understand</u> outcome status with respect to biologically based limits.</p> <p>Information is adequate to support <u>measures</u> to manage bycatch.</p>	<p><u>Qualitative information and some quantitative information</u> are available on the amount of main bycatch species affected by the fishery.</p> <p>Information is sufficient to estimate outcome status with respect to biologically based limits.</p> <p>Information is adequate to support a <u>partial strategy</u> to manage main bycatch species.</p> <p>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).</p>	<p><u>Accurate and verifiable information</u> is available on the amount of all bycatch and the consequences for the status of affected populations.</p> <p>Information is <u>sufficient</u> to quantitatively estimate outcome status with respect to biologically based limits with a <u>high degree of certainty</u>.</p> <p>Information is adequate to support a <u>comprehensive strategy</u> to manage bycatch, and evaluate with a high degree of certainty whether a strategy is achieving its objective.</p> <p>Monitoring of bycatch data is conducted in sufficient detail to assess ongoing mortalities to all bycatch species.</p>

Score: 80

2.2.3 Scoring Rationale:

There are no bycatch species caught in sufficient quantities to be classified as main and thus SG60 and SG 80 do not apply. The criteria was scored against SG100.

While the *Western Rock Lobster Ecology – The State of Knowledge* report (Department of Fisheries 2001a) lists the bycatch from the fishery, the data is aggregated for the fishery as a whole. While there is qualitative and quantitative information on the amount of bycatch species, there is concern about the

spatial representativeness of the data due to the low coverage of pots (~1.2%) and the spatial coverage of the sampling. Thus it was not possible to conclude that there was accurate and verifiable information available on the amount of bycatch or the consequences for the status of affected populations. This large extrapolation results in uncertainty in the ability to quantitatively estimate outcome status with respect to biologically based limits although, as noted in 2.2.1, the amount of bycatch is considered to be insufficient to pose a serious or irreversible threat to the bycatch species. Thus currently monitoring of bycatch is not conducted in sufficient detail nor is their sufficient information to support a strategy to manage bycatch.

However, it was noted that there is to be an increase in the IBSS surveys to increase spatial coverage and that under the new quota management regime, there will be an increase in “at-sea” sampling. Another important development for this criteria is the new requirement for mandatory recording of bycatch in the CDRs and voluntary research logbooks. However continued observer coverage through existing surveys and “at-sea” sampling will be required to validate logbook records as the current match between observer data and voluntary logbooks is poor. Once implemented, the Assessment Team believes that the monitoring of bycatch will be conducted in sufficient detail to assess mortalities to all bycatch species and it should also provide sufficient information to adequately support a comprehensive strategy to manage bycatch.

There was also concern over how the data is being used. Currently it is just reported as a list and there appears to be no analysis of the data. While the list of total numbers caught by the fishery is sufficient to demonstrate on a fishery wide basis that bycatch is minimal for this fishery, a basic comparison between years, sites and depths would be informative and help guide future monitoring designs. It would also help demonstrate the spatial representativeness of the data and help evaluate whether the fishery is posing any risk to localized populations of bycatch species.

As noted in 2.2.1 there is accurate and verifiable information available for bait species to understand the consequences for the status of affected populations with the exception of the Taiwan, Thailand, Mauritius and Indonesia sources of bait supply. For these countries there is no appropriate information available. With the exception of these countries, the information on the nature and amount of bait and the associated fisheries from where the bait is sourced is sufficient to meet SG 100.

2.2.3 Trace References

Department of Fisheries 2011a

2.3.1		
The fishery meets national and international requirements for protection of ETP species.		
The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.		
SG 60	SG 80	SG 100
Known effects of the fishery are <u>likely</u> to be within limits of national and international	The effects of the fishery are known and are <u>highly likely</u> to be within limits of national and international requirements for protection of ETP species.	There is a <u>high degree of certainty</u> that the effects of the fishery are within limits of national and international requirements for

requirements for protection of ETP species. Known direct effects are <u>unlikely</u> to create <u>unacceptable impacts</u> to ETP species.	Direct effects are <u>highly unlikely</u> to create <u>unacceptable impacts</u> to ETP species. Indirect effects have been considered and are thought to be unlikely to create unacceptable impacts.	protection of ETP species. There is a <u>high degree of confidence</u> that there are <u>no significant detrimental effects (direct and indirect)</u> of the fishery on ETP species.
---	---	---

Score: 95

2.3.1 Scoring Rationale: The fishing industry has demonstrated a willingness to address ETP issues as demonstrated by the introduction of SLEDS at the Abrolhos Is earlier this year and the support of a total ban on the discarding at sea of bait bands. The bait band ban is scheduled to be implemented on the 15th November 2011. There is a high degree of certainty that the effects of fishing on ETP species will be within limits of national and international requirements for the protection of ETP species and thus the first elements of SG 60, 80 and 100 are met. Known direct (SG60) and indirect (SG80) effects are highly unlikely to create unacceptable impacts. Until the bait band ban has been introduced and monitored to ensure compliance there is not a high degree of confidence that there are no significant detrimental effects (indirect) of the fishery on ETP species and thus does not meet the last element of SG100.

2.3.1 Trace References

Department of Fisheries 2011a; de Lestang *et al.* 2010; Brown and How 2010.

2.3.2		
<p>The fishery has in place precautionary management strategies designed to:</p> <ul style="list-style-type: none"> - meet national and international requirements; - ensure the fishery does not pose a risk of serious or irreversible harm to ETP species; - ensure the fishery does not hinder recovery of ETP species; and - minimize mortality of ETP species. 		
SG 60	SG 80	SG 100
<p>There are <u>measures</u> in place that minimize mortality, and are expected to be highly likely to achieve national and international requirements for the protection of ETP species.</p> <p>The measures are <u>considered likely</u> to work, based on <u>plausible argument</u> (eg. general</p>	<p>There is a <u>strategy</u> in place for managing the fishery's impact on ETP species, including measures to minimize mortality that is designed to be highly likely to achieve national and international requirements for the protection of ETP species.</p> <p>There is an <u>objective basis for confidence</u> that the strategy will work, based on <u>some information</u> directly about the fishery and/or</p>	<p>There is a <u>comprehensive strategy</u> in place for managing the fishery's impact on ETP species, including measures to minimize mortality that is designed to achieve <u>above</u> national and international requirements for the protection of ETP species.</p> <p>The strategy is mainly based on information directly about the fishery and/or species involved, and a <u>quantitative analysis</u> supports <u>high confidence</u> that the strategy will work.</p>

experience, theory or comparison with similar fisheries/species).	the species involved. There is <u>evidence</u> that the strategy is being implemented successfully.	There is <u>clear evidence</u> that the strategy is being implemented successfully, and intended changes are occurring. There is evidence that the strategy is achieving its objective.
---	--	---

Score: 85

2.3.2 Scoring Rationale:

The legislation of SLEDs and the ban on bait bands (see 2.3.1) demonstrate that a comprehensive strategy has been, or will be, put in place to minimize mortality on ETP species that is above national and international requirements and thus meets the first element at the SG100 level. In addition to these, fishers have a code of practice and contact details for the WA whale watch program should a whale become entangled in a buoy line. There has also been a very large reduction in fishing effort (60 - 70%) that has reduced the likelihood of whale, other cetacean and turtle entanglements in fishing ropes.

While there is evidence that similar strategies have worked elsewhere and thus an objective basis for confidence that the strategies will work (SG80), the strategies have not been in place for sufficient time to provide clear evidence that the intended changes are occurring and thus the strategies are achieving their objectives and therefore does not meet the second element at SG100. Until there is sufficient monitoring time it is not possible to undertake a quantitative analysis to indicate that they are working. For example, it is unknown if all fishers will adhere to the bait band policy.

2.3. 2 Trace References

Department of Fisheries, 2011a; de Lestang *et al.*, 2010; Brown and How, 2010.

2.3.3		
Relevant information is collected to support the management of fishery impacts on ETP species, including: - information for the development of the management strategy; - information to assess the effectiveness of the management strategy; and - information to determine the outcome status of ETP species.		
SG 60	SG 80	SG 100
Information is <u>adequate</u> to <u>broadly understand</u> the impact of the fishery on ETP species. Information is adequate to support <u>measures</u> to manage the impacts on ETP species <u>Information</u> is sufficient	Information is <u>sufficient</u> to determine whether the fishery may be a threat to protection and recovery of the ETP species, and if so, to measure trends and support a <u>full strategy</u> to manage impacts. <u>Sufficient data</u> are available to	Information is <u>sufficient</u> to <u>quantitatively</u> estimate outcome status with a high degree of certainty. Information is adequate to support a <u>comprehensive strategy</u> to manage impacts, minimize mortality and injury of ETP species, and evaluate with a high degree of certainty whether a strategy is achieving its objectives.

to <u>qualitatively</u> estimate the fishery related mortality of ETP species.	allow fishery related mortality and the impact of fishing to be <u>quantitatively</u> estimated for ETP species.	<u>Accurate and verifiable information</u> is available on the magnitude of all impacts, mortalities and injuries and the consequences for the status of ETP species.
--	--	---

Score: 90

2.3.3 Scoring Rationale:

The information collected from existing SLEDS indicates that sea lion mortality is zero and thus meets all the elements at SG100 for this strategy. For bait bands there is sufficient data (SG80) available on the magnitude of impacts of bait bands on dusky whaler sharks in WA waters to address the impacts on the dusky whaler shark population. The information is adequate to support a comprehensive strategy (SG100) which is the total ban on bait bands on any fishing vessel in WA waters. However, until the strategy is implemented and monitored there cannot be a high degree of certainty whether the strategy is achieving its objectives and thus this element meets SG80 but not SG100. There is also concern about the accuracy regarding entanglements as there is a perception that reporting entanglements will result in negative publicity for the industry and thus whale and turtle entanglements similarly do not meet the SG100 level and are scored at SG80.

2.4.1		
The fishery does not cause serious or irreversible harm to habitat structure, considered on a regional or bioregional basis, and function.		
SG 60	SG 80	SG 100
The fishery is <u>unlikely</u> to reduce habitat structure and function to a point where there would be serious or irreversible harm.	The fishery is <u>highly unlikely</u> to reduce habitat structure and function to a point where there would be serious or irreversible harm.	There is <u>evidence</u> that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be serious or irreversible harm.

Score: 80

2.4.1 Scoring Rationale: Previous studies on the impacts of pots on habitat have demonstrated that they do not cause serious or irreversible harm. Casement and Svane (1999) found that lobster pots have little physical impact on rocky reefs in South Australia and Shester (2008) observed no significant impacts on benthic cover and minimal immediate damage to gorgonian corals in Baja, California.

In the Western Rock Lobster Fishery, impacts on the habitat from pots are expected to decrease with the 72% reduction in trap lifts under the new management regime. Despite the substantially reduced effort in the fishery, the Abrohlos is a key region of the fishery and may therefore have less effort reduction relative to other regions of the fishery.

From both previous studies and the potential reduced effort it was considered that the fishery is highly unlikely to reduce habitat structure and function to a point where there would be irreversible or serious harm and thus meets SG80. However, there is currently no evidence to meet SG100.

A comprehensive study is underway to map the sensitive areas for fishers to avoid. Of particular concern in this fishery is the Abrolhos Islands area which supports the southernmost region of substantial coral reefs in Western Australia. Within this region mandatory anchoring sites and fish protection areas (including no fishing zones) have already been designated.

2.4.1 Trace References

Casement and Svane, 1999; Shester, 2008

2.4.2		
There is a strategy in place that is designed to ensure the fishery does not pose a risk of serious or irreversible harm to habitat types.		
SG 60	SG 80	SG 100
<p>There are <u>measures</u> in place, if necessary, that are expected to achieve the Habitat Outcome 80 level of performance.</p> <p>The measures are considered <u>likely</u> to work, based on plausible argument (e.g. general experience, theory or comparison with similar fisheries/habitats).</p>	<p>There is a <u>partial strategy</u> in place, if necessary, that is expected to achieve the Habitat Outcome 80 level of performance or above.</p> <p>There is some <u>objective basis for confidence</u> that the partial strategy will work, based on some information directly about the fishery and/or habitats involved.</p> <p>There is <u>some evidence</u> that the partial strategy is being implemented successfully.</p>	<p>There is a <u>strategy</u> in place for managing the impact of the fishery on habitat types.</p> <p>The strategy is mainly based on information directly about the fishery and/or habitats involved, and testing supports high confidence that the strategy will work.</p> <p>There is <u>clear evidence</u> that the strategy is being implemented successfully, and intended changes are occurring. There is some evidence that the strategy is achieving its objective.</p>

Score: 80

2.4.2 Scoring Rationale:

The sensitive areas of coral reefs in the Abrolhos region were considered the only habitat that had cause for concern. Because pots are considered to be a low impact gear (cf trawls and dredges), a partial strategy is not required.

A strategy has been developed that will identify the extent of sensitive areas, estimate the fishing effort on those areas and assess what types of impacts the fishing effort is having on them and how long the recovery time is likely to be. Depending on the outcome of this project, a code of conduct may be developed to ensure minimal or no damage to these areas. The first part of this strategy is the mapping and designation of sensitive areas and this research is currently underway. This strategy was considered to meet both elements of SG60 but will require implementation and monitoring before it meets the second and third elements of SG100 that need to show high confidence that the strategy will work and that it is achieving its objective.

2.4.2 Trace References

Department of Fisheries, 2011a.

2.4.3

Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types.

SG 60	SG 80	SG 100
There is a basic understanding of the types and distribution of main habitats in the area of the fishery. Information is adequate to broadly understand the main impacts of gear use on the main habitats, including spatial extent of interaction.	The nature, distribution and vulnerability of all main habitat types in the fishery area are known at a level of detail relevant to the scale and intensity of the fishery. 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, timing and location of use of the fishing gear. 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).	The distribution of habitat types is known over their range, with particular attention to the occurrence of vulnerable habitat types. Changes in habitat distributions over time are measured. The physical impacts of the gear on the habitat types have been quantified fully.

Score: 70

2.4.3 Scoring Rationale:

There has been an increased effort in collecting habitat information and collating existing information which is documented in the *Western Rock Lobster Ecology – State of Knowledge* report (Department of Fisheries 2011a). This report provides a basic understanding of the types and distribution of main habitats (SG60) but there still remain regions of the fishery where the distribution of habitat types remains unknown and thus SG80 is not met. The location of effort recorded in the logbooks makes it difficult to match effort to vulnerable habitat types. In the deeper water regions in particular, there is insufficient data to understand the impact of the fishing gear on habitat types and thus the second element of SG80 is not fully met. However, it is recognized that a series of projects are underway to rectify this situation including a project to improve the match between fishing effort and habitat type and a project to delineate vulnerable habitats in the Abrohlos Islands region. Collection of effort data at the scale of vulnerable habitats is required to determine any increase in risk in habitat and meet SG80. This may require finer resolution in the mandatory catch and effort data for vulnerable or sensitive regions of the fishery. Outcomes of these projects are expected to provide a strategy for monitoring habitats, especially vulnerable habitats over time.

The previous assessment identified the lack of habitat maps as a carryover issues (see Table 3) and the 2010 audit report noted that funding had been secured to appoint a GIS specialist to link bathymetric maps with existing habitat maps to predict habitat structure within the rock lobster fishing regions. This is expected to

provide the initial “first pass” completed assessment of the region. The assessment team is encouraged that this is underway and, when completed in 2012, assist in meeting the SG80 and above scores.

Condition 2.4.3:

By the 2nd annual surveillance audit the client shall provide evidence to the CB, that sufficient reliable information on the spatial extent of the fishery has been collected to identify the nature of the impacts of the fishery on different habitat types. In order to do so the client shall provide information on the spatial extent of both the key habitats and the associated fishing effort.

2.4.3 Trace References

Department of Fisheries, 2011a

2.5.1		
The fishery does not cause serious or irreversible harm to the key elements of ecosystem structure and function.		
SG 60	SG 80	SG 100
The fishery is <u>unlikely</u> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	The fishery is <u>highly unlikely</u> to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.	There is <u>evidence</u> that the fishery is highly unlikely to disrupt the key elements underlying ecosystem structure and function to a point where there would be a serious or irreversible harm.

Score: 80

2.5.1 Scoring Rationale: The fishery has been in operation for over 100 years and has been intensively fished for the last 50 years. During this period there has been no indication of serious or irreversible harm and thus it is unlikely that the fishery disrupts key elements underlying ecosystem structure (SG60). This is further support by quantitative and qualitative modeling of the food webs that indicate that lobsters are not a keystone species in the ecosystem although these models were restricted to shallow water in a single location (Metcalf et al., 2011; Lozano-Montes et al., *in press*; Loneragan et al., 2010). It is highly unlikely that there has been an impact on key elements of the ecosystem (SG80), although there is no evidence *per se* at the ecosystem level to meet SG100.

Ecosystem impacts were a carryover issue from the previous assessment (see Table 3) and were reported on in the 2010 Audit Report. The Audit Report noted that progress was being made to address ecosystem impacts which included the formation of an independent Effects of Fishing Advisory Group (EFAG). A series of projects are underway to address effects of fishing in deeper water ecosystems as this was prioritized as the least well known ecosystem in the fishery. The Assessment Team was satisfied that through the guidance of the EFAG and the projects being undertaken that the client will be in a position to demonstrate the potential for the ecosystem to recover from fishery related impacts. It was noted that the information required to meet this condition will take time.

2.5.1 Trace References

Metcalf et al., 2011; Lozano-Montes et al., *in press*; Loneragan et al., 2010

2.5.2

There are measures in place to ensure the fishery does not pose a risk of serious or irreversible harm to ecosystem structure and function.

SG 60	SG 80	SG 100
<p>There are <u>measures</u> in place, if necessary, that take into account potential impacts of the fishery on key elements of the ecosystem.</p> <p>The measures are considered likely to work, based on <u>plausible argument</u> (eg, general experience, theory or comparison with similar fisheries/ ecosystems).</p>	<p>There is a <u>partial strategy</u> in place, if necessary, that takes into account available information and is expected to restrain impacts of the fishery on the ecosystem so as to achieve the Ecosystem Outcome 80 level of performance.</p> <p>The partial strategy is considered likely to work, based on <u>plausible argument</u> (eg, general experience, theory or comparison with similar fisheries/ ecosystems).</p> <p>There is <u>some evidence</u> that the measures comprising the partial strategy are being implemented successfully</p>	<p>There is a <u>strategy</u> that consists of a <u>plan</u>, containing measures to address all main impacts of the fishery on the ecosystem, and at least some of these measures are in place. The plan and measures are based on well-understood functional relationships between the fishery and the Components and elements of the ecosystem.</p> <p>This plan provides for development of a full strategy that restrains impacts on the ecosystem to ensure the fishery does not cause serious or irreversible harm.</p> <p>The measures are considered likely to work based on <u>prior experience</u>, plausible argument or <u>information</u> directly from the fishery/ecosystems involved.</p> <p>There is <u>evidence</u> that the measures are being implemented successfully.</p>

Score: 80

2.5.2 Scoring Rationale: : A number of measures have (e.g. SLEDs, closed areas) or are being put in place (e.g. bait band ban, code of conduct for fishing in sensitive areas, bycatch and ETP recording in compulsory CDRs and research log books) which addresses element 1 of SG60. These measures are considered likely to work as they are based on outcomes from other fisheries and thus element 2 of SG60 is met and, for several of the measures such as the SLEDs that are purpose built and tested for WA fisheries, element 3 of SG100 is also met. Because of the low impact of the fishery and the lack of any main bycatch or retained species, a partial strategy was not considered appropriate. The establishment of an independent expert based *Effects of Fishing Advisory Group* (EFAG) and the development of a conceptual research framework demonstrates that the client has a plan and strategy (SG100). However, there is insufficient research to be able to demonstrate that the measures are being implemented successfully or that there is total compliance which is preventing a higher score.

2.5.2 Trace References

Department of Fisheries, 2011a

2.5.3

There is adequate knowledge of the impacts of the fishery on the ecosystem.

SG 60	SG 80	SG 100
<p>Information is adequate to <u>identify</u> the key elements of the ecosystem (e.g. trophic structure and function, community composition, productivity pattern and biodiversity).</p> <p>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but <u>have not been investigated in detail</u>.</p>	<p>Information is adequate to <u>broadly understand the functions</u> of the key elements of the ecosystem.</p> <p>Main impacts of the fishery on these key ecosystem elements can be inferred from existing information, but <u>may not have been investigated in detail</u>.</p> <p>The main functions of the Components (i.e. target, Bycatch, Retained and ETP species and Habitats) in the ecosystem are <u>known</u>.</p> <p>Sufficient information is available on the impacts of the fishery on these Components to allow some of the main consequences for the ecosystem to be inferred.</p> <p>Sufficient data continue to be collected to detect any increase in risk level (e.g. due to changes in the outcome indicator scores or the operation of the fishery or the effectiveness of the measures).</p>	<p>Information is adequate to <u>broadly understand the key elements</u> of the ecosystem.</p> <p>Main <u>interactions</u> between the fishery and these ecosystem elements can be inferred from existing information, and <u>have been investigated</u>.</p> <p>The impacts of the fishery on target, Bycatch, Retained and ETP species and Habitats are identified and the main functions of these Components in the ecosystem are <u>understood</u>.</p> <p>Sufficient information is available on the impacts of the fishery on the Components <u>and elements</u> to allow the main consequences for the ecosystem to be inferred.</p> <p>Information is sufficient to support the development of strategies to manage ecosystem impacts.</p>

Score: 90

2.5.3 Scoring Rationale: Information is adequate to broadly understand the key elements of the ecosystem (SG60, SG80 and SG100-Element 1) and both the quantitative and qualitative modeling allows for the main interactions between the fishery and key ecosystem elements to be inferred (SG60-Element 2) although in many cases they may not have been investigated in any detail (SG80 – Element 2). The main functions of the components in the ecosystem are known (SG80) and for several species their functions are understood (SG100). However, this is primarily for shallow water ecosystems and there is lesser information for the deeper-water ecosystems which have been the focus of the EFAG. For deeper-water systems a SG80 score is applicable. For shallow water ecosystems the available information meets element 4 of SG100 but only element 3 of SG80 for deeper-water ecosystems. For the shallow water ecosystems the information for some species is sufficient to support the ecosystem models and develop strategies to manage ecosystem impacts (SG100). However, there remains insufficient biological information on some of the bycatch species and spatial distribution of habitats to

be able to understand the function of many of these species in the ecosystem, especially the deeper water ecosystem. As such, there is insufficient information to develop strategies to manage these impacts for deeper water ecosystems. For deeper water ecosystems the information is still being collected and only some of the main consequences for the ecosystem can be inferred (SG80).

2.5.3 Trace References

Department of Fisheries, 2011a

12.3 MSC Principle 3

The fishery is subject to an effective management system that respects local, national and international laws and standards and incorporates institutional and operational frameworks that require use of the resource to be responsible and sustainable.

3.1.1		
<p>The management system exists within an appropriate and effective legal and/or customary framework which ensures that it:</p> <ul style="list-style-type: none"> - Is capable of delivering sustainable fisheries in accordance with MSC Principles 1 and 2; - Observes the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood; and - Incorporates an appropriate dispute resolution framework. 		
SG 60	SG 80	SG 100
<p>The management system is generally consistent with local, national or international laws or standards that are aimed at achieving sustainable fisheries in accordance with MSC Principles 1 and 2.</p> <p>The management system incorporates or is subject by law to a <u>mechanism</u> for the resolution of legal disputes arising within the system.</p> <p>Although the management authority or fishery may be subject to continuing court challenges, it is not indicating a disrespect or defiance of the law by repeatedly violating the same law or regulation necessary for the sustainability for the fishery.</p> <p>The management system has a</p>	<p>The management system incorporates or is subject by law to a <u>transparent mechanism</u> for the resolution of legal disputes which is <u>considered to be effective</u> in dealing with most issues and that is appropriate to the context of the fishery.</p> <p>The management system or fishery is attempting to comply in a timely fashion with binding judicial decisions arising from any legal challenges.</p> <p>The management system has a mechanism to <u>observe</u> the legal rights created explicitly or established by custom of</p>	<p>The management system incorporates or is subject by law to a <u>transparent mechanism</u> for the resolution of legal disputes that is appropriate to the context of the fishery and has been <u>tested and proven to be effective</u>.</p> <p>The management system or fishery acts proactively to avoid legal disputes or rapidly implements binding judicial decisions arising from legal challenges.</p> <p>The management system has a mechanism to <u>formally commit</u> to the legal rights created explicitly or established by custom on people dependent on fishing for food and livelihood in a manner consistent</p>

mechanism to <u>generally respect</u> the legal rights created explicitly or established by custom of people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	people dependent on fishing for food or livelihood in a manner consistent with the objectives of MSC Principles 1 and 2.	with the objectives of MSC Principles 1 and 2.
--	--	--

Score: 100

3.1.1 Scoring Rationale:

This is a well established fishery which has under gone two previous Certifications.

For the western rock lobster Fishery there is a Fisheries Management Plan determined by the Minister for Fisheries that limits the right to fish commercially for western rock lobster to those holding commercial or recreation licenses, or are indigenous fishers.

The Department of Fisheries is implementing Ecosystem Based Fisheries Management (EBFM) to ensure sustainable fish stocks and ecosystems. In Australia there exists an Ecologically Sustainable Development (ESD) reporting framework for fisheries as developed by the *Fisheries Research and Development Corporation ESD Subprogram*, which is an important part of the stock sustainability assessment process for fisheries in WA.

The EBFM policy is set out in the State of the Fisheries and Aquatic Resources Report 2009-10 pages 21 to 27 (Hall and Wise, 2011) and in greater detail in Fletcher *et al.* (2010), *An Ecosystem Based Fisheries Management Framework: The efficient, regional-level planning tool for management agencies*. These involved the development of an ecosystem approach to the monitoring and management of Western Australian fisheries and conceptual models for EBFM in Western Australia

Establishment, amendment and review of the commercial western rock lobster management System by the Minister for Fisheries occurs on the advice of the Department of Fisheries and the Western Australian Fishing Industry Council (WAFIC) in consultation with the Western Rock Lobster Council (WRLC). These organisations and the advisory committees and tasked working groups that can be established under the FRMA by Department of Fisheries or the Minister to provide advice on specific issues, provide the Minister for Fisheries with advice on all matters relevant to the commercial western rock lobster management system. In order to perform this role effectively it is essential that these organizations be consultative and conduct their business in a manner that is transparent and accountable. In addition, Recfishwest provides advice on the management of the recreational fishery.

Since 2002 the Department of Fisheries has been implementing a process of catch sharing between commercial, recreational and customary users through its Integrated Fisheries Management process.

Appeals against the decisions made by the Chief Executive Officer of the Department of Fisheries can be made to the State Administrative Appeals Tribunal. Decisions made by the Tribunal are binding on the Department. Appeals have been made by fishers to this Tribunal and decisions given.

The current assessment and recent fishery performance provides evidence for meeting all the elements in SG60, SG80 and SG 100. Therefore a score of 100 was awarded.

3.1.1 Trace References

Brown, 2011; Fletcher *et al.*, (2010); Hall and Wise, 2011

3.1.2		
<p>The management system has effective consultation processes that are open to interested and affected parties.</p> <p>The roles and responsibilities of organizations and individuals who are involved in the management process are clear and understood by all relevant parties.</p>		
SG 60	SG 80	SG 100
<p>Organizations and individuals involved in the management process have been identified. Functions, roles and responsibilities are <u>generally understood</u>.</p> <p>The management system includes consultation processes that <u>obtain relevant information</u> from the main affected parties, including local knowledge, to inform the management system.</p>	<p>Organizations and individuals involved in the management process have been identified. Functions, roles and responsibilities are <u>explicitly defined and well understood</u> for <u>key areas</u> of responsibility and interaction.</p> <p>The management system includes consultation processes that <u>regularly seek and accept</u> relevant information, including local knowledge. The management system demonstrates consideration of the information obtained.</p> <p>The consultation process <u>provides opportunity</u> for all interested and affected parties to be involved.</p>	<p>Organizations and individuals involved in the management process have been identified. Functions, roles and responsibilities are <u>explicitly defined and well understood</u> for <u>all areas</u> of responsibility and interaction.</p> <p>The management system includes consultation processes that <u>regularly seek and accept</u> relevant information, including local knowledge. The management system demonstrates consideration of the information and <u>explains how it is used or not used</u>.</p> <p>The consultation process <u>provides opportunity and encouragement</u> for all interested and affected parties to be involved, and <u>facilitates</u> their effective engagement.</p>

Score: 90

3.1.2 Scoring Rationale:

Up until 2009/2010 the fishery advice and consultation included a Ministerial Advisory Committee (MAC) which provided advice to the Minister for Fisheries and to the CEO of the Department of Fisheries.

The MACs have been disbanded and new consultative arrangements are being set in place. The document released as Fisheries Occasional Publication (FOP) 96 in 2011 provides additional information on this scoring point. It provided, Figure 2, as the consultation and management framework.

In FOP 96 it states that “DoF and WAFIC are currently negotiating a service level agreement that will set out in detail the consultation and decision making process that WAFIC will be expected to implement”. It also indicates that “WAFIC and the WRLC were involved in detailed consultations with DoF regarding the recent changes to the WRLF management plan that implemented the quota system”.

The letter from the EO of WRLC clearly indicates the communication with industry has improved and stakeholders are being given the opportunity to be involved. This includes the establishment of a Website by WRLC.

The Department of Fisheries has established a comprehensive Website. It also holds several workshops for stakeholders to consider aspects of the research outputs annually. A considerable number of stakeholders are invited (for example licence holders and processors).

Status of previously raised non-conformance against the related condition:

At the final annual audit of the previous assessment this condition was raised to a Major Non Conformance. The client provided two documents (Brown 2011 and a letter from the EO of WRLC) explaining the consultation arrangements, which the team judged to be sufficient to close out the Major Non-Conformance at the second re-assessment meeting in May 2011

The management system meets all elements of the SG60 and SG80, but has yet to demonstrate it meets all of those under SG100. Specifically “The consultation process provides opportunity and encouragement for all interested and affected parties to be involved, and facilitates their effective engagement”. A score of 90 was considered appropriate. Good progress towards a new set of consultative arrangements for the Fishery has been made. However, the team recommends that future annual audits should consider the final consultation model, including the involvement of WAFIC. Details of the new committees including their composition, operational and reporting arrangement should be provided. Evidence of their considerations of matters raised by stakeholders should be provided.

3.1.2 Trace References

Brown, 2011,

Letter from Mr. Sofoulis, the EO of the Western Rock Lobster Council, Re Western Rock Lobster Fishery Consultation.

3.1.3

The management policy has clear long-term objectives to guide decision-making that are consistent with MSC Principles and Criteria, and incorporates the precautionary approach.

SG 60	SG 80	SG 100
Long-term objectives to guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are <u>implicit</u> within management policy.	<u>Clear</u> long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are <u>explicit</u> within management policy.	<u>Clear</u> long-term objectives that guide decision-making, consistent with MSC Principles and Criteria and the precautionary approach, are <u>explicit</u> within <u>and required by</u> management policy

Score: 100

3.1.3 Scoring Rationale:

There are many changes in the Fishery because of the reduced puerulus settlement and catch levels and plans to introduce ITQs, and a change to move from MSY towards MEY as the basis for management of the fishery.

Fisheries Management Paper 239, sets out clearly the main proposals for the Harvest Strategy and Decision Rules Framework for the Fishery in the future (Donohue et al., 2010):

“The main focus of the proposals is to establish the basic principles that will underpin a future Harvest Strategy and Decision Rules Framework. The actual egg production and harvest rate estimates provided in this report may change in the near future, as the stock assessment model will be reviewed and updated in the first half of 2010 (which may result in changes to the estimates of egg production) and a new project will commence in early 2010 to improve the bio-economic assessment of the fishery to help determine the target harvest rate required to achieve MEY.”

The Western Rock Lobster Fishery is a fisheries management system with clear long term objectives (Brown, 2011). These are consistent with the MSC Principles and Criteria in P1 and P2 and definitely meet the SG60, SG80 and SG 100 score. A score of 100 was awarded.

3.1.3 Trace References

Donohue et al., 2010; Brown (2011)

3.1.4		
The management system provides economic and social incentives for sustainable fishing and does not operate with subsidies that contribute to unsustainable fishing.		
SG 60	SG 80	SG 100
The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and seeks to ensure that negative incentives do not arise.	The management system provides for incentives that are consistent with achieving the outcomes expressed by MSC Principles 1 and 2, and <u>explicitly considers</u> incentives in a <u>regular review</u> of management policy or procedures to ensure that they do not contribute to unsustainable fishing practices.

Score: 100

3.1.4 Scoring Rationale:

The only subsidies to the fishery are in the form of the reduced price of fuel, which is available to all primary produces in Australia. This is not considered to support unsustainable fishing.

This fishery has been forced to make serious decisions in recent times because of the impacts of several years of low puerulus recruitments. These decisions included TACs, quotas and individual quotas, and a change to move from MSY towards MEY. All are designed to achieve sustainability of the fishery.

Annual reviews of the Western Rock Lobster Fishery are conducted and reported in a number of publications including the Annual Report of the Department of Fisheries (2010) and the State of the Fisheries Report 2009/10. These Annual reviews ensure that incentives to participate in the fishery do not contribute to unsustainable fishing practices.

The fishery meets all criteria of SG60, SG80 and SG100. A score of 100 was awarded.

3.1.4 Trace References

Department of Fisheries, 2010, Brown, 2011

3.2.1		
The fishery has clear, specific objectives designed to achieve the outcomes expressed by MSC's Principles 1 and 2.		
SG 60	SG 80	SG 100
<u>Objectives</u> , which are broadly consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>implicit</u> within the fishery management system.	<u>Short and long term objectives</u> , which are consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>explicit</u> within the fishery management system.	<u>Well defined and measurable short and long term objectives</u> , which are demonstrably consistent with achieving the outcomes expressed by MSC's Principles 1 and 2, are <u>explicit</u> within the fishery management system.

Score: 90

3.2.1 Scoring Rationale:

This fishery is undergoing major changes at this time. This fishery has been forced to make serious decisions because of the impacts of several years of low puerulus recruitments. These decisions included implementation of TACs, quotas and individual quotas, and a change to move from MSY towards MEY as a basis for management. All are designed to achieve sustainability of the fishery.

The fishery meets all the elements of the SG60 and SG80. Short and long term objectives need to be well defined and measurable to meet SG 100. Short term objectives are not fully defined, but long term objectives are well defined and measurable. As an example, de Lestang et al (2011) proposed the long term objective of *"Ensure that the egg production in each Zone of the fishery remains above its threshold level and the probability of still being above this level in five years time is at least 75%"*. This is consistent with achieving the outcomes expressed by MSC's Principles 1 and 2. Therefore a score of 90 was awarded.

3.2.1 Trace References

3.2.2

The fishery-specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives.

SG 60	SG 80	SG 100
<p>There are <u>informal</u> decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.</p> <p>Decision-making processes respond to <u>serious issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take <u>some</u> account of the wider implications of decisions.</p>	<p>There are <u>established</u> decision-making processes that result in measures and strategies to achieve the fishery-specific objectives.</p> <p>Decision-making processes respond to <u>serious and other important issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.</p> <p>Decision-making processes use the precautionary approach and are based on best available information.</p> <p><u>Explanations</u> are provided for any actions or lack of action associated with findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.</p>	<p>Decision-making processes respond to <u>all issues</u> identified in relevant research, monitoring, evaluation and consultation, in a transparent, timely and adaptive manner and take account of the wider implications of decisions.</p> <p><u>Formal reporting</u> to all interested stakeholders describes how the management system responded to findings and relevant recommendations emerging from research, monitoring, evaluation and review activity.</p>

Score: 80

3.2.2 Scoring Rationale:

There have been a number of changes in the western rock lobster fishery over the last couple of fishing seasons. Major changes are that, between 1975/76 and 2008/09 commercial catches have averaged 10,951 and ranged from 7,593 t in 2008/09 to 14,523 t in 1999/2000. The variations in catches result primarily from varying levels of recruitment, which have been largely associated with the environmental conditions experienced by western rock lobster larvae and post-larvae, and levels of fishing effort. The record low puerulus settlement in 2008/09 which followed a series of low settlements resulted in catch limits being imposed to generate a carry-over rather than continuing the historical strategy of catching a similar proportion of the available stock each year. For the 2008/09 season this involved restricting the catch to below 7,800 t which required significant effort reductions that were instigated for both the whites (ca. 35%) and reds (ca. 60%) portions of the season. A similar strategy was adopted for the 2009/10 season with the

catch target at 5,500 t with 10 % tolerance limits. These actions were designed to ensure a carryover of lobsters into what would have otherwise have been low catch years (2010/11 and 2011/12).

To achieve the 5,500 t catch limit for the 2009/10 season a series of additional effort restrictions were developed. These additional measures included substantial reductions in pot usage values within each zone, four day fishing periods per week for parts of the season, and for some zones substantial closures were implemented during the season. Given the complexity of the effort control arrangements and the significant interventions needed within the season, the management system for the fishery was reassessed. The Minister made an in-principle decision to move the fishery to quota control for the 2010/11 season.

The new quota management plan is expected to be approved in 2013. Extensive consultation will be required before the new Management Plan is adopted.

The Harvest Strategy on which future sustainability depends has three components 1) monitoring to provide data for an assessment, 2) reference points (limit, threshold and target) that act as criteria against which to compare the assessment, 3) control rules that respond to the assessment relative to the reference points and guide the management of harvest rates in some predetermined fashion in order to move away from the limit reference point and towards the target reference point. The western rock lobster fishery has the monitoring and the assessment against reference points. There is no doubt that exploitation levels can be controlled, as the recent halving of catches demonstrates. However, there are, as yet, no “well-defined” control rules.

The Fishery meets all the SG60 elements. In addition the first element of the SG80 “There are established decision-making processes that result in measures and strategies to achieve the fishery-specific objectives” is met. The second element of the SG80 is also clearly met due to the rapid changes which have been introduced for the Fishery in the last two seasons in responds to identified serious issues. Therefore a score of 80 was awarded.

3.2.2 Trace References

Brown (2011); de Lestang et al (2011); Department of Fisheries, 2010

3.2.3		
Monitoring, control and surveillance mechanisms ensure the fishery’s management measures are enforced and complied with.		
SG 60	SG 80	SG 100
Monitoring, control and surveillance <u>mechanisms</u> exist, are implemented in the fishery under assessment and there is a reasonable expectation that they are effective.	A monitoring, control and surveillance <u>system</u> has been implemented in the fishery under assessment and has demonstrated an ability to enforce relevant management measures, strategies and/or rules.	A <u>comprehensive</u> monitoring, control and surveillance system has been implemented in the fishery under assessment and has demonstrated a consistent ability to enforce relevant management measures, strategies and/or rules.

Sanctions to deal with non-compliance exist and there is some evidence that they are applied.	Sanctions to deal with non-compliance exist, <u>are consistently applied</u> and thought to provide effective deterrence.	Sanctions to deal with non-compliance exist, are consistently applied and <u>demonstrably</u> provide effective deterrence.
Fishers are <u>generally thought</u> to comply with the management system for the fishery under assessment, including, when required, providing information of importance to the effective management of the fishery.	<u>Some evidence exists</u> to demonstrate fishers comply with the management system under assessment, including, when required, providing information of importance to the effective management of the fishery. There is no evidence of systematic non-compliance.	There is a <u>high degree of confidence</u> that fishers comply with the management system under assessment, including, providing information of importance to the effective management of the fishery.

Score: 100

3.2.3 Scoring Rationale:

The compliance arrangements are comprehensive and effective, for the commercial fishery and the details of the offences in the Annual Report indicate that a high level of surveillance is in operation.

The monitoring control and surveillance system is comprehensive, and the majority of commercial fishers, which take most of the catch, comply with the management system and provide information of importance to the effective management of the fishery. The current assessment and recent Fishery performance provides evidence for the Fishery meeting all the elements of SG 60, SG 80 and SG 100.

3.2.3 Trace References

Brown, 2011, Department of Fisheries, 2010

3.2.4		
The fishery has a research plan that addresses the information needs of management.		
SG 60	SG 80	SG 100
<u>Research</u> is undertaken, as required, to achieve the objectives consistent with MSC's Principles 1 and 2. Research results are <u>available</u> to interested parties.	A <u>research plan</u> provides the management system with a strategic approach to research and <u>reliable and timely information</u> sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. Research results are <u>disseminated</u> to all interested parties in a <u>timely</u>	A <u>comprehensive research plan</u> provides the management system with a coherent and strategic approach to research across P1, P2 and P3, and <u>reliable and timely information</u> sufficient to achieve the objectives consistent with MSC's Principles 1 and 2. Research <u>plan</u> and results are <u>disseminated</u> to all interested parties in a <u>timely</u> fashion and

	fashion.	are <u>widely and publicly available</u> .
--	----------	--

Score: 90

3.2.4 Scoring Rationale:

At the meeting in December 2010 the assessment team was provided with an annual Research Plan but it was a plan prepared for dealing only with the needs of the Department and had not been sent out for public comment (Fisheries Occasional Publication No. 75. 2009. Research and Development Plan 2009-10).

The Department has now published Brown and How (2011) *The EMS 2010-2015*. This has been sent out for public comment.

It was indicated in Brown (2011) Governance of the WRLF and MSC Principle 3 – Effective Management; that the P2 Research Plan could be regarded as the Departmental document *Western Rock Lobster Ecology*. This was published in April 2011 as Occasional Publication No 89.

The requirement that research results be distributed is currently met in a number of ways including: Research results are disseminated to all interested parties in a timely fashion and are made widely and publicly available via direct e-mail and on the Department of Fisheries Website.

At the final Annual audit of the previous assessment this condition was raised to a Major Non Conformance. With the release of the report by Brown and How (2011) - *Western Rock Lobster Environmental Management System – July 2010 – June 2015* .and the Departmental document *Western Rock Lobster Ecology - The current State of Knowledge* the Non-Conformance was closed out at the second re-assessment meeting in May 2011.

All the elements in SG60 and SG80 are met since there is a research plan that provides the management system with reliable and timely information sufficient to achieve the objectives consistent with MSC's Principles 1 and 2.

The first element of SG100 also calls for a comprehensive, coherent and strategic approach to research across P1, P2 and P3. Currently the Research Plan is contained in several documents, which some stakeholders have found difficult to access and understand. Therefore the first element of the SG 100 is not met and a score of 90 was awarded.

Recommendation 3.2.4: The assessment team recommends that the Research Plan be contained in a single document with complete, current and planned research information. This Research Plan should then be publically available.

3.2.4 Trace References

Brown, 2011, Brown and How, 2011, de Lestang et al., 2011, Department of Fisheries, 2009, 2011

3.2.5

There is a system for monitoring and evaluating the performance of the fishery-specific management system against its objectives.

There is effective and timely review of the fishery-specific management system.

SG 60	SG 80	SG 100
The fishery has in place mechanisms to evaluate <u>some</u> parts of the management system and is subject to <u>occasional internal</u> review.	The fishery has in place mechanisms to evaluate <u>key</u> parts of the management system and is subject to <u>regular internal</u> and <u>occasional external</u> review.	The fishery has in place mechanisms to evaluate <u>all</u> parts of the management system and is subject to <u>regular internal</u> and <u>external</u> review.

Score: 100

3.2.5 Scoring Rationale:

As outlined in Brown (2011) the fishery has mechanisms to evaluate all parts of the management system. For example, the stock assessment has been externally reviewed a number of times and the most recent one in April 2011 has been release on the DoF web site (Department of Fisheries 2011c) and the Department of Fisheries has indicated its intention to implement the external reviewer's recommendations. Implementation of the recommendations is currently underway.

Therefore the fishery meets all the elements of the SG 60, SG 80 and 100 guidelines. A score of 100 was awarded.

3.2.5 Trace References

Brown, 2011, Department of Fisheries, 2011c

12.4 Certification Recommendations and Performance Scores

The fishery achieved a normalized score of 80 or above on each of the three MSC Principles independently (Principle 1 – 85.6, Principle 2 – 83.7, and Principle 3 – 94.8). Although the evaluation team found the fishery in overall compliance (a normalized score of 80 on each MSC Principle), it also found the fishery's performance on 3 indicators (1.2.2, 1.2.3, and 2.4.3) to be below the established compliance mark (an un-weighted score of 80 for a single indicator). In these specific cases, the MSC requires that the Certification Body set 'Conditions for Continued Certification' that when met bring the level of compliance for the select indicator up to the 80-level score. **Table 4** below shows the overall results of the evaluation for Principle 1, 2 and 3.

Table 4. Performance Indicator & Principle Scores

Principle	Wt (L1)	Component	Wt (L2)	PI No.	Performance Indicator (PI)	Wt (L3)	Weight in Principle	Score	Principle Score	
One	1	Outcome	0.5	1.1.1	Stock status	0.5	0.25	90		
				1.1.2	Reference points	0.5	0.25	90		
				1.1.3	Stock rebuilding					
		Management	0.5	1.2.1	Harvest strategy	0.25	0.125	85		
				1.2.2	Harvest control rules & tools	0.25	0.125	75		
				1.2.3	Information & monitoring	0.25	0.125	75		
				1.2.4	Assessment of stock status	0.25	0.125	90		
Two	1	Retained species	0.2	2.1.1	Outcome	0.333	0.0667	80		
				2.1.2	Management	0.333	0.0667	90		
				2.1.3	Information	0.333	0.0667	80		
		Bycatch	0.2	2.2.1	Outcome	0.333	0.0667	100		
				2.2.2	Management	0.333	0.0667	80		
				2.2.3	Information	0.333	0.0667	80		
		ETP species	0.2	2.3.1	Outcome	0.333	0.0667	95		
				2.3.2	Management	0.333	0.0667	85		
				2.3.3	Information	0.333	0.0667	90		
		Habitats	0.2	2.4.1	Outcome	0.333	0.0667	80		
				2.4.2	Management	0.333	0.0667	80		
				2.4.3	Information	0.333	0.0667	70		
		Ecosystem	0.2	2.5.1	Outcome	0.333	0.0667	80		
				2.5.2	Management	0.333	0.0667	80		
				2.5.3	Information	0.333	0.0667	90		
Three	1	Governance and policy	0.5	3.1.1	Legal & customary framework	0.25	0.125	100		
				3.1.2	Consultation, roles & responsibilities	0.25	0.125	90		
				3.1.3	Long term objectives	0.25	0.125	100		
				3.1.4	Incentives for sustainable fishing	0.25	0.125	100		
		Fishery specific management system	0.5	3.2.1	Fishery specific objectives	0.2	0.1	90		
				3.2.2	Decision making processes	0.2	0.1	80		
				3.2.3	Compliance & enforcement	0.2	0.1	100		
				3.2.4	Research plan	0.2	0.1	90		
				3.2.5	Management performance evaluation	0.2	0.1	100		
					Overall weighted Principle-level scores				Principle Score	
					Principle 1 - Target species				85.6	
					Principle 2 - Ecosystem				83.7	
					Principle 3 - Management				94.8	

13. ACTION PLAN FOR MEETING CONDITIONS

The Client for this fishery assessment and certification has submitted an Action Plan for meeting all conditions and requirements under the MSC program.

ACTION PLAN FOR MEETING THE CONDITIONS FOR CONTINUED CERTIFICATION

September 2011

Action Plan 1.2.2			
Conditional Requirement	How Meet	By Whom	When Completed
By the 2 nd annual surveillance audit the client shall provide control rules that are “well defined”.	The Harvest Strategy and Decision Rules (HSDR) are currently being developed for the fishery. Once they have been agreed with major stakeholders, they will be released for public comment, then finalized and sent for approval to the Minister for Fisheries before being implemented.	Department of Fisheries and the Western Rock Lobster Council	The HSDR will be implemented prior to the second annual audit, i.e. prior to November 2013.

Action Plan 1.2.3			
Conditional Requirement	How Meet	By Whom	When Completed
By the 2 nd annual surveillance audit the client shall provide evidence on how the information that is currently collected is used to inform/assess the formal control rules developed as part of condition 1.2.2.	The client will provide evidence to the CB as to how the information that is currently collected is used to inform and assess the HSDR developed as part of condition 1.2.2.	Department of Fisheries	To be provide to the CB prior to the 2 nd annual surveillance audit, i.e. prior to November 2013.

Action Plan 2.4.3.			
Conditional Requirement	How Meet	By Whom	When Completed
By the 2 nd annual surveillance audit the client shall provide evidence to	The client will provide evidence to the CB, that sufficient reliable information	Department of Fisheries	To be provide to the CB prior to the 2 nd annual

<p>the CB, that sufficient reliable information on the spatial extent of the fishery has been collected to identify the nature of the impacts of the fishery on different habitat types. In order to do so the client shall provide information on the spatial extent of both the key habitats and the associated fishing effort.</p>	<p>on the spatial extent of the fishery has been collected to allow the nature of the impacts of the fishery on habitat types to be identified. This will be determined using the new compulsory Catch Disposal Records (CDRs). The client will also provide information on the spatial extent of the key habitats so that the potential impact of the fishery (effort) on these habitats can be determined.</p> <p>The habitat data will be overlaid with fishing effort data to determine the most impacted and potentially vulnerable areas. This will provide the basis for further research to determine the types of impact fishing may be having on specific habitats.</p>		<p>surveillance audit, i.e. prior to November 2013.</p>
---	---	--	---

14. PEER REVIEW, PUBLIC COMMENT AND OBJECTIONS

A peer review has been conducted by two peer reviewers. Their comments and the response to the comments by the team can be found in Appendix II. As required, scientists nominated as peer reviewers for this report are posted on the MSC web site for stakeholder comment. Also, a public comment period will be held, as well as a posting period for objections as required by the MSC.

15. MSC LOGO LICENSING RESPONSIBILITIES

As the “applicant” for certification of the fishery, the Western Rock Lobster Council is the only entity that has the right to apply for a license to use the MSC logo. It is also the case that the Western Rock Lobster Council has the right to approve the use of the logo for other fishery participants at its discretion and by a means that is considered fair and equitable (based on MSC requirements). The MSC as the logo license owner has the sole right and responsibility to review and enforce its requirements with regard to the fair and equitable sharing of access to the fishery certificate. SCS as the certification body does not have any obligations to review, approve, or enforce the MSC requirements in this regard.

16. REFERENCES

- Brown, R. 2011. Governance of the Western Rock Lobster Fishery and Marine Stewardship Council Principle 3 – Effective Management. Department of Fisheries, Fisheries Occasional Publication 96, pp 86 plus Appendices. <http://www.fish.wa.gov.au/docs/op/op096/fop96.pdf>
- Brown, R. and J. How 2011. Draft Western Rock Lobster Fishery. Environmental Management Strategy November 2010 – October 2015, Fisheries Occasional Publication No. 95, pp 60. <http://www.fish.wa.gov.au/docs/op/op095/fop95.pdf>
- Caputi, N., Feng, M., Penn, J., Slawinski, D., de Lestang, S., Weller, E., and A. Pearce 2010. Evaluating source-sink relationships of the western rock lobster fishery using oceanographic modeling. Fisheries Research Division, Department of Fisheries Western Australia. 68 pp. <http://www.fish.wa.gov.au/docs/frr/frr209/index.php?0401>
- Casement, D. and I. Svane 1999. *Direct effects of rock lobster pots on temperate shallow rocky reefs in South Australia. A study report to the South Australian rock lobster industry.* South Australian Research and Development Institute, Adelaide (unpublished).
- de Lestang, S., Thompson, A., and M. Rossbach 2010. West Coast Rock Lobster Fishery Status Report. In: *State of the Fisheries and Aquatic Resources Report 2009/2010* eds. W.J. Fletcher and K. Santoro, Department of Fisheries, Western Australia, pp. 28-38.
- de Lestang, S., Caputi, N., How, J., Melville-Smith, R., Thomson, A. and P. Stephenson 2011. Draft Stock Assessment for the West Coast Rock Lobster Fishery. Fisheries Research Division, Western Australian Fisheries and Marine Research Laboratories. North Beach, Western Australia. 226 p. <http://www.fish.wa.gov.au/docs/frr/frr217/frr217.pdf>
- Department of Fisheries 2009. Fisheries Occasional Publication No. 75. Research and Development Plan 2009-10). <http://www.fish.wa.gov.au/docs/op/op075/index.php?0706>
- Department of Fisheries 2009. Report of the Consultation Working Group, July 2000. Fisheries Occasional Publication No. 73. <http://www.fish.wa.gov.au/docs/op/op073/index.php?0706>
- Department of Fisheries 2010. State of the Fisheries Report 2009/10. <http://www.fish.wa.gov.au/docs/sof/2008/state-of-the-fisheries-2008-09-summary.pdf>
- Department of Fisheries 2011a. Western Rock Lobsters Ecology- The State of Knowledge. Marine Stewardship Council- Principle 2: Maintenance of Ecosystem Fisheries Occasional Publication No. 89. <http://www.fish.wa.gov.au/docs/op/op089/index.php?0706>
- Department of Fisheries 2011b. Review of the Western Australian Rock Lobster Stock Assessment - Report to Western Australian Department of Fisheries. Fisheries Occasional Publication 99. <http://www.fish.wa.gov.au/docs/op/op099/fop99.pdf>

Donohue, K, N. Caputi, S. de Lestang, R. Brown and W. Fletcher 2010. Western Rock Lobster Fishery Harvest Strategy and Decision Rules Framework Proposals. A Discussion Paper. Department of Fisheries Management Paper No 239. p38. <http://www.fish.wa.gov.au/docs/mp/mp239/fmp239.pdf>

Edgar, G.J. 1990. Predator-prey interactions in seagrass beds . The influence of macrofaunal abundance and size structure on the diet and growth of the western rock lobster *Panulirus cygnus* George. *Journal of Experimental Marine Biology and Ecology*. 139: 1-22.

Fletcher, W.J., Shaw, J., Metcalf, S.J. and D.J. Gaughan 2010. An ecosystem based fisheries management framework: the efficient, regional-level planning tool for management agencies. *Marine Policy* 34:1226-1238.

Frusher, S.D. and I.D. Gibson 1999. Bycatch in the Tasmanian rock lobster fishery. In Establishing meaningful targets for bycatch reduction in Australian fisheries. Ed C. Buxton and S. Eayrs. Australian Society for Fish Biology Workshop Proceedings, Hobart, September 1998, Australian Society for Fish Biology, Sydney.

Guest, M.A., Frusher, S.D., Nichols, P.A., Johnson C.R. and K.E. Wheatley 2009. The trophic effects of fishing southern rock lobster (*Jasus edwardsii*): what can combined fatty acid and stable isotope analyses tell us? *Marine Ecology Progress Series* 388:169–184.

Hall, N.G. and B.S. Wise 2011. Development of an ecosystem approach to the monitoring and management of Western Australian fisheries. FRDC Report – Project 2005/063. Fisheries Research Report No. 215. Department of Fisheries, Western Australia. 112pp.
<http://www.fish.wa.gov.au/docs/frr/frr215/index.php?0401>

Howard, R.K. 1988. Fish predators of the western rock lobster (*Panulirus Cygnus* George) in a nearshore nursery habitat. *Australian Journal of Marine and Freshwater Research*. 39: 307-316.

Jernakoff, P., Phillips, B.F., and J.J. Fitzpatrick 1993. The diet of post-puerulus western rock lobster, *Panulirus cygnus* George, at Seven Mile Beach, Western Australia. *Australian Journal of Marine and Freshwater Research*. 44: 649-655.

Joll, L.M. and B.F. Phillips 1984. Natural diet and growth of juvenile western rock lobsters *Panulirus cygnus* George. *Journal of Experimental Marine Biology and Ecology*. 75: 145-169.

Loneragan, N.R., R.C. Babcock, R C, Lozano-Montes, H, and J.M. Dambacher 2010. Evaluating how food webs and the fisheries they support are affected by fishing closures in Jurien Bay, temperate Western Australia. Final Report, Fisheries Research and Development Corporation Project No. 2006/038. Canberra, Australia. 161p.

Lozano-Montes, H., Loneragan, N.R., Babcock, R. and K. Jackson *in press*. Using trophic flows and ecosystem structure to model the effects of fishing in the Jurien Bay Marine Park, temperate western Australia. *Marine and Freshwater Research*.

Melville-Smith, R., de Lestang, S., Beale, N.E., Groth, D. and A. Thompson 2009.

Investigating Reproductive Biology Issues Relevant to Managing the Western Rock Lobster Broodstock. Final FRDC Report – Project 2003/005. <http://www.fish.wa.gov.au/docs/frr/frr193/index.php?0401>

Metcalf, S.J., Pember, M. B., and L.M. Bellchambers 2011. The identification of indicators of the effects of fishing using alternative models, uncertainty and aggregation error. *ICES Journal of Marine Science*.

Redd K, Jarman S, Frusher S and C. Johnson 2008. A molecular approach to identify prey of the southern rock lobster. *Bulletin of Entomological Research*.

Shester, G.G. 2008. Sustainability in small-scale fisheries: an analysis of the ecosystem impacts, fishing behavior and spatial management using participatory research methods. Doctor of Philosophy Degree Thesis. Stanford University, Stanford, CA, USA. September, 2008. 225 pp. <http://gradworks.umi.com/3332993.pdf>

Stoklosa, R. 2007. Western rock lobster ecological risk assessment, prepared for the Western Australian Department of Fisheries and Western Australian Fishing Industry Council. E-Systems Pty Limited, Hobart. <http://www.fish.wa.gov.au/docs/op/op056/index.php?0706>

Waddington, K.I., Bellchambers, L.M., Vanderklift, M.A., and D.I. Walker 2008. Western rock lobsters (*Panulirus cygnus*) in Western Australian deep coastal ecosystems (35-60 m) are more carnivorous than those in shallow coastal ecosystems. *Estuarine Coastal Shelf Science*. 79: 114-120.

Waddington, K.I. and J.J. Meeuwig 2009. Contribution of bait to lobster production in an oligotrophic marine ecosystem as determined using a mass balance model. *Fisheries Research* 99: 1-6.

APPENDIX I – STAKEHOLDER COMMENTS RECEIVED DURING THE ONSITE VISITS

Name: Gil Waller

Organization: Sherry Ellen P/L

Organization Type: Private Citizen

Email: gil.waller@iinet.net.au

Phone: +61428252825

Country: Australia

1.) Assessment Model and international review conducted in May 2010

Independence and potential conflict of interest:

Norm Hall was to a degree investigating his own work and that of friends who were in the room at the time. Cathy was very close to him and even Andre seemed quite familiar to them all. The investigation did not have the hallmarks of rigor and impartiality that should have been expected.

Team response: Yes, this is correct. However, it is not surprising that people working in the same discipline are familiar with each other. Both Andre Punt and Cathy Dichmont are internationally recognised experts in the field. The team considered the report detailed, fair and effective in pointing out the deficiencies which is the purpose of a peer review. Rigour and impartiality are key factors in any review and the review team would not allow any previous positive, or negative, association between authors and themselves to influence their deliberations.

New Model inputs and updates:

The new assessment model does not appear to fully allow for increased growth and survival rates in the southern areas as has been found in field work, and especially in times of low settlement (Age comparison and growth rates Garden Is v's 7 Mile - early field work by Chittleborough).

Team response: The stock assessment model is already a detailed and complex production, but, as with all formal stock assessment models in use, there are numerous places where it could be further developed. Including further spatial details, especially density-dependent spatial details, is certainly one arena where changes could be made. An important aspect of the revised stock assessment process in Western Rock Lobster is to develop a research priority listing for possible changes to the assessment model, which may have implications for the data collected from the fishery. The inclusion of density dependent effects would be an important change, although if these would only be implemented in one area they may not be as influential as other potential changes. One outcome of including density dependent changes in growth and survivorship is that the resilience of the stock (in the areas included) could be expected to be improved as the stock's productivity should compensate, to some extent, for reductions in density. This stakeholder suggestion should be added to the list of future developments and the resulting list discussed in an effort to balance the value of any future changes against the potential improvements in security and understanding in the stock dynamics.

Does the model fully allow for biomass carry over from year to year?

Team response: Yes it does. The model actually keeps track of relative numbers at size through time and these numbers are translated into biomass using length to weight relationships. This is clear from the equations relating to the dynamics of the population from period to period and from year to year (specifically equations 1, 3 and 5; see StockAssesChapterMSC_v2 ns.doc).

The model does not allow for northerly migration in southern areas (there is a matrix that Andre Punt worked on but found it too hard or didn't have enough time to fix it). This is supposed to be fixed later but is a crucial piece in the puzzle.

Team response: The matrix describing the source-destination areas and proportional distribution of northerly migrating lobsters amongst destination areas is given as Table 5.7b in StockAssesChapterMSC_v2 ns.doc. This describes the expected movement rates of lobsters north when combined with equations 3 and 4 in the same document. It is not surprising that Dr Punt was unable to implement this in the time he had available. It can be very difficult to get movement models nested within such complex systems to balance.

(Statement made - double checked they hadn't made a mistake, that 34% of migrating whites move an average of 63 km, west then north general direction. Showed a graph with different colors of lobsters tagged in different areas and where they ended up, pretty much all well north. Found after talking to Rhys Brown that it was tagging work started by him and finished by Chubb in 1994, then almost forgotten until dug out recently and assessed)

Updates have not been made available to all stakeholders.

Team response: We do not have information on who was invited or attended. Importantly meetings called by the Department or Rock Lobster Council and stakeholders could attend and provide input.

Department of Fisheries purported to show a puerulus settlement graph that I swear was not (very similar to a spawning stock index graph of that period in that it dipped heavily around 1993 then recovered again until just recently). They tried to tell me afterwards that it was done by making each data point an average of 5 years surrounding it to smooth it, that does not work, or explain it. They told MSC "the fishermen haven't seen that graph before". This is very strange because these graphs are presented every year to the fishermen at the annual meetings - which I have been attending since inception in 1976.

MEY should not be part of the model and certification for sustainability. MSC refused to enter into it, said it was about policy not sustainability which puzzles me somewhat.

Team response: The MSC standard does not preclude MEY and as the assessment team we cannot prescribe what needs to be done we can only assess if the stock assessment is appropriate for the stock and the harvest control rules.

During the review workshop very different 'Model derived egg index' graphs displayed - about 3 different ones, and different to the ones shown to us in April. Different scales on the left, some showing 200 as starting point, some 50 and 100 and one I think was around 500. Explanation - "Don't take any notice of the numbers on the scale, it is simply for comparison purposes" That is not a scientific nor satisfactory way to explain. At one point near the end it was suggested that they might manage the fishery based on the egg index - that's a worry.

Team response: The egg index is intended as an index of relative performance to be used as one of the performance measures for the fishery's operation. Ideally the vertical scale on such graphs should be standardized. However, the important information to draw from the index is how it progresses through time relative to the limit reference points, the threshold, and the target reference points. Figures 6.2 and 6.3 in WRL Stock Ass Report Draft_Nov2010.pdf illustrate the idea. It is agreed that the graphs could be better presented if they had the same vertical scales, but they use the same reference points for model derived egg production, and the intent appears clear.

Mortality rates - I believe from actual fishing that the model is allowing for too high mortality when they say 85mm Lancelin females die as quick as they grow, they are a young animal at that stage perhaps equivalent to an 18-22 year old human. I think model needs fixing on that one and it might change things a lot if we are right

Team response: Obtaining an intuitive appreciation of mortality estimates is very difficult in a population undergoing active migration and rapid growth. Without more details on why the respondent believes the mortality rate is lower than estimated it is difficult to reply. If this intuition is based on repeated observations of ~85mm animals being captured in this area through time this may suggest that mortality is lower than estimated. However, without considering details of the migration and growth patterns in the area it is possible that such intuitions can be confusing. If it is believed this is an important issue then it should be added to the list of issues to consider for further work in the modelling. This raises an important issue, which is that the earlier empirical relationships between the expected catches and various indicators in the fishery were simple to understand but the new model is not. The advantage of the model is that it synthesizes a large amount of information in such a way as to distil implications concerning the stock size and its dynamics. But there is a risk that other stakeholders in the fishery will come to feel alienated from the assessment process unless efforts are made to be inclusive.

2.) Field studies and access to information:

Department of Fisheries should be more involved in hands on research instead of sitting in front of computers re-analysing the same old data (MSC also criticised them re-using data).

We still have no understanding as to what has caused the collapse of this fishery of which I have been a stakeholder since 1971, nearly 40 years. There has been a demonstrated laziness and inertia on the part of the Fishery scientists in spite of repeated requests and offers of field assistance from industry. We are lacking in research knowledge in many parts, not least in what may be the crucial far northern spawning areas.

Team response: The Big Bank (far northern spawning areas) has been closed and there is increased data collection (research activity) in this area. The lack of successful puerulus settlement, despite good levels of mature biomass and presumed egg production, is the obvious cause of the decline in this fishery. Explaining the lack of successful settlement is, however, the difficult thing. The Department has a number of programs underway to attempt to answer this problem.

Fisheries have demonstrated arrogance and boasted of the best managed fishery in the world while doing nothing other than playing with figures on computers - we can all do that, but we all should know that it is absolutely no substitute for hands on field work and gathering of real data.

Team response: Department staff are spending a significant amount of time conducting field work. Projects and staff time committed is listed below.

Number of field surveys and time commitment:

Puerulus	– 2 staff @ 9 sites for 13 trips = 234 days/year
Independent breeding stock survey (IBSS)	– 2 staff @ 6 sites for 12 days = 144 days/year
Commercial Monitoring	– 1 staff @ 4 days/site @ 6 sites for 10 months = 240 days/year
Rottnest sanctuary zone monitoring	– 3 staff for 10 days/year = 30 days/year
Research closed area (mid-west)	– 3 staff for 10 days/year = 30 days/year
Closed Mesh Pot monitoring	– 30 fishers @ 40 days/season = 1200 days/year

Bait use will be reduced and as a consequence the productivity of lobster may be reduced because the bait is also food to lobster in their natural environment.

Team response: without additional information it is very difficult to respond to this statement and the team felt that any comments would be only speculative at this stage.

Real data and information has not been available to all stakeholders.

Team response: It is impossible for us to determine if data and information has been made available to all stakeholders. The team has seen evidence, channels and ways of disseminating data and information but we cannot assess if it has reached all stakeholders.

APPENDIX II – WWF COMMENTS RECEIVED FOR THE ONSITE VISIT IN DECEMBER 2010

Ms A Vincent
Program Associate
Scientific Certification Systems Inc.
2200 Powell Street, Suite 725
Emeryville, CA 94608

3 December 2010

Dear Ms Vincent,

Re: Comment on the 2nd Reassessment of the Western Australia Rock Lobster Fishery

Thank you for the opportunity to provide input into the reassessment of the western rock lobster fishery (the fishery) under the Marine Stewardship Council (MSC) certification Process.

Our most recent comments have been in relation to the Special Surveillance Audit Report released in December 2009. In February 2010, WWF advised the MSC and SCS, that although many of its concerns had been addressed in the Audit Report, it still had some concerns relating to:

- Scoring of some Performance Indicators (PI) under Principle 1;
- Conditions imposed by the Certifying Body (CB) against Principle 1;
- Assessment of progress against existing Conditions; and
- Non-conformances raised previously and at during the 2009 Special Surveillance Audit.

These concerns have been carried over to this submission to the current reassessment process and details are contained below under specific Performance Indicators. WWF's detailed submission to this process is attached. The submission is presented in two parts. Part 1 outlines WWF's priority issues. Part 2 addresses each PI to which WWF has particular comment to make. These elements comprise the bulk of this submission.

WWF welcomes the opportunity to discuss any of the issues raised in our submission, and looks forward to further consultation on the draft assessment report towards the end of 2011. If you would like further clarification with regard to the attached please contact Mr Peter Trott, Fisheries Program Manager, on +61 (0) 437 960 812 or email ptrott@wwf.org.au.

Yours sincerely



Peter Trott
FISHERIES PROGRAM MANAGER
WWF-Australia



for a living planet®

WWF Australia

Comment on the 2nd Reassessment of the Western Australia Rock Lobster Fishery

December 2010

Approach to this Submission

This submission is presented in two parts. Part 1 outlines WWF's high level priority issues. In summary these are:

- Requirements to make available all relevant information
- Transition to the new MSC assessment methodology
- The need for a robust stock assessment
- Assessment of Performance Indicators (PIs) with recent significant changes to relevant management arrangements
- Incorporation of climate change effects into management arrangements

Part 2 addresses each PI to which WWF has particular comment to make. These elements comprise the bulk of this submission.

This is the first assessment of this fishery under version 2 of the *Marine Stewardship Council —Fishery Assessment Methodology and Guidance to Certification Bodies* which contains revised components, PIs and scoring guideposts. While recognising that the new methodology is an improvement on its predecessor, it is important that issues raised under the previous framework are not lost in the transition to the new

framework. As such, WWF's submission includes a 'background' section to relevant PIs which includes significant information about previous scores, rationales and conditions. This is followed by 'current issues' which document issues that WWF believes are pertinent to the reassessment of the fishery.

PART 1: PRIORITY ISSUES

The following matters of process and content are highlighted for the reassessment of the western rock lobster fishery:

- **Requirements to make available all relevant information.** WWF reminds SCS of its previously raised issues regarding documentation available for the last Special Surveillance Audit. WWF did not have access to the latest iteration of the harvest strategy in preparing its submission to that Audit, despite the fact that the Client had provided a copy to SCS. As outlined previously, WWF believes that this is a fundamental flaw in the MSC process of which consultation and stakeholder engagement are critical elements. WWF further felt it was inappropriate to base aspects of its audit findings on a draft harvest strategy. WWF does note that MSC and SCS have made considerable improvement in this area and recent documentation has been provided to WWF either directly or via its website in a timely manner. WWF hopes this approach will be reflected in the conduct of this reassessment, and that stakeholders are provided access to all latest and relevant documentation, and that 'draft' management arrangements and strategies are not considered as final auditable arrangements on which to base the MSC assessment.

Team response: During the initial onsite meetings in December 2010 the CB and assessment team made very clear that all documents needed to be made available on the website. We clearly stated that until this was done, the documents could not be considered for the reassessment. Consequently the scoring and re-assessment was delayed until the May 2011 meeting.

However, it is not uncommon that draft documents are used in the assessment of information as the change from draft to final is often associated with political issues (sign off by senior officials) rather than scientific review. As a draft, it is normal for reviewers using the document to also check for scientific accuracy as well as fact. Importantly drafts are often the only document available that has the latest information and decisions need to be based on that.

The assessment team recognizes that this is a problem when major changes occur in a fishery, in that the effects cannot be fully measured yet. The scores were lower because of this. The problem was also recognized by both independent peer reviewers of the report, who felt the decision of assigning a lower score was too harsh. The team however determined that the scores were justified under these circumstances.

- **Transition to the new MSC assessment methodology.** The reassessment will use the updated methodology with revised components, PIs and scoreposts. These are of a higher level and less prescriptive than the PI's on which the fishery was assessed previously. There is a danger that in the reassessment, details raised at the more prescriptive level (which may have attracted conditions or non-conformances) will be overlooked. This may also be seen as an opportunity for other stakeholders to argue that some of these issues are now no longer relevant. Although the new methodology's less

prescriptive nature is an improvement, it is important to ensure that this is not used to dismiss previously raised important management issues.

Team response: The team has made an effort to “map” all outstanding issues from the old assessment against the new default assessment tree and there is a specific section in the re-assessment report showing the results (Table 3) as well as explanations on page 56:

“All aspects of any conditions that remained open after the 4th annual surveillance audit in December 2010 were explicitly assessed against the new SGs of this FAM. The different requirements of the new SGs meant that there would not necessarily be a direct correspondence between these outstanding conditions and new ones from the reassessment. Where direct correspondence to a new condition was not logical the reasoning has been explained.”

- **The need for a robust stock assessment.** A major issue has been the quality of the stock assessment model. The 2010 international stock assessment model review workshop has been undertaken and the outputs of this have been considered by WWF in this submission. Although the workshop has made significant progress on the assessment model, it was also noted that there are numerous additions/amendments to be made to the model to address deficiencies. This is a major issue given that this PI rated extremely poorly at the last review, and the fishery was still certified. This issue is dealt with under the specific PI: *There is adequate assessment of the stock status.*

Team response: The assessment team recognizes that this is a problem when major changes occur in a fishery. In this case it is improving the stock assessment model. As before, most of the changes are improvements, the effects of which cannot be fully measured for some time. As explained above, the scores of several PIs were lower because of this. The team felt that the score was justified under these circumstances even though they were improvements that should have been rewarded.

- **Assessment of Performance Indicators (PIs) with recent significant changes to relevant management arrangements.** In the upcoming season, the fishery will experience a significant management shift from pure input control to a quota-based management system. This shift will occur as the MSC reassessment process for the fishery commences. WWF had significant concerns in relation to the harvest control PIs in the previous assessment, and it applauds the move to a quota-based system. However, it is important that the MSC assessment is based on evidence and outcomes, and at this stage, the effectiveness of the new arrangements cannot be determined. WWF expects that the fact that the harvest control rules are untested is appropriately considered in the assessment by SCS.

Team response: We agree that the effectiveness of the new arrangements cannot be determined at this stage. The assessment team considered this in its assessment. As both peer reviewers pointed out, the fishery in fact achieved a lower score as a result of it.

- **Incorporation of climate change effects into the management arrangements.** WWF has previously questioned if climate change has been effectively incorporated into the management of the target and non-target species. WWF is unaware of any studies currently being implemented that investigate the impacts of climate change on future recruitment and trophic relationships. The need for such studies has recently been advocated in this fishery with scientists claiming that the recent failure of recruitment and poor catch predictions in the coming years is a product of combined climate influences (namely changes in oceanic currents and temperatures) coupled with increased fishing effort. The recent recruitment spikes experienced in just two locations raises further questions. There is speculation around whether this has been due to unusual climate patterns or a reduction of fishing, and whether the recruitment increases are an anomaly or a trend which should be reflected in catch levels. These matters flow to important management decisions and as such the issue of climate change impacts should be considered in the reassessment of this fishery.

Team response: Several studies on climate change and recruitment etc. is currently being conducted by the Department:

- Identifying factors affecting the low western rock lobster puerulus settlement in recent years
- Management implications of climate change effect on fisheries in Western Australia
- The Biological Oceanography of Western Rock Lobster Larvae – Part 1 and 2

PART 2: COMMENTS ON PERFORMANCE INDICATORS

PRINCIPLE 1: HEALTH OF THE FISH STOCK

Component 1.1: Outcome

Stock status. PI: The stock is at a level which maintains high productivity and has a low probability of recruitment overfishing.

Background

Under the previous assessment (Special Surveillance Audit 2009), the then PI: *'Stock is at or above appropriate reference levels'* was assessed. Although SCS recognised the below average puerulus settlement observed since 2006-2007, the score of 80 was determined based on the fact that the quantitative assessment used to determine egg production generally showed this to be well above the target 1980s reference level at that point in time.

The SCS noted uncertainties with the current quantitative assessment together with uncertainties in the empirical indicators of breeding stock. It stated that the score for the indicator would be reviewed after the completion of the condition (which called for the undertaking of an international peer review of the then current 2009 stock assessment) which would include a re-evaluation of the stock status in 2009. That condition has been completed and WWF queries whether the score of this indicator has yet been reviewed.

WWF disagreed with the 2009 Special Surveillance Audit assessment on the basis of below average puerulus settlement and results of the 2009 Risk Assessment Workshop (see below) and was of the position that given the current limit reference point, the assessments show that stock is likely above, but could be close to the limit reference point, in at least one zone. WWF therefore suggested a score of 60 for this indicator.

Current Issues

The new PI: *'the stock is at a level which maintains high productivity and has a low probability of recruitment overfishing'* places a different emphasis on this principle and now requires consideration of the probability of recruitment overfishing and maintenance of productivity, regardless of whether current reference points are being met. Based on this, WWF expects that the assessment will consider all current issues relevant to this PI including:

- Below average puerulus settlement observed in most locations in the Fishery in 2006-07 followed by another low settlement in 2007-08 and the lowest settlement on record in 2008-09 (Department of Fisheries, 2009b).
- The outcomes of the Risk Assessment Workshop (Brown, 2009) which noted that¹:
 - when annual increases in the level of effective effort of about 8% (as determined from depletion analysis) are included in the calculations of breeding stock (FDBSI) levels, there is evidence that they

¹ The likelihood / probability that a decline in a particular part, or parts, of the BS have caused the low puerulus settlements of 2007/08 and 2008/09 was assessed as: Likelihood – 3.0 – Possible; Probability – 20 to 50%.

- have fallen below the 1980s threshold level and close to the limit reference point (i.e. 20% below the threshold level); and
- the decline in the breeding stock in the Big Bank, northern Abrolhos and the coastal deep water breeding stock areas in Zone B are of particular concern, as preliminary results from oceanographic modelling indicate that these northern breeding stock areas could be more important under certain environmental conditions for the production of larvae that will successfully settle as puerulus in the Fishery. There is also concern regarding the decline in breeding stock levels in Zone A and north of Lancelin in Zone C.

These above points are clearly evidence which point to a probability that recruitment overfishing is occurring in this fishery. Also given the International Model Review Workshop has been undertaken, WWF queries whether the score attributed to this PI was reviewed as committed to in the 2009 Special Surveillance Audit Report.

Team response: These points have been dealt with during the assessment and will continue to be evaluated as part of the annual surveillance audits.

Reference Points. PI: Limit and target reference points are appropriate for the stock.

Background

The limit reference point for egg production used in this fishery is empirically based and is set at the level of the late 1970's and early 1980's, which, on a stock-wide basis, is estimated to be about 25% of the unfished egg production.

The limit reference point is based on historically low levels in the fishery and is used to identify a condition that the fishery managers do not want to see reached again. Fishery dependent data to estimate levels of egg production relative to 1980 are collected, and fishery independent data exist since 1992. In 2006, the SCS determined that the statistical robustness of these data were questionable as there are inconsistent trends between data series, and as such the fishery assessment scored this indicator at 80.

The 2009 Special Surveillance Audit determined that there was no basis to change the score for this indicator on the grounds that the target range of the stock is above the previous threshold reference level corresponding to the egg production level in the early 1980s. The actual limit reference point is set at a level 20% below the 1980² threshold. It was noted during the audit that this still corresponds to a level that is well above the low point in egg production in the late 1980s / early 1990s, and from which the stock subsequently recovered quickly to a level well above the threshold. The Special Surveillance Audit Report also noted that *'the target and limit reference points are now formally built into the harvest strategy, which requires that there be at least a 70% probability that the stock is above the 1980 threshold and at least a 90% chance that the stock is above the limit reference point in five years time'*.

² The 1980 level now refers to the average of 1980, 1981 and 1982

Team response: Crustacean fisheries worldwide have used different limit reference points for identifying undesirable states. For example in Tasmania the target egg production is to be above 25% (although in two northern areas a target of 20% is used). In Victoria there is a target to be above 20% unfished egg production, while in South Australia there is no specific target but the current level of ~12% is considered acceptable. In other countries much lower levels appear to sustain fisheries. The 25% adopted in Western Australia, combined with the probabilistic interpretation appears to be acceptably conservative. This is especially the case when the stock previously recovered from this level when there was much greater effort in the fishery. However, it must be noted that egg production does not automatically translate into spawning biomass. As already noted the transition from egg production to successful puerulus settlement is not guaranteed.

Current Issues

Western Rock Lobster Fishery Harvest Strategy and Decision Rules Framework Proposal was published as a Discussion Paper in March 2010. The discussion paper proposed:

- A sustainability objective: Ensure that the egg production in each zone of the fishery remains above its threshold level (currently the early 1980s level for the coastal zones), and the probability of still being above this level in five years time is at least 75 per cent.
- An economic objective: Ensure harvest rates for the fishery are consistent with the principles of Maximum Economic Yield (MEY).
- That the egg production values used in the decision rules framework are those estimates derived from the stock assessment model.
- That the harvest rate values used in the decision rules framework are those estimates derived from the stock assessment model.
- That the egg production reference values for Zones B and C (coastal areas north and south of 30°S respectively, see Figure 1b) are:
 - *Target* Range Egg production above the early 1980s level.
 - *Threshold* value Egg production at the early 1980s level.
 - *Limit* value Egg production 20% below the threshold level.
- That the breeding stock reference values for A Zone (Figure 1b) are:
 - *Target* Range Egg production above the level of the mid 1980s.
 - *Threshold* value Egg production at the level of the mid 1980s.
 - *Limit* value Egg production 20 per cent below the threshold level (mid 1980s).
- That the harvest rate reference values for each Zone of the fishery are Target Range MEY harvest rate $\pm 0.1^3$.

³ Harvest Strategy and Decision Rules Framework Proposal states that “No threshold or limit values are provided for the MEY harvest rate because they are not meaningful in terms of the economic objective. The MEY harvest rate values will vary annually based on stock size and economic factors, such as the price paid for lobsters, exchange rates, cost of fishing – fuel, bait, crew, finance, etc. Thus, none of these reference values are expected to be static. The harvest rate to achieve MEY would usually be well below that required for sustainability, however, where there is any conflict, the sustainability objective must first be met.”

The discussion paper also proposed decision rules outlining action to be taken at given reference levels (these are discussed under Component 1.2: Harvest Strategies).

WWF note that there has been concerns about the model used to derive the 1980/1981 reference point (Hall and Chubb, 2001), particularly expressed in the report of the 2007 Western Rock Lobster Stock Assessment and Harvest Strategy Workshop. However the overall conclusion of the stock assessment workshop was that the empirical 1980 level is a good referent point for breeding stock. There was also general support for the threshold reference point from outside the management agency. WWF therefore acknowledges that the limit and target reference points included in the draft harvest strategy are justified on the basis of stock biology and exploitation history and that they are measurable.

The 2010 Model Review Panel made reference to the reference values and in particular recommended that a harvest rate (or an egg production level that would be expected to result from this harvest rate) representing a proxy for MEY be developed. WWF supports this recommendation.

The most significant issue for this PI then is less about the content and more about process. WWF is not aware that a final approved set of reference values has been set given that the final Harvest Strategy (which contains these values) has still not been published as at November 2010. Further given the move to quota, WWF questions the extent to which the draft strategy remains relevant and the timeframes involved in developing a new framework which is reflective of the revised management arrangements. WWF urges that SCS enforce that final approved arrangements only are valid inputs into the reassessment process and that where only draft arrangements are in place, the PI is scored reflective of this.

Team response: The new stock assessment model described in WRL Stock Ass Report Draft_Nov2010.pdf and in StockAssesChapterMSC_v2 ns.doc provides estimates of the model based performance measures relating to stock biomass and egg production. With the advent of the new model and the draft Harvest Strategy the issues raised in the comment appear to have been answered. The final document is expected to be signed off by the Minister in April 2012.

Stock Rebuilding. PI: Where the stock is depleted, there is evidence of stock rebuilding.

Background

SCS states that the stock assessment and reference points indicate that the stocks remain above the limit reference point. As such, the then PI (*When the stock is below the target point, there are measures to rebuild the stock specified and implemented for recovery and rebuilding of the stock*) was not scored in the 2009 Special Surveillance Audit.

However, in its commentary of this indicator in the 2009 Audit Report, SCS states that ‘the assessment clearly shows that future egg production (the agreed measure of stock status) will decline dramatically over the next few years as the consequences of low settlement feed into the breeding stock’.

Current Issues

WWF concurs that, technically, this indicator does not apply. However WWF remains concerned by the declining trends in indicators such as spawning biomass, puerulus settlement, weight of returned setose females to the water, residual legal size biomass, and increased harvest rates.

In addition, there is cause for concern that localized depletion has occurred in area such as Big Bank and the area North of the Abrolhos Islands. In those areas catches and catch rates of undersize lobsters have declined, indicating a decline in abundance and in replenishment (i.e. fewer small lobsters migrating into the area) (Brown, 2009) and actual catches have been well below predicted levels (Moore and Caputi, 2008).

WWF believes that on the balance of probabilities, a rebuilding strategy may be required in Big Bank and northern Abrolhos (north of North Island) in Zone A. WWF notes that the Big Bank area remains closed in 2009/2010 and believes that this closure should be maintained and monitored closely to detect signs of rebuilding.

Team response: All of these concerns will be examined during the annual surveillance audit(s).

Component 1.2: Harvest strategy (management)

Harvest strategy. PI: There is a robust and precautionary harvest strategy in place.

This PI will be considered in two parts:

- there are harvest strategies in place; and
- harvest strategies are robust and precautionary.

Background, There are harvest strategies in place

The 2009 Special Surveillance Audit concluded that a score of 80 was appropriate with regards to the PI of the harvest strategy being '*clear, tested and agreed decision rules*' but was scored at 70 since the interim harvest strategy had yet to be formally approved.

The condition was placed on the client: '*The Client shall provide the CB with clear evidence that the interim harvest strategy and decision rules applied for the 2009/2010 fishing season, and intended to be applied for future management of the fishery, have been formally endorsed by the Minister and made publicly available. Timeframe: to be completed by March 2010.*'

Current Issues, There are harvest strategies in place

As at November 2010, a proposed harvest strategy has been released as a discussion paper for comment and a final has not been produced.

WWF reiterates its previous comments in relation to the certifier's assessment that the delay in finalization of the harvest strategy and decision rules is not justified by the need to reflect the current conditions of the fishery. The harvest strategy framework should operate independently of the current conditions and should provide the platform to deal with whatever circumstances the Fishery finds itself in. WWF finds the delays in finalization and public release of the revised harvest control rules and strategy unacceptable given that the Fishery has had over 3 years to complete this task.

The 2010 Model Review Panel stated that the recent decision by the Minister that the fishery is to move to a quota-based management regime and adopt an MEY-based objective will require that the proposed harvest strategy be reconsidered. In particular, there is now an urgent need to incorporate a target reference point and decision rule to be used when determining the Total Allowable Commercial Catch (TACC). Again, WWF expects that this is not used as justification for failure to finalise a critical management tool which has been a condition of MSC accreditation for three years.

Team response: Please refer to the draft assessment report and specifically condition 1.2.2 and 1.2.3.

Background, Harvest Strategies are Precautionary and Robust

The 2009 Special Surveillance Audit Report found that the indicator nearly met the 80 scoring level based on the fact that the new interim harvest strategy explicitly reduced harvest rates at low stock levels; and that it was precautionary in the sense that it required a 70% probability of being above the stock threshold and a 90% probability of being above the limit. The harvest strategy did not meet the 80 scoring guideposts (and instead determined a score of 75) because the first step in a response, stated in the draft strategy is to initiate a 'review'. The audit team was concerned that without further clarification of what this means and the time lines involved in such a review, it could be used as an excuse to delay appropriate management responses.

Consequently the following condition was placed on the client: *'Issue a clarification of what is intended by the elements in the harvest strategy that involve undertaking a review, such that there is confidence that this measure will not be used to delay appropriate management responses, but instead be used to determine the most effective form of management response, within reasonable timeframes. Timeline: to be completed by March 2010.'*

Current Issues, Harvest strategies are Precautionary and Robust

It is noteworthy that while the 2010 Model Review Panel did not review the decision rules themselves (as they reflect policy and not science), it did state that the *structure* of the decision rules is consistent with world's best practice.

WWF notes that the Department of Fisheries has taken account of the 2007 stock assessment reviewer recommendations that decision rules associated with sustainability should be more precautionary by accounting for uncertainty and that there should be a greater than 50 per cent probability that the indicator value is above the egg production threshold value. This has been incorporated into the framework by providing the 75% and 90% probability levels associated with the egg production indicator values over time.

WWF welcomes the condition placed on the client regarding the 'review' and notes that the Harvest Strategy and Decision Rules Proposal now elaborates on the nature of 'review' in the management response, containing a timeframe for the review. However, it is still vague about the specifics of the review and is still inadequate. The 2010 Model Review Panel underscored this position, stating that the *'Harvest Strategy discussion paper has not clarified what is intended by the elements of the decision rules that require a review to be undertaken, such that there is confidence that this measure will determine the most effective form of management response, within reasonable time frames. The Panel recommended that the decision rules should specify a clearly-defined response.'*

It is noteworthy that the 2010 Model Review Panel recommended that the decision rules should be extended also to include a recovery strategy. WWF considers this a valuable notation and supports the recommendation to include a recovery strategy within this decision rules framework.

Team response: This is probably a good idea, but too soon to have it incorporated. At this stage the fishery has incorporated a trigger point for specific action if there is a decline of the breeding stock below a defined level.

Harvest control rules and tools. PI: There are well defined and effective harvest control rules in place.

Background

The 2006 reassessment stated that there was empirical evidence to support the then PI that *'There is a mechanism in place to contain harvest as required for management of the stock'*. The 2006 reassessment determined a score of 90 for this PI. The 2009 Special Surveillance Audit concluded that there was no basis to change the score allocated in 2006 as measures in place during the 2008/2009 season constrained catch to below target levels.

Contrary to the position of SCS in its 2009 Special Surveillance Report, WWF believes that the experience of the 2008/09 season is indicative of the failure of the current mechanisms. In 2008/2009 the predicted catch was 9200t but in response to concerns about the longer-term impact of very low puerulus settlement in 2007/08 and 2008/09, the target catch was set at 7800t. A 35% reduction was initiated to deliver this target catch, however by mid season it was clear that these effort reductions were not sufficient to contain the catch which was trending towards 9000t. Additional controls were implemented including a further 15% reduction in effort, further restricting the days that fishers could operate and additional restrictions on sizes of lobsters.

In its response to the 2009 Special Surveillance Audit, WWF re-enforced its concern that the long term management arrangements have been inadequate for the successful medium to long-term sustainable management of the fishery. It stated that the mechanisms in place, namely effort controls, cannot adequately control harvest to levels consistent with maintaining or returning the stock to productive levels.

Current Issues

The Minister for Fisheries announced in July 2010 that the fishery management arrangements would be converted from primarily input controls to an output based Individual Transferrable Quota (ITQ) system commencing in the 2010/2011 season. Effectively, the harvest control rules are therefore about to change markedly.

WWF applauds the introduction of output controls to the fishery, but raises a serious issue with regard to how this very recent decision can be considered in relation to the PI: *'There are well defined and effective harvest control rules in place'*. There is currently no basis to determine the effectiveness of the new ITQ arrangements specific for this fishery as they are in the process of being introduced within the same timeframe as this reassessment process. The scoreposts for the PI appear to not capture this issue; however WWF suggests that SCS consider this issue when assessing this PI.

In addition, WWF emphasises that an individual transferable quota (ITQ) system should be supported by minimum and maximum size limits and escape gap limits together with permanent area closures where these are required to provide additional protection for the breeding stock and/or to restore ecosystem relationships. Past research has demonstrated that a proportion of the rock lobster stock does not migrate for spawning events. The series of closures should build on past research knowledge and include identified areas of continually high densities of breeding stock within the fishery. For example, a large no-take marine protected area in the Abrolhos Islands which would provide spawning stock security and maintain predator-prey relations in that region.

Team response: As pointed out above, the team agrees that the effectiveness of the new arrangements cannot be determined at this stage. The team considered that in its assessment and the fishery in fact achieved a lower score as a result of it. Both peer reviewers pointed that out.

Information / monitoring. PI: Relevant information is collected to support the harvest strategy.

Background

The fishery was previously assessed against two relevant sets of PIs:

1. There should be sufficient information on the target species and stock to allow the effects of the fishery on the stock to be evaluated, including that:
 - Life history and reporting on target species is well documented.
 - The life history of the species is understood.
 - The geographical range of the target stock is known.
 - Information on the reproductive outputs and on recruitment and its relationship to parental stock is understood.
 - Information is collected on abundance/density of the stock.
 - The size structure of catches is measured.
2. There should be sufficient information on the fishery to allow its effects on the target stock to be evaluated, including that:
 - Fishery related mortality is recorded/ estimated (including landings, discards and incidental mortality).
 - Fishery effort is recorded, estimated and standardised to effective fishing effort.
 - Fishing methods and gear types are known through the fishery.
 - Changes in selectivity are known and accounted for.
 - Other fisheries in the area that are not subject to certification are identified and monitored.

Current Issues

WWF raises the following issues with regard to data collection that should be considered in the reassessment in relation to this PI:

- **Geographical range of the species known.** The geographic range of the species is restricted to the lower west coast of Western Australia. Genetic analysis using allozyme electrophoresis has concluded that the Western Rock Lobster is a single panmictic population. However, there is variation in reproductive biology and growth within the population (Caputi et al., 2008a) and WWF notes that a current Fisheries Research and Development Corporation (FRDC)-funded study, *Evaluation of population genetic structure in the western rock lobster*, will, among other things, test whether the adult population of the species is genetically homogenous throughout its range.
- **Information is collected on the abundance/density of the stock.** Two indices of breeding stock abundance are available for Western Rock Lobster: the Fishery Dependent Breeding Stock Index (FDBSI) and the Independent Breeding Stock Surveys (IBSS). Despite the availability of these data over an extended period, this indicator was subject to a condition arising from the 2006 recertification of the Fishery. The condition required the resolution of inconsistencies between time series of data and the various methods employed to assess the status of the stock. This condition was to be addressed through the broader review of the fishery conducted by Dr Norm Hall of Murdoch University. The outcomes of that review were considered at the Western Rock Lobster Stock Assessment and Harvest Strategy Workshop of July 2007 (Department of Fisheries, 2008).

In the 2009 Special Surveillance Audit, the following condition was placed on the client with respect to this issue: *'The client shall provide to the CB a report showing how current major uncertainties in BSS and IBSS indices, including changes in maturity and environmentally induced inter-annual changes in catchability, have been addressed. The report will include revised time series for estimates of breeding stock, including confidence bounds and the way that they reflect the uncertainties in the analyses. The report shall be reviewed as part of the international review of the stock assessment (see indicator 1.1.5.1) and the reviewed and agreed time series will then be used in the quantitative stock assessment. Timeline: Report to be provided to CB by March 2010 for subsequent review by international peer reviewer.'*

In considering this issue, the 2010 Model Review Panel stated that decision to manage the fishery using ITQs means that there is a requirement for the assessment model to provide better predictions of future recruitment and to estimate an appropriate level of catch to maintain egg production and achieve a target level of yield. Experiences in other fisheries have shown that the relationship between fishery-dependent indices of abundance and the true abundance changes substantially after the introduction of ITQs thereby affecting the continuity of the data series (and their use in assessment). The Panel highlights that this means that future assessments will rely more heavily on the fishery-independent indices of abundance. This may require evaluating the design of the current data collection program and increasing its coverage to better monitor the fishery, particularly as the fishery transitions to an ITQ system. This advice should be considered when addressing this PI.

- **Fishery related mortality is estimated/recorded.** Estimates of recreational catch are made and adjusted to address bias, however these remain estimates. In addition, western rock lobster is taken as a 'significant component of the catch in the Windy Harbour fishery' off the south coast of Western Australia (Fletcher and Santoro, 2008). The actual quantity of catch taken is not reported due to confidentiality provisions relating to the small number of licences, however WWF notes that the average catch in the decade to 2003/04 was quite low at around 16t per annum. It is unclear to WWF

whether the reporting and validation requirements that apply to catch in the fishery also apply to the Windy Harbour crustacean fishery. This issue should be addressed as a matter of principle in the reassessment.

- **Recording of fishing effort is recorded, estimated and standardised to effective fishing effort.** A condition was attached to this indicator in the 2006 Assessment and a major non-conformance with this indicator was identified by SCS in July 2009 (SCS, 2009). Caputi et al. (2008a) note that *'The estimates of fishing efficiency have not been reviewed since Brown et al. (1994) and Fernandez et al. (1998) and need to be reviewed based on the depletion analysis estimates and the modeling estimates of efficiency change'*. The 2008 stock assessment model includes efficiency increases across seasons and areas of 1-2% to 4-5% (Caputi et al., 2008b). However, the 2009 Risk Assessment Workshop report notes that the depletion analysis estimates that the annual increase in the level of effective fishing effort could have been around 8%. Effort creep is a well recognized problem in input controlled fisheries where additional inputs, new technology or changed fishing practices are used to compensate for restricted inputs. WWF note that the shift to output controls will address this deficiency.
- **Fishing methods and gear types are known throughout the fishery.** WWF believes that the onboard monitoring program provides a high degree of confidence in the fishing methods and gear used in the fishery. However, the extent of coverage of onboard monitoring is unknown and should preclude the attribution of a score of 100.
- **Other fisheries in the area that are not subject to certification are identified and monitored.** As noted above, only one other fishery takes western rock lobster. The impact of that fishery together with the Unit of Certification and the recreational fishery for this species are monitored and included in the stock assessment. However, as noted above, monitoring of recreational catch relies on mail surveys and the level of catch monitoring and validation in the Windy Harbour commercial fishery is unknown. WWF considers that the available information supports a high degree of confidence in the fishery.

Team response: The stock assessment and management of this fishery are currently in transition, moving to a more formal assessment of the stock dynamics. This also involves the establishment and collection of new sources of data, new surveys, and different approaches. These are in progress and will be reviewed during the annual surveillance(s).

Assessment of stock status. PI: There is an adequate assessment of the stock status.

Background

The previous assessment methodology rated this issue against five separate PIs:

- Robust assessment methods are used to provide advice on stock status
- The assessment takes sufficient account of major uncertainties in data (including evaluation of assumptions) to provide a robust assessment of the stock
- Uncertainties and assumptions are reflected in management advice
- The assessment evaluates current stock status relative to reference points

- The assessment includes a quantitative evaluation of the consequences of the current harvest strategies

The fishery failed to meet four of the five indicators related to the “robust assessment of the stock” at the 80 scoring guidepost level in both the 2006 Reassessment and 2009 Special Surveillance Audit.

In 2009, the SCS noted that progress had been made in developing and applying a quantitative stock assessment model for western rock lobster (Stephenson and de Lestang 2009). However, a low score of 70 was determined on account of:

- The model not using all available information and data;
- The model not attempting to fit to the long time series of breeding stock surveys despite the fact that these have provided until very recently the most important empirical indices for management of the stock;
- The assumptions made in the depletion analysis are not necessarily consistent with the assumptions in the assessment model to which the outputs from the depletion analysis are subsequently fitted;
- There is uncertainty about changes in efficiency of effort over time;
- Three separate analyses are undertaken outside the assessment model but the values used in the assessment are not properly justified and do not reflect the uncertainty in assessment.

On this basis, SCS placed the following conditions on the fishery (which relates to the then PI 1.1.5.1, in addition to the then PIs 1.1.2.2, 1.1.5.2, 1.1.5.5): *‘Undertake an international peer review of the current (2009) stock assessment and work with the peer reviewer(s) to develop a robust assessment of the stock. Issues to be addressed include:*

- *Estimating depletion within the model by fitting to seasonal trends in catch rates*
- *Reintroducing breeding stock indices into the objective function (after the condition for indicator 1.1.1.5 is met)*
- *Estimating efficiency change within the assessment model*
- *Identifying key uncertainties in assumptions and data and undertaking appropriate sensitivity analyses*

Issues to be considered include (i) estimating the relationship between puerulus settlement and recruitment within the assessment model; and (ii) incorporating size data into the assessment.

The client shall then provide a report to SCS of the outcome of the review, including an updated 2009 quantitative stock assessment report, based on recommendations and findings of the review. Assuming a satisfactory resolution of the current uncertainties and problems in the assessment, the new assessment model would then be used as the basis for the 2010 assessment and for the provision of management advice for the 2010/11 fishing season. Timeline: 8 July 2010.’

Current Issues

The Western Rock Lobster International Stock Assessment and Modelling Workshop was held between 20 and 24 May 2010. The population dynamics model on which the 2010 stock assessment was based and which was provided to the Panel was spatially-, length-, and sex-structured. The panel concluded that the basic model *structure* is appropriate. However the Panel had three key concerns:

- the pre-specified parameters of the model are based on the same data that are then used to estimate the free parameters of the population dynamic model;

- assumptions are made which artificially reduce the variances of the model predictions, given the inclusion of measures of precision in the decision rules, and
- the fortnightly time steps and spatial strata used in the model results makes the model very complicated (owing to the need to capture the many requirements of management), which may negatively impact on the ability to make inferences regarding, for example, stock status. In particular this means that computer-time requirements for the assessment are substantial, which makes evaluation of sensitivity difficult.

Team response: The model has been significantly modified since the May 2010 workshop. Previously it was possibly over-parameterized, which appears to have led to instability. Now, as described in WRL_Stock_Ass_Report_Draft_Nov2010.pdf and in StockAssesChapter MSC_v2 ns.doc, the model has been streamlined to 11 time steps per year and 11 regions. This has enabled the model to become stable and permit the incorporation of uncertainty in many of its components. The submission would need to consider the new model. It is important to note that the model can be expected to evolve and improve through time as more data becomes available or is incorporated. The idea behind the modelling is to synthesize as much of the available information as it can so as better to capture what information there may be in the data. Problems may arise if two data streams imply different things but this often leads to greater insights and better understanding. The important thing to note is that the model should not be expected to be static; while there may be issues with the model they can be expected to be addressed through time.

Other concerns raised by the panel which WWF would like underscored are:

- **Use of available data.** The fishery is data rich and there would be considerable value in making greater use of these data when fitting the assessment model. Use of as many data sets as possible when fitting the model will also reduce the need to pre-specify parameters and hence provide a more accurate reflection of uncertainty.
- **Raw data conversion.** Conversion of the raw data collected from the fishery into catch, effort and length-frequency inputs for the model is not well documented.
- **Calculating annual catch efficiency.** Aspects of efficiency related to the effect on catch-rates within the fortnightly time steps used in the model, such as efforts of moon phase, swell etc, do not appear to have been considered.
- **Incorporating migration.** The 2010 assessment model allowed for migration that occurs between inshore and offshore regions within each zone and between the inshore regions of zone B and the offshore region of zone A. However, migration between zones C and A_B was not explicitly captured by the model – principally because simultaneous assessment of zones A, B and C is currently constrained by the high computational demands associated with fitting the assessment model. Further analysis to take into account migration between zones will require simplification of the model.

- **Description of stock assessment model.** The draft description of the 2010 stock assessment model, provided to the Panel, was inadequate and limited the Panel's ability to fully review the assessment. This document is the primary mechanism through which the modellers communicate with managers, industry and other modellers and needs to follow a standard format and fully describe what is being done (guidance on how to write an assessment for this type of model is suggested).
- **Objective function.** In relation to the objective function used in the version of the model initially presented, the panel was concerned that the weighting factor applied to the catch likelihood was a mixture of observed and model derived values, that the likelihood for the length-frequency data was not weighed by an 'effective' sample size and that the weight assigned to the penalty of the recruitments only reflected sampling error (and not error related to the relationship between puerulus counts and recruitment at age 2).
- **Predicting causes of low puerulus settlement.** The current model structure does not explicitly include the processes that represent the alternative hypotheses which have been proposed as the causes of recent low puerulus settlement. It is thus not possible to use the stock assessment model to assess which of these hypotheses has the highest probability.

Team response: We all await the publication of the model in the Stock Assessment of the WRL fishery which is expected to be available on the fisheries website by the 31 January 2012. In addition efforts are on the way to formally publish the model and supporting papers in peer reviewed journals. The model describes the dynamics of numbers at size across 11 regions in the fishery. However, it estimates the recruitment it does not model the transition from egg production to puerulus settlement (though it does include the transition from puerulus to recruitment). Given the uncertainty in this transition from egg to puerulus there is no rock lobster model in the world that uses such a transition to form management advice.

In response to the issues identified with the model, the Model Review Panel adopted a two pronged approach to the review:

- The first element was to review the 2010 assessment, to undertake some basic changes to the model during the workshop and, through sensitivity analysis, explore the sensitivity of the model outputs to alternative assumptions. The Panel advised that this sensitivity analysis is likely to provide a better assessment of the robustness of the current management advice than diagnostic statistics of the base case alone.
- The second approach was to commence development of a modified form of the assessment that is directed more towards the needs of an ITQ system with most of the parameters being estimated internally within the model. The Panel advised that this will not only provide a framework to guide future work by the model developers, but also will address the MSC requirement more adequately and move the assessment towards an output-controlled management model. The resultant report noted that there was insufficient time during the review to test the new framework. The Panel recommended

that the assessment scientists review the new assessment framework and once it has been fully evaluated, future assessments should be based on this model.

The Panel made several other recommendations in relation to issues raised. These are summarised in **Annex 1**.

The Model Review Panel made particular comment on the previous MSC conditions placed on the fishery:

- **Estimating depletion within the model by fitting to seasonal trends in catch rates.** The 2010 stock assessment and new ITQ models are fitted to the time series of fortnightly catches within each area, thereby using information on within-season depletion when estimating parameters.
- **Reintroducing breeding stock indices into the objective function.** Catch, effort and length composition data from the Independent Breeding Stock Surveys are now included in the objective function of the new ITQ model. Inclusion of breeding stock indices in the objective function would be inappropriate as this would re-use data that are currently employed in the likelihood components for catch and length composition.
- **Estimating efficiency change within the assessment model.** The Model Review Panel recommended that the calculations of efficiency for the post 1990/91 period be undertaken within the model at this stage.
- **Identifying key uncertainties in assumptions and data and undertaking appropriate sensitivity analyses.** Several of the major sources of uncertainty are now considered in the new ITQ model. The Panel recommended that other sources of uncertainty should be identified and appropriate sensitivity analyses undertaken and reported. In particular, while the 2010 stock assessment considered changes in the efficiency of effort, and changes in maturity and catchability affecting breeding stock indices, the confidence bounds presented in the report of this assessment underestimated the true level of uncertainty. Some aspects of the model that resulted in such underestimation have been addressed in the new ITQ model, e.g. through introduction of an improved method to determine the initial system state, and improved methods to project the model forward allowing for uncertainty in the final system state and in projections. The Panel recommended that calculations undertaken outside the model be made within the assessment (where feasible and efficient) and that sensitivity analyses be undertaken and reported to provide an evaluation of the uncertainty associated with model structure and data inputs.
- **Estimating the relationship between puerulus settlement and recruitment within the assessment model.** The new ITQ model now includes this relationship in the objective function in an appropriate manner, allowing observed values of puerulus settlement to inform the estimates of resultant associated recruitment.
- **Incorporating size data into the assessment.** The new ITQ model now includes the contribution of length-frequency data (commercial and IBSS) to the objective function in a more appropriate way. The Panel has recommended, however, that estimates of effective sample size should be determined and included in the likelihood function.

- **Uncertainties and assumptions are reflected in management advice.** A condition on this indicator was imposed by SCS in 2006 requiring that all future advice by management to RLIAC, the Minister and stakeholders include as a routine feature, “best estimates” of stock status and a forecast of effects of management arrangements and provide a clear indication of the major uncertainties in current assessments and projections. The Model Review Panel recommended that the development and reporting of a base-case model with comprehensive diagnostics and explicit reporting of the results of sensitivity runs for alternative scenarios. WWF strongly support the requirement for management advice to clearly convey uncertainties in the assessment and projections.

WWF is concerned that although the Model Review Panel concluded the basic structure of the model to be appropriate, it has highlighted numerous deficiencies in the model itself, and how it has been employed to guide management decisions. In addition, in presenting the revised ITQ model, the panel noted that additional amendments and additions are required including:

- calculating efficiency of post 1990/1991 be undertaken within the model
- other sources of uncertainty be identified and appropriate sensitivity analysis undertaken and reported, and
- estimates of effective sample size be determined and included in the likelihood function.

WWF expects that in its review the Department of Fisheries’ progress with regard to the finalisation and implementation of the model, SCS considers carefully the full details of the Model Review Panel’s advice and recommendations and that these are enforced to the fullest extent.

Team response: The development of the new model (described in WRL_Stock_Ass_Report_Draft_Nov2010.pdf and in StockAssesChapter MSC_v2 ns.doc) has addressed many of these issues. There remain additions and improvements that can be made and the understanding is that they will be made. Currently the model provides an assessment that generates all the required model based performance measures; but, as with all such models, improvements are expected and will occur. In such a complex and spatially detailed fishery it seems unlikely that the model would ever be finalized, though in practice data availability may eventually preclude further changes). However, as it stands it constitutes a valid synthesis of the main data sources in the fishery and, as such can provide sensible management advice.

PRINCIPLE 2: IMPACT ON ECOSYSTEM

General Comments

WWF reiterates concerns that were previously raised in response to the 2009 Special Surveillance Audit Report, particularly the lack of action by the Client in response to Conditions raised against Principle 2 indicators.

Six non-conformances were issued against these indicators in the Special Surveillance Audit which clearly demonstrates a lack of commitment to dealing with issues that are not directly related to the target stock in the fishery. This attitude is not consistent with the MSC principles and criteria and it is difficult to accept that a fishery with this record for dealing with ecosystem impacts can also claim MSC certification for 11 continuous years.

Each non-conformance, in addition to issues specific to PIs to which WWF has comment to make, are addressed below.

Component: Bycatch species

Information / monitoring. PI: Information on the nature and amount of bycatch is adequate to determine the risk posed by the fishery and the effectiveness of the strategy to manage bycatch.

Background

A condition was placed on the client in 2006 with respect to the then PI *'Information on non-target species affected by the fishery, including incidental mortality is known'*. The condition required that: *'The management system must publish an annual report on bycatch and incidental interactions and mortalities of non-target species in the fishery that is available to stakeholders.'*

Current Issues

WWF acknowledges that data on estimated bycatch levels are now provided in the State of the Fisheries reports. These data are based on observer coverage. However, there is no indication of the level of observer coverage in the fishery, nor is any indication provided to compare the observer-based estimates with the logbook data. While WWF agrees that, technically the Condition has been met, it considers that the value of the data would be improved if these issues were addressed.

Team response: In response to 2.2.3 the team was also concerned “about the spatial representativeness of the data due to the low coverage of pots (~1.2%) and the spatial coverage of sampling”. The team agrees with the opportunity to compare observer and logbook data and recommended that this be done. However, the mandatory recording of bycatch is new and thus comparisons are not yet available. The team noted that continued surveys and “at-sea” sampling will be required to validate log book data. Thus we support WWF in improving the data on by-catch.

Component: Endangered, Threatened and Protected Species

Outcome Status. PI: The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of ETP species.

Background

A condition was placed on the then PI: *'The impacts of the fishery on protected, endangered threatened, or icon species do not exceed acceptable levels'* in 2006 requiring that: *'For protected, endangered, or threatened species other than sea lions, the client must provide direct assessments of the risks to these species either before or as part of the required environmental risk assessment (ERA). The species for which risks need to be assessed in a more rigorous fashion include whales, dolphins, turtles, seabirds, and seahorses.'*

In addition, a condition was applied to implement sea lion exclusion devices (SLEDs) and verify their efficacy. It was specified that SLEDs must be introduced into the mandatory zone in the 2006/07 fishing season. The SLEDs must be used for all western rock lobster fishing within the mandatory zone. The use and effectiveness of the SLEDs in the mandatory zone was required to be monitored and verified commencing with the 06/07 fishing season.

Current Issues

WWF notes that the Department of Fisheries submission to the 2009 Special Surveillance Audit indicates that the threats to whales, turtles, seabirds, dolphins and seahorses were assessed by the 2007 review of the ERA as low. However, the ERA report (Stoklosa, 2007), while confirming that the threat to whales and turtles was low, makes no reference to dolphins, seabirds or seahorses and WWF queries how these assessments were undertaken. Furthermore, the statement on progress against this condition in the most recent Special Surveillance Audit Report noted that no information was provided to SCS on marine mammal interactions and made no mention of the findings with respect to whales, dolphins, turtles, seabirds and seahorses. This issue needs to be clarified and resolved in this reassessment process.

WWF welcomes the progress made in relation to the implementation of SLEDs. SLEDs were first introduced into the fishery in 2006/2007 and the latest condition was for SLEDs to be mandatory for the high risk areas in zone A (Abrolhos Islands) by the 2011 fishing season. WWF has been advised that the sea lion Scientific Reference Group (SRG) met in October to determine the areas in which SLEDs will be required within the Abrolhos Island groups. Once the boundaries are approved, the Department of Fisheries will commence the legislative processes required, including relevant consultation, for the introduction of the SLEDs in the Abrolhos Islands for the 2011 season. WWF also notes that a communication strategy will be developed to advise both commercial and recreational fishers of the need to fit the SLEDs to their rock lobster pots.

Team response: The issue of seabirds and seahorses was previously raised by WWF and the response remains unaltered:

“Seabirds and seahorses were not among the 27 Hazards ranked moderate or higher at the 2005 ERA and in addition Stocklosa invited the expert technical panel to review all the hazards identified at the 2001 and 2005 ERAs, which included sea birds and sea horses and identify any that they felt should be re-examined at the 2007 ERA. Neither sea birds nor sea horses were identified.

At the Burgman 2005 ERA, Nick Dunlop of WA Conservation Council (a sea bird expert) provided the main input for the discussion on sea birds and the decision was that the risk of extra feed from discarded bait was

low (it was the only risk identified for them). Sea horses on pot ropes was examined and found to be low. All this information is available on the Dof website in the Burgman 2005 ERA report: <http://www.fish.wa.gov.au/docs/op/op025/index.php?0706> and the Stocklosa 2007 ERA report: <http://www.fish.wa.gov.au/docs/op/op056/index.php?0706>

The team shares WWF's support for the introduction of SLEDs and is pleased to acknowledge that they have been introduced in the Abrolhos region on the 15th March 2010.

Management strategy. PI: The fishery has in place precautionary management strategies designed to meet national and international requirements; ensure the fishery does not pose a risk of serious or irreversible harm to ETP species; ensure the fishery does not hinder recovery of ETP species; and minimise mortality of ETP species.

As above, WWF notes that the Client has committed to making the use of SLEDs mandatory in the risk areas of Zone A (Abrolhos Islands) by the 2011 fishing season.

Information / monitoring. PI: Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types.

Background

In 2006, the then PI (2.1.1.1) *'The nature and distribution of habitats relevant to the fishing operations is known'* was scored at 70. The following condition was placed on the client with respect to this issue: *'The client must provide to SCS results of habitat mapping across the extent of the fishery. The mapping must use an agreed classification system. Agreement on the classification system must be reached through discussion with stakeholders and other government agencies to ensure maximum compatibility with other efforts in the region and throughout Australia. Timeline: This condition must be met prior to the third annual surveillance of the fishery.'*

The 2009 Special Surveillance Audit report found that there had been only limited progress on the condition and therefore raised it as a non-conformance for completion by November 2010, with the new condition: *'The client is required to provide stakeholder-agreed report(s) containing detailed plans to; 1) correct the mapping deficiency; and 2) deploy appropriate rapid assessment protocols to identify two further (additional to the present 30° line) areas for subsequent follow up studies in representative deep and shallow water areas of a northern and southern area of the fishery. Timeline: An agreed (with the CB) action plan that will lead to preparation of these plans within the 12-month period is to be established within five months of this audit. The report(s) will be audited in the 2010 annual audit to determine if progress at that time meets the full intent of this condition.'*

WWF is not aware whether the action plan specified in the latest condition has been complete. Without access to the action plan at this point WWF is unable to comment on its content. WWF will be reviewing this matter closely in the reassessment process as this PI was a basic requirement of the client which was designed to be a foundation piece to answering strategic questions of where to locate more detailed and integrated studies focussed on the key issues of ecological effects of the fishery. WWF considers the failure of the client to complete this condition unacceptable. It furthermore notes the significance of this issue, i.e. that non-

completion within the five year timeframe of recertification can result in the fishery being unable to apply for future recertification.

Team response: The team scored this PI at 70 and a Condition was assigned. While progress on the habitats had been substantial, we are still concerned that there were regions of the fishery where the distribution of habitat types remains unknown. As noted in the 2010 audit report, the Department of Fisheries has secured funds to appoint a GIS specialist to address the rapid assessment and improved spatial coverage concerns.

With respect to the further areas in the southern and northern region of the fishery, the team accepts the recommendation of the newly formed independent expert *Effects of Fishing Advisory Group* that no work should be done to identify other study regions at this stage. The rationale for this was based on the size of the coast and the cost of research in offshore regions. The current closed area is 6 x 2 nm ranging in depth from 40 – 60m. Sampling will include the proposed closed area and adjacent fished sites. This will be used to develop the final protocols and methodologies before selecting further regions.

Component: Ecosystem

Information / monitoring. PI: There is adequate knowledge of the impacts of the fishery on the ecosystem

WWF makes comment on three PIs from previous assessment, relevant to this new PI:

- There is information on the potential for ecosystems to recover from fishery related impacts
- The trophic linkages and interactions between the non-target species and the target species are known
- Use of bait and loss of bait bands and fishing gear during fishing operations is known and reported and is within acceptable levels of impact

Background, There is information on the potential for ecosystems to recover from fishery related impacts

The 2006 Reassessment placed a condition of on the then PI '*There is information on the potential for ecosystems to recover from fishery related impacts*'. The condition is summarised as:

- The client must propose an action plan that will improve performance of the management to be equivalent to the 80 Scoring Guidepost being: Based on the outcomes of research projects, models and estimates of resilience and recovery potential of the main dependent species are being developed to take account of impacts of the fishery, important aspects of ecosystem dynamics, environmental uncertainty and factors external to the fishery.
- The client must create models and estimates of resilience and recovery potential of the main dependent species in the fishery and ensure that the models developed take account of impacts from the fishery and the uncertainty surrounding the models and data. In addition to the creation of the model itself, the requirement for the use of robust data to inform the required models will be examined closely as part of monitoring the fishery's performance against this condition.

- The client must develop and adopted within 1 year of recertification (and prior to the first annual audit) a plan (of research) to develop the specified models is developed and formally adopted within 1 year of re-certification and prior to the first annual surveillance audit.
- The client is required to show implementation of the research plan, as well as at least 1 year of data collection and analysis before the end of 2010.

The 2009 Special Surveillance Audit Report concluded that while some progress had been made, a number of issues remained unresolved with respect to this issue. SCS also noted that the progress so far shows that one year of data collection relevant to the issues of this fishery is highly unlikely to be adequately met by the end of 2010. The condition was raised as a non-compliance and the following additional condition was applied: *'the following additional activities are now required from the client:*

- *within 9 months, a plan to extend the ecological effects of fishing research plan in an appropriate way must be developed and agreed with the CB, and will include specific objectives, research targets, responsibilities, activities, and timelines for cost-effective research studies that are coherent with the approach (conceptual model and action plan) developed by the former Eco SRG to address these matters, and to properly address the 4 points of the Audit Findings above;*
- *the extended research plan must be developed in conjunction with an appropriately constituted group to replace the strategic, independent and expert guidance functions of the former Eco SRG, and be made available for SAG response, peer review, and stakeholder comment.*
- *the current projects should be continued as planned, so that research data and outcomes may be delivered in time to partly satisfy the condition (outcomes by end of 2010).*

Timeline: the revised research plan must be provided to the CB no later than September 2010.'

Current Issues, There is information on the potential for ecosystems to recover from fishery related impacts

WWF welcomes the requirement to develop a research plan for the fishery. However, WWF cautions that the Plan:

- must include a commitment to provision of the financial and human resources to deliver the research in a timely manner consistent with the priorities identified in the Plan;
- must be capable of ensuring that the information provided is sufficient to achieve the objectives consistent with MSC's Principles 1 and 2;
- must provide for the monitoring of the delivery of research outputs against the timelines established;
- must be made available for public comment and/or facilitate stakeholder engagement in its development; and
- commit to timely public release of research results.

Failure to reflect these elements in the Plan will result in the development of another piece of paper that 'ticks the box' but has no meaningful impact on the outcomes sought under MSC Principles 1 and 2 and the management system requirements of Principle 3.

Team response: The team agrees that the dot points listed by WWF are appropriate components of the research plan.

Background, The trophic linkages and interactions between the non-target species and the target species are known

The 2006 reassessment scored the then PI: *'The trophic linkages and interactions between the non-target species and the target species are known'* at 75 and placed the condition on the client (linked to research plan required above): *'The client must include in the research plan studies that assess the impacts of the fishery on trophic linkages between the lobsters and their predators and prey at the lobsters' main life stages. The strategies for assessment of impact must meet the standard of evidence that is at least equal to the quality and robustness of evidence derived from appropriate and adequate comparisons of (space and time) areas that are unfished with areas that are fished. The results of these studies must be incorporated into any new ERAs conducted on this fishery. Should these studies result in the identification of impacts under a new ERA that require mitigation, there must be a management response that is fully identified and implemented to mitigate the impacts prior to the conclusion of this certification in 5 years.'*

The 2009 Special Surveillance Audit concluded that although the proposed closed/open study will address local scale issues of impact of lobster density on prey items, it is short term, and will provide for only a limited array of effects to develop, which will be recognisable only with detailed and intensive studies and data analysis. This may lead researchers to erroneous conclusions about the impacts of the fishery. In addition, the client did not address the two new risk issues raised in the latest ERA: the ecological risks posed by low abundances of puerulus settlement, and the risks to sea lions posed by fishing in the Abrolhos Islands area.

The condition was deemed incomplete and the following additional condition was placed on the client: *'The client must develop an integrated plan of research that specifically addresses the ecological impacts of low levels of puerulus settlement across the full spatial scale of the fishery.'*

Current Issues, The trophic linkages and interactions between the non-target species and the target species are known

WWF supports the condition currently imposed in relation to the issue of trophic linkages and notes that broader issues of trophic linkages will be addressed in the previous condition relating to the research plan.

WWF remains concerned that there has been no decision taken to establish the specific closed areas required to underpin the comparison of fished and unfished areas. The fishery's understanding of the trophic linkages and interactions between WRL and non-target species remains at very low level and there is no more than a general understanding of the impact of the fishery on the prey, predators, and competitors of the target species.

In the absence of this information it is possible that the Fishery may be having significant negative impacts on the ecosystem. MacArthur et al. (2007) note that "Although the western rock lobster is likely to be a prey species for a number of different marine predators, there is a clear lack of information regarding this role in the food web. Predation of rock lobster is particularly high on shallow near-shore reefs where lobsters are consumed by small fish predators within their first year after settlement. With the exception of the sand bass, rock lobsters comprise only a small proportion of the diet to these fish, and it is therefore likely that a large number of fish species each remove a small proportion of the total biomass consumed. Predation decreases as lobsters increase in age and these lobsters are likely to be preyed upon by larger species such as octopus, large fish, sharks and sea lions. However, there is a paucity of dietary data for these known and potential

predators and what data exists suggests that currently, no one species relies on western rock lobster as its main food source, i.e. there does not appear to be one 'key' predator of the western rock lobster."

WWF acknowledges that progress has been made in relation to deep water ecosystems in the fishery through FRDC Project 2004/049: The effect of western rock lobster fishing on the deepwater ecosystems off the west coast of Western Australia but is concerned that the same priority has not been given to the shallow water systems where it is possible that the biggest ecological impacts of the fishery are incurred.

Team response: There has been considerable work undertaken in shallow water systems and a concern of the team was that the shallow water outcomes were not extrapolated to deep-waters. Projects relating to this work are described in the Western Rock Lobster Ecology – State of Knowledge Report (e.g. Loneragan, N, R Russell C. Babcock, R C, Lozano-Montes, H, Dambacher, J, M, 2010. Evaluating how food webs and the fisheries they support are affected by fishing closures in Jurien Bay, temperate Western Australia. Final Report, Fisheries Research and Development Corporation Project No. 2006/038. Canberra, Australia. 161p. Lozano-Montes, H., Loneragan, N.R., Babcock, R. and Jackson, K. (*in press*). Using trophic flows and ecosystem structure to model the effects of fishing in the Jurien Bay Marine Park, temperate western Australia. *Marine and Freshwater Research*.

Metcalfe, S.J., Pember, M. B., and Bellchambers, L.M. (2011). The identification of indicators of the effects of fishing using alternative models, uncertainty and aggregation error. *ICES Journal of Marine Science*.)

Background, Use of bait and loss of bait bands and fishing gear during fishing operations is known and reported and is within acceptable levels of impact

In 2006, the PI: '*Use of bait and loss of bait bands and fishing gear during fishing operations is known and reported and is within acceptable levels of impact*' was scored at 70. A condition was placed on this indicator in 2006 requiring that:

- '*The client must present evidence in the form of a scientifically defensible examination of the fishery's compliance with the Bait Handling Code of Practice that assesses the risks associated with the use and disposal of bait bands. Scientifically defensible here means that the study is quantitative and statistically relevant in terms of identifying how these materials are treated at sea, and evaluates the number of bands and the mass of materials taken onto and off fishing vessels, in various seasons and regions of the fishery. This must be completed prior to the third annual surveillance of the fishery.*
- '*If results show that compliance with the Code of Practice is not sufficient, the client must adopt methods of enforcing the Code of Practice. This must be implemented prior to the fourth annual surveillance of the fishery.*
- '*The client must also develop and implement methods to assess compliance on an ongoing basis. This must be implemented prior to the fourth annual surveillance of the fishery.*'

Current Issues, Use of bait and loss of bait bands and fishing gear during fishing operations is known and reported and is within acceptable levels of impact

As at the 2009 Special Surveillance Audit, a Ministerial decision on the Department of Fisheries proposed intention to full prohibit bait bands from use in the fishery had not been taken, and it was unclear whether in fact such a decision would be taken. That condition had therefore not been met at that point and SCS noted it would further assess the issue in the 2010 annual audit.

WWF notes that the Minister has now prohibited the use of bait bands in the fishery, with the exclusion of dinghies and carrier boats.

Team response: No comment required

PRINCIPLE 3: MANAGEMENT SYSTEM

Component: Governance and policy

Consultation, roles and responsibilities. PI: The management system has effective consultation processes that are open to interested and affected parties.

Background

The 2006 Reassessment scored the then PI: *'The management system involves all categories of stakeholders appropriately on a regular, explicit basis'* at 70 and imposed a condition that the management system must provide better representation of all stakeholder views and concerns in the advisory functions associated with management of the fishery.

The 2009 Special Surveillance Audit noted that the Department of Fisheries were undertaking a review of the consultation and advisory structures and processes across all fisheries, and that the current rock lobster advisory committee had been disbanded. It noted that amendments were being drafted to the *Fisheries Resource Management Act 1994* to establish a new Aquatic Advisory Committee. A new condition was therefore placed on the client, noting that the continued lack of representation of stakeholders in the conservation community concerned with ecological impacts from fishing remains unsatisfied: *'The implementation for the new consultation arrangements indicated full implementation by 1 July 2010. A full report of the new consultation arrangements is required by SCS by 1 July 2010. This report should be comprehensive and show the final consultation model and details of the new committees including their composition, operational and reporting arrangements.'*

Current Issues

WWF is not aware if this condition has been met, however it concurs with the SCS's earlier findings that there is a continued lack of representation of stakeholders in the management system by those concerned with ecosystem impacts. The Report of the Consultation Working Group (Paust et al., 2009) provides little indication of the opportunities which might be available for such representation/engagement under any revised model and there is no indication that opportunities to comment on the detail of the proposed model will be available. WWF wishes to emphasise its willingness to remain actively engaged in management of the fishery.

Team response: We recommend that WWF should specifically discuss this with the Department. Please also see rationale for 3.1.2.

Component: Fishery- specific management system

Research plan. PI: The fishery has a research plan that addresses the information needs of management.

The 2006 Reassessment rated to then PI: *'the management system has a plan for research needed to support the understanding of ecological impacts of fishing'* at 75, and imposed the condition: *'The client must get developed and implemented a mechanism to ensure the ongoing development of a plan to conduct strategically based research that incorporates all the research needs of the fishery, including those identified throughout this report and as a result of ongoing conditions from this assessment (such as stock assessments, ERAs, fishing impacts, etc). A research plan must be developed, updated annually, and made available to the public annually. Timeline: to be met prior to the first annual surveillance audit.'*

The 2009 Special Surveillance Audit reported that the Eco Scientific Reference Group (SRG) no longer exists and no annually updated plan was available at the audit. Hence a non-conformance was raised with the new condition: *'The client must provide evidence of the development of a plan to conduct strategically based research that incorporates all the research needs of the fishery, including those identified throughout this report and as a result of ongoing conditions from this assessment (such as stock assessments, ERAs, fishing impacts, etc). The plan must specifically include research to address the ecological impacts of rock lobster fishing. The research plan must be developed and updated annually, and made available to the public annually. Timeline: The evidence, including a description of the structures and evidence of effective operation of the research plan must be presented in full for assessment at the 2010 Annual Audit.'*

WWF strongly endorses this condition and expects that it will be complete at the time of the reassessment.

Team response: see Brown 2011 for details.

Fishery- specific management system

Compliance and enforcement. PI: Monitoring, control and surveillance mechanisms ensure the fishery's management measures are enforced and complied with.

The new quota based system represents a significant management shift, and with it should come review of compliance and enforcement arrangements to ensure appropriate mechanisms are in place to ensure compliance with the new system. The recent ban on Australia rock lobster imports to China provides a good example of how unexpected happenings can create incentives for fishers to look for means to contravene the law. It is expected that a robust risk assessment on the new management and compliance system would have been completed in the development of the quota arrangements and that the outcomes of this assessment will be implemented in the upcoming season.

Team response: Yes. The new management plan expected in 2013 should provide the opportunity for "a robust risk assessment on the new management and compliance system".

References

- Brown, R. (2009). *Western Rock Lobster Low Puerulus Settlement Risk Assessment: Draft Report for Public Comment*: Workshop held 1-2 April 2009, WAS Fisheries and Marine Research Laboratories, Hillarys
- Brown, R. S., Caputi, N. And Hall, N (1994). Measurement of Catch and Fishing Effort in the Western Rock Lobster Fishery, In: Spiny Lobster Management, edited by B.F. Phillips, J.S. Cobb, N. Hall and J. Kittaka, pp. 262-282, Fishing News Book, London.
- Caputi, N., Meville-Smith, R., de Lestang, S., How, J., Stephenson, P., Wright, I., and Donohue, K. (2008a). Stock Assessment for the West Coast Rock Lobster Fishery Draft.
- Caputi, N., de Lestang, S., Stephenson, P. (2008b). Assessment of Low Puerulus Settlement in the Western Rock Lobster Fishery, Powerpoint Presentation, October 2008.

- Department of Fisheries (2008). Western Rock Lobster Stock Assessment and Harvest Strategy Workshop 2007. Fisheries Occasional Publication No. 50, 2008. Government of Western Australia, Department of Fisheries.
- Department of Fisheries (2009). Summary of Information Provided to RLIAC for the 2009-10 West Coast Rock Lobster Managed Fishery Season. Available at: <http://www.fish.wa.gov.au/sec/com/fisheries/WCRockLobster.php?0206>
- Department of Fisheries (2010a). Western Rock Lobster Fishery Harvest Strategy and Decision Rules Framework Proposals: A Discussion Paper. Government of Western Australia, Department of Fisheries.
- Department of Fisheries (2010b). Western Rock Lobster International Stock Assessment and Modelling Workshop Report, 20-24 May 2010. Government of Western Australia, Department of Fisheries.
- Fernandez, J. and Caputi, N. (1998). The Impact of Technology on Fishing Power in the Western Rock Lobster (*Panulirus Cygnus*) fishery.
- Fletcher, R. And Santoro, K. (eds) (2008). State of the Fisheries Report 2007/2008. Government of Western Australia, Department of Fisheries.
- Hall, N. and C. Chubb, The status of the Western Rock Lobster, *Panulirus cygnus*, fishery and the effectiveness of management controls in increasing egg production of the stock, *Journal of Marine and Freshwater Research*, 52, 1527-1534, 2001.
- MacArthur, L., Hyndes, G., and Babcock, R. (2007). Western Rock Lobster in Ecosystem Processes of South Western Australia. Report No 2007-12, Final Report to the Department of Environment, Water, Heritage and the Arts. Available at: <http://www.environment.gov.au/coasts/mbp/publications/south-west/pubs/sw-rock-lobster.pdf>
- Moore, N. and Caputi, N. (2008). *Western Rock Lobster Media Presentation*. Available at <http://www.fish.wa.gov.au/docs/pub/FishingRockLobsters/RockLobsterUpdate.php>
- Paust, G., Cronin, A., Short, G., Bathgate, D., Prokop, F. and Fraser, B (2009). Report of the Consultation Working Group. Department of Fisheries Western Australia.
- Scientific Certification Systems (2006). Marine Stewardship Council Assessment: The Western Australia Rock Lobster Fishery Final Report. Available at:
- Scientific Certification Systems (2009). Western Australia Rock Lobster Fishery, 2009 Marine Stewardship Council Special Surveillance Audit Report. Available at: <http://www.msc.org/track-a-fishery/certified/south-atlantic-indian-ocean/western-australia-rock-lobster/reassessment-downloads/13.01.2010-warl-surv-rep.pdf>
- Stephenson, P. and de Lestang, S. (2009). Evaluation of the Impacts of Changes in Recruitment of the Western Rock Lobster using a Temporal-Spatial Integrated Stock Assessment Model that Incorporates Biological Processes.
- Stoklosa, R. (2007). Western Rock Lobster Ecological Risk Assessment, prepared for the Western Australian Department of Fisheries and Western Australian Fishing Industry Council. E-Systems Pty Limited, Hobart. Fisheries Occasional Publication No.56. Available at: <http://www.rocklobsterwa.com/docs/fop56-ecological%20risk%20assessmentchl.pdf>

Annex 1: Recommendations of the 2010 Model Review Panel

- Noting that the new ITQ model will require further development, the Panel recommend that a technical support structure for the assessment team be put in place through the setting up of a committee based on the Commonwealth's Resource Assessment Group structure, providing assessment staff with resources and time needed for further model development, the newly established RAG providing clear guidance as to what the assessment document should contain and which sensitivity/diagnostic tests are required; and developing a community of practice in the field of lobster stock assessment science.
- The spatial and temporal structure of the model needs to be reviewed including pooling regions which exhibit similar trends, for example, catch-rates and puerulus settlement rates should be pooled. There may be a case for dividing Zone A further to allow more explicit representation of the northern Abrolhos and Big Bank Region, which appear to be of considerable importance as a source of egg production given the results of recent source-sink analysis. An alternative model would be to have fewer regions but more fleets within each region (each region currently contains only one fleet).

- As many parameters as possible are estimated within the assessment rather than being based on auxiliary analyses. The parameters which are pre-specified should not be based on the same data that are included in the assessment. In this regard, the Panel recommends that the following parameters should not be pre-specified but rather estimated during the model-fitting process (α_i - the parameter which determines the extent of non-linearity in the relationship between puerulus and recruitment; the efficiency increase parameter vector for each zone/region; the parameters of the relationship between temperature and catchability; and the parameter which determines the impact of the environment on catch-rates during 2009/10). The migration parameters are currently informed guesses. Ultimately, the tagging data should be included formally in the assessment and migration estimated.
- All of the various sources of data should be examined and to the extent possible, included in the assessment. In particular, data from the fisheries-independent surveys need to be post-stratified into the regions and time steps used in the model and included when fitting the model.
- The process of data conversion from raw data collected from the fishery, to catch, effort and length-frequency inputs for the model should be documented fully and a summary included within the assessment report.
- The relationship between catchability and length should be based on fitting a function to the estimates of fishing mortality by length-class derived from tagging data and not time-at-liberty.
- Given recent levels of exploitation and the results of recent of tagging data, migration among regions and between zones has become an important issue that will need to be considered in future models. Ultimately a single model that includes zones A, B and C and migration among the regions and zones should be developed. The Model Review Panel notes that this would be a long term goal.
- In relation to the objective functions:
 - (1) The arbitrary nature with which high catches are given extra emphasis in the catch component of the likelihood needs to be eliminated through use of an alternative, more conventional, weighting scheme. The distribution of residuals needs to be examined to confirm that this transformation is appropriate.
 - (2) The length-frequency data are weighted by the actual sample sizes. This is likely to overweight these data. Future applications of the model should be based on setting the extent of overdispersion to an appropriate value.
 - (3) The CV used to weight the puerulus data in the likelihood only accounts for the sampling error for these data and not the uncertainty related to how well puerulus indices predict the true recruitment. An extra component of variance needs to be included in the model to account for this in this component of the likelihood function.
 - (4) The use of a robustified likelihood function for the indices and the compositional information should be considered. The 'effective sample size' is the sample size of a random sample that produces estimates with the same precision as those obtained from the observed sample, which is typically collected according to a specified, often clustered, sampling scheme. The new ITQ model (Appendix G) already incorporates these recommendations.

- (5) Effective sample sizes should be computed using the data on length-frequency (by vessel / trip). The weights assigned to the length-frequency data in future need to reflect these “effective” sample sizes.
- (6) The code should be modified to allow the weights assigned to each likelihood components to be modified so that inconsistencies between the information contained in the different data sets can be identified.
- The initial state of the model should be estimated rather than being pre-specified using the results of an old version of the model. Prespecifying the initial state using predictions for the 1980s is both inappropriate statistically, reduces the variances of the final outputs, and leads to anomalous behaviour when some of the prespecified parameters are changed.
 - The independent sampling of the fishery that is currently undertaken should be reviewed in the context of the move to ITQ as many of the present surveys were designed for a different purpose.
 - The description of the 2010 model in the assessment report needs to be refined. A table describing the notation used should be included. Associated with these parameters should be a column(s) describing whether they are estimated; and the parameter value and source if they are an input. The order of presentation and layout of the description should be modified to enhance understanding of the sequence in which the calculations are undertaken (see, for example, the structure in Appendix G). A description of the method by which system state is initialised needs to be provided.
 - Model Robustness: Alternative model scenarios should be developed and compared with the results of the base case model to explore the sensitivity of the model outputs to the various assumptions.
 - Sensitivity tests: Sensitivity tests run by the assessment team using the slightly modified version of the 2010 model (not the new ITQ model), demonstrated the marked influence of the initial state used in this model, and that of natural mortality. This should be investigated further when sensitivity tests are undertaken of the new ITQ model.
 - A MSE (Management Strategy Evaluation) is needed to assess the effectiveness of alternative arrangements and explore robustness of decision rules.
 - the effects on the sustainability of the stock of inaccuracies in the model. Representation of uncertainty is a key component of the MSE Approach, and the impact of several sources of uncertainty can be evaluated.
 - The model should be modified to allow for the types of data that will become available after the introduction of ITQs, and needs to allow for the possibility that both fishery catchability and selectivity/vulnerability of different size classes will be affected this management change.
 - Consideration of the possible relationships between egg production and puerulus settlements in different regions could be explored by extending the assessment model, which currently considers puerulus settlement to be related only to environmental factors, to include a formal stock-recruitment relationship.

APPENDIX III – WWF COMMENTS RECEIVED FOR THE MEETING IN MAY 2011

25 May 2011

Dear Sabine,

Re: Comment on the 2nd Reassessment of the Western Australia Rock Lobster Fishery

Thank you for the opportunity to provide further comment into the Western Rock Lobster reassessment under the Marine Stewardship Council (MSC) certification process.

In preparing this submission it is noted that the following new documents have been made available since the December 2010 site visit:

- Draft Western Rock Lobster Environmental Management Strategy November 2010 – October 2015, Department of Fisheries WA (Released in May 2011 for public comment closing 15 June)
- Governance of the Western Rock Lobster Fishery and Marine Stewardship Council Principle 3 Effective Management (Department of Fisheries, May 2011)
- Western Rock Lobster Ecology, State of Knowledge. Marine Stewardship Council – Principle 2: Maintenance of Ecosystem (April 2011)
- Draft Stock Assessment for the West Coast Rock Lobster Fishery (Department of Fisheries, November 2011)

As you are aware, WWF provided significant input into this reassessment process in December 2010, in the form of a written submission (dated 3 December) and attendance at the site visit in Perth. The issues contained within that submission are still relevant and WWF expects that these will be considered in the reassessment process.

WWF's second submission focuses on the issues for which information was outstanding at the first site visit. At that point there were several Performance Indicators (PIs) for which there were information gaps in relation to the current status. In particular, WWF had very little information on the progress against the numerous conditions that were required to have been met prior to the reassessment. These items and other relevant issues are outlined in detail below.

Having said that, WWF would like to acknowledge the significant recent improvements in management regime in particular, the implementation of an output-based system. The shift to quota management is one which WWF has long advocated, and we view this as a major positive milestone in the history of the fishery. The efforts of the industry, the Department of Fisheries and the Minister for Fisheries in achieving this result are applauded and strongly supported.

Harvest Strategy Management (Harvest strategy). PI 1.2.1: There is a robust and precautionary harvest strategy in place

This PI was given a score of 70 at the 2009 Special Surveillance Audit (2009 SSA) as although a draft harvest strategy had been developed, it had not been finalised or approved by the Minister. A condition of that audit was that the harvest strategy and decision rules be formally endorsed by the Minister and made publically available by March 2010. An additional condition was placed on the client in relation to the proposed 'review' response to the fishery reaching a reference limit, as was described in the draft harvest strategy. The condition required the client to 'issue a clarification of what is intended by the term 'review', such that there is confidence that this will not be used to delay appropriate management responses. This condition was to be completed by March 2010.

It is understood from the 2011 document 'Governance of the Western Rock Lobster Fishery and Marine Stewardship Council Principle 3 Effective Management' (the 2011 Governance Report) that a new harvest strategy and decision rules are currently being developed to align it with the new output management arrangements. There is no advice on when these will be completed and implemented. No report is provided on the associated condition requiring clarification of the intended 'review' in response to a reference point being reached.

In accordance with the Scoring Guidepost, the fishery would fall short of SG60 given that there is no harvest strategy in place, and the two conditions imposed under this PI, due for completion in March 2010, have failed to be completed some 14 months following the deadline. Following the history of non-compliance on this matter, this consistent inability to meet a fundamental PI must be considered as a failure to comply with the standards of MSC certification.

Team response: There is now an agreed Harvest Strategy in place but some of the details of the control rules have still to be specified. The need for these make up the contents of conditions 1.2.2 and 1.2.3 in the current MSC review and these will be addressed routinely in the annual Surveillance Audit(s). The final Harvest Strategy document is expected to be signed off by the Minister in April 2012. The stock assessment document will be available on the fisheries website by the 31 January 2012.

Endangered, Threatened and Protected (ETP) Species (Outcomes). PI 2.3.1: The fishery does not pose a risk of serious or irreversible harm to ETP species and does not hinder recovery of depleted retained species

With respect to this PI, the 2009 SSA imposed the condition: 'For protected, endangered, or threatened species other than sea lions, the client must provide direct assessments of the risks to these species either before or as part of the required environmental risk assessment (ERA). The species for which risks need to be assessed in a more rigorous fashion include whales, dolphins, turtles, seabirds, and seahorses.' This condition was imposed following a review of the 2007 Environmental Risk Assessment (ERA) which confirmed that the threat to whales and turtles was low but which made no reference to dolphins, seabirds or seahorses.

The latest documentation against this condition is the 'Draft Western Rock Lobster Fishery Environmental Management Strategy November 2010-October 2015' (the Draft Environmental Management Strategy). This paper draws from the 2005 ERA which stated that the hazards to sea horses is low; and risk changes in behaviour of attendants including birds and dolphins is low. However the 2005 ERA was **found** to be inadequate five years ago during the 2006 fishery reassessment process and the client was required to improve its ERA approach and

complete a new ERA in 2007. While a new ERA has been completed, it appears that for dolphins, seahorses and birds, the Draft Environmental Management Strategy still simply draws only on the previous flawed 2005 ERA.

The client has not provided a direct assessment of the risks to these species and as such has failed to meet this condition.

Team response: The issue of seabirds and seahorses was previously raised by WWF and the response remains unaltered:

“Seabirds and seahorses were not among the 27 Hazards ranked moderate or higher at the 2005 ERA and in addition Stocklosa invited the expert technical panel to review all the hazards identified at the 2001 and 2005 ERAs, which included sea birds and sea horses and identify any that they felt should be re-examined at the 2007 ERA. Neither sea birds nor sea horses were identified.

At the Burgman 2005 ERA, Nick Dunlop of WA Conservation Council (a sea bird expert) provided the main input for the discussion on sea birds and the decision was that the risk of extra feed from discarded bait was low (it was the only risk identified for them). Sea horses on pot ropes was examined and found to be low. All this information is available on the Dof website in the Burgman 2005 ERA report:

<http://www.fish.wa.gov.au/docs/op/op025/index.php?0706>

and the Stocklosa 2007 ERA report:

<http://www.fish.wa.gov.au/docs/op/op056/index.php?0706>”

Habitats (Information/monitoring). PI 2.4.3: Information is adequate to determine the risk posed to habitat types by the fishery and the effectiveness of the strategy to manage impacts on habitat types

The 2009 SSA imposed the following condition on this PI: ‘The client is required to provide stakeholder-agreed report(s) containing detailed plans to; 1) correct the mapping deficiency; and 2) deploy appropriate rapid assessment protocols to identify two further (additional to the present 30° line) areas for subsequent follow up studies in representative deep and shallow water areas of a northern and southern area of the fishery.’

An action plan for the preparation of the research plans was to be submitted to SCS within five months of the 2009 SSA, and the non-conformances/condition was to be complete by November 2010.

Correct the mapping deficiency

It is noted from the Draft Environmental Management Strategy that the existing maps complete by a range of agencies and institutions have been summarised in the 2011 paper, *Western Rock Lobster Ecology, State of Knowledge. Marine Stewardship Council – Principle 2: Maintenance of Ecosystem* (2011 State of Knowledge paper). It is also noted that the Department of Fisheries has secured funding to appoint a GIS specialist to combine bathymetric data with mapping data. This will be used as a first pass habitat map of the region and then combined with detailed correlations between bathymetry and habitat structure to predict habitat structure within the rock lobster fishing region. The GIS specialist is expected to be appointed in early 2011 and finalised by mid 2011.

Although the recent progress on this matter is appreciated, WWF is unaware of whether the client submitted an action plan to SCS by May 2010. Certainly the proposed completion date of mid 2011 fails to meet the stated deadline of November 2010 for completion of this condition.

Identify two further areas for subsequent follow up studies in the northern and southern area of the fishery

The Draft Environmental Management Strategy states that in 2010 the Effects of Fishing Advisory Group (EFAG) was established to take over the role of the EcoSRG. Under this group a research closure has been implemented in the centre of the fishery near Jurien Bay. The 2009 SSA report stressed that a further two closed areas were to be identified in the northern and southern parts of the fishery so that impacts at the scale of the fishery could be investigated. This has not occurred, with the explanation being limited resources.

Team response:

The EFAG's initial task was to produce a research framework that identified an action plan. This was incorporated into the Department of Fisheries' *Western Rock Lobster Ecology – The State of Knowledge* document at the request of the CB.

With respect to the further areas in the southern and northern region of the fishery, the assessment team accepts the recommendation of the newly formed independent expert *Effects of Fishing Advisory Group* that no work should be done to identify other study regions at this stage. The rationale for this was based on the size of the coast and the cost of research in offshore regions. The current closed area is 6 x 2 nm ranging in depth from 40 – 60m. Sampling will include the proposed closed area and adjacent fished sites. This will be used to develop the final protocols and methodologies before selecting further regions. The team agrees with the rationale of the EFAG that it is appropriate to wait for the methodologies and protocols to be developed. While this will take time, the impacts on habitats are likely to be markedly reduced with the reduced effort and quota in the fishery.

Ecosystem (Information/monitoring). PI 2.5.3: There is adequate knowledge of the impacts of the fishery on the ecosystem

The following condition was placed on this PI at the 2009 SSA: 'The following additional activities are now required from the client: (1) within 9 months, a plan to extend the ecological effects of fishing research plan in an appropriate way must be developed and agreed with the CB, and will include specific objectives, research targets, responsibilities, activities, and timelines for cost-effective research studies that are coherent with the approach (conceptual model and action plan) developed by the former Eco SRG to address these matters, and to properly address the 4 points of the Audit Findings above; (2) the extended research plan must be developed in conjunction with an appropriately constituted group to replace the strategic, independent and expert guidance functions of the former Eco SRG, and be made available for SAG response, peer review, and stakeholder comment, (3) the current projects should be continued as planned, so that research data and outcomes may be delivered in time to partly satisfy the condition (outcomes by end of 2010). Timeline: the revised research plan must be provided to the CB no later than September 2010.'

The Draft Environmental Management Strategy makes no mention of this non-conformance and subsequent condition placed on the client.

The 2011 Governance Report states that the State of Knowledge paper provides a complete overview and summary of all research pertaining to Principle 2 for the WRLF, particularly those areas identified by the ERA process – and that this document can be considered the 'research plan' for Principle 2 issues. In review of this, WWF noted that the 2011 State of Knowledge paper does document current and ongoing research relevant to the impact of the fishery on the ecosystem. Within this are listed some projects for future years for which it seems funding has not yet been secured. Project description and objectives are provided.

Appendix 5 of the Governance Report also provides a summary table of the Department of Fisheries' Western Rock Lobster research projects relevant to ecosystem effects of fishing which has been copied from the annual Research, Monitoring, Assessment and Development Plan 2010-2011 (p56 of Governance Report). In review of Appendix 5 of the Governance Report (WRLF Research Projects): Research, Monitoring, Assessment and Development Plan 2010-2011. WWF provides the following specific comments:

- A list of 'Relevant Resource Assets and Risks from the Fishery' is provided which is limited to West Coast Shelf Crustaceans (lobsters), West Coast Near Shore Molluscs (octopus), West Coast Protected Species (sealions), West Coast Nearshore Habitats and West Coast Ecosystem (marine). This is a confusing list which does not document all assets and risks of the fishery and there is no detail of how the list was arrived at.
- The document states that the method for determining priorities is through negotiation with the Western Australian Fishing Industry Council (WAFIC)/Western Rock Lobster Council (WRLC) for commercial aspects; and with Recfishwest (RFW) for recreational fishing aspects. This process is significantly flawed as it excludes the conservation sector and scientific experts from the opportunity to be involved in research priority setting.
- The Research Plan does not consider the cost, funding sources or responsibility of projects. Also the plan lists 'projects' which are currently at proposal or implementation phase. It does not include other issues for which projects are currently not underway or in development.

With regards to the research plan required under this condition, the Department of Fisheries has produced numerous detailed documents of relevance including:

- A Report of the Effects of Fishing Advisory Group (EFAG) Meeting (2 – 3 November 2010) And The Western Rock Lobster Ecological Effects of Fishing Research Plan Revised and Updated by the Effects of Fishing Advisory Group (2 – 3 November 2010)
- Western Rock Lobster Ecological Effects of Fishing Research Plan (Developed by the Ecological Effects of Fishing Scientific Reference Group, Fisheries Occasional Publication No. 39, 2006)
- The 2011 State of Knowledge Paper
- The 2011 Governance Report
- The 2011 Draft Environmental Management Strategy.

Each of these documents provides elements of the required Research Plan however none independently provide the required overview and detail required of the plan. WWF is still anticipating a document which succinctly identifies issues, levels of risk, previous relevant research, current relevant research, future research needs, objectives, targets, resources, timeframes and responsibilities. A document which extracts the appropriate information from these numerous papers above and outlines the research planning process would meet the requirements of this condition.

Team response: The assessment team certainly supports this recommendation. However it is not a requirement of the standard and there are many ways a comprehensive research plan can be developed. As auditors we cannot consult on how this can be achieved but support WWFs recommendations.

Ecosystem (Information/monitoring). PI 2.5.3: There is adequate knowledge of the impacts of the fishery on the ecosystem

The 2009 SSA imposed the following condition with respect to this PI: 'The client must develop an integrated plan of research that specifically addresses the ecological impacts of low levels of puerulus settlement across the full spatial scale of the fishery.'

The Western Rock Lobster Draft Environmental Management Plan states that ‘potential ecosystem impacts associated with reduced puerulus numbers have been assessed using the trophodynamic model developed for shallow water, the area that will be most affected by the low puerulus settlements.’ The results from the model indicate that there will not be any significant ecological impact, as the western rock lobster is not an ecosystem engineer or a key stone species, but rather an ecosystem tracker. A publication on the results of the modelling work is currently in preparation.

Without access to this publication it is not possible for WWF to comment further on this issue.

Team response: The trophodynamic model is presented in Loneragan et al’s FRDC Final Report. Puerulus are a component of the model and therefore it is relatively easy to alter this parameter in the model. The outcome from this report clearly states that lobsters are not a keystone species in the shallow water ecosystem and thus lower settlement is unlikely to have major ramifications for the Western Australian inshore habitats.

Governance and Policy (Consultation, roles and responsibilities). PI 3.1.2: The management system has effective consultation processes that are open to interested and affected parties

The 2009 SSA imposed the following condition on this PI: ‘The implementation for the new consultation arrangements indicated full implementation by 1 July 2010. A full report of the new consultation arrangements is required by SCS by 1 July 2010. This report should be comprehensive and show the final consultation model and details of the new committees including their composition, operational and reporting arrangements.’

From the 2011 Governance Report, it is understood that Rock Lobster Industry Advisory Council (RLIAC) and its associated committees was wound up as of July 2010, and that peak bodies, advisory committees and tasked working groups now perform Rock Lobster Industry Advisory Committee’s functions.

The new consultative framework has a considerable focus on the commercial industry and does not provide equitable access to decision-making and consultation arrangement across commercial, recreational and conservation interests. The commercial fishing sectors is given two access routes to influence decision making – through the ‘fishing sector representative bodies’ and through the ‘stakeholder input’ routes. It is particularly worrying that the new framework provides responsibility for consultation on generic policy issues (e.g. bioregional planning, research and development) to WAFIC. This new consultative strategy is not consistent with the priorities of the current and proposed new legislation which makes the issue of ecological sustainability a priority.

It is noted that there is the ability to establish, at any point, a tasked working group including independent advisory groups and expert groups. It is useful to have this power for specific issues. However without the addition of a standing group of independent experts, this approach will only lead to advice of a sporadic nature, relevant only to the narrow field of investigation that is the terms of that particular group. It will not provide the necessary directional advice and strategic guidance needed from environmental experts or the ability for the conservation sector to input at a strategy level.

On the matter of process, a report was to be provided on this condition to SCS by 1 July 2010. Although this information is now available in other forums, WWF still questions whether this condition was met.

Team response: Again as auditors we cannot dictate “how” specific conditions are going to be met we can only ask that the evidence is provided. If it is in any other form we do need to accept that.

Fishery Specific Management System (Research plan). PI 3.2.4: The fishery has a research plan that addresses the information needs of management

The 2009 SSA imposed the condition on this PI: 'The client must provide evidence of the development of a plan to conduct strategically based research that incorporates all the research needs of the fishery, including those identified throughout this report and as a result of ongoing conditions from this assessment (such as stock assessments, ERAs, fishing impacts, etc). The plan must specifically include research to address the ecological impacts of rock lobster fishing. The research plan must be developed and updated annually, and made available to the public annually. Timeline: The evidence, including a description of the structures and evidence of effective operation of the research plan must be presented in full for assessment at the 2010 Annual Audit.'

As stated above in relation to a research plan addressing effects of fishing, WWF recognises that there are several documents which provide information on the details of current and upcoming research activities. WWF believes that the research planning process would be made far more accessible and transparent to stakeholders, if one document were available which outlined the research planning process (issues identification, prioritisation, consultation etc), and which provides details of previously completed, currently underway and required future projects supported by appropriate details of objective, targets, responsibilities, funding and timeframes.

Team response: As stated above the assessment team supports this suggestion and has included a recommendation under the Performance indicator 3.2.4.

Ecosystem (Information/ monitoring). PI 2.5.3: There is adequate knowledge of the impacts of fishery on the ecosystem – Use of bait and loss of bait bands and fishing gear during fishing operations is known and reported, and is within acceptable levels of impact

The 2009 SSA placed a condition on client with respect to PI that the client present evidence in the form of a scientifically defensible examination of the fishery's compliance with the Bait Handling Code of Practice that assesses risks associated with the use and disposal of bait bands. The condition went further to require that if compliance with the Code is not sufficient, the client must adopt methods of enforcing the Code. This was to be implemented prior to the fourth annual surveillance of the fishery (the 2010 Annual Audit).

As at December 2010, the client had stated that legislation would be in place to prohibit the use of plastic bait bands within the fishery by the start of the 2010/2011 season. This would have addressed this condition within the required timeframe. However the 2011 Governance Report now states that legislation is currently being prepared to implement the ban prior to 15 November 2011. The timeframe for this condition has not been met.

Team response: The team also acknowledged that it was disappointing that it had taken considerable time to implement the ban on bait bands. However, we welcome the Government's decision to implement a WA wide ban on all fishing vessels and acknowledge that this would have required increased consultation beyond the rock lobster fishery which would require further time. The assessment team is pleased that the legislation has been passed so that the ban will be effective as of the 15th November 2011.

Concluding Remarks

Lack of information

Input from independent groups and experts are important elements of the MSC process. In order to provide meaningful input these groups need access to information relevant to the fisheries performance against the PI. There have been previous examples of documents not being provided to stakeholder groups. WWF and SCS have had significant discussions which have resolved that particular matter. As a matter of process however, the information made available is still not sufficient and not consistent with what must be the state of knowledge of the client at the same point in time. For example, at the commencement of the recertification process in December 2010, there was no status report provided on the current relevant issues and performance against each of the PIs, nor were reports provided on progress against the many conditions imposed as a result of non-conformances. Conditions which are imposed on a fishery from a non-conformance or other avenue usually have timeframes which differ from the routine assessments. Stakeholders should have the ability to not only understand the status while developing its input to an assessment process, but should also have the ability to monitor progress, at any point in time.

WWF suggest two improvements to the MSC processes that would remedy these issues:

- (1) All reports against a condition should be uploaded to the MSC website for all stakeholders to view. A report not being posted as at a deadline would be an indication that the condition has not been met. This would encourage clients to complete conditions and report appropriately within the deadline.
- (2) Require that as input to a MSC assessment or reassessment process, the client is to provide a report which details progress against each PI and any conditions. This would also be posted on the MSC website for ready and easy access by all stakeholders.

These improvements, particularly (1) should also be accompanied by a greater follow-up mechanism by certifying bodies, on the clients progress against time-framed performance indicators and conditions. The fact that in many cases, conditions have not been met for long periods of time is a significant deficiency in the MSC process and its brand.

Team response: Surveillance reports, that should include updates on progress against conditions, are uploaded on the MSC website, but WWF maybe referring to reports produced by the client to demonstrate the progress. Conditions have an agreed action plan and timeframe by the client. There are cases, however, where the meeting of the conditions are agreed in principle but delays occur for which the clients cannot be responsible for and/ or following FCM 6.7.4 and TAB D-013 guidance where the client has actively tried to progress meeting the condition. If WWF is recommending further guidance for CBs on the consequences that should follow if the client has not actively worked on progress, or how this needs to be documented it should make recommendations to the MSC.

Recertification of the Western Rock Lobster Fishery

The Western Rock Lobster Fishery was the first to be certified under the MSC arrangements. In recent years its performance generally, and specifically against the PIs of the MSC process, has suffered.

While research continues to determine whether the current target stock issues are a result of environment, management or both, the matter of ultimate relevance here is whether the fishery has met its obligations in terms of the MSC standards. At this point in time, the objective reality is that the Western Rock Lobster Fishery did not meet many standards as at the 2009 SSA, and still appears to be short of the bar, particularly in terms of the stock management and issues of environmental management. WWF remembers also that some of those non-

conformance considered in the 2009 SSA were originally identified in the 2006 assessment. There is now a long history of failure to meet the standards.

The 2011 Governance Report states that actions to be undertaken in the Environmental Management Strategy or in response to conditions set by MSC are fully funded through the 5% GVP access fee and by accessing funds from the Fisheries Resource and Development Corporation (FRDC). If funding is not available from these sources it will be raised (after consultation and agreement) from an additional fee on the rock lobster industry. This being the case, there is no justification for the non completion of conditions.

The Marine Stewardship Council Fisheries Assessment Methodology and Guidance to Certification Bodies states that 'Any scoring elements or scoring issues within a PI, or the PI itself, which fail to achieve SG60 represent a failure against the MSC standard, therefore the fishery would be ineligible for certification (Section 4.2.4 (d), p17).

Given that this is the agreed process, should there be no further information forthcoming which provides evidence of improved progress, certification of the Western Rock Lobster fishery given its current performance would bring into serious question, the integrity of the MSC process and the value of its brand.

Team response: The team would like to acknowledge the substantial progress, development and verification of the stock assessment model and associated harvest strategy component. In addition, the development of a single report that is tailored to the MSC process and collates all the ecological information and, the progress towards the EMS are all signs of progress. Other specific signs are the policies that have been developed and implemented to introduce SLEDS into the Abrohos Islands area and the State wide ban of bait bands on all fishing vessels operating in WA waters. Clearly there is more to do (and probably always will be) but the reformed EFAG have developed a framework to prioritise key research issues to be addressed. All these indicate that progress is being made and that there is a willingness and commitment by the client to address these issues.

WWF welcomes the opportunity to discuss any of the issues raised in our submission at the second site visit in May. If you would like further clarification prior to the site visit please contact Mr Peter Trott, Fisheries Program Manager, on +61 (0) 437 960 812 or email ptrott@wwf.org.au.

Yours sincerely



Peter Trott

APPENDIX IV – PEER REVIEW COMMENTS

Peer Reviewers Overall Opinion

Overall Opinion of the Report		
	Peer Reviewer 1	Peer Reviewer 2
Has the assessment team arrived at an appropriate conclusion based on the evidence presented in the assessment report? (Yes/No)	Yes	Yes
Peer Reviewer Justification	Many comments are made in relation to individual PIs. However these do not affect the overall score or need for further actions as a consequence of scoring.	I agree with overall conclusion reached by the assessment team but I am left with the impression that every improvement made by the fishery puts the fishery at risk of achieving a lower score until enough time has passed for the improvement to achieve demonstrable success. I'm not sure this approach provides the right incentives for fisheries to strive for continuing improvement.
Certification Body Response	<p>No response required re peer reviewer 1.</p> <p>Regarding peer reviewer 2 comments, the scores are on the precautionary side in cases where success cannot be demonstrated until the new improvements have been in place for some time. However the lower scores did not result in the fishery failing or being precluded from certification.</p>	
Do you think the condition(s) raised are appropriately written to achieve the SG80 outcome within the specified timeframe? (Yes/No)	Yes	Yes
Peer Reviewer Justification	All of the conditions are clearly specified. Three of the conditions relate to control rules which have been well developed in documentation supplied to the assessment team (but not yet implemented). Thus these conditions appear to be on track. The remaining condition also appears to be feasible with	I generally agree with the conditions with the exception of the condition on PI 3.2.2, which I consider to be redundant and not required to meet the SG80 level for PI 3.2.2.

	research underway on habitat interactions.	
Certification Body Response	<p>No response required re peer reviewer 1.</p> <p>Considering the comment from peer reviewer 2, the score has been adjusted to 80 and the condition was therefore deleted (see also response under PI 3.2.2).</p>	

Client Action Plan Comments

Client Action Plan Comments (if included)		
	Peer Reviewer 1	Peer Reviewer 2
Do you think the client action plan is sufficient to close the conditions raised? (Y/N)	Yes	Yes
Peer Reviewer Justification	A response to the conditions appears to be already well underway with research initiated on habitat and proposals developed for rules. Thus timing of the action plan is appropriate and the reporting path is likewise appropriate.	The client provides information on how it will meet the condition, who is responsible for meeting the condition, and when the action will be completed. Although the identity of the client was difficult to find in the report, it is apparently the Western Rock Lobster Council. The client is a credible organization with experience in meeting certification conditions. Whereas the Department of Fisheries is identified as having a partnership or sole role in meeting the conditions, this reviewer assumes that the client has agreement from the Department of Fisheries to carry out the Action Plan.
Certification Body Response	No response required	

Peer Reviewers General Comments

Peer Reviewer General Comments (optional)	
Peer Reviewer 1	Peer Reviewer 2
It's important to be aware that the structure of the Performance Indicators and associated Scoring Guides seemed to struggle with some of the recent changes in management in	

<p>this fishery. In particular, PIs under Principle One (“A fishery must be conducted in a manner that does not lead to over-fishing or depletion of the exploited populations...”) struggle with fishery targets that relate to maximum economic yield. MEY may be helpful in meeting Principle One but an economic measure is clearly not always a good measure of depletion of populations. The consequence of this was that in many cases the fishery was scored lower because of uncertainty around economic targets despite high-level performance against the intent of principle one through the limit.</p> <p>This issue didn’t affect outcomes of the assessment process but is worth considering in future reviews of this fishery (or perhaps others) where the stock target is linked to economic yield.</p>	
Certifying Body Response	
<p>While the target reference point may be the MEY, in practice this was to be implemented as a measure of spawning stock depletion. Invariably, such a target implementation would lead to a lower target depletion level than, for example, the MSY. As long as the stock assessment is conducted in a manner that can account for uncertainties in biological and fishery parameters (as it is in the case of Western Australia rock lobster) then the issue of uncertainty with respect to meeting the target should be covered off irrespective of whether the target is the MEY or some other level of depletion. Nevertheless, the reviewer has raised an important point, which is that if the MEY is not defined in terms of a specific spawning biomass depletion level then such a target may not always achieve the desired outcome. In the case of the Western Australia rock lobster, the implementation used will achieve the objective of preventing the over-fishing or depletion of the exploited population. The uncertainty in the MSC assessment in this case stems from the fact that this is a new management arrangement that has yet to be implemented. Until it is implemented for the first time there remains uncertainty. Irrespective of what target reference point was selected, because this whole management system is new and has yet to be imposed the same arguments concerning uncertainty of implementation would have been raised and it would have been difficult to have awarded a score of 100.</p>	

Peer Reviewers Comments Related to Scores and Rationales

Principle 1

Performance Indicator 1.1.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes.	Yes
Will the condition(s) raised improve the fishery’s performance to the SG80 level?	NA	NA

(yes/no/NA)		
Peer Reviewer Justification	The scoring structure for this indicator is awkward in terms of alignment with the overarching Principle 1. The assessors note that a score of 100 would have been applied if there was more certainty around the newly proposed target of MEY. This is a target for management but is less relevant to the performance indicator and Principle 1 than measures of spawning stock biomass. As noted in the de Lestang et al. (2011) report used by the assessors, <i>“managing the rock lobster fishery at its Maximum Economic Yield (MEY) means that the harvest rate would usually be well below the harvest rate required for sustainability, but where there is any conflict, the sustainability objective must first be met.”</i> Thus scoring has been reduced as a consequence of the introduction of a more conservative target.	The assessment team had available a recent peer-reviewed stock assessment that supports the conclusions and scoring. This fishery may be being penalized in the scoring because it has adopted a more conservative target reference point that is still new.
Certification Body Response	See reply above	

Performance Indicator 1.1.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The assessment team cites both the recent stock assessment and experience in the fishery to support the scores given.
Certification Body Response	No response required	

Performance Indicator 1.1.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The assessment team cites the recent stock assessment to conclude that the stock is not depleted and notes that management action was taken in response to below average recruitment to avoid depletion that would otherwise have been expected, providing evidence of use of the precautionary approach.
Certification Body Response	No response required	

Performance Indicator 1.2.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	No
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	The intent of harvest strategies and associated rules is to ensure that changes in management occur when required. While the assessment panel's score and	There is clear evidence that the harvest strategy periodically reviewed and improved as necessary. The assessment team did not give credit for this element of the scoring guidepost 100

	<p>rationale is sound, it is also worth noting that even in the absence of a fully evaluated harvest strategy, there has been a history of rapidly responsive management.</p>	<p>because the review and improvement process led to an improvement in the harvest strategy that has not yet been reviewed and improved. This approach puts fisheries that make improvements at a disadvantage. In this case, the fishery appears to be penalized for periodically reviewing and improving the harvest strategy, as has clearly been the case. The fact that there has not been time to fully evaluate the improved harvest strategy should not result in a score lower than would have been the case if the fishery had continued with a previous strategy that met the requirement for the harvest strategy to be periodically reviewed and improved as necessary. This reviewer believes that the fishery should get credit for meeting the third element of SG 100.</p>
Certification Body Response	<p>The remarkable change around in the development of the new Harvest Strategy for Western Australia rock lobster has been noted and applauded but the scoring guideposts were specific. They state: <i>The performance of the harvest strategy has been <u>fully evaluated</u> and evidence exists to show that it is achieving its objectives including being clearly able to maintain stocks at target levels and The harvest strategy is <u>periodically reviewed and improved</u> as necessary.</i> It does appear to be penalizing this fishery simply because they now have a new and improved Harvest Strategy but with such specific scoring guidepost it did not seem possible to award a higher score. Nevertheless, the condition imposed is one that should be very easily met simply by defining the control rules, which must happen anyway if they are to be used in management.</p>	

Performance Indicator 1.2.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	No
Does the information and/or rationale used to score this	Yes	Yes

indicator support the given score? (yes/no)		
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	Yes	Yes
Peer Reviewer Justification	The condition raised will increase the performance above 80. The assessment committee could perhaps provide guidance on not only meeting this minimum performance but aiming for 100. This should be possible through MSE with further development of the new length based model described in De Lestang et al. (2011).	The only reference provided for this scoring guidepost is the most recent stock assessment, de Lestang et al. 2011. The record of management responses to the status of the resource imply the existence of a management system that responds forcefully to biological signals. This reviewer would argue that there are legal and regulatory standards that have been followed by managers to achieve the reductions in exploitation levels that have been implemented in the fishery. The general and specific fishery management objectives that provide guidance to the decision-making process have acted as control rules. Brown (2011) should be used as an additional reference for this PI. With the exception of the requirement for control rules to be "well defined," I would argue that the fishery meets all of the elements of PI 1.2.2. The condition placed on the fishery seems likely to assure that the control rules will be made explicit in the future.
Certification Body Response	The team agrees that the control rules and other management tools are implied. However, the scoring guidepost is very clear. The control rules needed to be "well defined" and currently the documentation does not do that. Both Principle 1 conditions relate to the definition of the control rules, however, in the face of such explicit guidepost no other outcome was deemed possible.	

Performance Indicator 1.2.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information	Yes	No

available been used to score this indicator? (yes/no)		
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	No	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	Yes (although the fishery already appears to be at this point)	Yes
Peer Reviewer Justification	<p>A score of 80 appears appropriate with all three elements of SG80 being met. This PI deals with the collection of information to support the harvest strategy. While the harvest strategy is not fully implemented, both trace references define the criteria that will be used, if not the agreed and implemented levels (these are dealt with in other PIs). The limit will be defined by egg production and the target by a harvest rate linked to MEY. The de Lestang report outlines what seems to be a comprehensive range of information including three independent sources of data on the limit. All stock information discussed in the scoring guide appears to be collected to a comprehensive level. The only aspect of information collection where the fishery could be faulted is economic data which is required for setting the target harvest rate (<i>"... the MEY target harvest rates will vary through time and by zone according to prevailing economic circumstances, due to changes in key variables, such as abundance, prices paid for lobsters, operating costs (bait, fuel, labour, etc) and discount rates"</i>). Collection of this economic data is implicit in</p>	<p>Here again, there seems to be a disconnect between the operation of the management system in practice and the documentation of the management system used by the assessment team to score the PI. For that reason, I suggest the inclusion of Brown (2011) in the references. There is ample evidence that the information that is currently collected has been used to implement management measures that are intended to keep the fishery at the target reference points. There appears to have been an effective control rule in place, although not defined as such. The condition placed on this PI should lead to greater clarity concerning the use of the collected information to inform the control rules that will be defined in response to the condition on PI 1.2.2.</p>

	the trace references and allocating a low score on the basis of this economic data doesn't align with the intent of the PI, which is to address Principle 1. This principle deals with preventing "over-fishing or depletion" rather than economic yield.	
Certification Body Response	The condition imposed relates primarily to the formal definition of the control rules. It is agreed that there is, in practice, a system of data collection that will be used to inform the management system, the structure of which is implicit and its likely implementation is clear. However, because there was no formal definition it was deemed not possible to award a higher score. Once again, the imposed condition should be met simply by formally defining the control rules, which will define exactly what data or model outputs will be used to inform them. The difficulty was in the documentation of the control rules not in what was implied.	

Performance Indicator 1.2.4		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The assessment team adequately explains the rationale for the score.
Certification Body Response	No response required	

Principle 2

Performance Indicator 2.1.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this	Yes	Yes

indicator? (yes/no)		
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	The retained species criteria for assessment of 5% of catch complicates this PI with octopus catch only around 3% of the total catch. Reference points for octopus and all other retained species would need to be developed to meet SG100.	The assessment team provides an adequate explanation for the score.
Certification Body Response	No response required	

Performance Indicator 2.1.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The assessment team rationale and the reference provided adequately supports the score given.
Certification Body Response	No response required	

Performance Indicator 2.1.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this	Yes	Yes

indicator support the given score? (yes/no)		
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	The assessment team's comments refer only to octopus but again it's worth noting that lifting performance to SG100 would appear to require a monitoring, assessment and management strategy for each of the other minor retained species.	The assessment team rationale and the reference provided adequately support the score given.
Certification Body Response	In response to peer reviewer 1, a sentence was added under this PI to include the additional requirement for a higher than 80 score.	

Performance Indicator 2.2.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The assessment team rationale and the reference provided adequately support the score given.
Certification Body Response	No response required	

Performance Indicator 2.2.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes

Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	The assessment team's scoring appears appropriate. The discussion of bait usage is sound but it should be noted that (i) the major bait sources are operating within biological limits, (ii) this fishery is only one consumer amongst many so pragmatically changes in bait use by WRL may have little impact of harvests of these species. The assessment team's main point that bait usage is not tied to a strategy is reasonable for not applying SG100.	The assessment team rationale and the reference provided adequately support the score given.
Certification Body Response	No response required	

Performance Indicator 2.2.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The assessment team rationale and the reference provided adequately support the score given.
Certification Body Response	No response required	

Performance Indicator 2.3.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this	Yes	Yes

indicator? (yes/no)		
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	Rationale for not rating at 100 based on need to assess application and compliance with bait band changes is sound.	The assessment team rationale and the reference provided adequately support the score given.
Certification Body Response	No response required	

Performance Indicator 2.3.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The assessment team rationale and the reference provided adequately support the score given.
Certification Body Response	No response required	

Performance Indicator 2.3.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	No
Will the condition(s) raised improve the fishery's	NA	NA

performance to the SG80 level? (yes/no/NA)		
Peer Reviewer Justification	Information to assess performance of strategies is verifiable in some cases, e.g. compliance with SLEDs is assessed through police audits. Entanglements are more problematic with information collected through reporting, as contained within codes of practice. Although there is a history of reporting of a small number of entanglements of cetaceans and turtles, this information is not verifiable (and obviously difficult given the rarity of interactions). Hence the assessment team's rationale for rating above 80 but below 100 is justifiable.	The scoring rationale provided for 2.3.3 adequately supports the score but is somewhat confusing regarding scoring for sea lions compared to whales and turtles and how those scores are combined into the overall score. No references are provided for the data that forms the basis for the conclusions.
Certification Body Response	No response required	

Performance Indicator 2.4.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	The references used by the assessment team concluded that physical impacts of gear were negligible because (i) the footprint of gear was small; and (ii) the rate of regeneration was rapid and natural change through events like storms was great (Casement and Svanne, 1999).	The assessment team used references from regional and bioregional studies to adequately support the score given.

	Only the first of these broad conclusions are relevant to the Abrohlos given the coral habitat. The teams scoring and recognition of the need for information from the research underway in this area is thus appropriate.	
Certification Body Response	No response required	

Performance Indicator 2.4.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The assessment team rationale and the reference provided adequately support the score given.
Certification Body Response	No response required	

Performance Indicator 2.4.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	Yes	Yes
Peer Reviewer Justification	The condition stipulates the need to define sensitive habitats and distribution of effort around these	The assessment team provides sufficient rationale to support the score given and the

	areas: <i>"In order to (identify fishery impacts) the client shall provide information on the spatial extent of both the key habitats and the associated fishing effort."</i> This omits mention of study of the actual interaction between fishing effort and habitats and how long the recovery time is likely to be (as discussed for the previous PI). This study appears to be underway and could be included in the condition.	likelihood that the condition will improve the fishery to the SG80 level.
Certification Body Response	Under the MSC system the team is required to follow the narrative of the Performance Indicator and scoring guidepost so the assessment team is limited to what can be mentioned in the actual wording of the condition. However the study is mentioned in the rationale of this performance indicator and the client action plan.	

Performance Indicator 2.5.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The references and rationale used by the assessment team adequately support the score given.
Certification Body Response	No response required	

Performance Indicator 2.5.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given	Yes	Yes

score? (yes/no)		
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The reference and rationale used by the assessment team support the score given.
Certification Body Response	No response required	

Performance Indicator 2.5.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	Reference Loneragan et al., 2010 is especially relevant here.	The reference and rationale used by the assessment team support the score given.
Certification Body Response	No response required	

Principle 3

Performance Indicator 3.1.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	No	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	The rationale for not ranking the fishery at 100 was unclear. The	This reviewer finds the rationale for PI 3.1.1 lacking in information

	<p>first point made by the assessment team was that the fishery does not act proactively to avoid legal disputes. Their rationale for this is unclear because the criterion relates to the capacity of management system and Act to respond rapidly to legal decisions. This appears to be the case. The team's second statement on their rating was that <i>"the management system is in a state of flux and there have been challenges to the proposed new arrangements, and hence there are questions re the long term sustainability of the fishery"</i>. Their meaning here is not clear because they seem to be implying the fishery may not be sustainable under the new management system, despite their scores under Principle 1.</p>	<p>on the legal framework for management of the Western Rock Lobster Fishery. The references, however, provide complete details on the legal and regulatory framework. Taken together, the rationale and the references support the score given.</p>
Certification Body Response	<p>Taking the first peer reviewer's comments into account, the score was increased to 100 and the rational was revised accordingly.</p>	

Performance Indicator 3.1.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The reference and rationale used by the assessment team support the score given.
Certification Body Response	No response required	

Performance Indicator 3.1.3		
	Peer Reviewer 1	Peer Reviewer 2

Has all the relevant information available been used to score this indicator? (yes/no)	Yes	No
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	No
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		<p>The scoring rationale uses a discussion paper published by the Department of Fisheries as the primary basis for the score of 100. A score of 100 requires that the "clear long-term objectives" be "explicit within and required by management policy." The discussion paper indicates that: "Once the public comments received on this draft discussion paper have been considered, a final proposal will be presented to the Minister for Fisheries for his approval."</p> <p>In the absence of evidence that the Minister of Fisheries has approved the contents of the discussion paper as being management policy, the information in Brown (2011) seems to provide adequate support for the score of 100 and should be referenced under PI 3.1.3.</p>
Certification Body Response	Brown (2011) was referenced in the rational of this PI.	

Performance Indicator 3.1.4		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	No	No
Does the information and/or rationale used to score this indicator support the given	No	Yes

score? (yes/no)		
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification	This PI has two parts neither of which was fully covered by the rationale. The first relates to subsidies. It seems that this should examine whether there subsidy of costs of management, research and compliance – and if so, does this reduction in cost of fishing support unsustainable fishing? Subsidy can also occur through government buy-out of effort, crisis relief payment systems and through taxation incentives to promote capital investment. The second part is the consideration of social and economic incentives to ensure they do not contribute to unsustainable fishing. The new ITQ system creates incentives for sustainable fishing through asset values linked to future cash flow but ITQs can also create problems, for example through separation between owners of catch shares and leasee fishers. Again, is management policy reviewed to ensure these don't contribute to unsustainable fishing?	Brown (2011) provides additional support for the score of 100.
Certification Body Response	Additional explanation about the subsidies (reviewer 1) and reference to Brown, 2011 (reviewer 2) has been added.	

Performance Indicator 3.2.1		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	No	No
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	No	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level?	NA	NA

(yes/no/NA)		
Peer Reviewer Justification	This PI relates to the formal management objectives defined explicitly for the fishery. The rationale is not based on references and only refers to changes that have occurred, not the objectives that drove these changes. In relation to Principle 1, de Lestang et al. (2011) propose the objective of <i>"Ensure that the egg production in each Zone of the fishery remains above its threshold level and the probability of still being above this level in five years time is at least 75%."</i> This is both well defined and measureable (consistent with SG100) but is not both "short and long term" (as required by SG100).	Brown (2011) provides additional information on the specific objectives for the fishery and should be referenced under PI 3.2.1, which does not currently list any references.
Certification Body Response	Additional explanation about the subsidies (reviewer 1) and reference to Brown, 2011 (reviewer 2) has been added to justify the score.	

Performance Indicator 3.2.2		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	No	No
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	No
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	Yes	Yes

<p>Peer Reviewer Justification</p>	<p>The trace references did not include de Lestang et al., 2011 which proposes a decision rule process. This does not appear to have been adopted so the assessment team's condition is still relevant.</p>	<p>This reviewer finds the score of 70 to be lower than warranted by the evidence and the information provided. I am not in a position to know whether the decision-making process responds to all issues identified in relevant research. Other than that, my review of the entire assessment report and the supporting documents leads me to believe that the fishery specific management system includes effective decision-making processes that result in measures and strategies to achieve the objectives. I conclude that the decision-making processes meet all of the elements of SG80 and SG100 with the possible exception of responding to all issues identified. Brown (2011) describes the research that has been used to support the decision-making process, making it apparent that the decision-making process uses the best available information. Although the specific objectives for the fishery may not be framed in terms of control rules, the decision-making process has clearly used the precautionary approach in responding to evidence of reduced puerulus settlement. Many of the actions taken by the decision-making process in response to MSC certification requirements and conditions are clearly precautionary. I see the control rule issue as distinct from the elements of PI 3.2.2, which I find to be met in almost every instance. I suggest that Brown (2011) be used as a reference for PI 3.2.2.</p>
<p>Certification Body Response</p>	<p>Taking both peer reviewer's comments into account, the score was increased to 80 and the rational was revised accordingly. Both Lestang et al., 2011 (reviewer 1) and Brown, 2011 (reviewer 2) have been added to justify the score.</p>	

Performance Indicator 3.2.3		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		The rationale and the references adequately support the score given.
Certification Body Response	No response required	

Performance Indicator 3.2.4		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised improve the fishery's performance to the SG80 level? (yes/no/NA)	NA	NA
Peer Reviewer Justification		
Certification Body Response	No response required	

Performance Indicator 3.2.5		
	Peer Reviewer 1	Peer Reviewer 2
Has all the relevant information available been used to score this indicator? (yes/no)	Yes	Yes
Does the information and/or rationale used to score this indicator support the given score? (yes/no)	Yes	Yes
Will the condition(s) raised	NA	NA

improve the fishery's performance to the SG80 level? (yes/no/NA)		
Peer Reviewer Justification		The rationale and the references adequately support the score given.
Certification Body Response	No response required	

Any Other Comments (optional)		
	Peer Reviewer 1	Peer Reviewer 2
	-	-

APPENDIX V – COMMENTS ON PCDR AND TEAM RESPONSES



Marine House
1 Snow Hill
London EC1A 2DH
United Kingdom
Tel: +44 (0)20 7246
8900

SUBJECT: MSC Review and Report on Compliance with the scheme requirements

Dear Sabine Daume

Please find below the results of our partial review of compliance with scheme

CAB	SCS - Scientific Certification Systems
Lead Auditor	Sabine Daume
Fishery Name	Western Australian rock lobster
Document	Public Comment Draft Report Posted

Ref	Type	Page	Requirement	Reference
	TO.076	Major	21	CR-V1.1-27.12.1.6 The CAB shall determine if the systems of tracking and tracing in the fishery are sufficient to make sure all fish and fish products identified and sold as certified by the fishery originate from the certified fishery. The CAB shall consider the following points and their associated risk for the integrity of certified products: The number and/or

Details

The report does not clearly define the point of landing. It is clear that the fishery is covered but not clear at what point certification for companies down the supply chain is needed.

Team response: A list of landing sites has been added in Appendix VI. In addition more information has been added in section 8 to explain that chain of custody starts at the port of landing.

TO.077 Guidance	CR-V1.1-27.12.1	The CAB shall determine if the systems of tracking and tracing in the fishery are sufficient to make sure all fish and fish products identified and sold as certified by the fishery originate from the certified fishery. The CAB shall consider the
-----------------	-----------------	---

following points and their associated risk for the

Details

The points identified in this section of the CR are partially or not at all considered in the "tracking and tracing of fish and fish products" section of the report.

Team response: Section 8 has been updated and includes all points listed in the CR as well as reference to a complete list of landing ports (Appendix VI).

This report is provided for action by the CAB and ASI in order to improve consistency with the MSC scheme requirements; MSC does not review all work products submitted by Conformity Assessment Bodies and this review should not be considered a checking service. If any clarification is required, please contact Maylynn Nunn on +61 (0)2 9524 8400 for more information.

Best regards,
Dan Hoggarth
Senior Fisheries Assessment Manager
Marine Stewardship Council

cc: Accreditation Services International

Stakeholder Input into MSC Fishery Assessments

Contact Name: Gil Waller
Organisation: Sherry Ellen Pty Ltd
Position: Director
Short description: Private long term West Australian rock lobster fishing company / Family Trust
Mailing Address: PO Box 634, Cottesloe, WA 6911 Australia
Email: gil.waller@iinet.net.au

Fishery: West Australian Rock Lobster Fishery
Certification Body: SCS

SECTION 5 ONLY RELEVANT AND COMPLETED

Performance Indicator: All

Nature of comment: others

Justification:

I felt that in a number of instances the scoring was rather low and conservative, relieved to read the final Peer Reviewer comments that in most cases confirmed my view and supported recommendations then adjusted scoring upwards accordingly.

Team response: no response required.

Justification:

As a long term stakeholder in this fishery of 40 years standing, I would like to comment favourably on the consultation process. Since 1975 there has been regular annual meetings between fishermen and scientists. While these meetings have not always been amicable to all, the robust exchange of views has been invaluable in encouraging both fishermen and scientists alike to re-examine their views and strive even harder for the successful long term future survival of this fishery.

Team response: no response required.

Justification:

I felt that responses to some earlier comments as below were not fully and adequately addressed.

"The model does not allow for northerly migration in southern areas (there is a matrix that Andre Punt worked on but found it too hard or didn't have enough time to fix it). This is supposed to be fixed later but is a crucial piece in the puzzle.

Team response: The matrix describing the source-destination areas and proportional distribution of northerly migrating lobsters amongst destination areas is given as Table 5.7b in StockAssesChapterMSC_v2 ns.doc. This describes the expected movement rates of lobsters north when

combined with equations 3 and 4 in the same document. It is not surprising that Dr Punt was unable to implement this in the time he had available. It can be very difficult to get movement models nested within such complex systems to balance."

I have been told that this matrix (from an earlier Stock Assessment) has since been corrected but have not been able to find a corrected version.

"34% of migrating whites move an average of 63 km, west then north general direction. Showed a graph with different colors of lobsters tagged in different areas and where they ended up, pretty much all well north. Found after talking to Rhys Brown that it was tagging work started by him and finished by Chubb in 1994, then almost forgotten until dug out recently and assessed)
Updates have not been made available to all stakeholders.

Team response: We do not have information on who was invited or attended. Importantly meetings are called by the Department or Rock Lobster Council and stakeholders could attend and provide input".

It was heartening to read that it was also felt by others that this earlier tagging work should be re-assessed and expanded as an important inclusion in the management of the fishery.

"The migration parameters are currently informed guesses. Ultimately, the tagging data should be included formally in the assessment and migration estimated."

"Given recent levels of exploitation and the results of recent of tagging data, migration among regions and between zones has become an important issue that will need to be considered in future models. Ultimately a single model that includes zones A, B and C and migration among the regions and zones should be developed. The Model Review Panel notes that this would be a long term goal"(WWF comments and more P 100, and 101, MSC Public Comment Draft Report WESTERN AUSTRALIA ROCK LOBSTER FISHERY).

Team response: The 2 new comments above are probably more addressed to the management agency of the fishery and these have therefore been forwarded to them for direct feedback.

There are a number of well recognized weaknesses in the model with movement rates being just one of them. The model will form the basis for estimating a number of the performance measures used to assess the status of the stock in the future. The expectation is that work will continue to improve the data collections currently used and clarify some of the constants used (such as movement rates and their variation). The model development is also expected to include sensitivity tests of the outputs to variation in the major inputs.

Movement between regions is important, especially as one of the theories about the cause of the low puerulus settlement is low larval supply. Collecting more data on movement rates will be a long term project, however, the model can be tested for how sensitive its outputs are to the movement matrix by varying some of the estimated movement rates between regions and observing the impact on management related outputs. In this way the relative influence of the different data sets can be determined and this can assist in setting research priorities for how best to improve our understanding of the current stock and fishery dynamics.

In spite of the relatively minor complaints above, overall I was very impressed with the rigour and standard of the Assessment and the Report.

In particular I found the final Peer Reviews to be of very high quality and illuminating in many ways, not least with regard to their favourable comments regarding the standard of safety and precautionary

approach, and the almost over zealous attempts by the Fishery Managers to bring in changes for these reasons, even though the unknown effects could harm the chances of a higher assessment score.

I would like to thank the team for the chance to be involved with this Assessment and apologise that I was unable to attend the meetings in May 2011.

Team response: Thank you for your support and continuous engagement

APPENDIX VI – LANDING SITES FOR WESTERN AUSTRALIAN ROCK LOBSTER

Landing Area Numbers		Landing Area Numbers	
No	Name	No	Name
1	Carnarvon	30	Leeman
2	Denham	31	Greenhead
3	Kalbarri	32	Jurien Marina
4	Lucky Bay	33	Cervantes
5	Port Gregory	34	Wedge Island
6	Little Bay	35	Lancelin
7	Horrocks Beach	36	Ledge Point
8	Coronation Beach	37	Seabird
9	Geraldton	38	Two Rocks Marina
18	Flat Rocks	39	Mindarie Marina
19	Seven Mile Beach	40	Hillarys Marina
20	Port Denison Marina	41	Fremantle
21	North Cliffhead, Cliffhead & South Cliffhead	42	Safety Bay
22	Big Freshwater/Little Freshwater	43	Mandurah Ocean Marina
23	Knobby Head North	44	Eastport Canals (Dawesville)
24	Halfway Bay	45	Bunbury Casuarina Harbour
25	Sandy Bay/Illawong	46	Port Geographe
26	Gum Tree Bay	47	Quindalup
27	Beagle Ridge	48	Canal Rocks
28	Desperate Bay	49	Cowaramup
29	Dumper Bay	50	Hamelin Bay