

# **MSC ASSESSMENT**

## **The Western Australia Rock Lobster Fishery**

### **Final Report**

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Western Australian Fishing Industry Council (WAFIC)

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MSC Accreditation Manual Issue 4,

MSC Fisheries Certification Methodology (FCM) Version 5,

MSC TAB Directives (All)

MSC Chain of Custody Certification Methodology (CoC CM) Version 6.

Accredited Certification Body:

Scientific Certification Systems, Inc.

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**Amendments Issued Since Original Draft**

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<b>2</b>	15 May 2006	Draft Report for Peer Review
<b>3</b>	31 July 2006	Draft Report for Public Comment
<b>4</b>	4 October 2006	Final Report after Public Comment Period
<b>5</b>	12 December 2006	Final Report after MSC Objections Filing Period

## TABLE OF CONTENTS

<b>1</b>	<b>Introduction.....</b>	<b>5</b>
1.1	THE FISHERY PROPOSED FOR ASSESSMENT .....	5
1.2	KEY ISSUES FOR THE ASSESSMENT .....	6
<b>2</b>	<b>The Western Australia Rock Lobster Fishery.....</b>	<b>6</b>
2.1.1	<i>The Target Species</i> .....	6
2.1.2	<i>Life History</i> .....	7
2.2	THE WESTERN AUSTRALIA ROCK LOBSTER FISHERY.....	7
<b>3</b>	<b>Fisheries Management System.....</b>	<b>9</b>
<b>4</b>	<b>Processing and Transshipment .....</b>	<b>13</b>
<b>5</b>	<b>The assessment process.....</b>	<b>13</b>
5.1	EVALUATION TEAM.....	15
5.2	OTHER FISHERIES IN THE AREA AND SUMMARY OF PREVIOUS CERTIFICATION EVALUATIONS .....	16
<b>6</b>	<b>The MSC Evaluation process.....</b>	<b>17</b>
6.1	MSC PRINCIPLES AND CRITERIA .....	17
	MSC PRINCIPLE 1 .....	17
	MSC PRINCIPLE 2 .....	18
	MSC PRINCIPLE 3 .....	18
6.2	INTERPRETATION OF MSC PRINCIPLES FOR PERFORMANCE EVALUATIONS .....	20
6.3	SUBMISSION OF DATA ON THE FISHERY .....	22
<b>7</b>	<b>Assessment Team Meetings and interviews.....</b>	<b>23</b>
7.1	JUSTIFICATION FOR SELECTION OF ITEMS/PERSONS INSPECTED.....	23
7.2	FISHING INDUSTRY AND FISHERY MANAGEMENT MEETINGS.....	23
<b>8</b>	<b>Assessment Team Performance Evaluations .....</b>	<b>24</b>
	MSC PRINCIPLE 1 .....	26
	MSC PRINCIPLE 2 .....	
	MSC PRINCIPLE 3 .....	
<b>9</b>	<b>Tracking, Tracing Fish And Fish Products .....</b>	<b>98</b>
<b>10</b>	<b>Peer Review, Public Comment, and Objections.....</b>	<b>98</b>
<b>11</b>	<b>Certification Recommendation And Performacne Scores.....</b>	<b>100</b>
<b>12</b>	<b>Meeting Conditions for Continued Certification .....</b>	<b>106</b>
12.1	GENERAL CONDITIONS FOR CONTINUED CERTIFICATION.....	107
12.2	SPECIFIC CONDITIONS FOR CONTINUED CERTIFICATION.....	107
<b>13</b>	<b>MSC Logo Licensing Responsibilities .....</b>	<b>115</b>
<b>14</b>	<b>Conclusion .....</b>	<b>115</b>
	<b>Appendix 1 – Peer Review Comments.....</b>	<b>121</b>
	<b>Appendix 2 – Public Comments on Draft Assessment Report .....</b>	<b>140</b>

<b>Appendix 3 – Action Plan for Meeting All Required Conditions Identified in the 2006 Re-assessment Report for the Western Australia Rock Lobster Fishery .....</b>	<b>170</b>
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# 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,

*“To safeguard the world’s seafood supply by promoting the best environmental choice”.*

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-labelling, 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 standards for sustainable fisheries management in a three-step process (May, Leadbitter, Sutton, and Weber, 2003): 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 final MSC Fisheries Certification standard was issued in 1998, and has since been used as the basis by which fisheries are evaluated under the MSC program. In contrast, the MSC Certification Methodology has evolved over the past six years as has the MSC Standard and Certification Methodology for Chain of Custody. The latest documents concerning these requirements, processes, and procedures were used in this assessment.

## 1.1 The Fishery Proposed for Assessment

The fishery evaluated in this report is:

Species:	<i>Panulirus cygnus</i>
Geographic Area:	Western Australia – from Bunbury (34°24'S) in the south to Shark Bay (24°44'S) in the north.
Fishing Method:	Pots
Fishery Management:	Western Australia Minister of Fisheries, Western Australia Department of Fisheries

## **1.2 Key Issues for the Assessment**

There were a few areas of significant note in this assessment that needed some additional attention. The ones worth mentioning, and that are discussed in greater detail in Section 8 - Assessment Team Performance Evaluation, are:

### **1. Improved ERA:**

The MSC Principles and Criteria are the standard by which all fisheries are evaluated under the Marine Stewardship Council (MSC) program. Principle 2 under the MSC requires that the fishery management system fully understands, analyses, and reports on those aspects of the fishery that either potentially or actually cause effects to the ecosystem in which the fishery operates. The concern that surfaced during this assessment is the ability of the fishery management system to properly identify potential ecological effects from fishing. There appears to be no formal assessment of ecological or ecosystem impacts from fishing. In addition, in areas where there are known effects (bycatch of fish and seabirds) there appears to be a lack of verification processes (such as observer data as used in groundfish fisheries in the North Pacific). Both these issues are dealt with in greater detail in the body of this report.

### **2. Improved Assessment of WRL Stock Status**

## **2 THE WESTERN AUSTRALIA ROCK LOBSTER FISHERY**

The descriptions provided here are for context, and do not constitute an evaluation of the fishery. Section 8 provides the assessment of the fishery.

### **2.1 Western Rock Lobster**

#### **2.1.1 The Target Species**

The Western Rock Lobster occurs off the western coast of Australia, with the postlarval stages inhabiting the continental shelf from 1 to 200 meters in depth. The highest densities occur in waters less than 60 m in depth (Kailola et al., 1993).

The species, *Panulirus cygnus*, is a spiny lobster with long antennae. The anterodorsal aspect of the carapace bears 2 distinct, smooth supraorbital spines and behind them are 2 rows of 4–8 smaller spines. Each abdominal segment has a transverse groove. The older juveniles and adult lobsters (except 'whites') assume a reddish-purple color with each moult. The carapace is uniformly colored without obvious spots and markings, although the abdomen is spotted dorsally and laterally. Each walking leg has a broad, pale longitudinal stripe on its dorsal surface.

### 2.1.2 Life History

The life cycle of the western rock lobster includes a long (~9 month) oceanic larval phase during which mortality is especially high during El Niño events. Hatching of eggs occurs in summer (mostly 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 final 'puerulus' larval stage which moves onshore and settles in shallow reefs in less than 30m of water (Kailola et al., 1993; Phillips and Pearce 1997). Juveniles remain on shallow coastal reefs for 3-6 years before recruiting to the fishery (Philips et al., 1991).

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 only for females and varies with location and growth rate. Generally females are sexually mature at approximately 5–6 years of age, when their carapace length measures 90–95 mm. The sex ratio is usually 1:1.

Growth rates vary considerably along the coast. In general, pueruli settle at approximately 8 mm carapace length. One year after settlement, juveniles are about 2.5 cm in carapace length. Studies have shown 3-year-old juvenile lobsters of 3.9–5.5 cm carapace length, 4-year-olds between 5.6 and 6.8 cm carapace length, and 5-year-old and older animals with a carapace length greater than 6.9 cm.

*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.

Predators include, but are not limited to, reef fish, sharks and octopus (*Octopus* species).

## 2.2 The Western Australia Rock Lobster Fishery

A report by the Western Australian Department of Fisheries, Fisheries Management Paper No. 203 – Western Rock Lobster Ecological Risk Assessment 2005, provides a thorough and accurate description of the Western Australia Rock Lobster Fishery, including its size, economic value, legislative context and management. The following paragraphs in this section of the assessment report are taken directly from the Fisheries Management Paper No. 203 to provide the general background of the fishery as required by the MSC.

“The commercial fishery for western rock lobster is the most valuable single-species fishery in Australia (worth between \$A200 and \$A400 million annually)

and usually represents about twenty per cent of the total value of Australia's fisheries. This fishery also supports a significant recreational fishery with about 37,000 rock lobster licenses issued in 2002/03 and around 80% of these licenses used to catch 300-400 tonnes (approx. 4% of the total commercial and recreational catch). The license entitles fishers to use two pots and/or dive for rock lobster and keep up to 8 lobsters per day. As one of the first managed fisheries in Western Australia, data have been kept on the Western Australia rock lobster fishery since the early 1900s. The rock lobster fishery was declared limited entry in March 1963 when license and pot numbers were frozen. Since 1963, boat numbers have declined from 836 to 565 (January 2004). The commercial catch has varied between 8,000t and 14,500t over the last 20 years mostly due to natural fluctuations in annual recruitment. The settlement of puerulus (one year old lobsters) is used to predict reliably recruitment levels and therefore catches three to four years ahead.

The current management package employs several measures to pursue the legislative objectives – at the heart of which is resource sustainability. The rock lobster management package is widely recognized as meeting this objective, but the extent to which some other fisheries management objectives are pursued has been a matter of debate. An overall cap on effort, a Total Allowable Effort (TAE), is imposed by limiting the capacity of the fishery to a total number of usable pots. Relatively liberal transferability provisions allow market forces to determine the most efficient use of licenses and available entitlement (pots). This system of management is known as an Individually Transferable Effort (ITE) system.

The fishery is divided into [three] access zones. This distributes effort across the fishery, rather than permitting the fleet to concentrate effort on areas of seasonally high productivity, thereby avoiding higher than acceptable exploitation rates. Zonal management also enables management controls aimed at addressing zone specific issues. For example, there are currently different maximum size restrictions in the northern and southern regions of the fishery. A form of zonal management known as “closed areas” has been used in a number of instances. Rottneest and Quobba Point are closed to commercial fishing, and there are Fish Habitat Fish Protection Areas at Cottesloe, Yallingup and Lancelin Island. Other closed areas exist under the Marine Park management system administered by the Department for Conservation and Land Management (CALM). Other management tools of note are those of a biological nature. Specifically, harvesting excludes females in breeding condition, and animals outside the limits of minimum and maximum carapace length. Gear restrictions that constrain the design and construction of the pots, including the requirement for escape gaps, also play a significant role in controlling exploitation rates.”



### 3 FISHERIES MANAGEMENT SYSTEM

Again, the report by the Western Australian Department of Fisheries, Fisheries Management Paper No. 203 – Western Rock Lobster Ecological Risk Assessment 2005, provides an accurate and recent description of the Western Australia Rock Lobster Fishery Management System that is quoted in this section of the assessment report.

“The Government of Western Australia operates under the Westminster system in which the responsible Minister makes executive decisions. Insofar as the administration of fisheries in Western Australia is concerned, the relevant executive decision maker is the Minister for Fisheries. The Department of Fisheries is established under the *Public Sector Management Act 1994* and is the department principally responsible for assisting the Minister for Fisheries in administering the following acts:

- *Fish Resources Management Act 1994 (FRMA)*;
- *Pearling Act 1990*;
- *Fisheries Adjustment Schemes Act 1987*;
- *Fishing and Related Industries Compensation (Marine Reserves) Act 1997*; and
- *Fishing Industry Promotion Training and Management Levy Act 1994*.

Up-to-date versions of these acts can be accessed via [www.fish.wa.gov.au](http://www.fish.wa.gov.au). Of particular relevance to the management of fish resources is the *Fish Resources Management Act 1994 (FRMA)*. Section 3 of the FRMA establishes that:

*The objects of the Act are to conserve, develop and share the fish resources of the State for the benefit of present and future generations.*

The fish resources that fall under the jurisdiction of the FRMA are described in an agreement between the Commonwealth and State Government's – the Offshore Constitutional Settlement. This agreement and explanation of it is contained within *Fisheries Management Paper No.77 – Offshore Constitutional Settlement 1995*. Under the FRMA, there is a division of power between the Minister for Fisheries and the statutory office of the Executive Director of the Department of Fisheries. In broad terms, the Minister for Fisheries establishes the legal and policy framework for fisheries management, while the Executive Director (and staff) carries out the day-to-day administration of these frameworks.

To assist the Minister for Fisheries in managing the State's fish resources, the FRMA makes provision, under Part 4, for the establishment of Advisory Committees. For the western Australia rock lobster fishery resource the relevant advisory committee is the Rock Lobster Industry Advisory Committee (RLIAC). However, the Minister is not limited to seeking advice only from

RLIAC and can, for example, seek advice directly from stakeholders, the Department of Fisheries or Parliamentary colleagues.

RLIAC is one of three statutory advisory committees established under the FRMA. As a statutory committee the FRMA specifically and explicitly establishes RLIAC's composition (including the chairperson), functions, constitution and proceedings.

Section 29 of the FRMA specifies that there are 14 membership positions on RLIAC comprising of an independent chairperson, the Executive Director, commercial rock lobster fishers, a recreational rock lobster fisher and processing / marketers of rock lobster. In addition to the formal membership, RLIAC has a number of permanent observers who participate in the process at the direction of the Chairperson. Representatives from the Conservation Council of Western Australia and the Western Rock Lobster Council (a recently formed group of fishers seeking to take over the industry oversight of the lobster fishery from WAFIC) are permanent observers while a senior member of the Minister's staff also attends meetings.

Section 30 of the FRMA states that:

- (1) The functions of the Advisory Committee [RLIAC] are –*
- a. to identify issues that affect rock lobster fishing;*
  - b. to advise the Minister on matters relating to the management, protection and development of rock lobster fisheries; and*
  - c. to advise the Minister on matters relating to rock lobster fisheries on which the advice of the Advisory Committee is sought by the Minister.*
- (2) The Advisory Committee [RLIAC] may do all things necessary or convenient to be done for or in connection with the performance of its functions.*

To provide additional non-legislative guidance for the operation of RLIAC, and other advisory committees, the Minister for Fisheries issued *Fisheries Management Guide No.3 – A guide for Management and Ministerial Advisory Committee (MACs) and the conduct of meetings issued by the Minister for Fisheries* as published in January 2003 by the Department of Fisheries. This Guide covers all critical operational aspects for advisory committees such as RLIAC. For example, the guide covers the role of members and observers, procedural matters, disclosure of interests and executive support for advisory committees.

In a manner consistent with Fisheries Management Guide No. 3, RLIAC has established a number of sub-committees to assist it. Collectively these sub-committees cover strategic management, cost recovery finance, stock sustainability research and development, compliance and marketing issues.

In addition to its longstanding sub-committees, RLIAC recently established two Scientific Reference Groups (SRG's) responsible for ensuring that RLIAC is provided with advice on how to ensure the western rock lobster resource is managed in a manner that is consistent with the principles of ecosystem based management (EBM). These include an SRG on the effects of lobster fishing on ecosystem functions, and an SRG on the effects of lobster fishing on Sea Lions in or adjacent to fishing areas.

All these subordinates of RLIAC have compositions and terms of reference set down by RLIAC and each subordinate reports directly to RLIAC and operates in a manner that is consistent with Fisheries Management Guide No. 3.

Traditionally, the focus of management, and therefore consultative processes, has been the commercial sector. However, the management and RLIAC processes have evolved to more explicitly recognize and include other stakeholders – in particular the recreational and conservation sectors – through including formal observers to RLIAC meetings, as well as discussing the inclusion of additional members with ecological expertise.

Discussion with stakeholders occurs through a variety of forums, but regular and well-known features of the RLIAC process include the annual coastal tour and stakeholder meetings held three to four times in a twelve-month period. The coastal tour is a day long forum with rock lobster stakeholders, including conservation representation, coordinated and organized by RLIAC. The tour is open to the public and held in October each year and visits three major rock lobster ports between Fremantle and Geraldton. This forum is widely recognized by rock lobster stakeholders as a mechanism for receiving the most up-to-date scientific advice on the status of the fishery within an ESD framework and discussing new and ongoing management issues in the context of the three-year planning process. Background material and the program for the upcoming coastal tour can be viewed and downloaded from [www.fish.wa.gov.au](http://www.fish.wa.gov.au) around late September each year.

In recent years, RLIAC's consultation and communication with stakeholders has been further enhanced by conducting half day "Stakeholder meetings" prior to a meeting of RLIAC itself. Held quarterly, these stakeholder meetings provide regular opportunities for all rock lobster stakeholders to have direct input into the RLIAC process throughout the year.

RLIAC communication and engagement with stakeholders on the assessment of the annual technical report is through a variety of mediums:

- RLIAC News – published quarterly
- [www.rocklobsterwa.com](http://www.rocklobsterwa.com).
- Scheduled RLIAC meetings
- Scheduled Joint Stakeholder meetings

- Annual RLIAC coastal tour and accompanying background documentation and reports
- RLIAC Executive Officer

One of the purposes of these communication and consultation processes is to ensure stakeholders and the community more generally have access to relevant information, reports and advice that shape the advice RLIAC provides to the Minister. For example, reports from the Scientific Reference Groups are available through a variety of means. By making information available and by providing for a discussion and exchange of ideas, RLIAC encourages input from stakeholders and the community into the management process.”

As the primary and statutory source of advice on all matters relevant to the management of the western rock lobster resource and use of it, RLIAC has an extensive network of expert advisers across its various subordinate committees, reference groups and processes that also provide opportunities for RLIAC to engage directly with stakeholders more broadly.

As the recipient of much advice from RLIAC on management issues, the Minister requires legislative power to turn knowledge and advice into action. Parts 5 and 6 of the FRMA deal with the general regulation of fisheries through the use of orders and regulations and the specific management of fisheries via the declaration or amendment of fisheries management plans. Principally, the Minister for Fisheries manages the western rock lobster resource by exercising powers provided under Parts 5 and 6 of the FRMA on the advice of the Rock Lobster Industry Advisory Committee. The administration of these arrangements becomes the responsibility of the Executive Director and the Department of Fisheries more generally.

For the western rock lobster resource 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 who hold an appropriate license issued only by the Executive Director. The management plan establishes the area and sub areas (zones) of the fishery, the capacity, permissible gear type, open and closed seasons and rules for transferring licenses or parts of licenses. The management plan can be viewed at [www.fish.wa.gov.au](http://www.fish.wa.gov.au).

In addition to the management plan there are orders determined by the Minister that (amongst other things) manage access to special areas within the overall boundaries of the fishery. For example there is an order that generally prohibits commercial fishing in waters immediately surrounding Rottnest Island off the Perth metropolitan coast.

To complement the management plan and various orders there is a body of regulations approved by the Minister and determined by the Governor that applies specifically to western rock lobsters. In particular these regulations deal

with the specifics of the sizes of lobsters that cannot be taken, the protection of lobsters in breeding condition, the dimensions of approved rock lobster fishing gear, bait types that cannot be used and the requirement to hold a recreational fishing license to fish recreationally for western rock lobster. A process is currently underway to make the collection of orders and regulations available online.

To assist RLIAC and its subordinate committees and reference groups in developing management advice for the Minister, a fisheries management 'decision rules framework' for the western rock lobster fishery has been developed.

The costs of managing (including conducting research for management) the Western Australia Rock Lobster Fishery are met from a variety of sources, including in particular significant contributions each financial year from the:

- West Coast Rock Lobster industry through the established cost recovery process;
- State Government;
- Fisheries Research and Development Corporation;
- Industry Development Unit; and
- Development and Better Interests Fund.”

#### **4 PROCESSING AND TRANSSHIPMENT**

For the western Australia rock lobster fishery, all landings are recorded and reported. Processing occurs at shore-side plants where landings are monitored by fishery enforcement officers and recorder by each licensed processing facility. Landings at remote locations are loaded into refrigerated trucks and transported to processing facilities. Each processor controls the trucking of its product from landing locations to processing facilities. No transshipments are made at sea.

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

#### **5 THE ASSESSMENT PROCESS**

Scientific Certification Systems, Inc. conducted a pre-assessment of the Western Australia rock lobster fishery, as required by the MSC program, prior to the initial certification. After review of the pre-assessment, the applicants for certification authorized the formal, full assessment of the fishery. Since that time, the Western Australia rock lobster fishery was

certified (March 2000) and completed annual audits through November 2005. This report constitutes a re-assessment of the fishery as required by the MSC once the original certificate has completed the 5-year term of the original certificate. Due to delays in the re-assessment process from extracting all the necessary data, and getting results from ongoing projects associated with completing existing conditions from past MSC surveillance audits, SCS applied to the MSC for a variance in the certification methodology to allow the re-assessment process to carry through beyond the 5-year term of the original certificate. As part of that application process, SCS also requested an extension of the original certificate through 31 May 2006. The MSC granted the variance and the extension of the original certificate due to extenuating circumstances. SCS also applied for a further extension to October 2006 based on peer reviewers being unable to provide comments based on the pre-established timeframe. This extension was also granted.

All aspects of the assessment process for this re-assessment were carried out under the auspices of Scientific Certification Systems, Inc., an accredited MSC certification body, and in direct accordance with MSC requirements (MSC Fisheries Certification Methodology Version 5), except where the MSC approved a variance in its methodological requirements.

In order to ensure a thorough and robust assessment process, and a process in which all interested stakeholders could participate, SCS took the approach of allowing additional time as needed for both industry and stakeholders to respond to requests for information and participation.

To be thorough and transparent, SCS provided opportunities for input at all stages of the assessment process, whether required or not by MSC procedures. The general steps followed were:

- Team Selection

SCS contacted the client, stakeholders in the environmental community, and the Department of Fisheries to solicit input on retaining the same assessment team members as participated in the original assessment. Comments were all positive with the exception of the Department of Fisheries. A letter was submitted to SCS that described concerns about conflicts of interest for both Dr. Bruce Phillips and Dr. Trevor Ward. SCS reviewed all pertinent materials submitted by the Department of Fisheries and additional materials solicited from Drs. Phillips and Ward. SCS concluded that the activities identified by the Department of Fisheries were acceptable to SCS and did not constitute a significant impediment to Drs. Phillips and Ward completing a thorough, independent, and objective review of the fishery. As a result, SCS retained the services of all three of the original assessment team members for the purposes of this re-assessment.

- Setting Performance Indicators and Scoring Guideposts

As required by the MSC assessment process, the assessment team drafted a set of performance indicators and scoring guideposts to correspond to the MSC Principles

and Criteria. These were posted for more than the required comment period to allow stakeholders to provide comments.

- Input on fishery performance

Once performance indicators were finalized, SCS requested that the applicants 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 management system's functions and performance. The client provided most of the information needed prior to the actual interviewing process. However, a number of documents and/or data were provided on an ongoing basis as the assessment team, the managers, or the applicants found them to be relevant. After the initial scoring of the fishery, additional information was requested to clarify points that the assessment team still found to be unclear.

- Meetings with industry, managers, and stakeholders

SCS planned for and conducted meetings with stakeholders, industry, fishery managers, and fishery scientists as required.

- Scoring fishery

The assessment team scored the fishery using the required MSC methodology and without input from the client group or stakeholders. A select set of indicators were reviewed a second time, due to the acquisition of additional information by the assessment team. All team members participated in and agreed upon the outcome of the additional review.

- Drafting report

The assessment team in collaboration with the SCS lead assessor, Chet Chaffee, drafted the report in accordance with MSC required process.

- Selection of peer reviewers

SCS, as required, released an announcement of potential peer reviewers soliciting comment from stakeholders on the merit of the selected reviewers. No comments were received other than from the client.

- Peer Review and Public Comment on Draft Reports

As required, SCS will have this report peer reviewed and posted for public comment for the appropriate amount of time.

## **5.1 Evaluation team**

Project Manager:	Dr. Chet Chaffee, SCS (USA)
Assessor MSC Principle 1:	Dr. Tony Smith (CSIRO)
Assessor MSC Principle 2:	Dr. Trevor Ward (University of Western Australia)
Assessor MSC Principle 3:	Dr. Bruce Phillips (Curtin University of Technology)

## **5.2 Other Fisheries in the area and summary of previous certification evaluations**

There are some specific fisheries that operate wholly or partially within the boundaries of the West Coast Rock Lobster Fishery. These include:

- The Shark Bay Prawn Managed Fishery
- The Abalone Managed Fishery
- The Shark Bay Scallop Managed Fishery
- The Abrolhos Island Scallop Fishery
- Abrolhos Island and Mid West Trawl Managed Fishery
- South West Trawl Managed Fishery
- Shark bay Beach Seine and Mesh Net Managed Fishery
- Exmouth Gulf Beach Seine Fishery
- Western Australian Salmon Managed Fishery
- Australian Herring Fishery
- West Coast Purse Seine Managed Fishery
- Mid West Purse Seine Managed Fishery
- Sharp bay Snapper Managed Fishery
- West Coast Gillnet and Demersal Longline Interim Managed Fishery

A previous assessment under the MSC program was conducted on the Western Australia rock lobster fishery in 1999 – 2000. The assessment was conducted by Scientific Certification Systems, Inc. under contract to the Western Australian Fishing Industry Council. Under the initial assessment, the Western Australia rock lobster fishery was certified with a number of conditions. In general, the conditions assigned to the fishery during the initial assessment were addressed by the client. However, SCS found during a number of surveillance audits of the fishery that in a number of instances, the work completed to address the conditions was still lacking the robustness thought necessary by the assessment team. The need for additional effort in part was a result of conditions that required more time than originally anticipated. In other instances, it was the result of a learning process. The requirements put upon the fishery after the initial assessment were the first within the MSC system and embodied leading edge ideas about ecosystem management that required a learning process to deliver. Contracts now in place and required to be completed as part of the original assessment and this re-assessment



will provide the robust ecosystem review necessary to improve the management of the fishery in terms of providing comprehensive management of potential and actual ecosystem impacts. The timeline for completing the ongoing work on both stock assessment reviews and ecological risk assessments is slated to be completed before the end of 2007. Satisfactorily completing these ongoing conditions (from previous surveillance audit reports) is also part of several conditions that are associated with this assessment. The continued certification of this fishery relies significantly on these projects being done in a timely manner and to a level of detail satisfactory to the certification body (SCS).

## **6.0 THE MSC EVALUATION PROCESS**

The Marine Stewardship Council standards for sustainable fisheries management were developed through an 18-month process (May, Leadbitter, Sutton, and Weber, 2003). An original draft was developed by an expert working group, which met in Bagshot, UK in 1996. The draft standard was then presented through a series of 8 workshops that lasted 3 days each. Comments from each of the workshops, and from written submissions to the MSC were compiled and made available to a second expert working group at Airlie House in Virginia, USA.

The final MSC standard (see below) was issued in 1998, and has since been used as the basis by which fisheries are evaluated under the MSC program. The Western Australia rock lobster fishery was evaluated using this same standard.

The scope of the MSC Principles and Criteria relates to marine fisheries activities up to but not beyond the point at which the fish are landed. The MSC Principles and Criteria apply at this stage only to marine fishes, fresh water fishes, and invertebrates (including, but not limited to shellfish, crustaceans and cephalopods). Aquaculture and the harvest of other species are not currently included. Issues involving allocation of quotas and access to marine resources are considered to be beyond the scope of these Principles and Criteria.

### **6.1 MSC Principles and Criteria**

#### **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.

##### **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.

## 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.

### 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.

## 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.

### 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:

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. setting 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. identifying appropriate fishing methods that minimize adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas;
  - c. providing for the recovery and rebuilding of depleted fish populations to specified levels within specified time frames;
  - d. mechanisms in place to limit or close fisheries when designated catch limits are reached;
  - e. establishing no-take zones where appropriate;
11. contains appropriate procedures for effective compliance, monitoring, control, surveillance and enforcement which ensure that established limits to exploitation are not exceeded and specifies 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.

## 6.2 Interpretation of MSC Principles for Performance Evaluations

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. The MSC accredits certification bodies (businesses) 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](http://www.msc.org)). At present, the Fisheries Certification Methodology is in its 5<sup>th</sup> version, issued April 2004.

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.

Using its expertise in fisheries management, fisheries biology and ecology, ecosystem monitoring, and stock assessments, the assessment team developed a set of performance indicators (see Section 8) to be consistent with the intent and extent of the MSC Principles and Criteria.

The performance indicators and scoring guideposts adopted in this evaluation are based on the evaluation team's interpretation of the MSC Principles and Criteria, as applied to the particular case of western rock lobster. To develop the set of indicators and scoring guides

used in this re-assessment, it is useful to examine past sets of performance indicators and scoring guides and use these to determine what is necessary for the current assessment project. This fishery was assessed previously with an established set of performance indicators. However,, the development of performance indicators has evolved over the past 5 years of fishery assessments under the MSC initiative, with noticeable differences in the sets of performance indicators used today. The sets of indicators now in use in 2006 are much more explicit and detailed to allow for a more comprehensive and objective review process.

To develop a new assessment tree, the MSC has made it clear that each fishery should be judged according to its particular circumstances and requirements, in line with the principles and criteria. Keeping this in mind as well as the need to provide consistency between assessments, it was clear that a new set of performance indicators was needed to assess the WRL fishery than used in the previous full assessment in 1999/2000.

The performance indicators developed for MSC Principles 1 and 2 are structured such that all the Subcriteria and Performance Indicators are directly associated with a single MSC Criterion within a Principle. There is no duplication of Performance Indicators among MSC Criteria or MSC Principles.

The structure of the Subcriteria and Performance Indicators developed under MSC Principle 3 is somewhat different. Under MSC Principle 3, the assessment team for this project reviewed all previous assessment trees and came to the agreement that the structure proposed and used in the Bering Sea Pollock Fishery assessment was appropriate. The logic noted in the pollock assessment report was, “.....the Evaluation Team noted significant difficulty in developing a logical hierarchy of measures that remained unique to each MSC Criterion but also maintained a logical connection between indicators. Much of the difficulty stemmed from the fact that the 17 MSC Criteria under MSC Principle 3 vary in nature from general objectives to specific measures, but are not presented in a hierarchical framework from the very broad to the specific. Instead, the 17 MSC Criteria under MSC Principle 3 describe factors with significant redundancy. As a result, the Evaluation Team felt it would be better to construct a logical hierarchy that incorporates all the requirements spelled out by the 17 MSC Criteria and note the relationship of each Performance Indicator to the various MSC Criteria, as many of the Performance Indicators proposed can be linked to a more than one MSC Criterion.” The redundancy referred to in the pollock assessment report was not an indication that some criteria are not worthwhile or informative; only that there is what appears to be considerable overlap which could be reduced by restructuring the indicators.

Only one assessment, the Baja California spiny lobster fishery, provided a recent set of indicators and scoring guides that the assessment team felt represented a similar type of fishery and therefore was most suitable in informing the drafting of the set used in this re-assessment. The performance indicators and scoring guideposts used to judge this fishery are meant to be similar to, but not necessarily identical to, those used to assess the Baja California fishery as the two lobster fisheries are still different in size, economic value, and in fishing effort and catch.

It is also worth noting that the standards for MSC certification may not correspond exactly to the standards required by the fishery management plan or by the regional or national legislation under which it operates. Therefore, if the assessment points out areas where the fishery management does not exactly meet the MSC standards, it is not automatically suggestive of poor management, but a reflection of how well the fishery management system may comply with the standards for well-managed and sustainable fisheries set by the Marine Stewardship Council.

Also, it is important to remember when reading the scoring guideposts under each performance indicator that the scoring criteria established are regarded as cumulative. Thus, the fishery must first satisfy the criteria specified for a score of 60, before being assessed against those scoring guideposts required to score at the 80 level. In turn, those required for the 80 level must be attained before attempting to assess the fishery against those criteria specified to score 100.

Last, it is important to keep in mind that a specific methodology is required by the MSC to take the scores assigned to each indicator and determine the cumulative score under each MSC Principle. The methodological process required is called AHP or Analytical Hierarchy Process. This process required the assessment team to both prioritize and weight (on the basis of priority) each indicator. The weights are then used as multipliers to adjust the scores based on their predetermined level of importance within the hierarchy. Scores are then summed under each MSC Principle to get a weighted average score (see Using the AHP and Expert Choice to Support the MSC Fisheries Certification Process on the MSC website – [www.msc.org](http://www.msc.org)).

### **6.3 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 by the assessment team. 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.

In the Western Australia rock lobster fishery the applicant (WAFIC) provided a submission that reviewed the information available for the fishery. The information was compiled in a format that outlined the data relevant to each performance indicator, including the client's

view as to how the fishery compared to the standard. In addition, the client provided a bibliography and copies of all papers cited in its submission to SCS. The client also arranged for the assessment team to meet with the appropriate scientists, managers, and enforcement officials at the organizations responsible for the science and management of the fishery.

In contrast to the applicant's role in MSC assessments, the stakeholders in the fishery are under no specific obligation, other than personal preference, to provide the assessment team with information. Therefore, a significant effort was made to contact and solicit comments from stakeholders to ensure the assessment team understood their concerns.

## **7 ASSESSMENT TEAM MEETINGS AND INTERVIEWS**

### **7.1 Justification for selection of items/persons inspected.**

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. In addition, professional fisher's associations and industry associations were identified and contacted.

### **7.2 Fishing industry and fishery management meetings**

The assessment team met with the client on more than one occasion to discuss aspects of the fishery and gather additional information. A number of meetings/phone calls were simply held to organize additional meetings and to clarify issues relating to data submissions to the evaluation team. Table 1 provides a general list of the people and organizations met during the assessment process.

During this fishery assessment, numerous attempts were made to gather direct information and/or opinions from a variety of stakeholders, some known to directly participate in various aspects of the management of the Western Australia rock lobster fishery. Submissions were provided by Nic Dunlop (representing a coalition of environmental organizations), Lorraine Hitch and Paul Gamblin on behalf of WWF, and Mr. David Offord. In addition, the assessment team in full met with a number of persons representing environmental organizations in Perth, and initiated conference calls individually with Mr. Offord and with WWF.

Table 1 Organizations and People Interviewed as part of the WRL Fishery Assessment Process

Full Assessment	▪ <b>Management</b>	<b>WA Department of Fisheries (meetings in Perth in March 2005)</b>  <b>Tim Bray</b>
	▪ <b>Ecosystem</b>	
	▪ <b>Stock Assessment</b>	

**and Stock Status**      **Rhys Brown**  
**Jim Penn**  
**Nick Caputi**  
**Rick Fletcher**  
**Roy Melville-Smith**  
**Peter Rogers**

**WAFIC (meetings in Perth March 2005,  
November 2005, January 2006)**

**Max Ball**  
**Guy Leyland**  
**Graham Short**

**Stakeholders**      **WA Conservation Council (meetings in Perth  
March 2005)**  
**WA Wilderness Society**  
**WWF**  
**Mr. David Offord**  
**Rock Lobster Council**

## **8      ASSESSMENT TEAM 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, the process for assessing the fishery is performed by prioritizing and weighting the indicators relative to one another at each level of the performance hierarchy established when the assessment team developed the set of performance indicators and scoring guideposts for the fishery. Subsequent to this, the assessment team assigns numerical scores between 0 and 100 to each of the performance indicators. All of this is accomplished using decision support software known as Expert Choice, which utilizes a technique known as AHP (Analytical



Hierarchy Process). A full description of the AHP process can be found on the MSC web site ([www.msc.org](http://www.msc.org)). In essence, 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 indicator 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.

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.

## MSC Principle 1

### 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 (MSC Criterion 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.**

The intent of this Criterion under the MSC assessment system is to ensure that a fishery is managed and fished in ways that allow as much extraction as possible while maintaining healthy populations of the target and non-target species in the area of the fishery. In addition, it is aimed at evaluating whether the management also takes into consideration the ecological impacts that could occur as a result of fishing.

This issue was formerly assessed in 1999-2000 by the SCS assessment team during the initial certification process for the WRL fishery. In addition, SCS has reviewed this issue in depth during surveillance audits from 2001-2005. As part of the surveillance audits, SCS found a number of issues of concern with the most recent assessment in the fishery related to productivity of the target stock. The issues of sufficient concern to cause the need for "conditions" to be invoked were identified and reported in 2005 (see Chaffee, C. et al. 2004 and Chaffee, C. et al. 2005). The "conditions" relevant to getting a better understanding of the current assessments on target stock productivity are being addressed by a formal review of the Department of Fisheries assessment methods and results. The review is being conducted by Dr. Norm Hall (Murdoch University). The Terms of Reference (TOR) for the review are:

1. Review the data descriptions and data sets that were available to the Department of Fisheries (the Department) when it conducted its 2004 and 2005 western rock lobster stock assessments.
2. Review the different time series of data and model outputs and assess the implications of the weights given to alternative data sets during the 2004 and 2005 stock assessments.
3. Review the technical description of the modeling and statistical analyses that were undertaken to produce the 2004 and 2005 stock assessment results that were presented to the Rock Lobster Industry Advisory Committee (RLIAC) and other stakeholders.
4. Review the 2004 and 2005 stock assessments and the conclusions on stock status that were drawn from the results of the assessments.
5. Review the written advice provided to the RLIAC and to stakeholders in which the results, conclusions, and implications of the 2004 and 2005 stock assessments for the Western Australia rock lobster fishery were reported.
6. Discuss with Department of Fisheries' staff, the data, assessments and the various issues raised by Scientific Certifications Systems (SCS) in its 2005 Final Surveillance Report (December 2006).

7. Report on the general "robustness" of the advice that has been provided to stakeholders on the status of the resource and the need for the specified management responses.
8. Recommend any improvements to the stock assessment process for the Western Australia rock lobster fishery that could provide future stock assessment with additional reliability and robustness.

The work will be peer reviewed by a recognized expert that meets the approval of the certification body and then subsequently reviewed by members of the assessment team or SCS. SCS as the certification body of record reserves the right to disagree with the peer review and the conclusions if there is evidence that the review did not consider all concerns of the SCS assessment team.

This work in many ways addresses many of the deficiencies identified under Principle 1 in this re-assessment process. As a result, many of the Conditions identified in this section of the report are directly linked to the ongoing work by Dr. Hall if SCS found that the issues were the same. If issues are different, new and separate Conditions are identified.

**1.1.1                      There should be sufficient information on the target species and stock to allow the effects of the fishery on the stock to be evaluated.**

**1.1.1.1                      The identification and reporting of target species is well documented.**

Scoring Guidepost 60

There is only a moderate degree of confidence in proper identification and reporting of the target species.

Scoring Guidepost 80

There is a high degree of confidence in proper identification and reporting of the target species.

Scoring Guidepost 100

There is a very high degree of confidence in proper identification and reporting of the target species.

**Score 100**

The species is clearly differentiated from other rock lobsters in the region. Genetic studies suggest a single panmictic population across the area of the fishery. Reporting arrangements are comprehensive. This indicator meets the 100 scoring guideline.

**1.1.1.2                      The life history of the species (including age at maturity, natural mortality, growth, and fecundity) is understood.**

Scoring Guidepost 60

There are serious gaps in information but the basis of the life history is understood adequately to support a rudimentary evaluation of the fishery.

#### Scoring Guidepost 80

The life history of the species is clearly documented and understood well enough to support a high degree of confidence in the evaluation of the fishery.

#### Scoring Guidepost 100

All aspects of the life history of the species are clearly documented and understood so as to support a very high degree of confidence in the evaluation of the fishery.

### **Score 90**

Most aspects of the life history of the species are clearly documented and understood (Gray, 1992). The basic biology of the WRL was established early in the history of the fishery, and all basic life history parameters (fecundity, growth, natural mortality) have been studied and are well understood (Phillips & Brown, 1989). Tagging studies, as well as information on spatial and temporal patterns of catches, have established the seasonal and life history stage movement patterns of the WRL (Caputi et al., 2003). These studies support a high to very high degree of confidence in the evaluation of the fishery.

#### **1.1.1.3 The geographical range of the target stock is known.**

#### Scoring Guidepost 60

An estimate of the geographical range of the target stock is available.

#### Scoring Guidepost 80

A reliable estimate of the geographic range of the target stock is available including seasonal patterns of movement/availability.

#### Scoring Guidepost 100

The complete geographic range of the stock, including seasonal patterns of movement/availability, is reliably estimated.

### **Score 95**

The complete geographic range of the stock, including seasonal patterns of movement/availability, is estimated. The fishery targets a single well-identified species, which has a well defined range and is not found elsewhere. The spatial origins of egg production are being studied along with studies to better understand larval mixing and recruitment under various oceanographic circumstances (e.g. Caputi et al. 2001, Griffin et al 2001, Caputi et al. 2003). Commercial WRL fishers have provided a comprehensive record of catch and fishing effort by one degree blocks via compulsory monthly returns (100% of the fleet) since 1945 and via voluntary daily log books (between 30 and 38% of the fleet) since 1965, which provide detailed information on catch and fishing effort by location (10 minute transects by depth), breeding state, by-catch, undersize returned, environmental conditions, gear and bait

type used, etc. Overall the fishery nearly meets the 100 scoring guideline for this indicator. When studies on the spatial origin of egg production and studies on recruitment and larval mixing are completed, the fishery may well deserve a full 100.

**1.1.1.4 Information on reproductive output, and on recruitment and its relationship to parental stock is understood.**

Scoring Guidepost 60

There are enough years of information available on indices of recruitment and parental spawning stock abundance to support a rudimentary evaluation of the fishery.

Scoring Guidepost 80

Estimates of fecundity at size, growth rates, sexual maturity at size, and relationship of recruits to spawners are understood well enough to support a high degree of confidence in the evaluation of the fishery.

Scoring Guidepost 100

There is comprehensive and reliable information on the fecundity at size, sex ratio, sexual maturity at size, and factors affecting recruitment, and these are monitored over time to detect trends and shifts and to support a very high degree of confidence in the evaluation of the fishery.

**Score 95**

There is comprehensive and reliable information on the fecundity at size, sex ratio, sexual maturity at size, and factors affecting recruitment, and these are monitored over time to detect trends and shifts (e.g. Morgan, 1977). There is long history of quality investigations into larval settlement and recruitment, and their relationship to spawning stock, environmental factors, and subsequent recruitment to the fishery and catches, summarized in a series of publications (Morgan et al. 1982, Caputi and Brown, 1989 and 1993, Caputi et al. 2003). There is a continuous time series of data on larval settlement since the late 1960s. In recognition of concerns about using fishery dependent catch rates as an index of stock abundance, a fishery independent survey of spawning stock levels was established and has operated since 1992. (Hall & Chubb, 2001 ). The stock recruitment-environment relationship is well understood. (Pearce & Phillips, 1994; Caputi et al., 2001). Overall, this information provides high to very high support for evaluation of the fishery.

**1.1.1.5 Information is collected on the abundance/density of the stock.**

60 Scoring Guidepost

- Either fishery dependent or fishery independent indices are available on the abundance of the stock biomass for a number of years.
- Qualitative information exists on the appropriateness of the indices as proportional indicators of stock size and to support a rudimentary evaluation of the fishery.

80 Scoring Guidepost

- Fishery dependent and/or fishery independent indices are available on the abundance of the stock for a number of years.
- Uncertainties in data and indices have been analyzed and accounted for.
- The indices are understood well enough to support a high degree of confidence in the evaluation of the fishery.

#### 100 Scoring Guidepost

- Fishery independent indices are available on the abundance and density of the stock over sufficient years to assess longer term trends.
- Indices are consistent and there is clear evidence that they are proportional to the stock size and of sufficient precision to support a very high degree of confidence in the evaluation of the fishery.
- Uncertainties have been fully analyzed.

### **Score 75**

The fishery has done a good job of collecting abundance data over time – both fishery dependent and fishery independent. Fishery dependent indices of abundance stretch back to 1971, while fishery independent data collection was initiated in 1992. Moreover there is also a fishery independent time series of puerulus settlement over a long period of time, supporting information on recruitment. The various abundance time series are presented annually e.g. in Caputi et al. (2004). More recently, additional derived indices of abundance have also become available (Wright et al., in press). Statistical uncertainty in most of these indices has been derived, though not often presented in published documents. The main problem with these data currently lies in inconsistencies in trends between different time series (for an explanation of the inconsistencies see Chaffee, C. et al., 2004. 2004 MSC Annual Surveillance Western Australia Rock Lobster Fishery, Surveillance Report No. 6). These inconsistencies, and the inability of the models currently in use to fit these data, raise serious questions about the relationship between the indices and abundance of the stock. Thus despite the large effort going into collecting data to support indices of abundance, these data are not currently understood well enough to support a high degree of confidence in the evaluation of the fishery.

#### Condition

Resolve identified inconsistencies between time series of data and the various methods employed to assess the status of the stock (for details of suggested approach, see Corrective action for indicator 1.1.5.1). A review by Dr. Norm Hall (Murdoch University) is already underway as a result of a previous condition placed on this fishery during a past surveillance audit.(as described under Principle 1, Criterion 1 above). Under this Condition, WAFIC is obliged to complete a technical review of the modelling efforts to understand stock status and to address any identified inconsistencies through more thorough analyses or through the implementation of management measures or industry practice. The condition in this report requires an Action Plan that specifically places the contract with Dr. Norm Hall in the public domain for all stakeholders to be able to read, that specifically states how the results will be published that allows stakeholders to be alerted to the findings, that specifically indicates the

time frame and mechanism the client (WAFIC) will use to discuss the outcomes of Dr. Hall's review and the response to the outcomes, and that specifically states exactly when the entire process will be completed. Although SCS is not in a position to dictate time frames for each specific factor, SCS does require that all of the steps required under this condition be completed prior to the first annual surveillance audit and that any management or industry actions required as a result of Dr. Hall's review be implemented prior to the second annual surveillance audit.

**1.1.1.6 The size structure of catches is measured.**

60 Scoring Guidepost

Data on the size structure of catches are known well enough to support a rudimentary evaluation of the fishery.

80 Scoring Guidepost

Data on the size structure of catches in the main fishery are of adequate accuracy and measured for enough years to support a high degree of confidence in the evaluation of the fishery.

100 Scoring Guidepost

There is comprehensive and reliable data on the size structure of all significant catches (including recreational catches) to support a very high degree of confidence in the evaluation of the fishery.

**Score 90**

The size structure of the catch is monitored in several ways. Monitoring of size composition of commercial catches has occurred since 1971. Monthly processor returns provide data on whole landed weights and grade categories. Although recreational catches (that represent 5-8% of total catch) are not monitored for size, the location and depth distribution of these catches are well known and size composition can be inferred from commercial catches in the same depths and areas. Overall these data support high to very high support for evaluation of the fishery.

**1.1.2 There should be sufficient information on the fishery to allow its effects on the target stock to be evaluated**

**1.1.2.1 Fishery related mortality is recorded/ estimated (including landings, discards and incidental mortality).**

60 Scoring Guidepost

Sufficient information is available to allow accurate estimates to be made of landings broken down as required for a rudimentary evaluation of the fishery.

80 Scoring Guidepost

Landings from commercial and recreational fishing are accurately estimated and monitored by area/zone to support a high degree of confidence in the evaluation of the fishery.

#### 100 Scoring Guidepost

- Landings from commercial and recreational fishing are accurately estimated and monitored by area/zone to support a very high degree of confidence in the evaluation of the fishery.
- Mortality caused by returning undersized fish to the water is well understood and accounted for.

#### **Score 95**

Landings from commercial and recreational fishing are accurately estimated and monitored by area/zone. Commercial WRL fishers have provided a comprehensive record of catch and fishing effort (catch rates/abundance) by one degree blocks via compulsory monthly returns (100% of the fleet) since 1945 and via voluntary daily log books (30 to 38% of the fleet) since 1965, which provide detailed information on catch and fishing effort (catch rates/abundance) by location (10 minute latitude transects by depth and distance offshore), breeding state, by-catch, undersize returned, environmental conditions, gear and bait types used. Fishers from all areas participate in the logbook program, and while they are not randomly chosen, they do provide a relative indicator of catch distribution and catch rates. There is an annual postal survey that is used to estimate the total annual recreational catch. Estimates of the recreational catch and effort are also predicted 3 years in advance of the season based on puerulus settlement. An improved method for estimating recreational catch has been undertaken in recent years based on a phone/diary approach to obtain detailed catch and effort records. (Melville-Smith et al. 2001 and in press). Mortality caused by returning undersized WRL to the water has been well researched, understood and accounted for (Brown and Caputi, 1986). There have been improvements to escape gaps based on research conducted on traps in a number of fisheries as well as in Western Australia, and also improvements in reducing the time allowed to keep undersize and mature females before returning them to sea to reduce mortality of the protected part of the stock (see the Industry Code of Practice for the proper handling of rock lobsters on board fishing vessels). This information provides very high support for evaluation of the fishery, with the only concern being the non-random nature of the logbook program.

Comments received from stakeholders during the public comment phase of this assessment note that there is some concern about the accuracy of data collected on recreational catch. While the assessment team believes the data collection methods and analysis provide a reasonably accurate estimate of recreational catch, it is a useful recommendation to the fishery to examine the methods more closely and provide a regular report on the validity of the data.

**1.1.2.2 Fishing effort is recorded, estimated, and standardized to effective fishing effort.**

#### 60 Scoring Guidepost



Nominal effort data are available which can be used to estimate effective fishing effort well enough to support a rudimentary evaluation of the fishery.

#### 80 Scoring Guidepost

Accurate estimates of effective fishing effort have been made and support a high degree of confidence in the evaluation of the fishery.

#### 100 Scoring Guidepost

Comprehensive records are kept of fishing effort, recorded at sub-annual intervals at an appropriate degree of spatial resolution and have been standardized to effective fishing effort and support a very high degree of confidence in the evaluation of the fishery.

### **Score 75**

There is a comprehensive program to collect and analyze data on catch and effort for the commercial fishery. This relies on a compulsory reporting requirement for all fishers, augmented by a voluntary research logbook program with a significant level of industry participation. Estimates of effective fishing effort have been made for the WRL fishery (e.g. Morgan, 1977, Brown et al. 1994) and changes in fishing power (effective versus nominal effort) have received detailed attention (Fernandez et al., 1998). Population depletion methods are also used to estimate the exploitation rate in the fishery and these are used in assessing the status of the WRL stocks (e.g. see Caputi et al., 2004 and Wright et al., in press). It is therefore the case that considerable effort has been expended on data collection and analysis with regard to effective fishing effort. However the work of Wright et al. in particular raises some serious doubts about just how well effective effort and changes in catchability are understood. Based on that work, there now appear to be unexplained cycles and trends in catchability that are not consistent with other data in the fishery (or at least have not yet been reconciled with those data). Thus, despite the quantity of data and studies available, this indicator does not appear to meet the 80 scoring guideline of supporting a high degree of confidence in the evaluation of the fishery.

#### Condition

The first part of this condition is the same as for 1.1.1.5 in that the review by Dr. Norm Hall should address this issue.

In addition, the client is responsible for making sure that a specific analysis is undertaken that addresses the results in Wright et al. (in press). The analysis should specifically identify the fishing effort currently in the WRL fishery including apparent cycles and trends in catchability. The analysis should expressly reconcile all results with trends in other time series of data for the fishery, by fitting all time series simultaneously to models of the fishery, and specifically identify where any inconsistencies exist, why they exist, and a recommended course of action. This must be completed prior to the first annual surveillance audit.

#### **1.1.2.3**

**Fishing methods and gear types are known throughout the fishery.**

#### 60 Scoring Guidepost

Main fishing methods and gear types are known for the fishery well enough to support a rudimentary evaluation of the fishery.

#### 80 Scoring Guidepost

Main fishing methods and gear types are known and information is available on the geographical areas of use and support a high degree of confidence in evaluation of the fishery.

#### 100 Scoring Guidepost

- All fishing methods and gear types employed in the fishery are known.
- In-situ observations are made of fishing practices.
- The information and observations support a very high degree of confidence in the evaluation of the fishery.

### **Score 95**

The commercial fishery employs a standard pot design and the gear and bait used are recorded in the log book program. The form of pot used by recreational fishers is also regulated. Changes to escape size and other aspects of pot design have been recorded over time (since at least 1965). There has been considerable research effort on design and effectiveness of the fishing gear. *In situ* observations have been made of the operation of fishing gear. The information on fishing methods and gear types used from the voluntary log books and the commercial catch monitoring is used in the evaluation of the fishery. This information provides very high support for the evaluation of the fishery. A score of 95 was assigned by the assessment team. A score of 100 could be argued, but the assessment team felt that the observer information could be improved, as has been recommended in previous assessments.

#### **1.1.2.4 Changes in selectivity are known and accounted for.**

#### 60 Scoring Guidepost

Some information is available on selectivity and qualitative changes in selectivity, sufficient to support a rudimentary evaluation of the fishery.

#### 80 Scoring Guidepost

Changes in fishing practices and regulations, and hence selectivity, are well estimated and are sufficient to support a high degree of confidence in evaluation of the fishery.

#### 100 Scoring Guidepost

There is comprehensive information on changes in selectivity over time and space, sufficient to support a very high degree of confidence in the evaluation of the fishery.

### **Score 90**

This scoring indicator focuses on changes in selectivity of the gear, rather than broader changes in catchability. Selectivity itself has been well studied, with considerable research on

effectiveness of gear, and careful documentation of changes in gear over time. The effect of gear type, fishing practices and regulations and environmental factors (e.g. moon phase, water temperature, swell, etc) have been researched and are systematically collected and documented. The information is used to account for changes in selectivity when assessing the status of the stock or changing the management regime (e.g. Srisurichan, 2001 and Srisurichan et al., in press). Overall, this information provides high to very high support for evaluation of the fishery.

**1.1.2.5 Other fisheries in the area that are not subject to certification are identified and monitored.**

**60 Scoring Guidepost**

- There is some information relating to other fisheries in the area that are not subject to certification, sufficient to identify significant impacts on the target species.
- Where necessary, impacts by these fisheries are accounted for in the stock assessments well enough to support a rudimentary evaluation of the fishery.

**80 Scoring Guidepost**

- Any other fisheries impacting on the target species and not subject to certification are identified.
- Where significant mortalities of the target species from those fisheries occur, they are included in the stock assessments and support a high degree of confidence in the evaluation of the fishery.

**100 Scoring Guidepost**

All fisheries (and other sources of human-induced mortality) impacting on the target species in the area that are not subject to certification are identified, monitored, and included in the stock assessments and support a very high degree of confidence in the evaluation of the fishery.

**Score 95**

All fisheries (and other sources of human-induced mortality) impacting on the target species in the area that are not subject to certification are identified, monitored, and included in the stock assessments. There is only one other rock lobster fishery, the Windy Harbour /Augusta (WH/A) managed rock lobster fishery, that takes a small amount of WRL in the extreme south of the range of *P. cygnus*, i.e. south of 34 degrees 24 minutes south latitude (south of Cape Leeuwin). This fishery targets both WRL and southern rock lobster (*Jasus edwardsii*). WH/A is a limited entry fishery and since 1996, when the fishery went through a significant restructuring (boat and trap reduction), there are only two boats using 320 traps. The average catch for the ten years 1994/95 to 2003/04 was 16.3 tonnes. Puerulus settlement in this fishery is very low and extremely variable because the fishery is at the extreme south of *P. cygnus*' range. Therefore there is also great variability in catch from season to season. WH/A has virtually the same rules (minimum size, ban on taking spawning females, trap sizes, closed season, etc) as the WRL fishery. The WH/A fishery is assessed annually but is not

subject to MSC certification. In summary, this indicator comes close to achieving the 100 scoring guideline.

### **1.1.3                      Appropriate reference levels have been developed for stock abundance and/or fishing mortality rate.**

#### **1.1.3.1                      Limit and/or target reference points that are appropriate to the stock have been identified and applied.**

##### 60 Scoring Guidepost

- Limit and/or target points have been chosen and are justified by general agreement among fishery scientists and managers that they are appropriate to achieve long term sustainability for the target stock.

##### 80 Scoring Guidepost

- Limit and target points are justified based on stock biology or exploitation history, and they are measurable given data and assessment limitations.
- There is no significant scientific opposition about those points outside the management agency.

##### 100 Scoring Guidepost

- Limit and target points are justified based on stock biology, uncertainty, variability, data limitations and statistical simulations of these factors.
- There is no significant scientific opposition about those points outside the management agency.
- Limit and target points take account of ecological impacts and uncertainties associated with those impacts.

### **Score 80**

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. This reference point has been widely agreed and there is no significant opposition to it. 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. However the statistical robustness of these data is questionable as there are inconsistent trends between data series, so the fishery scores at the 80 level for this indicator.

#### **1.1.3.2                      Reference points meet acceptable international standards (such as those determined by FAO).**

##### 60 Scoring Guidepost

Reference points recognize appropriate international standards and are being developed to meet these.

### 80 Scoring Guidepost

Reference points recognize, and are in line with, acceptable international standards.

### 100 Scoring Guidepost

Reference points meet or exceed international standards.

## **Score 90**

The current biological reference point used in this fishery is the level of egg production in the late 1970's and early 1980s, estimated to be 25% of unfished level of egg production. This level was chosen to maintain the breeding stock at levels corresponding approximately to those in the late 1970s, when the exploitation rate was significantly lower than in recent years. Despite the stock having subsequently reached levels as low as 15% of unfished levels of egg production, there is no empirical evidence that this led to a decline in recruitment levels (larval settlement or subsequent fishery recruitment). Recruitment appears to be environmentally determined at the breeding stock levels seen in the fishery to date. The recruitment to the fishery has been maintained for almost two decades with egg production at or below this level, which suggests that the fishery should continue to be sustainable if this standard is maintained (Hall and Chubb 2001). Although the international standard for a biomass limit reference point is not fully agreed, the spawning biomass corresponding to 20% of unfished levels is often used and/or cited. The limit reference point for the WRL fishery (25%) is slightly higher than this level, and therefore slightly exceeds international standards.

### **1.1.4                      There is a well-defined and effective harvest strategy to manage the target stock.**

#### **1.1.4.1                      There is a mechanism in place to contain harvest as required for management of the stock.**

### 60 Scoring Guidepost

- Mechanisms exist to monitor and (if necessary) reduce harvest.
- Such mechanisms have not been tested, but nevertheless provide a moderate degree of confidence in the management of the stock.

### 80 Scoring Guidepost

- Mechanisms are in place to reduce harvest as and when required to maintain, or allow the target stock to return to, productive levels.
- These provide a high degree of confidence in the management of the stock.

### 100 Scoring Guidepost

- Mechanisms are in place to reduce harvest as and when required to maintain (or allow the target stock to return to) productive levels
- They provide a very high degree of confidence in the management of the stock.
- Measures to demonstrate effectiveness are in place.

## Score 90

The WRL fishery is managed using input controls. A variety of control measures are used, including pot limits, closed seasons, size controls, and limits on take of berried females. Monitoring programs are designed to measure egg production levels, with the aim of keeping these above 1980 levels (about 25% of unfished levels). By the early 1990s, exploitation rates had increased and egg production levels were as low as 15% of unfished levels (Walters et al., 1993, Hall and Chubb 2001). Effort levels were reduced in 1993 resulting in fairly rapid recovery of egg production levels. There is therefore empirical evidence to support the statement that mechanisms are in place to reduce harvest as and when required to maintain, or allow the target stock to return to, productive levels, and monitoring is being maintained to assess effectiveness of these measures. However there is currently some uncertainty about the robustness of some of the indices derived from the monitoring (given contradictory signals and inability of models to fit the data). This indicator has therefore been scored at between the 80 and 100 levels.

Comments received from stakeholders note concerns about keeping the stock above the Limit Reference Point (LRP), given the fact that the spawning stock dropped to around 15% in the early 1990s. However, today there are multiple assessment methods in place to examine the situation to avoid the same problem. Although the assessment team has called into question the validity of the methods due to a lack of comparison between assessment models, it still appears that the assessments show the fishery in total to be above the LRP. It is important to note that the other addition in recent years is the adoption of a harvest strategy that has multiple triggers for reducing effort to further slow and reverse any decreases in spawning stock abundance long before it reaches the LRP. Based on the scoring guideposts, these factors require a score above 80, but not all the way to 100. A score of 90 was assigned to reflect the partial compliance with the scoring guideposts at 100.

### 1.1.4.2                      There are clear, tested and agreed decision rules set out for effective management of the stock.

#### 60 Scoring Guidepost

- It can be demonstrated that decision making, though not documented or agreed, is logical and appropriate.
- Rules have not been tested, but there is a moderate degree of confidence in their effectiveness for management.

#### 80 Scoring Guidepost

- Clear decision making rules exist, are fully documented and formally agreed, but have not been fully tested.
- Decision rules are reconciled with reference points and with data and assessment limitations and there is a high degree of confidence in their effectiveness for management.

#### 100 Scoring Guidepost

- Clear, documented, and tested decision rules are fully implemented and have been fully reconciled with reference points and there is a very high degree of confidence in their effectiveness for management.
- Data and assessment limitations have been periodically evaluated.

## Score 80

A decision rule framework has recently been developed for the WRL fishery (Bray 2004), representing a positive step forward for the fishery. This framework includes the use of agreed biological reference points, and agreed management responses (in a general sense) to exceeding them. The decision rules have not as yet been formally tested using simulation approaches to check for their robustness (e.g. against data and assessment limitations). However they do embody reasonable features and make use of reasonable reference levels. The decision rule framework has been agreed by stakeholders and is currently being used to deal with a potential egg production problem in Zone B (northern part) of the fishery (Anon 2004, Bray 2004 and Anon 2005). On balance, therefore, this indicator appears to meet the 80 scoring guideline.

### 1.1.4.3 There are appropriate management tools specified to implement decisions for management of the stock.

#### 60 Scoring Guidepost

- Management tools exist to implement management decisions.
- Some evidence exists to show that these tools can be effective and there is a moderate degree of confidence in their effectiveness for management.

#### 80 Scoring Guidepost

- Management tools have been specified to implement management decisions.
- Evidence exists to show clearly that the tools support a high degree of confidence in their effective use for management.

#### 100 Scoring Guidepost

- Management tools have been specified to implement management decisions.
- Tools are responsive, relevant and timely. Performance of the tools has been evaluated and evidence exists to show clearly that tools achieve their objectives and support a very high degree of confidence in the effectiveness for management.

## Score 85

As noted for indicator 1.1.4.1, the fishery is management by input controls, and a wide variety of management tools are used, and have been used in the past. These tools are used to manage exploitation rates in the fishery, with the aim now being to maintain the stock above 1980 levels. Evidence exists to show that application of these tools does work. For example the stocks were assessed to be well below reference levels in the early 1990s (Walters et al. 1993) and a package of management measures was introduced in 1994 including, an 18% reduction



in trap numbers, an increase the minimum size from 76 to 77 mm carapace during the whites migration (December-January), a maximum size to protect large spawning females and other measures, which resulted in relatively rapid recovery of stock levels (Hall and Chubb 2001). Although this recovery strategy was successful, more recent analyses suggest that further restrictions are again needed (Caputi et al. 2004). This indicator therefore appears to somewhat exceed the 80 scoring level.

#### 1.1.4.4 Harvest strategies are precautionary

##### 60 Scoring Guidepost

- Harvest rates respond appropriately to low stock size
- Uncertainties about stock status are documented

##### 80 Scoring Guidepost

- Harvest rates are reduced at low stock sizes
- Decision rules are explicitly precautionary (are more conservative as uncertainty about resource status increases)

##### 100 Scoring Guidepost

- The harvest strategy includes formal rules to achieve rapid recovery if stocks approach or fall below limit reference points
- Harvest rates are an explicit and inverse function of levels of uncertainty about stock size

### **Score 75**

The currently agreed harvest strategy (Bray 2004) includes explicit measures to reduce exploitation rates as stocks approach or exceed a number of reference levels that are below the reference levels experienced currently. These measures were proposed to allow the managers to invoke restrictions in harvest if declines become apparent. The one thing the harvest strategy does not currently include are explicit measures to be more precautionary as uncertainty about stock status increases. This indicator does not therefore meet the 80 scoring guideline.

#### Condition

The first part of this condition is the same as 1.1.1.5. require

In addition, the harvest strategy framework now in place must be revised to incorporate findings from the review being completed by Dr. Hall. The harvest strategy must be revised to include explicit reference to measures of uncertainty about current stock status, how uncertainty will be measured on an ongoing basis (taking account of trends in the full range of indicators available to the assessment), and how management will take into consideration uncertainty in its ongoing harvest policy responses. The revised strategy should specifically address the basis for considering the harvest strategy as precautionary.



WAFIC is required to detail a work plan to meet this Condition in an Action Plan submitted to SCS for approval. The time frame for completing the action must be prior to the second annual surveillance audit under the current certification of this fishery.

### **1.1.5                      There is a robust assessment of stocks.**

#### **1.1.5.1                      Robust assessment methods are used to provide advice on stock status**

##### 60 Scoring Guidepost

A robust empirical approach to assessing stock status is adopted

##### 80 Scoring Guidepost

- Robust assessment models are used to assess stock status on an annual basis.
- Assessment models incorporate and integrate a variety of relevant information and data about the fishery

##### 100 Scoring Guidepost

- Assessment models are used and capture all major features appropriate to the biology of the species and the nature of the fishery and the nature of the management questions being asked.
- The assessment models incorporate and integrate all relevant information and data about the fishery. They use statistically robust methods of fitting to the data, and deal explicitly with both process and measurement error.

### **Score 70**

While there has been previous modeling of the stock undertaken in the WRL fishery (Walters et al. 1993; Hall and Chubb 2001), annual assessments of stock status consist of reports summarizing trends in a range of indicators, including breeding stock indices, catch, effort, catch rates, puerulus settlement rates, and most recently, trends in residual stock and catchability from depletion estimates (Anon, 2004 and 2005; Caputi et al. 2004; Wright et al. in press). There has been no serious attempt to fit stock assessment models to these data since at least 2001 – there are certainly no reports available of such work having been undertaken. The Director of Research for the WA Department of Fisheries stated on a number of occasions during the previous MSC certification period for the fishery that the stocks are managed on an “empirical” basis, mainly on the basis of trends in spawning stock indices (both fishery dependent and fishery independent). He strongly resisted suggestions that it would be desirable or even useful to fit stock assessment models to the available fishery data, or that stock management should be based on such modeling. While trends in key indicators have been unambiguous and consistent across indices, this purely empirical approach has perhaps been defensible. However a number of problems have now clearly emerged with the approach. These problems were reported in detail in a document sent to WAFIC in March 2005 (for an explanation of the inconsistencies see Chaffee, C. et al., 2004. MSC Annual Surveillance Western Australia Rock Lobster Fishery, Surveillance Report No. 6; and Chaffee, C. et al. 2005. Western Australia Rock Lobster Fishery, 2005 MSC Annual Surveillance Report. Review of Corrective Actions from July 2005), and are not repeated in

detail here. In brief, the problems include apparent inconsistencies between fishery dependent and fishery independent indices of spawning stock abundance, inconsistent use of these indicators in reports to the fishery, apparent inconsistencies with other time series (such as abundance indices from depletion estimates), and inability of the Hall and Chubb model to fit recent trends in the data. (Although assessment models are not used in the fishery, a previous request by the MSC review team to show how the Hall and Chubb model fitted recent data did result in provision of two Excel spread sheets. These confirmed failure of the model to fit the data). Although WAFIC provided a response to the issues and concerns raised in March 2005, this response did not fully address the problems raised. This indicator clearly does not meet the 80 scoring guideline.

### Condition

The first part of this condition is the same as 1.1.1.5.

The second part of this condition is to complete a new and fully quantitative assessment of the WRL stocks using appropriate models and fitting to all relevant time series data is needed, being guided by the results of the review by Dr. Norm Hall..

A fully quantitative stock assessment, complete with a public report detailing all methods, assumptions, and results, must be completed prior to the second annual surveillance audit under the current certification.

**1.1.5.2                      The assessment takes sufficient account of major uncertainties in data (including evaluation of assumptions) to provide a robust assessment of the stock.**

### 60 Scoring Guidepost

- Major uncertainties are identified.
- Some attempt has been made to evaluate these in the assessment.
- There is a moderate degree of confidence in the robustness of the assessment.

### 80 Scoring Guidepost

- The assessment takes into account major uncertainties in the data and functional relationships.
- The most important assumptions have been evaluated, the consequences are known.
- There is a high degree of confidence in the robustness of the model.

### 100 Scoring Guidepost

- The assessment addresses all significant uncertainties in the data and functional relationships and evaluates the assumptions in terms of scope, direction and bias relative to management-related quantities.
- There is a very high degree of confidence in the robustness of the model.

### **Score 65**

This indicator scores similar to indicator 1.1.5.1, and for the reasons outlined in that indicator. While some attempt has clearly been made to address statistical uncertainties in individual indicators, little or no attempt has been made to reconcile uncertainties between indicators. Since this indicator is specific to the examination of uncertainties, the score is slightly lower than 1.1.5.1. The score of 65 reflects the fact that major uncertainties are at least given some examination.

#### Condition

The Condition is the same as for indicator 1.1.5.1.

#### **1.1.5.3                      Uncertainties and assumptions are reflected in management advice.**

##### 60 Scoring Guidepost

- Major uncertainties are recognized and are reported in management advice, as well as possible implications of those uncertainties on the management advice.
- There is a moderate degree of confidence in the adequacy of uncertainties addressed in the management advice.

##### 80 Scoring Guidepost

- Major uncertainties and assumptions are addressed in the management advice and through the appropriate decision rules to address those limitations.
- There is a high degree of confidence in the adequacy of uncertainties addressed in the management advice.

##### 100 Scoring Guidepost

- All significant uncertainties and assumptions are addressed and reflected in the management advice, including appropriate decision rules.
- There is a very high degree of confidence in the adequacy of uncertainties addressed in the management advice.

#### **Score 65**

The general approach of the WA Department of Fisheries in providing advice to stakeholders is to stress certainty rather than to discuss uncertainty in assessments. As already noted, the approach to providing assessment advice is essentially an empirical and descriptive one, but this has become confounded recently due to inconsistencies across different data sets. Despite this, the Department continues to put forward advice on a “best assessment” basis, mainly relying on the strength of the monitoring and empirical indicators to support this approach. In responding to this indicator, WAFIC’s (and presumably the Department’s) assertion was that “There is a high degree of confidence in the adequacy of uncertainties addressed in the management advice. This is based on the use of high quality, robust empirical data (e.g. time series of spawning stock estimates – fishery dependent and independent) and where necessary sophisticated models that take into account the major uncertainties in the data and functional relationships (e.g. Hall and Chubb 2001)”. It has already been noted that indicators may not

be as robust as claimed and that the models do not account for all major uncertainties in the data (see 1.1.5.1), and where stock projections are given in support of management advice (e.g. Anon 2004, Figure 3), there is no indication of uncertainty in those projections (see also indicator 1.1.5.5). The advice given to stakeholders on alternative management arrangements to halt the decline in stock levels in the Northern Zone does not include any quantitative evaluation of uncertainties in advice (Anon 2005). However, this indicator is given a score of 65 (just above 60) based on there being at least a qualitative statement of uncertainty about the causes of the decline in stock status in the Northern Zone, e.g. “there is currently a resource sustainability problem in the northern zone and this has most likely been caused by a significant increase in the efficiency and effective effort of the fleet” (Anon 2005, page 6).

### Condition

All future advice by management to RLIAC, the Minister, and stakeholders, must include as a routine feature, “best estimates” of stock status and a forecast of effects of management arrangements. At the same time, the advice must also provide a clear indication of the major uncertainties in current assessments and projections. (see also Condition to indicator 1.1.4.4, 1.1.5.1 and 1.1.5.2).

The Action Plan submitted to SCS must include a description of how this requirement will be built into the formal processes of RLIAC and advice to the Minister, and the functions required must be implemented prior to the second annual surveillance audit.

**1.1.5.4                      The assessment evaluates current stock status relative to reference points.**

### 60 Scoring Guidepost

Stock status relative to reference points is assessed empirically

### 80 Scoring Guidepost

The assessment model evaluates stock status relative to the reference points.

### 100 Scoring Guidepost

The assessment provides a robust measure of the probability of exceeding reference points.

## **Score 85**

Stock status relative to reference points is shown for empirical spawning stock indices (Caputi et al. 2004). Where assessment models have been used, the probability of the stock exceeding reference points has been calculated (Hall and Chubb 2001). As noted, this assessment has not been updated for some time, as the Department of Fisheries was developing alternative methods of assessment and in the meanwhile has not made a comparison between the various methods that fully explains the differences in conclusions. This indicator therefore only scores slightly above the 80 scoring guideline for this fishery.

#### 1.1.5.5

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

##### 60 Scoring Guidepost

- The assessment forecasts the consequences of current harvest strategies for the stock.
- There is moderate confidence in the robustness of the advice.

##### 80 Scoring Guidepost

- The assessment includes a robust forecast of the consequences of current harvest strategies.
- There is a high degree of confidence in the adequacy of the harvest evaluation.

##### 100 Scoring Guidepost

- The assessment includes the consequences of current harvest strategies, forecasts future consequences of these and evaluates stock trajectories under decision rules.
- There is a very high degree of confidence in the adequacy of the harvest evaluation for a robust assessment.

### **Score 65**

Annual assessments have generally included catch forecasts (based on puerulus settlement rates) but less often stock level forecasts (because these would require an assessment model which has not been used for several years). These forecasts provide some indication of current and future harvest strategies. However concerns arose during 2004 about stock levels in the Northern Zone of the fishery, and information was provided to stakeholders concerning a range of possible management responses (Anon 2004). This information included stock projections under 3 levels of effort reduction (Figure 3 in Anon 2004). The basis for these stock projections is very inadequately described in the report (there is no technical reference and only mention of use of “recognized modeling techniques”). The model used for the projections appears to be an update of the Hall and Chubb model, but as already referred to in the discussion of indicator 1.1.5.1, this model clearly does not fit recent trends in the data. Figure 3 is misleading in that it brings together an empirical time series (the fishery dependent spawning stock index) with model projections, and with no indication of uncertainty. This is a very inadequate basis on which to formulate significant changes to management of the fishery. As a result, this indicator scores well below the 80 scoring guideline.

#### Condition

The first part of this condition is the same as that for 1.1.1.5, 1.1.5.1, 1.1.5.2, and 1.1.5.3.

The second part of this Condition is the requirement to expressly publish results that describe the probability of the stock remaining above agreed reference levels. Where a current assessment can not reconcile contradictory trends in different time series of data, the analysis and published reports must undertake and report on sensitivity tests to these uncertainties in assessing consequences of future harvest strategies.

The implementation of this mechanism by the management system must take place either prior to the second annual surveillance audit or before a second fishing season occurs under this re-certification.

#### **1.1.6 The stock is at or above appropriate reference levels.**

##### **1.1.6.1 The stock is at or above appropriate reference levels.**

###### 60 Scoring Guidepost

Assessments show the stock is likely above the limit reference point.

###### 80 Scoring Guidepost

Assessments show the stock is likely above the target reference point.

###### 100 Scoring Guidepost

Assessments show the stock is very likely above the target reference point most of the time in recent years.

#### **Score 95**

Spawning stock indicators for the entire spawning stock show that the stock is currently above the 1980 reference level (and has been for several years). This indicator scores slightly below the 100 level due to some of the uncertainties in the assessment of stock status discussed under other indicators (see Performance Indicators 1.1.1.5, 1.1.5.1, and 1.1.5.4). For example, zonal assessments indicate that the spawning stock in Zone B may be below the 1980 reference level, but it is not clear what the significance is to maintaining the entire spawning stock across the fishery.

#### **1.2 (MSC Criterion 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.**

##### **1.2.1 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.**

###### 60 Scoring Guidepost

Appropriate rebuilding measures through reduction in exploitation exist and are being implemented. Rebuilding measures other than reduction in exploitation are being considered. Measures are implemented even if they have not been tested. Fishing mortality is further reduced if the stock is below the limit reference point.

###### 80 Scoring Guidepost

Appropriate rebuilding measures are being implemented to promote recovery within reasonable time frames. Measures have been tested and can be shown to be rebuilding the stock. Target fishing mortality is nearly zero if the stock is below the limit reference point.

#### 100 Scoring Guidepost

Appropriate rebuilding measures are being implemented to promote recovery as quickly as is possible. Additional measures are being implemented to prevent problems in the future. Total fishing mortality is nearly zero if the stock is below the limit reference point.

Not assessed as criterion does not apply.

### **1.3 (MSC Criterion 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.**

#### **1.3.1. The size/sex/genetic structure of the stock is monitored to detect significant impairment of reproductive capacity.**

#### 60 Scoring Guidepost

- Population size/sex structure is based on some sampling and verification.
- Some information on stock spatial structure is available.

#### 80 Scoring Guidepost

- Population size/sex structure is based on adequate sampling and verification.
- The spatial structure of the stock is reasonably well understood.

#### 100 Scoring Guidepost

- Population size/sex structure is well estimated with only insignificant errors.
- Genetic studies of the stock in relation to spatial structure have been undertaken.

### **Score 90**

Population size/sex structure is well estimated via a comprehensive at sea catch monitoring program covering about 30% of the fleet. Some genetic studies of stock structure have been undertaken and suggest a single genetic stock. The long larval live in a well mixed oceanic system is assumed to be responsible for the lack of local, genetically distinct stocks, though different resource trends between the northern and southern zones suggest some spatial structuring. This indicator therefore scores between the 80 and 100 levels.

#### **1.3.2 Information from stock assessment indicates no fishery-induced changes in the size/sex/genetic structure that would have significantly impaired reproductive capacity.**

#### 60 Scoring Guidepost

Any fishery-induced trends in recruitment or spawning stock levels have not been shown to be due to changes in the size/sex/genetic composition of the stock.

#### 80 Scoring Guidepost

There are likely no downward fishery-induced trends in reproductive capacity on local stocks or genetically monitored stocks due to changes in the size/sex/genetic structure.

#### 100 Scoring Guidepost

There is a high degree of confidence that there are no downward fishery-induced trends in reproductive capacity on local stocks or genetically identified stocks due to changes in the size/sex/genetic structure.

#### **Score 80**

While the stock has fluctuated significantly over many years, there are no long term downward trends in abundance apparent and none that can be attributed to changes in the size/sex/genetic structure of the population. This indicator therefore scores at the 80 level.



## 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 (MSC Criterion 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.**

**2.1.1 There is adequate knowledge of the ecosystem relevant to the distribution, life history strategy and fishery for the target species.**

**2.1.1.1. The nature and distribution of habitats relevant to the fishing operations is known.**

### 60 Scoring Guidepost

- Some limited information on habitats exists in specific areas of the fishery,
- The distribution of fishing operations is broadly mapped.

### 80 Scoring Guidepost

- The nature and distribution of the most significant habitats where the fishery operates have been mapped using an agreed and known classification system.
- The detailed distribution of fishing operations in space and time is regularly monitored and reported in a format that does not risk proprietary and confidential information.

### 100 Scoring Guidepost

- The nature and the distribution of all habitats relevant to the fishing operations are known in detail, and mapped based on a known and agreed biophysical classification system as well as recent information.
- The nature and distribution of all fishing operations are known in fine-scale detail, and regularly reported in a format that does not risk proprietary and confidential information.

## **Score 70**

The detail of the habitats where the fishery operates is known for the Abrolhos region (Chubb et al. 2002, Webster et al. 2002), and there are various local-scale studies that have mapped habitats in some specific inshore areas where the fishery operates (e.g. Phillips et al. recent papers). However, the deeper waters, and much of the remaining inshore waters have not been mapped in any detail across the fishery. It has been assumed that the deep-water areas are probably not as topographically complex as the inshore areas, and some areas may be reasonably understood from analysis of existing information held by individual fishers derived from acoustic data captured on their fishing vessels. However, recent studies by the Australian Institute of Marine Sciences may suggest otherwise. Also, research projects (the FRDC project and the CSIRO/SRFME project) that include aspects of habitat mapping are

underway in selected areas, and these activities may be extended to the others areas in the fishery in due course (January 2005 FRDC progress report).

The details of fishing operations are recorded in 1-degree blocks through compulsory fisher returns, and some additional detail is recorded voluntarily by about 30-38% of the fishers in 10-minute blocks on a daily basis. Together with gear control, this provides sufficient detail to enable the impacts of the fishery to be determined at a broad scale, and is adequate to meet the MSC 80 standard for fisheries of this type.

The assessment team has also been given the impression through the interviewing process that the mapping research for deepwater habitats will continue, and current projects implemented to map habitats both within marine parks and in other inshore waters will continue to provide an increasing knowledge base on habitat distribution, particularly in B and C zones. The impression is based on the fact that the Ecosystem SRG established to advise RLIAC has incorporated this into its preliminary recommendations to RLIAC, and an FRDC (Fisheries Research and Development Corporation) grant is now supporting research in Jurian Bay on the effects of fishing.

#### Condition

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.

This condition must be met prior to the third annual surveillance of the fishery.

#### 2.1.1.2 Information on non-target species affected by the fishery, including incidental mortality, is known.

##### 60 Scoring Guidepost

The main non-target species in the fishery have been identified, and trends in abundance have been assessed.

##### 80 Scoring Guidepost

- The main non-target species affected by the fishery are known from past or current research, and information is available regarding their distribution, abundance and population status.
- The data on bycatch and incidental mortalities of non-target species are routinely collected, synthesized and assessed by fishery managers.
- Data and assessments about the effects of fishing on non-target species are made available for public review.

##### 100 Scoring Guidepost

- Detailed information is available on the main non-target species affected by the fishery, including their distribution, abundance, population status, ecology, and conservation status.
- The data on non-target species affected by the fishery are collected and analyzed in detail annually, including species, size, age, and sex composition where appropriate.

## Score 75<sup>1</sup>

The main non-target species that are, or could be retained as by-product from this fishery appear to be octopus (*Octopus tetricus*, and occasionally *O. ornatus*), deep-sea crabs (champagne (spiny) crabs *Hypothalassia acerba*, crystal crabs (*Chaceon sp.*), snow crabs, and king crabs), and a variety of commercially valuable finfish species. Other species (such as sea lions, sea horses, wrasses, manta rays, moray eels, and Port Jackson sharks) may also be taken as bycatch in pots, but these are not retained. Species known to occasionally suffer a direct interaction with fishery gear, although not taken in pots, include leatherback turtles, whales, and dolphins – these protected species are assessed in criterion 2.2.

Octopus are the main by-catch, and their population abundance is monitored as part of this fishery. Octopus are also the target of a separate fishery. Stocks appear to be in a healthy condition (WA Fisheries ESD report No. 4).

Deep sea crabs occur in deeper waters off the west coast. Occasional catches are made of champagne crabs - but they mostly occur outside the range that western rock lobsters are fished. By-catches of crystal crabs, which are more highly priced and are more vulnerable to overfishing, appear to be rare based on logbook data. This crab species only occurs deeper than around 400m, to about 1000m depth. Both crabs are now the target of a small managed fishery and controls are being developed to place a small catch limit on WRL boats. There has been a recent research project on the biology and fishery for these crabs (Smith et al., 2004, FRDC projects).

There is current concern about the exploitation status of the dusky whaler shark *Carcharinus obscurus* off Western Australia. Juveniles of these sharks are targeted by a managed gillnet and longline fishery, but the stock cannot withstand additional exploitation of adults. Adult sharks were formerly taken on hooks set on a short line attached to WRL traps but this practice has now been prohibited to protect the population of this shark.

Since 1990 there have been 23 entanglements of commercial lobster fishing gear with humpback whales in WA waters (WRLF Whale Code of Practice, 2005). Estimates of reporting rate of whale entanglement are as low as 3% (evidence presented to the 2005 ERA Experts workshop). However, this level of entanglement, even allowing for a low reporting rate, is considered unlikely to significantly reduce the recovery rate of humpback populations.

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<sup>1</sup> The score for this indicator has been changed from the final report posted on October 6, 2006. A mistake in the t3text was found during a review by WWF and reported to the CB and the MSC. This version of the report has corrected the error. A score of 75 has been assigned to the performance indicator based on the fact that the evidence provides for meeting the first bullet point and portions of the other two bullet points.

The evidence of sea lion drowning in pots in the fishery suggests that up to about 20 juveniles may be drowned each year in the fishery. The total pup production is estimated to be about 170 per breeding event (about each 17 months) in the Abrolhos and mid-west region of the fishery (2005 ERA Workbook). The natural mortality rate of seals between pup and sexual maturity (often 5 or more years) is high (70% in the New Zealand fur seal). In the Australian sea lion it is unclear how critical the impact is of the additional level of mortality imposed by the bycatch in this fishery, but clearly the bycatch of 20 to 30 pups per breeding event is likely to have a major impact on the island populations of this region. Here the availability of knowledge and information is assessed; the ecological impacts of this level of bycatch is assessed in Criterion 2.2 below.

The fishery has a persistent but low level of interaction with leatherback turtles. A small number of turtles are reported as becoming entangled in fishing gear, or struck by fishing vessels. Leatherback turtles are protected in WA, and are listed as Vulnerable under the Commonwealth EPBC Act. The consequences of this level of interaction are unclear, although are unlikely to be major.

Moray eels are abundant as bycatch, but they are not recorded and are usually returned to the water alive. The consequences of this are unknown, and the risks are considered to be low (2005 ERA Workbook).

Sea horses are protected under the Commonwealth EPBC Act. Sea horses will apparently attach to lobster pots and ropes, and could be killed when the gear is retrieved. The level of mortality imposed, and the population consequences are both unknown. However, the risk is considered to be low (2005 ERA Workbook).

Dusky whaler sharks are considered to be at risk from bait bands that may be occasionally discarded (with bait boxes) at sea by fishing vessels. The populations of this species are considered to be vulnerable to overfishing as a result of the commercial shark fishery, the illegal shark finning operations and the impacts of additional sources of mortality such as the bait bands (2005 ERA Workbook).

Most of this information is made available for stakeholder review and assessment through the ERA process.

This information on bycatch species provided above is adequate to permit assessment of the impacts of this fishery on such species. Based on the scoring guideposts at the performance level of 80, the fishery meets the requirements having knowledge of bycatch species, knowledge of the status of populations of the main bycatch species (octopus), and data is routinely collected on bycatch species and incidental mortalities through a logbook system that uses both random observers and volunteers throughout the fishery (30 to 38% of the fleet) since 1965. Additional data collection and analysis was designed into the logbook program as a result of the original MSC assessment in 2000 to get a better picture of potential bycatch and fishery interactions. The information that is now available indicates the fishery is doing a better job accounting for bycatch and interactions.

The assessment team recognizes that some stakeholders have significant misgivings about the quality and quantity of data on species that are either taken directly as bycatch or are impacted by interactions with the fishery in other ways. It is true that the level of data on sea lions is less than would be ideal; however, this is complicated by the difficulty in assessing these small populations and by the fact that there are organizational structures in place that place the accountability for sea lion conservation outside the normal fishery management domain.

However, we believe that the stakeholder concerns are accurate and therefore have re-evaluated the score for this indicator as a result. In reviewing the score, it appears the fishery's performance requires a score of less than 80. Specifically, the fishery appears to only partially meet the second and third bullet points under the 80 scoring guides, which would require a score of 75 to be assigned to this indicator. There is only some information on bycatch that is routinely reviewed, and there are few public reports made available on the status of species affected by the fishery.

### Condition<sup>2</sup>

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. Reports must begin to be published by the first annual surveillance of this fishery should it receive certification.

#### **2.1.1.3                      The trophic relationships of the target species within the food web are known.**

### 60 Scoring Guidepost

Key prey, predators and competitors with the target species are known, and research is being designed to study foodwebs in the region.

### 80 Scoring Guidepost

- The basic structure of the regional foodwebs has been determined.
- Information is available on the position and general importance of the target species in the environment at key life stages.

### 100 Scoring Guidepost

Quantitative information is available on the position and importance of the target species within the food web at key life stages, derived from empirical studies.

## **Score 85**

The key prey, predators and competitors of lobsters, and the basic structure of the regional food webs in inshore waters have been determined, based on research in shallow coastal waters conducted over about 40 years. Considerable early research on food and feeding

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<sup>2</sup> The Condition has been added to this version of the final report. A mistake was detected on the 6 October 2006 version by WWF and reported to the CB and the MSC. SCS has corrected the error by adding this Condition.

behavior of the lobster in shallow water was conducted by CSIRO. Further research in shallow water is continuing (under CSIRO/SRFME projects). However, the food web relationships in deeper waters are not well understood, and a research project is underway to assemble better information on lobster diet in these waters (FRDC/DoF project).

There is quantitative information on the position and importance of the target species within the food web for the younger life stages resident in shallow waters but not in deep waters, and not in systems that are unfished.

The main environmental forcing features, such as the dominance of the Leeuwin current in dynamics of the coastal systems, and seasonal dynamics of the lobster are broadly understood, and are adequate to enable a broad scale interpretation of trophic relationships to be established.

This trophic information is limited in spatial scale, and there is only limited detail about predators of the lobster, but this conforms to the MSC 80 level standard and exceeds it minimally for a fishery of this type.

**2.1.1.4                      There is information on the potential for the ecosystem to recover from fishery related impacts.**

**60 Scoring Guidepost**

Key elements of the functioning of the ecosystem, including natural forcing factors, relevant to the fishery have been identified and ecosystem research is ongoing.

**80 Scoring Guidepost**

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.

**100 Scoring Guidepost**

- Detailed information is available on the resilience of the benthic ecosystem, and the potential for affected species and communities to recover from fishery related impacts.
- The information used to establish resilience should be as robust as information that could be derived from empirical studies comparing fished and unfished areas.

**Score 75**

Key elements of the functioning of the ecosystem where the fishery operates have been broadly identified for shallow water habitats, and there are shallow water research projects (CSIRO/SRFME) underway to further address aspects of ecosystem function in habitats where lobsters live in the central west (Jurien) area of the fishery. However, there is only limited knowledge of deep-water habitats that support the older lobsters, and limited knowledge of species that may be ecologically dependent on lobsters.

There is no list or group of ecologically dependent species, and although there is an extensive list of dietary types and species, the only species assumed to be ecologically dependent by the fishery management system appear to be those taken as by-product species. No justification has been provided for this implicit set of assertions. The resilience of any actually ecologically dependent species to the impacts of fishing cannot therefore be assessed.

There is evidence that by-product species are not being overexploited (above), but no relevant information or analysis has been provided for assessment of other species.

Research projects are underway in both deep and shallow waters, but it is not yet clear if they have been designed to address the ecosystem's ability to show resilience to and recovery from the effects of fishing. A research plan has been proposed by the Ecological Scientific Reference Group – a group established to advise RLIAC on issues associated with the ecological impacts of fishing – that indicates the need for continued research in this area. The impression from the information provided is positive (as noted under Performance Indicator 2.1.1.1); however, the research plan was not finalized at the time of this report so it remains unclear how the final advice from the ECO-SRG to RLIAC will address these issues, or if the advice will be fully implemented into effective research activities.

At the time of assessment, other than for by-product species, no evidence was provided relevant to the issue of the resilience or potential for recovery from fishing impacts of species that may be ecologically dependent on lobsters. There were no direct research programs in place at the time that could provide such data and information, and little was provided in terms of compiled historical evidence either (although it is thought that a full review of historical studies in WA would yield some interesting and relevant information on this topic). All in all, it was the opinion of the assessment team that the evidence did not meet the 80 scoring guideposts for a fishery of this type.

### Condition

To improve the score of this indicator, the client must propose an action plan that will improve performance of the management to be equivalent to the 80 Scoring Guidepost – “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. The client must ensure that the models developed take account of impacts from the fishery and the uncertainty surrounding the models and data.

Although the assessment team is not allowed to specify the mechanism for the analysis based on MSC requirements (see TAB Directives), the assessment team is required to specify the outcome. In this case, the outcome is not only the models specified above, but the use of data to facilitate the models that is equal to data from direct experimental studies using fished and unfished areas. In previous years the assessment team has attempted to get the fishery to

improve its understanding of the effects of fishing through collection and analysis of better data on the topic. 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 CB will require evidence that 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 research plan must outline strategies that will be used to determine what impacts, if any, are occurring, and the extent of the impacts. Strategies could include, but are not limited to, comparing impacts of the fishery using areas that are unfished with suitable/comparable fished areas at a scale that is appropriate and robust enough to understand impacts from fishing across the entire fishery. Regardless of the strategy or strategies chosen, the research plan should identify and provide evidence for the studies being scientifically robust.

The client will be required to show that the research plan is either developed with input from fully independent experts with demonstrated world-class credentials and research experience in ecological impacts of fishing (such as those on the ECO-SRG) or that it is properly reviewed by a set of independent experts of equal qualification. Additionally, the client must consult stakeholders (individuals and/or organizations in the commercial fishing industry, recreational fishing industry, and conservation groups) in the design and development of the plan.

The client is also 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.

This Condition is a follow on to Conditions from the initial assessment and is required to be fully completed in the time frame of this certification.

## **2.1.2                      There is adequate knowledge about the effects of fishing on habitats and species in the areas of the fishery.**

### **2.1.2.1                      The trophic linkages and interactions between the non-target species and the target species are known.**

#### 60 Scoring Guidepost

- The target species prey, predators and competitors are known in the main areas of the fishery.
- Changes due to fishing on the prey, predators, and competitors of the target species are generally understood.

#### 80 Scoring Guidepost

- The potential trophic impacts to the prey, predators, and competitors of the target species from fishing on all life stages of the target species have been assessed.
- The information used to establish trophic impacts is as robust as that derived from studies comparing fished and unfished areas.



### 100 Scoring Guidepost

- The trophic impacts between the target species and the main non-target species have been determined using quantitative information on the target species and the main non-target species.
- The information used to establish trophic changes is as robust as that derived from studies comparing fished and unfished areas.

### **Score 75**

The main species that interact with lobsters as predators, prey, or competitors as well as bycatch (see 2.1.1.2 above) are reasonably well known, and the fishery-induced mortality is used as the basis to assess risks to their populations. This information was compiled as the background and evidence used in an Ecological Risk Assessment (ERA) of the fishery in both 2004 and 2005. The other ecologically related and non-target species (those not retained as by-product) have received less attention in terms of trophic impacts from the fishery. These species are the subject of further review as part of a project required to be completed from past conditions placed on the fishery from the 2004 and 2005 Surveillance audits conducted by Scientific Certification Systems, Inc. (see Chaffee, C. et al/ 2004, Chaffee, C. et al. 2005). The contracted work requires that all identified risks undergo further analysis based on the Ecological Risk Assessment methods designed by CSIRO for AFMA (This work is being conducted through a contract from WAFIC to Richard Stoklosa of E-Systems).

The evidence of trophic impacts of the fishery presented to the assessment team for this assessment was not shown to be as robust as knowledge derived from comparisons of fished vs. unfished areas, which limits the score for this indicator to something less than 80.

### Condition

The first part of this condition is the same as for 2.1.1.4.

The client must also 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. This is the same timeframe built in to the condition under 2.1.1.4.

#### 2.1.2.2

There is adequate knowledge of the impacts of fishing gear on the habitat.

#### 60 Scoring Guidepost

The main impacts of gear use on habitat have been identified including type, extent and location.

#### 80 Scoring Guidepost

- Impacts of gear use on the main habitat types have been identified, including type, extent, location and frequency.
- Use of fishing gear in sensitive habitats is minimal.

#### 100 Scoring Guidepost

- The impacts of gear on habitats have been quantified, including details of any irreversible changes.
- Fishing gear is not used in or near sensitive habitats, and physical disturbance to any habitat has been shown to be minimal.

### **Score 95**

In most parts of the fishery, fishing gear (pots) is not used intensively in any habitats that are highly sensitive and vulnerable to the physical impacts of gear use (such as dragging of pots, or entanglement with lines, floats etc). Data presented indicate that pots are dropped mostly on general substrates such as limestone, sand, and granite, and only occasionally in seagrass beds. The effects on the main substrates of sand, granite, and limestone were assessed in the 2001 and 2005 ERAs as low risk, although it was acknowledged that this needed additional support. The information base is not quantitative, so it would be useful to see some additional studies that specifically assess the physical impacts of the fishery in these habitats (other than coral reefs). Based on the information collected in the fishery as well as other documented studies on the use of traps, it is determined that for the main habitat types other than seagrass beds and coral-macroalgal assemblages, the risk is likely to be low and hence the need for information is limited. The research studies to be undertaken in shallow waters (the CSIRO/SRFME projects) as part of the Strategic Research Plan (Condition 2.1) may be developed to address amongst others the impacts of fishing on seagrass beds, including the physical impacts of pot deployment and rates of recovery of any physical damage. In addition, there is now an FRDC funded project - Evaluating how food webs and the fisheries they support are affected by fishing closures in Jurien Bay, temperate Western Australia - to examine the effects of fishing on habitats. Moreover, the Scientific Reference Group on Ecological Effects, established through the efforts of WAFIC, has prepared a suggested research plan to look at ecological effects from fishing. The evidence presented for this assessment indicates a positive positioning for research, although the research plans remain in need of finalization.

The fishery does operate in and around coral reef habitats in the Abrolhos area, and while pots appear to not be set directly on high risk coral patches or reefs, they are set in close proximity to high risk coral systems. They are also set on seagrass beds and on coral-algal assemblages

considered to be of moderate biological risk from damage by pot fishing (pot densities are estimated up to 40 pot lifts per hectare per fishing season in large areas classified as of moderate biological risk) (Webster et al. 2002). There therefore appears to be a risk of moderate levels of environmental damage from fishing in the Abrolhos area.

The basis for assigning a score of 95 is that the predominate habitat types are generally not impacted by traps and that the more sensitive habitats are encountered on a very limited basis. In addition, in the most sensitive area, coral reefs, there have been direct studies (Chubb et al., 2002 and Webster et al., 2002). The score is also partially predicated on the fact that additional research studies will include examination of effects in seagrass beds and macroalgal assemblages. It is highly recommended that these studies are carried out. Should there be no studies in these habitats, the score of the fishery could well be revised to a score below 80.

**2.1.3                      There is adequate knowledge about the risks to the ecosystems, habitats and species that are posed by bait, bait bands or lost gear.**

**2.1.3.1                      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.**

60 Scoring Guidepost

- Use of bait and loss of gear across the fishery can be documented from fishery and sales data.
- The risks and impacts of bait use and loss of gear have been assessed and there is no evidence of significant detrimental ecological impacts.

80 Scoring Guidepost

- The type, quantity and location of bait, bait bands and related packaging material, and gear lost during fishing operations is monitored, assessed and reported regularly.
- Risks from bait use (including loss of bait packaging) and gear loss have been determined through the ERA process (see 2.1.2.2 above), and are generally maintained within acceptable levels

100 Scoring Guidepost

- There is detailed knowledge of the type, quantity and location of bait used in all areas of the fishery.
- The bait bands, bait packaging, and gear lost at sea are monitored and independently verified through a fishery-wide waste-management audit conducted using vessel level data.
- There is a comprehensive gear reconciliation program, which is designed to track and validate the life-cycle fate of all fishing gear used in the fishery.
- The ecological impacts of all forms of bait used and bait bands and gear lost during fishing operations are monitored and always maintained within acceptable levels across the full range of the fishery.

## Score 75

There is detailed knowledge of the type, quantity and location of bait used in all areas of the fishery. This information is obtained from daily fishing logbook returns that are completed by 30 to 38% of all commercial fishers and from information provided by processors.

The type, quantity and location of bait, bait bands and related packaging material, and gear lost during fishing operations is monitored and assessed using vessel-level data. Information is obtained from daily fishing log book returns that are completed by 30 to 38% of all commercial fishers and the monthly at-sea commercial catch monitoring program.

About 15% of the pots used in this fishery are lost (presumably at sea) each year. The plastic components of the pots are an important and persistent visual component of the beach litter across the fishery region. The wooden components are considered to be less persistent in the environment, and therefore less of an environmental hazard.

The commercial fishery has a Code of Practice regarding the handling of bait and bait packaging material. Bins for the disposal of bait packaging, etc. are provided at each rock lobster port. A beach clean up survey conducted in the Perth area indicates that there has been a significant decline in fishery-sourced rubbish between 1992 and 2002 (Poynton et al. 2002 — unpublished report from the Friends of Marmion Marine Park/ CALM survey of beach litter in Marmion Marine Park comparing litter in 1985, 1992, and in 2002).

An internal report on the bait handling procedures submitted to the assessment team (Monitoring of Bait handling code of practice; Draft March 2005) indicates that there is a high level of compliance with the required procedures, although not full compliance. The report does not indicate the basis for sampling of the vessels to be surveyed, nor the procedures adopted to ensure the independence and robustness of the data.

Information from research programs conducted by the DoF (Department of Fisheries) indicates that once the bait has been used or lost from a trap, escapement of rock lobsters is high. Traps are therefore not very effective in retaining lobsters over periods longer than 5 days once the bait is depleted. Rock lobsters have been shown to be able to survive without food for months, which would give them ample opportunity to escape from discarded or lost 'ghost fishing' traps. In addition, traps are fitted with escape gaps which allow smaller animals to escape from 'ghost fishing' pots.

The risks from bait, bait packaging bands, and lost fishing gear have been assessed in the 2001 and 2005 ERA workshops, and determined to be low. However, while there is knowledge of the amounts and types of bait, and the use of bait bands across the fishery, there are few reliable data on impacts that could be used to make a reliable assessment of the level of risk posed by bait bands. Some specific concerns have been raised by stakeholders about impacts of bait bands on dusky whaler sharks.

While there is a basic system for monitoring the use and loss of bait, bait bands and other fishing equipment, there are no concise evaluation, summary and reporting systems that regularly review and assess the issues surrounding bait use and bait bands in this fishery for reporting to stakeholders. Also, although there has been one assessment of beach litter possibly sourced from the fishery, there has been no systematic assessment of the effectiveness of the Code of Practice, and more broadly, only very limited ecological evidence is available to assess the impacts of bait bands lost or discarded to the ocean from the fishery.

### Condition

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.

2.1.4                      Levels of acceptable impact are set and objectives established to address and restrain any significant negative impacts of the fishery on the ecosystem to within the acceptable levels of impact.

2.1.4.1                    The impacts of the fishery on ecosystem structure, function, biological diversity, productivity, and habitat structure are within acceptable levels of impact and there has been an assessment of risks.

### 60 Scoring Guidepost

- Levels of acceptable impacts for the main non-target species and habitats in the fishery have been estimated.
- The main impacts of the fishery on the ecosystem from the removal of target stocks and non-target species are within acceptable levels of risk.

### 80 Scoring Guidepost

- Levels of impacts (biological reference points) for key aspects of the ecosystem within main fishing areas have been estimated to be within acceptable levels.
- The information used to establish acceptable levels of impact should be as robust as that derived from empirical studies comparing fished and unfished areas.

- There is a comprehensive and publicly reviewed and accepted ERA assessing the effects of the fishery on the ecosystem that shows there are no areas of high risk.
- Research is underway to study impacts identified as medium risk and to rectify the main gaps in knowledge identified in the ERA.

#### 100 Scoring Guidepost

- The effects of the fishery (removal of target and non-target species) on the ecosystem have been quantified in all areas where the fishery operates using studies comparing fished and unfished areas, and impacts are found to be maintained within acceptable levels.
- Risk assignments are reassessed on a regular basis.

#### **Score 70**

There have been two assessments of the ecological risks from the fishery, the 2001 and 2005 Ecological Risk Assessment workshops and related reports. The 2001 ERA and its reports were not considered adequate by the SCS audit team, but the requirement to conduct a fully defensible and scientific ERA was relaxed on the condition that a number of key issues that were poorly addressed by the 2001 ERA were nonetheless fully addressed with the context of the following EMS. Some of these matters are still outstanding and have not been resolved.

The 2005 ERA process has not been completed, but the aspects that have been submitted for assessment here do not fully meet the MSC 80 standard for assessing the ecological risks of this fishery. Major weaknesses include the failure to implement a robust and peer reviewed scientific ERA, the lack of a precautionary approach to gaps in knowledge, and the lack of involvement of a relevant range of ecological expertise and stakeholders, and the failure to provide the ERA with relevant and available data/knowledge pertinent to assessing the risks of the fishery.

Steps have been taken to correct these problems for all future ERA projects. In addition, work is ongoing on assessing a number of risks/impacts identified during the 2005 ERA. This work is being conducted by Richard Stoklos of E-Systems as required by previous conditions placed on the fishery from the 2004 and 2005 Annual Surveillance Audit Reports prepared by Scientific Certification Systems, Inc. (see Chaffee et al. 2004; Chaffee, C. et al. 2005).

There is as yet no systematically derived and comprehensive research plan for the fishery that deals effectively with the ecological impact issues. This was a requirement of previous conditions of MSC certification of this fishery, but as yet this has not been completed to an acceptable standard.

The current situation in the fishery is that the levels of acceptable impact have been determined for the two main non-target species (octopus and deep-water crabs).

The levels of acceptable impact on habitats have been estimated for the major types of habitats such as limestone and sand. However, the data for acceptable impacts on seagrass beds needs further work. It is also clear that the actual level of impact on the most sensitive

habitat potentially impacted by the fishery (coral reefs) has been assessed, and management measures are suitably in place to avoid unacceptable levels of impact.

No substantive evidence has been presented for assessment about the impacts of the fishery on ecosystem structure, function, diversity, productivity or habitats caused by the removal of target stocks. There is no acceptable research plan in place to determine this, and there are no acceptable levels of risk established either in support of, or as a result of, a credible ERA process that relate to a number of these matters.

Evidence provided for assessment indicates that the research projects in shallow waters (CSIRO/SRFME) are not currently directed to assessment of the ecological impacts of fishing, although this may possibly be part of future research.

The score of 70 was based on the fact that 2 ERA studies have been conducted and that there is ongoing work to re-assess risks identified in the 2005 ERA. These facts show that the fishery meets part of the scoring requirements for 80, but lacks sufficient evidence to indicate it meets the other scoring requirements under 80 for acceptable levels of impacts being set using information/evidence as robust as that derived from empirical studies comparing fished and unfished areas.

### Condition

The first part of the condition under PI 2.1.4.1 is to complete the work now underway by Richard Stoklos of E-Systems on re-assessing risks identified in the 2005 ERA conducted by the Department of Fisheries. This work must be completed within 18 months of the date of certification unless sufficient cause can be shown and agreed by SCS and, as necessary, members of the original assessment team.

The second part of the condition under 2.1.4.1 is to conduct a new Ecological Risk Assessment to a standard that meets the requirements identified by Dr. Mark Burgman in his 2005 review of ERA methods previously used in this fishery, which includes soliciting, receiving, and acting on advice from stakeholders, fishery managers, and the CB (Certification Body). A new ERA must be conducted directly following the completion of the work underway by Richard Stoklos (E-Systems). The new ERA must occur within 12 months of the completion of the work of Richard Stoklos, and at a minimum before 3 years after the date of certification.

The risks must be based on scientifically defensible evidence and inference about the possible hazards in the fishery, and moderate level risks, or hazards where there is insufficient information to determine risk, must be then used as the basis for an assessment of the impacts of the fishery across the full spatial scale of the fishery. The new ERA should at a minimum also cover all aspects of the 80 scoring guidepost for this indicator.

In addition, the research plan and implementation developed under 2.1.1.4 must integrate the information from the ERA.

#### 2.1.4.2

Management objectives and fishing practices are set in terms of impact identification and avoidance/reduction.

##### 60 Scoring Guidepost

The management system includes some level of impact identification and avoidance/reduction in the main areas of the fishery.

##### 80 Scoring Guidepost

- Management objectives and practices are designed to detect and reduce impacts, although they may not have been fully tested.
- The key impacts of the fishery that have been identified as posing a significant risk are mitigated on a precautionary basis using appropriate management tools (such as gear or deployment modifications, seasonal restrictions, size restrictions, closed areas, etc.).

##### 100 Scoring Guidepost

Management objectives and strategies to detect and reduce impacts have been developed, tested and are deployed across the fishery.

### **Score 75**

The fishery has a strong process for managing adverse impacts when they are detected and established as a matter of priority for action within the management system. This is well demonstrated through the matters of Sea Lion bycatch (assessed in Criterion 2.2), the commitments to assess and respond to management issues in the Abrolhos area, and the Code of Practice commitments to reduce entanglements of fishing gear with whales. It is further supported by the fisheries reduction in effort in the past, as well as closures around sensitive areas in time and space and gear adaptations to avoid ghost fishing or catch of undersized lobster.

The system for identifying issues to be matters for concern and management response is the WRL Management System (WRL MS), and the related ERA/EMS system. While these two areas are well structured to detect issues, and to identify appropriate types of management responses, there is only limited evidence that these structures operate in an acceptable way.

The WRL MS contains three important committees (the WRL ESD Committee, the SLSRG, the EcoSRG) that should operate to support the system for detecting and managing impacts, including setting appropriate forms of objectives and mitigation strategies. Of these, only the SL SRG appears to be operating effectively, and even then it appears to be limited in its capacity to provide independent advice and support for mitigating Sea Lion bycatch to acceptable levels. The Eco SRG does not operate effectively—meetings are poorly organized, the outcomes do not properly address the TOR for the committee, the members do not reach agreement, and the organizational aspects are inadequate (agendas, papers, minutes and meeting reports are not timely).



The WRL ESD appears to have never met, or if it has, there have been no documented outcomes. Evidence provided to the assessment suggests that the RLIAC committee structure is under review, and that an alternative structure may be implemented.

The EMS system as it is identified for use in this fishery appears adequate to implement all the priorities that are developed in the ERA process if it functions fully and properly. The system described is a good system for structuring the projects, and for reporting procedures, although the process and the outcomes are not easily available to stakeholders.

The ERA is a serious weakness in this overall process. As assessed in 2.1.4.1, neither the 2001 nor the 2005 ERA meet the MSC 80 standard in risk assessment, and this is a major weakness in the context of this Indicator.

If the risk assessment issues are addressed and if the WRL MS is improved to be an effective and operational system with regard to environment and ecological issues, the fishery would meet the standard of world's best practice for this Indicator.

### Condition

To meet the requirements of the performance indicator, the client must ensure that management performance meets the 80 scoring guidepost which states:

- “Management objectives and practices are designed to detect and reduce impacts, although they may not have been fully tested.
- The key impacts of the fishery that have been identified as posing a significant risk are mitigated on a precautionary basis using appropriate management tools (such as gear or deployment modifications, seasonal restrictions, size restrictions, closed areas, etc.)”

A description for the operation of the WRL Management System, that includes the EMS (Environmental Management System) and the ERA, has been provided through correspondence between the Department of Fisheries and SCS. This system description suggests that the entire management system would adequately handle the required environmental factors if there was evidence that all the parts of the system described in the WRL-MS and EMS provided to SCS were actually active and working.

Fully implementing all the prescribed parts of the management system (as noted above), or some other similar construct would be sufficient to meet the intent of this Condition. The system chosen and implemented must properly address the following key aspects:

- The management system should include a group, committee or set of groups or committees (previously identified to SCS as the WRL ESD Committee, the SL SRG, and the Eco SRG) that meet at least annually to discuss potential ecological risks from fishing and the management measures, if any, needed to address identified risks. The group(s), or committee(s), old or new, should have a published agenda and provide minutes and reports for public review.

- The groups(s) or committee(s) should publish reports at 6 monthly intervals, on the functioning of the EMS and progress toward meeting the stated EMS objectives for identifying risks and mitigating impacts.

This condition must be met within 1 year of the date of certification and prior to the first annual surveillance audit.

**2.2 (MSC Criterion 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.**

**2.2.1 Fishing is conducted in a manner that does not have unacceptable impacts on protected, endangered, threatened, or icon species.**

**2.2.1.1 There is adequate information on the presence and populations of protected, endangered, threatened, or icon species.**

#### 60 Scoring Guidepost

There is a program in place to identify protected, threatened, endangered or icon species that may be affected by the fishery.

#### 80 Scoring Guidepost

Protected, threatened, endangered or icon species likely to directly interact with the fishery have been identified, and their likely space and time interactions have been assessed.

#### 100 Scoring Guidepost

There is a detailed knowledge of all populations of protected, endangered, threatened, or icon species that directly or indirectly interact with the fishery, including an assessment of critical habitats and the spatial and temporal interactions with the fishery.

### **Score 85**

The main protected, endangered, threatened, or icon species that may interact with the fishery have been documented. These species are catalogued as part of the ERA process, and their likely space and time interactions assessed as part of the risk assessment process. The main species are sea lions, whales, dolphins, turtles, seabirds, and possibly seahorses. Other species of possible concern include sharks and manta rays.

The issues of possible interaction of these species are summarized in the data submitted to, and the reports of, the 2001 and 2005 ERA workshops. The results of the 2005 ERA are incomplete, but it seems likely that the information base is adequate to be able to make a qualitative assessment of the likely level of interaction with the fishery for most of these species – and the assessments to date indicate that most interactions are not at a level that poses significant threats/risks.

On this question of the knowledge base of the distribution and possible places and times of interaction of any protected, endangered, threatened, or icon species with the fishery, performance is consistent with the MSC 80 standard, as information now collected in logbooks is designed to detect all such interactions. Future assessments are likely therefore to be more robust.

**2.2.1.2                      There is adequate information about the interactions of the fishery with protected, endangered, threatened or icon species.**

**60 Scoring Guidepost**

The main interactions directly related to the fishery are known.

**80 Scoring Guidepost**

Quantitative estimates have been made of the nature and extent of interactions for the main protected, threatened, endangered or icon species that directly interact with the fishery.

**100 Scoring Guidepost**

Impacts on all protected, endangered, threatened or icon species are regularly assessed, quantified, documented and publicly reported

**Score 85**

The interactions with identified protected, endangered, threatened or icon species is recorded in a voluntary logbook program completed by 30 to 38% of fishers. Currently, the main focus of this is to record the bycatch of sea lions. These data are summarized for use in the ERA workshop process.

The limitation of data and knowledge of direct interactions to the data contained in the voluntary logbook program is a significant problem in the fishery. Evidence has previously been provided that the logbook data is broadly consistent with data derived from the DoF commercial sampling program conducted for stock management purposes. However, this is largely anecdotal, and only provides some measure of support for the voluntary program data. For example, it is not clear if small species of importance (such as seahorses) are likely to be recorded in either of these programs.

The fishery performance is generally consistent with MSC standards for protected, endangered or threatened species, but more robust data and knowledge may become important for assessing risks as awareness of icon species increases.

***Recommendation***

The fishery should take a more systematic approach to identifying and documenting the interactions with protected, endangered, threatened or icon species that occur in the region of the fishery. This should include a program of fishery-independent validation of the voluntary logbook data, and the random extension of the logbook program to other vessels which do not normally participate in the logbook program. Additional tools such as vessel profiling procedures (comparisons between observed and non-observed bycatch rates) should be

developed for application in this fishery to assess patterns of interactions with these species that could indicate systemic under-reporting problems.

**2.2.1.3                      The level of interaction of the fishery with protected, endangered, threatened or icon species that constitutes an unacceptable risk has been determined.**

**60 Scoring Guidepost**

Acceptable limits and risks are set by state, national or international legislative requirements and interactions with the fishery appear to create no ecological threats to populations of the species concerned.

**80 Scoring Guidepost**

- Acceptable levels of interaction with protected, threatened, endangered or icon species have been set to avoid any important impacts that may affect the spatial distribution, reproductive success, population structure, or conservation status of these species, and critical interactions with the fishery have been determined.
- Levels of acceptable interaction and impacts have been determined through a robust peer reviewed scientific process, involving the relevant range of ecological expertise and stakeholders.
- The information used to determine levels of acceptable impact has been shown to be robust and/or precautionary.

**100 Scoring Guidepost**

The direct and indirect interactions of the fishery with any protected, endangered, threatened or icon species are determined and restrained to within acceptable levels to avoid any important impact at any time across the fishery.

**Score 85**

The most important risk of the fishery for protected, endangered, threatened or icon species currently appears to relate to the bycatch of Sea Lions. For other such species that may be affected by the fishery, the risk that the fishery may have unacceptable levels of impact on spatial distribution, reproductive success, population structure or conservation status appears to be low. However, to some extent this depends on the ERA process, and for some species the information base is somewhat limited. For example, stakeholders have raised concerns about the effects of the fishery (impact of bait bands) on one species of shark, but this issue remains to be assessed.

The level of acceptable bycatch of Sea Lions in the fishery has been set at zero by the SL SRG, and this has guided management responses to the issue. The information base for the zero bycatch target is limited, but a reasonably precautionary approach has been applied. This level has been reviewed in the 2005 ERA process, and considered to be appropriate.

There appear to be few other interactions of high or moderate risk between the fishery and protected, endangered, threatened or icon species, and so the level of unacceptable risk is implicitly set below the level of current interaction.

Overall, the combinations of explicit and implicit levels of unacceptable risk that appear to have been set in the fishery appear to be consistent with the MSC 80 standard and a little above given the zero mortality goal on sea lions set by management.

**2.2.1.4                      The impacts of the fishery on protected, endangered, threatened, or icon species do not exceed acceptable levels.**

**60 Scoring Guidepost**

Studies in the fishery have examined fishery impacts on populations of protected, endangered, threatened or icon species and mitigation strategies are in place and being developed where appropriate.

**80 Scoring Guidepost**

Regular assessment of the conservation status and the impacts of the fishery on each protected, endangered, threatened or icon species demonstrates that impacts are generally maintained within acceptable levels.

**100 Scoring Guidepost**

- The conservation status and impacts of the fishery on all protected, endangered, threatened or icon species are regularly assessed, quantified, documented and publicly reported through independent external expert review using empirical data.
- Impacts are maintained within the acceptable levels in all areas where the fishery operates.

**Score 75**

The evidence presented to the assessment team for the impacts of the fishery on protected, endangered, threatened, or icon species generally, except for Sea Lions is limited, but risks and actual impacts generally appear to be low for most of the protected, endangered, threatened, or icon species that are known to occur in the same area as the fishery operates. However, the assessment of risks to these species are qualitative in most instances and require further work.

The EMS (Environmental Management System) developed and proposed for this fishery as part of the ongoing conditions from previous assessments, provides for regular review and assessment of the risk assignments, although there is no systematic process for routinely providing this information to stakeholders and seeking their input. If this management system was fully functional, the score for the fishery would be higher. However, evidence submitted to the assessment team indicates that the key forum proposed for addressing these issues, a committee known as the Ecologically Sustainable Development or ESD committee, has not been activated, nor has any other committee.

The bycatch associated with sea lions is a different problem. Current research conducted by the WA Department of Fisheries (as a result of ongoing conditions from a previous MSC based assessment and annual MSC surveillance audits) shows that interactions with sea lions are more numerous than previously believed, and that the level of interaction provides for a higher probability of a negative impact. The advice from the Department of Fisheries to RLIAC and from RLIAC to the Minister, is to mitigate the interactions by implementation of Sea Lion Excluder Devices (SLEDs). It has been stated to the SCS assessment team and stakeholders that the use of SLEDs will achieve a level of mortality approximating zero for sea lion interactions within the fishery. Although there is some debate about the achievement of zero mortality (or zero risk) from implementing SLEDs, it is at a minimum a significant step toward adding protective measures for Sea Lions.

Since SLEDs have yet to be implemented, the bycatch of Sea Lions is currently thought to exceed the acceptable level of impact (a zero target level).

For the fishery to attain the 80 level for this Indicator, Sea Lion bycatch must routinely be monitored in a robust surveillance system, and the bycatch level must be found to be nominally zero based on monitoring data.

#### 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 ERA (see Condition under 2.1.4.1). As stated above, the species for which risks need to be assessed in a more rigorous fashion include whales, dolphins, turtles, seabirds, and seahorses.

For sea lions, the data is clear. The assessments show that risks are higher than previously thought, so management actions are required to maintain the risks within acceptable levels. The condition for sea lions is therefore the implementation of SLEDs and the verification of their efficacy.

SLEDs must be introduced into the mandatory zone in the 2006/07 fishing season. The mandatory zone is the area shown on Figure 1 in the document 'Additional issues for SRG discussion', presented to the SL SRG meeting in September 2005. The SLEDs must be used for all WRL fishing within the mandatory zone.

The use and effectiveness of the SLEDs in the mandatory zone must be monitored and verified commencing with the 06/07 fishing season. The bycatch of Sea Lions must be monitored using a system that is sufficient to provide scientifically relevant results. It is clear that a full monitoring system across the entire mandatory zone may be too costly to be approved and implemented, especially without relevant evidence that it is needed. As a result, it is necessary that additional discussions occur between all groups (conservation stakeholders, managers, scientists) to determine the best course of action to monitor the effectiveness of SLEDs. WAFIC must bring together all interested parties to discuss this issue, and within 6 months of the certification of the fishery provide a plan of action to SCS

for monitoring the effectiveness of SLEDs. WAFIC is also required to implement the proposed monitoring system before the next fishing season 2006/2007.

If any of these objectives are not met, the fishery would not qualify to maintain a certificate and the certificate would be revoked.

**2.2.2 Objectives are established and mitigation is implemented to address and restrain impacts of the fishery on protected, endangered, threatened or icon species to within acceptable minimum levels.**

**2.2.2.1 Management objectives and fishing practices are set in terms of impact identification and avoidance/reduction to avoid or mitigate impacts of the fishery.**

60 Scoring Guidepost

- Specific interactions have been identified, and some management systems are in place to reduce impacts although they may not have been fully tested.
- Studies across the fishery are examining the fishery impacts on populations of the listed, protected and icon species, and mitigation strategies are being developed where appropriate

80 Scoring Guidepost

- The key impacts of the fishery have been established through a robust scientific process and agreed through public consultation.
- The significant risks are mitigated on a precautionary basis using appropriate management tools (such as gear or deployment modifications, seasonal restrictions, size restrictions, closed areas, etc.) to adequately protect the main populations of protected, endangered, threatened or icon species within the main fishing areas.

100 Scoring Guidepost

Management objectives and fishing practices to detect and reduce impacts have been developed, tested and are fully deployed across the fishery. These objectives and practices are designed to adequately protect populations across the full range of the fishery, and are based on the use of closed areas to provide highly precautionary levels of protection, or on equivalently robust and precautionary approaches.

The effectiveness of mitigation strategies in restraining the impacts of the fishery is regularly reviewed through independent external expert review.

**Score 75**

Management objectives and fishing practices to detect and reduce impacts are developed through the ERA and SRG processes that have been established for the fishery and in the EMS that has been developed.

Mitigation strategies have been developed and implemented in relation to the risks of pot impacts on the hard coral habitats of the Abrolhos Islands region.

The WRL Council has recently developed a Code of Practice, in conjunction with DCLM, to reduce the rate of entanglement of fishing gear with whales (mainly Humpbacks and Southern Right whales). The data on the rate of entanglements is limited, and the Code of Practice will provide a better process for accurately recording and reporting such entanglements. The fishery is required to take all practical steps to minimize the interactions with whales, but the presently presumed rate of entanglement is not likely to cause a significant impact on the whale populations.

The bycatch of Sea Lions exceeds the zero target level, and so the impacts of the fishery on the sea lion populations of the southern area of Zone B and the northern area of Zone C (centered around Jurien) currently exceeds the acceptable level.

The use of Sea Lion Excluder Devices (SLEDs – a structural modification to the pots) to mitigate the bycatch of Sea Lions were re-investigated and found to be effective. The expectation is that SLEDs will be made mandatory for all fishing commencing in the 06/07 fishing season in an area of Zone B and Zone C in waters shallower than 20m depth where all previously recorded bycatch of Sea Lions has occurred (to be known as the mandatory area).

While the evidence indicates that the SLEDs are likely to be important mitigation devices, their effectiveness in the fishery in routine day-to-day use, under variable conditions and with different proximity to sea lion rookeries still needs to be verified. At this time, there is no evidence that the effectiveness of the SLEDs will be verified through detailed monitoring of actual level of bycatch in the area in which the use of SLEDs is to be mandatory.

#### Condition

Same as for Indicator 2.2.1.4.

**2.3 (MSC Criterion 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.**

**2.3.1 There are tested measures in place that allow for the rebuilding of affected populations.**

**2.3.1.1 Proposed management measures to modify fishery practices in response to the identification of unacceptable ecological impacts of the fishery have been tested.**

#### 60 Scoring Guidepost

A mechanism has been set for the modification of fishing practices in light of the identification of unacceptable impacts on ecosystems and dependent species.



### 80 Scoring Guidepost

For fishery-induced impacts identified as significant, management measures should be developed to successfully modify fishery practices in light of the identification of unacceptable ecological impacts of stock depletion on dependent species, habitats or ecosystems.

Strategies for mitigating impacts and rebuilding populations of affected species have been determined through a robust peer reviewed scientific process, involving the relevant range of ecological expertise and stakeholders.

### 100 Scoring Guidepost

There are procedures in place in the management system that are providing a highly timely and demonstrably effective modification of fishery practices in light of the identification of any unacceptable ecological impacts.

## **Score 85**

This Indicator applies to populations of non-target and ecologically dependent species that are trophically related to the target species, including by-product species from the fishery that are classified as depleted. The depletion of the populations may not necessarily have been caused directly or indirectly by the fishery, but this indicator focuses on assessing the potential issue that the continuing activities of the fishery may be causing either further declines or preventing a reasonable rate of recovery in the depleted non-target populations.

The only non-target species that clearly falls into this category is the Sea Lion. While there are a number of other species that could be considered to be depleted, their ecological linkages or bycatch levels appear to be such that it is unlikely that the implementation of further control measures beyond those already in place in the fishery would have a significant effect on rebuilding of their populations.

The Australian Sea Lion (*Neophoca cinerea*) is a protected species in WA, and is listed as Vulnerable under the Commonwealth EPBC Act, and is determined here to be a depleted ecologically-related species. This species is Australia's only endemic seal and is the least abundant seal in Australian waters. The Australian population is estimated to be about 11,200, about 70% of which are found in South Australia. The current population is considered to be a small fraction of the historic populations, which were heavily harvested in the 18<sup>th</sup> and 19<sup>th</sup> centuries. The sea lions are now constrained to the western part of their former national distribution — from the Abrolhos Islands region in WA to The Pages Islands, near Kangaroo Island in South Australia. There is some evidence to suggest that the population overall is in decline, and lobster fishing (presumed to include both SA and WA lobster fisheries — the SA fishery is for a different species of lobster and is not part of the MSC certified WRLF) is cited as one of the factors likely to be contributing to the decline, or preventing recovery (<[www.deh.gov.au/biodiversity/threatened/species/australian-sea-lion.html#judged](http://www.deh.gov.au/biodiversity/threatened/species/australian-sea-lion.html#judged)>). The current low levels of bycatch in this fishery, although still uncertain, are nonetheless unacceptable, since the Sea Lion is at the edge of its current range, and typically this is the most vulnerable habitat for mammal species when subject to

environmental and human-induced pressures. Also, the existence of relatively independent range-edge populations is an important aspect of the conservation ecology of such species, since this is where adaptations to other (non-fishing) pressures may be developed, and where genetic differences leading to enhanced resistance to factors like climate changes may be most easily fixed into populations, hence enhancing the adaptability of the species as a whole. The WA rookeries are considered to be highly isolated and independent, and the most precautionary approach to this problem is therefore to consider each breeding rookery as an isolated population for management purposes.

The fishery has developed and conducted initial trials of SLEDs to mitigate the bycatch of Sea Lions, with a target of achieving a zero bycatch. However, the SLEDs have not yet been implemented in the fishery. This matter is assessed in Indicator 2.2.2.1, and Condition 2.6 applies.

Strategies to deal with the sea lion issue have been developed with the involvement of the SL SRG, which provides independent expert advice. For the other species, assessments are expected to be made through the ERA process, although this is not yet fully functional to an acceptable level.

For this indicator, the trials that have been undertaken, constitute a moderate level of tested mitigation measures, even though they have not yet been implemented in the fishery. The impact of not implementing the SLEDs has been assessed in 2.2.1.4 above.

Based on the trials and the proposed implementation of SLEDs to reach zero mortality from fishing gear interactions, the fishery is given a score of 85. Also, there is little indication as some stakeholders have suggested, that western rock lobster is a substantive part of the sea lion diet, therefore extensive mitigation measures based on a theory of food competition would seem unwarranted.

If the SLEDs are not deployed in the 2006/2007 fishery, or some other effective measure to mitigate risks to zero is not implemented, or more studies are completed to determine what levels above zero are tolerable and then mitigation measures employed to reach those levels, this fishery would have its certificate revoked.

**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.**

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<sup>3</sup>;
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) setting 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) identifying appropriate fishing methods that minimize adverse impacts on habitat, especially in critical or sensitive zones such as spawning and nursery areas;
  - c) providing for the recovery and rebuilding of depleted fish populations to specified levels within specified time frames;
  - d) mechanisms in place to limit or close fisheries when designated catch limits are reached;
  - e) establishing no-take zones where appropriate;
11. contains appropriate procedures for effective compliance, monitoring, control, surveillance and enforcement which ensure. Management System Criteria:

#### B. Operational Criteria

Fishing operation 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 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.
17. that established limits to exploitation are not exceeded and specifies corrective actions to be taken in the event that they are.

3.1 The management system has a clearly defined scope, capable of achieving MSC Principles and Criteria and includes short and long-term objectives, including ecosystem objectives, consistent with a well managed fishery

3.1.1 The management system has objectives which incorporate and apply an adaptive and precautionary exploited stock strategy [Relates to MSC Criteria 3.2, 3.7, 3.9, 3.10]

#### Scoring Guidepost 60

The management system requires the development of sustainability indicators, and there are basic attempts to control effort.

#### Scoring Guidepost 80

The management system has sustainability indicators, including catch rates, and sets objectives related to these data, and has implemented measures to control effort.

#### Scoring Guidepost 100

The management system includes scientific assessment of stocks and sets precautionary long-term stock management objectives and the harvest strategy includes effective effort and/or output controls to maintain stocks at productive levels (specified by appropriate target and limit reference points), and provide for the recovery of depleted stocks to specified levels within specified time frames. The harvest strategies are evaluated using robust assessment methods that consider the use of a range of management tools. Stock assessments and harvest strategy evaluations are undertaken in an open process and the methods and results made available in published reports and these evaluations are periodically externally reviewed.

### **Score 90**

There is an effective and comprehensive management system in place for the fishery based largely on input controls. The management system for the WRL is complex, but has recently been put together in a single document (Anon. (2004a) as suggested in the 2000 certification report. The management system includes, regulations (issued under *Fish Resources Management Regulations 1995*), notices under the management plan, license conditions, and Ministerial Guidelines.

The management system includes scientific assessment of stocks and sets long-term stock management objectives (Caputi et al., 2004; Bray, 2004; Anon, 2004c, Wright et al., in press; Anon, 2005).

Spawning stock limit points have been set and are justified based on stock biology or exploitation history, and they are measurable.

Statistical simulations have been undertaken on aspects of data limitations, uncertainty and variability. The level of spawning stock is estimated using a set of fishery dependent and fishery independent data sets.

- The minimum reference point for egg production 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 WRL fishery has been divided into three management zones (Zone A, B and C) and the level of the spawning stock in each zone has been set to ensure the sustainability of the total stock (Caputi et al., 2004).
- If the breeding stock in any of the three areas falls below the reference level corrective management responses are triggered (Bray, 2004 ; Anon 2004c, 2005), the elements of which have been tested and found to be effective for the recovery of depleted stocks.
- Harvest strategies are evaluated using assessment methods that consider the use of a range of management tools (Bowen, 1994; Donohue, 1998a, 1998b; Bray, 2004; Anon, 2004c; Anon, 2005)
- The results of stock assessments and harvest strategy evaluations are made available in published reports

The harvest strategy includes effort and/or output controls to maintain the required level of breeding stock. The strategy includes:

- Management through input controls based on individual transferable effort (tradable units that allow fishers to use a finite number of traps according to the number of units they hold) with the ability for management to vary the total number of traps used in the fishery during a fixed fishing season through variations in the unit value.
- There is a limit on the total number of units within the fishery (69,288 - only 56,906 traps can be used after unit-value reductions and units lost through prosecutions) and within each of the three zones of the fishery.
- The annual fishing season is for a fixed period from 15 November to 30 June in Zones B and C and from 31 March to 30 June in Zone A, limiting the opportunity for fishers to take lobsters .
- There are prohibitions on the taking of berried, setose, tar-spot, or oversize females (>105 mm north of 30°S and >115 mm south of that line) and sub-legal sized lobsters (77/76 mm). The taking of maximum size, non-setose females was allowed in 2001/02 as an adaptive management process.
- A zone-based management system reduces the risk of local concentrated fishing effort depleting key elements of the breeding stock (e.g. Abrolhos Islands).
- Three or four escape gaps are used in each trap to substantially decrease the opportunity for undersize lobster to remain in the traps when they are pulled.
- Limits on the size and structure of traps are designed to maintain the current level of their fishing efficiency.

- Compliance policing focuses on checks of the legality of lobsters consigned to processors and at sea inspection of traps use by individuals so that trap usage does not exceed that allowed on the license and that strict trap design/dimensions are adhered to.
- The use of new technology that may increase fishing efficiency is monitored.
- Harvest strategies maintain stocks at productive levels (specified by appropriate limit reference points), and provide for the recovery of depleted stocks to specified levels within specified time frames. Because the level of the reproductive stock in Zone B has declined below the 25% reference level, a recovery plan has been instituted in 2005.

The management system includes a scientific assessment of the stock and set long-term management objectives and the harvest strategy includes controls to maintain stocks. The methods and results are made available in published reports.

**3.1.2                      The management system incorporates and applies an effective strategy to manage the ecological impacts of fishing [Relates to MSC Criteria 3.2, 3.7, 3.9, 3.10]**

Scoring Guidepost 60

The management system uses data on non-target species to inform management strategies, but there are no formal assessment procedures.

Scoring Guidepost 80

The management system considers ecological impacts from fishing, and has procedures for dealing with ecological issues that involves the appropriate range of scientific expertise and stakeholders.

Scoring Guidepost 100

The management system has an explicit and well defined strategy that takes into account all significant ecological impacts of the fishery, including non-target species and habitats, in developing and implementing management measures in the fishery to ensure that ecological impacts are well managed.

**Score 80**

The management system has an explicit and well-defined strategy that takes into account some ecological impacts of the fishery, including non-target species and habitats.

Two ERAs have been conducted for the Fishery, the most recent in 2005. Although, the ERA conducted in 2005 had deficiencies in the manner in which it was conducted and its outcomes (key weaknesses were an appropriate mix of experts and stakeholders, and the constraints on evidence and data provided to the ERA workshops as the basis for risk assignments), an ERA was completed and provides for at least a reasonable start in identifying and mitigating environmental impacts.

Also, an Environmental Management System has been adopted and implemented for the Western Australia Rock Lobster Fishery (Anon 2004b). This is as yet based principally of the findings from the first ERA conducted in 2001.

The EMS and other associated documents (e.g. Scientific Reference Group reports) provide an assessment of the fishery's interaction with:

- bycatch, e.g. octopus;
- protected and icon species, e.g. sea lions, turtles, whales and sea birds; and
- sensitive habit, e.g. coral at the Abrolhos Islands.

Research has been, and is being, undertaken on the fishery's interaction with sea lions with a view to legislating for excluder devices in the pots to prevent sea lions entering, to be used in the areas of the fishery most likely to interact with sea lions.

A research program is underway to look at some aspects of the impact of the fishery on deepwater ecology.

Based on the information presented above, the management system is now considering ecological impacts from fishing in a more explicit manner that includes stakeholders other than fishers, and has begun adopting procedures for dealing with ecological issues that involve a range of scientific expertise and stakeholders.

Although the assessment team found fault with some aspects of the previously conducted ERAs, the studies were conducted and did result in useful changes in both the way in which management examines ecological impacts as well as they way in which the management agency mitigates potential impacts. Based on this information, the assessment team assigned a barely passing score of 80.

As noted under other indicators (2.1.1.4, 2.1.2.1, 2.1.4.1, 2.1.4.2, and 2.2.1.4) the information base needs to be improved regarding the knowledge of and assessment of ecological impacts. However, this indicator is about having a structure in place to facilitate these examinations and analyses and to ensure that the expertise of various stakeholders is included in the effort. The evidence presented to the assessment team meets these requirement at the minimum levels and is expected to be improved as a result of new assessments of ecological risk through the contract with Richard Stoklos (assessing risks identified in the 2005 ERA) and the requirement of this assessment to conduct a new ERA within the next couple of years.

**3.1.3                      The management system incorporates and applies an effective strategy to manage the socio-economic impacts of the fishery, and the fishery is free from significant subsidies, which promote over fishing or ecosystem degradation. [Relates to MSC Criteria 3.2, 3.4, 3.6, 3.7]**

#### Scoring Guidepost 60

The fishery management system seeks to understand social and economic consequences of decision-making but there are no formal arrangements. There are no significant direct subsidies to the fishery that might promote over fishing or ecosystem degradation.



### Scoring Guidepost 80

The long-term interests of people dependent on fishing for food and livelihood are formally considered under the management system, in a manner consistent with ecological sustainability. There are no significant direct subsidies to the fishery that might promote over fishing or ecosystem degradation.

### Scoring Guidepost 100

The system considers the long-term interests of people dependent on fishing for food and livelihood, in a manner consistent with ecological sustainability. Socio-economic impacts are quantitatively assessed and/or stakeholder representation in the development of management advice is sufficient to ensure that the full range of socio-economic impacts are identified and considered. All aspects of fishery are free from direct subsidies that might promote over fishing or ecosystem degradation.

## **Score 95**

The decision making process for the fishery takes into account the social and economic impacts of management (Anon 2005), including consultation with stakeholders and stakeholder representation on advisory committees to ensure that a range of socio-economic impacts are identified and considered.

The system considers the long-term interests of people dependent on fishing for food and livelihood, in a manner consistent with ecological sustainability:

- A process to consider rights of indigenous fishers is in place (Franklyn, 2003).
- Two projects are currently underway, or recently completed, on the social and economic aspects of the Western Australia Rock Lobster Fishery relating to a comparison of input vs. output management regimes.

The system considers the long-term interests of people dependent on fishing for food and livelihood, in a manner consistent with ecological sustainability. Socio-economic impacts are considered. All aspects of the fishery appear to be free from significant direct subsidies that might promote over fishing or ecosystem degradation.

3.1.4                      There is a well-defined strategy for research related to the objectives of the fishery

3.1.4.1                    The management system has a plan for research needed to support the harvest strategy [Relates to MSC Criterion 3. 8]

### Scoring Guidepost 60

Research support for management is provided on an ad-hoc basis, with resources subject to competitive allocation. Some of the research results are considered and adopted within the management system.

#### Scoring Guidepost 80

There is a strategically developed research plan to support the management system, including the harvest strategy. Resources are generally available for the high priority studies in support of management. Most research results are considered and adopted.

#### Scoring Guidepost 100

There is a research plan, designed jointly by scientists, managers and stakeholders, to support the management system, including the harvest strategy. Resources are always available to support the high priority research needs of management.

The research results are made public and they are considered and adopted within the management system.

### **Score 90**

There is a comprehensive research plan and monitoring program, designed jointly by the Department of Fisheries scientists, the Scientific Research Groups, managers, the Rock Lobster Industry Advisory Committee (RLIAC) and stakeholders to support the management system including the harvest strategy. The research sub-committee of RLIAC is tasked specifically with designing this research plan. The components of the research plan include strategic research, tactical research to resolve current issues in any sector of the fishery, as well as research and monitoring of the commercial and recreational fisheries. For example:

- breeding stock monitoring – fishery dependent and independent;
- puerulus settlement monitoring;
- commercial catch monitoring at sea
- catch and effort data collection and analysis, e.g. compulsory monthly returns and research log books;
- monthly processors grade category data;
- recreational fisher and catch surveys;
- stock assessment, including evaluation of harvest strategies
- economics, marketing, product enhancement
- ecological studies; etc.

Resources are available to support research for the needs of management, ensuring that the high priority research needs are always funded, e.g.:

- fishing industry funds;
- State Government funds. and
- FRDC funds;

Research results are made public (e.g. scientific publications and Department of Fisheries publications, including the annual State of the Fisheries report to Parliament) and are

considered and adopted under the management system by RLIAC, Department of Fisheries and Government in their decision making processes, for example management responds to stock assessments with measures to maintain and restore breeding stocks when necessary.

There is a research plan, designed jointly between scientists, managers, and some stakeholders to support the harvest strategy. Resources are available to support the high priority need of research. Research results are public, and they are considered and adopted within the management system.

**3.1.4.2                      The management system has a plan for research needed to support the understanding of the ecological impacts of fishing [Relates to MSC Criterion 3.8]**

**Scoring Guidepost 60**

Some limited research to support ecosystem management is undertaken, and some of the research results are considered and adopted within the management system.

**Scoring Guidepost 80**

There is a strategically developed research plan to support the needs of ecosystem impacts assessment. Resources are generally available for the high priority studies in support of ecosystem management issues. Most research results are considered and adopted.

**Scoring Guidepost 100**

There is a research plan, designed jointly by scientists, managers and stakeholders, to support the ecosystem and to address significant environmental risks and impacts of fishing. The effectiveness of the research plan has been assessed, and resources are always available to support the high priority research needs for the management of ecosystem issues. The research results are made public and they are considered and adopted within the management system.

**Score 75**

There is a West Coast Rock Lobster Strategic Operational Plan January 2004 – December 2009 endorsed by RLIAC under the management system which includes activities needed to support the understanding of the ecological impacts of fishing, under the objective of achieving an ecosystem based management of the fishery, although this plan does not appear to be peer reviewed, or otherwise examined externally to RLIAC and the Department of Fisheries. The RLIAC Research sub-committee develops a strategic plan for research which is then endorsed by RLIAC. The RLIAC Research sub-committee plan has still to be amended to take account of the Coast Rock Lobster Strategic Operational Plan. Separate research plans are being developed by the Scientific Reference Groups, although these have not been completed and submitted to RLIAC for assessment.

The effectiveness of the research plans have yet to be fully assessed. In some cases studies have determined impacts (e.g. on sensitive coral habitat at the Abrolhos Islands), but other

projects, such as the understanding of the ecological impacts of fishing in deepwater , are ongoing.

Resources are available to support research to understanding some of the ecological impacts of fishing through government funds as well as through extramural funding.

Research results are typically made public (e.g. scientific publications and the Department of Fisheries publications, including the annual State of the Fisheries report to Parliament)

Results of research are routinely considered and adopted by RLIAC, the Department of Fisheries and the Government in their decision making processes within the management system, e.g. the management response to research of impacts on sea lions.

The conclusion is that there is at least a rudimentary strategy for research in the WRL Fishery, and it includes some studies to assess the impacts of the Fishery on the ecosystem. Also, there appear to be the necessary resources to support some studies from both government resources as well as extramural funding opportunities. However, the management system is still lacking a strategically developed research plan that incorporates all these aspects, hence the score of 75.

#### 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.

This condition must be met prior to the first annual surveillance audit.

3.2                      The management system recognizes applicable legislative and institutional responsibilities and coordinates implementation on a regular, integral, explicit basis

3.2.1                    The fishery is managed and conducted in a manner that respects international conventions and agreements and not under any controversial unilateral exemption to an international agreement [Relates to MSC Criterion 3.1]

#### Scoring Guidepost 60

The management system appears to operate within applicable international law, although no detailed examination of this has been made.

#### Scoring Guidepost 80

The management system does not employ or in any manner seek to operate within any exemption to otherwise applicable international law.

#### Scoring Guidepost 100

All measures taken within the management system are in compliance with relevant international treaty obligations, and the management system does not undertake unilateral exemption from any treaty obligation pertaining to the fishery.

#### **Score 100**

The fishery is not conducted under a controversial unilateral exemption to an international agreement.

Binding documents to which Australia is a party and apply to the Western Australia Rock Lobster Fishery are:

- The United Nations Convention on Biological Diversity; and
- The United Nations Convention on the Law of the Sea.

The assessment team is not aware of any reports, scientific or in the media, that indicate the Fishery is not complying with the required international agreements.

**3.2.2                      The fishery is managed and conducted in a manner that complies with domestic law [Relates to MSC Criterion 3.16]**

#### Scoring Guidepost 60

The management system appears from preliminary observations to operate within applicable domestic laws.

#### Scoring Guidepost 80

The management system appears to be in compliance with all substantive and procedural aspects of applicable domestic law and procedural audit systems.

#### Scoring Guidepost 100

The management system is consistently in compliance with all substantive and procedural aspects of applicable domestic law

#### **Score 100**

The State of Western Australia manages the Fishery under the Commonwealth Government's Offshore Constitutional Settlement (OCS) arrangement, on behalf of Australia.

Numerous State and Commonwealth Agencies such as: the Department of Transport (vessel surveys) the Australian Quarantine Inspection Service (import of bait and export of fish), Conservation and Land Management (conservation and protection of marine mammals and management of marine national parks), the Department of Environment (conservation of the environment), the various State Port Authorities and the Commonwealth Department of

Environment and Heritage all have some direct and indirect impacts on the operation of fishermen and management of the fishery. However, while such agencies are regularly consulted and may influence development of policy and even day-to-day operational management, the Department of Fisheries is the only agency, under the existing legislative arrangements and the Commonwealth Government's Offshore Constitutional Settlement (OCS) arrangement, with direct responsibility for management of the fishery.

Important Commonwealth Government legislation that impacts on the WRL fishery is the *Environmental Protection and Biodiversity and Conservation Act 1999*.

The legislative basis for management of the Western Australia Rock Lobster Fishery consists of Western Australian legislation:

- West Coast Rock Lobster Management Plan 1993;
- Ministerial Policy Guidelines;
- *Fish Resources Management Act 1994* (FRMA); and
- *Fish Resources Management Regulations 1995* (FRMR).

The management system is consistently in compliance with all substantive and procedural aspects of applicable domestic law.

There are no reports in the press or other media of the management of the Fishery not complying with any domestic laws.

There are a small number of successful prosecutions of fishers for violations of aspects of domestic law in WA, including the Fisheries Act, the Environment Protection Act, and other relevant domestic laws that might have an impact on the fishery or its environment but these are insignificant.

3.3 Stakeholders are directly involved in management of the fishery, disputes can be settled within the system and the managers have useful advice on which to base decisions

3.3.1 The management system involves all categories of stakeholders appropriately on a regular, integral, explicit basis [Relates to MSC Criterion 3.2]

#### Scoring Guidepost 60

The management system makes decisions after consulting major stakeholder groups.

#### Scoring Guidepost 80

The management system provides effective processes for the involvement of stakeholders, and makes decisions after consulting all significant stakeholder groups.

#### Scoring Guidepost 100

The management system makes transparent decisions that fully account and serve all stakeholder groups, and stakeholders are fully involved in the decision making process.

## Score 70

The management system makes decisions that serve some stakeholder groups. Stakeholders are involved in providing advice to the decision making process, e.g. commercial WRL fishers, recreational fishers, conservation sector, fishing sector generally.

A representative of Conservation Council of WA participated in the management discussions related to the Western Australia Rock Lobster Fishery as a permanent observer up through 2006, but not as a member on RLIAC along with representatives from the Western Rock Lobster Council and Western Australian Fishing Industry Council (WAFIC). Issues raised by observers are discussed and summarized in RLIAC's minutes, but these are not released to the public. Only a Chairman's summary is released.

Proposals for a conservation member of RLIAC have been made for several years, but without effect. The primary stakeholder consultation mechanism established under the EMS (the WRL ESD Committee) would have solved this concern; however, the committee or some other incarnation has not yet been formally implemented.

There are many complaints from stakeholders in the conservation sector regarding the failure of the management system to keep them informed, and that the management system only informs them after decisions have been taken, and not the reasons why they have been taken.

Stakeholders from the industry are greatly involved in the management system; however, stakeholders from the conservation sector have only been allowed to provide advice, but not participate in the decision making of management.

The result of this information is the assessment team's judgment that a score of 70 is consistent with the fact that the management system has some operational aspects that include stakeholders, but these do not widely apply to stakeholders from the conservation sector.

## Condition

The management system must provide opportunity for better representation of all stakeholder views and concerns in the advisory functions associated with management of the fishery. The continued lack of representation of stakeholders in the conservation community concerned with ecological impacts from fishing have been apparent and the focus of previous conditions from the first assessment of the fishery in 1999/2000. This can be accomplished in a number of ways, including by adjusting membership on the RLIAC.

WAFIC must provide evidence to SCS that this is being considered within 12 months of certification, and implemented within 24 months of certification to address the deficiencies identified by SCS under this performance indicator.

**3.3.2 The management system provides for timely and fair resolution of disagreements [Relates to MSC Criteria 3.2, 3.5]**

Scoring Guidepost 60

Mechanisms for informal dispute resolution exist, and are used where required by some stakeholders.

Scoring Guidepost 80

The management system has mechanisms for both formal and informal resolution of disputes at all levels of management, and stakeholders generally accept the outcomes.

Scoring Guidepost 100

The management system has established objective mechanisms for resolution of disputes at all levels of, and for all issues arising within the system.

These procedures show evidence of being open to and used by a variety of participants and stakeholders and the results are public.

**Score 85**

This performance indicator is different from 3.3.1 in that it is related directly to the establishment of mechanisms to hear disputes.

The West Australian Government provides access for settlement of various kinds of disputes to the Minister, the State Ombudsman and the State Appeals Tribunal. An example of a resolved dispute is the Capes rock lobster surf closure (Minister for Fisheries 2005).

The RLIAC advisory Committee meetings provide an opportunity for public presentation and discussion of matters of dispute and stakeholders use this mechanism in this manner. However, with regard to the environment this mechanism is less effective because of the limited consultation processes that are implemented in relation to environmental issues.

Integrated Fisheries Management (IFM) process (Toohey, 2002). The Western Australia Rock Lobster Fishery is currently being assessed by the IFM Allocation Advisory committee. An Integrated Fisheries Management Advisory Committee has made recommendations to the Minister on catch allocations for the western rock lobster resource.

In general the management system has set up mechanisms for timely and fair resolution of disagreements, so the assessment team assigned a score of 85. The assessment team recognizes that stakeholders in the conservation sector do not feel that they have the same access to these dispute mechanisms. However, the assessment team took recognition of this under performance indicator 3.3.1, and felt it was not appropriate to duplicate that issue here.

**3.3.3 The management system presents managers with clear, relevant information, which is considered in decision-making [Relates to MSC Criterion 3.2]**



#### Scoring Guidepost 60

The management system's decision makers are provided with clear and relevant information under the management system.

#### Scoring Guidepost 80

The decision makers show evidence of considering and using the clear and relevant information provided to them under the management system.

#### Scoring Guidepost 100

The management system regularly presents decision makers with analyzed alternatives for action, and the pattern of behavior by decision makers that reveals that they have found the information provided to them to be useful.

### **Score 90**

The management system regularly presents decision makers with analyzed alternatives for action. There is some evidence that decision makers find the information provided to them to be useful:

For example see:

- *Long Term Management Strategies for the Western Australia Rock Lobster Fishery (Volumes 1-4) September 1994 (Bowen 1994).*
- *Management of Western Australia Rock Lobster Fishery. Advice to Stakeholders on Resource Sustainability Matters, September 2004 (Anon 2004c).*
- *Management of the Western Australia Rock Lobster Fishery. Advice to Stakeholders –Assessment of Resource Sustainability Measures, January 2005 (Anon 2005).*

RLIAC does present regular reports to the Minister of the discussions with stakeholders and the public, and provides advice on special issues.

Managers and the Minister are generally provided with clear, relevant information, which is considered in decision-making.

The fishery received a score of 90, below the full 100 mark because the assessment team felt that the evidence for consistent use of information provided to managers showed that not all issues were dealt with in the same manner and with the same level of analysis. A recent example was the Minister's decision to delay implementation of SLEDs in the 2005/2006 WRL Fishery, although stakeholders in the fishery and the peak body WAFIC, were supportive of this action.

### **3.4**

The management system applies information through implementation of measures and strategies (by rule or by voluntary action of fishery)

that demonstrably control the degree of exploitation of the resource in the light of the natural variation in ecosystems

- 3.4.1 The management system has measures and strategies that are effective for restricting gear and practices to avoid by-catch, minimize mortality of by-catch, and reduce discards [Relates to MSC Criterion 3.12, 3.17]

#### Scoring Guidepost 60

By-catch reduction has been considered by the management system and a preliminary plan is in place. The fishers assist and cooperate in the collection of the catch, discard and other information on the fishery.

#### Scoring Guidepost 80

By-catch reduction methods are part of the management system. The fishers assist and cooperate, and provide resources for, the collection of catch, discard and other information on the fishery.

#### Scoring Guidepost 100

There are specific measures in place to eliminate by-catch and discards in the management system and the results are measured against a series of targets.

### **Score 90**

There are specific measures in place to significantly reduce by-catch and discards in the management system and results are measured against a series of goals. For example, the Fish Resources Management Regulations specify the gear that can be used in catching rock lobsters. The Department of Fisheries enforcement staff, checks gear and measure compliance with regulations and research staff monitor bycatch and discards on-board working vessels

- The type and size of traps and entrance funnels are specified;
- the mandatory use of three or four escape gaps in each trap to reduce the retention of non-target species and undersize rock lobsters; and
- exclusion devices to eliminate the capture of sea lions are being tested.

The fishers assist and cooperate with authorities in the collection of catch, discard and other information on the fishery. For example, 30 to 38% of commercial fishers provide via daily research logbooks information on the number of undersize landed onboard their vessels and returned to the sea, interactions with protected species, etc.

There are measures and strategies in place that are effective for restricting gear and practices to avoid by-catch, minimize mortality of by-catch, and reduce discards. In addition, there are now proposed measures to deal with the by-catch of and/or interactions with sea lions. SLEDs have been proposed for the 2006/2007 fishing season to mitigate potential impacts on sea lions.

The assessment team felt is appropriate to assign a score of 90 to this indicator given the range of activities now being implemented to restrict gear impacts. The assessment team recognizes that efforts to minimize sea lion interactions and impacts are ongoing, but concerns over this area are better reflected under other indicators (e.g. 2.2.1.4 and 2.2.2.1).

**3.4.2                      The management system has measures and strategies that minimize adverse impacts on the habitat [Relates to MSC Criteria 3.10, 3.13]**

Scoring Guidepost 60

The management system requires efforts to identify and document fishery impacts on all habitats.

Scoring Guidepost 80

The management system is gathering knowledge of sensitive habitats in the area of the fishery. As information concerning potential impacts on sensitive habitats is identified, there are mechanisms in place to assess whether the impacts are significant.

Scoring Guidepost 100

The management system identifies and documents fishery impacts on all habitats, and there are measures and strategies to minimize adverse impacts.

**Score 85**

The management system has identified and documented impacts on the fishery's most sensitive habitat (coral at the Abrolhos Islands) and there are measures in place to minimize adverse impacts on this habitat.

The majority of the habitat in the Fishery is "limestone" or "sand". The risk of adverse impact on this type of habitat is considered low.

The assessment team would have assigned a higher score for the fishery, however, as pointed out under other performance indicators the work to identify impacts in other types of habitats is still ongoing. As a result, there are not measures yet in place to mitigate impacts on habitats, as no impacts have been fully documented.

**3.4.3                      The management system does not allow use of destructive fishing practices [Relates to MSC Criterion 3.14]**

Scoring Guidepost 60

The management system prohibits the use explosives or toxic chemicals to kill or stun aquatic species.

Scoring Guidepost 80

The operational practices in the fishery attempt to minimize habitat impacts except those impacts that are physically unavoidable consequences of authorized uses of fishing gear.

There is evidence that the fishery does not use explosives or toxic chemicals to kill or stun aquatic species.

#### Scoring Guidepost 100

The management system prohibits fishery or operational practices that damage or destroy natural geologic, biologic, or chemical features or characteristics of the aquatic area in which the fishery occurs, except those impacts that are physically unavoidable consequences of authorized uses of fishing gear. There is a monitoring system in place to determine if such impacts occur. There are effective penalties for the use of any such destructive fishing practices.

#### **Score 95**

The management system specifies the practices that may be used to catch the lobsters and does not allow fishery or operational practices that damage or destroy natural geologic, biologic, or chemical features or characteristics of the aquatic area in which the fishery occurs.

The fishery does not use explosives or toxic chemicals to kill or stun aquatic species. There is a comprehensive and effective compliance system in place to determine if such practices occur. There are effective penalties for the use of destructive fishing practices under the *Fish Resources Management Act 1994* and the *Fish Resources Management Regulations 1995*.

The management system does not allow or condone the use of destructive fishing practices, and there are penalties in place for the use of such destructive fishing practices.

The only issue that kept the assessment team from assigning a score of 100 rested with potential impacts to corals at the Abrolhoss Islands associated with boat anchors and waste from fishing encampments which could be considered part of fishing operations.

#### **3.4.4                      The management system provides for rebuilding and recovery [Relates to MSC Criterion 3.10]**

#### Scoring Guidepost 60

There are regular discussions on the state of the populations and stocks, which would identify if they were over exploited and in need of rebuilding.

#### Scoring Guidepost 80

Assessments are made of the population, and or stocks, to determine if they are falling below acceptable levels, so that plans for rebuilding could be developed.

#### Scoring Guidepost 100

Where populations or stocks impacted by the fishery have been found to have declined below prescribed levels, the management system is structured so that plans for rebuilding would be initiated.

#### **Score 100**

Where population or stocks impacted by the fishery have declined below acceptable levels, the management system is structured so that plans for rebuilding would be initiated.

The WRL fishery has been divided into three management zones (Zone A, B and C) and the level of the spawning stock in each zone has been set to ensure the sustainability of the total stock (Caputi et al., 2004). If the breeding stock in any of the three areas falls below the reference level corrective management responses are triggered (Bray, 2004 and Anon 2004c and 2005), the elements of which have been tested and found to be effective for the recovery of depleted stocks.

A stock rebuilding exercise has been initiated. Because the level of the reproductive stock of rock lobsters in Zone B has declined below the 25% reference level, a recovery plan has been instituted in 2005, based on a reduction in fishing effort.

Assessments of stocks are made annually, and where they are found to be depleted there is an automatic system in place to initiate plans for recovery.

In addition, sea lion populations in the area of the fishery are at low levels. Although the reasons for this are varied, the fishery at a minimum has recognized its potential effect on sea lions and is working to employ measures to mitigate impacts to as low a level as possible.

Other agencies, not the department of fisheries, are responsible for sea lion management in terms of rebuilding the populations or protecting them from other threats.

#### 3.4.5 Incorporates no-take zones where appropriate [Relates to MSC Criterion 3.10]

##### Scoring Guidepost 60

The management system has the capacity to establish no-take zones.

##### Scoring Guidepost 80

The management system has considered the introduction of no-take zones, and has the ability to create them if necessary.

##### Scoring Guidepost 100

The management system has established no-take zones, where appropriate. The purpose and effectiveness of these no-take zones is described, assessed, and regularly reported.

### **Score 85**

The management system has introduced no-take zones for a variety of purposes including minimizing interactions with other users and research.

The management system has established no-take zones in the past for prescribed purposes, particularly for research and if appropriate to the requirements of future research they would

be established again. Zones are closed to commercial fishing around Rottnest Island, a popular recreation area, with the purpose of minimizing hazards to navigation by trap ropes and floats. In the past there was a closure to commercial fishing within a mile of the shore. The effectiveness of this closure was assessed with the result that the closure was rescinded.

Research is currently being undertaken in no-take zones that have been established as part of the Jurien and Marmion marine parks and in the Department of Fisheries closed areas at Rottnest Island for other research projects.

In the Capes Region conflict between the community and the commercial fishers was resolved by a closure to allow surfing to be unimpeded by fishing operations (Minister for Fisheries 2005). It is not clear that either of these two sets of circumstances (marine parks and the surfing requirements) is appropriate for the purposes of the fishery, or for protection of ecosystems from the impacts of the fishery.

No-take zones have been introduced for a variety of purposes. These zones are identified, the areas and their existence and the reasons for their declaration made public.

#### **3.4.6 The management system minimizes operational waste [Relates to MSC Criterion 3.15]**

##### Scoring Guidepost 60

The fishery encourages minimization of operational wastes, and there is evidence of minimal wastes in the fishery.

##### Scoring Guidepost 80

The fishery has an effective code of practice that acts to minimize operational wastes.

##### Scoring Guidepost 100

There are monitoring and enforcement programs for operational waste from the fishery, which have been shown to be minimal through independent audits of compliance.

#### **Score 85**

The fishery has introduced a special Code-of-Practice that acts to minimize operational wastes.

Special collection facilities for waste have been set up at all harbor facilities.

Special efforts have been made to remove waste and ensure a waste free environment at the Abrolhos Island.

Observations on commercial vessels by the Department of Fisheries catch monitoring teams, and a beach cleanup survey, indicates that there is significant adherence to the Code-of-Practice. However, there are problems with complete elimination of beach waste including

the identification of whether the waste comes from the fishery or other sources such as passing cargo and passenger vessels.

There are monitoring and enforcement programs for operational waste in the fishery, and wastes from the Fishery appear to have been reduced to a minimal level.

3.5                                      The management system provides for enforcement and compliance  
[Relates to MSC Criteria 3.11, 3.16]

3.5.1                                    The management system enforces compliance in the fishery and has  
knowledge of the level of illegal fishing on the target species.

#### Scoring Guidepost 60

The management system has a compliance and enforcement system and there is general compliance with the system. The level of illegal fishing is estimated.

#### Scoring Guidepost 80

The management system has established a compliance and enforcement system and has demonstrated a consistent ability to enforce applicable rules. The level of illegal fishing is estimated to be low.

#### Scoring Guidepost 100

The management system has established a comprehensive compliance and enforcement system. It contains procedures for effective compliance; monitoring, control, surveillance and enforcement, which ensure that management system controls are not violated and appropriate corrective actions, are taken. The effectiveness of the procedures is measured and the level of illegal fishing is known to be low.

### **Score 90**

The management system has established a comprehensive compliance and enforcement system (Anon 2004a).

The effectiveness of the procedures is measured and the level of illegal fishing is assessed to be low Capelluti et al., (2002) Mc Kinlay (2003). There has been no independent assessment of the effectiveness of the compliance and enforcement.

The management system has established a comprehensive compliance and enforcement system. The effectiveness of the procedures is measured, and some of the information is made public. Problems with the sensitivity of the data have caused a number of reports to be declared as Confidential.

Stakeholders have noted the concern about compliance in the recreational catch sector. The assessment team notes that this may be an issue, but the management of the commercial fishery does not include those activities that control or monitor the recreational sector. The

catch from recreational fishing is properly accounted for in stock assessments, which is what is needed in terms of proper management for the commercial fishery.

3.6 The performance of the management system is regularly and candidly evaluated and adapted as needed to improve

3.6.1 The management system provides for internal assessment and review [Relates to MSC Criterion 3.3].

Scoring Guidepost 60

The management system has an internal system for occasional evaluation of management performance.

Scoring Guidepost 80

The management system has an internal system for regular evaluation of management performance.

Scoring Guidepost 100

The management system has an internal, continuing, system for evaluation of management performance, and the results are made public.

**Score 80**

Comprehensive reviews of the long-term management strategies for the fishery and in particular an evaluation of the management options for the resource have been made by Bowen (1994), Donohue (1998 a, 1998b) and Anon. 2005.

Annual audits of the Department of Fisheries performance are undertaken. (Essentially the Department of Fisheries reports annually its performance against the three components (or 'bottom lines') of economic, environmental and social performance, directly tied to the concept and goal of Ecologically Sustainable Development (Department of Fisheries, Annual Reports) and these are made public. It is an internal assessment. This is the standard method of reporting on State government departments.

3.6.2 The management system provides for external assessment and review [Relates to MSC Criterion 3.2, 3.3]

Scoring Guidepost 60

The management system has a system for occasional external evaluation of management performance.

Scoring Guidepost 80

The management system has a system for a regular external evaluation of management performance.

Scoring Guidepost 100



The management system provides for an independent, expert review, of management performance, and the results are made public.

## **Score 85**

Aspects of the management system undergo independent, expert review of performance on an annual basis, and in more detail on an irregular basis, by the Auditor General (WA) (1999), and the results of the review are made public. This is the standard method of reviewing State government departments.

The management system provides for an independent expert review of management performance against the three components (or ‘bottom lines’) of economic, environmental and social performance, directly tied to the concept and goal of Ecologically Sustainable Development, but only by the Western Australian Auditor General.

**3.6.3                      The management system identifies research needs and directs appropriate funding and other resources to these problems [Relates to MSC Criteria 3.3, 3.7]**

### Scoring Guidepost 60

Resources for research to support ecosystem management are adequate to address a number of the gaps in knowledge that are identified by the management system.

### Scoring Guidepost 80

Resources for research to support ecosystem management are adequate to address the high priority gaps in knowledge that are identified by the management system, and most of the results of the research are adopted.

### Scoring Guidepost 100

There is a strategic plan for monitoring and research to support ecosystem management and is part of the management plan. Resources are adequate to address significant environmental risks and impacts of fishing that are identified under the management system. The results are made public.

## **Score 80**

There is a comprehensive research plan and monitoring program, designed jointly by the Department of Fisheries scientists, the Scientific Research Groups, the Rock Lobster Industry Advisory Committee (RLIAC) and some stakeholders to support the management system including the harvest strategy. The research sub-committee of RLIAC is tasked specifically with designing this research plan. The components of the research plan include strategic research, tactical research to resolve current issues in any sector of the fishery, as well as research and monitoring of the commercial and recreational fisheries. This is not a public document and is not subject to external review.

There is also a Strategic Plan for the Fishery developed by RLIAC. This is to maximize the long-term economic return to the State from the use of the rock lobster resource in the context of an Ecologically Sustainable Development framework and the pursuit of recognized commercial, recreational, conservation and social values (RLIAC Background Paper 7, 2005). This Strategic Plan takes precedence over that set by the research sub-committee, which is to amend its research plan accordingly.

Resources for monitoring and research are adequate to address significant environmental risks and impacts of fishing that are identified under the management system.

There is a comprehensive research plan and monitoring program to support ecosystem management which is part of the management system. Resources are available to address significant environmental risks and impacts of fishing that are identified under the management system. The research plans are not confidential but have not had full public release nor been subject to external review.

There is also evidence that research results are accepted and acted upon by the management system. For example, increased data collection through logbooks, implementation of Sea Lion Excluder Devices, and changes in the control and use of bait are all examples of management action based on advice provided.

## **9 TRACKING, TRACING FISH AND FISH PRODUCTS**

MSC Chain of Custody requirements were only checked as far as the landing of fish on board legally licensed fishing vessels and found to be compliant with MSC requirements. Further chain of custody assessments were not conducted for any of the fish moving from boat deck into the processing segment of the fishery either onboard or at shoreside processors. It is highly recommended that any Chain of Custody certificates issued for product originating from this fishery also examine and verify the captain's logbook data, the required reporting data on catch from the fishery, and observer reports as part of ensuring that the fish products carrying the MSC logo are properly verified.

## **10 PEER REVIEW, PUBLIC COMMENT, AND OBJECTIONS**

Two peer reviews were conducted by independent scientists as required by the MSC.

SCS has appended (Appendix 1) the peer reviewer comments to this report for public comment.

A public comment period, as required, was provided. Comments were received from World Wildlife Fund (Australia) and from Mr. David Offord (see Appendix 2). Although Mr. Offord's comments actually were received after the close of the comment period, SCS accepted the comments and used them to review and revise this report. SCS has engaged in discussions with Mr. Offord through the past several years, and believes that accepting his comments after the official close of the comment period was warranted as he has been one of

the few people to thoughtfully and continually engage the assessment team during surveillance audits and during the re-assessment process.

The comments received were both thoughtful and useful. WWF and Mr. Offord noted that the major issue of concern was the fact that there are conditions remaining in place from the original certification and the annual surveillance audits that have not been fully completed and therefore are troublesome in terms of continuing certification. The concerns relate to a lack of trust. In the comments received. It is clear that the two stakeholders feel the management system has not acted in good faith to comply with its contractual obligations under the MSC program or in general with regard to engaging stakeholders or in adopting processes that fully incorporate environmental and ecological factors into fisheries management.

In reading the comments, SCS understands the issues related to ongoing conditions and the lack of progress in complying with the conditions. In an effort to respond to this issue, SCS has provided some nominal timeframes in which certain conditions have to be met. Although the process for meeting conditions involves the client submitting an Action Plan with specific timeframes, the MSC also requires the assessment team to provide general guidelines on timeframes. In doing this, we hope that it helps address the concerns about fully completing ongoing conditions in a quick and sufficient manner to prove that the fisheries management system adequately meets the MSC standards for sustainable fisheries management.

Both stakeholders, WWF and Mr. Offord, also provided specific comments on individual performance indicators. SCS carefully reviewed these comments, and in many instances found the comments appropriate and modified the text of this report. In most instances, scores did not change; however, in two instances (2.1.1.1 and 3.1.4.2) SCS felt the stakeholder comments warranted a review of the score which resulted in the score being revised downward.

In general, the specific comments by WWF were about providing more specific language and information in support of the conclusions. SCS has endeavored to address these issues within the confines of this project.

The comments by Mr. Offord were of a different nature than those from WWF. Mr. Offord in most instances provided his views as to why scores assigned by the assessment team were not appropriate. While SC found that many good points were made and used these comments to improve the text of the report, SCS for the most part did not agree with Mr. Offord's interpretation of scoring.

No formal objections were filed against the findings of this report, either during or after the MSC required public posting for 21 days. This completes the entire MSC process for this fishery.

## 11 CERTIFICATION RECOMMENDATION AND PERFORMANCE SCORES

It is the assessment team's consensus judgment that the management of the Australian Western Australia Rock Lobster Fishery complies with the MSC's requirements for achieving certification. An Action Plan was developed by WAFIC in cooperation with the WA Department of Fisheries and is approved by SCS (see Appendix 3). Also, a contract exists between SCS and WAFIC for the required annual surveillance issues through the the next re-assessment period. Therefore, SCS as the certification body of record recommends that the fishery be issued a joint fishery/chain of custody certificate.

The MSC Certification Methodology requires that Certification Body appointed assessment teams both weight and score each Performance Indicator to determine if the fishery meets the required minimum performance for which certification is granted. The SCS assessment team conducted the weighting and scoring using a software program approved by the MSC for conducting AHP (Analytical Hierarchy Process), a process that supports decision making using both qualitative and quantitative inputs (see Williams, S. 2005 – Using the AHP and Expert Choice to Support the MSC Fisheries Certification Process, Version 2.0).

Weighting of Performance Indicators is completed to allow the assessment team to prioritize the issues in a fishery, allowing those issues that are deemed more important to carry more weight in the development of average scores under each MSC Principle. Scores are set per Performance Indicator on an individual basis.

Scores and weights are then combined to calculate a weighted average per MSC Principle. The scores and weights are shown below (see Table 3).

For Principles 1 and 2, the assessment tree is structured directly under each of the MSC Criteria. However, the structure of the assessment tree for Principle 3 is modified. Under MSC Principle 3, the Evaluation Team noted significant difficulty in developing a logical hierarchy of measures that remained unique to each MSC Criterion but also maintained a logical connection between indicators. Much of the difficulty stemmed from the fact that the 17 MSC Criteria under MSC Principle 3 vary in nature from general objectives to specific measures, but are not presented in a hierarchical framework from the very broad to the specific. Instead, the 17 MSC Criteria under MSC Principle 3 describe factors with significant redundancy. As a result, the Evaluation Team felt it necessary to adopt a structure to the assessment tree with a logical hierarchy that incorporates all the requirements spelled out by the 17 MSC Criteria and note the relationship of each Performance Indicator to the various MSC Criteria, as many of the Performance Indicators proposed can be linked to a more than one MSC Criterion. The precedence for this approach was established in the assessment of the Bering Sea Pollock Fishery in the United States (see Chaffee, C. et. al., 2005. Final Report – MSC Assessment Report, the United States Bering Sea and Aleutian Islands Pollock Fishery).

The WRL fishery achieved a normalized score of 80 or above on each of the three MSC Principles independently (Principle 1 – 85.59, Principle 2 – 80, and Principle 3 – 86.19). Although the evaluation team found the fishery in overall compliance (a normalized score at

or above 80 on each MSC Principle), it also found the fishery's performance on a number of specific indicators to be below the established compliance mark (an unweighted 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 3 below shows the overall results of the evaluation in terms of Principle 1, 2, and 3.

Table 3. Scoring assigned to fishery using Analytical Hierarchy Process (AHP).

Principles, Criteria, Subcriteria, and Indicators	AHP Assigned Weight	AHP Assigned Score
MSC	.333	85.59
Principle 1		
MSC	.714	86.23
Criterion 1		
SC 1.1.1	.151	87.82
Indicator 1.1.1.1	.081	100
Indicator 1.1.1.2	.153	90
Indicator 1.1.1.3	.125	95
Indicator 1.1.1.4	.182	95
Indicator 1.1.1.5	.301	75
Indicator 1.1.1.6	..158	90
SC 1.1.2	.127	88.35
Indicator 1.1.2.1	.233	95
Indicator 1.1.2.2	.261	75
Indicator 1.1.2.3	.131	95
Indicator	.285	90

	1.1.2.4		
	Indicator 1.1.2.5	.090	95
SC 1.1.3		.141	83.33
	Indicator 1.1.3.1	..667	80
	Indicator 1.1.3.2	.333	90
SC 1.1.4		.151	81.67
	Indicator 1.1.4.1	.222	90
	Indicator 1.1.4.2	.222	80
	Indicator 1.1.4.3	.222	85
	Indicator 1.1.4.4	.333	75
SC 1.1.5		.127	70
	Indicator 1.1.5.1	.200	70
	Indicator 1.1.5.2	.200	65
	Indicator 1.1.5.3	.200	65
	Indicator 1.1.5.4	.200	85
	Indicator 1.1.5.5	.200	65
SC 1.1.6		.302	95
	Indicator 1.1.6.1	1.00	95
MSC Criterion 2		N/A	

	Indicator 1.2.1	N/A	N/A
MSC Criterion 3		.286	84
	Indicator 1.3.1	.400	90
	Indicator 1.3.2	.600	80
MSC Principle 2		.333	80.00 <sup>4</sup>
MSC Criterion 1		.375	77.84
	SC 2.1.1	.227	77.5
	Indicator 2.1.1.1	.250	70
	Indicator 2.1.1.2	.250	75 <sup>5</sup>
	Indicator 2.1.1.3	.250	85
	Indicator 2.1.1.4	.250	75
	SC 2.1.2	.227	85
	Indicator 2.1.2.1	.500	75
	Indicator 2.1.2.2	.500	95
	SC 2.1.3	.122	75
	Indicator 2.1.3.1	1.00	75
	SC 2.1.4	.424	75

<sup>4</sup> The weighted average score for Principle 2 has been revised based on the revised score for Performance Indicator 2.1.1.2.

<sup>5</sup> The score for this indicator has been changed to reflect the evidence provided. This has been changed as a result of an error being published in the 6 October 2006 final report and discovered through a review by WWF and reported to the CB and the MSC. See footnote 1 for additional explanation.

	Indicator 2.1.4.1	.714	70
	Indicator 2.1.4.2	.286	75
MSC Criterion 2		.375	78.78
	SC 2.2.1	.667	80.67
	Indicator 2.2.1.1	.165	85
	Indicator 2.2.1.2	.165	85
	Indicator 2.2.1.3	.237	85
	Indicator 2.2.1.4	.433	75
	SC2 2.2.2	.333	75
	Indicator 2.2.2.1	1.00	75
MSC Criterion 3		.250	85
	SC 2.3.1	1.00	85
	Indicator 2.3.1.1	1.00	85
MSC Principle 3		.333	86.19
SCS Criterion 3.1		.173	86.43
	Indicator 3.1.1	.286	90
	Indicator 3.1.2	.286	80
	Indicator	.143	95



	3.1.3		
	SC 3.1.4	.286	85
	Indicator 3.1.4.1	.500	90
	Indicator 3.1.4.2	.500	75
SCS Criterion 3.2		.078	100
	Indicator 3.2.1	.333	100
	Indicator 3.2.2	.667	100
SCS Criterion 3.3		.155	81
	Indicator 3.3.1	.400	70
	Indicator 3.3.2	.200	85
	Indicator 3.3.3	.400	90
SCS Criterion 3.4		.185	89.43
	Indicator 3.4.1	.192	90
	Indicator 3.4.2	.192	85
	Indicator 3.4.3	.079	95
	Indicator 3.4.4	.179	100
	Indicator 3.4.5	.179	85
	Indicator	.179	85

	3.4.6		
SCS Criterion 3.5		.127	90
	Indicator 3.5.1	1.00	90
SCS Criterion 3.6		.282	81.67
	Indicator 3.6.1	.333	80
	Indicator 3.6.2	.333	85
	Indicator 3.6.3	.333	80

## 12 MEETING CONDITIONS FOR CONTINUED CERTIFICATION

To be awarded an MSC certificate for the fishery, the applicants (WAFIC) must agree in written contract to abide by 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 has been submitted and 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 for surveillance audits is in place. 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.

We are mindful that even though the applicant (WAFIC) takes the necessary steps to meet conditions, its capacity to affect the management system may be limited. In the case where the managers or other sectors of the fishery are not able to cooperate, it will be the applicant's responsibility to find other ways to effectively meet the conditions. The certification body will be mindful of the difficulties that may accrue as a result of different interests in the fishery when measuring performance against the required conditions.

## 12.1 General Conditions for Continued Certification

The general 'Conditions' set for the Western Australia Rock Lobster fishery are:

- WAFIC 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.
- WAFIC 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.
- WAFIC 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, WAFIC shall develop an 'Action Plan for Meeting the Condition for Continued Certification' and have it approved by SCS.

## 12.2 Specific Conditions for Continued Certification

In addition to the general requirements outlined above, WAFIC must also agree in a written contract with an accredited MSC certification body to meet the specific conditions as described in Section 8 and summarized below (within the agreed timelines that will be agreed in the 'Action Plan for Meeting the Condition for Continued Certification' to be approved by SCS).

### 1.1.1.5 Information is collected on the abundance/density of the stock.

#### Score 75

##### Condition

Resolve identified inconsistencies between time series of data and the various methods employed to assess the status of the stock (for details of suggested approach, see Corrective action for indicator 1.1.5.1). A review by Dr. Norm Hall (Murdoch University) is already underway as a result of a previous condition placed on this fishery during a past surveillance audit.(as described under Principle 1, Criterion 1 above). Under this Condition, WAFIC is obliged to complete a technical review of the modelling efforts to understand stock status and to address any identified inconsistencies through more thorough analyses or through the implementation of management measures or industry practice. The condition in this report requires an Action Plan that specifically places the contract with Dr. Norm Hall in the public domain for all stakeholders to be able to read, that specifically states how the results will be published that allows stakeholders to be alerted to the findings, that specifically indicates the time frame and mechanism the client (WAFIC) will use to discuss the outcomes of Dr. Hall's review and the response to the outcomes, and that specifically states exactly when the entire process will be completed. Although SCS is not in a position to dictate time frames for each specific factor, SCS does require that all of the steps required under this condition be completed prior to the first annual surveillance audit and that any management or industry actions required as a result of Dr. Hall's review be implemented prior to the second annual surveillance audit.

**1.1.2.2 Fishing effort is recorded, estimated, and standardized to effective fishing effort.**

**Score 75**

**Condition**

The first part of this condition is the same as for 1.1.1.5 in that the review by Dr. Norm Hall should address this issue.

In addition, the client is responsible for making sure that a specific analysis is undertaken that addresses the results in Wright et al. (in press). The analysis should specifically identify the fishing effort currently in the WRL fishery including apparent cycles and trends in catchability. The analysis should expressly reconcile all results with trends in other time series of data for the fishery, by fitting all time series simultaneously to models of the fishery, and specifically identify where any inconsistencies exist, why they exist, and a recommended course of action. This must be completed prior to the first annual surveillance audit.

**1.1.4.4 Harvest strategies are precautionary**

**Score 75**

**Condition**

The first part of this condition is the same as 1.1.1.5. require

In addition, the harvest strategy framework now in place must be revised to incorporate findings from the review being completed by Dr. Hall. The harvest strategy must be revised to include explicit reference to measures of uncertainty about current stock status, how uncertainty will be measured on an ongoing basis (taking account of trends in the full range of indicators available to the assessment), and how management will take into consideration uncertainty in its ongoing harvest policy responses. The revised strategy should specifically address the basis for considering the harvest strategy as precautionary.

WAFIC is required to detail a work plan to meet this Condition in an Action Plan submitted to SCS for approval. The time frame for completing the action must be prior to the second annual surveillance audit under the current certification of this fishery.

**1.1.5.1 Robust assessment methods are used to provide advice on stock status**

**Score 70**

**Condition**

The first part of this condition is the same as 1.1.1.5.

The second part of this condition is to complete a new and fully quantitative assessment of the WRL stocks using appropriate models and fitting to all relevant time series data is needed, being guided by the results of the review by Dr. Norm Hall..

A fully quantitative stock assessment, complete with a public report detailing all methods, assumptions, and results, must be completed prior to the second annual surveillance audit under the current certification.

**1.1.5.2**                      The assessment takes sufficient account of major uncertainties in data (including evaluation of assumptions) to provide a robust assessment of the stock.

**Score 65**

Condition

The Condition is the same as for indicator 1.1.5.1.

**1.1.5.3**                      Uncertainties and assumptions are reflected in management advice.

**Score 65**

Condition

All future advice by management to RLIAC, the Minister, and stakeholders, must include as a routine feature, “best estimates” of stock status and a forecast of effects of management arrangements. At the same time, the advice must also provide a clear indication of the major uncertainties in current assessments and projections. (see also Condition to indicator 1.1.4.4, 1.1.5.1 and 1.1.5.2).

The Action Plan submitted to SCS must include a description of how this requirement will be built into the formal processes of RLIAC and advice to the Minister, and the functions required must be implemented prior to the second annual surveillance audit.

**1.1.5.5**                      The assessment includes a quantitative evaluation of the consequences of current harvest strategies.

**Score 65**

Condition

The first part of this condition is the same as that for 1.1.1.5, 1.1.5.1, 1.1.5.2, and 1.1.5.3.

The second part of this Condition is the requirement to expressly publish results that describe the probability of the stock remaining above agreed reference levels. Where a current assessment can not reconcile contradictory trends in different time series of data, the analysis and published reports must undertake and report on sensitivity tests to these uncertainties in assessing consequences of future harvest strategies.

The implementation of this mechanism by the management system must take place either prior to the second annual surveillance audit or before a second fishing season occurs under this re-certification.

**2.1.1.1**                      The nature and distribution of habitats relevant to the fishing operations is known.

**Score 75**

Condition

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 capability with other efforts in the region and throughout Australia.

This condition must be met prior to the third annual surveillance of the fishery.

**2.1.1.2** Information on non-target species affected by the fishery, including incidental mortality, is known.

### **Score 75**

#### Condition

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.

**2.1.1.4** There is information on the potential for the ecosystem to recover from fishery related impacts.

### **Score 75**

#### Condition

To improve the score of this indicator, the client must propose an action plan that will improve performance of the management to be equivalent to the 80 Scoring Guidepost – “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. The client must ensure that the models developed take account of impacts from the fishery and the uncertainty surrounding the models and data.

Although the assessment team is not allowed to specify the mechanism for the analysis based on MSC requirements (see TAB Directives), the assessment team is required to specify the outcome. In this case, the outcome is not only the models specified above, but the use of data to facilitate the models that is equal to data from direct experimental studies using fished and unfished areas. In previous years the assessment team has attempted to get the fishery to improve its understanding of the effects of fishing through collection and analysis of better data on the topic. 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 CB will require evidence that 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 research plan must outline strategies that will be used to determine what impacts, if any, are occurring, and the extent of the impacts. Strategies could include, but are not limited to, comparing impacts of the fishery using areas that are unfished with

suitable/comparable fished areas at a scale that is appropriate and robust enough to understand impacts from fishing across the entire fishery. Regardless of the strategy or strategies chosen, the research plan should identify and provide evidence for the studies being scientifically robust.

The client will be required to show that the research plan is either developed with input from fully independent experts with demonstrated world-class credentials and research experience in ecological impacts of fishing (such as those on the ECO-SRG) or that it is properly reviewed by a set of independent experts of equal qualification. Additionally, the client must consult stakeholders (individuals and/or organizations in the commercial fishing industry, recreational fishing industry, and conservation groups) in the design and development of the plan.

The client is also 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.

This Condition is a follow on to Conditions from the initial assessment and is required to be fully completed in the time frame of this certification.

**2.1.2.1**                      **The trophic linkages and interactions between the non-target species and the target species are known.**

**Score 75**

**Condition**

The first part of this condition is the same as for 2.1.1.4.

The client must also 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. This is the same timeframe built in to the condition under 2.1.1.4.

**2.1.3.1**                      **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.**

**Score 75**

### Condition

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.

**2.1.4.1                      The impacts of the fishery on ecosystem structure, function, biological diversity, productivity, and habitat structure are within acceptable levels of impact and there has been an assessment of risks.**

### **Score 70**

#### Condition

The first part of the condition under PI 2.1.4.1 is to complete the work now underway by Richard Stoklos of E-Systems on re-assessing risks identified in the 2005 ERA conducted by the Department of Fisheries. This work must be completed within 18 months of the date of certification unless sufficient cause can be shown and agreed by SCS and, as necessary, members of the original assessment team.

The second part of the condition under 2.1.4.1 is to conduct a new Ecological Risk Assessment to a standard that meets the requirements identified by Dr. Mark Burgman in his 2005 review of ERA methods previously used in this fishery, which includes soliciting, receiving, and acting on advice from stakeholders, fishery managers, and the CB (Certification Body). A new ERA must be conducted directly following the completion of the work underway by Richard Stoklos (E-Systems). The new ERA must occur within 12 months of the completion of the work of Richard Stoklos, and at a minimum before 3 years after the date of certification.

The risks must be based on scientifically defensible evidence and inference about the possible hazards in the fishery, and moderate level risks, or hazards where there is insufficient information to determine risk, must be then used as the basis for an assessment of the impacts of the fishery across the full spatial scale of the fishery. The new ERA should at a minimum also cover all aspects of the 80 scoring guidepost for this indicator.

In addition, the research plan and implementation developed under 2.1.1.4 must integrate the information from the ERA.



#### 2.1.4.2

Management objectives and fishing practices are set in terms of impact identification and avoidance/reduction.

### Score 75

#### Condition

To meet the requirements of the performance indicator, the client must ensure that management performance meets the 80 scoring guidepost which states:

- “Management objectives and practices are designed to detect and reduce impacts, although they may not have been fully tested.
- The key impacts of the fishery that have been identified as posing a significant risk are mitigated on a precautionary basis using appropriate management tools (such as gear or deployment modifications, seasonal restrictions, size restrictions, closed areas, etc.)”

A description for the operation of the WRL Management System, that includes the EMS (Environmental Management System) and the ERA, has been provided through correspondence between the Department of Fisheries and SCS. This system description suggests that the entire management system would adequately handle the required environmental factors if there was evidence that all the parts of the system described in the WRL-MS and EMS provided to SCS were actually active and working.

Fully implementing all the prescribed parts of the management system (as noted above), or some other similar construct would be sufficient to meet the intent of this Condition. The system chosen and implemented must properly addresses the following key aspects:

- The management system should include a group, committee or set of groups or committees (previously identified to SCS as the WRL ESD Committee, the SL SRG, and the Eco SRG) that meet at least annually to discuss potential ecological risks from fishing and the management measures, if any, needed to address identified risks. The group(s), or committee(s), old or new, should have a published agenda and provide minutes and reports for public review.
- The groups(s) or committee(s) should publish reports at 6 monthly intervals, on the functioning of the EMS and progress toward meeting the stated EMS objectives for identifying risks and mitigating impacts.

This condition must be met within 1 year of the date of certification and prior to the first annual surveillance audit.

#### 2.2.1.4

The impacts of the fishery on protected, endangered, threatened, or icon species do not exceed acceptable levels.

### Score 75

#### 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 ERA (see Condition under 2.1.4.1). As stated above, the species for which risks need to be assessed in a more rigorous fashion include whales, dolphins, turtles, seabirds, and seahorses.

For sea lions, the data is clear. The assessments show that risks are higher than previously thought, so management actions are required to maintain the risks within acceptable levels. The condition for sea lions is therefore the implementation of SLEDs and the verification of their efficacy.

SLEDs must be introduced into the mandatory zone in the 2006/07 fishing season. The mandatory zone is the area shown on Figure 1 in the document 'Additional issues for SRG discussion', presented to the SL SRG meeting in September 2005. The SLEDs must be used for all WRL fishing within the mandatory zone.

The use and effectiveness of the SLEDs in the mandatory zone must be monitored and verified commencing with the 06/07 fishing season. The bycatch of Sea Lions must be monitored using a system that is sufficient to provide scientifically relevant results. It is clear that a full monitoring system across the entire mandatory zone may be too costly to be approved and implemented, especially without relevant evidence that it is needed. As a result, it is necessary that additional discussions occur between all groups (conservation stakeholders, managers, scientists) to determine the best course of action to monitor the effectiveness of SLEDs. WAFIC must bring together all interested parties to discuss this issue, and within 6 months of the certification of the fishery provide a plan of action to SCS for monitoring the effectiveness of SLEDs. WAFIC is also required to implement the proposed monitoring system before the next fishing season 2006/2007.

If any of these objectives are not met, the fishery would not qualify to maintain a certificate and the certificate would be revoked.

**2.2.2.1** Management objectives and fishing practices are set in terms of impact identification and avoidance/reduction to avoid or mitigate impacts of the fishery.

**Score 75**

Condition

Same as for Indicator 2.2.1.4.

**3.1.4.2** The management system has a plan for research needed to support the understanding of the ecological impacts of fishing [Relates to MSC Criterion 3.8]

**Score 75**

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.

This condition must be met prior to the first annual surveillance audit.

**3.3.1                      The management system involves all categories of stakeholders appropriately on a regular, integral, explicit basis [Relates to MSC Criterion 3.2]**

**Score 70**

**Condition**

The management system must provide opportunity for better representation of all stakeholder views and concerns in the advisory functions associated with management of the fishery. The continued lack of representation of stakeholders in the conservation community concerned with ecological impacts from fishing have been apparent and the focus of previous conditions from the first assessment of the fishery in 1999/2000. This can be accomplished in a number of ways, including by adjusting membership on the RLIAC.

WAFIC must provide evidence to SCS that this is being considered within 12 months of certification, and implemented within 24 months of certification to address the deficiencies identified by SCS under this performance indicator.

## **13        MSC LOGO LICENSING RESPONSIBILITIES**

As the “applicant” for certification of the Western Australia Rock Lobster fishery, WAFIC is the only entity that has the right to apply for a license to use the MSC logo. It is also the case that WAFIC has the right to approve the use of the logo for others associated with the fishery at its discretion.

## **14        CONCLUSION**

The SCS Assessment team concluded after all aspects of the MSC procedures were followed, that the Western Australia Rock Lobster fishery meets the standards of the MSC. 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 the determination in this report.

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## APPENDIX 1 – PEER REVIEW COMMENTS

### Peer Review 1

#### MSC Assessment - The United Western Australia Rock Lobster Fishery

Contract Number: SCS-MFCP-F-0081  
Version: SCS\_ Draft Report for Peer Review

**Date:** 8 July 2008

#### **Review:**<sup>6</sup>

The Assessment Team is well credentialed and has done a professional job in assessing the Western Australia Rock Lobster Fishery. Most of my comments are in relation the appropriateness of the evaluation and scores against a few of the performance indicator and to readability. The comments are made directly onto the text (marked in track change mode) and where I have not made any specific comment indicates that I support both the evaluation and score against the performance indicator. Overall I support the recommendations of the Assessment Team. However, in finalising the report I suggest the authors consider my general comments (see below) and specific comments marked on the text.

#### **General Comments.**

1. *Clarity* - Some sections should be rewritten to improve clarity and to correct a few typos. For example, see my notes on the text on page 20 and elsewhere in the text.
2. *Scoring* – A relatively minor point but I found some of the high scoring a little arbitrary with a reluctance to use 100. For example in 1.1.1.3 - why wasn't it scored 100 as the first two lines of explanation repeats the scoring guidepost for a score of 100.
3. *Acronyms* – the extensive use of acronyms needs to be dealt with more appropriately either by spell them out in the text the first time you use them or provide a list of acronyms. This would help readers (and reviewers) not familiar with the WA scene.
4. *MSC Principle 1* – I am generally supportive of the assessment but a little more explanation of scoring would be useful in some instances (see comments on the text). My only substantive comment for Principle 1 is for indicator 1.1.5 - Stock Assessment and associated criteria. Is the corrective action adequate for this key deficiency? Without a little more detail about the Hall review it is difficult for a reviewer to judge. However, given the reputation of the reviewer i.e. Hall I have confidence it will be very well done and implementation is then up to MSC to monitor and assess. One

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<sup>6</sup> This should be read in conjunction with my specific comments marked in track change mode on the report.

other concern that occurred to me in reading the assessment of MSC Principle 1 was that it seems several key assessment related activities stopped around 2001 e.g. 1.1.5.4 (page 41). If my view is correct a little more explanation of why they stopped would help. Overall I agree with the corrective actions proposed for the fishery assessments.

5. *MSC Principle 2* - This whole section needs a rewrite to improve clarity. The extensive use of unexplained acronyms was particularly annoying. I also expected more explanation about the impacts and the associated risks and the proposed actions to minimise the risks. For example, I support the need for action for the sea lion interaction but the zero mortality target possibly overstates the risk and hence the associated MSC response. However the way forward for sea lions is relatively clear i.e. get the SLEDs working and implemented and monitor and improve their performance.
6. *MSC Principle 3* - Currently it is clear from the report different authors took the lead for each Section. The whole report requires a thorough edit to ensure consistency of style and clarity. Of more concern is consistency across section and there seems to be some inconsistencies when comparing 2 and 3 (see my more specific comments in the text).

## **Specific Comments from Section 8 of the Assessment Report**

### **2.1.1.1 The nature and distribution of habitats relevant to the fishing operations is known.**

#### 60 Scoring Guidepost

- Some limited information on habitats exists in specific areas of the fishery,
- The distribution of fishing operations is broadly mapped.

#### 80 Scoring Guidepost

- The nature and distribution of the most significant habitats where the fishery operates have been mapped using an agreed and known classification system.
- The detailed distribution of fishing operations in space and time is regularly monitored and reported in a format that does not risk proprietary and confidential information.

#### 100 Scoring Guidepost

- The nature and the distribution of all habitats relevant to the fishing operations are known in detail, and mapped based on a known and agreed biophysical classification system as well as recent information.
- The nature and distribution of all fishing operations are known in fine-scale detail, and regularly reported in a format that does not risk proprietary and confidential information.

## **Score 80**

The detail of the habitats where the fishery operates is known for the Abrolhos region (Chubb et al 2002, Webster et al 2002), and there are various local-scale studies that have mapped habitats in some specific inshore areas where the fishery operates (e.g. Phillips et al recent papers). However, the deeper waters, and much of the remaining inshore waters have not been mapped in any detail across the fishery. Nonetheless, the deep-water areas are probably not as topographically complex as the inshore areas, and some areas may be reasonably understood from analysis of existing information held by individual fishers derived from acoustic data captured on their fishing vessels. [**Comment** – Recent biodiversity mapping data to 100m depth off Ningallo by the Australian Institute of Marine Science would suggest these shelf areas are topographicly very complex] Also, research projects (the FRDC project and the CSIRO/SRFME project) that include aspects of habitat mapping are underway in selected areas, and these activities may be extended to the others areas in the fishery in due course (January 2005 FRDC progress report).

The details of fishing operations are recorded in 1-degree blocks through compulsory fisher returns, and some additional detail is recorded voluntarily by about 30-38% of the fishers in 10-minute blocks on a daily basis. Together with gear control, this provides sufficient detail to enable the impacts of the fishery to be determined at a broad scale, and is adequate to meet the MSC 80 standard for fisheries of this type.

This assessment assumes that the mapping research for deepwater habitats will continue [Comment - what is this assumption based on?], and current projects implemented to map habitats both within marine parks and in other inshore waters will continue to provide an increasing knowledge base on habitat distribution, particularly in B and C zones.

#### 2.1.1.4 **There is information on the potential for the ecosystem to recover from fishery related impacts.**

##### 60 Scoring Guidepost

Key elements of the functioning of the ecosystem, including natural forcing factors, relevant to the fishery have been identified and ecosystem research is ongoing.

##### 80 Scoring Guidepost

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.

##### 100 Scoring Guidepost

- Detailed information is available on the resilience of the benthic ecosystem, and the potential for affected species and communities to recover from fishery related impacts.
- The information used to establish resilience should be as robust as information that could be derived from empirical studies comparing fished and unfished areas.

### **Score 75**

Key elements of the functioning of the ecosystem where the fishery operates have been broadly identified for shallow water habitats, and there are shallow water research projects (CSIRO/SRFME) underway to further address aspects of ecosystem function in habitats where lobsters live in the central west (Jurien) area of the fishery. However, there is only limited knowledge of deep-water habitats that support the older lobsters, and limited knowledge of species that may be ecologically dependent on lobsters.

There is no list or group of ecologically dependent species, and although there is an extensive list of dietary types and species, the only species assumed to be ecologically dependent by the fishery management system appear to be those taken as by-product species. No justification has been provided for this implicit set of assertions. The resilience of any actually ecologically dependent species to the impacts of fishing cannot therefore be assessed.

There is evidence that by-product species are not being overexploited (above), but no relevant information or analysis has been provided for assessment of other species.

Research projects are underway in both deep and shallow waters, but it is not yet clear if they have been designed to address this issue of resilience and recovery from the effects of fishing [Comment – what are the issues of ‘resilience and recovery’ and this seems to contradict the comments on page 47 (second paragraph) or are we referring to different issues by ‘effects of fishing’ and ‘impacts of fishing’]. The research plan that was proposed by the Eco SRG [Comment – what does this stand for?] has not been developed, and it is unclear if this will be a continuing initiative, if it will address this issue, or if the plan will be able to be implemented into effective research activities.

At the time of assessment, other than for by-product species, no evidence was provided relevant to the issue of the resilience or potential for recovery from fishing impacts of species that may be ecologically dependent on lobsters. There are no research programs in place that will provide such data and information, and this therefore does not meet the MSC 80 standard for a fishery of this type. [Comment – given some the historical reaseach on coastal systems in WA these comments seem a little harsh].

### Corrective Action

To improve the score of this indicator, the client must propose an action plan that will improve performance of the management to be equivalent to the 80 Scoring Guidepost – “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 ensure that models and estimates of resilience and recovery potential of the main dependent species in the fishery are being developed. In addition, the client must ensure that the models developed will take account of impacts from the fishery [Comment – if I was

involved in the fishery or associated fishery research I would be seeking more clarity about what is being asked] and the uncertainty surrounding the models and data.

The CB will require evidence that a plan (of research) to develop these models is developed. The research plan should outline strategies that will be used to determine what impacts, if any, are occurring, and the extent of the impacts. Strategies could include, but are not limited to, comparing impacts of the fishery using areas that are unfished with suitable/comparable fished areas at a scale that is appropriate and robust enough to understand impacts from fishing across the entire fishery. Regardless of the strategy or strategies chosen, the research plan should identify and provide evidence for the studies being scientifically robust.

The client will be required to show that the research plan is either developed with input from fully independent experts with demonstrated world-class credentials and research experience in ecological impacts of fishing (such as those on the ECO-SRG) or that it is properly reviewed by a set of independent experts of equal qualification. Additionally, the client must consult stakeholders (individuals and/or organizations in the commercial fishing industry, recreational fishing industry, and conservation groups) in the design and development of the plan.

The client is also 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.

This Condition is a follow on to Conditions from the initial assessment and is required to be fully completed in the time frame of this certification.

#### **2.1.2.2                      There is adequate knowledge of the impacts of fishing gear on the habitat.**

##### 60 Scoring Guidepost

The main impacts of gear use on habitat have been identified including type, extent and location.

##### 80 Scoring Guidepost

- Impacts of gear use on the main habitat types have been identified, including type, extent, location and frequency.
- Use of fishing gear in sensitive habitats is minimal.

##### 100 Scoring Guidepost

- The impacts of gear on habitats have been quantified, including details of any irreversible changes.
- Fishing gear is not used in or near sensitive habitats, and physical disturbance to any habitat has been shown to be minimal.

### **Score 95**

Fishing gear appears to be not used intensively in any habitats that are highly sensitive and vulnerable to the physical impacts of gear use (such as dragging of pots, or entanglement with lines, floats etc). However, the fishery does operate in and around coral reef habitats in the Abrolhos area, and while pots appear to be not be set directly on high risk coral patches or reefs, they are set in close proximity to high risk coral systems. They are also set on seagrass beds and on coral-algal assemblages considered to be of moderate biological risk from damage by pot fishing (pot densities are estimated up to 40 potlifts per hectare per fishing season in large areas classified as of moderate biological risk) (Webster et al 2002). There therefore appears to be a risk of moderate levels of environmental damage from fishing in the Abrolhos area.

The impact of fishing gear on limestone and granite reefs, seagrass and sand habitat that make up a majority of the remaining habitats in the fishery was assessed by the 2001 ERA process as a low risk, although it was acknowledged that this was not strongly supported by quantitative field studies of impact. The information base is thus not substantial for assessing the physical impacts of the fishery in these habitats (other than coral reefs), but it is determined that for all of those habitat types other than seagrass beds and coral-macroalgal assemblages, the risk is likely to be low and hence the need for information is limited. The research studies to be undertaken in shallow waters (the CSIRO/SRFME projects) as part of the Strategic Research Plan (Condition 2.1) may be developed to address amongst others the impacts of fishing on seagrass beds, including the physical impacts of pot deployment and rates of recovery of any physical damage. However, the evidence presented for assessment indicates that the directions of this research as yet remain uncertain. [Comment – I agree with the intent of the Action but how would you implement this if you do not have a good understanding of the habitats as noted earlier?]

2.2.1.2 There is adequate information about the interactions of the fishery with protected, endangered, threatened or icon species.

#### 60 Scoring Guidepost

The main interactions directly related to the fishery are known.

#### 80 Scoring Guidepost

Quantitative estimates have been made of the nature and extent of interactions for the main protected, threatened, endangered or icon species that directly interact with the fishery.

#### 100 Scoring Guidepost

Impacts on all protected, endangered, threatened or icon species are regularly assessed, quantified, documented and publicly reported

### **Score 85**

The interactions with the main species of protected, endangered, threatened or icon species is recorded in a voluntary logbook program completed by 30 to 38% of fishers [Comment – I thought that under the EPBC Act that fishery interactions with several if not all these

categories of species had to be reported] . Currently, the main focus of this is to record the bycatch of sea lions. These data are summarised for use in the ERA workshop process.

The limitation of data and knowledge of direct interactions to the data contained in the voluntary logbook program is a significant problem in the fishery. Evidence has previously been provided that the logbook data is broadly consistent with data derived from the DoF commercial sampling program conducted for stock management purposes. However, this is largely anecdotal, and only provides some measure of support for the voluntary program data. For example, it is not clear if small species of importance (such as seahorses) are likely to be recorded in either of these programs.

The fishery performance is generally consistent with MSC standards for protected, endangered or threatened species, but more robust data and knowledge may become important for assessing risks as awareness of icon species increases.

#### *Recommendation*

The fishery should take a more systematic approach to identifying and documenting the interactions with protected, endangered, threatened or icon species that occur in the region of the fishery. This should include a program of fishery-independent validation of the voluntary logbook data, and the random extension of the logbook program to other vessels which do not normally participate in the logbook program. Additional tools such as vessel profiling procedures (comparisons between observed and non-observed by-catch rates) should be developed for application in this fishery to assess patterns of interactions with these species that could indicate systemic under-reporting problems.

#### **2.2.1.4 The impacts of the fishery on protected, endangered, threatened, or icon species do not exceed acceptable levels.**

##### 60 Scoring Guidepost

Studies in the fishery have examined fishery impacts on populations of protected, endangered, threatened or icon species and mitigation strategies are in place and being developed where appropriate.

##### 80 Scoring Guidepost

Regular assessment of the conservation status and the impacts of the fishery on each protected, endangered, threatened or icon species demonstrates that impacts are generally maintained within acceptable levels.

##### 100 Scoring Guidepost

- The conservation status and impacts of the fishery on all protected, endangered, threatened or icon species are regularly assessed, quantified, documented and publicly reported through independent external expert review using empirical data.

Impacts are maintained within the acceptable levels in all areas where the fishery operates.

#### **Score 75**

The impacts of the fishery on protected, endangered, threatened, or icon species generally, except for Sea Lions [Comment – is that because a zero mortality target (noted above) is inappropriate and probably impossible to achieve?], appear to be maintained within acceptable levels. The evidence for this is limited, but risks and actual impacts generally appear to be low for most of the protected, endangered, threatened, or icon species that are known to occur in the same area as the fishery operates. The EMS provides for regular review and assessment of the risk assignments, although there is no systematic process for routinely providing this information to stakeholders and seeking their input. Evidence submitted to the assessment indicates that the key forum for this (the WRL ESD committee) has not been activated, and its role is being reviewed with a view to disbanding it.

The bycatch of Sea Lions currently exceeds the zero target level, and so the impacts of the fishery on the sea lion populations of the southern area of Zone B and the northern area of Zone C (centred around Jurien) currently exceeds the acceptable level.

For the fishery to attain the 80 level for this Indicator, Sea Lion bycatch must routinely be monitored in a robust surveillance system, and the bycatch level must normally be found to be zero based on monitoring data.

#### Corrective Action

##### SLED Implementation and Verification

SLEDs must be introduced into the mandatory zone in the 2006/07 fishing season. The mandatory zone is the area shown on Figure 1 in the document ‘Additional issues for SRG discussion’, presented to the SL SRG meeting in September 2005. The SLEDs must be used for all WRL fishing within the mandatory zone.

The use and effectiveness of the SLEDs in the mandatory zone must be monitored and verified commencing with the 06/07 fishing season. The bycatch of Sea Lions must be monitored using a system that is sufficient to provide scientifically relevant results. It is clear that a full monitoring system across the entire mandatory zone may be too costly to be approved and implemented, especially without relevant evidence that it is needed. As a result, it is necessary that additional discussions occur between all groups (conservation stakeholders, managers, scientists) to determine the best course of action to monitor the effectiveness of SLEDs. WAFIC must bring together all interested parties to discuss this issue, and within 6 months of the certification of the fishery provide a plan of action to SCS for monitoring the effectiveness of SLEDs. WAFIC is also required to implement the proposed monitoring system before the next fishing season 2006/2007. [Comment – this corrective action needs to be consistent with 2.2.2.1 which indicates SLEDs are still to developed.]

#### **3.1.2 The management system incorporates and applies an effective strategy to manage the ecological impacts of fishing [Relates to MSC Criteria 3.2, 3.7, 3.9, 3.10]**



#### Scoring Guidepost 60

The management system uses data on non-target species to inform management strategies, but there are no formal assessment procedures.

#### Scoring Guidepost 80

The management system considers ecological impacts from fishing, and has procedures for dealing with ecological issues that involves the appropriate range of scientific expertise and stakeholders.

#### Scoring Guidepost 100

The management system has an explicit and well defined strategy that takes into account all significant ecological impacts of the fishery, including non-target species and habitats, in developing and implementing management measures in the fishery to ensure that ecological impacts are well managed.

#### **Score 80**

[Comment – given the information presented (i.e. takes into account ‘some ecological impacts’ and the issue with the 2005 ERA, a score of 80 seems a little high – 70 more appropriate?]

The management system has an explicit and well-defined strategy that takes into account some ecological impacts of the fishery, including non-target species and habitats.

Two ERAs have been conducted for the Fishery, the most recent in 2005. However, the ERA conducted in 2005 had deficiencies in the manner in which it was conducted and its outcomes. Key weaknesses were the lack of an appropriate mix of experts and stakeholders, and the constraints on evidence and data provided to the ERA workshops as the basis for risk assignments.

An Environmental Management System has been adopted and implemented for the Western Rock Lobster Fishery (Anon 2004b). This is as yet based principally of the findings from the first ERA conducted in 2001.

The EMS and other associated documents (eg Scientific Reference Group reports) provide an assessment of the fishery’s interaction with:

- bycatch, eg octopus;
- protected and icon species, eg sea lions, turtles, whales and sea birds; and
- sensitive habitat, eg coral at the Abrolhos Islands.

Research has been, and is being, undertaken on the fishery’s interaction with sea lions with a view to legislating for excluder devices in the pots to prevent sea lions entering, to be used in the areas of the fishery most likely to interact with sea lions.

A research program is underway to look at some aspects of the impact of the fishery on deepwater ecology.

The management system considers ecological impacts from fishing, and has procedures for dealing with ecological issues that involve a range of scientific expertise and stakeholders.

**3.1.4.2 The management system has a plan for research needed to support the understanding of the ecological impacts of fishing [Relates to MSC Criterion 3.8]**

Scoring Guidepost 60

Some limited research to support ecosystem management is undertaken, and some of the research results are considered and adopted within the management system.

Scoring Guidepost 80

There is a strategically developed research plan to support the needs of ecosystem impacts assessment. Resources are generally available for the high priority studies in support of ecosystem management issues. Most research results are considered and adopted.

Scoring Guidepost 100

There is a research plan, designed jointly by scientists, managers and stakeholders, to support the ecosystem and to address significant environmental risks and impacts of fishing. The effectiveness of the research plan has been assessed, and resources are always available to support the high priority research needs for the management of ecosystem issues. The research results are made public and they are considered and adopted within the management system.

**Score 80**

There is a West Coast Rock Lobster Strategic Operational Plan January 2004 – December 2009 endorsed by RLIAC under the management system which includes activities needed to support the understanding of the ecological impacts of fishing, under the objective of achieving an ecosystem based management of the fishery. This plan does not appear to be peer reviewed, or otherwise examined externally to RLIAC and the Department of Fisheries. The RLIAC Research sub-committee develops a strategic plan for research which is then endorsed by RLIAC. The RLIAC Research sub-committee plan has still to be amended to take account of the Coast Rock Lobster Strategic Operational Plan. A separate research plan is being developed by the Ecosystem Scientific Reference Group, although this has not been completed and submitted to RLIAC for assessment.

The effectiveness of the research plans have yet to be fully assessed. In some cases studies have determined the impact on sensitive coral habitat at the Abrolhos Islands, but the other projects, such as the understanding of the ecological impacts of fishing in deepwater, are ongoing.

Resources are available to support research to understanding some of the ecological impacts of fishing.

Research results are made public (eg scientific publications and the Department of Fisheries publications, including the annual State of the Fisheries report to Parliament)

Results of research are routinely considered and adopted by RLIAC, Department of Fisheries and Government in their decision making processes within the management system, eg the management response to research of impacts on sea lions.

There is a strategic research plan for the Fishery which includes some studies to assess the impacts of the Fishery on the ecosystem. Resources are available to support high priority studies.

Comment – it is not clear to me whether the score and rationale for it for 3.1.4.2 is consistent with the finding of Principle 2.]

**3.4.1**                      **The management system has measures and strategies that are effective for restricting gear and practices to avoid by-catch, minimize mortality of by-catch, and reduce discards [Relates to MSC Criterion 3.12, 3.17]**

#### Scoring Guidepost 60

By-catch reduction has been considered by the management system and a preliminary plan is in place. The fishers assist and cooperate in the collection of the catch, discard and other information on the fishery.

#### Scoring Guidepost 80

By-catch reduction methods are part of the management system. The fishers assist and cooperate, and provide resources for, the collection of catch, discard and other information on the fishery.

#### Scoring Guidepost 100

There are specific measures in place to eliminate by-catch and discards in the management system and the results are measured against a series of targets.

#### **Score 90**

[Comment – again I am not convinced that there is consistency between the scoring for Principle 2 and 3. For example, given early comments and Actions (see Principle 2) about sea lions 90 seems a bit high.]

There are specific measures in place to significantly reduce by-catch and discards in the management system and results are measured against a series of goals. For example, the Fish Resources Management Regulations specify the gear that can be used in catching rock lobsters. The Department of Fisheries enforcement staff, check gear and measure compliance with regulations and research staff monitor bycatch and discards on-board working vessels

- The type and size of traps and entrance funnels are specified:

- the mandatory use of three or four escape gaps in each trap to reduce the retention of non-target species and undersize rock lobsters; and
- exclusion devices to eliminate the capture of sea lions are being tested.

The fishers assist and cooperate with authorities in the collection of catch, discard and other information on the fishery. For example, 30 to 38% of commercial fishers provide via daily research logbooks information on the number of undersize landed onboard their vessels and returned to the sea, interactions with protected species, etc.

There are measures and strategies in place that are effective for restricting gear and practices to avoid by-catch, minimize mortality of by-catch, and reduce discards. By catch of sea lions has been identified as a problem area but is being dealt with, although the exact extent of the problem and its solution remain to be identified.

#### 3.4.2 The management system has measures and strategies that minimize adverse impacts on the habitat [Relates to MSC Criteria 3.10, 3.13]

##### Scoring Guidepost 60

The management system requires efforts to identify and document fishery impacts on all habitats.

##### Scoring Guidepost 80

The management system is gathering knowledge of sensitive habitats in the area of the fishery. As information concerning potential impacts on sensitive habitats is identified, there are mechanisms in place to assess whether the impacts are significant.

##### Scoring Guidepost 100

The management system identifies and documents fishery impacts on all habitats, and there are measures and strategies to minimize adverse impacts.

#### **Score 85**

[Comment –consistency between the scoring for Principle 2 and 3. If you don’t know all the habitats (see Principle 2) how has the management system identified and documented impacts? I don’t disagree with the overall assessment of the fishery but I suggest greater consistency in comment throughout the report.]

The management system has identified and documented impacts on the fishery’s most sensitive habitat (coral at the Abrolhos Islands) and there are measures in place to minimise adverse impacts on this habitat.

The majority of the habitat in the Fishery is “limestone” or “sand”. The risk of adverse impact on this type of habitat is considered low.

#### 3.4.3 The management system does not allow use of destructive fishing practices [Relates to MSC Criterion 3.14]

#### Scoring Guidepost 60

The management system prohibits the use explosives or toxic chemicals to kill or stun aquatic species.

#### Scoring Guidepost 80

The operational practices in the fishery attempt to minimize habitat impacts except those impacts that are physically unavoidable consequences of authorized uses of fishing gear. There is evidence that the fishery does not use explosives or toxic chemicals to kill or stun aquatic species.

#### Scoring Guidepost 100

The management system prohibits fishery or operational practices that damage or destroy natural geologic, biologic, or chemical features or characteristics of the aquatic area in which the fishery occurs, except those impacts that are physically unavoidable consequences of authorized uses of fishing gear. There is a monitoring system in place to determine if such impacts occur.

There are effective penalties for the use of any such destructive fishing practices.

#### **Score 95**

[Comment – why not 100?]

The management system specifies the practices that may be used to catch the lobsters and does not allow fishery or operational practices that damage or destroy natural geologic, biologic, or chemical features or characteristics of the aquatic area in which the fishery occurs.

The fishery does not use explosives or toxic chemicals to kill or stun aquatic species. There is a comprehensive and effective compliance system in place to determine if such practices occur. There are effective penalties for the use of destructive fishing practices under the *Fish Resources Management Act 1994* and the *Fish Resources Management Regulations 1995*.

The management system does not allow or condone the use of destructive fishing practices, and there are penalties in place for the use of such destructive fishing practices.

#### **3.4.4**

**The management system provides for rebuilding and recovery  
[Relates to MSC Criterion 3.10]**

#### Scoring Guidepost 60

There are regular discussions on the state of the populations and stocks, which would identify if they were over exploited and in need of rebuilding.

#### Scoring Guidepost 80

Assessments are made of the population, and or stocks, to determine if they are falling below acceptable levels, so that plans for rebuilding could be developed.

#### Scoring Guidepost 100

Where populations or stocks impacted by the fishery have been found to have declined below prescribed levels, the management system is structured so that plans for rebuilding would be initiated.

### **Score 100**

Where population or stocks impacted by the fishery have declined below acceptable levels, the management system is structured so that plans for rebuilding would be initiated.

The WRL fishery has been divided into three management zones (Zone A, B and C) and the level of the spawning stock in each zone has been set to ensure the sustainability of the total stock (Caputi et al., 2004). If the breeding stock in any of the three areas falls below the reference level corrective management responses are triggered (Bray, 2004 and Anon 2004c and 2005), the elements of which have been tested and found to be effective for the recovery of depleted stocks.

A stock rebuilding exercise has been initiated. Because the level of the reproductive stock of rock lobsters in Zone B has declined below the 25% reference level, a recovery plan has been instituted in 2005, based on a reduction in fishing effort.

Assessments of stocks are made annually, and where they are found to be depleted there is an automatic system in place to initiate plans for recovery.

### **3.6.2 The management system provides for external assessment and review [Relates to MSC Criterion 3.2, 3.3]**

#### Scoring Guidepost 60

The management system has a system for occasional external evaluation of management performance.

#### Scoring Guidepost 80

The management system has a system for a regular external evaluation of management performance.

#### Scoring Guidepost 100

The management system provides for an independent, expert review, of management performance, and the results are made public.

### **Score 85**

[Comment – given earlier comments about stakeholder involvement etc I would only scored it as 80]

Aspects of the management system undergo independent, expert review of performance on an annual basis, and in more detail on an irregular basis, by the Auditor General (WA) (1999), and the results of the review are made public. This is the standard method of reviewing State government departments.

The management system does provides for a independent expert review of management performance against the three components (or 'bottom lines') of economic, environmental and social performance, directly tied to the concept and goal of Ecologically Sustainable Development, but only by the Western Australian Auditor General.

## **MSC Assessment Peer Review The United Western Australia Rock Lobster Fishery**

### **Overview of report**

This report provides a comprehensive background and assessment of the western rock lobster fishery. The reviewers have demonstrated a detailed knowledge of the fishery and systems in place to manage the fishery and made their assessments using a logical approach. Their conclusions, that the significant areas for attention are the Ecological Risk Assessment Process and the Stock Assessment, are justified by the material that they present. They also indicate where attention needs to be placed in each of these two areas and that the Stock Assessment is currently under review.

### **1. Overall clarity**

The report is clearly written and logically presented. It provides a comprehensive overview of the fishery, its interactions with other species in the region, and the habitats, the management systems in place for the fishery.

The clarity of the report would be improved in two areas:

1. Providing a brief description of the Analytical Hierarchy Process (AHP), particularly the weightings that were developed, in the Introduction and further explanation given in Section 11 where Table 3 is introduced.
2. Providing further explanation of how the 17 criteria in Principle 3 arranged into a “logical hierarchy” – it may be worth presenting a Table or diagram of the logical hierarchy and how the 17 MSC criteria map onto the Logical hierarchy.

Some suggestions are provided below that would further enhance the clarity of the report.

The data systems for the fishery are referred to in several places through the report. It may be helpful to briefly summarise this information in section 2.2 – the western rock lobster fishery – referring to the log book information, the voluntary logbook system, the fishery independent data and any information collected from observers.

In section 2.2, it would also be helpful to provide an indication of some of the major management interventions that have taken place in the fishery e.g. the 1992/3 pot reductions, the 2004/05 effort reductions.

p28 – 1.1.1.5 Information is collected on the abundance/density of the stock. This section refers to inconsistencies in trends between different time series – it would be worth expanding a little to say what these inconsistencies are.

P104 “correspondence of commitment” – it is not clear what this means



## **2. Adequacy of the background information (fishery, assessment process, conclusions and recommendations)**

The background information for all components in the assessment process is comprehensive. The conclusions and recommendations of the review are clearly presented and logically build on the background and assessments that were completed.

## **3. Technical comments (adequate description, conclusions, score)**

The technical comments are well reasoned and logically presented. In virtually all cases, the technical comments provide a sound basis for the score that is given. Only two cases below require consideration:

1.1.5.1 “Robust assessment methods are used to provide advice on stock status”

This indicator is given a score of 70 but at the end of the text, it is stated that it “barely meets the 60 scoring guideline”. This needs to be reworded so that it is consistent with the score or the score needs to be revised. From the text provided, a score of 60 might be more appropriate.

1.1.5.3 “Uncertainties and assumptions are reflected in management advice”. A score of 65 is given but the opening sentence questions whether the fishery “meets the 60 scoring level for this indicator”. The text indicates that a more appropriate score is possibly a 60.

In 2.1.2.2 “Adequate knowledge of the impacts of fishing gear on the habitat”, it is mentioned that the impacts of fishing on seagrass might be investigated as part of the SRFME project in Jurien Bay. This project has another 12 to 18 months to run. I am not aware of any research that has been completed in this area, or that is being planned as part of the project.

Two very recent developments are relevant to the review but would not have been available at the time of writing the review. An FRDC project, “Evaluating how food webs and the fisheries they support are affected by fishing closures in Jurien Bay, temperate Western Australia”, has been funded to start in July 2006 and continue until June 2009. This project will build on the Jurien Bay project by developing models of trophic linkages and food webs in the region. It will start to address some of the issues identified for indicator 2.1.2.1 “The trophic linkages between the non-target species and the target species are known”.

A draft research plan has been developed by the Ecosystem Effects of Lobster Fishing Scientific Reference Group and is likely to be submitted to RLIAC within the next month.

## **4. Additional technical comments**

No further technical comments to those outlined above.

## 5. Minor comments

- Minor corrections/comments have been marked using track changes
- has been some duplication in the references
- More details should be provided for some references
- Poynton et al. 2002 is missing from the references
- Section on Principle 3 – a section of text has been duplicated

### **Specific Comments from text of report**

#### **1.1.5.3                      Uncertainties and assumptions are reflected in management advice.**

##### **60 Scoring Guidepost**

- Major uncertainties are recognised and are reported in management advice, as well as possible implications of those uncertainties on the management advice.
- There is a moderate degree of confidence in the adequacy of uncertainties addressed in the management advice.

##### **80 Scoring Guidepost**

- Major uncertainties and assumptions are addressed in the management advice and through the appropriate decision rules to address those limitations.
- There is a high degree of confidence in the adequacy of uncertainties addressed in the management advice.

##### **100 Scoring Guidepost**

- All significant uncertainties and assumptions are addressed and reflected in the management advice, including appropriate decision rules.
- There is a very high degree of confidence in the adequacy of uncertainties addressed in the management advice.

### **Score 65**

It is not immediately apparent that the fishery meets the 60 scoring level for this indicator. [Either rescore this indicator – seems to be 60 from the text below or reword the above sentence] The general approach of the WA Department of Fisheries in providing advice to stakeholders is to stress certainty rather than to discuss uncertainty in assessments. As already noted, the approach to providing assessment advice is essentially an empirical and descriptive one, but this has become confounded recently due to inconsistencies across different data sets. Despite this, the Department continues to put forward advice on a “best assessment” basis, mainly relying on the strength of the monitoring and empirical indicators to support this approach. In responding to this indicator, WAFIC’s (and presumably the Department’s) assertion was that “There is a high degree of confidence in the adequacy of uncertainties addressed in the management advice. This is based on the use of high quality, robust empirical data (e.g. time series of spawning stock estimates – fishery dependent and independent) and where necessary sophisticated models that take into account the major uncertainties in the data and functional relationships (e.g. Hall and Chubb 2001)”. It has

already been noted that indicators may not be as robust as claimed and that the models do not account for major uncertainties in the data (see 1.1.5.1), and where stock projections are given in support of management advice (e.g. Anon 2004, Figure 3), there is no indication of uncertainty in those projections (see also indicator 1.1.5.5). The advice given to stakeholders on alternative management arrangements to halt the decline in stock levels in the Northern Zone does not include any quantitative evaluation of uncertainties in advice (Anon 2005). This indicator is given a very bare pass at the 60 level, based on there being at least a qualitative statement of uncertainty about the causes of the decline in stock status in the Northern Zone, e.g. “there is currently a resource sustainability problem in the northern zone and this has most likely been caused by a significant increase in the efficiency and effective effort of the fleet” (Anon 2005, page 6).

#### Corrective action

In all future advice by management to RLIAC, the Minister, and stakeholders, it should become a routine feature that management advice include not only “best estimates” of stock status and forecast effects of management arrangements, but also provide a clear indication of major uncertainties in those assessments and projections. This should not cause problems for maintaining stock status provided precautionary approaches to uncertainty are also built into decision rules (see also Corrective action to indicator 1.1.4.4).

## APPENDIX 2 – PUBLIC COMMENTS ON DRAFT ASSESSMENT REPORT



Dr Chet Chaffee  
Scientific Certification Services  
2000 Powell Street  
Suite 1350  
Emeryville, CA 94608  
U.S.A.

29 August, 2006

Dear Dr Chaffee

***Re: MSC Assessment for the Western Australia Rock Lobster Fishery***

Thank you for the opportunity to comment on the current assessment of the Western Australia Rock Lobster Fishery (WRL), against the Marine Stewardship Council (MSC) standard. WWF is pleased that the WRL Fishery has chosen to remain engaged in the MSC process, and congratulate the fishery in taking the steps to ensure that Sea Lion Excluder Devices will be placed in lobster pots this coming fishing season.

Our detailed response to the draft MSC Assessment can be found in Attachment 1. WWF is relatively comfortable with the current Assessment and proposed Corrective Actions. However, we seek further improvement from the fishery through this Assessment, particularly in regard to Principle Two. Accordingly, we raise issues that in our view will complement the existing program of work, and seek to improve the rigor of data that underpins much of the current and future ecosystem-related activities in the fishery.

WWF have been concerned with the time that it has taken to complete the current reassessment, and have raised this issue in a broader context with MSC in London. Given that the WRL fishery was the first fishery to enter into the MSC process, we are cognisant of the difficulties associated with this position. However, we anticipate that this problem should be rectified in future audits so that ongoing extensions are not considered to be a 'normal' MSC practice.

We look forward to continuing our association with the WRL fishery. Should you have specific questions in regards to the attached document, please contact Lorraine Hitch on (03) 9669 1306.

Yours sincerely



Dr Ghislaine Llewellyn  
Program Manager Oceans

cc. Guy Leyland - WAFIC

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**WWF Australia Submission**

**on the**

**MSC Assessment**

**The Western Australia Rock Lobster Fishery**

**August 2006**

## **Introduction**

WWF have been engaged in the process of MSC Western Rock Lobster Certification since certification in March 2000. In response to the current MSC assessment (Assessment) report of the Western Rock Lobster Fishery (WRLF), WWF generally concurs with the findings and scoring against the performance indicators. WWF welcomes the certifier's identification of the need for ongoing improvements to the Ecological Risk Assessment (ERA) and to the rigor of the stock assessment for Western Rock Lobster. However, there are instances where WWF believes that the Assessment does not provide adequate justification for the scoring, and where WWF considers that the text of the Assessment is inconsistent with the score.

Some broad comments that apply to the overall Assessment are provided below. Comments on specific indicators are included in Annex 1.

## **General Comments**

### **1. Validation of data**

A particular area of concern noted in the Assessment, is the lack of verification processes for bycatch (Section 1.2). The Assessment indicates that this issue is addressed in greater detail in the report. WWF shares this concern of lack of independent data validation, but finds little evidence of Corrective Actions to address this issue.

WWF understands that there was an observer program in the fishery that included the monitoring of interactions with species such as seals, turtles, dolphins (Western Australian Department of Fisheries (WADF), 2001). However, the Assessment fails to reference this program, indicate the status of the observer program and, if it is still in place, the extent to which the data validate those collected in the logbook program. Further, the adequacy of the program in terms of the proportion of pot lifts observed and temporal and spatial coverage have not been addressed. WWF considers it is essential that data on bycatch and interactions with protected species, in particular those with leatherback turtles, are validated. Consequently, WWF supports the use of a robust observer program for this purpose. Currently the ERA and the Assessment rely heavily on what appears to be un-validated data on the fishery's impact on non-target species, particularly threatened, endangered or protected species.

### **2. Status of the ERA**

The status of the 2005 ERA remains unclear to WWF. The Western Australian Department of Fisheries web site provides a copy of the Western Rock Lobster Fishery Ecological Risk Assessment 2005 Report, published as Fisheries Management Paper No.

203. This document appears to be final and includes responses to comments on the draft ERA. However, the Assessment makes a number of references to the fact that the ERA is, for example on P. 51 'yet to be completed'. Given that the Assessment relies in many instances on outcomes of the ERA process as a basis for its findings, it is of concern that the certifiers do not regard the ERA as a final document. Further, the completion of the ERA was a core component of the conditions of the original certification so the view of the certifier pertaining to the validity of the ERA requires clarification.



### **3. Timeframes for completion of Corrective Actions**

The Assessment notes that the fishery has been slow to comply with many of the conditions imposed by the original certification (p. 15). WWF acknowledges that the period of the first certification of the Western Rock Lobster Fishery has been a learning experience for the client and the Marine Stewardship Council (MSC). However it is now six years since the original conditions were imposed and some, specifically the ERA, are yet to be adequately completed. WWF notes that the Assessment fails in most instances to specify time frames for completion of Corrective Actions, choosing instead to allow the client to specify the time frame in the Action Plan to be developed in response to the Assessment. Based on experience to date, WWF believes that it would be preferable for the Corrective Actions to specify the timeframes within which the client must comply. In particular, WWF considers that timeframes should be specified for compliance with the Corrective Actions in relation to Indicators:

- 1.1.1.5 Information is collected on the abundance/density of the stock; and
- 1.1.4.4 Harvest strategies are precautionary.

### **4. Ecological advice**

WWF notes that the July 2005 surveillance report indicated that a direct request to the Minister to place a person with greater ecological training on RLIAC had been made (Chaffee, 2005). However, there is no indication in the Assessment if the Minister agreed to the request, whether the *Fish Resources Act 1984* has been amended to provide for this or whether an appointment has been made. The Assessment notes that the lack of a relevant range of ecological expertise continues to constrain the fishery's capacity to determine the impacts of the fishery on the ecosystem (p. 56). However, the Corrective Action for performance indicator 2.1.4.1 does not require the client to address this need. WWF acknowledges that it may be difficult to secure the services of a suitably qualified ecologist on RLIAC. However, given the nature of many of the Corrective Actions, WWF considers that such an appointment will be critical to the ability of the RLIAC to comply with the requirements of the MSC certification.

### **5. Cohesion of the Management System**

A consequence of the fishery's attempts to respond to the needs identified by the MSC has been the establishment of a range of processes and groups/committees. It is the view of WWF that the expansion of the management system to accommodate the various reporting needs has led to a disjointed and possibly inefficient management system. The structure of the system in terms of reporting arrangements and interactions between its various elements lacks clarity. In order to ensure the long-term cohesiveness of the management system, WWF believes that there is a need to review the components of the system and to clarify the roles of, and relationships between these components. WWF has been a strong advocate for greater stakeholder engagement and improved transparency in decision making in the WRLF. However the capacity to engage productively in the increasing number of committees and working groups comprising the management system for the WRLF is proving challenging for non-governmental organisations such as WWF. The logistics associated with identifying suitably qualified staff and devoting time and money to attending meetings and providing input and





comment on fishery reports is increasingly difficult. Other stakeholders may be similarly affected. A review of the management system, as suggested above, may therefore be of advantage to all stakeholders, not just WWF and other Non Government Organisations

## 6. Conclusion

In addition to the overarching issues raised above, WWF's main concerns with the WRLF remain largely in relation to Principle 2. Specific details on these concerns are provided in Attachment A. WWF notes that the fishery barely meets the overall Score of 80 against Principle 2. The rigor of the ERA is critical to continuous improvement against the criteria underlying this principle. WWF believes that there remains considerable scope to improve the confidence in the data collected on bycatch and interactions with protected species. Until this occurs, the risks associated with interactions with these species should reflect the uncertainty. WWF believes that incorporation of the CSIRO model of ERA will assist in this regard.

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## **Specific Comments on Indicators**

### **1. Fishing related mortality (Indicator 1.1.2.1)**

#### **a) Recreational catch**

WWF recognizes the inherent difficulty in collecting reliable and credible recreational fishing data, and that improved procedures for the estimation of recreational catch of Western Rock Lobster have been introduced in recent years. However, given the magnitude of recreational catch of around 400t, (WADF, 2005) relative to total commercial production, WWF believes that it is important that some validation of the estimate is undertaken on a regular basis in order to provide increased confidence in the estimating procedures and hence the stock assessment that relies in part on this data.

#### **b) Mortality of protected parts of the stock**

The Assessment notes that to reduce mortality, there have been improvements to escape gaps and in the time allowed to keep undersize and mature females before returning them to the sea (p. 30). However, the assessment provides no indication of whether the effectiveness of the escape gaps has been assessed, how the time limit is enforced or of the survival rates of lobsters escaping through gaps or returned to sea within the specified time limit. WWF considers that the Assessment should, at a minimum, recommend that the client address these issues.

### **2. Limit and target reference points (Indicator 1.1.4.1)**

WWF queries the score of 90 against this indicator. The management arrangements are clearly not able to ensure that the limit reference point (i.e. egg production at 25% of unfished levels) is not breached. As the Assessment notes, the level of egg production has fallen to 15% of unfished levels despite the limit reference point being 25%. WWF believes that on the basis of this experience, the score is overly generous.

### **3. Uncertainties reflected in the management advice (Indicator 1.1.5.3)**

WWF concurs with the view of Peer Reviewer No 2 in relation to the Score of 65 for this indicator. The text of the Assessment does not support the 60 Scoring Guidepost. The first sentence notes that “The general approach of the WA Department of Fisheries in providing advice to stakeholders is to stress certainty rather than to discuss uncertainty in assessments”. This appears inconsistent with the 60 Scoring Guidepost that requires ‘Major uncertainties are recognised and are reported in management advice, as well as possible implications of those uncertainties on the management advice.’ In addition, the correct score requires clarification since the text indicates a score of 60 while the score recorded is 65.

### **4. Non-target species (Indicator 2.1.1.2)**

The Assessment identifies octopus, deep-sea crabs and a variety of finfish as byproduct of the WRLF; sea lions, sea horses, wrasses, manta rays, moray eels and Port Jackson



sharks as bycatch; and leatherback turtles, whales and dolphins as having occasional interactions with the fishery gear.

The indicator requires that information on these species, including incidental mortality, is known. The overall assessment by the certifiers is, that the 'information on bycatch species is adequate to permit assessment of the impacts of this fishery on such species.' However, the Assessment:

- provides no indication of the incidental mortality of octopus;
- makes vague assessments (e.g., 'occasional catches', 'rare', 'persistent but low') of the take of deep-sea crabs and leatherback turtles, with no information on the nature or reliability of the data supporting this assessment;
- provides some estimates of the mortality arising from humpback whale entanglements and sea lion drowning in pots, but again gives no indication of the reliability of the data; and
- acknowledges that the mortality of moray eels and protected sea horses is unknown. Given the above, WWF questions if the certifier's conclusion and score of 80 is justified. Given some of these non-target species are protected, the onus on the fishery to provide reliable information on interactions with these species should be higher.

WWF understands that there is, or at least was, an observer program in the fishery that should provide validation of some of the voluntary and mandatory logbook data. However, the Assessment makes no reference to the observer program, its role, or extent of spatial or temporal coverage of fishing effort. It is unclear whether this program is validating the other fishery-dependent data collected. The relative emphasis placed on data from the observer program, and from logbooks in stock assessments and the ERA processes is also unclear.

## **5. Recovery from fishery related impacts (Indicator 2.1.1.4)**

WWF has encouraged the adoption of no-take areas for the purposes of determining the impact of fishing, through comparison of fished and unfished areas. In particular, WWF has expressed concern at the reluctance of the fishery to address the impacts of biomass removal on other trophic levels. This view was reiterated at the November 2005 MSC Workshop for WRLF Stakeholders and was supported by independent scientists. The Workshop as a whole agreed that it would be valuable to have closed areas to provide information on the impact of fishing on the ecosystem. WWF notes that the Corrective Action requires that strategies are developed to determine what impacts, if any, are occurring, and the extent of the impacts. The Corrective Action also notes that such strategies could include comparing fished and unfished areas. Industry has been opposed to this approach on the grounds that no-take areas may lead to an extension of closed areas. However, WWF believes that if the no-take zones are introduced as part of a research program specifically designed to provide information for fishery management purposes and for which the objectives and time frames are specified clearly, this will overcome industry concerns. Consequently, WWF believes that the Corrective Action should require the use of fished and unfished areas for this purpose. (These comments apply equally to the Corrective Action under Indicator 2.1.2.1.)

WWF believes that the time frames specified in the Corrective Action should be reassessed. The requirement to implement a research plan and collection and analysis of 1 year of data by 2010 is very generous given that this Corrective Action is effectively outstanding from the original certification. WWF suggests that it would be more appropriate to require that the research plan be implemented by end 2007 and that the first analysis of the data collected, be available by mid-2009.

#### **6. New ERA (Indicator 2.1.4.1)**

WWF concurs with the need for the client to conduct a new ERA, in accordance with the requirements specified by the Assessment. However, given that a robust ERA was one of the conditions of the original submission, WWF considers that a revised ERA should be conducted and completed within 2, rather than 4, years from the date of certification.

In addition, WWF notes that previous corrective actions, arising from surveillance reports required that WAFIC contract a member of the CSIRO ERA staff to complete an ERA according to the methodology developed and used by CSIRO for fisheries managed by the Australian Fisheries Management Authority. WWF understands that a contract to this effect has been negotiated. However, the Assessment makes no reference to the role of the CSIRO assessment in the new ERA process, now required by the new Corrective Action. This needs to be clarified in the Assessment.

In addition, WWF notes that Table 3 records a score of 75 against this indicator as compared to 70 in the Text (p. 56). WWF concurs with a score of 70 and this should be reflected in Table 3 and in the overall scores.

#### **7. Impacts on protected, endangered, threatened or icon species (Indicator 2.2.1.1)**

The Assessment lists the relevant species to this indicator as sea lions, whales, dolphins, turtles, seabirds and possibly seahorses, sharks and manta rays (p. 59). The indicator requires that there is adequate information about the interactions of the fishery with protected, endangered, threatened or icon species. The Assessment provides a score of 85 which implies that “Quantitative estimates have been made of the nature and extent of interactions for the main protected, threatened, endangered or icon species that directly interact with the fishery.”

Of the identified list of relevant species, the following are listed under the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) and in many cases are protected by State legislation:

- humpback whales
- marine turtles and sea lions are listed as vulnerable under the EPBC Act
- all species of dolphins
- many species of albatross and other seabirds
- seahorses





The 2005 ERA considers interactions with sea lions, whales, turtles, seahorses, manta rays and sharks. No explicit consideration was given to dolphins or seabirds. The 2005 ERA noted that “The Department of Fisheries collects, compiles and analyses data from the fishery on interactions with protected species through mandatory and voluntary forms of reporting. However if there is no independent data collection, there is a risk that data sourced entirely from the fishery could under-report the true extent of interaction with protected species” (WADF, 2005). For some species, e.g. seahorse, the Assessment acknowledges that the extent of interactions is unknown. In such cases it is therefore not possible for the 80 Scoring Guidepost to be attained. If the certifiers interpret the ‘main protected, threatened, endangered or icon species’ to be a subset of the relevant species identified on P. 59 this should be clarified.

The Assessment acknowledges that there are concerns about the comprehensiveness and accuracy of the data (p. 60). WWF also notes that interactions with species listed under the EPBC Act must be reported to the Commonwealth Department of the Environment and Heritage. Therefore if there is any doubt about the comprehensiveness of the data, fishers may be in breach of the EPBC Act.

WWF agrees with the Assessment’s finding that the results of the 2005 ERA are incomplete, but disagrees that the information base is adequate to be able to make a quantitative assessment of the likely level of interaction for most of these species. WWF considers that the fishery’s performance against this indicator is consistent with the 60 scoring guidepost (i.e., that the main interactions are known). To meet the 80 scoring guidepost would require that independent data are collected to validate the logbook data, and that data on all interactions with the list of identified species are also obtained. WWF suggests that the Recommendation be replaced with a Corrective Action.

WWF notes that the quality of the data also impacts on the Assessment’s findings under Indicator 2.2.1.3. While an implicit level of unacceptable risk may have been determined, the credibility of this assumption is doubtful in the absence of good data that detail the level of interactions.

#### **8. Acceptable levels of impact on protected species (Indicators 2.2.1.4)**

WWF concurs with the Corrective Actions but believes that it is necessary to extend the Corrective Action requirements beyond sea lions. The 80 Scoring Guidepost requires that ‘Regular assessment of the conservation status and the impacts of the fishery on each protected, endangered, threatened or icon species demonstrates that impacts are generally maintained within acceptable levels’ (emphasis added). The Corrective Actions need to ensure that the fishery is in a position to: establish, on the basis of credible data, acceptable levels of interaction for each of the specified species; implement a program of regular review for each of these; and establish management objectives for each form of interaction. If this process of review is linked to the ERA there needs to be an agreed program for the conduct of ERAs so that regular assessment is guaranteed.



Of particular concern to WWF is the uncertainty with regard to the level of interaction with turtles, especially leatherback turtles. Leatherback turtles are the only species of turtle identified as at moderate risk by the ERA.

In the 2004/05 State of the Fisheries report, Penn *et al.* (2005) report that:

The stock of leatherback turtles is mainly at risk from fishing in adjacent countries.

A performance measure for the fishery is that there is no increase in interactions with turtles. In 2003/04 five leatherback turtles were reported to have been entangled in lobster fishing gear, of which three were released alive. This represents a slight increase from the average of three entanglements per season over the preceding three seasons. Although this small increase in entanglements is of concern, the historical level of interaction is based on very few years of data and may not be truly representative. Leatherback turtle interactions will continue to be monitored.

WWF seeks clarification on the following points:

- why there are no 2004/05 data relating to turtle interactions reported in the 2004/05 State of the Fisheries Report? Is this because the data are not available? This is a key concern;
- is maintaining the level of interactions with a protected species an appropriate performance measure? For species such as the leatherback turtle that are under increasing pressure for survival, the goal should be to reduce impacts, to zero if that is possible. Given that the figures reported for 2003/04 are an increase over the earlier years, it is evident that the existing management arrangements are not performing well, even against the current indicator.
- whether it is logical to imply that, since the major threat to leatherback turtles is coming from adjacent countries, this diminishes the risk associated with the take of even a small number of turtles by the WRLF. WWF argues that the opposite is true. As the species comes under more pressure from other fisheries, the risks associated with interactions of the WRLF with each individual leatherback turtle increase.

WWF notes that the Australian section of a recent report by the Indian Ocean – South- East Asian Marine Turtle Memorandum of Understanding (Hamann *et al.*, 2006) identified entanglement in float lines used in lobster and crab fisheries as the major threat to leatherback turtles in Australia. The report also noted that in lobster fisheries catch and mortality are not quantified, that many captures occur annually and that an estimated 75% of leatherbacks are released alive.

WWF believes that the Corrective Action should be expanded to require the client to reassess the acceptable level of impacts on leatherback turtles, to ensure that data collected on the level of interactions are validated, to publish the most recently available data in a timely manner and to identify mitigation measures for turtle interactions. The



Assessment notes that the MSC Certification Methodology is designed to evaluate whether a fishery is being managed consistent with emerging international standards of sustainable fisheries (p. 19). WWF believes that the proposed Corrective Action would result in the WRLF operating in accordance with the *FAO Guidelines on Reducing Sea Turtle Mortality in Fishing Operations* (FAO, 2004).

## **9. Manage the ecological impacts of fishing (Indicator 3.1.2)**

The Assessment acknowledges:

- that the management strategy in the WRLF takes into account ‘some’ of the ecological impacts of the fishery;
- there are key weaknesses in the ERAs conducted in 2001 and 2005, including the lack of an appropriate mix of experts and stakeholders; and
- that the current EMS is based in large part on the 2001 ERA, which was considered to be inadequate.

In relation to research on ecological impacts, the Assessment relies on research into impacts on sea lions and into some aspects of deepwater ecology. The Assessment makes no reference to the lack of research into interactions with other bycatch or protected species.

Given these identified deficiencies, WWF questions whether the fishery meets the requirements of the 80 Scoring Guidepost and suggests that this score be reviewed.

## **10. Plan for research on ecological impacts (Indicator 3.1.4.2)**

The Assessment notes that the *West Coast Rock Lobster Strategic Operational Plan, January 2004-December 2009* includes activities needed to support the understanding of the ecological impacts of fishing. However this document does not appear to be available on the internet and the assessment provides no details of the relevant activities, or whether these activities have been funded.

WWF considers that the assessment against this indicator is superficial and that insufficient justification is provided for a score of 80. In addition, WWF believes that there is some inconsistency between this score and the Corrective Actions required, for example, against indicators 2.1.1.4 and 2.1.2.1.

## **11. Broader stakeholder participation (Indicator 3.3)**

WWF supports the Corrective Action but considers that it should be more prescriptive about the range of stakeholder participation that needs to be included in the fishery’s consultative and decision making processes.

## **12. Destructive fishing practices (Indicator 3.4.3)**

The Assessment appears to be consistent with a score of 100 rather than 95, since it raises no qualifications as to the compliance of the fishery with the 100 Scoring Guidepost. If the 95 rating is to be retained there needs to be some justification for this rating in the Assessment.



### **13. Compliance (Indicator 3.5.1)**

Since the references supporting the assessment of compliance are confidential documents, WWF has no basis on which to assess whether it concurs with the assessment of a low level of illegal fishing or to determine whether the compliance reports relate to both commercial and recreational fishing.

Given that recreational fishing accounts for around

4% of the commercial take, it is important that there is confidence in compliance by recreational fishers with bag and possession limits. WWF suggests that the Assessment include reference to compliance by recreational fishers and confirm whether there is any credible estimate of the level of illegal recreational take and any information to support a high level of compliance.

### **14. Impact of fishing gear on the habitat (Indicator 2.1.2.2)**

The indicator requires that ‘there is adequate knowledge of the impacts of fishing gear on the habitat’. WWF queries whether the assessment provided is consistent with a Score of

95. The Assessment notes that the 2001 ERA’s conclusion that impacts on habitats, other than the reef areas around the Abrolhos Islands, were a low risk was ‘not strongly supported by quantitative field studies’. There does not appear to be any more definitive information available some 5 years later to support that conclusion.

In addition, the Assessment acknowledges that the ‘information base is not substantial’. The Assessment also appears to rely on the possibility that proposed research may address some of the information gaps. The Assessment provides no indication of the relative frequency of impacts on coral reefs areas and in other areas of limestone and granite reefs, seagrass and sand habitat.

WWF considers that the Assessment’s justification of its Score requires elaboration and that there is a need for a contingency plan, in the form of a recommendation, should the proposed research not address the impact of fishing on seagrass beds. In this respect WWF notes that Peer Reviewer 2 indicated that it was unlikely that the proposed research would form part of the project.

### **15. Impact of bait bands (Indicator 2.1.3.1)**

WWF supports the Corrective Action but considers that it does not address one of the fundamental issues identified in the Assessment, i.e., that there is very little evidence to assess the impacts of bait bands lost or discarded to the ocean from the fishery and that it is therefore difficult to make a reliable assessment of the level of risk posed by bait bands. WWF suggests that the Corrective Action should include the requirement for the initiation of research to support a reliable assessment of the level of the risk.

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## COMMENTS ON RECERTIFICATION DOCUMENTS

One key issue has been overlooked in the assessment and that is that the requirements of the previous certificate be properly met before recertification proceed. In several fundamental ways, the requirements of the last certificate were not met. There has been no real attempt to reconcile those matters in the period since the conclusion of the original certification period in March 2005 until the present day.

These matters ought not to be put off indefinitely into the future within the timelines of any future certificate. There ought to be no recertification until those matters are dealt with fully and comprehensively. Since eighteen months has passed and nothing essentially has been done to see that the state of the target species, and to ensure the quality of the Ecological Risk Assessment, and the Ecological Risk Management it must be assumed that these matters be downgraded to a level that is below the MSC standard by definition of having been avoided in the existing certificate.

These matters are the prerequisite on going ahead. The assessment is handled as if we can start from scratch, but that is a misreading of all that has gone before. These requirements must be met before reassessment can proceed. Or to put it another way, those outstanding matters should discount the ratings given where they are not done to the proper standard.

### 1.2 Key Issues for the Assessment

As the assessors note: "The concern that surfaced during the assessment is the ability of the fishery management system to properly identify potential ecological effects from fishing."

There has been no ERA to a standard noted by Professor Mark Burgman in his report of 2006 and no attempt has been made to follow his guidance as to what an ERA should comprise. Sound Ecological Management Strategies are obviously not being undertaken.

The status of the stocks of the target species remain largely indeterminate since neither the Department of Fisheries nor WAFIC has been able to provide anything to allay the certifier's requests for clarifying information since mid 2004.

If these two matters could not be clarified by this time, they must be regarded as entirely matters that are without a proper foundation in the manner they are marked since the prerequisites for discussion are that the requirements of the first certificate be completed.



## MSC Principle 1

WAFIC has repeatedly avoided providing a signed contract with timelines of work to be done by Professor Norm Hall to review the stock assessment. These were matters which were regarded as serious by the certifier back in the middle and late 2004.

This has meant that it has not been possible to discuss these matters sufficiently when recently the idea of moving from an inputs based to an outputs based fisheries management. There has been no opportunity to consider whether for example increasing effort, the so called "effort creep" should not be playing a very serious role in affecting the state of the target stocks, a lack of confidence which might only be dealt with if there were a move over to an outputs based fishery. There appears to be no proper consideration of effort creep that is part of precautionary management.

Since the fishery cannot respond in two years to serious concerns of MSC assessors it must be assumed that there is less than a moderate degree of confidence in the proper identification and reporting of the target species. That is to say we are below the 60 Scoring Guidepost on indicator 1.1.1.1. We are also below the 60 Scoring Guidepost on indicator 1.1.2.2 which relates to fishing effort. We actually have no basis for discussing the increase in fishing power and how this affects the stock in a way that is consistent with due precaution. Whilst we may know what catches are, we have no idea whether effort creep is 3% or 10% and what this really means. We have no basis for beginning a discussion of whether this lack of quantitative appreciation is related to previous concerns by the MSC certifier that the stock assessment is deficient. It is not a question of what information is available, but rather of whether we have any basis for precautionary approaches if they are warranted. We only have the basis for traditional risk assessment. That is to say, when things go wrong, afterwards they might be set right. There can certainly be no assumption that things are generally okay. If that were so we should have been shown that transparently in the course of the last two years at the very least. But that has not happened. Since the fishery could not provide anything in this period to allay such concerns, it must be assumed we are below the 60 Guideposts at this moment in these key areas.

Furthermore, there must be grave doubts on indicator 1.1.3.1 if it has not been explicitly justified by now. We most certainly do not know if the indicators of stock abundance are appropriate to achieve long term sustainability. The indicators used have not been justified as they should be, and as was requested. There has been no ERA on the target stock that has been done to a satisfactory level in the last five or six years in the sense that was required. There is no assessment of how indicators are effectively dealing with regional sustainability. They appear to be too broad a brush -- as was pointed out by MSC assessors a good two years ago, but the fishery has been completely unable to respond. That being so, the 60 Scoring Guidepost is not being met.

Indicator 1.1.3.2 is not satisfied. FAO demands precautionary management. We must assume that is not the case here. There is no precautionary management, there is only a traditional assessment of risk once adverse circumstances are seen to apply. Repeated requests for an ERA were not met and there is no plan to undertake one as described by Professor Burgman until, it would seem, another four years has passed. Therefore, the 60 Scoring Guidepost is not met here either.

Indicator 1.1.4.4 should be marked below the 60 Guidepost also for obviously uncertainties about the stock status are not documented. Nothing has been provided to itemize such uncertainties after repeated requests by the assessors over a period of years. Nothing has been documented in an appropriately undertaken ERA to itemize the uncertainties associated with the harvest strategies. We don't know the increase in power of fishers; we don't really know the effect of universally removing all but the juvenile age classes (and breeding females) on long term sustainability. Fished and unfished areas would have helped to point to at least what uncertainty there was in changing the age class structure so dramatically, but nothing has been done except to work upon the hypothesis that there is "no change" in investigating impacts on the environment (including on the target species) - by modelling rather than instituting unfished areas. But there has only been no documentation made available upon the development of that hypothesis regardless of the fact of it being a Corrective Action Request at the end of 2004. Clearly, it must be assumed that

important uncertainties have not been documented and the 60 Scoring Guidepost is not met.

Indicator 1.1.5.1 is not being met as long as we do not have anything to justify the idea that robust methods exist to provide advice on stock status. Repeated requests made to the fishery by the MSC assessors have fallen on deaf ears for well over two years. This means that the onus of proof has been with the fishery and with nothing provided, the assumption must be at this moment, that the contrary opinion prevails. It is not fair to point to a myriad of other details that might seem to establish good procedure, when the positive proof requested has not been given. The 60 Guidepost is therefore not met.

Similarly, indicator 1.1.5.2 does not meet the 60 Guidepost. Major uncertainties are not identified. Such matters are avoided in a manner that can only be described as a way that has proved completely untransparent to stakeholders, and undoubtedly for MSC assessors too.

There must be greater doubt on indicator 1.1.5.4 since the different regions of the fishery are not considered properly by the fisheries indicators used. That has been a criticism of MSC assessors since 2004. There has been no response by the fishery. The existing reference points deal with the whole of the fishery not with the regions. It is well known that the regions respond differently. Once again, without explicit justification by the fishery in the course of the last two or three years, we can say little but that the 60 Guidepost is not met.

In reference to indicator 1.1.5.5 there cannot be a moderate confidence in the robustness of the advice on harvest strategies if they are not justified as requested. The harvest strategies currently used followed on as emergency measures in the early 1990s; that they were successful as emergency measures then might not be doubted, but that they are even moderately robust now, as we look towards future sustainability, is entirely up in the air while there is no explicit justification. In the context of the fishery avoiding making such a justification when requested over a period of years, the Scoring Guidepost ought to be nominally below 60 until real justification is provided.

Indicator 1.3.2 ought to be of special concern. We have depended on the availability of fished and unfished reference areas to be able to discuss such questions. We simply cannot know where to start here without such information as would then be given to us as a result of such research. Trends in recruitment are not as expected. The uncertainties are not properly dealt with as a whole. We do not know if the changes in regional recruitment we are seeing -- and which the fishery has avoided discussing -- are not associated with the long term disruption of the age class structure that is universally applied to the target species over its entire range. The fact that the fishery has avoided this issue means the 60 Guidepost ought not to be taken for granted. The fact that the fishery has avoided outlining the uncertainties in the fishery can only make one wonder if indeed the lack of selection pressure (on the productivity) of older age classes, if that is not a significant factor. A complete lack of progress on this issue -- in fact an avoidance of anything that could have led to progress over the last six and a half years -- is really quite telling. It ought to be fair to say that there comes a time when the onus of proof turns to the fishery and not to stakeholders. If the fishery cannot say anything on this issue, and at the same time has divorced itself from the question of fished and unfished areas (where a more general age class structure can show itself), and uncertainties in recruitment are not explained fully, then, in the absence of that fuller discussion by the fishery (perhaps in the context of an ERA) we can hardly be above the 60 Guidepost.

### **Information on non-target species**

2.1.1.2 In respect of the question of the bycatch of juvenile sea lions, firstly, the trends in abundance have not been undertaken in more than a nominal manner.

The sea lion bycatch has been nominated as a question of the first importance for a long time. An insufficient approach ought then to in itself veto a higher scoring than might otherwise be the case.

It is not fair to say that trends in abundance have been assessed. The historical paper prepared by the Department of Fisheries is entirely erroneous in its assumption that there is sufficient data to say

anything about the historical state of the sea lion populations on the mid west coast (Jurien Bay area). The question is one that is data deficient from the beginning. And the conclusion drawn that the suspected variation in the level of the historic sea lion populations prior to fishing is on a par with the variation in the level of the population during the era of rock lobster fishing (which appear to overlap dramatically) is a conclusion drawn with absolutely no statistical power whatsoever. The historical level is a complete guess and chosen simply to overlap with current estimates. The paper is published in a non-referreed journal. It is impossible to believe that the results could stand any scrutiny by anyone with a scientific background and willing to apply some commonsense. Richard Campbell eventually agreed with me (and the assessment given above) at the 2006 Burgman workshop when I showed him a copy of his paper and pointed out the findings were entirely trivial (Richard Campbell pers. comm.). The question of the trends in the sea lions population on the Abrolhos is more clearly displayed historically and one cannot doubt that in the 1630s there was a large resident sea lion population. Newspaper reports even this century would appear to suggest the same thing in the decades immediately preceding commercial rock lobster fishing. But what is the current trend in the population -- and more importantly, is the fisheries related mortality directly affecting this breeding group, that is not considered by anyone.

Pup counts undertaken over the course of the last ten years and taken up again recently by the Department of Fisheries do not give us an accurate idea of trends in abundance. However, there is not the statistical power to determine trends almost by definition unless the sizes of the different age classes be considered. DOF has provided pup counts as if it could provide an indication of trends in population but have always given us the information in a graphical form which was about as big as a postage stamp on an A4 sheet (and where the reader could not clearly see the numbers involved). When finally pressed to provide an examination of what the numbers actually meant in terms of trends, they had to say that the numbers indicated a negative trend that would lead to a significant reduction of the population (in relation to the lifetime of a breeding female). It was then that the Department decided that there is explicitly not sufficient power. And so in the end, the Department expects stakeholders to believe that the negative trends found are not significant. But the point is that there can be no basis of precautionary management if you have it both ways.

The Department and WAFIC have avoided undertaking an Ecological Risk Assessment in which such uncertainties could be discussed. The fact that there will be mitigation tends to avoid the fact that the youngest ages class has not been properly assessed in the field for its risk of entering rock lobster pots. In any case, trends in population of the sea lion populations on the coast near Jurien as well as on the Abrolhos have not been considered in any real way. These matters have been raised in relation to the EMS but DOF has not been willing to consider these things further except than in a manner where it looks like something is being done when in fact there is merely dabbling in collecting data which might not have sufficient power of detecting any trends for well over a decade or fifteen years. This might be sufficient if there were a high probability that things were generally okay. But that can simply not be considered the case.

Furthermore, we do not know the situation of sea turtles caught as bycatch. In 2003, the MSC assessment team gave a clear indication of what was required as preliminary information and to outline the sort of careful approach needed to set up a risk assessment. Nothing was done. The last ERA was simply to ask for offhand opinions of those attending a workshop, as was the first.

We might say that the actual important bycatch species are not even known. This was illustrated in terms of whether octopus was a valid bycatch species of concern, at the 2006 Burgman workshop. Participants could only note that there was a variance of opinion as to whether we should be dealing with an overly abundant species, or whether there was a problem of conservation interest. Similarly, sea turtles have not been given any consideration since the time that the MSC assessors described what approach to them that would be sufficient (in 2003).

To make a nominal list is one thing -- but to have list that robustly means something and where one says something more than the same nominal comments one often sees, but actually makes some progress in thinking -- that is another thing entirely. Since we have only had two attempts at an ERA where there was only an attempt to ask participants at a workshop for opinions (and that is all!), it can

hardly be said that we have even an identified list of the non-target species caught which are of real interest.

In respect of the data on the sea lion bycatch, no one can say that there is robust data. There is no real coverage of the rare bycatch -- sea lions and sea turtles. In its publication on this topic being prepared (apparently) for a refereed journal, there has been no intention of determining what the base line level of the sea lion bycatch might have been, only to give us the ad hoc data from three different methods which are not mutually independent. It is impossible to understand if any of the ways of measuring the sea lion bycatch have any potential, individually or jointly, to give a real indication of the actual bycatch. It is impossible to believe that this work could be published. The Department's attempts at an historical analysis by telephone has obviously proved fruitless. None of this has appeared in any published form as part of the process of the 2002-2006 EMS.

Therefore, indicator 2.1.1.2 cannot be very well be seen to be meeting the 60 Guidepost.

### 2.1.1.3 Trophic Relationships

Rock lobster and shell fish are the keystone species on the mid-west coast where the tropical water of the Leeuwin Current predominates and not fin fish as one might otherwise expect.

SRFME has investigated the lowest levels of the foodweb but not the upper levels. And so we do not know the predator relationships upon the western rock lobster. In the current certificate it was recommended that the predator prey relationship of sea lions to rock lobster be understood. Of course, this issue has been completely neglected although it ought to be expected that the competition of the fishery with juvenile sea lions and female sea lions would affect sea lion recruitment. The sISRG opinion to the contrary just goes against the general availability of fish in general on the west coast; fin fish are relatively unavailable. This fishery in its early applications to FRDC for oceanographic research says as much. It is ridiculous to suggest that sea lions can make up for a lack of abundance of crustacean prey with fin fish if the fin fish just are not there. Anybody can compare the commercial catches. The sISRG has confused the lack of research in seal lion diet (and the difficulty in analysis) with their own mammologist's knowledge of ichthyology.

The risk of removing rock lobsters upon the trophic relationships was supposed to have been investigated via fished and unfished areas in the current certificate. If there has been nothing done, then there must be a corresponding marking down. The hypothetical assumption that modelling would show no impact had always to be as good as if we had unfished areas of real comparison. According to advice given to the 2006 Burgman workshop, it would take two years to start to see changes in the age classes and breeding structure of rock lobsters in unfished areas; or to see changes of overall impact. It has now been well over three years since the idea of an hypothesis of "no change" was proposed within the context of the modelling project.

If that project to model "no change" has not made sufficient progress to even announce what statistical power it expects and how it will consider Type I and Type II statistical errors, then we can hardly consider that "changes due to fishing on prey, predators, and competitors of the target species are generally understood". The 60 Guidepost cannot be then possibly be met.

The project to model an equivalent of the fished and unfished areas was called to reveal its research plan -- as a bare minimum in a Corrective Action Request by the last quarter of 2004. Just prior to the 2005 audit, I attempted to obtain a copy of the plan from Tim Bray's office but it was unavailable, waiting release on the desk of the head of the DOF Research Branch (Peter Trott, pers. comm.). In recent weeks I contacted Guy Leyland at WAFIC for a progress report on all that pertained to progress on fished and unfished areas. I was told that the only thing that could represent progress was this same research plan which was now with the Minister of Fisheries (but undoubtedly still embargoed). Obviously there are no details available on the statistical analyses proposed; and needless to say, we must assume that work has not begun in any real way at all.

It would be untransparent and unreal to believe that indicator 2.1.1.3 could have reached the 60 Scoring Guidepost.

The same applies to indicator 2.1.4.1. Uncertainties and the clients' seemingly intentional avoidance of the issue in the existing certificate demand something less than the 60 Scoring Guidepost.

2.1.4.2 Clearly, management objectives and fishing practices are not set in terms of impact identification and avoidance/reduction, at least in a way that is based on sound Ecological Risk Assessment. Mark Burgman's 2006 reports point to what is sufficient and took the first step. But WAFIC has not any plan to go further except in four years time! The Ecological Management Strategy is supposed to be based on the ERA, but each ERA has been found to be quite insufficient. The EMS such as we have had it, is now lapsed anyway (July 2006) and no attempt has been made to update it. That surely is an indication of how seriously these matters are entertained by the client and the Department of Fisheries. Everything in the EMS and even the running of the two special committees are entirely at the discretion of the Director of the Dept of Fisheries. Those committees only meet when the Director might think it appropriate; the head of Fisheries Dept research has an effective veto on any reports that go to these committees -- even reports his own Branch has created -- since he must eventually sign off on the report as a member of the committee and he can be making corrections for a period of a year or more. Or he may feel that delay is warranted for some other reason. Thus any critical report on say sea lions

or fished and unfished areas can wait on his desk for anything up to eighteen months or more (as has been the case on each of the topics of special interest in the MSC assessment under the current certificate). The Director of DOF need only call the special committees to investigate restricted questions. Prior to an ERA the EMS specifies that the committees give their opinion, but of course only if the Director will call a meeting. He did not do so for the sea lion committee prior to the last risk assessment in Jan 2005. These committees do not meet once a year; they only meet when issues become of critical interest to the MSC assessors and as a result of Corrective Action Requests, and even then an issue like fished and unfished areas might go into limbo regardless. So surely, things are closer to the 60 Scoring Guidepost than the 80 Guidepost. I would suggest the rating should be 65 not 75. Otherwise, transparency within the Department of Fisheries internal process must be seen to be obscuring the process as a whole.

2.2.1 We simply do not know if sea lions are threatened except that there is a federal minister's decision that they are. The sea lions Scientific Reference Group originally stated that a zero mortality was the only level that could guarantee that there were no unacceptable impacts. No alternative view has been promulgated since then. We do not know if the level of impact on sea turtles is too great. That issue has been avoided. And the ERAs undertaken have hardly begun to deal with the issue.

In this case the 60 Guidepost would seem almost trivial. But since there is no ERA in force upon which to base our understanding -- touching on sea lions or sea turtles -- the program required has to be seen as the ERA itself. And as a program, the ERAs as they exist are so wholly inadequate as to be completely lacking. (Note the one WA expert on sea turtles was not invited to the 2005 ERA workshop - Bob Prince, pers. comm. -- even though DOF research were well aware of him and his work.) There is no quantitative analysis on sea lions -- but overall there is no ERA which even provides us with an actual list of identified species that we can take forward.

One can only feel that the Scoring Guideposts on this poing have been created in a peculiar manner. This is a case where the old examination of things in the current certificate must be referred to and the standard double checked against what is meant there. It seems ridiculous that you could be interfering with recruitment of a federally listed Vulnerable species, and still obtain the 80 Guidepost. And the uncertainty of the level of bycatch in such a circumstance need be of virtually no consideration. One can only say that the goalposts have been lowered. However, we certainly do not have any real consideration by the Dept of Fisheries as to what the temporal interactions of sea lions with the fishery are likely to be. The Dept has not allowed others to undertake such research with their data (such as myself). We surely do not know if the spatial interaction with sea lion juveniles is likely to be much higher in very close proximity to sea lion colonies like North Fisherman's Island in Jurien Bay (or on the Abrolhos) such as would mean jet boats should not work in the immediate vicinity of breeding populations. These matters are completely unresolved as regards Leatherback Turtles and also, I should think, Humpback Whales. A spatial interaction is mentioned on occasion, anecdotally by old fishermen, but there is no understanding by the fishery's managers. There is no recommendation published on the how the 17.6 month breeding cycle of the sea lions overlaps in a practical sense with the fishery. There is no spatial analysis provided by the fishery on the extraordinarily fragile sea lion breeding populations on the Abrolhos, nor any temporal analyses. Thus once again the score should be closer to 60 than to 80. I would say, optimistically 70 might be given.

The MSC assessors have demanded that the sea lion issue have a caveat of robust monitoring. They ought now to give a reason why that standard should not apply. In the paper that the DOF Research Branch is preparing there is no attempt to estimate the level of the sea lion mortality as it actually occurs. Each measure they provide is clearly inadequate and there is no attempt to make up for the deficiency in any one of them, or to combine them to make something worthwhile. The Departmental project outlined in the EMS to determine retrospectively the historical level of

bycatch has proven a complete failure. Thus the 80 Scoring Guidepost cannot be met. And it cannot be if the standard of robust measurement of the bycatch is not available. But that is also essentially, a Corrective Action Request from the existing certificate which has not been met.

2.2.1.3 We cannot know here if the risk is unacceptable unless we have a risk assessment that is properly done. That ought to be required prior to going on with any new MSC certificate. We have been led to believe that the only acceptable risk is zero mortality from the fishery (slSRG). If that is not the case, then the risk should be dealt with explicitly in an ERA. That has not been done and therefore the reproductive success of individual breeding colonies cannot be justified. We have not had a peer reviewed ERA. The information used to determine risk cannot be considered precautionary or robust in its formulation -- not if we use the annual certifier's audit reports as a guide. Since the MSC assessors made these reports, stakeholders have not had the opportunity to comment in an audit on Departmental reports that touch on these matters because these reports have been delayed until after April 2005. Thus, the scoring under the current scheme cannot be more than 70.

2.2.1.4 The 80 Scoring Guidepost as applied to sea lions here is actually a high level -- if one considers the statistical power from current methods to determine the trends in the sea lions populations. Especially when one considers that nothing is being done at all on the Abrolhos -- where there is the greatest conservation risk. Conservation status is not determined by sea lion pup count. That is too variable. DOF have not attempted to find an alternative so they are hardly beginning to investigate the conservation status, and especially considering that the trophic interaction could pose the greatest risk. Pup counts have pointed to a population decline -- so how can we know impacts are within acceptable levels. This is all the more true because alternative indicators of acceptable risk (beside zero mortality) have not been correlated against actual levels of mortality. There is also no indication whatsoever that the youngest age class of sea lions cannot circumvent the sea lion excluder devices and even that the risk will not just be transferred to them from older age classes. Richard Campbell's experimental work has been done in too ad hoc a fashion to have any experimental data at all in this respect. This is a point I made in the last meeting of the slSRG and it was accepted by all.

Thus we don't know just what the acceptable level is for sea lion mortality due to fishing. On the Abrolhos, the risk is far far greater and DOF has generally avoided the question entirely. The question there has to be dealt with separately and as having an order of magnitude of risk higher than on the mid-west coast, but virtually nothing has been done there at all. If the calculation of PBRs is going to nominate the acceptable risk, then the parameters used in the calculation must be chosen and it made into a practical calculation. This has not been done. Nothing like that has been done -- and yet to have started to calculate the PBR of individual colonies shows us that the difference between acceptable and unacceptable risk can be a very small number indeed. And so to make the score almost 80 is not fair unless there is explicit justification within an ERA. I put the scoring level at no more than 70.

2.3 Something has to be done if a truly precautionary approach to sea lions if we were to assume that the sea lion populations are depleted and that the fishery is partially responsible.

The indicators of the sea lion population used now only apply if there is a disastrous drop in population following on from poor recruitment. This is traditional risk assessment. A precautionary approach means there are things in place prior to them going wrong. The Dept of Fisheries has nothing that could potentially aim to bring these populations back from harm already done to these populations. That would mean being prepared to investigate how the fishery could alter their trophic interaction (competition) with the sea lions. Elsewhere in the world where there are fast breeding seals (eg Grey Seals) fisheries feel the pinch in competition for fish. In the South East of Australia it has been calculated that seal (sea lions, Australian fur seals and

NZ fur seals) together eat more fish than is caught by the human fishers. With a long lived, late maturing seal like the Australian sea lion, the situation is somewhat different. It lives on the edge of ecological possibilities. A greater availability of lobster for female juvenile sea lions could make a great difference to recovery. On the Abrolhos, the issue has been altogether avoided and there the situation is the worst. Although this was a question that was highlighted in the original recommendations for the current certificate, nothing was done. In the manner that the Department of Fisheries has chosen indicators for sea lions -- it has been a ploy to avoid the issue altogether since the statistical power had to lead to delay; the historical analysis needs must have been misleading, that is to say the results always had to be trivial but would be made to look advantageous to them by misconstruing their approach to Type II errors. But because the Australian sea lion on the west coast is living so close to the ecological possibilities of an inherently drought ridden environment, the direct and indirect impact of the fishery should always have been regarded as very significant indeed. But the Dept of Fisheries is intending to do nothing. After all we do not even have an EMS in place; the document as it exists is full of indicators that have proven of less than real value.

The only thing that is being done is to conceptualize the idea of modelling the ecological impact of removing the great biomass of lobster -- but as having no impact on the environment -- and for that to be a preliminary hypothesis only. This is not a working hypothesis that can apply here under this point. And when one considers that there can be three years delay for any transparent details to be made known (and still nothing), this is all really proof that we have little more than the 60 Guidepost and barely that.

### **Principle 3**

3.1.3 The outputs management of the fishery is an effective subsidy that encourages degradation of the environment and which promotes overfishing. This is especially serious because the resultant effort creep is not formally considered. I place the scoring level at between 60 and 80.

3.1.4.1 The lack of any real plan to do with fished and unfished areas and the trivialization of the sea lion research is a blot on what would otherwise seem a well funded system. If Principle 2 is of any importance then the Score of 90 has to be discounted. The Ecological Risk research plan has been in limbo for so long it can not really be said to exist. The score should reflect these facts. I suggest 75 or 76 as more properly reflecting circumstances.

3.1.4.2 Endless delays here mean a level of 60 cannot be seen to exist until we have completed what was demanded of the existing certificate.

3.3.1 Environmental questions are not represented on the Ministerial Advisory Council (RLIAC). The Conservation Council has been an observer but is no longer funded to have a person there. The Minister for Fisheries having withdrawn that funding. The whole way RLIAC works is to have questions of conservation overwhelmed by questions of target species or economic issues generally. The Dept of Fisheries is essentially untransparent in its processes -- and can just delay anything connected with environmental issues indefinitely. All reports that go to RLIAC or to the SRGs come from DOF or might be held up by them. If one comments on such processes -- such as in commenting on EMS -- they just say that the transparency of the Department is not open to question.

In sum, there is no way for environmental issues to be raised in the fishery except via the MSC assessment team. An example of that is seen in the fact that there is no EMS at present. And yet that is part of the requirements for continuing certification. The EMS is supposedly undertaken according to "the yearly identification process" by the Director of The Dept of Fisheries, but



nobody knows what that identification process is except him, and of course it can mean anything, including that he decide not to make any identification (at least in respect of environmental matters) as in this current year.

I believe that the Conservation Council of WA has found itself in the middle of things whilst it has had permanent observer status, but they have virtually never let me know of anything that was going on, except for an occasional upcoming meetings. Their involvement is a private process. And when something critical comes up for discussion, then they are excluded, as I was on the one time I went to observe RLIAC and all observers had sit outside.

I suppose I have to agree that a score of 70 would seem appropriate, but if only it is agreed that a very great deal has to be done. It was accepted by all even back in 2002 that there be a voting seat in RLIAC for environmental stakeholders. In effect now, I believe we have a lot less than what was supposedly back then should be have been taken for granted. I believe that the idea of independent analysis of stakeholder comment of public documents as suggested at the 2006 Burgman workshop would be most helpful. My feeling is that there is no real involvement of conservation stakeholders. From the point of view of these stakeholders alone the situation is disastrous and the Guidepost should be marked very much lower.

3.3.3 In respect of environmental decisions the management system is entirely lacking, the indicators do not exist, and reports are delayed for years on end. For this reason, the 80 Guidepost is far too optimistic . . . unless it is to be believed that the target species is all that need to be considered! But neither are decision makers supplied with clear and relevant information -- as a whole -- under the management system. The report on sea lion mitigation and the research plan on fished and unfished areas are delayed impossibly long -- even when the certifying body has made repeatedly Corrective Action Requests. Similarly, the SRGs need not meet even once in a year and the EMS may lapse and nothing is done. The environmental information is simply not there -- the modelling to make up for fished and unfished areas is a travesty -- and until the Corrective Action Requests from the last certificate are undertaken and completed this really must be ranked below 60.

## **Conclusion**

The requirements of the existing certificate must be met in full, including those announced in the last quarter of 2005, or where they indicate poor performance to indicators being investigated for the circumstances of recertification then the Guidepost Scores needs must be correspondingly marked down.

It is ridiculous for Corrective Actions called for years ago to be made now things that are to undertaken years in the future, and as if nothing has happened. Instead, the Guidepost Scores must reflect the actual facts and the incapacity of the fishery to obtain a minimum pass level up to the MSC standard.

David Offord

**APPENDIX 3 – ACTION PLAN FOR MEETING ALL REQUIRED CONDITIONS  
IDENTIFIED IN THE 2006 RE-ASSESSMENT REPORT FOR THE  
WESTERN AUSTRALIA ROCK LOBSTER FISHERY**

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## **Western Rock Lobster Fishery**

### **MSC Re-Certification November 2006**

#### **Western Australian Fishing Industry**

##### **ACTION PLANS TO MEET THE CONDITIONS OF CERTIFICATION**

(1 November 2006)

**The Government of Western Australian operates under a Westminster style system of government. The Minister for Fisheries is responsible for and makes the final decisions regarding the management of the western rock lobster (WRL) fishery.**

For those aspects of the Action Plan (AP) where the Client (Western Australian Fishing Industry Council - WAFIC) does not have control over the process necessary for implementation, it will use its best endeavours to ensure they are completed and implemented in the timeframes set out.

The Certifying Body's (CB – currently Scientific Certification Systems) conditions and timelines for the criteria that did not meet the mandatory score of 80 are reproduced in full below from the final assessment report, along with the Action Plan and timelines WAFIC has developed to address them.

#### **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.**

#### **SCORES BELOW 80**

**1.1 (MSC Criterion 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.**

The intent of this Criterion under the MSC assessment system is to ensure that a fishery is managed and fished in ways that allow as much extraction as possible while maintaining healthy populations of the target and non-target species in the area of the fishery. In addition, it is aimed at evaluating whether the management also takes into consideration the ecological impacts that could occur as a result of fishing.

This issue was formerly assessed in 1999-2000 by the SCS assessment team during the initial certification process for the WRL fishery. In addition, SCS has reviewed this issue in depth during surveillance audits from 2001-2005. As part of the surveillance audits, SCS found a number of issues of concern with the most recent assessment in the fishery related to productivity of the target stock. The issues of sufficient concern to cause the need for “conditions” to be invoked were identified and reported in 2005 (see Chaffee, C. et al. 2004 and Chaffee, C. et al. 2005). The “conditions” relevant to getting a better understanding of the current assessments on target stock productivity are being addressed by a formal review of the Department of Fisheries’ (DoF) assessment methods and results. The review is being conducted by Dr. Norm Hall (Murdoch University).

The Terms of Reference (TOR) for the review are:

1. Review the data descriptions and data sets that were available to the Department of Fisheries (the Department) when it conducted its 2004 and 2005 western rock lobster stock assessments.
2. Review the different time series of data and model outputs and assess the implications of the weights given to alternative data sets during the 2004 and 2005 stock assessments.
3. Review the technical description of the modeling and statistical analyses that were undertaken to produce the 2004 and 2005 stock assessment results that were presented to the Rock Lobster Industry Advisory Committee (RLIAC) and other stakeholders.
4. Review the 2004 and 2005 stock assessments and the conclusions on stock status that were drawn from the results of the assessments.
5. Review the written advice provided to the RLIAC and to stakeholders in which the results, conclusions, and implications of the 2004 and 2005 stock assessments for the Western Australia rock lobster fishery were reported.
6. Discuss with Department of Fisheries’ staff, the data, assessments and the various issues raised by Scientific Certifications Systems (SCS) in its 2005 Final Surveillance Report (December 2006).
7. Report on the general "robustness" of the advice that has been provided to stakeholders on the status of the resource and the need for the specified management responses.
8. Recommend any improvements to the stock assessment process for the Western Australia rock lobster fishery that could provide future stock assessment with additional reliability and robustness.

The work will be peer reviewed by a recognized expert that meets the approval of the certification body and then subsequently reviewed by members of the assessment team or SCS. SCS as the certification body of record reserves the right to disagree with the peer review and the conclusions if there is evidence that the review did not consider all concerns of the SCS assessment team.

This re-assessment process in many ways addresses many of the deficiencies identified under Principle 1. As a result, many of the Conditions identified in this section of the report are directly linked to the ongoing work by Dr. Hall if SCS found that the issues were the same. If issues are different, new and separate Conditions are identified.

### **1.1.1 There should be sufficient information on the target species and stock to allow the effects of the fishery on the stock to be evaluated.**

#### **1.1.1.5 Information is collected on the abundance/density of the stock.**

#### **60 Scoring Guidepost**

- Either fishery dependent or fishery independent indices are available on the abundance of the stock biomass for a number of years.
- Qualitative information exists on the appropriateness of the indices as proportional indicators of stock size and to support a rudimentary evaluation of the fishery.

#### **80 Scoring Guidepost**

- Fishery dependent and/or fishery independent indices are available on the abundance of the stock for a number of years.
- Uncertainties in data and indices have been analyzed and accounted for.
- The indices are understood well enough to support a high degree of confidence in the evaluation of the fishery.

#### **100 Scoring Guidepost**

- Fishery independent indices are available on the abundance and density of the stock over sufficient years to assess longer term trends.
- Indices are consistent and there is clear evidence that they are proportional to the stock size and of sufficient precision to support a very high degree of confidence in the evaluation of the fishery.
- Uncertainties have been fully analyzed.

#### **Score 75**

The fishery has done a good job of collecting abundance data over time – both fishery dependent and fishery independent. Fishery dependent indices of abundance stretch back to 1971, while fishery independent data collection was initiated in 1992. Moreover there is also a fishery independent time series of puerulus settlement over a long period of time, supporting information on recruitment. The various abundance time series are presented annually e.g. in Caputi et al. (2004). More recently, additional derived indices of abundance have also become available (Wright et al., in press). Statistical uncertainty in most of these indices has been derived, though not often presented in published documents. The main problem with these

data currently lies in inconsistencies in trends between different time series (for an explanation of the inconsistencies see Chaffee, C. et al., 2004. 2004 MSC Annual Surveillance Western Australia Rock Lobster Fishery, Surveillance Report No. 6). These inconsistencies, and the inability of the models currently in use to fit these data, raise serious questions about the relationship between the indices and abundance of the stock. Thus despite the large effort going into collecting data to support indices of abundance, these data are not currently understood well enough to support a high degree of confidence in the evaluation of the fishery.

### **Condition**

Resolve identified inconsistencies between time series of data and the various methods employed to assess the status of the stock (for details of suggested approach, see Corrective action for indicator 1.1.5.1). A review by Dr. Norm Hall (Murdoch University) is already underway as a result of a previous condition placed on this fishery during a past surveillance audit (as described under Principle 1, Criterion 1 above). Under this Condition, WAFIC is obliged to complete a technical review of the modelling efforts to understand stock status and to address any identified inconsistencies through more thorough analyses or through the implementation of management measures or industry practice.

The condition in this report requires an Action Plan that specifically places the contract with Dr. Norm Hall in the public domain for all stakeholders to be able to read, that specifically states how the results will be published that allows stakeholders to be alerted to the findings, that specifically indicates the time frame and mechanism the client (WAFIC) will use to discuss the outcomes of Dr. Hall's review and the response to the outcomes, and that specifically states exactly when the entire process will be completed. Although SCS is not in a position to dictate time frames for each specific factor, SCS does require that all of the steps required under this condition be completed prior to the first annual surveillance audit and that any management or industry actions required as a result of Dr. Hall's review be implemented prior to the second annual surveillance audit.

### **ACTION PLAN**

Corrective actions under 1.1.1.5 will be dealt with in conjunction with the independent consultant's assessment of the 2004 and 2005 western rock lobster (WRL) stock assessment as set out under 1.1 above and detailed in the contract WAFIC has with Dr Norman Hall.

### **Timelines:**

- The independent consultant's terms of reference will be circulated to stakeholders and placed on the WAFIC website by the end of November 2006.
- The independent consultant's report will be completed by or before the end of March 2007.
- A peer reviewer of Dr Hall's report will be appointed in conjunction with the CB.
- The peer review of Dr. Hall's report is expected by or before May 2007. CB to provide comment on consultant's report and peer review.
- Circulate all reports to stakeholders and place on the WAFIC website after receiving and incorporating the CB's comments.

- WAFIC and the Department of Fisheries (DoF) to develop a draft Action Plan (AP) to address any concerns related to the reviews, after receiving the peer review and comments from the CB.
- WAFIC will then convene a meeting of stakeholders (e.g. WAFIC, DoF, RLIAC, WRLC, WA Conservation Council, WWF, fisheries experts from the Universities, etc) and the independent consultant (Dr Norm Hall) to review the draft AP, once approved for consultation by the CB and before the first annual surveillance of the certified fishery.
- Appropriately amend the draft AP in accordance with stakeholder review, within two months of the stakeholder meeting.
- Submit AP for approval to the CB.
- WAFIC will use its best endeavours to have the Action Plan recommendations commenced within 6 months of the CB approving the AP.
- It must be noted that some of the Action Plan recommendations may require significant additional research to be undertaken, which would involve developing a project, applying for funding, employing staff, conducting the research and implementing the results. This may well fall outside the second audit timeframe recommended by the CB. Should this be the case, a revised time frame will be developed in consultation with the CB and posted publicly for all stakeholders to review.

### **1.1.2 There should be sufficient information on the fishery to allow its effects on the target stock to be evaluated.**

#### **1.1.2.2 Fishing effort is recorded, estimated, and standardized to effective fishing effort.**

##### **60 Scoring Guidepost**

Nominal effort data are available which can be used to estimate effective fishing effort well enough to support a rudimentary evaluation of the fishery.

##### **80 Scoring Guidepost**

Accurate estimates of effective fishing effort have been made and support a high degree of confidence in the evaluation of the fishery.

##### **100 Scoring Guidepost**

Comprehensive records are kept of fishing effort, recorded at sub-annual intervals at an appropriate degree of spatial resolution and have been standardized to effective fishing effort and support a very high degree of confidence in the evaluation of the fishery.

##### **Score 75**

There is a comprehensive program to collect and analyze data on catch and effort for the commercial fishery. This relies on a compulsory reporting requirement for all fishers, augmented by a voluntary research logbook program with a significant level of industry participation. Estimates of effective fishing effort have been made for the WRL fishery (e.g. Morgan, 1977, Brown et al. 1994) and changes in fishing power (effective versus nominal effort) have received detailed attention (Fernandez et al., 1998). Population depletion methods

are also used to estimate the exploitation rate in the fishery and these are used in assessing the status of the WRL stocks (e.g. see Caputi et al., 2004 and Wright et al., in press).

It is therefore the case that considerable effort has been expended on data collection and analysis with regard to effective fishing effort. However the work of Wright et al. in particular raises some serious doubts about just how well effective effort and changes in catchability are understood. Based on that work, there now appear to be unexplained cycles and trends in catchability that are not consistent with other data in the fishery (or at least have not yet been reconciled with those data). Thus, despite the quantity of data and studies available, this indicator does not appear to meet the 80 scoring guideline of supporting a high degree of confidence in the evaluation of the fishery.

### **Condition**

The first part of this condition is the same as for 1.1.1.5 in that the review by Dr. Norm Hall should address this issue.

In addition, the client is responsible for making sure that a specific analysis is undertaken that addresses the results in Wright et al. (in press). The analysis should specifically identify the fishing effort currently in the WRL fishery including apparent cycles and trends in catchability. The analysis should expressly reconcile all results with trends in other time series of data for the fishery, by fitting all time series simultaneously to models of the fishery, and specifically identify where any inconsistencies exist, why they exist, and a recommended course of action. This must be completed prior to the first annual surveillance audit.

### **ACTION PLAN**

Most corrective actions under 1.1.2.2 will be dealt with in conjunction with the independent consultant's assessment of the 2004 and 2005 western rock lobster stock assessment as set out under 1.1 above and detailed in the contract WAFIC has with Dr Norman Hall.

#### **Additional corrective actions:**

- DoF to undertake an assessment of the application of the results of the Wright et al. (in press) paper. It will specifically identify:
  - the levels of effective fishing effort currently in the WRL fishery, and
  - the apparent inter-annual variations and trends in catchability.
- DoF to undertake an analysis to compare the results of the Wright paper and other time series of data with the efficiency rate increases used in the past to determine whether the efficiency estimates need to be revised. This will be done by:
  - fitting the time series (e.g. different breeding stock indices) simultaneously to a model(s) of the fishery,
  - specifically identifying where any inconsistencies exist and attempting to explain these, and
  - recommending a course of action to address issues identified.

#### **Timelines:**

- The DoF and WAFIC will use their best endeavours to complete the work by the end of September 2007. However, depending upon the results and recommendations of

the review by Dr Hall and due to complex nature of the work (e.g. model development and testing) an extension may need to be negotiated with the CB. Should this be the case, a revised time frame will be developed in consultation with the CB and posted publicly for all stakeholders to review.

#### **1.1.4 There is a well-defined and effective harvest strategy to manage the target stock.**

##### **1.1.4.4 Harvest strategies are precautionary**

###### **60 Scoring Guidepost**

- Harvest rates respond appropriately to low stock size.
- Uncertainties about stock status are documented.

###### **80 Scoring Guidepost**

- Harvest rates are reduced at low stock sizes
- Decision rules are explicitly precautionary (are more conservative as uncertainty about resource status increases)

###### **100 Scoring Guidepost**

- The harvest strategy includes formal rules to achieve rapid recovery if stocks approach or fall below limit reference points.
- Harvest rates are an explicit and inverse function of levels of uncertainty about stock size

###### **Score 75**

The currently agreed harvest strategy (Bray 2004) includes explicit measures to reduce exploitation rates as stocks approach or exceed a number of reference levels that are below the reference levels experienced currently. These measures were proposed to allow the managers to invoke restrictions in harvest if declines become apparent. The one thing the harvest strategy does not currently include is explicit measures to be more precautionary as uncertainty about stock status increases. This indicator does not therefore meet the 80 scoring guideline.

###### **Condition**

The first part of this condition is the same as for 1.1.1.5. In addition it requires that the harvest strategy framework now in place must be revised to incorporate findings from the review being completed by Dr. Hall. The harvest strategy must be revised to include explicit reference to measures of uncertainty about current stock status, how uncertainty will be measured on an ongoing basis (taking account of trends in the full range of indicators available to the assessment), and how management will take into consideration uncertainty in its ongoing harvest policy responses. The revised strategy should specifically address the basis for considering the harvest strategy as precautionary.

WAFIC is required to detail a work plan to meet this Condition in an Action Plan submitted to SCS for approval. The time frame for completing the action must be prior to the second annual surveillance audit under the current certification of this fishery.

## **ACTION PLAN**



Most corrective actions under 1.1.4.4 will be dealt with in conjunction with the independent consultants assessment of the 2004 and 2005 western rock lobster stock assessment as set out under 1.1 above and detailed in the contract WAFIC has with Dr Norman Hall.

**Additional corrective actions:**

- DoF to review the rock lobster harvest strategy and specifically document how it is based on a precautionary approach.
  - any relevant recommendations for the independent consultant (Dr Hall) will be considered in the review.
- DoF will revise the harvest strategy documentation to include:
  - explicit reference to measures of uncertainty about stock status,
  - how management will take into consideration uncertainty in its ongoing harvest policy responses.

**Timeline**

- A revised harvest strategy will be finalized for public consultation by September 2008, i.e. prior to the fishery's second annual audit, pending the ability to complete all work and related matters to the Hall review and recommendations. WAFIC will also endeavour to get through public consultation and RLIAC sign off by March 2009. Should additional time be necessary, a revised time frame will be requested and developed in consultation with the CB and posted publicly for all stakeholders to review.

**1.1.5 There is a robust assessment of stocks.**

**1.1.5.1 Robust assessment methods are used to provide advice on stock status**

**60 Scoring Guidepost**

A robust empirical approach to assessing stock status is adopted.

**80 Scoring Guidepost**

- Robust assessment models are used to assess stock status on an annual basis.
- Assessment models incorporate and integrate a variety of relevant information and data about the fishery.

**100 Scoring Guidepost**

- Assessment models are used and capture all major features appropriate to the biology of the species and the nature of the fishery and the nature of the management questions being asked.
- The assessment models incorporate and integrate all relevant information and data about the fishery. They use statistically robust methods of fitting to the data, and deal explicitly with both process and measurement error.

**Score 70**

While there has been previous modeling of the stock undertaken in the WRL fishery (Walters et al. 1993; Hall and Chubb 2001), annual assessments of stock status consist of reports summarizing trends in a range of indicators, including breeding stock indices, catch, effort, catch rates, puerulus settlement rates, and most recently, trends in residual stock and catchability from depletion estimates (Anon, 2004 and 2005; Caputi et al. 2004; Wright et al.

in press). There has been no serious attempt to fit stock assessment models to these data since at least 2001 – there are certainly no reports available of such work having been undertaken. The Director of Research for the WA Department of Fisheries stated on a number of occasions during the previous MSC certification period for the fishery that the stocks are managed on an “empirical” basis, mainly on the basis of trends in spawning stock indices (both fishery dependent and fishery independent). He strongly resisted suggestions that it would be desirable or even useful to fit stock assessment models to the available fishery data, or that stock management should be based on such modeling. While trends in key indicators have been unambiguous and consistent across indices, this purely empirical approach has perhaps been defensible. However a number of problems have now clearly emerged with the approach.

These problems were reported in detail in a document sent to WAFIC in March 2005 (for an explanation of the inconsistencies see Chaffee, C. et al., 2004. MSC Annual Surveillance Western Australia Rock Lobster Fishery, Surveillance Report No. 6; and Chaffee, C. et al. 2005. Western Australia Rock Lobster Fishery, 2005 MSC Annual Surveillance Report. Review of Corrective Actions from July 2005), and are not repeated in detail here. In brief, the problems include apparent inconsistencies between fishery dependent and fishery independent indices of spawning stock abundance, inconsistent use of these indicators in reports to the fishery, apparent inconsistencies with other time series (such as abundance indices from depletion estimates), and inability of the Hall and Chubb model to fit recent trends in the data. (Although assessment models are not used in the fishery, a previous request by the MSC review team to show how the Hall and Chubb model fitted recent data did result in provision of two Excel spread sheets. These confirmed failure of the model to fit the data). Although WAFIC provided a response to the issues and concerns raised in March 2005, this response did not fully address the problems raised. This indicator clearly does not meet the 80 scoring guideline.

### **Condition**

The first part of this condition is the same as 1.1.1.5.

The second part of this condition is to complete a new and fully quantitative assessment of the WRL stocks using appropriate models and fitting to all relevant time series data is needed, being guided by the results of the review by Dr. Norm Hall. A fully quantitative stock assessment, complete with a public report detailing all methods, assumptions, and results, must be completed prior to the second annual surveillance audit under the current certification.

### **ACTION PLAN**

Most corrective actions under 1.1.5.1 will be dealt with in conjunction with the independent consultant’s assessment of the 2004 and 2005 western rock lobster stock assessment as set out under 1.1 above and detailed in the contract WAFIC has with Dr Norman Hall.

### **Additional corrective actions:**

- DoF to undertake a full quantitative assessment of the WRL stocks using appropriate models and fitted to all relevant time series data. The assessment to be guided by the results of the review by Dr. Hall.
- DoF to produce a public report detailing all methods and assumptions used in, and results from the stock assessment.

### **Timeline**

The above actions will be completed by September 2008, i.e. prior to the fishery's second annual audit.

### **1.1.5.3 Uncertainties and assumptions are reflected in management advice.**

#### **60 Scoring Guidepost**

- Major uncertainties are recognized and are reported in management advice, as well as possible implications of those uncertainties on the management advice.
- There is a moderate degree of confidence in the adequacy of uncertainties addressed in the management advice.

#### **80 Scoring Guidepost**

- Major uncertainties and assumptions are addressed in the management advice and through the appropriate decision rules to address those limitations.
- There is a high degree of confidence in the adequacy of uncertainties addressed in the management advice.

#### **100 Scoring Guidepost**

- All significant uncertainties and assumptions are addressed and reflected in the management advice, including appropriate decision rules.
- There is a very high degree of confidence in the adequacy of uncertainties addressed in the management advice.

### **Score 65**

The general approach of the WA Department of Fisheries in providing advice to stakeholders is to stress certainty rather than to discuss uncertainty in assessments. As already noted, the approach to providing assessment advice is essentially an empirical and descriptive one, but this has become confounded recently due to inconsistencies across different data sets. Despite this, the Department continues to put forward advice on a “best assessment” basis, mainly relying on the strength of the monitoring and empirical indicators to support this approach.

In responding to this indicator, WAFIC's (and presumably the Department's) assertion was that “There is a high degree of confidence in the adequacy of uncertainties addressed in the management advice. This is based on the use of high quality, robust empirical data (e.g. time series of spawning stock estimates – fishery dependent and independent) and where necessary sophisticated models that take into account the major uncertainties in the data and functional relationships (e.g. Hall and Chubb 2001)”.

It has already been noted that indicators may not be as robust as claimed and that the models do not account for all major uncertainties in the data (see 1.1.5.1), and where stock projections are given in support of management advice (e.g. Anon 2004, Figure 3), there is no indication

of uncertainty in those projections (see also indicator 1.1.5.5). The advice given to stakeholders on alternative management arrangements to halt the decline in stock levels in the Northern Zone does not include any quantitative evaluation of uncertainties in advice (Anon 2005). However, this indicator is given a score of 65 (just above 60) based on there being at least a qualitative statement of uncertainty about the causes of the decline in stock status in the Northern Zone, e.g. “there is currently a resource sustainability problem in the northern zone and this has most likely been caused by a significant increase in the efficiency and effective effort of the fleet” (Anon 2005, page 6).

### **Condition**

All future advice by management to RLIAC, the Minister, and stakeholders, must include as a routine feature, “best estimates” of stock status and a forecast of effects of management arrangements. At the same time, the advice must also provide a clear indication of the major uncertainties in current assessments and projections. (see also Condition to indicator 1.1.4.4, 1.1.5.1 and 1.1.5.2).

The Action Plan submitted to SCS must include a description of how this requirement will be built into the formal processes of RLIAC and advice to the Minister, and the functions required must be implemented prior to the second annual surveillance audit.

### **ACTION PLAN**

Most corrective actions under 1.1.5.3 will be dealt with in conjunction with the independent consultant’s assessment of the 2004 and 2005 western rock lobster stock assessment as set out under 1.1 above and detailed in the contract WAFIC has with Dr Norman Hall.

### **Additional corrective actions:**

- DoF’s annual stock status reports of the WRL fishery will include “best estimates” of stock status and a forecast of the effects of management arrangements.
- DoF’s annual stock status advice for the WRL fishery will provide a clear indication of the major uncertainties in the stock assessments and projections.

### **Timeline**

The above actions will be completed by September 2008, i.e. prior to the fishery’s second annual audit.

### **1.1.5.5 The assessment includes a quantitative evaluation of the consequences of current harvest strategies.**

#### **60 Scoring Guidepost**

- The assessment forecasts the consequences of current harvest strategies for the stock.
- There is moderate confidence in the robustness of the advice.

#### **80 Scoring Guidepost.**

- The assessment includes a robust forecast of the consequences of current harvest strategies.
- There is a high degree of confidence in the adequacy of the harvest evaluation.

#### **100 Scoring Guidepost**

- The assessment includes the consequences of current harvest strategies, forecasts future consequences of these and evaluates stock trajectories under decision rules.
- There is a very high degree of confidence in the adequacy of the harvest evaluation for a robust assessment.

### **Score 65**

Annual assessments have generally included catch forecasts (based on puerulus settlement rates) but less often stock level forecasts (because these would require an assessment model which has not been used for several years). These forecasts provide some indication of current and future harvest strategies. However concerns arose during 2004 about stock levels in the Northern Zone of the fishery, and information was provided to stakeholders concerning a range of possible management responses (Anon 2004). This information included stock projections under 3 levels of effort reduction (Figure 3 in Anon 2004).

The basis for these stock projections is very inadequately described in the report (there is no technical reference and only mention of use of “recognized modeling techniques”). The model used for the projections appears to be an update of the Hall and Chubb model, but as already referred to in the discussion of indicator 1.1.5.1, this model clearly does not fit recent trends in the data. Figure 3 is misleading in that it brings together an empirical time series (the fishery dependent spawning stock index) with model projections, and with no indication of uncertainty. This is a very inadequate basis on which to formulate significant changes to management of the fishery. As a result, this indicator scores well below the 80 scoring guideline.

### **Condition**

The first part of this condition is the same as that for 1.1.1.5, 1.1.5.1, 1.1.5.2, and 1.1.5.3.

The second part of this Condition is the requirement to expressly publish results that describe the probability of the stock remaining above agreed reference levels. Where a current assessment can not reconcile contradictory trends in different time series of data, the analysis and published reports must undertake and report on sensitivity tests to these uncertainties in assessing consequences of future harvest strategies. The implementation of this mechanism by the management system must take place either prior to the second annual surveillance audit or before a second fishing season occurs under this re-certification.

### **ACTION PLAN**

Most corrective actions under 1.1.5.5 will be dealt with in conjunction with the independent consultant’s assessment of the 2004 and 2005 western rock lobster stock assessment as set out under 1.1 above and detailed in the contract WAFIC has with Dr Norman Hall.

### **Additional corrective actions:**

- Results that describe the probability of the WRL stock remaining above agreed reference levels will be published in DoF’s annual stock assessment reports.
- Where an assessment cannot reconcile contradictory trends in different time series of data, the analysis for the stock assessment and DoF’s published reports will report on

sensitivity tests undertaken on these uncertainties and how they have been taken into account.

### **Timeline**

The above actions will be completed by September 2008, i.e. prior to the fishery's second annual audit.

## **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

### **SCORES BELOW 80**

#### **2.1.1 There is adequate knowledge of the ecosystem relevant to the distribution, life history strategy and fishery for the target species.**

##### **2.1.1.1. The nature and distribution of habitats relevant to the fishing operations is known.**

#### **60 Scoring Guidepost**

- Some limited information on habitats exists in specific areas of the fishery,
- The distribution of fishing operations is broadly mapped.

#### **80 Scoring Guidepost**

- The nature and distribution of the most significant habitats where the fishery operates have been mapped using an agreed and known classification system.
- The detailed distribution of fishing operations in space and time is regularly monitored and reported in a format that does not risk proprietary and confidential information.

#### **100 Scoring Guidepost**

- The nature and the distribution of all habitats relevant to the fishing operations are known in detail, and mapped based on a known and agreed biophysical classification system as well as recent information.
- The nature and distribution of all fishing operations are known in fine-scale detail, and regularly reported in a format that does not risk proprietary and confidential information.

### **Score 70**

The detail of the habitats where the fishery operates is known for the Abrolhos region (Chubb et al. 2002, Webster et al. 2002), and there are various local-scale studies that have mapped habitats in some specific inshore areas where the fishery operates (e.g. Phillips et al. recent papers). However, the deeper waters, and much of the remaining inshore waters have not been mapped in any detail across the fishery. It has been assumed that the deep-water areas are probably not as topographically complex as the inshore areas, and some areas may be reasonably understood from analysis of existing information held by individual fishers derived from acoustic data captured on their fishing vessels. However, recent studies by the Australian Institute of Marine Sciences may suggest otherwise. Also, research projects (the

FRDC project and the CSIRO/SRFME project) that include aspects of habitat mapping are underway in selected areas, and these activities may be extended to the others areas in the fishery in due course (January 2005 FRDC progress report).

The details of fishing operations are recorded in 1-degree blocks through compulsory fisher returns, and some additional detail is recorded voluntarily by about 30-38% of the fishers in 10-minute blocks on a daily basis. Together with gear control, this provides sufficient detail to enable the impacts of the fishery to be determined at a broad scale, and is adequate to meet the MSC 80 standard for fisheries of this type.

The assessment team has also been given the impression through the interviewing process that the mapping research for deepwater habitats will continue, and current projects implemented to map habitats both within marine parks and in other inshore waters will continue to provide an increasing knowledge base on habitat distribution, particularly in B and C zones. The impression is based on the fact that the Ecosystem SRG established to advise RLIAC has incorporated this into its preliminary recommendations to RLIAC, and an FRDC (Fisheries Research and Development Corporation) grant is now supporting research in Jurien Bay on the effects of fishing.

### **Condition**

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.

This condition must be met prior to the third annual surveillance of the fishery.

### **ACTION PLAN**

- DoF to utilise the outputs from the Marine Futures project (marine mapping \$4.2 million NHT<sup>7</sup> project by University of WA) that is developing habitat maps and resource condition indicators and targets for areas within the WRL fishery region using an internationally recognised classification system. This project will cover significant, representative areas of the fishery (Abrolhos, Dongara, Jurien and the Capes).
- The current DoF deep-water research project includes a pilot study on deepwater habitat mapping, which will be completed and reported on in the first half of 2007. The results will be linked with information available from other sources and the shallow water habitat mapping being produced as part of the ecological research projects that are currently being undertaken or planned by CSIRO / SRFME<sup>8</sup> / WAMSI<sup>9</sup>.

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<sup>7</sup> DNHT – National Heritage Trust.

<sup>8</sup> SRFME – Strategic Research Fund for the Marine Environment

<sup>9</sup> WAMSI – Western Australian Marine Science Institute

- DoF to hold a workshop prior to the end of 2007 to develop an ongoing research project for ecosystem research that will address the issues raised in the EcoSRG plan and this condition.

### **Timeline**

The Marine Futures marine habitat mapping project and the current FRDC deep water project should be completed prior to the fishery's third annual audit. Research results that are available from these research projects at the time of the third annual surveillance of the fishery will be available for the CB's assessment team. WAFIC and DoF will report progress on these projects to the CB during each annual surveillance.

#### **2.1.1.2 Information on non-target species affected by the fishery, including incidental mortality, is known.**

### **60 Scoring Guidepost**

The main non-target species in the fishery have been identified, and trends in abundance have been assessed.

### **80 Scoring Guidepost**

- The main non-target species affected by the fishery are known from past or current research, and information is available regarding their distribution, abundance and population status.
- The data on bycatch and incidental mortalities of non-target species are routinely collected, synthesized and assessed by fishery managers.
- Data and assessments about the effects of fishing on non-target species are made available for public review.

### **100 Scoring Guidepost**

- Detailed information is available on the main non-target species affected by the fishery, including their distribution, abundance, population status, ecology, and conservation status.
- The data on non-target species affected by the fishery are collected and analyzed in detail annually, including species, size, age, and sex composition where appropriate.

### **Score 75<sup>10</sup>**

The main non-target species that are, or could be retained as by-product from this fishery appear to be octopus (*Octopus tetricus*, and occasionally *O. ornatus*), deep-sea crabs (champagne (spiny) crabs *Hypothalassia acerba*, crystal crabs (*Chaceon sp.*), snow crabs, and king crabs), and a variety of commercially valuable finfish species. Other species (such as sea lions, sea horses, wrasses, manta rays, moray eels, and Port Jackson sharks) may also be taken as bycatch in pots, but these are not retained. Species known to occasionally suffer a

<sup>10</sup> The score for this indicator has been changed from the final report dated 4 October 2006 and posted on the MSC website on October 6, 2006. A mistake in the text was found during a review by WWF and reported to the CB and the MSC. The 10 October 2006 version of the report has corrected the error. A score of 75 has been assigned to the performance indicator based on the fact that the evidence provides for meeting the first bullet point and portions of the other two bullet points.



direct interaction with fishery gear, although not taken in pots, include leatherback turtles, whales, and dolphins – these protected species are assessed in criterion 2.2.

Octopus are the main by-catch, and their population abundance is monitored as part of this fishery. Octopus are also the target of a separate fishery. Stocks appear to be in a healthy condition (WA Fisheries ESD report No. 4).

Deep sea crabs occur in deeper waters off the west coast. Occasional catches are made of champagne crabs - but they mostly occur outside the range that western rock lobsters are fished. By-catches of crystal crabs, which are more highly priced and are more vulnerable to overfishing, appear to be rare based on logbook data. This crab species only occurs deeper than around 400m, to about 1000m depth. Both crabs are now the target of a small managed fishery and controls are being developed to place a small catch limit on WRL boats. There has been a recent research project on the biology and fishery for these crabs (Smith et al., 2004, FRDC projects).

There is current concern about the exploitation status of the dusky whaler shark *Carcharinus obscurus* off Western Australia. Juveniles of these sharks are targeted by a managed gillnet and longline fishery, but the stock cannot withstand additional exploitation of adults. Adult sharks were formerly taken on hooks set on a short line attached to WRL traps but this practice has now been prohibited to protect the population of this shark.

Since 1990 there have been 23 entanglements of commercial lobster fishing gear with humpback whales in WA waters (WRLF Whale Code of Practice, 2005). Estimates of reporting rate of whale entanglement are as low as 3% (evidence presented to the 2005 ERA Experts workshop). However, this level of entanglement, even allowing for a low reporting rate, is considered unlikely to significantly reduce the recovery rate of humpback populations.

The evidence of sea lion drowning in pots in the fishery suggests that up to about 20 juveniles may be drowned each year in the fishery. The total pup production is estimated to be about 170 per breeding event (about each 17 months) in the Abrolhos and mid-west region of the fishery (2005 ERA Workbook). The natural mortality rate of seals between pup and sexual maturity (often 5 or more years) is high (70% in the New Zealand fur seal). In the Australian sea lion it is unclear how critical the impact is of the additional level of mortality imposed by the bycatch in this fishery, but clearly the bycatch of 20 to 30 pups per breeding event is likely to have a major impact on the island populations of this region. Here the availability of knowledge and information is assessed; the ecological impacts of this level of bycatch is assessed in Criterion 2.2 below.

The fishery has a persistent but low level of interaction with leatherback turtles. A small number of turtles are reported as becoming entangled in fishing gear, or struck by fishing vessels. Leatherback turtles are protected in WA, and are listed as Vulnerable under the Commonwealth EPBC Act. The consequences of this level of interaction are unclear, although are unlikely to be major.

Moray eels are abundant as bycatch, but they are not recorded and are usually returned to the water alive. The consequences of this are unknown, and the risks are considered to be low (2005 ERA Workbook).

Sea horses are protected under the Commonwealth EPBC Act. Sea horses will apparently attach to lobster pots and ropes, and could be killed when the gear is retrieved. The level of mortality imposed, and the population consequences are both unknown. However, the risk is considered to be low (2005 ERA Workbook).

Dusky whaler sharks are considered to be at risk from bait bands that may be occasionally discarded (with bait boxes) at sea by fishing vessels. The populations of this species are considered to be vulnerable to overfishing as a result of the commercial shark fishery, the illegal shark finning operations and the impacts of additional sources of mortality such as the bait bands (2005 ERA Workbook).

Most of this information is made available for stakeholder review and assessment through the ERA process. This information on bycatch species provided above is adequate to permit assessment of the impacts of this fishery on such species. Based on the scoring guideposts at the performance level of 80, the fishery meets the requirements having knowledge of bycatch species, knowledge of the status of populations of the main bycatch species (octopus), and data is routinely collected on bycatch species and incidental mortalities through a logbook system that uses both random observers and volunteers throughout the fishery (30 to 38% of the fleet) since 1965. Additional data collection and analysis was designed into the logbook program as a result of the original MSC assessment in 2000 to get a better picture of potential bycatch and fishery interactions. The information that is now available indicates the fishery is doing a better job accounting for bycatch and interactions.

The assessment team recognizes that some stakeholders have significant misgivings about the quality and quantity of data on species that are either taken directly as bycatch or are impacted by interactions with the fishery in other ways. It is true that the level of data on sea lions is less than would be ideal; however, this is complicated by the difficulty in assessing these small populations and by the fact that there are organizational structures in place that place the accountability for sea lion conservation outside the normal fishery management domain. However, we believe that the stakeholder concerns are accurate and therefore have reevaluated the score for this indicator as a result. In reviewing the score, it appears the fishery's performance requires a score of less than 80. Specifically, the fishery appears to only partially meet the second and third bullet points under the 80 scoring guides, which would require a score of 75 to be assigned to this indicator. There is only some information on bycatch that is routinely reviewed, and there are few public reports made available on the status of species affected by the fishery.

### **Condition**

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. Reports must begin to be published by the first annual surveillance of this fishery should it receive certification.

## **ACTION PLAN**

The data on bycatch collected as part of DoF's Catch and Effort System (monthly returns – TEP and Icon species interactions), daily logbook (octopus catch rates), commercial monitoring (all bycatch – fish, sharks, shells, crabs, etc) and from other Government Agencies (e.g. Dept of Environment and Conservation data on whale interactions) will be analysed and published annually by DoF (e.g. as part of the annual State of the Fisheries Report for the WRLF).

### **Timeline**

The first **annual** report will be produced by the end of September 2007.

2.1.1.4 There is information on the potential for the ecosystem to recover from fishery related impacts.

### **60 Scoring Guidepost**

Key elements of the functioning of the ecosystem, including natural forcing factors, relevant to the fishery have been identified and ecosystem research is ongoing.

### **80 Scoring Guidepost**

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.

### **100 Scoring Guidepost**

- Detailed information is available on the resilience of the benthic ecosystem, and the potential for affected species and communities to recover from fishery related impacts.
- The information used to establish resilience should be as robust as information that could be derived from empirical studies comparing fished and unfished areas.

## **SCORE 75**

Key elements of the functioning of the ecosystem where the fishery operates have been broadly identified for shallow water habitats, and there are shallow water research projects (CSIRO/SRFME) underway to further address aspects of ecosystem function in habitats where lobsters live in the central west (Jurien) area of the fishery. However, there is only limited knowledge of deep-water habitats that support the older lobsters, and limited knowledge of species that may be ecologically dependent on lobsters.

There is no list or group of ecologically dependent species, and although there is an extensive list of dietary types and species, the only species assumed to be ecologically dependent by the fishery management system appear to be those taken as by-product species. No justification has been provided for this implicit set of assertions. The resilience of any actually ecologically dependent species to the impacts of fishing cannot therefore be assessed.

There is evidence that by-product species are not being overexploited (above), but no relevant information or analysis has been provided for assessment of other species.

Research projects are underway in both deep and shallow waters, but it is not yet clear if they have been designed to address this issue of resilience and recovery from the effects of fishing. The research plan that was proposed by the Eco SRG has not been developed, and it is unclear if this will be a continuing initiative, if it will address this issue, or if the plan will be able to be implemented into effective research activities.

At the time of assessment, other than for by-product species, no evidence was provided relevant to the issue of the resilience or potential for recovery from fishing impacts of species that may be ecologically dependent on lobsters. There are no research programs in place that will provide such data and information, and this therefore does not meet the MSC 80 standard for a fishery of this type.

### **Condition**

To improve the score of this indicator, the client must propose an action plan that will improve performance of the management to be equivalent to the 80 Scoring Guidepost – “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. The client must ensure that the models developed take account of impacts from the fishery and the uncertainty surrounding the models and data.

Although the assessment team is not allowed to specify the mechanism for the analysis based on MSC requirements (see TAB Directives), the assessment team is required to specify the outcome. In this case, the outcome is not only the models specified above, but the use of data to facilitate the models that is equal to data from direct experimental studies using fished and unfished areas. In previous years the assessment team has attempted to get the fishery to improve its understanding of the effects of fishing through collection and analysis of better data on the topic. 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 CB will require evidence that 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 research plan must outline strategies that will be used to determine what impacts, if any, are occurring, and the extent of the impacts. Strategies could include, but are not limited to, comparing impacts of the fishery using areas that are unfished with suitable/comparable fished areas at a scale that is appropriate and robust enough to understand impacts from fishing across the entire fishery. Regardless of the strategy or strategies chosen, the research plan should identify and provide evidence for the studies being scientifically robust.

The client will be required to show that the research plan is either developed with input from fully independent experts with demonstrated world-class credentials and research experience

in ecological impacts of fishing (such as those on the ECO-SRG) or that it is properly reviewed by a set of independent experts of equal qualification. Additionally, the client must consult stakeholders (individuals and/or organizations in the commercial fishing industry, recreational fishing industry, and conservation groups) in the design and development of the plan. The client is also 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.

This Condition is a follow on to Conditions from the initial assessment and is required to be fully completed in the time frame of this certification.

## **ACTION PLAN**

- EcoSRG Research Plan has been finalised and adopted by WAFIC and DoF and will be presented to RLIAC.
- A workshop will be held to review the results of the current DoF deepwater ecology research project and other relevant projects and to develop an ongoing research project that will address the issues raised in the EcoSRG plan and this corrective action prior to the end of 2007. It is anticipated that the research will be based on comparing fished and unfished areas using research closures that will need to be negotiated with Government and industry. Independent experts will be invited to attend the workshop, as well as a member of the CB.
- A negotiation regarding the selection and implementation (e.g. via legislation) of research area closures will be required for this project.
- Any research closures will need to be linked to and co-ordinated with the broader marine park planning processes that are currently being undertaken in State and Commonwealth waters.
- The research plan developed at the above workshop will be adopted by the Client and the fishery's managers and the timelines for delivery of outcomes will be negotiated with the CB.
- It is anticipated that at least preliminary baseline data will be collected from the proposed research closed areas by 2010.
- The deep-water research project will be linked in with the shallow water and other ecological research projects that are currently being undertaken and are planned by FRDC, CSIRO (Wfo<sup>11</sup>), SRFME, WAMSI and DoF.

## **Timelines**

The research plan will be implemented and at least 1 year of data collection and analysis (see dot point six above) will be available before the end of 2010. WAFIC and DoF will endeavour with best efforts to complete all aspects of this condition within the required timeframe; however, external factors beyond the control of WAFIC and DoF may cause delays in the processes related to negotiating and getting approval for research area closures. If unintended factors do cause delays, WAFIC and DoF will report these immediately to the CB and renegotiate the timeframe for completing this condition.

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<sup>11</sup> Wealth from Oceans projects.

2.1.2 There is adequate knowledge about the effects of fishing on habitats and species in the areas of the fishery.

2.1.2.1 The trophic linkages and interactions between the non-target species and the target species are known.

#### **60 Scoring Guidepost**

The target species prey, predators and competitors are known in the main areas of the fishery. Changes due to fishing on the prey, predators, and competitors of the target species are generally understood.

#### **80 Scoring Guidepost**

The potential trophic impacts to the prey, predators, and competitors of the target species from fishing on all life stages of the target species have been assessed.

The information used to establish trophic impacts is as robust as that derived from studies comparing fished and unfished areas.

#### **100 Scoring Guidepost**

The trophic impacts between the target species and the main non-target species have been determined using quantitative information on the target species and the main non-target species.

The information used to establish trophic changes is as robust as that derived from studies comparing fished and unfished areas.

### **SCORE 70**

The main by-catch species are reasonably well known (see 2.1.1.2 above), and the fishery-induced mortality is used as the basis to assess risks to their populations. This was the basis of information and evidence used in the 2001 ERA to assess the risks posed by the fishery to by-catch species (other than the protected or endangered species which are assessed under Criterion 2 below). It also is the basis that was used to assess risks in the (yet to be completed) 2005 ERA process. However, the other ecologically related and non-target species (those not retained as by-product) have received little attention in terms of trophic impacts from the fishery. These species include various species of finfish, sea horses, Port Jackson sharks, wrasses and potentially invertebrates, as well as the range of lobster prey and predators.

No evidence of trophic impacts of the fishery was presented for this assessment based on data and information that is as robust as knowledge derived from comparisons of fished vs. unfished areas. This lack of evidence and the lack of credible research projects to begin to develop such information is not consistent with the MSC 80 standard for a fishery of this type.

#### **Condition**

The first part of this condition is the same as for 2.1.1.4.

The client must also 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 lobster's 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. This is the same timeframe built in to the condition under 2.1.1.4.

## **ACTION PLAN**

- EcoSRG Research Plan has been finalised and adopted by WAFIC and DoF and will be presented to RLIAC.
- A workshop will be held to review the results of the current DoF deepwater research project and to develop an ongoing research project that will address the issues raised in the EcoSRG plan and this corrective action prior to the end of 2007. It is anticipated that the research will be based on comparing fished and unfished areas using research closures negotiated with Government and industry. Independent experts will be invited to attend the workshop as well as a member of the CB.
- The research plan developed at the workshop will be adopted by the Client and the fishery's managers and the timelines for delivery of outcomes will be negotiated with the CB.
- A negotiation regarding the selection implementation (e.g. via legislation) of research area closures will be required for this project.
- The deep-water research project will be linked in with the shallow water and other ecological research projects that are currently being undertaken and are planned by CSIRO, SRFME, WAMSI and DoF.
- The research plan will include 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 results of these studies will be incorporated into any new ERA conducted on the fishery.
- Should a new ERA (using results from the new studies) identify impacts that require mitigation, there will be a management response that is fully identified and implemented to mitigate the impacts prior to the conclusion of this certification, i.e. by November 2011.

## **Timelines**

WAFIC will use its best endeavours to meet the above timelines, however, the implementation of any mitigation measures may not be possible within the 5 years of this certification if they are not identified until late in the cycle or they require extensive consultation with stakeholders. Should unintended delays occur as a result of any of this process, WAFIC and DoF will report these immediately to the CB and renegotiate the timeframe for completing this condition. If meeting this condition requires a timeframe beyond the 5 year time period of the certification, WAFIC and DoF in consultation with the CB will derive a set of milestones that must be completed in the run up to completing the entire condition (as stipulated by MSC requirements).

**2.1.3 There is adequate knowledge about the risks to the ecosystems, habitats and species that are posed by bait, bait bands or lost gear.**

**2.1.3.1 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.**

**60 Scoring Guidepost**

Use of bait and loss of gear across the fishery can be documented from fishery and sales data.

The risks and impacts of bait use and loss of gear have been assessed and there is no evidence of significant detrimental ecological impacts.

**80 Scoring Guidepost**

The type, quantity and location of bait, bait bands and related packaging material, and gear lost during fishing operations is monitored, assessed and reported regularly.

Risks from bait use (including loss of bait packaging) and gear loss have been determined through the ERA process (see 2.1.2.2 above), and are generally maintained within acceptable levels

**100 Scoring Guidepost**

There is detailed knowledge of the type, quantity and location of bait used in all areas of the fishery.

The bait bands, bait packaging, and gear lost at sea are monitored and independently verified through a fishery-wide waste-management audit conducted using vessel level data.

There is a comprehensive gear reconciliation program, which is designed to track and validate the life-cycle fate of all fishing gear used in the fishery.

The ecological impacts of all form of bait used and bait bands and gear lost during fishing operations are monitored and always maintained within acceptable levels across the full range of the fishery.

**SCORE 70**

There is detailed knowledge of the type, quantity and location of bait used in all areas of the fishery. This information is obtained from daily fishing logbook returns that are completed by 30 to 38% of all commercial fishers and from information provided by processors.

The type, quantity and location of bait, bait bands and related packaging material, and gear lost during fishing operations is monitored and assessed using vessel-level data. Information is obtained from daily fishing log book returns that are completed by 30 to 38% of all commercial fishers and the monthly at-sea commercial catch monitoring programme.

About 15% of the pots used in this fishery are lost (presumably at sea) each year. The plastic components of the pots are an important and persistent visual component of the beach litter across the fishery region. The wooden components may be less



persistent in the environment, and probably create less of an environmental hazard. The commercial fishery has a Code of Practice regarding the handling of bait and bait packaging material. Bins for the disposal of bait packaging, etc are provided at each rock lobster port. A beach clean up survey conducted in the Perth area indicates that there has been a significant decline in fishery-sourced rubbish between 1992 and 2002 (Poynton et al 2002 — unpublished report from the Friends of Marmion Marine Park/ CALM survey of beach litter in Marmion Marine Park comparing litter in 1985, 1992, and in 2002).

An internal report on the bait handling procedures submitted to the assessment team (Monitoring of Bait handling code of practice; Draft March 2005) indicates that there is a high level of compliance with the required procedures, although not full compliance. The report does not indicate the basis for sampling of the vessels to be surveyed, nor the procedures adopted to ensure the independence and robustness of the data.

Information from research programs conducted by the DoF indicates that once the bait has been used or lost from a trap, escapement of rock lobsters is high. Traps are therefore not very effective in retaining lobsters over periods longer than 5 days once the bait is depleted. Rock lobsters have been shown to be able to survive without food for months, which would give them ample opportunity to escape from discarded or lost 'ghost fishing' traps. In addition, traps are fitted with escape gaps which allow smaller animals to escape from 'ghost fishing' pots.

The risks from bait and bait packaging bands have been assessed in the 2001 and 2005 ERA workshops, and determined to be low. However, while there is knowledge of the amounts and types of bait, and the use of bait bands across the fishery, there are few reliable data on impacts that could be used to make a reliable assessment of the level of risk posed by bait bands. Some specific concerns have been raised by stakeholders about impacts of bait bands on dusky whaler sharks.

While there is a basic system for monitoring the use and loss of bait, bait bands and other fishing equipment, there are no concise evaluation, summary and reporting systems that regularly review and assess the issues surrounding bait use and bait bands in this fishery for reporting to stakeholders. Also, although there has been one assessment of beach litter possibly sourced from the fishery, there has been no systematic assessment of the effectiveness of the Cod of Practice, and more broadly, only very limited ecological evidence is available to assess the impacts of bait bands lost or discarded to the ocean from the fishery.

### **Condition**

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.

## **ACTION PLAN**

### **Bait Bands**

- The WAFIC Board has passed a motion proposing to prohibit the taking of bait cartons with plastic bands to sea. That is, it is proposed to recommend to Government that it be made an offence to take plastic bands to sea. WAFIC has sought views on this proposal from its members. Whilst there has been support for the proposed prohibition further consultation is required to clarify a number of issues and time will be required to have the measure implemented (e.g. via legislation). Consultation will take place during the 2006/07 fishing season with the aim of having the prohibition on bait bands introduced for the 2007/08 fishing season.

### **Other issues**

- WAFIC will undertake a compliance risk assessment for compliance with the Bait Handling Code of Practice compared to total prohibition for waste products.
- If required, funding will be sought by WAFIC during the 2007/08 funding cycle to instigate a statistically valid sampling programme to determine the level of compliance by fishers with the Bait Handling Code of Practice. The aim will be to complete the sampling programme by the end of the 2007/08 fishing season.
- WAFIC will continue to monitor the results of beach clean up operations that provide an analysis of the composition of rubbish to determine what if any can be attributed to the lobster fishery.

### **Timelines**

The above actions will be undertaken prior to the third annual audit of the fishery, i.e. by September 2009.

2.1.4 Levels of acceptable impact are set and objectives established to address and restrain any significant negative impacts of the fishery on the ecosystem to within the acceptable levels of impact.

2.1.4.1 The impacts of the fishery on ecosystem structure, function, biological diversity, productivity, and habitat structure are within acceptable levels of impact and there has been an assessment of risks.

## **60 Scoring Guidepost**

Levels of acceptable impacts for the main non-target species and habitats in the fishery have been estimated.

The main impacts of the fishery on the ecosystem from the removal of target

stocks and non-target species are within acceptable levels of risk.

### **80 Scoring Guidepost**

Levels of impacts (biological reference points) for key aspects of the ecosystem within main fishing areas have been estimated to be within acceptable levels.

The information used to establish acceptable levels of impact should be as robust as that derived from empirical studies comparing fished and unfished areas.

There is a comprehensive and publicly reviewed and accepted ERA assessing the effects of the fishery on the ecosystem that shows there are no areas of high risk.

Research is underway to study impacts identified as medium risk and to rectify the main gaps in knowledge identified in the ERA.

### **100 Scoring Guidepost**

The effects of the fishery (removal of target and non-target species) on the ecosystem have been quantified in all areas where the fishery operates using studies comparing fished and unfished areas, and impacts are found to be maintained within acceptable levels.

Risk assignments are reassessed on a regular basis.

## **SCORE 65**

There have been two assessments of the ecological risks from the fishery, the 2001 and 2005 workshops and related reports. The 2001 ERA and its reports were not considered adequate by the SCS audit team, but the requirement to conduct a fully defensible and scientific ERA was relaxed on the condition that a number of key issues that were poorly addressed by the 2001 ERA were nonetheless fully addressed with the context of the following EMS. Some of these matters are still outstanding and have not been resolved.

The 2005 ERA process has not been completed, but the aspects that have been submitted for assessment here are clearly inadequate, and do not meet the MSC 80 standard for assessing the ecological risks of this fishery. Major weaknesses include the failure to implement a robust and peer reviewed scientific ERA, the lack of a precautionary approach to gaps in knowledge, and the lack of involvement of a relevant range of ecological expertise and stakeholders, and the failure to provide the ERA with relevant and available data/knowledge pertinent to assessing the risks of the fishery.

There is as yet no systematically derived and comprehensive research plan for the fishery that deals effectively with the ecological impact issues. This was a requirement of previous conditions of MSC certification of this fishery, but as yet this has not been completed to an acceptable standard.

The current situation in the fishery is that the levels of acceptable impact have been determined for the two main non-target species (octopus and deep-water crabs), and these have been set in the context of production impacts not impacts on the conservation of the populations.

The levels of acceptable impact on habitats have not been estimated, although it is clear that the actual level of impact on at least the most sensitive habitat potentially

impacted by the fishery (coral reefs) has been assessed, and management measures are suitably in place to avoid unacceptable levels of impact.

No substantive evidence has been presented for assessment about the impacts of the fishery on ecosystem structure, function, diversity, productivity or habitats caused by the removal of target stocks. There is no acceptable research plan in place to determine this, and there are no acceptable levels of risk established either in support of, or as a result of, a credible ERA process that relate to a number of these matters. Evidence provided for assessment indicates that the research projects in shallow waters (CSIRO/SRFME) are not currently directed to assessment of the ecological impacts of fishing, although this may possibly be part of future research.

### **Condition**

The first part of the condition under PI 2.1.4.1 is to complete the work now underway by Richard Stoklosa of E-Systems on re-assessing risks identified in the 2005 ERA conducted by the Department of Fisheries. This work must be completed within 18 months of the date of certification unless sufficient cause can be shown and agreed by SCS and, as necessary, members of the original assessment team.

The second part of the condition under 2.1.4.1 is to conduct a new Ecological Risk Assessment to a standard that meets the requirements identified by Dr. Mark Burgman in his 2005 review of ERA methods previously used in this fishery, which includes soliciting, receiving, and acting on advice from stakeholders, fishery managers, and the CB (Certification Body). A new ERA must be conducted directly following the completion of the work underway by Richard Stoklosa (E-Systems). The new ERA must occur within 12 months of the completion of the work of Richard Stoklosa, and at a minimum before 3 years after the date of certification.

The risks must be based on scientifically defensible evidence and inference about the possible hazards in the fishery, and moderate level risks, or hazards where there is insufficient information to determine risk, must be then used as the basis for an assessment of the impacts of the fishery across the full spatial scale of the fishery. The new ERA should at a minimum also cover all aspects of the 80 scoring guidepost for this indicator.

In addition, the research plan and implementation developed under 2.1.1.4 must integrate the information from the ERA.

### **ACTION PLAN**

- The ERA project undertaken by independent consultant Richard Stoklosa will assess/review all hazards from the 2005 ERA that received a moderate or higher score by at least one participant at the 2005 workshop. The hazards that are still identified as moderate risk will be put them through a CSIRO level 2 assessment. This project will be completed by April 2008.
- WAFIC will meet with stakeholders to discuss the results of the Stoklosa review and determine if a new ERA is necessary. For all practical purposes, WAFIC and DoF believe that the Stoklosa ERA project to assess/review all hazards with a moderate or higher risk and where applicable put them through a Level 2 CSIRO assessment, will be

equivalent to an ERA. Stoklosa will conduct an ERA workshop with technical experts and stakeholders to review the hazards and where appropriate develop mitigation measures to address them or progress them to a Level 2 CSIRO assessment. Therefore the requirement to conduct a new ERA three years after certification could be considered unnecessary and impractical. In addition the new research programs (stock assessment and ecological) that should feed into a new ERA may not have been running long enough to provide adequate data for a reassessment of risk. Should all this be agreed through consultation with stakeholders and the CB, WAFIC and DoF would identify a more appropriate time frame for a new ERA in consultation with stakeholders and the CB. The work of Stoklosa and any new ERAs implemented in the future for the WRL fishery will meet the requirements identified by Dr. Mark Burgman in his 2005 review of ERA methods.

### **Timelines**

- Based on the discussion above, WAFIC and DoF will complete all required aspects of the Stoklosa review, as well as all public consultations and negotiations regarding the ERA process prior to the 3<sup>rd</sup> annual SCS surveillance audit. All future ERA related activities will be based on the outcomes of the proposed actions and timelines.
- To the extent possible, new ERA work will cover all the aspects of the 80 scoring guidepost for this indicator based on available information. Should information from the research comparing fished and non-fished areas not be available to put into the Stoklosa review, it will be included in whatever ERA process is directed for completion directly after the research results are available.

#### **2.1.4.2 Management objectives and fishing practices are set in terms of impact identification and avoidance/reduction.**

### **60 Scoring Guidepost**

The management system includes some level of impact identification and avoidance/reduction in the main areas of the fishery.

### **80 Scoring Guidepost**

- Management objectives and practices are designed to detect and reduce impacts, although they may not have been fully tested.
- The key impacts of the fishery that have been identified as posing a significant risk are mitigated on a precautionary basis using appropriate management tools (such as gear or deployment modifications, seasonal restrictions, size restrictions, closed areas, etc.)

### **100 Scoring Guidepost**

Management objectives and strategies to detect and reduce impacts have been developed, tested and are deployed across the fishery.

## **SCORE 75**

The fishery has a strong process for managing adverse impacts when they are detected and established as a matter of priority for action within the management system. This is well demonstrated through the matters of Sea Lion bycatch (assessed in Criterion 2.2), the commitments to assess and respond to management issues in the Abrolhos

area, and the Code of Practice commitments to reduce entanglements of fishing gear with whales.

The system for identifying issues to be matters for concern and management response is the WRL Management System (WRL MS), and the related ERA/EMS system. While these two areas are well structured to detect issues, and to identify appropriate types of management responses, there is only limited evidence that these structures operate in an acceptable way.

The WRL MS contains three important committees (the WRL ESD Committee, the SLSRG, the EcoSRG) that should operate to support the system for detecting and managing impacts, including setting appropriate forms of objectives and mitigation strategies. Of these, only the SL SRG appears to be operating effectively, and even then it appears to be limited in its capacity to provide independent advice and support for mitigating Sea Lion bycatch to acceptable levels. The Eco SRG does not operate effectively—meetings are poorly organised, the outcomes do not properly address the TOR for the committee, the members do not reach agreement, and the organisational aspects are inadequate (agendas, papers, minutes and meeting reports are not timely). The WRL ESD appears to have never met, or if it has, there have been no documented outcomes. Evidence provided to the assessment suggests that the RLIAC committee structure is under review, and that an alternative structure may be implemented. The EMS system as it is identified for use in this fishery appears adequate to implement all the priorities that are developed in the ERA process if it functions fully and properly. The system described is a good system for structuring the projects, and for reporting procedures, although the process and the outcomes are not easily available to stakeholders.

The ERA is a serious weakness in this overall process. As assessed in 2.1.4.1, neither the 2001 or the 2005 ERA meet the MSC 80 standard in risk assessment, and this is a major weakness in the context of this Indicator.

If the risk assessment issues are addressed and if the WRL MS is improved to be an effective and operational system with regard to environment and ecological issues, the fishery would meet the standard of world's best practice for this Indicator.

### **Condition**

To meet the requirements of the performance indicator, the client must ensure that management performance meets the 80 scoring guidepost, which states:

- “Management objectives and practices are designed to detect and reduce impacts, although they may not have been fully tested.
- The key impacts of the fishery that have been identified as posing a significant risk are mitigated on a precautionary basis using appropriate management tools (such as gear or deployment modifications, seasonal restrictions, size restrictions, closed areas, etc.)”

A description for the operation of the WRL Management System, that includes the EMS (Environmental Management System) and the ERA, has been provided through

correspondence between the Department of Fisheries and SCS. This system description suggests that the entire management system would adequately handle the required environmental factors if there was evidence that all the parts of the system described in the WRL-MS and EMS provided to SCS were actually active and working.

Fully implementing all the prescribed parts of the management system (as noted above), or some other similar construct would be sufficient to meet the intent of this Condition. The system chosen and implemented must properly address the following key aspects:

- The management system should include a group, committee or set of groups or committees (previously identified to SCS as the WRL ESD Committee, the SL SRG, and the Eco SRG) that meet at least annually to discuss potential ecological risks from fishing and the management measures, if any, needed to address identified risks. The group(s), or committee(s), old or new, should have a published agenda and provide minutes and reports for public review.
- The groups(s) or committee(s) should publish reports at 6 monthly intervals, on the functioning of the EMS and progress toward meeting the stated EMS objectives for identifying risks and mitigating impacts.

This condition must be met within 1 year of the date of certification and prior to the first annual surveillance audit.

#### **ACTION PLAN**

- An “Ecological” advisory group will be formed to advise WAFIC, RLIAC, the DoF and the Minister on ecological issues pertaining to the fishery. The group to meet at least annually.
- EMS for the fishery to be updated/revised/implemented and information regarding its progress published every 6 months as set out in the second dot point above.

#### **Timelines**

The above actions will be implemented by October 2007.

**2.2.1.4 The impacts of the fishery on protected, endangered, threatened, or icon species do not exceed acceptable levels.**

#### **60 Scoring Guidepost**

Studies in the fishery have examined fishery impacts on populations of protected, endangered, threatened or icon species and mitigation strategies are in place and being developed where appropriate.

#### **80 Scoring Guidepost**

Regular assessment of the conservation status and the impacts of the fishery on each protected, endangered, threatened or icon species demonstrates that impacts are generally maintained within acceptable levels.

#### **100 Scoring Guidepost**

- The conservation status and impacts of the fishery on all protected, endangered, threatened or icon species are regularly assessed, quantified, documented and publicly reported through independent external expert review using empirical data.

- Impacts are maintained within the acceptable levels in all areas where the fishery operates.

## **SCORE 75**

The impacts of the fishery on protected, endangered, threatened, or icon species generally, except for Sea Lions, appear to be maintained within acceptable levels. The evidence for this is limited, but risks and actual impacts generally appear to be low for most of the protected, endangered, threatened, or icon species that are known to occur in the same area as the fishery operates. The EMS provides for regular review and assessment of the risk assignments, although there is no systematic process for routinely providing this information to stakeholders and seeking their input. Evidence submitted to the assessment indicates that the key forum for this (the WRL ESD committee) has not been activated, and its role is being reviewed with a view to disbanding it.

The bycatch of Sea Lions currently exceeds the zero target level, and so the impacts of the fishery on the sea lion populations of the southern area of Zone B and the northern area of Zone C (centered around Jurien) currently exceeds the acceptable level.

For the fishery to attain the 80 level for this Indicator, Sea Lion bycatch must routinely be monitored in a robust surveillance system, and the bycatch level must normally be found to be zero based on monitoring data.

## **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 ERA (see Condition under 2.1.4.1). As stated above, the species for which risks need to be assessed in a more rigorous fashion include whales, dolphins, turtles, seabirds, and seahorses.

For sea lions, the data is clear. The assessments show that risks are higher than previously thought, so management actions are required to maintain the risks within acceptable levels. The condition for sea lions is therefore the implementation of SLEDs and the verification of their efficacy.

SLEDs must be introduced into the mandatory zone in the 2006/07 fishing season. The mandatory zone is the area shown on Figure 1 in the document 'Additional issues for SRG discussion', presented to the SL SRG meeting in September 2005. The SLEDs must be used for all WRL fishing within the mandatory zone.

The use and effectiveness of the SLEDs in the mandatory zone must be monitored and verified commencing with the 06/07 fishing season. The bycatch of Sea Lions must be monitored using a system that is sufficient to provide scientifically relevant results. It is clear that a full monitoring system across the entire mandatory zone may be too costly to be approved and implemented, especially without relevant evidence that it is needed. As a result, it is necessary that additional discussions occur between all groups (conservation stakeholders, managers, scientists) to determine the best course of action to monitor the



effectiveness of SLEDs. WAFIC must bring together all interested parties to discuss this issue, and within 6 months of the certification of the fishery provide a plan of action to SCS for monitoring the effectiveness of SLEDs. WAFIC is also required to implement the proposed monitoring system before the next fishing season 2006/2007

If any of these objectives are not met, the fishery would not qualify to maintain a certificate and the certificate would be revoked.

### **ACTION PLAN**

- SLEDs have been introduced to the fishery for the 2006/07 season.
- To assess the effectiveness of SLEDs, the Sea Lion-SRG has proposed that additional underwater videoing be undertaken at times and in places where vulnerable sea lion pups are present. Information from the commercial rock lobster compliance program will also be used to ensure pots in the designated area are using SLED. The workshop, which will be part of Richard Stoklosa's ERA project, will be used as a vehicle to bring together all interested parties to review the proposal by the Sea Lion-SRG to assess the efficacy of SLEDs. The final plan to monitor the effectiveness of SLEDs will be provided to the CB.
- The workshop, which will be part of Richard Stoklosa's ERA project to reassess the hazards identified at the 2005 ERA as moderate or higher by at least 1 participant, will also be used to reassess the risk ranking of whales, dolphins, turtles, seabirds, and seahorses, if they do not fall into the moderate or higher group.
- Any actions needed to address the issue will be introduced in the **2007/2008** (note the season mistake in the condition above) fishing season or sooner if appropriate.

### **Timeline**

- The above actions will be completed by the end of April 2007.
- Full implementation of a revised monitoring system after completion of all public consultations will take place in the **2007/2008** fishing season or sooner if appropriate (note the season mistake in the condition above).

2.2.2 Objectives are established and mitigation is implemented to address and restrain impacts of the fishery on protected, endangered, threatened or icon species to within acceptable minimum levels.

2.2.2.1 Management objectives and fishing practices are set in terms of impact identification and avoidance/reduction to avoid or mitigate impacts of the fishery.

### **60 Scoring Guidepost**

- Specific interactions have been identified, and some management systems are in place to reduce impacts although they may not have been fully tested.
- Studies across the fishery are examining the fishery impacts on populations of the listed, protected and icon species, and mitigation strategies are being developed where appropriate.

### **80 Scoring Guidepost**

- The key impacts of the fishery have been established through a robust scientific process and agreed through public consultation.
- The significant risks are mitigated on a precautionary basis using appropriate management tools (such as gear or deployment modifications, seasonal restrictions, size restrictions, closed areas, etc.) to adequately protect the main populations of protected, endangered, threatened or icon species within the main fishing areas.

#### **100 Scoring Guidepost**

- Management objectives and fishing practices to detect and reduce impacts have been developed, tested and are fully deployed across the fishery. These objectives and practices are designed to adequately protect populations across the full range of the fishery, and are based on the use of closed areas to provide highly precautionary levels of protection, or on equivalently robust and precautionary approaches.
- The effectiveness of mitigation strategies in restraining the impacts of the fishery is regularly reviewed through independent external expert review.

#### **SCORE 75**

Management objectives and fishing practices to detect and reduce impacts are developed through the ERA and SRG processes that have been established for the fishery and in the EMS that has been developed.

Mitigation strategies have been developed and implemented in relation to the risks of pot impacts on the hard coral habitats of the Abrolhos Islands region.

The WRL Council has recently developed a Code of Practice, in conjunction with DCLM, to reduce the rate of entanglement of fishing gear with whales (mainly

Humpbacks and Southern Right whales). The data on the rate of entanglements is limited, and the COP will provide a better process for accurately recording and reporting such entanglements. The fishery is required to take all practical steps to minimise the interactions with whales, but the presently presumed rate of entanglement is not likely to cause a significant impact on the whale populations. The bycatch of Sea Lions exceeds the zero target level, and so the impacts of the fishery on the sea lion populations of the southern area of Zone B and the northern area of Zone C (centered around Jurien) currently exceeds the acceptable level.

The use of Sea Lion Excluder Devices (SLEDs – a structural modification to the pots) to mitigate the bycatch of Sea Lions is under active investigation, and a detailed series of trials is proposed for the 05/06 fishing season to commence in November 2005. The expectation is that if the SLEDs prove effective in eliminating Sea Lion bycatch they will be made mandatory for all fishing commencing in the 06/07 fishing season in an area of Zone B and Zone C in waters shallower than 20m depth where all previously recorded bycatch of Sea Lions has occurred (to be known as the mandatory area).

Preliminary trials carried out in previous fishing seasons indicates that the SLEDs will be successful. While this evidence indicates that the SLEDs are likely to be important mitigation devices, their effectiveness in the fishery in routine day-to-day use, under

variable conditions and with different proximity to sea lion rookeries still needs to be verified. At this time, there is no evidence that the effectiveness of the SLEDs will be verified through detailed monitoring of actual level of bycatch in the area in which the use of SLEDs is to be mandatory.

#### **CONDITION**

Same as for Indicator 2.2.1.4. above.

#### **ACTION PLAN**

Same as for 2.2.1.4 above.

#### **Timelines**

As for 2.2.1.4 above.

### **PRINCIPLE 3**

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

#### **SCORES BELOW 80**

3.1.4 There is a well-defined strategy for research related to the objectives of the fishery.

3.1.4.2 The management system has a plan for research needed to support the understanding of the ecological impacts of fishing [Relates to MSC Criterion 3.8]

#### **Scoring Guidepost 60**

Some limited research to support ecosystem management is undertaken, and some of the research results are considered and adopted within the management system.

#### **Scoring Guidepost 80**

There is a strategically developed research plan to support the needs of ecosystem impacts assessment. Resources are generally available for the high priority studies in support of ecosystem management issues. Most research results are considered and adopted.

#### **Scoring Guidepost 100**

There is a research plan, designed jointly by scientists, managers and stakeholders, to support the ecosystem and to address significant environmental risks and impacts of fishing. The effectiveness of the research plan has been assessed, and resources are always available to support the high priority research needs for the management of ecosystem issues. The research results are made public and they are considered and adopted within the management system.

#### **Score 75**

There is a West Coast Rock Lobster Strategic Operational Plan January 2004 – December 2009 endorsed by RLIAC under the management system which includes activities needed to

support the understanding of the ecological impacts of fishing, under the objective of achieving an ecosystem based management of the fishery, although this plan does not appear to be peer reviewed, or otherwise examined externally to RLIAC and the Department of Fisheries. The RLIAC Research sub-committee develops a strategic plan for research, which is then endorsed by RLIAC. The RLIAC Research sub-committee plan has still to be amended to take account of the West Coast Rock Lobster Strategic Operational Plan. Separate research plans are being developed by the Scientific Reference Groups, although these have not been completed and submitted to RLIAC for assessment.

The effectiveness of the research plans have yet to be fully assessed. In some cases studies have determined impacts (e.g. on sensitive coral habitat at the Abrolhos Islands), but other projects, such as the understanding of the ecological impacts of fishing in deepwater, are ongoing.

Resources are available to support research to understand some of the ecological impacts of fishing through government funds as well as through extramural funding.

Research results are typically made public (e.g. scientific publications and the Department of Fisheries publications, including the annual State of the Fisheries report to Parliament).

Results of research are routinely considered and adopted by RLIAC, the Department of Fisheries and the Government in their decision making processes within the management system, e.g. the management response to research on impacts on sea lions.

The conclusion is that there is at least a rudimentary strategy for research in the WRL Fishery, and it includes some studies to assess the impacts of the Fishery on the ecosystem. Also, there appear to be the necessary resources to support some studies from both government resources as well as extramural funding opportunities. However, the management system is still lacking a strategically developed research plan that incorporates all these aspects, hence the score of 75.

### **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.

This condition must be met prior to the first annual surveillance audit.

### **ACTION PLAN**

- A research plan to address the ecological impacts of rock lobster fishing has been developed by the Eco-SRG and has been adopted by WAFIC and DoF and will be presented to RLIAC.

## **Timeline**

The actions above will be completed by September 2007.

3.3 Stakeholders are directly involved in management of the fishery, disputes can be settled within the system and the managers have useful advice on which to base decisions.

3.3.1 The management system involves all categories of stakeholders appropriately on a regular, integral, explicit basis [Relates to MSC Criterion 3.2].

### **Scoring Guidepost 60**

The management system makes decisions after consulting major stakeholder groups.

### **Scoring Guidepost 80**

The management system provides effective processes for the involvement of stakeholders, and makes decisions after consulting all significant stakeholder groups.

### **Scoring Guidepost 100**

The management system makes transparent decisions that fully account and serve all stakeholder groups, and stakeholders are fully involved in the decision making process.

## **Score 70**

The management system makes decisions that serve most stakeholder groups. Stakeholders are involved in providing advice to the decision making process, e.g. commercial WRL fishers, recreational fishers, conservation sector, fishing sector generally.

A representative of Conservation Council of WA participates in the management of Western Rock Lobster Fishery as a permanent observer, but not as a member, on RLIAC along with representatives from the Western Rock Lobster Council and Western Australian Fishing Industry Council (WAFIC). Issues raised by observers are discussed and summarized in RLIAC's minutes, but these are not released to the public. Only a Chairman's summary is released.

Proposals for a conservation member of RLIAC have been made for several years, but without effect. The primary stakeholder consultation mechanism established under the EMS (the WRL ESD Committee) has not met, and is likely to be disbanded. There are many complaints from stakeholders of the failure of the management system to keep them informed of the situation and to inform them only after the decisions have been taken, and not the reasons why they have been taken. This relates to a failure of the overall consultation process for the environmental aspects of the fishery.

Stakeholders are involved in providing advice, but not in the decision making of management. In general, managers are provided with useful advice on which to base decisions.

## **Condition**

The management system must provide opportunity for better representation of all stakeholder views and concerns in the advisory functions associated with management of the fishery. The continued lack of representation of stakeholders in the conservation community concerned with ecological impacts from fishing have been apparent and the focus of previous conditions from the first assessment of the fishery in 1999/2000. This can be accomplished in a number of ways, including by adjusting membership on the RLIAC.

WAFIC must provide evidence to SCS that this is being considered within 12 months of certification, and implemented within 24 months of certification to address the deficiencies identified by SCS under this performance indicator.

### **ACTION PLAN**

- An “Ecological” advisory group will be formed to provide advice to WAFIC, RLIAC, DoF and the Minister (see Action Plan 2.1.4.2 above).
- The Minister for Fisheries has approved a change in the composition of RLIAC to include a member with ecological expertise. The person will be invited to be an official observer on RLIAC while the changes are being made. The change will require an Act amendment and may take up to three years to complete.
- Within 12 months of certification WAFIC will provide evidence to the CB that opportunities to better represent stakeholders’ views regarding the management of the fishery and to address the deficiencies identified by CB under this performance indicator, are being considered.
- WAFIC will use its best endeavors to have the changes implemented within 24 months of certification. (It must be noted that WAFIC does not have the power to make legislative or policy changes with regard to the management of the fishery).

### **Timeline**

The timelines for the above actions will be met.