

**APPLICATION TO THE DEPARTMENT OF ENVIRONMENT,
WATER, HERITAGE AND THE ARTS ON THE
WESTERN AUSTRALIAN PEARL OYSTER FISHERY**

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

July 2008



Department of Fisheries
Government of Western Australia



Fish for the future

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BACKGROUND

The purpose of this report is to update the Department of Environment, Water, Heritage and the Arts (DEWHA) on changes in the Western Australian Pearl Oyster Fishery (the Fishery) to enable the re-assessment of the Fishery against the *Guidelines for Ecologically Sustainable Management of Fisheries*, under Part 13 and 13A of the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act).

Previous Assessment

In October 2002, the WA Department of Fisheries (DOF) submitted an application to DEWHA (then the Department of Environment and Heritage) for assessment of the Fishery against the *Guidelines for the Ecologically Sustainable Management of Fisheries*, under Part 13 and 13A of the EPBC Act.

On 27 October 2003, the (then) Minister for the Environment and Heritage amended the list of exempt native specimens to include all product taken in accordance with the *Pearling Act 1990*, including pearl oysters (*Pinctada maxima*) effectively declaring the Fishery as exempt from Part 13 and 13A of the EPBC Act for a period of 5 years. The wild harvest of a number of pearl oyster species used in aquaculture, as managed under the *Fish Resources Management Act 1994* is also exempted. The exemption will expire on 22 October 2008.

The exemption came with 9 recommendations, focused on ensuring continued good management practices in the Fishery.

A copy of the DOF application and the DEWHA assessment report and letter of approval are available on the DEWHA website

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

Re- Assessment Process

This report provides responses to the 9 recommendations arising from the original ESD assessment, outlining what has been achieved in addressing each recommendation.

The documentation attached to enable re-assessment of the Fishery consists of:

- a summary of the key changes that have occurred in the Fishery in the past five years;
- a report addressing the progress of the Fishery against each of the 9 recommendations;
- a copy of the Fishery's annual reports, published in the annual State of the Fisheries Report over the past five years; and
- other ancillary information to assist in and complement the re-assessment process.

Contact

This report should provide sufficient information for DEWHA to re-assess the Fishery against the guidelines for *Guidelines for the Ecologically Sustainable Management of Fisheries*, under Part 13 and 13A of the *EPBC Act 1999*. However, should you require any further information regarding the details of the contents of this report please contact Jason Froud on (08) 9482 7399 or via email jason.froud@fish.wa.gov.au

1. SUMMARY OF CHANGES IN THE FISHERY

Other than routine adjustments to total allowable catches within the various zones of the Western Australian pearl oyster fishery (the fishery), there have been no substantial changes to management arrangements during the past five years. The high level of fisheries management, compliance and research services has been maintained in the fishery since the initial ESD certification in 2003.

Since 2003, the Department and the pearling industry have cooperatively undertaken a number of management initiatives with a view to ensuring a sustainable fishery and pearling industry well into the future. While some of these initiatives may not be directly relevant to this assessment application or the ongoing DEWHA assessment process, it is important that DEWHA is advised of the many and varied environmental, social and economic considerations currently before the pearling industry and the Western Australian Government. Some of these include:

- Two reviews of the pearling compliance program including a Department/Industry review and an independent compliance review by the Chief Fishery Officer of the New Zealand Ministry of Fisheries.
- The ongoing refinement and review of the government pearl oyster policy and legislation, focused on hatchery production management, and a recently completed independent (three person panel) Ministerial review of the pearling industry.
- Two independent epidemiology investigations into a mortality event that has mainly affected young hatchery produced pearl oysters and some adult farmed pearl oysters in Exmouth Gulf (but does not appear to have any effect on pearl oyster wildstocks or any other wildlife).
- The development and refinement of translocation protocols and industry codes to mitigate the risks of any pearl oyster disease to the environment, pearl oyster wildstocks, and the pearling industry.
- In cooperation with the Western Australian Department of Agriculture and Food, the implementation of two minor amendments to the Enzootic Diseases Regulations to provide for the better management of the pearl oyster mortality event into the future.
- The industry led initiative to develop and implement high quality, company specific Environmental Management Systems.
- Ongoing efforts by the pearling industry to develop and maintain agreements with other users of the Western Australian marine environment (eg indigenous groups, recreational vessels, the Kimberley charter boat industry and LNG exploration industry).
- Ongoing research by independent investigators to determine (if any) the measurable environmental impacts of pearling operations (pearling leases etc).

2. PROGRESS IN IMPLEMENTING RECOMMENDATIONS

1. ***DFWA to include the operational objectives, reference points and performance measures from the DFWA ESD report in the Pearl Oyster Fishery Ministerial Policy Guideline and to review these at least every 5 years. Operational objectives to be developed in relation to minimizing impacts on bycatch and protected species and the broader marine environment.***
2. ***The DFWA ESD report to be amended to incorporate a clear timeframe for the completion of a performance measure breach review. The breach review report should include a clear timeframe for implementation of management response actions.***
3. ***Within one year, the DFWA ESD report to be published, and all performance measures, responses and information requirements formally incorporated into a Ministerial Policy Guideline.***

Recommendations 1, 2 and 3 are addressed in the Department of Fisheries letter (and attachments) to the (then) Department of Environment and Heritage dated 30 January 2005 (see Appendix).

Furthermore, there have been a range of reviews of pearling policy and legislation since the 2003 approval. The reviews have primarily focused on the hatchery policy, and the ongoing role of Government in the regulation of the hatchery production component of the pearling industry. While the reviews have been in progress, there has been an informal "moratorium" on amending pearling specific legislation and policy (including the Ministerial Policy Guidelines). This is expected to change over the next five years as the outcomes of the review processes are implemented.

The Department of Fisheries ESD report is readily available online at the Department of Fisheries, and DEWHA websites. The Department of Fisheries website also provides a direct link to the other DEWHA assessment documents. The Department of Fisheries publishes annual reports of the performance of the fishery against certain performance measures in the *State of the Fisheries Report*.

4. ***DFWA to maintain effective compliance and enforcement mechanisms to ensure that all wild harvested pearl oysters are fully accounted.***

A comprehensive compliance program has been maintained to ensure the continued sustainability of the fishery and equity amongst wildstock licence holders. Compliance activities include at sea inspections and monitoring of fishing vessels and pearling leases. Compliance and enforcement outcomes are reported annually in the State of the Fisheries report.

With a view to continual improvement in the Department's pearling compliance program, the Department initiated an independent review of Pearling Compliance in 2007. The review was undertaken by the Senior Fishery Officer of the New Zealand Ministry of Fisheries.

Recommendation 4 continued on next page...

...*Recommendation 4 continued.*

The review (which was completed contemporaneously with the Ministers independent review of the pearling industry) recommended a number of changes to the pearling compliance program, including (*inter alia*) the better and more integrated use of satellite communications and positioning technology in the compliance program. A copy of the report is provided in the Appendix to this submission.

5. DFWA to inform EA of any changes to the Pearling Act, Ministerial Policy Guidelines or managerial commitments in the DFWA ESD report.

Other than minor consequential amendments such as application fees, the review processes for the State Administrative Tribunal and “machinery of Government” amendments, there have been no changes to the *Pearling Act 1990* or the *Pearling Regulations 1991* since the initial DEWHA approval in 2003.

Ministerial Policy Guideline 17 was amended in 2004 in accordance with recommendations 1 and 3 above.

In early 2008, the Department administered two minor changes to the *Enzootic Diseases Regulations 1970* help facilitate the ongoing management of the pearl oyster mortality event in the Western Australian Pearling industry. In absence of a definitive scientific conclusion as to the reasons for the mortality event the Department of Fisheries has had to provide the event with a formal name – Oyster Oedema Disease (OOD). This reflects the syndrome found in the affected oysters.

One of the amendments listed OOD as a mollusc disease in the regulations, thus requiring lease holders to report if they have oysters which have (or may have) the disease. The second amendment improved the mechanisms for disease testing of pearl oysters and also approval processes for the transport of pearl oysters when the oysters may be (or has been) affected by this disease.

It was recognised in 2001 that existing pearling legislation was deficient in a number of areas, particularly with regards to hatchery regulation and management given industry advances in technology. The Department and industry completed a detailed review in 2005 of all aspects of industry including new legislation to address current and future these industry practices and other administrative and rights based issues in the industry.

The Western Australian Minister for Fisheries subsequently commissioned an independent review of the Western Australian pearling industry in 2007. The three person review panel recently submitted their report to the Minister. The outcomes of the report are not yet available, but the report could include recommendations that, if adopted by Government, would result in legislative and policy change within the Western Australian pearling industry.

6. A mechanism to be developed to enable the amendment of management arrangements to respond to new information or future Government plans and policies.

There are well defined processes to facilitate amendments to the *Pearling Act 1990* and subsidiary legislation and policy.

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...Recommendation 6 continued.

The *Pearling Act 1990* currently provides for the development and adjustment of policies in the pearling industry (in the form of Ministerial Policy Guidelines). The *Pearling Act* also provides for the Chief Executive Officer of the Department of Fisheries to make decisions regarding specific issues (such as the adjustment of zone fishing arrangements and total allowable catch).

Noting the relatively lengthy processes for amending Acts and Regulations, recent reviews into pearl oyster fishery policy and legislation have considered the capacity for Government to make amendments to management arrangements in a more timely manner. This will be further explored over the next few years during the consideration and implementation (if approved) of the outcomes of the Minister's independent review of the pearling industry.

7. *DFWA to encourage the Pearl Producers Association while finalizing their Environmental Code of Practice, to consider including actions to address issues relating to the wild harvest of pearl oysters that are highlighted in the ESD Report and EA's assessment report.*

The Department has encouraged the PPA to consider this recommendation. A copy of the current PPA Environmental Code of Conduct is included in the Appendix to this submission.

8. *DFWA to maintain an effective research and monitoring program in the fishery to validate the catch data, enhance understanding of the stocks status and develop biological performance measures.*

The Department of Fisheries research and monitoring program has been improved through a number of initiatives, including the generation of several externally funded projects to investigate a number of projects including:

- bio-eroding sponges in pearl oyster stocks and their habitats;
- increasing the coverage of the catch sampling program; and
- developing a research program to examine the overall population size structure

The Department and the pearling industry have also formed a stock assessment working group to provide expert advice on stock status and recommended fishing levels to the Chief Executive Officer of the Department and the Minister (through the Pearling Industry Advisory Committee).

Furthermore, the "piggyback spat" project is now generating useful predictive stock indices and is fully integrated into the annual stock assessment program. The project is providing a good indicator of stock abundance 3 - 5 years in advance. This has enabled the development of a reliable decision rule framework to assist annual TAC assessments and recommendations. For example, the predictive tool indicated exceptionally high pearl oyster wildstock abundance and catch rates in zone 2 of the pearl oyster fishery in 2008. This tool in conjunction with early 2008 fishing results has allowed the decision rule framework to recommend a mid-year TAC adjustment to increase the total allowable catch in zone 2 of the fishery.

- 9. *Should fishing commence in Zone 4, DFWA to include Zone 4 in the assessment program for the fishery to ensure a reliable biological assessment of stock status is established, including performance measures, and that fishing is managed in an ecologically sustainable manner.***

Fishing has not commenced in zone 4 and a zero TAC continues. Indeed, the Pearling Industry Advisory Committee has recommended to the Minister that zone 4 be removed from the fishery. Given other review priorities, this has yet to be effected through an amendment to the relevant Notice, but the industry and the Department are functioning as though zone 4 no longer exists (note: recent determinations of TAC in each zone do not refer to zone 4).

3. ERA RISK RATING RE-ASSESSMENT

The risk ratings of all risks identified in the previous assessment have been re-assessed by Department staff and the Executive Officer of the Pearl Producer's Association taking into account changes (if any) in fishing practices and any other relevant external influences in the fishery since 2002.

The key relevant change to fishing activity since 2002 has been the rationalisation of the fishing fleet so there are less boats fishing. This has (arguably) further reduced the already negligible risk rating for potential impact on Protected, Threatened and Endangered species, and damage to habitats.

In October 2006, the Department of Fisheries received reports of significant, unexplained mortalities in farm-based silver-lipped pearl oysters from farms located in Exmouth Gulf and the Kimberley. Seeded and unseeded pearl oysters were affected, with hatchery spat appearing to be particularly vulnerable. The mortalities appear to be linked to an infectious agent which, for administrative purposes, has been termed Oyster Oedema Disease (OOD). The agent only affects silver-lipped pearl oysters. The industry and the state government continue to invest significant resources towards identifying the cause of these mortalities.

Immediately following the October 2006 reports, the Department of Fisheries enacted the Pearling Industry Emergency Incident Management Plan, which included the formation of a Department/Industry taskforce to monitor and manage the incident. The taskforce met periodically and jointly developed a specific translocation protocol. The taskforce also commissioned two independent epidemiological studies into the mortality event by AusVet Animal Health Services. In early 2008, the Department of Fisheries and the Department of Agriculture and Food cooperatively made two amendments to the Enzootic Diseases Regulations to better manage the mortality event. (For further information see discussion at Section 2 – Recommendation 5). The Pearling Industry Advisory Committee has also recently endorsed the establishment of an expertise based group to deal with this, and any potential future pearl oyster health issues.

The mortality event affects mainly hatchery produced oysters held on pearl farms. Importantly it does not appear to have had any impact on the broader environment or the status of pearl oyster wildstocks. Indeed, "piggyback spat" sampling work and modelling by the Department of Fisheries has suggested that the recruitment of pearl oysters into zone 2 of the fishery over the next few years will be the highest on record.

As a result of the re-assessment of the risks identified in the original assessment, the Principle 1 risk rating for the impacts on spawning stocks of oysters has been decreased slightly, but remains "LOW". The ratings of most Principle 2 risks have remained unchanged and "NEGLIGIBLE". However, one risk was removed from the Principle 2 list altogether, and another was slightly downgraded. No additional risks were identified through an assessment of the component trees detailed in the Fisheries Management Paper 157 (*Policy for the Implementation of Ecologically Sustainable Development for fisheries and aquaculture within Western Australia* - <http://www.fish.wa.gov.au/docs/mp/mp157>).

The Department of Fisheries and the pearling industry intend to complete another detailed ESD risk assessment when considering the fishery against any new management arrangements that might result from the recently completed policy review processes. In accordance with the recommendations from the original assessment in 2002, the Department of Fisheries will ensure DEHWR is kept well informed about this process and the outcomes.

Risk Assessment Overview Table

Principle 1	2002 rating	2008 rating
<i>Objective 1 - Maintain viable stock levels of target species</i>		
Impacts on spawning stock of Oysters	LOW	LOW
Principle 2		
<i>Objective 1 - Bycatch</i>		
Piggyback species	NEGLIGIBLE	NEGLIGIBLE
<i>Objective 2 – Protected, Threatened and Endangered Species</i>		
<i>Objective 3 – General Ecosystem</i>		
Trophic Interactions – taking of oysters	NEGLIGIBLE	NEGLIGIBLE
Additional of material to the environment – Discarding of shells	NEGLIGIBLE	Deleted
Damage to habitats – Diver activities	NEGLIGIBLE	NEGLIGIBLE
Damage to habitats – Anchoring	NEGLIGIBLE	NEGLIGIBLE
Damage to habitats – Holding sites	NEGLIGIBLE	NEGLIGIBLE

PRINCIPLE 1 OF THE COMMONWEALTH GUIDELINES

Objective 1 – Maintain viable stock levels of target species

Impacts on spawning stock of oysters – (C1 L4) Low

The risk rating of the impacts of commercial fishing on spawning stocks of oysters is considered to remain LOW. Given the exceptionally high recruitment currently evident in zone 2 of the fishery, and the likelihood of ongoing high recruitment in that zone for the next few years, viable stock levels of the target species have clearly been maintained. The lower TAC in zone 1 demonstrates an ongoing precautionary approach to management while stocks are given an opportunity to rebuild. Variability in pearl oyster abundance in this area is most likely a result of environmental factors, some fishing pressure, and that Exmouth Gulf is at the southern extremity of the natural distribution of *Pinctada maxima*.

In 2008, high catch rates in zone 2 of the fishery prompted a mid-year review of the total allowable catch in the zone. The Total Allowable Catch was increased from 1400 shell per fishing unit to 1800 shell per fishing unit in accordance with the TAC decision rules framework developed since the 2002 assessment. Predictions for the following two years based on monitoring of “piggyback spat” suggest that even higher catches could be sustained in that zone.

As described in the original 2002 assessment report, for dive safety and practical reasons, the pearling fishery can only operate within a narrow depth corridor along the Western Australian coastline. As such, significant patches of pearl oysters occur outside of the normal fishing areas. Furthermore, even within regularly fished areas, only pearl oyster shell of a specific size is collected (120mm – 160mm). Pearl oyster shells larger than 160mm form the basis of the breeding stock.

Principle 1 - Objective 1 continued

A reassessment of this risk has revealed that the “likelihood” component in the original 2002 application was probably too high (L5). A more appropriate “likelihood” assessment, given the above information (and demonstrated by the ongoing maintenance of spawning stock as a whole), is a rating of L3 or L4. Despite the revised likelihood assessment, the risk rating (in accordance with the risk matrix) is still classified as “LOW”.

PRINCIPLE 2 OF THE COMMONWEALTH GUIDELINES

Objective 1 – Bycatch

Piggyback species – (C0 L1) Negligible – No change

Objective 2 – Protected, Threatened and Endangered Species

The method of fishing (diving) ensures no interaction with Protected, Threatened and Endangered species. Diving remains unchanged as the only fishing method in the fishery. Therefore, no risk assessment or re-assessment is necessary.

Objective 3 – General Ecosystem

- **Trophic interactions**

Taking of oysters – (C0 L1) Negligible – No change, risk retained

- **Addition of material to the environment**

Discarding of shells – Risk removed

The 2002 assessment considered the possibility that the return of pearl oysters to the ocean following grading constituted an ‘addition of material’ to the environment. In practice, pearl oysters are returned to the water very quickly after each dive, and in close proximity to the original collection site. The oysters are thus “returned”, not “added” to the environment. It is acknowledged that the process of returning oysters after every dive can result in small areas of higher density of pearl oysters. However, it is now the view of the Department and Industry that this is not ‘adding material’ to the environment.

In any case, in recent years the abundance of pearl oysters on the main fishing grounds, the rationalisation of the fishing fleet and the retention of more experienced divers in the industry is likely to have resulted in a lower rate of oyster returns.

- **Damage to habitats**

Diver activities – (C0 L1) Negligible – Risk downgraded slightly (L2 to L1)

Anchoring – (C0 L1) Negligible – No change, risk retained

Holding sites- (C0 L1) Negligible – No change, risk retained

The rationalisation of the fishing fleet and retention of more experienced divers has further reduced the potential for damage to habitats. Accordingly, the likelihood of the risk resulting from diver activities has been slightly downgraded (L2 to L1). However, with a view to ensuring a watching brief is maintained regarding potential habitat damage, all of the above risks have been all been retained as “NEGLIGIBLE”.

APPENDICES

- Department of Fisheries letter to DEH dated 30 January 2005.
- Pearling In Perspective;
- Pearl Producers' Association Environmental Code of Conduct;
- Whale Management Policy and Protocol;
- Pearl Oyster Translocation Protocol;
- Final report of the Independent Compliance Review.
- Copy of relevant section of State of the Fisheries Report from 2002 onwards.