



Australian Government

Department of the Environment and Water Resources

Assessment of the
**Harvest of Native Oysters (*Ostrea angasi*) from the
Tasmanian Shellfish Fishery**

May 2007

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This document is an assessment carried out by the Department of the Environment and Water Resources of a commercial fishery against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries*. It forms part of the advice provided to the Minister for the Environment and Water Resources on the fishery in relation to decisions under Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999*. The views expressed do not necessarily reflect those of the Minister for the Environment and Water Resources or the Australian Government.

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Table 1: Summary of the harvest of native oysters (*Ostrea angasi*) from the Tasmanian Shellfish Fishery (TSF)

Publicly available information relevant to the fishery	<ul style="list-style-type: none"> • Tasmanian <i>Living Marine Resources Management Act 1995</i>; • Tasmanian <i>Fisheries (Shellfish) Rules 2007</i>; • Shellfish Fishery Policy Document 2007; and • Department of the Environment and Water Resources' (DEW, formerly the Department of the Environment and Heritage) Assessment Report of the <i>Tasmanian Native Oyster Fishery 2004</i>.
Area	Georges Bay, north east Tasmania.
Fishery status	Uncertain, although presumed to be underfished.
Target Species	Native 'flat' oyster (<i>O. angasi</i>).
By-product Species	Not permitted.
Gear	Hand collection. If harvesting is by diving, the operator must also be the holder of a fishing licence (commercial dive).
Season	Unrestricted.
Commercial harvest 2006	3,028 dozen oysters.
Recreational harvest	Recreational take is believed to be negligible. Bag limit of 50 native oysters per person per day.
Commercial licenses issued	Two fishing licences (native oyster – Georges Bay).
Management arrangements	<p>Input and output controls including:</p> <ul style="list-style-type: none"> • limited entry (two licence holders); • gear restrictions (hand harvest); • Total Allowable Catch (TAC) of 6,707 dozen native oysters (2007/08); • area restrictions (Georges Bay only); and • shellfish fishery docket system and pre-fishing reporting. <p>There is no minimum size limit under the new management plan. [The Department of Primary Industries and Water (DPIW) indicate that the size taken by the licence holders is well above 70 mm and market driven].</p>
Bycatch	Negligible.
Interaction with Threatened Species	Negligible.

Table 2: Progress in implementation of recommendations made in initial assessment of the TSF (previously termed the Tasmanian (TAS) Native Oyster Fishery)

Recommendation	Progress	Recommended Action
<p>1. DPIW to inform DEW of any changes to the management arrangements that may impact on the sustainability of the Native Oyster Fishery.</p>	<p>In early 2006, DPIW incorporated several existing developmental fisheries (including the TAS Native Oyster Fishery) into one management plan. This has led to the grouping of clams, native and pacific oysters, mussels and cockles into a collective fishery called the TSF.</p> <p>Changes that have occurred in the fishery in 2007 include the development of a formal management plan (<i>Fisheries (Shellfish) Rules 2007</i>) and the recent removal of the 70 mm minimum size limit for native oysters from the management plan. DPIW state that this size limit was set based more on market demands rather than biological information and that the size taken by fishers is above 70 mm. If appropriate, DPIW may implement a minimum size limit for native oysters by public notice.</p> <p>These changes to the management arrangements have not impacted on the sustainability of native oysters taken from the TSF.</p>	<p>DPIW to advise DEW of any material change to the fishery’s management arrangements that could affect the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> (EPBC Act) decisions are based (Recommendation 1, Table 4).</p> <p>A recommendation for the TSF will also involve DPIW to produce and present annual reports to DEW regarding the status and the performance of the fishery, research undertaken and progress in implementing DEW recommendations (Recommendation 2, Table 4).</p>
<p>2. DPIW to develop and implement a precautionary reference point and corresponding management response, sufficient to trigger a response to major</p>	<p>The development of precautionary reference points (implemented in 2005) is based upon April 2003 biomass estimates of 900,000 dozen oysters. The two reference points that</p>	<p>A recommendation will be made for DPIW to monitor the status of native oysters in relation to reference/trigger points and develop a clear timetable for the implementation of appropriate</p>

<p>changes in harvest of the target species.</p>	<p>require action regarding the taking of the target species are:</p> <p>i) when the biomass is determined as 40% of the unfished stock of 900,000 dozen, which equates to 360,000 dozen oysters; and/or</p> <p>ii) the biomass is equivalent to 50% of the proceeding biomass estimate. (The initial survey in 2003 estimated biomass was 900,000 dozen which would have equated to a reference point of 450,000 dozen oysters. The estimated biomass in 2005 was 784,686 dozen oysters on the three beds, therefore the reference point equates to 392,343 dozen oysters).</p> <p>In addition, the Shellfish Fishery Policy Document 2007 contains general trigger points for management review. These are: changes in the catch rates for shellfish species (Catch per Unit Effort - CPUE); catch targets not met for shellfish species where an agreed percentage of the TAC is not taken; where quantifiable, an undesirable change in size or age composition of the catch is detected; and identification of disease outbreak in shellfish stocks.</p> <p>The management response to the fishery reaching the reference points would be a review of the fishery to determine the reasons for the decline and to consider the</p>	<p>management responses should a trigger point be met (Recommendation 3, Table 4).</p>
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	appropriate actions to maintain an ecologically sustainable fishery.	
<p>3. DPIW to conduct a re-survey of the stock structure and density of native oysters on the main beds in Georges Bay every two years.</p>	<p>The initial survey of the three major native oyster beds (the Main Bed, Eastern Bed and the Akaroa Bed) was conducted in April 2003. These beds were recently surveyed again in April 2005, which estimated a combined total of 784,686 dozen oysters.</p> <p>Should concerns regarding the biomass arise before the 2007 survey (as per recommendation 3 from the 2004 assessment), DPIW will review the fishery to determine the reasons for the decline and consider the appropriate course of action to maintain an ecologically sustainable fishery.</p>	<p>A recommendation will be made for DPIW to conduct a survey before the end of 2011 of the stock structure and density of native oysters on the major Beds to inform management arrangements, particularly with regards to setting annual catch levels for native oysters in the fishery (Recommendation 4, Table 4).</p>

Table 3: The DEW assessment of the harvest of the native oyster (*O. angasi*) from the TSF against the requirements of the EPBC Act related to decisions made under Part 13A.

Part 13A

Section 303DC Minister may amend list	DEW assessment of the harvest of native oysters from the TSF
<p>Minister may, by instrument published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by:</p> <p>(a) including items in the list;</p>	
<p>In deciding whether to amend the list referred to in section 303DB (list of exempt native specimens) to include a specimen derived from a commercial fishery, the Minister must rely primarily on the outcomes of any assessment in relation to the fishery carried out for the purposes of Division 1 or 2 of Part 10.</p>	<p>No assessment of the harvest of native oysters from the TSF has been carried out under Part 10 of the EPBC Act.</p>
<p>The above does not limit the matters that may be taken into account in deciding whether to amend the list referred to in section 303DB (list of exempt native specimens) to include a specimen derived from a commercial fishery.</p>	<p>It is not possible to list exhaustively the factors that may be taken into account in amending the List of Exempt Native Specimens (LENS). The objects of Part 13A, which are set out below this table, provide general guidance in determining factors that might be taken into account. A matter that is relevant to determining whether an amendment to the list is consistent with those objects is likely to be a relevant factor.</p> <p>DEW considers that the amendment of the LENS to include native oysters (<i>O. angasi</i>) taken in the TSF would be consistent with the provisions of Part 13A of the EPBC Act as:</p> <ul style="list-style-type: none"> ▪ the fishery will not harvest any Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) listed species; ▪ there are management arrangements in place to ensure that the resource is being managed in an ecologically sustainable way (see Table 1).

	<ul style="list-style-type: none"> ▪ the operation of harvesting native oysters from the TSF is unlikely to be unsustainable and threaten biodiversity within the next 5 years; and ▪ the EPBC Regulations 2000 do not specify fish as a class of animal in relation to the welfare of live specimens.
<p>Before amending the list referred to in section 303DB (list of exempt native specimens), the Minister:</p> <ul style="list-style-type: none"> (a) must consult such other Minister or Ministers as the Minister considers appropriate; and (b) must consult such other Minister or Ministers of each State and self-governing Territory as the Minister considers appropriate; and (c) may consult such other persons and organisations as the Minister considers appropriate. 	<p>The public comment period which commenced on 30 March 2007, on DPIW's <i>Developmental Fishing for Native Oysters in Tasmanian State Waters and Shellfish Fishery Policy Document 2007</i> (the submissions) sought comment on the submissions and provided sufficient opportunity for consultation with other persons and organisations.</p> <p>A letter to the Hon David Llewellyn, MHA Minister for Primary Industries and Water advises him of the intention to exempt the take of native oysters from the TSF from the export provisions of Part 13A of the EPBC Act for five years.</p>

Section 303FR Public consultation	DEW assessment of the harvest of native oysters from the TSF
<p>Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice:</p> <ul style="list-style-type: none"> (a) setting out the proposal to make the declaration; and (b) setting out sufficient information to enable persons and organisations to consider adequately the merits of the proposal; and (c) inviting persons and organisations to give the Minister, within the period specified in the notice, written comments about the proposal. 	<p>A public notice, which set out the proposal to grant export approval to native oysters derived from the TSF and included the submissions, was released for public comment which closed on 1 May 2007 with no submissions received.</p>
<p>A period specified in the notice must not be shorter than 20 business days after the date on which the notice was published on the Internet.</p>	<p>A public notice, which set out the proposal to grant export approval to native oysters from the TSF and included the submissions, was released for public comment on 30 March 2007 and closed on 1 May 2007, a total of 21 business days.</p>
<p>In making a decision about whether to make a declaration under section 303FN, the Minister must consider any comments about the proposal to make the declaration that were given in response to the invitation in the notice.</p>	<p>No public comments about the proposal were received.</p>

Section 391 Minister must consider precautionary principle in making decisions	DEW assessment of the harvest of native oysters from the TSF
<p>The Minister must take account of the precautionary principle in making a decision under section 303DC and/or section 303FN, to the extent he or she can do so consistently with the other provisions of this Act.</p>	<p>The Minister for the Environment and Water Resources or Delegate of the Minister for the Environment and Water Resources must consider the precautionary principle when making a decision to include specimens on the LENS.</p>
<p>The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.</p>	

Objects of Part 13A

- (a) to ensure that Australia complies with its obligations under CITES and the Biodiversity Convention;
- (b) to protect wildlife that may be adversely affected by trade;
- (c) to promote the conservation of biodiversity in Australia and other countries;
- (d) to ensure that any commercial utilisation of Australian native wildlife for the purposes of export is managed in an ecologically sustainable way;
- (e) to promote the humane treatment of wildlife;
- (f) to ensure ethical conduct during any research associated with the utilisation of wildlife;
- (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.

Final recommendations to DPIW for the harvesting of the native oyster (*O. angasi*) from the TSF

The material submitted by DPIW demonstrates that the management arrangements for the TSF continue to meet the requirements of the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries*. The harvest of native oysters from the TSF is relatively well-managed, with a range of management measures in place to promote the ecologically sustainable harvesting of native oysters from the fishery. These measures include: limited entry; a restriction to fish Georges Bay only; a TAC for native oysters; and gear restrictions (hand collection).

DEW considers that the range of management measures are sufficient to ensure that the harvest of native oysters from the TSF is conducted in a manner that does not lead to over-fishing and that stocks are not currently overfished. Taking into account the limited entry, area restrictions, close monitoring of take by individual fishers and the relatively benign fishing methods employed, DEW considers that fishing operations are managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

DEW is satisfied that the fishery will not be detrimental to the survival or conservation status of the taxon to which it relates in the short term. Similarly, it is not likely to threaten any relevant ecosystem in the short term. To contain and minimise the risks in the longer term the recommendations listed below have been made. DEW believes that the native oyster (*O. angasi*) taken in the TSF should be exempt from the export controls of Part 13A of the EPBC Act, with that exemption to be reviewed in 5 years.

Recommendations are provided below with a brief explanation of the related issue/intent. Unless a specific time frame is provided in the recommendation each recommendation must be addressed before the end of the fishery's declaration (5 years).

Table 4: Harvest of native oysters from the TSF Assessment – Summary of Issues and Recommendations May, 2007

	Issue	Recommendation
1	<p><u>General Management</u> DEW considers it important that management arrangements remain flexible to ensure timely and appropriate managerial decisions. Because of the importance of the management arrangements and documents referred to above to DEW's assessment of the fishery, an amendment could change the outcomes of the assessment and decisions stemming from it. Decisions resulting from this assessment relate to the arrangements in force at the time of the decision. Therefore, in order to ensure that these decisions remain valid, DEW needs to be advised of any changes that are made to the management regime and make an assessment that the new arrangements are equivalent or better, in terms of ecological sustainability, than those in place at the time of the 2007 decision.</p>	<p>Recommendation 1: <i>DPIW to advise DEW of any material change to the TSF management arrangements that could affect the criteria on which EPBC Act decisions are based, within three months of that change being made.</i></p>
2	<p><u>Annual Reporting</u> DEW considers it important that reports be produced and presented to DEW annually in order for the performance of the fishery and progress in implementing the recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration (5 years). Annual reports should include a description of the fishery, management arrangements in place, recent catch data for the native oyster section of the fishery, status of target stock, interactions with protected species, impacts of the fishery on the ecosystem in which it operates, progress in implementing DEW recommendations and research and monitoring outcomes.</p>	<p>Recommendation 2: <i>Reports to be produced and presented to DEW annually, and to include:</i></p> <ul style="list-style-type: none"> <i>i. Information sufficient to allow assessment of the progress of DPIW in implementing the recommendations made in the Assessment of the Harvest of Native Oysters from the Tasmanian Shellfish Fishery 2007; and</i> <i>ii. A description of the fishery, management arrangements in place, recent catch data for the native oyster section of the fishery, status of target stock, interactions with protected species, impacts of the fishery on the ecosystem in which it operates and research and monitoring outcomes.</i> <p><i>Information should only be provided on those aspects which are relevant to the fishery and that articulate 'changes' since the last annual report.</i></p>

3	<p><u>Management response to performance triggers</u></p> <p>The Shellfish Fishery Policy Document 2007 advises that a management review will be initiated if one or more of the trigger/reference points are reached. While DEW notes the prescribed management responses involve consultation with industry and implementing appropriate actions to address the issue, there is currently no time frame for implementation of this action following the triggering of a reference point. DEW considers that a three month timeframe should be applied to the management response in order to determine a timely and appropriate response to the deviation.</p>	<p>Recommendation 3: <i>DPIW to monitor the status of native oysters in relation to reference points. Within 3 months of becoming aware of a reference point being triggered, DPIW to develop a clear timetable for the implementation of appropriate management responses.</i></p>
4	<p><u>Biomass Estimates</u></p> <p>Surveys to estimate the abundance and biomass of the native oyster (<i>O. angasi</i>) have been conducted by DPIW on the three major Beds in George's Bay in April 2003 and April 2005. A further survey will be conducted by DPIW by July 2007 (as required from the 2004 assessment). While DPIW have indicated that they will continue to monitor catch rates and make variations to the TAC as necessary, further stock assessments for native oysters in Georges Bay need to be conducted in order to continue to estimate the available biomass and inform the TAC setting process. This is particularly important for native oysters as specific information about the size at first maturity and recruitment is not well understood.</p> <p>DEW notes that biomass estimates can be highly variable with shellfish species due to the patchy distribution caused by settlement/habitat relationships and clumping distribution. This could potentially skew CPUE data. This should be taken into consideration when conducting abundance and biomass surveys of native oysters in Georges Bay.</p>	<p>Recommendation 4: <i>By December 2011, DPIW to conduct a survey on the stock structure and density of native oysters on the Main Bed, Eastern Bed and the Akaroa Bed to inform management arrangements, particularly with regards to setting the annual TAC.</i></p>
5	<p><u>Research</u></p> <p>DEW understands that the take of native oysters from the TSF is relatively small with relatively low impacts on the environment, but considers that research is required on recruitment, reproductive biology and the ecosystem role of <i>O. angasi</i> to underpin stock assessments and TAC setting.</p>	<p>Recommendation 5: <i>DPIW to develop a research strategy for native oysters and implement once resources allow. Research should focus on growth and recruitment of native oysters.</i></p>

In accordance with the management objectives for the TSF, shellfish species populations are to be maintained at levels which are able to generate acceptable recruitment. However, specific information about recruitment and size and age at maturity is not readily available for native oysters in Georges Bay. While not considered necessary by DPIW (as the size of oysters is market driven), the removal of the minimum size limit for native oysters may potentially decrease the chances of continued recruitment to the fishery.

While this research should be conducted soon, DEW accepts that the research is cost-prohibitive for two operators to fund. DEW therefore recommends that DPIW develop a research strategy for *O. angasi* and implement once resources allow or when catch or effort levels increases significantly from current catch and effort levels.

Acronyms

CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
CPUE	Catch Per Unit Effort
DEW	Department of the Environment and Water Resources
DPIW	Department of Primary Industries and Water
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
FAC	Fishery Advisory Committee
LENS	List of Exempt Native Specimens
TAC	Total Allowable Catch
TAS	Tasmania
TSF	Tasmanian Shellfish Fishery