



Australian Government

Department of Sustainability, Environment, Water, Population and Communities

Assessment of the
Tasmanian Commercial Dive Fishery

September 2011

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Disclaimer

This document is an assessment carried out by the Department of Sustainability, Environment, Water, Population and Communities of a commercial fishery against the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition*. It forms part of the advice provided to the Minister for Sustainability, Environment, Water, Population and Communities 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 Sustainability, Environment, Water, Population and Communities or the Australian Government.

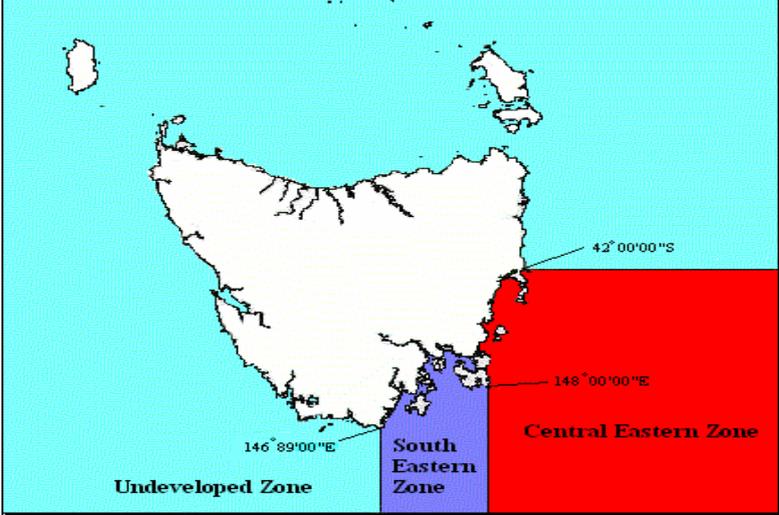
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Table 1: Summary of the Tasmanian Commercial Dive Fishery

<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • Tasmanian <i>Living Marine Resources Management Act 1995</i>; • Agency Submission on Ecological Sustainability– November 2005 • Submission for Assessment of the Tasmanian Commercial Dive Fishery for the Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) 2011. • Periwinkle Fishery of Tasmania funding application (University of Tasmania) • Policy Document for the Tasmanian Commercial Dive Fishery December 2005 – <i>Living Marine Resources Management Act 1995</i> • Tasmanian Commercial Dive Fishery policy update January 2011 – <i>Living Marine Resources Management Act 1995</i>
<p>Area</p>	<p>The area of the Tasmanian Commercial Dive Fishery encompasses all Tasmanian state waters, excluding protected and research areas.</p> <p>These state waters are comprised of three separate zones. The central eastern zone, south eastern zone and the undeveloped zone.</p> <p>The central eastern zone extends from Friendly Point to the Southern tip of Tasman Island. The south eastern zone includes all state waters between the southern tips of Tasman Island to Whale Head.</p> <p>The undeveloped zone includes the remaining 75 percent of the state waters surrounding Tasmania.</p> <p>Fishing effort is concentrated in both the central and south eastern zones as both areas produce a good return of sea urchins whilst the undeveloped zone is largely unexplored.</p>

	
<p>Status</p>	<p>The Tasmanian Commercial Dive Fishery targets two species of sea urchin, the white sea urchin (<i>Heliocidaris erythrogramma</i>) and black sea urchin (<i>Centrostephanus rodgersii</i>). The fishery also targets periwinkles.</p> <p>Since the management plan was put into place in December 2005 the Tasmanian Department of Primary Industries, Parks, Water and Environment has reported that the white sea urchin (<i>Heliocidaris erythrogramma</i>) populations have not been in decline and the sea urchin fishery has been operating within the total allowable catch limits. Reports from divers state that stocks remain high and the fishery is healthy.</p> <p>Numbers of black sea urchins (<i>Centrostephanus rodgersii</i>) have increased in Tasmanian waters in recent years, following changes in the East Australian Current. Black sea urchins are now considered a pest in the region, due to their negative impact on both native ecosystems and lucrative fisheries, including abalone and rock lobster. Over 10 tonnes of black sea urchins have been harvested in the current year and there is no size or catch limit set.</p> <p>The Tasmanian Commercial Dive Fishery submission report shows a decline in the take of periwinkles in 2007/2008. The cause of this decline is currently unknown. A research project to investigate periwinkle stock status has recently commenced.</p>
<p>Target Species</p>	<p>The fishery targets white sea urchins (<i>Heliocidaris erythrogramma</i>), black sea urchins (<i>Centrostephanus rodgersii</i>) and periwinkles (<i>Tora spp</i>).</p> <p>Whelks (<i>Buccinidae spp.</i> or <i>Fascioliariidae spp.</i>) were previously listed as target species under the 2005 management plan. However they are no longer of interest as a commercial species and have been delisted.</p> <p>Information on the biology the above species can be found in the 2005 assessment of the fishery located on the DSEWPac website.</p>

Byproduct Species	There are no byproduct species taken in the fishery.
Gear	Non-mechanical fishing methods such as tongs, a single prolonged hook or a gloved hand. Divers may use hookah gear operations out of small boats.
Season	All year round except for a 3-4 month area closure period (around January to May, excluding the undeveloped zone) following spawning. Fishing activity is greatest in December prior to spawning when roe quality and quantity is at its best.
Commercial harvest 2010/2011	<p>Since the introduction of the management plan in 2005, harvest of the white sea urchin has been well within the total allowable catch limit. Harvest taken in 2010/2011 totalled 50.65 tonnes (t). Harvest in the preceding three years was between 20-30 t.</p> <p>A total of 55.15 t of the black sea urchin was harvested in 2010/2011. (this total excludes catch data for June 2011).</p> <p>The total catch of periwinkles decreased from 19.84 t in 2008/2009 to 12.96 t in 2009/2010. A research project is underway to investigate periwinkle biology and population structure. As an interim precautionary measure while this research is being undertaken, the minimum size limit has been increased to 40 mm and catch figures will be closely monitored.</p>
Value of commercial harvest	<p>Sea Urchins - \$158,283 (black sea urchins 60 percent).</p> <p>Periwinkles - \$94,142</p> <p>Total Commercial Value of the fishery 2010/2011 - \$252,425</p>
Take by other sectors	No catch or effort information is available, although take by other sectors is thought to be minimal.
Commercial licences issued	Information provided in the fishery's 2011 policy update states that the licence numbers have remained at 55. A dual licence rule is in place whereby all divers aboard a vessel that may be collecting more than one species (i.e. abalone and sea urchins) must hold a licence for each of these species. All divers on the boat which have both commercial dive species and abalone on board must own or supervise both licences.
Management arrangements	<p>The management arrangements involve both input and output controls and other measures to improve performance measures.</p> <p><u>Input Controls include:</u></p> <ul style="list-style-type: none"> • size limits for sea urchins and periwinkles; • gear restrictions; • limited entry; • three separated zones, each with a specified total allowable catch for sea urchins; • dual licence holders; and • area closure over critical periods (white sea urchins only). <p><u>Output Controls include:</u></p> <ul style="list-style-type: none"> • zones with total allowable catch limits (17.6 tonnes) for periwinkles; and

	<ul style="list-style-type: none"> • restrictions put in place to prevent divers having fish on board their vessel in areas which have been closed to the take of that type of fish. Divers are unable to dive in those areas. <p><u>Measures to improve/monitor performance measures:</u></p> <ul style="list-style-type: none"> • log books; • periwinkle research project; and • increased research levy fees from \$100 to \$138 for divers.
Export	Markets for sea urchins exist in South East Asia (mainly Japan) and Asian restaurants in Melbourne, Sydney and Brisbane.
Bycatch	Bycatch is considered minimal due to the highly selective nature of harvest. However a rule has been introduced to give divers a 10 per cent leeway in relation to undersize sea urchins.
Interaction with Protected Species¹	Considered nil. At present, there has been no reported interaction between the fishery and any protected species.
Ecosystem Impacts	Negligible due to the hand collection harvesting methods.

¹ 'Protected species' means all species listed under Part 13 of the EPBC Act, including whales and other cetaceans and threatened, marine and migratory species.

Table 2: Progress in implementation of recommendations made in the initial 2005 assessment of the Tasmanian Commercial Dive Fishery

Recommendation	Progress	Recommended Action
<p>Department of Primary Industries, Water and Environment to advise the Department of Environment and Heritage of any material change to the Tasmanian Commercial Dive Fishery management arrangements that could affect the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are based, within three months of that change being made.</p>	<p>The only change that has taken place is the removal of whelks as a commercial species.</p> <p>The department was notified of this change via the 2011 updated Tasmanian Department of Primary Industries, Parks, Water and Environment policy review.</p>	<p>The department considers that this recommendation has been met.</p> <p>The department recommends that this action be continued (see Recommendation 2, Table 4).</p>
<p>The Department of Primary Industries, Water and Environment to monitor the status of the target species in relation to performance indicators. Within 3 months of becoming aware of one or more of the performance indicators being triggered, the Department of Primary Industries, Water and Environment to develop a clear timetable for the implementation of appropriate management responses.</p>	<p>No performance indicators were triggered and therefore no management response was required.</p> <p>The department is satisfied with the monitoring status of the target species in relation to performance indicators.</p>	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p>The Department of Primary Industries, Water and Environment within 18 months, to establish and implement an appropriate formal consultative mechanism for the Tasmanian Commercial Dive Fishery and consider, where appropriate, any relevant community, conservation, indigenous and recreational interests.</p>	<p>The department accepted and agreed in November 2005 that recreational and Indigenous take of commercial dive species was extremely low. The Tasmanian Recreational Fishing Advisory Committee confirms that there is a lack of interest by stakeholders in these species.</p> <p>The department is satisfied that the Tasmanian Department of Primary Industries, Water and Environment has appropriate formal consultative mechanisms for the Tasmanian Commercial Dive Fishery in place.</p>	<p>The department considers that this recommendation has been met.</p>
<p>The Department of Primary Industries, Water and Environment to develop and implement mechanisms to validate commercial catch and effort data in the fishery within 12 months.</p>	<p>The Tasmanian Department of Primary Industries, Parks, Water and Environment has implemented a reporting system where the data on disposal and catch are received by all relevant parties:</p> <ul style="list-style-type: none"> • licensed processor receives a copy from the licensed fisher; • a copy is sent to the Tasmanian Department of Primary Industries, Parks, Water and Environment within 48 hours and recorded electronically; • the original is kept by the fisher; and • the processor provides monthly reports which show the totals of each species processed over the month. <p>Monthly reports can be easily accessed by the department. The department is satisfied that all necessary data is recorded sufficiently.</p>	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
<p>Within 18 months, the Department of Primary Industries, Water and Environment to develop a process to improve estimates of take from all sectors and factor these into management arrangements.</p>	<p>As reported to the department in November 2005, recreational and Indigenous take of commercial dive species is low and considered insignificant. However the Tasmanian Department of Primary Industries, Parks, Water and Environment will continue to monitor any changes by the following means:</p> <ul style="list-style-type: none"> • conduct surveys identifying recreational fisher's catch. This will provide indications if an increase in interest in commercial dive species occurs; and • random police checks will occur to monitor breaches associated with the take of species such as periwinkles. <p>Reports currently show a distinct lack of interest from recreation and Indigenous fishers in regards to commercial dive species. However, if the above methods show an increase in interest the Tasmanian Department of Primary Industries, Parks, Water and Environment will incorporate this demand into the management of the species. The department is satisfied that the Tasmanian Department of Primary Industries, Parks, Water and Environment has demonstrated a process to improve estimates of take from all sectors.</p>	<p>The department considers that this recommendation has been met.</p>
<p>The Department of Primary Industries, Water and Environment to develop and implement targeted research and management strategies to address key gaps in the knowledge of sea urchin and periwinkle biology and ecology.</p>	<p>A commercial dive research fund has been established using annual contributions from divers. This fund levy has increased from \$100 per diver per year to \$138 per diver per year.</p> <p>The research fund has secured a Fisheries Research and Development Corporation grant to investigate the biology and population structure of periwinkles in Tasmania.</p>	<p>The department considers that this recommendation has been met.</p>

Recommendation	Progress	Recommended Action
	<p>A similar project will be pursued for sea urchins. The Institute of Marine and Antarctic Studies (IMAS) conduct regular studies including habitat mapping and long term monitoring projects which also collect data for commercial dive species.</p> <p>Past and present assessments are compared by IMAS for both sea urchin's and periwinkles. The department is satisfied with the research and the management strategies that address key gaps in the knowledge of both periwinkle and sea urchin biology and ecology.</p>	

Table 3: The Department of Sustainability, Environment, Water, Population and Communities assessment of the Tasmanian Commercial Dive Fishery against the requirements of the EPBC Act related to decisions made under Part 13A.

Please Note – the table below is not a complete or exact representation of the EPBC Act. It is intended as a summary of relevant sections and components of the EPBC Act to provide advice on the fishery in relation to decisions under Parts 13A. A complete version of the EPBC Act can be found on the department’s website.

Part 13A

Section 303DC Minister may amend list	The Department of Sustainability, Environment, Water, Population and Communities assessment of the Tasmanian Commercial Dive Fishery
<p>(1) Minister may, by instrument in published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by:</p> <ul style="list-style-type: none"> (a) including items in the list; (b) deleting items from the list; or (c) imposing a condition or restriction to which the inclusion of a specimen in the list is subject; or (d) varying of revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or (e) correcting an inaccuracy or updating the name of a species. 	<p>It is not possible to list exhaustively the factors that you may take into account in amending the list of exempt native specimens. 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>The department considers that the amendment of the list of exempt native specimens to include product taken in the Tasmanian Commercial Dive Fishery would be consistent with the provisions of Part 13A 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); ▪ the operation of the Tasmanian Commercial Dive Fishery is unlikely to be unsustainable and threaten biodiversity within the next five years; and ▪ the EPBC Act Regulations 2000 do not specify sea urchins or

	shellfish as a class of animal in relation to the welfare of live specimens.
(3) Before amending the list referred to in section 303DB (list of exempt native specimens), the Minister: <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 on the Tasmanian Department of Primary Industry, Parks, Water and Environment submission sought comment on the annual reports/submission for the Tasmanian Commercial Dive Fishery and provided sufficient opportunity for consultation with other persons and organisations.</p> <p>A letter to the Hon Bryan Green MP advises him of the intention to declare the fishery exempt from the export provisions of the EPBC Act.</p>
(5) A copy of an instrument made under section 303DC is to be made available for inspection on the Internet.	The instrument for the Tasmanian Commercial Dive Fishery made under section 303DC will be gazetted and made available on the department's website.

Part 16

Section 391 Minister must consider precautionary principle in making decisions	The Department of Sustainability, Environment, Water, Population and Communities assessment of the Tasmanian Commercial Dive Fishery
(1) 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.	The precautionary principle has been considered when making a decision to include specimens in the list of exempt native specimens.
(2) 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.	

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; and
- (h) to ensure the precautionary principle is taken into account in making decisions relating to the utilisation of wildlife.

The Department of Sustainability, Environment, Water, Population and Communities' final recommendations to the Tasmanian Department of Primary Industries, Parks, Water and Environment for the Tasmanian Commercial Dive Fishery.

The material submitted by the Tasmanian Department of Primary Industries, Parks, Water and Environment indicates that the Tasmanian Commercial Dive Fishery operates in accordance with the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries-2nd Edition*.

The fishery is separated into three separate zones which all have limited entry. The *Tasmanian Commercial Dive Fishery Management Plan 2005* requires the setting of an annual total allowable catch limit for the target species (except the pest sea urchin *Centrostephanus spp.*) and periwinkles in the fishery. The annual total allowable catch limit is based on 75 percent of the average catch from the five years prior to the introduction of the plan, using a process carried out in accordance with the management regime in force under the Tasmanian *Living Marine Resources Management Act 1995*. The department considers that the range of management measures are sufficient to ensure that the fishery is conducted in a manner that does not lead to over fishing and that stocks are not currently over fished.

Taking into account that harvesting is done entirely by hand (resulting in no interactions with protected species, no byproduct issues and very low bycatch), the department considers that fishing operations are managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

The department considers that product taken in the fishery should be exempt from the export controls of Part 13A of the *Environment Protection and Biodiversity Conservation Act 1999*, with that exemption to be reviewed in five years. To contain and minimise the risks in the longer term the recommendations listed in Table 4 have been made. Unless a specific time frame is provided in the recommendation each recommendation should be addressed during the five year period.

Table 4: Tasmanian Commercial Dive Fishery Assessment– Summary of Issues and Recommendations September 2011

	Issue	Recommendation
1	<p><u>General Management</u> Export decisions relate to the arrangements in force at the time of the decision. In order to ensure that these decisions remain valid and export approval continues uninterrupted, the department needs to be advised of any changes that are made to the management arrangements 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 original decision. This includes operational and legislated amendments that may affect sustainability of the target species or negatively impact on byproduct, bycatch, protected species or the ecosystem.</p>	<p>Recommendation 1: Operation of the Tasmanian Commercial Dive Fishery will be carried out in accordance with the management regime in force under the Tasmanian <i>Living Fisheries Act 1995</i>.</p> <p>Recommendation 2: The Tasmanian Department of Primary Industries, Parks, Water and Environment to inform the Department of Sustainability, Environment, Water, Population and Communities of any intended amendments to the management arrangements that may affect the assessment of the Tasmanian Commercial Dive Fishery against the criteria on which <i>Environment Protection and Biodiversity Conservation Act 1999</i> decisions are based.</p>
2	<p><u>Annual Reporting</u> It is important that reports be produced and presented to the department 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.</p>	<p>Recommendation 3: The Tasmanian Department of Primary Industries, Parks, Water and Environment to produce and present reports to the department annually as per Appendix B to the <i>Guidelines for the</i></p>

<p>Annual reports should include: a description of the fishery; management arrangements in place; research and monitoring outcomes; recent catch data for all sectors of the fishery; status of target stock; interactions with protected species; impacts of the fishery on the ecosystem in which it operates; and information outlining progress in implementing recommendations resulting from the previous accreditation of the fishery (for a complete description of annual reporting requirements, see Appendix B of the Guidelines available from the departments website at http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html).</p> <p>The Department of Primary Industries, Parks, Water and Environment has worked closely with the Commercial Divers Association during 2009 and 2010 and has identified the need to undertake a project to research periwinkles. The lack of information on the biology, population structure and behavioural characteristics of periwinkles has hindered the potential to optimise the species in Tasmania as a commercial specimen. Updates regarding research information should be provided to the department regularly through the annual report including details regarding any future research and funding programs.</p>	<p><i>Ecologically Sustainable Management of Fisheries-2nd Edition</i>. These reports should include updates regarding current and future research information on periwinkle stocks.</p>
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Acronyms

CDF	Commercial Dive Fishery
DPIPWE	Department of Primary Industries, Parks, Water and Environment.
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
TAC	Total Allowable Catch
DSEWPaC	Department of Sustainability, Environment, Water, Population and Communities.
IMAS	Institute of Marine and Antarctic Studies
LENS	List of Exempt Native Species