



Australian Government

Department of the Environment and Energy

Assessment of the
Victorian Scallop (Ocean) Fishery

November 2017

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Disclaimer

This document is an assessment carried out by the Department of the Environment and Energy 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 the Environment and Energy on the fishery in relation to decisions under Parts 13 and 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 Energy or the Australian Government.

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EXECUTIVE SUMMARY OF THE ASSESSMENT OF THE VICTORIAN SCALLOP (OCEAN) FISHERY

On 29 October 2015, the Department received an application to undertake an assessment of the Victorian Scallop (Ocean) Fishery under the wildlife trade provisions of the Commonwealth *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The sustainability of the fishery's management arrangements have also been assessed against the Australian Government 'Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition'. A public comment period was open from 11 December 2015 to 29 January 2016.

The fishery is managed by the Victorian Fisheries Authority in accordance with the *Fisheries Act 1995* (Vic) and the *Fisheries Regulations 2009* (Vic).

This fishery's harvest is controlled by output (catch) and input (effort) controls (see Section 1), and includes voluntary measures in accordance with an industry code of practice. A weight of evidence approach is used to set the annual total allowable commercial catch (TACC).

The fishery uses scallop dredges to target commercial scallop (*Pecten fumatus*) in state and Commonwealth waters. Scallops often aggregate in beds in soft sediments ranging from mud to coarse sand. They usually occur in water of 10-20 m depth, although they can be found in water deeper than 40 metres (m) in Bass Strait.

No regular stock assessments are undertaken for the fishery. The Status of Australian Fish Stocks Report 2016 classifies the scallop stocks in Victorian waters as 'undefined' due to a lack of information in relation to stock abundance. The Victorian Fisheries Authority is facilitating a stock abundance survey that will be completed by July 2018. This abundance survey will inform the development of a harvest strategy for the fishery.

The Victorian fisheries regulations permit the take of not more than 10 kilograms of 'other fish' per trip as byproduct. The retention of abalone, rock lobster, giant crab, sea urchin, jellyfish and bug is prohibited. Byproduct is reported in daily catch logs. Bycatch is not reported. Any interaction with a threatened, endangered and protected species is required to be reported.

Scallop dredges have a direct impact on the environment because they are designed to penetrate the substrate to harvest the target species. The impact to the broader marine environment is minimised by the operational requirements of the fishing gear, the habitat preference of target species, and the location of suitable commercial scallop beds. These three factors limit the fishable area to less than 5 per cent of the overall fishing boundary. Fishing operations are largely confined to a small area off the coast of Lakes Entrance. Given these factors and findings from studies undertaken in other Bass Strait scallop fisheries, the overall impact on the marine ecosystem is considered low.

While the fishery is relatively well managed, the Department has identified a number of risks and uncertainties that must be managed to ensure that impacts are minimised. Based on the available information, the Department considers that the declaration of the harvest operations of the Victorian Scallop (Ocean) Fishery as an approved wildlife trade operation for three years, until 27 November 2020, is appropriate. This declaration is subject to the conditions listed at Section 4 of this assessment report. In summary, these conditions require the Victorian Fisheries Authority to:

1. manage the fishery in accordance with Victorian legislation, regulations, and any relevant management policies, plans or procedures
2. inform the Department of any material changes to the fishery's management arrangements that may affect the decisions made under the provisions of the EPBC Act
3. provide annual reports to the Department as per Appendix B of the Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition'
4. develop and seek to implement a harvest strategy for the fishery in consultation with the Department, and provide the Department with progress reports towards its implementation
5. ensure that any increase in the total allowable commercial catch (TACC) above 135 tonne is evidence-based, and to update the Department on its rationale for doing so, and
6. continue to pursue complementary management arrangements for commercial scallop stocks off south-east Australia with other jurisdictions operating in Bass Strait.

Each condition must be addressed within the period of the approved wildlife trade operation declaration for the fishery. Annual reports to the Department must describe progress towards the agreed conditions and any changes to the management arrangements.

SECTION 1: ASSESSMENT SUMMARY OF THE ASSESSMENT OF THE VICTORIAN SCALLOP (OCEAN) FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION), CONSISTENT WITH THE EPBC ACT.

	Meets	Partially meets	Does not meet	Details
Guidelines				
Management regime	5	4		The Department considers that overall the management regime for the fishery aims to ensure that fishing is conducted in a manner that does not lead to overfishing.
Principle 1 (target stocks)	5	4	2 N/A	Given the existing and proposed management arrangements for the fishery, the Department considers that the management regime aims to ensure that fishing is conducted in a manner that does not lead to overfishing, and the operation of the fishery will not be detrimental to the survival or conservation status of the target species in the short term.
Principle 2 (bycatch, TEPS and TECs)	5	4	2 & 1 N/A	The Department has identified a number of risks and uncertainties regarding bycatch including a lack of information on the numbers and types of bycatch. There is a need to collect accurate and up-to-date information that will inform the development of strategies to minimise the impact on bycatch species.
Principle 2 (ecosystem impacts)	1	3	1	Based on the available information, and the management arrangements in place in the fishery, including an industry code of practice, the Department considers that the fishing operations will be managed in a manner that minimises the impact on the structure, productivity, function and biological diversity of the ecosystem.
EPBC requirements				
Part 12				Not applicable. The fishery operates within the South-east Marine Region, which is not covered by any Marine Bioregional Plan.
Part 13				The fishery's management regime was approved under Part 13 of the EPBC Act in January 2012. This accreditation remains valid.
Part 13A				The fishery meets the objectives of Part 13A of the EPBC Act.
Part 16				Precautionary measures are considered to be in place to prevent serious or irreversible environmental damage being caused by this fishery.

Notes

Assessment history:

- 1st assessment finalised January 2006 – WTO with 3 conditions and 14 recommendations. Two public comments were received. The assessment report is available at <http://www.environment.gov.au/marine/fisheries/vic/scallop/assessment-2005>.
- 2nd assessment finalised January 2009 – WTO with 3 conditions and 5 recommendations. No public comments were received. The assessment report is not publicly available.
- 3rd assessment finalised January 2012 – WTO with 3 conditions and 5 recommendations. No public comments were received. The assessment report is available at <http://www.environment.gov.au/system/files/pages/508156dc-7480-4c38-99f7-73588bfa3391/files/scallop-fishery-assessment-2012.pdf>.

Fishery reporting:

- Annual reports in relation to the Department's 2012 assessment have not been provided. Catch information is available at <https://vfa.vic.gov.au/commercial-fishing/fisheries-victoria-commercial-fish-production>.

Fishery information:

- Scallop fishery webpage is at <https://vfa.vic.gov.au/commercial-fishing/scallop>

Management plan:

- The fishery is managed in accordance with state legislation and regulations. There is no fishery-specific management plan.

Enforcing legislation:

- Victorian legislation is available at <http://www.legislation.vic.gov.au/>.
- Fisheries Act 1995 (Vic) - [http://www.legislation.vic.gov.au/domino/Web_Notes/LDMS/LTObject_Store/ltobjst10.nsf/DDE300B846EED9C7CA257616000A3571/8B7249B6C4397082CA25818C000013BC/\\$FILE/95-92aa091%20authorised.pdf](http://www.legislation.vic.gov.au/domino/Web_Notes/LDMS/LTObject_Store/ltobjst10.nsf/DDE300B846EED9C7CA257616000A3571/8B7249B6C4397082CA25818C000013BC/$FILE/95-92aa091%20authorised.pdf). Incorporating amendments to 30 August 2017.
- Fisheries Regulation 2009 (Vic) - [http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/LTObject_Store/LTObjSt10.nsf/DDE300B846EED9C7CA257616000A3571/658A74437F878900CA25814F0017B387/\\$FILE/09-2sra020%20authorised.pdf](http://www.legislation.vic.gov.au/Domino/Web_Notes/LDMS/LTObject_Store/LTObjSt10.nsf/DDE300B846EED9C7CA257616000A3571/658A74437F878900CA25814F0017B387/$FILE/09-2sra020%20authorised.pdf). Incorporating amendments to 1 July 2017.

Harvest strategy or document that articulates control rules:

- There is no publicly available harvest strategy for the fishery. Victorian Fisheries Authority have given an intention to develop a harvest strategy as soon as practicable.

Ecological Risk Assessment:

- There is no publicly available ecological risk assessment for the fishery. In 2008, the former Victorian Department of Primary Industries undertook a desktop risk assessment based on the National Strategy for Ecologically Sustainable Development (available at <http://www.environment.gov.au/about-us/esd/publications/national-esd-strategy>).

Publicly available stock assessment:

- There is no publicly available stock assessment for the fishery.

SECTION 2: ASSESSMENT OF THE VICTORIAN SCALLOP (OCEAN) FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Criterion	Comment
THE MANAGEMENT REGIME	
The management regime does not have to be a formal statutory fishery management plan as such, and may include non-statutory management arrangements or management policies and programs. The regime should:	
Be documented, publicly available and transparent.	<p>Meets</p> <p>The management regime is described in the <i>Fisheries Act 1995 (Vic)</i> and <i>Fisheries Regulation 2009 (Vic)</i>, which are publicly available at http://www.legislation.vic.gov.au/. The fishery is managed by the Victorian Fisheries Authority, and further information on the management arrangements is available at https://vfa.vic.gov.au/commercial-fishing/scallop.</p> <p>An industry code of practice has been developed, but is not publicly available.</p>
Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public.	<p>Meets</p> <p>Section 3A of the <i>Fisheries Act 1995 (Vic)</i> outlines the consultation principles including the requirement for mandatory public consultation when developing fishery-specific management plans. Fishing operators, fishery scientists and fishery managers provide input towards setting the annual total allowable commercial catch (TACC).</p>
Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process	<p>Meets</p> <p>Fishing operators, fishery scientists, fishery managers, seafood industry representatives, and interested community organisations and individuals are provided with opportunities to participate in fishery management committees. Inter-agency collaboration occurs with other jurisdictions. Stakeholders provide input to the Fisheries Advisory Council, which advises the minister on fishery matters.</p>
Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured.	<p>Partially meets</p> <p>The management regime includes general objectives and performance criteria however, these are not used to assess the effectiveness of the fishery. The management arrangements do not contain fishery-specific objectives, strategies and performance measures. Victorian Fisheries Authority have given an undertaking to develop a harvest strategy for the fishery that will inform decisions to set the TACC.</p>
Be capable of controlling the level of harvest in the fishery using input and/or output controls.	<p>Meets</p> <p>The level of harvest is controlled through the following management arrangements.</p> <p><u>Input controls</u></p> <ul style="list-style-type: none"> • Limited entry—90 Scallop (Ocean) Fishery Access Licences • Gear restrictions including minimum mesh size and maximum dredge size <p><u>Output controls</u></p> <ul style="list-style-type: none"> • Individual Transferable Quota (ITQ) process facilitated by the Victorian Fisheries Authority

	<ul style="list-style-type: none"> • TACC determined through annual workshops • Minimum size limits—over 80 millimetres shell length <p><u>Weight of evidence</u></p> <ul style="list-style-type: none"> • Biological characteristics of commercial scallops • The effectiveness of Victorian and other jurisdictional management arrangements • The fishable area • Historical catches in the fishery • Impact of the environment on the stock, and • Information from commercial fishers. <p><u>Industry code of practice</u></p> <ul style="list-style-type: none"> • To protect juvenile scallops, fishing areas may be closed if more than 20 per cent of scallops are smaller than the minimum shell width. • To ensure quality of product and to enhance commercial returns, the fishery may be closed if the average number of scallop meats per kilogram is above 100 meats. In such situations, the fishery is closed until the quality of product improves. <p><u>Other management arrangements</u></p> <ul style="list-style-type: none"> • The fishing area is monitoring through mandatory vessel monitoring system (VMS) on all commercial scallop vessels. VMS also assists with compliance measures. • The fishery relies on a weight of evidence approach including historical information and anecdotal evidence. It is important that management decisions are based on up-to-date and accurate data that is relevant to the fishery. <p>Further information on the fishery’s management measures is available at https://vfa.vic.gov.au/commercial-fishing/scallop.</p>
<p>Contain the means of enforcing critical aspects of the management arrangements.</p>	<p>Meets</p> <p>The management arrangements are enforced through targeted operations, routine inspections, spatial monitoring, licencing and processing restrictions, catch logs, and reports.</p> <p>There is no independent verification of daily catches. Bycatch species are not recorded or reported.</p> <p>The fishery is heavily regulated. Fishers are subject to a range of compliance requirements, in addition to regulations that ensure compliance with the quota management system, including that they:</p> <ul style="list-style-type: none"> • have an operating VMS on board when fishing • prior reporting of their intention to fish and to land scallops • not possess shucked scallops on or land them from the vessel • not possess more than ten kilograms of fish other than scallops • not possess any abalone, rock lobster, sea urchin, giant crab, jellyfish or bug, and • not transfer scallops at sea.

	Compliance operations are periodically undertaken to ensure that fishers are compliant with fishing regulations and the conditions of their access licences. Licence conditions are reviewed as required.
Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria.	Partially meets There is no mechanism in place for regular reviews of the fishery's performance against performance measures and triggers. However, there is an annual review of the TACC, which includes stakeholder forums and analysis of quarterly fishing data. In addition, VFA is also developing a harvest strategy.
Be capable of assessing, monitoring and avoiding, remedying or mitigating any adverse impacts on the wider marine ecosystem in which the target species lives and the fishery operates.	Partially meets There are no procedures in place to monitor for impacts of scallop dredging in the fishery. However, the environmental footprint is limited to approximately 5 per cent of the overall fishing boundary. Within this area, fishing activities are tracked via vessel monitoring systems that are mandatory on all fishing vessels. Fishing methods and gear have a direct albeit localised environmental impact (see Butcher <i>et al.</i> 1981; Laurenson <i>et al.</i> 1993; Curry and Parry 1994; McLoughlin <i>et al.</i> 1991; McShane 1981).
Requires compliance with relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under the policy.	Meets Under the Offshore Constitutional Settlement (OCS) arrangements, the fishery is required to comply with relevant state or Commonwealth legislation as it applies to interactions with listed species and communities. The fishery complies with relevant plans and policies under the EPBC Act. Given the number of bycatch species identified in past surveys, it is important to consider the National policy on fisheries bycatch and any relevant bycatch action strategies developed under this policy. The Giant kelp marine forests of south east Australia ecological community occurs within the fishery boundary. It is important that operators be familiar with its location, and the potential for significant ecological impacts if fishing vessels, particularly if towing a scallop dredge, inadvertently come into direct contact with the ecological community.
PRINCIPLE 1 - A fishery must be conducted in a manner that does not lead to over-fishing, or for those stocks that are over-fished, the fishery must be conducted such that there is a high degree of probability the stock(s) will recover.	
Objective 1 - The fishery shall be conducted at catch levels that maintain ecologically viable stock levels at an agreed point or range, with acceptable levels of probability.	
Information requirements	
1.1.1 There is a reliable information collection system in place appropriate to the scale of the fishery. The level of data collection should be based upon an appropriate mix of fishery independent and dependent research and monitoring.	Partially meets It is mandatory to record all target and byproduct species caught in logbooks. The fishery dependent data is reported to Victorian Fisheries Authority on a monthly basis. The catch data is not independently verified, although this information is validated against processor returns. The most recent independent abundance surveys were conducted in 2009 and 2012. Victorian Fisheries Authority have given an intention to undertake an independent abundance survey by Jul 2018 that will underpin the proposed harvest strategy. Fishery-independent data collection is limited. Some studies examining the impact of environmental conditions on scallop stocks have been conducted, but these are not specifically related to the fishery. The Fisheries Research and Development Corporation (FRDC) has funded projects relevant to the Bass Strait scallop stocks including <i>FRDC 2005/027</i> and <i>FRDC 2003/017</i> . The results of these studies may be applicable to the fishery.

Assessment	
<p>1.1.2 There is a robust assessment of the dynamics and status of the species/fishery and periodic review of the process and the data collected. Assessment should include a process to identify any reduction in biological diversity and/or reproductive capacity. Review should take place at regular intervals but at least every three years.</p>	<p>Partially meets</p> <p>There is no formal process or assessment in place to review the performance of the fishery. Since 2013–14, fishing effort has been low and catch and effort data variable. In the absence of adequate data, the TACC is informed by a weight of evidence approach and an analysis of monthly catch records. Catch data from the first three months of the fishing season is analysed to help determine the viability of the fishery to stay open for the remainder of the season. The past three bi-annual Status of Key Australian Fish Stocks (SAFS) reports has classified Victoria’s ocean scallop stocks as ‘undefined’ (Semmens <i>et al.</i> 2012; 2014; Semmens, Green and Marton 2016; DEDJTR 2017) due to insufficient information on scallop density and recruitment.</p> <p>The fishery has been assessed under the export provisions of the EPBC Act on three previous occasions (2006, 2009 and 2012). The assessment reports are available on the Department’s website (see links above). Information provided for the 2006 assessment indicated the fishery was “in a recovery phase after being historically overfished” (DEH 2006). In the 2009 assessment, the fishery status was not determined because of declining catches (DEWHA 2009). The fishery closed from 2010–11 to 2012–13. In 2013–14 the fishery was re-opened with a 136 tonne TACC to allow operators to explore the fishery (DEDJTR 2015). The 2012 assessment report described the fishery as ‘fully exploited’ (DSEWPAC 2012). A ‘fully exploited’ fishery is defined as having “sustainable levels of fishing and satisfactory abundance of fishery stocks [but] minor issues may be affecting fishery stock abundance, and/or the sustainability of fishing” (Kennelly 2014, p. 59).</p> <p>The strength and direction of winds can influence the distribution of larvae. That is, recruitment to scallop beds may be more localised during calm periods while heavier winds may assist recruitment from farther distances. This is an important consideration in management of scallop fisheries because, as the number of scallop beds is reduced, self-seeding becomes more important as a means of maintaining the viability of individual beds. If high fishing-induced mortality occurs on a scallop bed once it has been fished, the future viability of that bed may be threatened since it cannot be assumed that it will be replenished by settlement of spat from other beds.</p>
<p>1.1.3 The distribution and spatial structure of the stock(s) has been established and factored into management responses.</p>	<p>Partially meets</p> <p>Large areas of Victoria’s scallop fishery has not been fished for many years, therefore the location of viable scallop beds is poorly understood except for those areas that are regularly fished off the coast from Lakes Entrance. The proposed independent abundance survey will undertake an exploratory component to better understand and map the distribution of scallop beds.</p> <p>However, the distribution and spatial structure of the commercial scallop (<i>Pecten fumatus</i>) stocks is well known. The species occurs along the coast of south-east Australia from coastal New South Wales through Victoria to South Australia and around Tasmania. The Bass Strait scallop population is considered a single stock but does contain some genetic variation. The population is harvested under three distinctly different management regimes (Victoria, Tasmania and Commonwealth), although each jurisdiction works collaboratively to ensure management decisions consider the overall impact of fishing on the Bass Strait commercial scallop population. Scallops typically mature at 12-18 months of age and fecundity increases with age. Spawning occurs from June to November with an estimated peak in Spring (Hamer & Jacobs 1987; Sause, Gwyther & Burgess 1987; Stivala 2005; Sen 2011; Mendo <i>et al.</i> 2014; Semmens <i>et al.</i> 2015).</p>

<p>1.1.4 There are reliable estimates of all removals, including commercial (landings and discards), recreational and indigenous, from the fished stock. These estimates have been factored into stock assessments and target species catch levels.</p>	<p>Meets</p> <p>Mandatory recording of retained catch and monthly reporting of catch data to the Victorian Fisheries Authority provides a reliable estimate of removals by the commercial sector. No information is available for recreational and Indigenous take, but participants in these sectors are more likely to harvest scallops closer to shore and therefore not impact on the fishable ocean stocks. While there is no independent verification of catch and effort data, the Victorian Fisheries Authority cross-reference catch data with processor records.</p>
<p>1.1.5 There is a sound estimate of the potential productivity of the fished stock/s and the proportion that could be harvested.</p>	<p>Partially meets</p> <p>There is no sound estimate of the potential productivity of target stocks. Independent stock abundance surveys conducted in 2009 and 2012 found the scallop biomass in the survey area was 3,600 tonne (t) and 11,000 t, respectively. The 2012 abundance survey estimated an increase in recruitment of juvenile stocks by 2014, however this is not evident in scallop catches since the fishery re-opened in 2013–14. While the fishable area is substantial, fishing effort is mostly concentrated on a small area off the south-east coast of Victoria, which increases the risk of localised stock depletion. A weight of evidence approach is used to estimate the annual TACC. The stock assessment process includes an analysis of catch data reported in the first three months of fishing operations. VFA expect to gather up-to-date information from the proposed independent abundance survey.</p> <p>External factors can influence productivity, particularly marine seismic surveys. Day <i>et al.</i> (2016) found a correlation between scallop mortality and the proximity and duration of exposure to marine seismic surveys.</p>
<p>Management responses</p>	
<p>1.1.6 There are reference points (target and/or limit), that trigger management actions including a biological bottom line and/or a catch or effort upper limit beyond which the stock should not be taken.</p>	<p>Meets</p> <p>Management arrangements include voluntary fishery closures:</p> <ul style="list-style-type: none"> • if more than 20 per cent of landed scallops are below the minimum legal shell size, and • if more than 100 scallops is required to attain 1 kg of scallop meats.
<p>1.1.7 There are management strategies in place capable of controlling the level of take.</p>	<p>Meets</p> <p>The harvesting is controlled by the annual TACC, individual transferable quota (ITQ), limited access, legal size limits, and vessel monitoring. Logbooks are provided in which operators are required to record daily catches of all retained species along with interactions with TEPS.</p> <p>Under the <i>Fisheries Regulations 2009 (Vic)</i>, the retention of doughboy scallops (<i>Chlamys (Mimachlamys) asperrima</i>) and up to 10 kg of fish other than scallops is permitted byproduct.</p> <p>The take of abalone, rock lobster, sea urchin, giant crab, jellyfish or bug is prohibited.</p>
<p>1.1.8 Fishing is conducted in a manner that does not threaten stocks of byproduct species.</p>	<p>Meets</p> <p>Given the restrictions documented in the <i>Fisheries Regulations 2009 (Vic)</i>, the fishery is likely to be conducted in a manner that does not threaten stocks of byproduct species.</p>
<p>(Guidelines 1.1.1 to 1.1.7 should be applied to by-product species to an appropriate level)</p>	

<p>1.1.9 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p>Meets</p> <p>The Department has identified a number of risks and uncertainties in relation to the availability of viable scallop beds in Victorian waters. In the absence of up-to-date information, and low catch levels, Victorian Fisheries Authority has set a baseline TACC and have proposed developing a harvest strategy for the fishery that will be informed by a stock abundance survey. These proposed measures provide assurance that the fishery will be conducted at catch levels that maintain ecologically viable stock levels.</p>
<p>If overfished, go to Objective 2: If not overfished, go to PRINCIPLE 2:</p>	
<p>Objective 2 - Where the fished stock(s) are below a defined reference point, the fishery will be managed to promote recovery to ecologically viable stock levels within nominated timeframes.</p>	
<p>Management responses</p>	
<p>1.2.1 A precautionary recovery strategy is in place specifying management actions, or staged management responses, which are linked to reference points. The recovery strategy should apply until the stock recovers, and should aim for recovery within a specific time period appropriate to the biology of the stock.</p>	<p>Not applicable</p> <p>The fishery is not classified as 'over fished' at this time, therefore a precautionary recovery strategy is not required.</p>
<p>1.2.2 If the stock is estimated as being at or below the biological and/or effort bottom line, management responses such as a zero targeted catch, temporary fishery closure or a 'whole of fishery' effort or quota reduction are implemented.</p>	<p>Not applicable</p> <p>See 1.2.1 above.</p>
<p>PRINCIPLE 2 - Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.</p>	
<p>Objective 1 - The fishery is conducted in a manner that does not threaten bycatch species.</p>	
<p>Information requirements</p>	
<p>2.1.1 Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.</p>	<p>Does not meet</p> <p>There is very little reliable, up-to-date information regarding the collection and composition and abundance of bycatch. There is also some uncertainty regarding the ecological importance of bycatch species in the fishing area.</p> <p>In 2008, an environmental risk analysis (ERA) was conducted based on the national ecological sustainability development criterion (see DoEE 2017). This desktop review considered data from the on-board observer program and previous surveys of the fishing area. Note the on-board observer program is no longer used in Victorian fisheries. Coleman (2004) conducted the most recent bycatch study in 2002. The study recorded</p>

	<p>approximately 66 bycatch species including rays, sparsely-spotted stingaree, doughboy scallop, hermit crabs, spider crabs, black and white starfish, 11-arm starfish, whelks, hookfish, octopus, flounder, skate, unidentified finfish and unidentified sponge species. The majority of bycatch species were sponges and starfish. Bycatch can account for 40–50 per cent of each haul (Coleman 2004; DPI 2008). Coleman (2004) found 2 to 4 per cent of scallops from each haul were discarded due to size. Beds with high densities of commercial scallops tend to have low numbers of bycatch species, with an increasing number of bycatch as scallop density decreases (Haddon, Harrington and Semmens 2006). Therefore, it is likely that the amount of bycatch varies according to the density of target species within the scallop bed at the time of harvest.</p> <p>While the high number of bycatch is concerning, the fishery's impact on bycatch is considered low because the current fishing effort is low, the known bycatch species have a broad distribution, and Coleman (2004) the estimated fishing area is likely to be small (Coleman 2004), and low numbers of bycatch species in areas suitable for scallop fishing (Haddon, Harrington and Semmens 2006).</p> <p>It is vital that the Victorian Fisheries Authority consider the likelihood for increased risks to bycatch species and the local marine ecology if/when all 90 access licences are active in the fishing area. It is therefore important that Victorian Fisheries Authority facilitate studies or surveys that provide reliable up-to-date information regarding the composition and abundance of bycatch species, and to use this information to develop strategies to mitigate bycatch and ecosystem impacts.</p> <p>No information is available for the take of scallops within the fishery area by the recreational and Indigenous sectors. These sectors are most likely to take scallops in inshore areas.</p>
Assessments	
<p>2.1.2 There is a risk analysis of the bycatch with respect to its vulnerability to fishing.</p>	<p>Meets</p> <p>The 2008 ERA estimates a moderate to high impact on populations of bycatch species, which includes sygnathids.</p>
Management responses	
<p>2.1.3 Measures are in place to avoid capture and mortality of bycatch species unless it is determined that the level of catch is sustainable (except in relation to endangered, threatened or protected species). Steps must be taken to develop suitable technology if none is available.</p>	<p>Partially meets</p> <p>Bycatch species are not recorded in daily catch logs. Therefore, no measures are in place specifically to avoid the capture and mortality of bycatch species. However, a number of measures are in place in the fishery to minimise such impacts including gear restrictions and a requirement for operators to return any unwanted catch to the water as soon as practicable.</p>
<p>2.1.4 An indicator group of bycatch species is monitored.</p>	<p>Does not meet</p> <p>No indicator group of bycatch species has been identified for monitoring. Accurate species identification is required for the successful implementation of any bycatch monitoring program. An industry-based monitoring program will require all fishing operators to have well-developed knowledge of bycatch species. Developing such knowledge may be time consuming. A suitable monitoring program will therefore require trained observers for accurate identification and data analysis (Harrington, Haddon and Semmens 2008).</p>
<p>2.1.5 There are decision rules that trigger additional management measures when there</p>	<p>Not applicable</p>

are significant perturbations in the indicator species numbers.	There are no decision rules in place that would trigger additional management measures because no indicator group of bycatch species has been identified (see 2.1.4).
2.1.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Partially meets The management arrangements in place in the fishery has a medium chance of achieving the objective to conduct the fishery in a manner that does not threaten bycatch species. Low fishing effort, targeted fishing of scallop beds in a small geographical area, gear restrictions, and the requirement to return unwanted catch to the water immediately will help to reduce the impact fishing on bycatch species. In addition, research indicates that the fishery is unlikely to threaten bycatch species (Coleman 2004; Haddon, Harrington and Semmens 2006). It is important that Victorian Fisheries Authority collect up-to-date and accurate information relating to the number and types of bycatch to help improve the gaps in ecological knowledge of commercial scallop fishing.
Objective 2 - The fishery is conducted in a manner that avoids mortality of, or injuries to, endangered, threatened or protected species and avoids or minimises impacts on threatened ecological communities.	
Information requirements	
2.2.1 Reliable information is collected on the interaction with endangered, threatened or protected species (TEPS) and threatened ecological communities (TECs).	Partially meets The fishery is known to interact with threatened, endangered, and protected species (TEPS) such as sygnathids. However, it is mandatory for operators to record any interaction with TEPS in daily logbooks and report interactions to Victorian Fisheries Authority each month. The 2008 ERA did not address possible interactions with threatened ecological communities (TECs) because no EPBC-listed TEC occurred in the area of the fishery at the time the desktop review was conducted. In 2012, The Giant Kelp Forests of south-east Australia ecological community was listed under the EPBC Act.
Assessments	
2.2.2 There is an assessment of the impact of the fishery on TEPS.	Meets In the 2008 ERA, risks for interactions with TEPS were identified as low. The 2008 ERA notes that sygnathids were captured in low numbers and infrequently. The risk of significant impact to TEPS populations is considered low but the heavy gear is likely to result in mortality for individual of species such as sea horse and pipefishes. The fishery may also interact with cetaceans, seabirds, marine turtles, seals, and sharks, but there is no records of injury or mortality to these species.
2.2.3 There is an assessment of the impact of the fishery on threatened ecological communities.	Partially meets No ERA has been conducted since the listing of the Giant Kelp Forests ecological community. Fishing operations are likely to have a high to severe impact on this TEC if fishing vessels and particularly the fishing gear is dragged through the ecological community. Fishing operators are required to know the location of the TEC, and to take appropriate evasive actions. The area occupied by the Giant Kelp Forests ecological community is known. The possibility of having gear entangled with elements of the TEC is expected to provide an economic incentive for fishing operators to avoid fishing in areas where the TEC occurs. Therefore, the likelihood of any significant impacts is considered low. There is no requirement to record interactions with TECs.
Management responses	

<p>2.2.4 There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.</p>	<p>Meets</p> <p>The management arrangements includes mandatory reporting of interactions with TEPS, and financial penalties under Victorian legislation. Native species are also protected under the Victorian <i>Wildlife Act 1975</i> and the <i>Flora and Fauna Guarantee Act 1988</i> and respective regulations. However, compliance monitoring of TEPS interactions is a noticeable challenge for Victorian Fisheries Authority. Fishing operations such as the slow movement of the dredge gear and the short dredge tows are likely to minimise interactions.</p>
<p>2.2.5 There are measures in place to avoid impact on threatened ecological communities.</p>	<p>Meets</p> <p>In addition to the management arrangements in place for this fishery, fishing operators have an economic incentive to take appropriate actions to avoid any significant impact on the Giant Kelp Forests ecological community.</p>
<p>2.2.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.</p>	<p>Meets</p> <p>The management arrangements in place for this fishery are adequate to help achieve the objective to conduct the fishery in a manner that avoids significant impacts to TEPS and TECs.</p>
<p>Objective 3 - The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally.</p>	
<p>Information requirements</p>	
<p>2.3.1 Information appropriate for the analysis in 2.3.2 is collated and/or collected covering the fisheries impact on the ecosystem and environment generally.</p>	<p>Partially meets</p> <p>The available information addresses most of the potential ecosystem impacts identified in 2.3.2 except for impacts of scallop fishing on ecological communities and food chains.</p>
<p>Assessment</p>	
<p>2.3.2 Information is collected and a risk analysis, appropriate to the scale of the fishery and its potential impacts, is conducted into the susceptibility of each of the following ecosystem components to the fishery.</p> <ol style="list-style-type: none"> 1. Impacts on ecological communities <ul style="list-style-type: none"> • Benthic communities • Ecologically related, associated or dependent species • Water column communities 2. Impacts on food chains <ul style="list-style-type: none"> • Structure • Productivity/flows 3. Impacts on the physical environment 	<p>Partially meets</p> <p>There is a high risk of removal or damage to benthic biota and substrate by the scallop dredge or the vessels anchor (DPI 2008). By its very nature, scallop dredging will have a direct impact on the seabed and biodiversity in its path. Scallops live in soft sediment and require gear that will extract them from their habitat. The gear is typically heavy and non-selective. The non-selective methodology increases the risk of physical damage to marine biota. The direct impact on other species tends to be minimal (Mendo <i>et al.</i> 2014). The impacts are likely to be localised and contained within areas that are most suitable for the deployment of the scallop dredge (Haddon, Harrington & Semmens 2006; Sen 2011). That area is estimated to be <5 per cent of the overall fishery boundary (DEDJTR 2015). The impact on the ecosystem and water column from discards is considered a low risk if operators unload discarded catch on the move rather than dumping large amounts while the vessel is stationary. There is some evidence to indicate that discarding or bottom disturbance may be beneficial to some species (DPI 2008).</p>

<ul style="list-style-type: none"> • Physical habitat • Water quality 	
Management responses	
2.3.3 Management actions are in place to ensure significant damage to ecosystems does not arise from the impacts described in 2.3.1.	Meets Broad statutory framework and operational tools are in place to help ensure operators take appropriate action to minimise damage to ecosystems. Gear and area restrictions are imposed to minimise the risk. The area fished is monitored via mandatory vessel monitoring systems. Mitigation measures include identifying juvenile beds and rotational harvesting between selected scallop beds (Gwyther and McShane 1988; Haddon, Harrington and Semmens 2006; Sen 2011; Semmens <i>et al.</i> 2015).
2.3.4 There are decision rules that trigger further management responses when monitoring detects impacts on selected ecosystem indicators beyond a predetermined level, or where action is indicated by application of the precautionary approach.	Does not meet No ecosystem indicator has been identified, and therefore no monitoring program or decisions rules have been developed that would trigger a management response.
2.3.5 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Partially meets The management response has a medium chance of achieving the objective to conduct the fishery in a manner that minimises the impact of fishing operations on the ecosystem generally. There are known risks associated with using non-selective methods such as scallop dredges, and the impacts can only be minimised through suitable research.

SECTION 3: ASSESSMENT OF THE VICTORIAN SCALLOP (OCEAN) FISHERY AGAINST THE REQUIREMENTS OF THE EPBC ACT

The table below is not a complete or exact representation of the EPBC Act. It is intended to show that the relevant sections and components of the EPBC Act have been taken into account in the formulation of advice on the fishery in relation to decisions under Part 13 and Part 13A.

Part 12

	Comment
Section 176 Bioregional Plans	
(5) Minister must have regard to relevant bioregional plans	The fishery operates within the South-east Marine Region, which is not covered by any Marine Bioregional Plan.

Part 13

	Comment
Accreditable plan, regime or policy (Division 1, Division 2, Division 3, Division 4)	
s. 208A (1) (a-e) , s.222A (1) (a-e), s.245A (1) (a-e), s.265 (1) (a-e) Does the fishery have an accreditable plan of management, regime or policy?	Yes , there is an accreditable management regime.
Division 1 Listed threatened species, Section 208A Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed threatened species (other than conservation dependent species) are not killed or injured as a result of the fishing?	Yes , there are measures in place to mitigate the risk to listed threatened species, which has been demonstrated to be effective.
(g) And, is the fishery likely to adversely affect the survival or recovery in nature of the species.	No , there were no interactions reported since the 2012 assessment for the fishery under the EPBC Act.
Division 2 Migratory species, Section 222A Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing?	Yes , there are measures described in state legislation, which has been demonstrated to be effective.
(g) And, is the fishery likely to adversely affect the conservation status of a listed migratory species or a population of that species?	No , there were no interactions reported since the 2012 assessment for the fishery under the EPBC Act.
Division 3 Whales and other cetaceans, Section 245 Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing?	Yes , there are measures described in state legislation, which has been demonstrated to be effective.
(g) And is the fishery likely to adversely affect the conservation status of a species of cetacean or a population of that species?	No , there were no interactions reported since the 2012 assessment for the fishery under the EPBC Act.
Division 4 Listed marine species, Section 265 Minister may accredit plans or regimes	
(f) Will the plan, regime or policy require fishers to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing?	Yes , the prescribed harvest method reduces the risk of interactions to low level.
(g) And is the fishery likely to adversely affect the conservation status of a listed marine species or a population of that species?	No , there were no interactions reported since the 2012 assessment for the fishery under the EPBC Act.
Section 303AA Conditions relating to accreditation of plans, regimes and policies	

(1) This section applies to an accreditation of a plan, regime or policy under section 208A, 222A, 245 or 265.	Recommend accreditation under sections 208A, 222A, 245 and 265.
(2) The Minister may accredit a plan, regime or policy under that section even though he or she considers that the plan, regime or policy should be accredited only: (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. In such a case, the instrument of accreditation is to specify the period, circumstances or condition.	No conditions required.
(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.	Not applicable

Part 13A

Section 303BA Objects of Part 13A

- (1) The objects of this Part are as follows:
- (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.

Section 303FN Approved wildlife trade operation	Comment
(2) The Minister may, by instrument published in the <i>Gazette</i> , declare that a specified wildlife trade operation is an approved wildlife trade operation for the purposes of this section.	The delegate of the Minister for the Environment and Energy has, by instrument published on the Federal Register of Legislation, declared that the fishery is an <i>approved wildlife trade operation</i> for the purposes of section 303FN.
(3) The Minister must not declare an operation as an approved wildlife trade operation unless the Minister is satisfied that: (a) the operation is consistent with the objects of Part 13A of the Act; and	The fishery is consistent with the Objects of Part 13A – see above assessment against the Guidelines.
(b) the operation will not be detrimental to: i. the survival of a taxon to which the operation relates; or ii. the conservation status of a taxon to which the operation relates; and (ba) the operation will not be likely to threaten any relevant ecosystem including (but not limited to) any habitat or biodiversity; and	The fishery will not be detrimental to the survival or conservation status of a taxon to which it relates, nor will it threaten any relevant ecosystem, within the next 3 years , given the management measures currently in place (see Section 1).
(c) if the operation relates to the taking of live specimens that belong to a taxon specified in the regulations – the conditions that, under the	The Environment Protection and Biodiversity Conservation Regulations 2000 (EPBC Regulations) do not specify fish or molluscs (such as scallops) as a class of animal in relation to the welfare of live specimens.

regulations, are applicable to the welfare of the specimens are likely to be complied with; and	
(d) such other conditions (if any) as are specified in the regulations have been, or are likely to be, satisfied.	No other conditions are specified in relation to commercial fisheries in the EPBC Regulations.
(4) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to: (a) the significance of the impact of the operation on an ecosystem (for example, an impact on habitat or biodiversity); and	The fishery will not have a significant impact on any relevant ecosystem within the next 3 years , given the management measures currently in place, which include the arrangements described above at s303FN 3(b).
(b) the effectiveness of the management arrangements for the operation (including monitoring procedures).	The management arrangements that will be employed for the fishery as outlined in the assessment against the Guidelines (above), are likely to be effective.
(5) In deciding whether to declare an operation as an approved wildlife trade operation the Minister must have regard to: (a) whether legislation relating to the protection, conservation or management of the specimens to which the operation relates is in force in the State or Territory concerned; and (b) whether the legislation applies throughout the State or Territory concerned; and (c) whether, in the opinion of the Minister, the legislation is effective.	The fishery will be managed under the <i>Fisheries Act 1995 (Vic)</i> and Fisheries Regulations 2009 (Vic). The legislation under which fishery is managed applies throughout Victorian waters. The Department considers that the legislation is likely to be effective.
(10) For the purposes of section 303FN, an operation is a wildlife trade operation if, and only if, the operation is an operation for the taking of specimens and: (a) the operation is a commercial fishery.	The fishery is a commercial fishery.

Section 303FR Public consultation	Comment
(1) Before making a declaration under section 303FN, the Minister must cause to be published on the Internet a notice: (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.	A public notice, which set out the proposal to declare the fishery an approved wildlife trade operation and included the application from the Department of Economic Development, Jobs, Transport and Resources, was released for public comment on 11 December 2015 and closed on 29 January 2016, a total of 31 business days.
(2) 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.	
(3) 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.	No public comments about the proposal were received.

Section 303FT Additional provisions relating to declarations	Comments
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(1) This section applies to a declaration made under section 303FN, 303FO or 303FP.	A declaration for the Victorian Scallop (Ocean) Fishery will be made under section 303FN.
(4) The Minister may make a declaration about a plan or operation even though he or she considers that the plan or operation should be the subject of the declaration only: (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. In such a case, the instrument of declaration is to specify the period, circumstances or condition.	The standard conditions applied to commercial fishery wildlife trade operations include: <ul style="list-style-type: none">• operation in accordance with the management regime• notifying the Department of changes to the management regime, and• annual reporting in accordance with the requirements of the Australian Government <i>Guidelines for the Ecologically Sustainable Management of Fisheries – 2nd Edition</i>. The wildlife trade operation instrument for the fishery specifies the standard and any additional conditions applied.
(8) A condition may relate to reporting or monitoring.	One of the standard conditions relates to reporting.
(9) The Minister must, by instrument published in the <i>Gazette</i> , revoke a declaration if he or she is satisfied that a condition of the declaration has been contravened.	
(11) A copy of an instrument under section 303FN, or this section is to be made available for inspection on the internet.	The instrument for the fishery made under sections 303FN and the conditions under section 303FT will be registered as a notifiable instrument and made available through the Department's website.

Part 16

	Comment
Section 391 Minister must consider precautionary principle in making decisions	
(1) Minister must take account of precautionary principle	The Department has accounted for the precautionary principle in the preparation of its advice.
(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.	Recognising the potential risks to biodiversity from the operation of the fishery identified in the 2008 ecological risk assessment for the fishery, DEDJTR has implemented precautionary management measures which will help to minimise the risks of adverse impacts, for example, a conservative TACC, limited entry, gear restrictions, mandatory vessel monitoring and voluntary closures in accordance with an industry code of practice. The Victorian Fisheries Regulations 2009 sets out management arrangements for the fishery including compliance with the quota management system and minimum legal shell length. Operators are also required to ensure compliance with established policies and procedures regarding bycatch and scallop condition. Precautionary measures are considered to be in place to prevent serious or irreversible environmental damage being caused by this fishery.

SECTION 4: VICTORIAN SCALLOP (OCEAN) FISHERY – SUMMARY OF ISSUES REQUIRING CONDITIONS, NOVEMBER 2017

Issue	Condition
<p><u>General Management</u> Export decisions relate to the arrangements in force at the time of the decision. To ensure that these decisions remain valid and export approval continues uninterrupted, the Department of the Environment and Energy 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 original decision. This includes operational and legislated amendments that may affect sustainability of the target species or negatively impact on byproduct, bycatch, EPBC Act protected species or the ecosystem.</p>	<p>Condition 1: Operation of the Victorian Scallop (Ocean) Fishery will be carried out in accordance with the <i>Fisheries Act 1995 (Vic)</i> and <i>Fisheries Regulations 2009 (Vic)</i>.</p> <p>Condition 2: The Victorian Fisheries Authority to provide the Department with information on the fishery's management arrangements including any intended material changes to management arrangements that may affect the assessment against which EPBC Act decisions are made.</p>
<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 conditions in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports should follow Appendix B to the 'Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition' and 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 EPBC Act protected species, impacts of the fishery on the ecosystem in which it operates and progress in implementing the Department's conditions. Electronic copies of the guidelines are available from the Department's website at http://www.environment.gov.au/resource/guidelines-ecologically-sustainable-management-fisheries.</p>	<p>Condition 3: The Victorian Fisheries Authority to produce and present reports to the Department of the Environment and Energy annually as per Appendix B of the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i>.</p>
<p><u>Harvest strategy</u> It is important that fisheries are conducted in a manner that maintains ecologically viable stock levels at an agree point or range with acceptable levels of probability that stocks will recover. The Department is concerned that the impacts of past fishing and/or natural processes have not been adequately managed to ensure that scallop stocks in Victorian waters recover to catch levels to sustain fishing pressure. It is important that Victorian Fisheries Authority develop a harvest strategy that will promote the maintenance of target stocks support fishing pressure. Developing a suitable harvest strategy aims to improve the transparency of, and confidence in management outcomes, including the setting of total allowable commercial catch (TACC) limits. Without a strategy or policy to provide guidance on resource allocation, there is an increased risk of inconsistent and/or unpredictable fisheries management decisions, particularly over longer timeframes. The management arrangements in place in the fishery includes a number of legislated and voluntary controls (see Section 1) to help ensure that scallop stocks are sustainably fished in Victorian waters.</p>	<p>Condition 4: In consultation with the Department of the Environment and Energy, the Victorian Fisheries Authority to develop and seek to implement a harvest strategy for the Victorian Scallop (Ocean) Fishery within the duration of this declaration as a wildlife trade operation. Evidence towards implementing this condition must be provided as part of the annual report to the Department, in accordance with Condition 3 of this approval.</p> <p>Condition 5: Increases to the baseline 135 t total allowable commercial catch (TACC) for the Victorian Scallop (Ocean) Fishery will be underpinned by the harvest strategy described in Condition 4.</p>

Issue	Condition
<p>The Department maintains the importance of basing management decisions for a sustainable fishery on collecting relevant, up-to-date and accurate information rather than a reliance on historic catch data. The Department acknowledges the efforts of the Victorian Fisheries Authority to facilitate an abundance survey for scallop stocks in Victorian waters by July 2018 which will form the basis of a harvest strategy. A harvest strategy should be developed in consultation with stakeholders, and include:</p> <ul style="list-style-type: none"> • management objectives, • indicators that will be monitored to evaluate performance against the objectives • reference points that establish the bounds of acceptable performance for the fishery • the decision rules that will be invoked if reference points are not achieved, and • consideration of the environment in which the fishery operates. <p>This declaration as a wildlife trade operation is conditional on Victorian Fisheries Authority developing and seeking to implement a harvest strategy for the Victorian Scallop (Ocean) Fishery within the duration of this wildlife trade operation.</p> <p>Victorian Fisheries Authority have indicated that the total allowable commercial catch (TACC) is capped at 135 t until there is adequate evidence to support an increase in the TACC for the fishery. This declaration as a wildlife trade operation is also conditional on Victorian Fisheries Authority not increasing the 135 t TACC until the Department is provided with scientifically robust evidence that scallop stocks in Victorian waters have improved sufficiently to support a decision to increase the TACC for the fishery.</p>	<p>The VFA to update the Department on any changes to the TACC and its rationale for doing so.</p>
<p><u>Complementary Management</u></p> <p>The Bass Strait commercial scallop population is considered to be a single stock, and is shared between Victorian, Tasmanian and Commonwealth managed fisheries. The Department recognises the efforts of the Victorian Fisheries Authority in actively engaging with fishery managers in neighbouring jurisdictions to develop complementary management practices. The Department encourages ongoing complementary management arrangements that help ensure the sustainability of commercial scallop stocks in Bass Strait fisheries. It is important that Victorian Fisheries Authority provide a summary of complementary management activities such as the number and type of forums attended as part of the annual report to the Department, in accordance with Condition 3 of this approval.</p>	<p>Condition 6:</p> <p>The Victorian Fisheries Authority to continue to work with relevant jurisdictions to actively pursue consistent and/or complementary management arrangements for the commercial scallop stock off south-east Australia, and to provide the Department with a summary of the activities.</p>

REFERENCES

Butcher T, Matthews J, Glaister J, and Hamer G, 1981 'Study suggests scallop dredges causing few problems in Jervis Bay', Australian Fisheries, vol. 40, no. 9, p. 9.

Coleman N 2004 'Bycatch monitoring for the Victorian ocean zone scallop fishery in 2002', Fisheries Victoria Research Report Series No. 11, Department of Economic Development, Jobs, Transport and Resources, Queenscliff VIC, Available at <https://www.environment.gov.au/system/files/pages/e36e3144-d00a-4ed1-b704-b03f58eb8151/files/attachment-bycatch-survey.pdf>.

Curry D and Parry GD 1994 'The impact of scallop dredging on a soft sediment community using multivariate techniques', Memoirs of the Queensland Museum vol. 36, no. 2, pp. 315-327.

Department of Economic Development, Jobs, Transport and Resources (DEDJTR) 2015 'Scallop (Ocean) Fishery Total Allowable Commercial Catch 2015–16', Victorian Government, Queenscliff VIC, Available at <http://www.environment.gov.au/marine/fisheries/vic/scallop/application-2015>.

Department of the Environment and Energy (DoEE) 2017 'National strategy for ecologically sustainable development', Australian Government, Canberra ACT, Available at <http://www.environment.gov.au/about-us/esd/publications/national-esd-strategy>.

Department of the Environment and Heritage (DEH) 2006 'Assessment of the Victorian Scallop Fishery - January 2006', Australian Government, Canberra ACT, Available at <http://www.environment.gov.au/node/17747>.

Department of the Environment, Water, Heritage and the Arts (DEWHA) 2009 'Assessment of the Victorian Scallop Fishery January 2009', Australian Government, Canberra ACT.

Department of Sustainability, Environment, Water, Population and Communities (DSEWPaC) 2012 'Assessment of the Victorian Scallop Fishery – January 2012', Australian Government, Canberra ACT.

Gwyther D and McShane PE 1988 'Growth rate and natural mortality of the scallop *Pecten alba* (Tate) in Port Phillip Bay, Australia, and evidence for changes in growth rate after a 20-year period', Fisheries Research, vol. 8, pp. 347-361.

Haddon M, Harrington JJ and Semmens JM 2006 'Juvenile scallop discard rates and bed dynamics: testing the management rules for scallops in Bass Strait', FRDC Project 2003/017, Tasmanian Aquaculture and Fisheries Institute, University of Tasmania, Available at <http://www.frdc.com.au/Archived-Reports/FRDC%20Projects/2003-017-DLD.pdf>.

Hamer G and Jacobs N 1987 'The biology, fishery and management of the commercial scallop (*Pecten fumatus*) in Jervis Bay, New South Wales', Wetlands (Australia), vol. 6, no. 2, pp. 39-47.

Harrington JJ, Haddon M and Semmens JM 2008 'Facilitating industry self-management for spatially managed stocks: a scallop case study', FRDC Project 2005/027, Fisheries Research and Development Corporation and the Tasmanian Aquaculture and Fisheries Institute, Available at <http://frdc.com.au/Archived-Reports/FRDC%20Projects/2005-027-DLD.PDF>.

Laurenson LJB, Unsworth P, Penn JW, and Lenanton RCJ 1993 'The impact of trawling for saucer scallops and western king prawns on the benthic communities in coastal waters off south-western Australia', Fisheries Research Development Corporation, Canberra ACT.

McLoughlin R, Probestl M, Gwyther D, Cartwright I, Sterling D and Zacharin W 'Development of improved and environmentally sensitive scallop harvesting gear', FRDC Project 1991/049, Fisheries Research Report 100, Department of Fisheries, Perth WA, Available at <http://www.frdc.com.au/Archived-Reports/FRDC%20Projects/1991-049-DLD.pdf>.

McShane PE 1981 'The effect of scallop dredging on the macrobenthos of a muddy environment in Port Phillip Bay', Marine Science Laboratories Victoria Technical Report 4, pp. 1-16.

Mendo T, Moltschaniwskyj N, Lyle JM, Tracey SR and Semmens JM 2014 'Role of density in aggregation patterns and synchronization of spawning in the hermaphroditic scallop *Pecten fumatus*', *Marine Biology*, vol. 161, no. 12, pp. 2857-2868.

Sause BL, Gwyther D and Burgess D 1987 'Larval settlement, juvenile growth and the potential use of spatfall indices to predict recruitment of the scallop *Pecten Alba* Tate in Port Phillip Bay, Victoria, Australia', *Fisheries Research*, vol. 6, pp. 81-92.

Semmens J, Gorfine H, Marton N, Jarvis D and Bell J 2014 'Commercial scallop *Pecten fumatus*', In M Flood, I Stobutzki, J Andrews, C Ashby, G Begg, R Fletcher, C Gardner, L Georgeson, S Hansen, K Hartmann, P Hone, P Horvat, L Maloney, B McDonald, A Moore, A Roelofs, K Sainsbury, T Saunders, T Smith, C Stewardson, J Stewart, and B Wise (eds), 2014 '*Status of key Australian fish stocks reports – 2014*', Report for Fisheries Research and Development Corporation, Canberra, ACT.

Semmens J, Green C, and Marton N 2016 'Commercial scallop *Pecten fumatus*', In: Stewardson C, Andrews J, Ashby C, Haddon M, Hartmann K, Hone P, Horvat P, Mayfield S, Roelofs A, Sainsbury K, Saunders T, Stewart J, Stobutzki I, and Wise B (eds) 2016, *Status of Australian fish stocks reports 2016*, Report for Fisheries Research and Development Corporation, Canberra, ACT, Available at <http://fish.gov.au/report/17-Commercial-Scallop-2016>.

Semmens J, Jarvis D, Piasente M, Schubert M, Sen S, Moore A, Stobutzki I and Marton N 2012 'Commercial scallop *Pecten fumatus*', In M Flood, I Stobutzki, J Andrews, G Begg, R Fletcher, C Gardner, J Kemp, A Moore, A O'Brien, R Quinn, J Roach, K Rowling, K Sainsbury, T Saunders, T Ward and M Winning (eds) 2012 '*Status of key Australian fish stocks reports – 2012*', Report for Fisheries Research and Development Corporation, Canberra ACT.

Sen, S 2011 'Options for improving management of the commercial scallop resource in south-east Australia', Department of Economic Development, Jobs, Transport and Resources, Queenscliff VIC, Accessed: 7 June 2016, Available at <http://agriculture.vic.gov.au/fisheries/policy-and-planning/strategy-and-policy/scallop-report>.

Stivala J. 2005 'Statement of management arrangements for the Victorian Commercial Scallop (*Pecten fumatus*) Fishery', Prepared for Fisheries Victoria, Department of Primary Industries, Queenscliff VIC.