



Australian Government

Department of the Environment and Energy

Assessment of the
Victorian Abalone Fishery

August 2016

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This report should be attributed as '*Assessment of the Victorian Abalone Fishery August 2016*, Commonwealth of Australia 2016'.

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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SECTION 1: SUMMARY OF THE ASSESSMENT FOR THE VICTORIAN ABALONE FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Purpose: To enable transparent articulation of which commercial fisheries assessed under the EPBC Act clearly meet all legislative requirements and all Guidelines, and those which may require further investigation or assessment to demonstrate requirements are met.

Overview of Victorian Abalone Fishery against the relevant requirements of the Guidelines and the EPBC Act.

Guidelines	Meets	Partially meets	Does not meet	Details
Management regime	6 of 9 1 of 9 N/a	2 of 9		The management regime is effective. The Victorian Abalone Fishery (the fishery) is managed by the Department of Economic Development, Jobs, Transport and Resources (DEDJTR) in accordance with the Wild Harvest Abalone Fishery Management Plan 2015 (Fishery Management Plan), the Fisheries Regulations 2009 (VIC), and the <i>Fisheries Act 1995</i> (VIC). The management regime includes strategic objectives linked to actions and performance criteria to help identify and address any adverse impacts on the wider marine ecosystem. The harvest is managed through input and output controls. DEDJTR is developing harvest strategies for each management zone in consultation with industry. The harvest strategies will contain clear objectives, reference points, triggers and decision rules. These harvest strategies are expected to be completed by August 2017.
Principle 1 (target stocks)	4 of 11 1 of 11 N/a	6 of 11		Target stocks are recovering. New management strategies are in place to support ongoing recovery of the fishery. Historically, the fishery has experienced high levels of fishing pressure. DEDJTR now considers the fishery stock as 'fully fished'. Management responses have been implemented to address falling abalone catches and include a recovery strategy to rebuild the fishery over the life of the plan. Strategies include a restructured management plan, industry workshops supported by DEDJTR, and annual TACC adjustments. Zone harvest strategies are being developed but are yet to be implemented.
Principle 2 (bycatch and TEPS)	4 of 12 8 of 12 N/a			Risks to bycatch and protected species are minimal. No impact on threatened, endangered and protected species due to selective harvesting methods. No bycatch or byproduct caught in the fishery.
Principle 2 (ecosystem impacts)	4 of 5 1 of 5 N/a			Ecological risk is low. Minimal ecosystem impacts from fishing operations. Only risk is the potential for changes to species composition in other functional groups resulting from the removal of abalone

EPBC requirements	Meets	Partially meets	Does not meet	Details
Part 12	1 of 1 N/a			Not applicable. No marine bioregional plan exists for the South-east Marine Region in which the fishery operates.
Part 13	11 of 12 1 of 12 N/a			Meets. The management regime continues to require operators to take all reasonable steps to ensure that listed threatened species are not killed or injured as a result of the fishing. New management plan requires accreditation as part of this assessment approval process.
Part 13A	1 of 3 1 of 3 N/a	1 of 3		Partially meets. Limited consultation if LENS is amended, although sufficient for strict requirements, as per advice to Minister in MS14-002367.
Part 16	1 of 1			Meets. Precautionary management measures are in place.

Conclusion:

The fishery operates in state and adjacent Commonwealth waters in Bass Strait under an Offshore Constitutional Settlement (OCS) agreement. The fishery targets Blacklip Abalone (*Haliotis rubra*) and Greenlip Abalone (*H. laevisgata*) by hand collection using surface air supply (hookah system) or SCUBA from small fishing boats. Abalone can be susceptible to overfishing and historically the fishery has experienced high levels of fishing pressure. Abalone in this fishery is considered recruitment overfished or transitional depleting in some areas of the fishery. There is a need for suitable management practices to ensure stock biomass returns to sustainable levels by making suitable adjustments to management arrangements including annual quotas and fishing pressure.

DEDJTR has responded by introducing new management arrangements and now consider abalone stocks in all zones as 'fully fished' (or fully exploited). DEDJTR considers abalone stock levels are considered sustainable. The Fishery Management Plan (see link below) contains strategic objectives and actions for the sustainable management of target species stock. The new management plan has moved away from an exclusively model-centric approach where model outputs linked to biomass target and trigger reference points (performance indicators) were the primary determinants of total allowable commercial catch (TACC) decisions. Modelling of Australian abalone fisheries has progressed towards a management strategy evaluation (MSE) approach for generating management advice from this technology. The fishery will make best use of emerging techniques, subject to availability of valid data, expertise and funding. Management arrangements now use a weight of evidence approach with optimum targets, triggers and limits while new zone harvest strategies are in development. There are no bycatch, protected species or wider ecosystem concerns with this fishery, therefore it meets all environmental requirements of the EPBC Act and most of the Guidelines.

Outstanding issue 1: While the fishery is relatively well managed, the Department has identified uncertainties that must be addressed to ensure the fishery complies with the EPBC Act and the criterion set out in the Guidelines. The revised management regime includes newly developed strategies, actions and indicators of stock status, and options to address historically depleted abalone stock. Zone harvest strategies are also in development. As the new management arrangements are only recently implemented and the harvest strategies are in development it is too soon to measure how effective these advancements will be in curbing fishing pressure to within sustainable harvest levels.

Outstanding issue 2: Given the implementation of new management arrangements, the fishery will require accreditation under Part 13 of the EPBC Act in relation to the management of protected species and communities.

Final recommendation for 2016 assessment of the Victorian Abalone Fishery:

Low risk, eligible for 10 year approval (2016–2026).

While the fishery is considered low risk and the newly developed management regime has the capacity to respond to abalone stock fluctuations, some aspects of the management arrangements are in development and require ongoing/periodic monitoring. The revised management regime is a positive approach to recovering stocks classed as 'overfished' and 'transitional-depleting' in the SAFS 2014 Report. To ensure the management regime is successful in reversing the negative trend in abalone stocks, DEDJTR should conduct a review of the performance of the fishery in 2020, and provide a report of its findings to the Department. The review will enable progress from the management regime to be substantiated and ensure the fishery continues to be sustainable in the long term.

Notes

Assessment history:

The assessment history for the Victorian Abalone Fishery is available on the Departments website at <http://www.environment.gov.au/marine/fisheries/vic/abalone>.

- 1st assessment July 2003 – product from the fishery was included in the list of exempt native specimens (LENS) until 30 July 2008 (F2005B02176). Export approval was subject to 11 recommendations. Abalone Fishery Management Plan 2002 accredited under Part 13.
- 2nd assessment June 2009 - product from the fishery was included in the LENS until 30 June 2011 (F2009L02626). Export approval was subject to 8 recommendations.
- 3rd assessment June 2013 - product from the fishery was included in the LENS until 15 June 2018 (F2013L01079). Export approval was subject to 5 recommendations.

Fishery reporting:

- Annual reports are not publicly available.
- Protected species interactions information is not made public.

Key links and references:

- Department of Economic Development, Jobs, Transport and Resources available at <https://economicdevelopment.vic.gov.au/about-us/news/new-fisheries-authority-announced>.
- Note the fishery is now managed by the Victorian Fisheries Authority. Information for the fishery is available at <https://vfa.vic.gov.au/>.
- Kennelly SJ 2014 'Benchmarking Australia's national fisheries status reporting system', Fisheries Research and Development Corporation, FRDC Report March 2014, 82. Pp, Available at <http://frdc.com.au/Archived-Reports/FRDC%20Projects/2013-233-DLD.pdf>.
- Hamer PA, Jenkins GP Womersley BA, and Mills KA 2010 'Understanding the ecological role of abalone in the reef ecosystem in Victoria', Fisheries Victoria, Queenscliff VIC, Available at <http://www.frdc.com.au/project?id=1105>.
- Johnson CR, Ling SD, Sanderson JC, Dominguez JGS, Flukes E, Frusher S, Gardner C, Hartmann K, Jarman S, Little R, Marzloff MP, Soulie JC, Melbourne-Thomas J, and Redd K 2013 'Rebuilding ecosystem resilience: assessment of management options to minimise formation of 'barrens' habitat by the Long-Spined Sea Urchin (*Centrostephanus rodgersii*) in Tasmania', Fisheries Research and Development Corporation Final Report, FRDC 2007/045, Institute for Marine and Antarctic Studies, Hobart TAS, Available at <http://frdc.com.au/project?id=1060>.
- Sanderson JC, Ling SD, Dominguez JG and Johnson CR 2016 'Limited effectiveness of divers to mitigate 'barrens' formation by culling sea urchins while fishing for abalone', Marine and Freshwater Research, vol. 67, pp. 84-95.

Management plan:

- Victorian Wild Harvest Abalone Fishery Management Plan 2015 is available at <https://vfa.vic.gov.au/operational-policy/fisheries-management-plans/abalone-management-plan-summary>.
- Part 13 accreditation was granted on 18 August 2016, and is available at <http://www.environment.gov.au/system/files/pages/7a815add-4e88-408a-a9a5-4b9af9cf99e8/files/accreditation-plan-part13-abalone-aug-2016.pdf>.

Enforcing legislation:

- The *Fisheries Act 1995* and Fisheries Regulations 2009 are available on the Victorian legislation website at <http://www.legislation.vic.gov.au/>.

Harvest strategy or document that articulates control rules:

- Harvest strategies are currently being developed for each of the three management zones.

Ecological Risk Assessment:

- No ecological risk assessment undertaken as the fishery employs very low risk fishing methods.

Publicly available stock assessment:

- Victorian Fisheries Authority provides no publicly available stock assessment information for the Abalone Fishery.
- Fisheries Research and Development Corporation's (FRDC) Status of Key Australian Fish Stocks (SAFS) Reports 2014 is available at http://www.fish.gov.au/pages/safs_report.aspx.
- Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) Fishery Status Report 2015 is available at http://www.agriculture.gov.au/abares/publications/display?url=http://143.188.17.20/anrdl/DAFFService/display.php?fid=pb_fsr15d9abm_20151030.xml.

SECTION 2: DETAILED ANALYSIS OF THE VICTORIAN ABALONE FISHERY AGAINST THE GUIDELINES FOR THE ECOLOGICALLY SUSTAINABLE MANAGEMENT OF FISHERIES (2ND EDITION)

Guidelines	Meets	Partially meets	Does not meet	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	Meets. The Department of Economic Development, Jobs, Transport and Resources (DEDJTR) manages the Abalone Fishery (the fishery) through the Wild Harvest Abalone Fishery Management Plan 2015 (Fishery Management Plan) and Fisheries Regulations 2009 (VIC), and in accordance with the <i>Fisheries Act 1995</i> (VIC). The management regime is documented, publicly available and transparent.			
Be developed through a consultative process providing opportunity to all interested and affected parties, including the general public	Meets. Fully open and transparent public process. Development of the Fishery Management Plan followed a legislated consultation process with opportunities for interested and affected parties to contribute. Under state legislation, the Fishery Management Plan was made available for public comment for at least 60 days prior to it being approved by the minister. All interested and affected parties including the public were provided with opportunities to engage in the consultation process.			
Ensure that a range of expertise and community interests are involved in individual fishery management committees and during the stock assessment process	Meets. A range of expertise and community interests provide input to managing the fishery. Annual fishery management workshops are organised for each of the three management zones (i.e. Western, Central and Eastern). Annual Stock Assessment and Quota Setting Workshops involve commercial quota holders and abalone divers, recreational fishing sector representatives and other interested stakeholders including Indigenous and non-government organisations. A steering committee comprising commercial and recreational fishing stakeholders and conservation interests and an independent scientist assisted with the development of the Fishery Management Plan. DEDJTR provides reports to update stakeholders on catch and size limits. Industry-convened workshops provide updates for the commercial sector on catch and size limits.			
Be strategic, containing objectives and performance criteria by which the effectiveness of the management arrangements are measured	Partially meets. Has general objectives and performance criteria, which at the time of assessment are not regularly used to assess the fishery's effectiveness. The Fishery Management Plan contains strategic objectives linked to actions and performance criteria to measure the effectiveness of the management arrangements, however the fishery has been under increasing fishing pressure. New harvest strategies under development by industry for each management zone will contain clear objectives, reference points, triggers and decision rules. The harvest strategies will be informed by fishery dependent and independent data and qualitative evidence from divers. The Fishery Management Plan represents a shift away from an exclusively model-centric approach where model outputs linked to biomass target and trigger reference points (performance			

	indicators) were the primary determinants of TACC decisions. Modelling of Australian abalone fisheries has progressed towards management strategy evaluation (MSE) for generating management advice from this technology.
Be capable of controlling the level of harvest in the fishery using input and/or output controls	<p>Meets.</p> <p>The Fishery Management Plan contains measures capable of controlling harvest levels based primarily on output controls and input controls as a secondary mechanism.</p> <p><u>Output controls</u></p> <ul style="list-style-type: none"> • annual TACC for each management zone • individual transferable quota (ITQ) • zone-specific Abalone Fishery Access Licence, and • recreational daily bag limit and possession limits <p><u>Input controls</u></p> <ul style="list-style-type: none"> • spatial closures including permanent closure for Greenlip Abalone in Port Phillip Bay, and permanent closure of central Victorian waters to recreational fishery except for special events (~62 days/year). • fishing restricted to daylight hours (sunrise to sunset) • limited entry - max 71 licences between Western Zone (14), Central Zone (34) and Eastern Zone (23) • legal minimum size limit for each management zone • gear restrictions (abalone removal tool, SCUBA, and hookah), and • spatial management (Western Zone, Central Zone and Eastern Zone) with individual TACCs for different species.
Contain the means of enforcing critical aspects of the management arrangements	<p>Meets.</p> <p>Effective enforcement capability. The Fishery Management Plan contains enforcement measures supported by provisions under the Victorian Fisheries Act and Fisheries Regulations. Keystone tools for managing harvest are Abalone Quota Management System (AQMS), individual transferable quota units, Total Allowable Commercial Catch (TACC) and random and targeted inspections by Fisheries Officers. The AQMS tracks catch from point of landing to the export or domestic retail sale of abalone. AQMS reporting begins at the point of landing. AQMS assists DEDJTR monitor the compliance of licence holders and processors. Compliance activities occur throughout the year and include random and targeted inspections on land and water. An annual compliance risk assessment helps determine the level of compliance activity</p>
Provide for the periodic review of the performance of the fishery management arrangements and the management strategies, objectives and criteria	<p>Partially meets.</p> <p>Performance reviews provided for, but not on regular timeframe. A review of management plans occurs approximately every five years and examines all aspects of the management arrangements including key performance criterion. This is supported by an annual review of the actions in the management plan to assess progress in delivering these actions. Annual stock assessments are undertaken for each management zone and provide the basis for setting the Total Allowable Commercial Catch. Stock assessments are not publicly available due to commercial-in-confidence. DEDJTR develops fishery status reports. The 2010 Status Report is the most recent that is publicly available. Fisheries Research</p>

	Development Corporation (FRDC) develops an annual status of Australian fish stocks. The 2014 Stock Report is the most recent.
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	Meets. Management arrangements include actions and measures to identify and address any adverse impacts on the wider marine ecosystem. Annual fishery independent surveys provide information on the wider marine ecosystem, including the abundance of competitor and predator species, substrate, food organisms and shelter species. For example, see Hamer <i>et al.</i> (2010).
Requires compliance with relevant threat abatement plans, recovery plans, the National Policy on Fisheries Bycatch, and bycatch action strategies developed under the policy	Not applicable. No Commonwealth plans or strategies are relevant to the Victorian Abalone Fishery.
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. There is no on-board observer coverage used in the fishery. Electronic information collection is used but is not uniform across the fishery. Reliable information is collected through a mix of fishery independent and dependent research and monitoring. Daily reporting of catch is via logbooks and through an automated voice recognition system linked to the quota management system. Electronic dive loggers provide information on location, but is not used by all operators in the Central and Eastern Zones. Annual reporting includes fishery independent biological and population survey data from 204 sites across all management zones. Annual species-specific reef report cards summarise fishery independent and dependent data for each management zone. The weight of evidence approach includes consideration of qualitative diver observations.
Assessment	
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.	Meets. Annual stock assessment or annual surveys. Yes, regular assessments of the dynamics and status of the fishery include periodic reviews to identify any reduction in biological diversity and/or reproductive capacity. Annual stock assessment and management decisions consider fishery dependent and independent data when setting TACC for individual management zones. This information assists in understanding and monitoring threats to the fishery such as abalone viral ganglioneuritis and sea urchin incursions. Diver independent surveys identified sea urchin incursions in the Eastern Zone. A regular review process includes ongoing research through the FRDC funded baseline culling program and includes actions to remove sea urchins in the Eastern Zone (Johnson <i>et al.</i> 2013; Sanderson <i>et al.</i> 2016). DEDJTR have collected in-depth data on each survey site including habitat, predators and competitor species, and percentage cover of larger algae.

<p>1.1.3 The distribution and spatial structure of the stock(s) has been established and factored into management responses.</p>	<p>Meets.</p> <p>Robust surveys or equivalent research finalised. The distribution and spatial structure of stock understood from historical fishing data and annual fishery dependent surveys, which have been undertaken since the early 1990s. DEDJTR maintain a dataset of the catch and effort, abundance, ecology and habitat features and uses it as required in assessing stock status. This information informs management responses.</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>Partially meets.</p> <p>There are reliable estimates of all commercial catches via the AQMS, including landings and discards. Annual surveys (204 sites) provide an index of abundance and recruitment across the fishery. Estimates for commercial catch inform stock assessments and management decisions for the three individual management zones. A nominal resource allocation of 90:10 ratio between commercial and recreational sectors. Discards considered negligible as recreational and commercial divers are required to measure abalone before removal from habitat. No reliable estimates are available for recreational, indigenous or illegal, unreported and unregulated (IUU) catches. Controls are in place to restrict the take for recreational fishers. Indigenous fishing is, in most cases, managed as recreational fishing but is low where taken under a separate entitlement (e.g. a permit). The 2000–01 national recreational fishing survey found the sector takes ~3.1 tonne of abalone; this figure is not expected to increase significantly. A new recreational fishing survey will depend on funding. Very little information is available to estimate indigenous catch. No estimates available for illegal, unreported and unregulated (IUU) take but believed to be low at this time.</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>Productivity is currently being estimated. Harvest strategies currently in development for each management zone, and will inform potential productivity within the fishery. Estimated productivity is available to stakeholders via industry workshops, regular stock assessments and independent research. This information also informs stakeholders of potential threats to productivity through disease (e.g. abalone viral ganglioneuritis) and competition (e.g. sea urchin). No decisions have been made regarding the harvest strategy at this time. The information considered in arriving at a recommended TACC includes:</p> <ul style="list-style-type: none"> • fishery dependent information: catch history, catch per unit effort and diver observations; • fishery independent information: independent survey data that includes pre-recruit abundance, recruit abundance and spawning biomass estimates; and • biomass estimates and harvest fractions: using fishery dependent and independent data and CSIRO modelling information (Western Zone only). <p>Annual surveys (204 sites) provide an index of abundance and recruitment across the fishery. The aim of fishery independent surveys is to provide a time series of relative abundance. Fishery independent surveys have been conducted since 1989–90. The number of sites surveyed has changed over time but 204 sites (2015) are now surveyed. The surveys were designed to provide:</p> <ul style="list-style-type: none"> • trends in pre-recruit abundance • trends in recruit abundance, and • length frequency statistics
<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>Robust reference points are in place. Annual TACC operates under a system of reference points, triggers and decision rules. Indicative targets are set for each management zone. Initial Optimum Targets for individual or group of reef codes based on quota reference points, catch history and stock assessment outputs. TACC includes combined values of all Optimum Targets. Upper and lower limits for each reef code will be between ± 15 per cent and no greater than 30 per cent of Optimum Targets. The following actions occur when the upper and lower limits are reached.</p> <ul style="list-style-type: none"> • Upper limit – immediate closure of affected reef code (spatial management unit) and review to occur at next Stock Assessment and Quota Advisory Workshop. • Upper threshold – review stock status of reef code as prescribed by relevant zone harvest strategy. • Target – preferred performance target range between lower and upper thresholds. • Lower threshold – review of stock status within reef code as prescribed in relevant zone harvest strategy. • Lower limit – stock status of the reef code review at the next Stock Assessment and Quota Setting Workshop.
<p>1.1.7 There are management strategies in place capable of controlling the level of take.</p>	<p>Partially meets.</p> <p>Limited entry, but strategies could be stronger. The management regime includes strategies to assist in controlling the level of take including output and input controls described above. Harvest strategies are being developed with 30 August 2017 as the planned completion date.</p>
<p>1.1.8 Fishing is conducted in a manner that does not threaten stocks of byproduct species.</p>	<p>Not applicable.</p> <p>The fishery does not threaten or impact byproduct stocks due to selective fishing methods.</p>
<p>(Guidelines 1.1.1 to 1.1.7 should be applied to byproduct 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>Partially meets.</p> <p>The management response includes revised management plan with strategies, objectives and actions. Proposed zone harvest strategies are not yet in place. Management regime has the potential to achieve the objective to ensure stock maintained at ecologically viable 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</p>	<p>Meets.</p> <p>Precautionary recovery strategy in place. The Fishery Management Plan contains strategic actions to meet management objectives. A precautionary approach underpins the management plan. Developing the Fishery Management Plan involved a study of options for rebuilding the abalone stock in Victorian waters, and a recovery strategy to rebuild the fishery over the life of the plan. The recovery strategy contains up-to-date</p>

recovers, and should aim for recovery within a specific time period appropriate to the biology of the stock.	information and research. The aim here is to promote recovery over the duration of the management plan. Proposed harvest strategies will contain rebuilding targets with clear objectives, reference points, triggers and decision rules. TACC increased in the Western Zone following the implementation of a rebuilding strategy. In contrast, TACC reduced in the Central and Eastern zones for the 2016–17 fishing season.
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.	Partially meets. Management responses have been implemented but are incomplete or inadequate. DEDJTR considers the fishery stock as 'fully fished'. Historically, the fishery has experienced high levels of fishing pressure. Management responses have been implemented to address falling abalone catches. Strategies include a restructured management plan, industry workshops supported by DEDJTR, and annual TACC adjustments. Zone harvest strategies are being developed but are yet to be implemented.
PRINCIPLE 2 - Fishing operations should be managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.	
Objective 1 - The fishery is conducted in a manner that does not threaten bycatch species.	
Information requirements	
2.1.1 Reliable information, appropriate to the scale of the fishery, is collected on the composition and abundance of bycatch.	Not applicable. Operators are required to record bycatch in daily logbooks. The information available suggests no bycatch species are caught in the fishery due to the selective fishing method used.
Assessments	
2.1.2 There is a risk analysis of the bycatch with respect to its vulnerability to fishing.	Not applicable. No bycatch caught in the fishery. An internal ecological risk assessment (ERA) for the fishery indicated negligible risks to bycatch species. Zone harvest strategies may contain an ERA.
Management responses	
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.	Not applicable. No additional measures are required to avoid capture or mortality of bycatch species in the Abalone Fishery.
2.1.4 An indicator group of bycatch species is monitored.	Not applicable. Monitoring of indicator groups is not required due to the selective fishing methods used in this fishery.
2.1.5 There are decision rules that trigger additional management measures when there are significant perturbations in the indicator species numbers.	Not applicable. Decision rules are not required as there is no monitoring of indicator groups.

2.1.6 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Meets. Yes, the management regime has a good chance of achieving the objective to minimise any threats to bycatch species.
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 and threatened ecological communities.	Meets. Up-to-date logbooks and reliable records of interactions with endangered, threatened or protected species and threatened ecological communities. There is reliable information collected on interactions with threatened, endangered or protected species (TEPS). Operators record interactions with TEPS in daily logbooks, and incidental interactions with TEPS using the Protected Species Interactions form. Possible TEPS encountered in the fishery include cetaceans (whales and dolphins), seabirds, marine turtles, seals, syngnathidae and sharks (great whites, grey nurse and whale). A desktop review (Jenkins 2004) and experimental study (Hamer <i>et al.</i> 2010) found abalone fishing activities have not caused detectable ecological changes in Victoria. Fishing methods and gear used have not changed, and fishing effort has reduced. Therefore, any impact to TEPS is considered negligible. The fishery is unlikely to interact with threatened ecological communities (TECs), and the fishing methods used suggest no adverse impacts.
Assessments	
2.2.2 There is an assessment of the impact of the fishery on endangered, threatened or protected species.	Meets. Robust ERA conducted and risks identified as low, or suitable management practices in place. An unpublished ERA determined the level of risk to be low due to the fishing methods used.
2.2.3 There is an assessment of the impact of the fishery on threatened ecological communities.	Not applicable. The fishery is not expected to interact with threatened ecological communities. An unpublished ERA determined the level of risk to be low due to the fishing methods used.
Management responses	
2.2.4 There are measures in place to avoid capture and/or mortality of endangered, threatened or protected species.	Not applicable. See item 2.2.1. An unpublished ERA determined the level of risk to be low due to the fishing methods used. Legislative provisions require operators to take all steps to avoid the capture and/or mortality of TEPS. DEDJTR will implement mitigation strategies if interactions become a risk
2.2.5 There are measures in place to avoid impact on threatened ecological communities.	Not applicable. See item 2.2.1. An unpublished ERA determined the level of risk to be low due to the fishing methods used. Legislative provisions require operators to take all steps to avoid impacts on TEC. DEDJTR will implement mitigation strategies if interactions become a risk.
2.2.6 The management response, considering uncertainties in the assessment	Meets.

and precautionary management actions, has a high chance of achieving the objective.	Management regime has a good chance of achieving the objective to avoid or minimise adverse impacts on TEPS and TEC.
Objective 3 - The fishery is conducted, in a manner that minimises the impact of fishing operations on the ecosystem generally.	
Information requirements	
<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>Meets.</p> <p>Robust methods of data collection in place. Fishery dependent and fishery independent surveys provide information appropriate for the scale of the fishery, and may not cover the matters identified at item 2.3.2. DEDJTR use a variety of robust data collection tools to monitor impacts of abalone fishing on the ecosystem. Fishery independent information includes independent survey data from 204 sites that includes pre-recruit abundance, recruit abundance and spawning biomass estimates. Fishery dependent information includes catch history, catch per unit effort and diver observations. Commercial divers use hand collection method and hookah gear to access abalone and must measure each animal before removal from the substratum so non-target species and impacts on the ecosystem and environment generally are low.</p>
Assessment	
<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> <p>1. Impacts on ecological communities</p> <ul style="list-style-type: none"> • Benthic communities • Ecologically related, associated or dependent species • Water column communities <p>2. Impacts on food chains</p> <ul style="list-style-type: none"> • Structure • Productivity/flows <p>3. Impacts on the physical environment</p> <ul style="list-style-type: none"> • Physical habitat • Water quality 	<p>Meets.</p> <p>Robust ERA has been conducted. An internal ERA and independent studies inform management decisions. A summary of an internal ERA provided by DEDJTR indicates abalone fishing may impact the composition of species in other functional groups. Current management arrangements including harvest levels and fishing method contribute to minimising any potential risks associated with fishing operations. Hamer <i>et al.</i> (2010) found abalone fishing is “unlikely to have a major reef-scale impact on invertebrate and algal communities”, and the removal of abalone has a “relatively benign and spatially inconsistent impact” on reef ecosystems”. Impacts to the physical ecosystem are considered negligible due to the benign harvesting method used in the fishery (hand harvesting) (Abalone FMP 2002, p. 36).</p>
Management responses	
<p>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.</p>	<p>Meets.</p> <p>Management actions in place. Management regime contains actions linked to strategic objectives to minimise any potential impacts on the ecosystem resulting from potential impacts identified in item 2.3.1. Some management actions are in place and informed by research (see Jenkins 2004; Hamer <i>et al.</i> 2010).</p>

	The harvesting method and gear restrictions help minimise damage to the wider marine ecosystem. DEDJTR will implement mitigation strategies if it finds fishing operations to adversely impact on the wider marine ecosystem.
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.	Not applicable. Decision rules or triggers are not required.
2.3.5 The management response, considering uncertainties in the assessment and precautionary management actions, has a high chance of achieving the objective.	Meets. The management regime has a good chance of achieving the objective to minimise any threats to the marine ecosystem.

SECTION 3: ASSESSMENT OF THE VICTORIAN ABALONE FISHERY AGAINST THE REQUIREMENTS OF THE EPBC ACT

Please Note – the table below is not a complete or exact representation of the EPBC Act. It is intended as a checklist of relevant sections and components of the EPBC Act to provide advice on the fishery in relation to decisions under Part 13 and Part 13A.

Part 12

	Meets	Partially meets	Does not meet	Comment
Section 176 Bioregional Plans				
(5) Minister must have regard to relevant bioregional plans	Not applicable. There is no relevant marine bioregional plan for the South-east Marine Region.			

Part 13

	Meets	Partially meets	Does not meet	Comment
Accreditable plan, regime or policy (Division 1, Division 2, Division 3, Division 4)				
<div>s. 208A (1) (a-e) , s.222A (1) (a-e), s.245A (1) (a-e), s.265 (1) (a-e)</div> <div>Does the fishery have an accreditable plan of management, regime or policy?</div>	Meets. Yes. The Fishery Management Plan 2015 was developed in accordance with the provisions of the Victorian <i>Fisheries Act 1995</i> and Victorian Fisheries Regulations 2009, and therefore accreditable.			
Division 1 Listed threatened species, Section 208A Minister may accredit plans or regimes				
<div>(f)</div> <div>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?</div>	Meets. Yes. The management regime contains strategic objectives with specific action items to help ensure fishers take all reasonable steps to minimise any adverse impacts to listed threatened species.			
<div>(g)</div> <div>And, is the fishery likely to adversely affect the survival or recovery in nature of the species.</div>	Meets. No, the fishery is highly unlikely to adversely affect the survival or recovery in nature of listed threatened species.			
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?	Meets. Yes, the management regime contains strategic objectives with specific action items to help ensure fishers take all reasonable steps to minimise any adverse impacts to listed migratory species.
(g)	And, is the fishery likely to adversely affect the conservation status of a listed migratory species or a population of that species?	Meets. No, the fishery is highly unlikely to adversely affect the conservation status of listed migratory species or a population of that species.
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?	Meets. Yes, the management regime contains strategic objectives with specific action items to help ensure fishers take all reasonable steps to minimise any adverse impacts to cetaceans.
(g)	And is the fishery likely to adversely affect the conservation status of a species of cetacean or a population of that species?	Meets. No, the fishery is highly unlikely to adversely affect the conservation status of cetacean or a population of that species.
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?	Meets. Yes, the management regime contains strategic objectives with specific action items to help ensure fishers take all reasonable steps to minimise any adverse impacts to listed marine species.
(g)	And is the fishery likely to adversely affect the conservation status of a listed marine species or a population of that species?	Meets. No, the fishery is highly unlikely to adversely affect the conservation status of a listed marine species or populations of that species.
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.	Meets. The Department recommends the Victorian Wild Harvest Abalone Fishery Management Plan 2015 be accredited under Part 13 of the EPBC Act.

<p>(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:</p> <ul style="list-style-type: none"> (a) during a particular period; or (b) while certain circumstances exist; or (c) while a certain condition is complied with. <p>In such a case, the instrument of accreditation is to specify the period, circumstances or condition.</p>	<p>Not applicable.</p> <p>The instrument of accreditation is not time dependent, does not include any special circumstances, and does not contain conditions.</p>
<p>(7) The Minister must, in writing, revoke an accreditation if he or she is satisfied that a condition of the accreditation has been contravened.</p>	<p>Not applicable.</p>

Part 13A

Section 303BA Objects of Part 13A				
<p>(1) The objects of this Part are as follows:</p> <ul style="list-style-type: none"> (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. 				
	Meets	Partially meets	Does not meet	Comment
Section 303DC Minister may amend list (non CITES species)				
<p>(1) The Minister may amend the LENS by:</p> <ul style="list-style-type: none"> (a) doing any of the following: <ul style="list-style-type: none"> (i) including items in the list; 	<p>The Department recommends that specimens that are or are derived from fish or invertebrates, taken in the Victorian Abalone Fishery as defined in the management regime in force under the <i>Fisheries Act 1995</i> (VIC) and the Fisheries Regulations 2009 (VIC), but not including</p>			

<ul style="list-style-type: none"> (ii) deleting items from the list; (iii) imposing a condition or restriction to which the inclusion of a specimen in the list is subject; (iv) varying or revoking a condition or restriction to which the inclusion of a specimen in the list is subject. 	<ul style="list-style-type: none"> • specimens that belong to eligible listed threatened species, as defined under section 303BC of the EPBC Act, or • specimens that belong to taxa listed under section 303CA of the EPBC Act (Australia's CITES list) <p>be included in the list of exempt native specimens until 28 August 2026.</p>
(1A) In deciding to amend LENS, Minister must rely primarily on outcomes of Part 10, Div. 1 or 2 assessment.	<p>Not applicable.</p> <p>The fishery is managed under Victorian legislation and operates within state waters. Therefore, no assessment has been carried out under Part 10 of the EPBC Act.</p>
(1C) The above does not limit matters that may be considered when deciding to amend LENS.	<p>Meets.</p> <p>The fishery is consistent with the Objects of Part 13A.</p>
<p>(3) Before amending LENS, Minister must consult:</p> <ul style="list-style-type: none"> (a) other Minister or Ministers as appropriate; and (b) other Minister or Ministers of each State and self-governing Territory as appropriate; and (c) other persons and organisations as appropriate. 	<p>Partially meets.</p> <p>General consultation with the Victorian Minister for Fisheries in October 2014 (MS14-002367).</p>

Part 16

	Meets	Partially meets	Does not meet	Comment
Section 391 Minister must consider precautionary principle in making decisions				
<ul style="list-style-type: none"> (1) Minister must take account of precautionary principle (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 	<p>Meets.</p> <p>Yes, precautionary performance triggers are articulated in management plan.</p>			

where there are threats of serious or irreversible environmental damage.