



Australian Government

Department of the Environment, Water, Heritage and the Arts

Assessment of the
The South Australian Abalone Fishery

June, 2009

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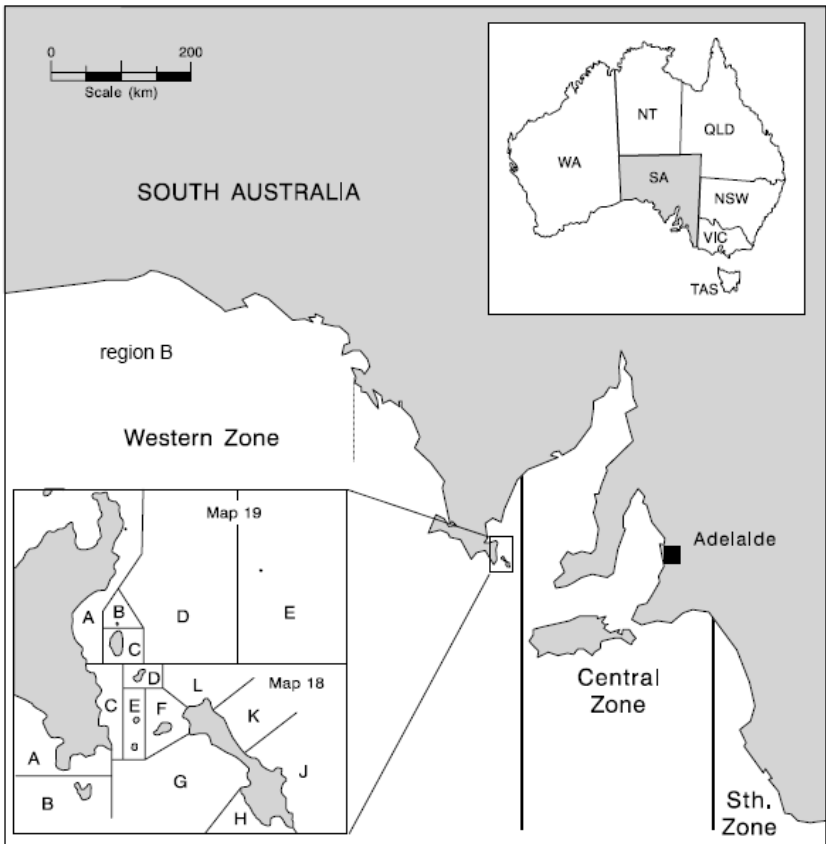
Disclaimer

This document is an assessment carried out by the Department of the Environment, Water, Heritage and the Arts 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, Heritage and the Arts 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, Heritage and the Arts or the Australian Government.

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Table 1: Summary of the South Australian Abalone Fishery

<p>Publicly available information relevant to the fishery</p>	<ul style="list-style-type: none"> • <i>Ecological Assessment of the South Australian Abalone Fishery – Reassessment Report, March 2009</i> (the Submission) • <i>South Australian Wild Fisheries Information and Statistics Report</i> (2009) • <i>Towards optimising the spatial scale of abalone fishery management</i> (Mayfield, S. & Saunders, T.M., - 2008). • <i>Economic Indicators for the South Australian Abalone Fisheries 2007/2008</i> • <i>Fisheries Management Act 2007</i> (South Australia) and new EPBC Act decisions - November 2007 • <i>SA Fisheries Management (General) Regulations 2007</i> • <i>SA Fisheries Management Act 2007</i> • <i>SA Fisheries Management (Abalone Fisheries) Regulations 2006</i> • <i>SA Fisheries Management (Fish Processor) Regulations 2006</i> • <i>SA Abalone Management Plan 2004</i> • <i>Department of the Environment and Heritage assessment report - 2004</i> • <i>Agency submission on ecological sustainability - 2003</i>
<p>Area</p>	<p>In South Australian (SA) waters, the state Government has management jurisdiction for abalone from the low water mark out to three nautical miles. The SA Government also has jurisdiction from three nautical miles out to the edge of the Australian Fishing Zone (200 nautical miles) under an Offshore Constitutional Settlement (OCS) agreement between the South Australian and Commonwealth governments.</p> <p>The fishery is separated into three management zones (See Figure 1, taken from SA Abalone Management Plan):</p> <p>Southern – includes all coastal waters of SA east of Meridian 139°E, with the exception of the Coorong and waters inside the Murray River mouth. The zone is sub-divided into ‘fish down’ areas (FDA) which means a reduction in average age and size of a stock that is being fished for the first time; non-fish down areas (non-FDA) and four fish-down areas. Within these FDAs, “stunted” (110-124.9 mm SL) abalone can be legally harvested (Mayfield and Saunders 2008).</p> <p>Central - the Central Zone of the SA Abalone Fishery includes all coastal waters between the Meridians 136°30'E and 139°E. Although Cowell is found within the boundaries of the Central Zone, this area of ~25 km² is managed separately.</p> <p>Western Zones - includes all coastal waters between the Western Australian/South Australian border and Meridian 136°30'E. The latter is sub-divided into Region A (Meridian 133°50.8'E to 136°30'E) and</p>

	<p>Region B.</p>  <p>Figure 1: The three management zones for the South Australian abalone fishery together with an example from the Western Zone showing the fine scale at which catch and effort data from the fishery are collected. [Region B in the Western Zone means those waters north and west of a line drawn due south of Pt. Brown (Lat. 32°32.6'S, Long. 133° 50.8'E)]</p>
Fishery status	Not overfished
Target Species	<p>Blacklip abalone <i>Haliotis rubra</i> and Greenlip abalone <i>Haliotis laevigata</i>.</p> <p>Three other species of abalone can be taken, including <i>Haliotis cyclobates</i>, <i>Haliotis scalaris</i> and <i>Haliotis roei</i>, however, these are seldom landed by the fishery as they rarely reach the legal minimum size limit of 130 mm SL.</p> <p>(Information on the biology of these species can be found in the 2003 submission located on the DEWHA website).</p>
Byproduct Species	There is no byproduct due to the harvesting-by-hand collection method used in the fishery.
Gear	Abalone is harvested by hand in this fishery.
Season	All year.
Commercial harvest	<p>889 tonnes for 2007/2008</p> <p>(Also see report - <i>Economic Indicators for the South Australian Abalone Fisheries 2007/2008</i> for total catch and gross value of production data)</p>

Value of commercial harvest	<p>The total revenue generated by this fishery for 2007-08 was AUS \$31 million for 2007/2008</p> <p>(Also see report - <i>Economic Indicators for the South Australian Abalone Fisheries 2007/2008 for total catch and gross value of production data</i>)</p>
Take by other sectors	<p><u>Recreational</u></p> <p>Managed through a combination of output controls that aim to ensure the total recreational catch is maintained within sustainable limits and that access to the fishery and fishing opportunities are equitably distributed between participants.</p> <p>In the new management plan recreational and commercial catch will be capped at a percentage of the total state-wide abalone catch.</p> <p><u>Illegal</u></p> <p>No figure available in regard to abalone illegally removed from the fishery each year.</p> <p>Methods to quantify illegal catch levels, and its biological and economic impact, have been identified as a strategy in the current management plan and strategic research plan, and will continue in the new management plan due to be completed by the end of 2009.</p> <p>(see the Submission for further details).</p>
Commercial licences issued	<p>Western Zone (WZ)- 23 licences</p> <p>Central Zone (CZ) – 6 licences</p> <p>Southern Zone (SZ) – 6 licences</p>
Management arrangements	<ul style="list-style-type: none"> The SA Abalone fishery is managed under the <i>SA Abalone Management Plan 2004</i>, <i>SA Fisheries Management Act 2007</i> and <i>SA Fisheries Management (Abalone Fisheries) Regulations 2006</i> and includes various management measures such as individual transferable quota (ITQ) for each license, total allowable commercial catch (TACC), and minimum legal length.
Export	<p>The fishery provides approximately 20% of the national wild abalone production. More than 95% of the annual catch of SA abalone is exported to South East Asia.</p>

Bycatch	Due to the hand collection harvesting method, the only bycatch for the SA Abalone Fishery is limited to the species found on the shell of the abalone, being polychaetes, algae, bivalves and gastropods.
Interaction with Protected Species¹	<p>Interaction with protected species is minimal due to the hand harvesting collection method used in the fishery.</p> <p>The impact of the SA Abalone Fishery on Threatened, Endangered and Protected species (TEPS) is being assessed during the Ecological Risk Assessment (ERA) process on non-retained species and is expected to be of low risk.</p> <p>(Refer to the Submission for further information).</p>
Ecosystem Impacts	Impacts to the general ecosystem are being assessed through the ERA process (see the Submission) and will be addressed in the new management plan scheduled for public comment in mid-2009 and to be completed by the end of 2009.
Impacts on CITES-listed	No specimens listed under the Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) are permitted to be harvested in the fishery. Therefore no assessment of the SA Abalone Fishery impact on specimens listed under CITES has been conducted.

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

Table 2: Progress in implementation of recommendations made in initial assessment of the SA Abalone Fishery

Recommendation	Progress	Recommended Action
<p>Recommendation 1:</p> <p>Department of Primary Industries and Resources South Australia (PIRSA) Fisheries to consult with other fishery agencies on the development and implementation of appropriate biological parameters and reference points for abalone harvesting, and pursue with these agencies a national process for developing, adopting and reviewing these indicators, and for periodically reviewing abalone stock assessment processes.</p>	<p>PIRSA has advised a National workshop was held in September 2007 to develop agreed Research and Development (R&D).</p> <p>PIRSA expects this to result in the implementation of a national performance based harvest management system for abalone fisheries.</p>	<p>The Department of the Environment, Water, Heritage and the Arts (DEWHA) considers that this recommendation has been partially met. A recommendation will remain in force, in an amended form, for a further three years under the new export declaration for the SA Abalone Fishery, seeking PIRSA to continue pursuit of the development and implementation of biological parameters.</p> <p>(Recommendation 5, Table 4).</p>
<p>Recommendation 2:</p> <p>PIRSA to inform Department of Environment and Heritage (DEH) of any future amendments to the Management Plan for the South Australian Abalone Fishery or managerial commitments made in the submission.</p>	<p>PIRSA will provide DEWHA annual reports to highlight changes in management relevant to the assessed fisheries.</p>	<p>DEWHA considers that this recommendation has been partially met, however, as this issue is ongoing, a recommendation will remain in force, in an amended form, for a further three years under the new export declaration for the SA Abalone Fishery.</p> <p>(Recommendation 2, Table 4).</p>

<p>Recommendation 3:</p> <p>PIRSA to ensure that the new stock assessment model be developed by the end of 2005 and be used as part of the stock assessment process from 2006.</p>	<p>PIRSA has indicated there were significant deficiencies found in the new stock assessment model. PIRSA intends to revise this model with the intention of incorporating it in the new management plan.</p>	<p>DEWHA considers that this recommendation has been partially met.</p> <p>DEWHA commends PIRSA on the development of the new stock assessment model, however, based on the deficiencies PIRSA stated were uncovered by the review of the new model, such as lack of performance evaluation tools, DEWHA expects the revised stock assessment model with the current deficiencies resolved, to be included in the new management plan in 2009</p> <p>Therefore DEWHA expects that this recommendation will be completed in the finalisation of the new management plan.</p> <p>(Recommendation 4, Table 4)</p>
<p>Recommendation 4:</p> <p>PIRSA, within 12 months, to more accurately quantify the extent of recreational, indigenous and illegal catch, and to take account of all removals, including aquaculture broodstock, in the stock assessment process and the determination of the annual TACC.</p>	<p>PIRSA has advised that all available estimates are being taken into account by South Australian Research and Development Institute (SARDI) during the stock assessments.</p> <p>It has also been advised that the special operations group - PIRSA Fisheries Compliance - conduct several operations per year targeting organised illegal activity based on intelligence reports.</p> <p>PIRSA is currently undertaking the recreational fishing survey,</p>	<p>DEWHA considers that this recommendation has been partially met.</p> <p>DEWHA commends PIRSA's completion of a state-wide recreational fishing survey in August 2007 and notes that the results are currently being analysed. However, given that the results of the 2007 recreational survey are expected in a final report in mid 2009, the accuracy of indigenous catch figures needs to be improved and the estimates of illegal catch are considered high, but are yet unquantified, DEWHA considers this recommendation is ongoing and should be addressed during the next three years</p> <p>A recommendation will therefore remain in force, in an amended form, for a further three years under the new export declaration for the SA Abalone Fishery, seeking PIRSA to continue to more accurately quantify the extent of recreational, indigenous and illegal catch.</p>

	which will be included in the fishery stock status.	(Recommendation 6, Table 4).
<p>Recommendation 5:</p> <p>PIRSA, within 2 years, to develop and implement enhanced fishery independent research and monitoring programs for Greenlip and Blacklip abalone in the Central and Western Zones, representative of species distribution and catch across these zones of the fishery, to improve the understanding of the stock status in these zones and support the development of more refined stock assessments and models.</p>	<p>SARDI is continuing to implement independent Blacklip surveys in CZ & WZ and has ongoing monitoring programs for Greenlip abalone and independent surveys in CZ & WZ.</p> <p>PIRSA has advised that tests were carried out in June 2007, in Waterloo Bay through Fishery independent survey methods, involving the estimation of changes in abundance in Blacklip abalone before and after fishing. Also evaluated, was catch and effort data and biological information.</p> <p>PIRSA advised the data collected would allow the evaluation of the development of new performance indicators for the fishery.</p>	<p>DEWHA considers that this recommendation has been met, DEWHA reiterates the importance of fishery independent information and urges PIRSA to continue enhancing independent research and monitoring programmes for both Greenlip and Blacklip abalone.</p>
<p>Recommendation 6:</p> <p>PIRSA within two years to further develop biological sampling programs, representative of species distribution and catch</p>	<p>PIRSA has advised that SARDI is collecting biological information on both abalone species within all zones of the fishery.</p> <p>SARDI completed the Fisheries</p>	<p>DEWHA considers that this recommendation has been partially met.</p> <p>DEWHA commends PIRSA for the completion of the project - <i>Towards optimising the spatial scale of abalone fishery management</i> (Mayfield & Saunders 2008). PIRSA states that a principle outcome of the project was the identification of a 'morphometric marker' (for discriminating among</p>

across all zones of the fishery, to provide the necessary data to inform the range of biological performance measures in the management plan for the South Australian Abalone Fishery and support the development of more refined assessment models.	<p>Research and Development Corporation (FRDC) project ‘2004/019: <i>Towards optimising the spatial scale of abalone fishery management</i>’ which involved:</p> <ul style="list-style-type: none"> - developing tool estimate key life-history parameters of, Blacklip abalone (<i>Haliotis rubra</i> (‘Blacklip stocks’); and - identifying potential Management Units (MUs) and their associated life-history characteristics - outlining initial framework, for MU implementation. <p>(see Submission for further details)</p>	<p>Blacklip stocks and predicting biological characteristics).</p> <p>As PIRSA considers this an appropriate tool which could be applied at any spatial scale for the identification of Management Units (MUs) and management of Blacklip stocks, DEWHA recommends that the new management plan incorporates the findings of the project and that PIRSA develops finer scale assessment and management arrangements within the new plan.</p> <p>Therefore DEWHA expects that this recommendation will be completed in the finalisation of the new management plan.</p> <p>(Recommendation 4, Table 4)</p>
<p>Recommendation 7:</p> <p>PIRSA to investigate and establish, over the next 3 years, appropriate decision rules or strategies, relevant to the regional or area scale management as required, to prevent serial depletion of Blacklip and Greenlip abalone stocks in all</p>	<p>PIRSA advised the following:</p> <ul style="list-style-type: none"> - national workshop held September 2007 to develop an agreed R & D program, which is expected to result in the implementation of a national performance based harvest management system for abalone 	<p>DEWHA considers that this recommendation has been partially met.</p> <p>PIRSA states that data suggests some of the current decision rules may not be conservative enough to ensure the long-term sustainability of the resource (eg; Greenlip in Cowell), highlighting the need for all decision rules to be reviewed when finalising the new management plan.</p> <p>PIRSA also states the new management plan will include the development (and ongoing refinement) of various harvest strategies, stock limits and targets for Greenlip and Blacklip abalone, an annual review of</p>

zones of the fishery.	<p>fisheries; and</p> <ul style="list-style-type: none"> - voluntary measures introduced to limit catches at finer spatial scales within all three zones. <p>The newly established Abalone Management SA Ltd Abalone Management South Australia Limited (AMSA) to begin preparation of a new Management Plan under the new Act, a key component of which is to review the performance indicators and develop harvest strategies (incl. decision rules) for different spatial scales.</p>	<p>performance indicators.</p> <p>As the development of such decision rules and strategies to prevent serial depletion were recommended in the 2004 assessment and as the progress has been ongoing, DEWHA expects the above strategies to be finalised and included in the new management plan in 2009.</p> <p>Therefore DEWHA expects that this recommendation will be completed in the finalisation of the new management plan.</p> <p>(Recommendation 4, Table 4)</p>
<p>Recommendation 8:</p> <p>PIRSA to continue to work with other jurisdictions to develop effective strategies and response measures to quantify and reduce the extent of illegal take of abalone in SA.</p>	<p>PIRSA has confirmed following:</p> <ul style="list-style-type: none"> - that higher penalties for illegal activity have been implemented under the new Act; - provisions to implement National Docketing System (NDS) have been included in the Fisheries Act 2007; and 	<p>DEWHA considers that this recommendation has been partially met.</p> <p>DEWHA commends the PIRSA Fisheries Compliance team's ongoing monitoring of organised illegal activity.</p> <p>PIRSA has stated in the 2009 submission that PIRSA Compliance will continue to quantify illegal catch levels, taking into account the biological and economic impact and participating in national forums to address organised illegal activity in Australian abalone fisheries.</p> <p>In addition, PIRSA states that higher penalties for illegal activity and provisions to implement a National Docketing System (NDS) are in place</p>

	<ul style="list-style-type: none"> - the PIRSA Fisheries Compliance group conduct several operations per year to target organised illegal activity, to deter illegal fishing. 	<p>under the (new) <i>Fisheries Management Act 2007</i>.</p> <p>Based on this ongoing issue, DEWHA expects PIRSA to continue the monitoring of illegal take and continue to work with other jurisdictions to develop and implement strategies, to further quantify and reduce the extent of illegal take, such as the implementation of a NDS.</p> <p>A recommendation will therefore remain in force, in an amended form, for a further three years under the new export declaration for the SA Abalone Fishery, seeking PIRSA continue to work with other jurisdictions to develop and implement effective strategies and response measures to illegal take of abalone in SA.</p> <p>(Recommendation 7, Table 4).</p>
<p>Recommendation 9:</p> <p>PIRSA to develop within 18 months recovery strategies that can be applied to areas assessed as below key reference points or levels for stock abundance and recruitment. The recovery strategies should include preliminary recovery targets and monitoring arrangements, appropriate to the scale of fishing in the area, and associated timeframes</p>	<p>PIRSA has advised that:</p> <ul style="list-style-type: none"> - SARDI Aquatic Sciences undertakes regular stock assessments on Greenlip and Blacklip abalone across all three Zones providing evaluation against key performance indicators and reference points in the management plan; and - in response to the indicators, several strategies are available to 	<p>DEWHA considers that this recommendation has been partially met.</p> <p>DEWHA commend the undertaking of regular stock assessments across all fishing zones and the availability of several strategies to facilitate stock recovery.</p> <p>However, in the last SA Abalone fishery assessment, PIRSA were to develop recovery strategies that can be applied to areas assessed as below key reference points , or levels for stock abundance and recruitment and to include preliminary recovery targets and monitoring arrangements, appropriate to the scale of fishing in the area and associated timeframes.</p> <p>PIRSA has stated in the submission that the new management plan will place emphasis on a harvest strategy establishing biological performance indicators and an annual review of the performance indicators and decision rules for the fishery,</p>

	<p>facilitate stock recovery including: precautionary TACC reductions; regional catch limits; entire fishing area closures; and an increase in minimum length limits.</p> <p>PIRSA also states that the new management plan will:</p> <ul style="list-style-type: none"> - place emphasis on a harvest strategy establishing biological performance indicators containing target and limit reference points and TACC decision rules, to ensure a specific response in terms of TACC increases or reductions; and - in regard to prevention of serial depletion, AMSA in conjunction with the Fisheries Council, will undertake an annual review of the performance indicators and decision rules for the fishery. 	<p>Therefore DEWHA expects that this recommendation will be completed in the finalisation of the new management plan.</p> <p>(continued by Recommendation 4, Table 4).</p>
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<p>Recommendation 10:</p> <p>PIRSA, within 12 months, to develop options for the recording and reporting of protected species interactions in the fishery.</p>	<p>PIRSA has stated that a wildlife interactions log book has been implemented to all SA Fisheries.</p>	<p>DEWHA considers that this recommendation has been met. DEWHA urges PIRSA to continue to ensure that the logbook be maintained daily by SA Abalone fishery and other SA commercial fisheries.</p>
<p>Recommendation 11:</p> <p>PIRSA to give priority to developing environmental indicators that can be reported against in future Stock Assessment Reports.</p>	<p>An Ecological Risk assessment (ERA) is currently underway as part of the development of the management plan, in accordance with the '<i>National Ecological Sustainable Development Reporting Framework for Australian Fisheries</i>' to identify the environmental impacts of abalone fishing.</p> <p>PIRSA also states that a proposal to FRDC, to fund a project investigating the ecological impacts of abalone (and rock lobster) fishing, with the aim of determining the indirect effects of fishing on temperate reef ecosystems and to develop appropriate ecosystem-based performance indicators, was not successful.</p>	<p>DEWHA considers that this recommendation has been partially met.</p> <p>PIRSA states that an ERA is currently underway as part of the development of the management plan, in accordance with the '<i>National Ecological Sustainable Development Reporting Framework for Australian Fisheries</i>' to identify the environmental impacts of abalone fishing.</p> <p>PIRSA also states that their proposal to the Fisheries Research and Development Corporation (FRDC), to fund a project investigating the ecological impacts of abalone (and rock lobster) fishing, with the aim of determining the indirect effects of fishing on temperate reef ecosystems and to develop appropriate ecosystem-based performance indicators, was not successful.</p> <p>DEWHA urges DPI to continue to pursue the development of environmental indicators and at a minimum incorporate management responses to the ERA findings within the new management plan.</p> <p>(continued by Recommendation 4, Table 4).</p>

Table 3: The Department of the Environment, Water, Heritage and the Arts (DEWHA) assessment of the South Australian Abalone Fishery against the requirements of the Environment Protection and Biodiversity Conservation Act 1999 (EPBC Act) related to decisions made under Parts 13 and 13A

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

Part 13

Division 1 Listed threatened species Section 208A Minister may accredit plans or regimes	DEWHA assessment of the SA Abalone Fishery
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy 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; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the survival or recovery in nature of the species.</p>	<p>The SA Abalone Fishery will be managed under the <i>Fisheries Management (Abalone Fisheries) Regulations 2006</i> in force under the <i>Fisheries Management Act 2007</i> (South Australia).</p> <p>The Management regime for the SA Abalone Fishery was accredited in November 2007. The management arrangements for the SA Abalone Fishery have not significantly changed since this accreditation was granted. As such, the fishery will be reaccredited under Part 13.</p> <p>Currently, evidence suggests that within the SA Abalone Fishery there is minimal possibility of interactions with listed threatened species. Therefore, DEWHA considers the current operation of the SA Abalone Fishery is not likely to adversely affect the survival or recovery in nature of any listed threatened species. As such, the SA Abalone Fishery will be reaccredited under Part 13 of the EPBC Act.</p>

Division 2 Migratory species Section 222A Minister may accredit plans or regimes	DEWHA assessment of the SA Abalone Fishery
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed migratory species are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed migratory species or a population of that species.</p>	<p>The SA Abalone Fishery will be managed under the <i>Fisheries Management (Abalone Fisheries) Regulations 2006</i> in force under the <i>Fisheries Management Act 2007</i> (South Australia).</p> <p>The Management regime for the SA Abalone was accredited in November 2007. The management arrangements for the SA Abalone Fishery have not significantly changed since this accreditation was granted. As such, the fishery will be reaccredited under Part 13.</p> <p>Currently, evidence suggests that within the SA Abalone Fishery there is minimal possibility of interactions with migratory species. Therefore, DEWHA considers the current operation of the SA Abalone Fishery is not likely to adversely affect the survival or recovery in nature of any migratory species. As such, the SA Abalone Fishery will be reaccredited under Part 13 of the EPBC Act.</p>

Division 3 Whales and other cetaceans Section 245 Minister may accredit plans or regimes	DEWHA assessment of the SA Abalone Fishery
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that cetaceans are not killed or injured as a result of the fishing; and</p> <p>g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a species of cetacean or a population of that species.</p>	<p>The SA Abalone Fishery will be managed under the <i>Fisheries Management (Abalone Fisheries) Regulations 2006</i> in force under the <i>Fisheries Management Act 2007</i> (South Australia).</p> <p>The Management regime for the SA Abalone Fishery was accredited in November 2007. The management arrangements for the SA Abalone Fishery have not significantly changed since this accreditation was granted. As such, the fishery will be reaccredited under Part 13.</p> <p>Currently, evidence suggests that within the SA Abalone Fishery there is minimal possibility of interactions with whales and other cetaceans. Therefore, DEWHA considers the current operation of the SA Abalone Fishery is not likely to adversely affect the survival or recovery in nature of any whales and other cetaceans. As such, the SA Abalone Fishery will be reaccredited under Part 13 of the EPBC Act.</p>

Division 4 Listed marine species Section 265 Minister may accredit plans or regimes	DEWHA assessment of the SA Abalone Fishery
<p>(1) Minister may, by instrument in writing, accredit for the purposes of this Division:</p> <p>(c) a plan of management, or a policy, regime or any other arrangement, for a fishery that is:</p> <ul style="list-style-type: none"> i. made by a State or self-governing Territory; and ii. in force under a law of the State or self-governing Territory; <p>if satisfied that:</p> <p>(f) the plan, regime or policy requires persons engaged in fishing under the plan, regime or policy to take all reasonable steps to ensure that members of listed marine species are not killed or injured as a result of the fishing; and</p> <p>(g) the fishery to which the plan, regime or policy relates does not, or is not likely to, adversely affect the conservation status of a listed marine species or a population of that species.</p>	<p>The SA Abalone Fishery will be managed under the <i>Fisheries Management (Abalone Fisheries) Regulations 2006</i> in force under the <i>Fisheries Management Act 2007</i> (South Australia).</p> <p>The Management regime for the SA Abalone Fishery was accredited in November 2007. The management arrangements for the SA Abalone Fishery have not significantly changed since this accreditation was granted. As such, the fishery will be reaccredited under Part 13.</p> <p>Currently, evidence suggests that within the SA Abalone Fishery there is minimal possibility of interactions with migratory species. Therefore, DEWHA considers the current operation of the SA Abalone Fishery is not likely to adversely affect the survival or recovery in nature of any migratory species. As such, the SA Abalone Fishery will be reaccredited under Part 13 of the EPBC Act..</p>

Part 13A

Section 303DC Minister may amend list	DEWHA assessment of the SA Abalone Fishery
<p>(1) Minister may, by instrument published in the Gazette, amend the list referred to in section 303DB (list of exempt native specimens) by:</p> <ul style="list-style-type: none"> (a) including items in the list; (b) deleting items from the list; or (c) imposing a condition or restriction to which the inclusion of a specimen in the list is subject; or (d) varying of revoking a condition or restriction to which the inclusion of a specimen in the list is subject; or (e) correcting an inaccuracy or updating the name of a species. 	
<p>(3) Before amending the list referred to in section 303DB (list of exempt native specimens), the Minister:</p> <ul style="list-style-type: none"> (a) must consult such other Minister or Ministers as the Minister considers appropriate; and (b) must consult such other Minister or Ministers of each State and self-governing Territory as the Minister considers appropriate; and (c) may consult such other persons and organisations as the Minister considers appropriate. 	<p>DEWHA considers that the consultation requirements have been met. The public comment period on the PIRSA submission sought comment on the annual submission for the SA Abalone Fishery and provided sufficient opportunity for consultation with other persons and organisations.</p> <p>A letter to the Hon Paul Caica MP advises him of the intention to declare the fishery exempt from the export provisions of the EPBC Act.</p>
<p>(5) A copy of an instrument made under section 303DC is to be made available for inspection on the Internet.</p>	<p>The instrument for the SA Abalone Fishery made under sections 303DC has been gazetted and made available on the DEWHA website.</p>

Part 16

Section 391 Minister must consider precautionary principle in making decisions	DEWHA assessment of the SA Abalone Fishery
(1) The Minister must take account of the precautionary principle in making a decision under section 303DC and/or section 303FN, to the extent he or she can do so consistently with the other provisions of this Act.	<i>The precautionary principle has been considered when making a decision to include specimens on the List of Exempt Native Specimens</i>
(2) The precautionary principle is that lack of full scientific certainty should not be used as a reason for postponing a measure to prevent degradation of the environment where there are threats of serious or irreversible environmental damage.	

Objects of Part 13A

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

Final recommendations to PIRSA for the SA Abalone Fishery

The material submitted by PIRSA indicates that the SA Abalone Fishery operates in accordance with the Australian Government *Guidelines for the Ecologically Sustainable Management of Fisheries 2nd Edition*. DEWHA considers that the fishery is well managed and unlikely to have an unacceptable or unsustainable impact on the environment in the short to medium term. Overall, DEWHA recognises that: total allowable commercial catch (TACC) managed through an individual transferable quota (ITQ) system; highly selective harvesting method; minimum legal length for each species; and limited entry; are conservative and suggest that the fishery is being managed in an ecologically sustainable way.

DEWHA acknowledges that PIRSA is currently in the process of reviewing and preparing a new management plan for the SA Abalone Fishery, which is anticipated to be finalised and implemented by the end of 2009. DEWHA acknowledges that the finalisation of a number of recommendations from the last EPBC Act assessment are tied to this process.

Notwithstanding this, overall DEWHA considers that the range of management measures are sufficient to ensure that the fishery is conducted in a manner that does not lead to overfishing and that stocks are not currently overfished. Taking into account the TACC and use of ITQs; minimum legal length for each species; area zonation; and limited entry; DEWHA considers that fishing operations are managed to minimise their impact on the structure, productivity, function and biological diversity of the ecosystem.

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

DEWHA considers that the operation of the fishery does not, or is not likely to, adversely affect the survival in nature of a listed threatened species or population of that species, or the conservation status of a listed migratory species, cetacean or listed marine species or a population of any of those species. DEWHA also considers that under the management plan operators are required to take all reasonable steps to avoid the killing or injuring of protected species, and the level of interaction under current fishing operations is low.

For these reasons, the management regime as defined under the regulations in force under the *SA Fisheries Management Act 2007*, was accredited under Part 13 of the EPBC Act in November 2007. Since there have been no significant changes to the management arrangements since the last assessment of the fishery and the level of reported interactions with protected species in the fishery remains very low, DEWHA considers that the fishery should be reaccredited under Part 13.

Recommendations are provided below with a brief explanation of the related issue/intent. Unless a specific time frame is provided in the recommendation each recommendation must be addressed within the life of the declaration (three years).

Table 4: SA Abalone Fishery Assessment– Summary of Issues, Conditions and Recommendations June 2009

	Issue	Recommendation
1	<p><u>General Management</u></p> <p>Export decisions relate to the arrangements in force at the time of the decision. In order to ensure that these decisions remain valid and export approval continues uninterrupted, DEWHA 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 by-product, bycatch, protected species or the ecosystem.</p> <p>Key components of the management regime include, but are not limited to, the 2004 <i>Management Plan for the South Australian Abalone Fishery</i>, the <i>SA Fisheries Management (Abalone Fisheries) Regulations 2006</i>, the <i>SA Fisheries Management (General) Regulations 2007</i> and the <i>SA Fisheries Management (Fish Processor) Regulations 2006</i>.</p>	<p>Recommendation 1:</p> <p>Operation of the fishery will be carried out in accordance with the management arrangements for the SA Abalone Fishery in force under the <i>SA Fisheries Management Act 2007</i>.</p> <p>Recommendation 2:</p> <p>PIRSA to inform the DEWHA of any intended amendments to the SA Abalone Fishery's management arrangements that may affect the assessment of the fishery against the criteria on which EPBC Act decisions are based.</p> <p>(Generic recommendations)</p>
2	<p><u>Annual Reporting</u></p> <p>Reports must be produced and presented to DEWHA annually in order for the performance of the fishery and progress in implementing the conditions and recommendations in this report and other managerial commitments to be monitored and assessed throughout the life of the declaration. Annual reports are to be provided prior to the anniversary of the export declaration.</p> <p>Annual reports should follow Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i> (the Guidelines) 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 protected species, impacts of the fishery on the ecosystem in which it operates and progress in implementing DEWHA conditions and recommendations.</p>	<p>Recommendation 3:</p> <p>PIRSA to produce and present reports to DEWHA annually as per Appendix B to the <i>Guidelines for the Ecologically Sustainable Management of Fisheries - 2nd Edition</i>.</p> <p>(Generic recommendation)</p>

	Electronic copies of the Guidelines are available from the DEWHA website at http://www.environment.gov.au/coasts/fisheries/publications/guidelines.html	
3	<p><u>New Management Plan:</u></p> <p>DEWHA understands that development of a new management plan for the fishery is currently underway and that it will be available for public comment in mid 2009 with finalisation and implementation due by the end of 2009.</p> <p>Progress against several recommendations from the 2004 EPBC Act assessment is still ongoing as they are closely linked with the completion of this plan. As such, DEWHA expects that the following will be included in the new management plan:</p> <ul style="list-style-type: none"> • revised new stock assessment model; • improved biological sampling programme; • implementation of serial depletion reduction measures; • harvest strategies with appropriate decision rules, target and limit reference points and TACC decision rules; • environmental indicators for future stock assessment reports; and • outcomes of the ERA. <p>Stock assessment model</p> <p>Recommendation 4 from the 2004 EPBC Act assessment was for PIRSA to pursue the development of a new version of the stock assessment model. In the 2009 submission, PIRSA indicated that subsequent reviews of the new model revealed ‘several major deficiencies’ including: (1) a lack of performance evaluation tools; (2) model coding errors; (3) and the spatial scales at which the model was applied. Therefore the model was removed from the process. DEWHA notes that PIRSA intends to implement a corrected version of this model in the 2009/2010 stock assessments for Greenlip abalone stock of Tiparra Reef.</p>	<p>Recommendation 4:</p> <p>PIRSA to finalise and implement the new management plan.</p>

	<p>Acknowledging the deficiencies with the stock assessment model DEWHA notes that the 2009 submission indicates that:</p> <ul style="list-style-type: none"> • limited data or data inconsistencies within the Southern Zone are hindering PIRSA's ability to confirm the inference of declining stocks; • Central Zone stocks appear to be weakening; • Data inconsistencies have hindered PIRSA's ability to confirm the inference of strong stocks within Zone A of the Western Zone; • Greenlip stocks appear to have declined in Region B (Western Zone) based on decreases in catch, Catch per unit Effort (CPUE) and the mean size of commercial catch; and • Blacklip stocks within Region B (Western Zone) appear to be stable or increasing, although rapid changes in the key biological indicators between 2005-2006 suggest that continuation of these patterns may not be sustainable and warrant monitoring. <p>Based on the data indications above and the deficiencies uncovered by the review of the new model, DEWHA expects the revised stock assessment model, with the current deficiencies resolved, to be included in the new management plan in 2009, in order to put in place appropriate management responses to ensure long term sustainability of the stocks.</p> <p>Biological sampling program</p> <p>The 2004 EPBC Act assessment (Recommendation 6) recommended that PIRSA further develop biological sampling programs, representative of species distribution and catch across all zones of the fishery.</p> <p>PIRSA states in the 2009 submission that SARDI recently completed the FRDC project '2004/019: <i>Towards optimising the spatial scale of abalone fishery management</i>' (Mayfield & Saunders 2008) in the Southern Zone and that this facilitated a reduction in the spatial scale assessment and management of the abalone fishery.</p>	
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<p>A principle outcome of the project was the identification of a ‘morphometric marker’ (for discriminating among Blacklip stocks, predicting biological characteristics). PIRSA considered this an appropriate tool, which could be applied at any spatial scale, for the identification of MUs and management of Blacklip stocks.</p> <p>DEWHA therefore recommends that the new management plan incorporates the findings of the project and that PIRSA develops finer scale assessment and management arrangements within the new plan.</p> <p>Additionally DEWHA expects that PIRSA will continue to refine biological sampling mechanisms in the future in order to further refine assessment and management arrangements to an appropriate spatial scale.</p> <p>Prevention of localised serial depletion</p> <p>The 2004 EPBC Act assessment, (Recommendation 7) recommended PIRSA develop appropriate decision rules or strategies, relevant to the regional or area scale management as required, to prevent localised serial depletion of Blacklip and Greenlip abalone stocks in all zones of the fishery.</p> <p>PIRSA has stated that data suggests that some of the current decision rules may not be conservative enough to ensure the long-term sustainability of the resource (eg; Greenlip in Cowell), highlighting the need for all decision rules to be reviewed when finalising the new management plan.</p> <p>In the submission, PIRSA states that, as part of the development of the new management plan, PIRSA will:</p> <ul style="list-style-type: none"> - develop harvest strategies specifically aimed at the prevention of localised serial depletion of abalone stocks in all zones by establishing reference points, decision rules and recovery strategies at appropriate spatial scales; - in conjunction with AMSA and the Fisheries Council, discuss and set stock limits and targets for Greenlip and Blacklip Abalone; - incorporate annual review of the performance indicators for the fishery; and 	
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	<ul style="list-style-type: none"> - ensure ongoing refinement of the above, during the life of the new management plan, particularly in regard to outcomes of the FRDC project. <p>As the development of such decision rules and strategies to prevent serial depletion were recommended in the 2004 assessment and as the progress has been ongoing, DEWHA expects the above strategies to be finalised and included in the new management plan in 2009.</p> <p>Recovery Strategies</p> <p>The 2004 EPBC Act assessment (Recommendation 9), recommended PIRSA develop recovery strategies that can be applied to areas assessed as below key reference points or levels for stock abundance and recruitment. The recovery strategies should include preliminary recovery targets and monitoring arrangements, appropriate to the scale of fishing in the area, and associated timeframes.</p> <p>PIRSA has advised that:</p> <ul style="list-style-type: none"> - SARDI Aquatic Sciences undertakes regular stock assessments on Greenlip and Blacklip abalone across all three Zones providing evaluation against key performance indicators and reference points in the management plan; - in response to the indicators, several strategies are available to facilitate stock recovery including: precautionary TACC reductions; regional catch limits; entire fishing area closures; and an increase in minimum length limits. <p>PIRSA also states that the new management plan will:</p> <ul style="list-style-type: none"> - place emphasis on a harvest strategy establishing biological performance indicators containing target and limit reference points and TACC decision rules, to ensure a specific response in terms of TACC increases or reductions; and - in regard to prevention of serial depletion, AMSA in conjunction with the Fisheries Council, will undertake an annual review of the performance indicators and decision rules for the fishery. 	
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	<p>DEWHA strongly supports the inclusion of harvest strategies and clear processes to avoid serial depletion within the new management plan.</p> <p>Environmental Indicators The 2004 EPBC Act assessment (Recommendation 11), recommended PIRSA give priority to developing environmental indicators that can be reported against in future Stock Assessment Reports.</p> <p>DEWHA understands PIRSA's proposal to FRDC, to fund a project investigating the ecological impacts of abalone (and rock lobster) fishing, with the aim of determining the indirect effects of fishing on temperate reef ecosystems and to develop appropriate ecosystem-based performance indicators, was not successful. DEWHA urges PIRSA to continue to pursue funding for this project in order to develop environmental indicators.</p> <p>PIRSA also states that an ERA is currently underway as part of the development of the management plan, in accordance with the '<i>National Ecological Sustainable Development Reporting Framework for Australian Fisheries</i>' to identify the environmental impacts of abalone fishing. The risk of disturbance to substrate or interactions with other species is expected to be minimal.</p>	
4	<p><u>Biological parameters:</u> DEWHA commends PIRSA on discussions and involvement in the national workshop (funded by FRDC) in 2007, to develop an agreed research and development program with the aim of implementation of a national performance based harvest management system for abalone fisheries.</p> <p>DEWHA notes that one of the outcomes of the workshop was to specifically develop and implement appropriate biological parameters and reference points that can be used nationally to harvest abalone. DEWHA also understand that PIRSA and SARDI will take part in the FRDC project <i>Management Strategy Evaluation</i> which will focus on SA and Tasmania and is scheduled to commence in July 2009. DEWHA looks forward to seeing the outcomes of this project.</p>	<p>Recommendation 5:</p> <p>PIRSA to continue to consult with other fishery agencies on the development and implementation of appropriate biological parameters and reference points for abalone harvesting, and pursue a national process for developing, adopting and reviewing these indicators, and for periodically reviewing the stock assessment processes.</p>

	DEWHA recommends PIRSA continues to pursue the development of the research and development program as stated in Recommendation 1 of the 2004 assessment, and include a periodic review process.	
5	<p><u>Recreational, Indigenous and Illegal Fishing:</u></p> <p>DEWHA commends PIRSA's completion of a state-wide recreational fishing survey in August 2007 and notes that the results are currently being analysed, with the final report expected in mid 2009. DEWHA expects PIRSA to incorporate outcomes from the final report into the future management arrangements of the fishery, as appropriate.</p> <p>DEWHA notes that PIRSA is currently involved in negotiations with Native Title claim groups in SA, in regard to ILUAs and that funding for a monitoring program for indigenous catch is currently being considered. DEWHA encourages PIRSA to continue to pursue implementation of such a monitoring program as inclusion of this data will aid in improving stock assessment models.</p> <p>DEWHA understands there is a reasonably high level of illegal abalone fishing occurring in South Australia, with an estimated 3.4 tonnes (meat weight) of catch in the Western Zone of the fishery. This figure is likely to be an underestimate of illegal take, taking into account likely catch that is not reported to PIRSA Fisheries Compliance team.</p> <p>Given that the results of the 2007 recreational survey are expected in a final report in mid 2009, the accuracy of indigenous catch figures needs to be improved and the estimates of illegal catch are considered high, but are yet unquantified, DEWHA considers this recommendation is ongoing and should be addressed during the next three years.</p>	<p>Recommendation 6:</p> <p>PIRSA, in conjunction with the finalisation of the new management plan, to continue to implement strategies to:</p> <ul style="list-style-type: none"> • more accurately quantify the extent of recreational, indigenous and illegal catch; and • take account of all removals, including for aquaculture broodstock, in the stock assessment process and the determination of the annual TAC.
6	<p><u>Reduction Strategies for Illegal Take:</u></p> <p>DEWHA commends the PIRSA Fisheries Compliance team's ongoing monitoring of organised illegal activity, which is carried out each year based on intelligence reports.</p>	<p>Recommendation 7:</p> <p>PIRSA to continue to work with other jurisdictions to develop and implement</p>

	<p>PIRSA has stated in the 2009 submission that PIRSA Compliance will continue to quantify illegal catch levels, taking into account the biological and economic impact, participating in national forums to address organised illegal activity in Australian abalone fisheries.</p> <p>In addition, in order to assist in reducing the illegal take of abalone in SA, higher penalties for illegal activity and provisions to implement a NDS are in place under the (new) <i>Fisheries Management Act 2007</i>.</p> <p>DEWHA expects PIRSA to continue the ongoing monitoring of illegal take and continue to work with other jurisdictions, to develop and implement strategies to further quantify and reduce the extent of illegal take, such as the implementation of a NDS.</p>	<p>effective strategies and response measures to quantify and reduce the extent of illegal take of abalone in South Australia.</p>
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References:

Knight, M.A. & Tsohos, A. (2009). South Australian Wild Fisheries Information and Statistics Report. Report to PIRSA Fisheries. SARDI Aquatic Sciences, Publication No. F2008/000804-1. SARDI Research Report Series No. 305. 70pp

Acronyms

AMSA	Abalone Management South Australia Limited
CITES	Convention on International Trade in Endangered Species of Wild Fauna and Flora
DEWHA	Department of Environment, Water, Heritage and the Arts
EPBC Act	<i>Environment Protection and Biodiversity Conservation Act 1999</i>
ERA	Ecological Risk Assessment
FRDC	Fisheries Research and Development Corporation
ILUA	Indigenous Land Use Agreements
MSE	<i>Management Strategy Evaluation</i>
NDS	National Docketing System
PIRSA	Department of Primary Industries and Resources South Australia
SARDI	South Australian Research and Development Institute
TAAC	Total Allowable Commercial Catch
WTO	Wildlife Trade Organisation