

**SPECIAL ABALONE RECOVERY GROUP  
FINAL REPORT**

**SUBMITTED TO THE MINISTER FOR PRIMARY INDUSTRIES IN  
FEBRUARY 2008**

This report has been prepared by the Special Abalone Recovery Group during the period August 2007 to January 2008.

The views within the report are those of the group members. The recommendations have been agreed unanimously.

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## ***Executive Summary***

At the onset of its deliberations, the Special Abalone Recovery Group, (SARG) established a position for responding to the Terms of Reference set by the Minister in that it would respond to the specific shorter-term operational issues, based on advice from experts and others. For future management issues, the SARG would not provide detailed recovery proposals, but has limited its advice to higher-level framework directions, expecting Industry and DPI to develop more detailed operational and scientific actions.

The major threats to the sustainability of the NSW abalone fishery and its economic viability have all been well identified in previous investigations, strategies, reports, numerous Industry advisings and representations over the past 6 years. The issues are not new. In fact during the SARG's deliberations, most advice tendered was a reiteration of those past concerns. Most of these various pieces of history, and the information provided to the SARG in recent months, show that many of this fishery's problems stem from a major decline in abundance of abalone in recent years, and a consequential decline in the Total Allowable Commercial Catch (TACC). That is, when an output-control fishery is experiencing healthy times (as was the case for this fishery in the past and is currently the case for the NSW lobster fishery), attitudes and relationships between Industry and management, research and compliance have less problems.

The SARG considers that the earlier consultancies' other issues, which pointed out attitudinal problems of Industry and government and levels of "intransigence", mostly have not been effectively addressed<sup>1</sup> even though recognised by all concerned. The relationship between all sectors involved must be improved. The relationships do not have to be close but have to be effective and professional. Solving relationship issues will require a more positive, planned and collaborative approach, without which other management initiatives aimed at recovery objectives for the abalone fishery will take longer to be realised, if at all.

The SARG holds the view that the key requirement is to move forward with a new momentum. Therefore, initiatives to progress recovery of the fishery should require policy decisions now, which will give some immediate short-term relief but also establish a framework, on which to build future recovery around a sustainability objective, which is, obviously, the aim of both the NSW Department of Primary Industries (DPI) and the abalone Industry.

As far as recovery of the fishery is concerned, in the SARG's opinion, there are decisions to be made at two levels.

The first is to address the management of the spatial structure of the abalone stock in terms of stock assessments and catch determinations. (see Terms of Reference). This will require a number of modifications relating to:

- Performance measures used in stock assessments and continued improvement of those assessments;
- Allow access to Regions 1 and 2 under a scientifically-based program of structured fishing for the rest of 2007/08 and 2008/09, after which a decision on commercial fishing will be made; and
- Introduction of a variable legal "minimum size limit" based on scientific justification to apply throughout the fishery, starting across regions at selected locations from March 2008 and eventually moving to zonal management.

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<sup>1</sup> DPI management has attempted mediation and consultation.

The second focus of our recommendations concerns future management and the introduction and application of a "Finer Scale Management" policy. Such an approach is accepted within most other jurisdictions in Australia and was a recommendation in the "NSW Abalone Fishery Management Strategy" in 2007.

The DPI in late 2007 advised the Commonwealth government of the potential commencement of finer scale management within 18 months for this fishery. The SARG's recommends that the initiation of the policy should be brought forward to early in 2008, because the "Finer Scale Management" policy will take some time to bed down and allow for it to be introduced in stages with a transitional period of up to two to three years. The FRDC FSM project<sup>2</sup> offers an excellent opportunity to progress FSM implementation in NSW. This will require continued engagement of industry, greater involvement of DPI and action on the recommendations outlined in this report.

Any new policy has to have an achievable framework, built on agreed principles, with clear goals and objectives. The 2007 Abalone Fishery Management Strategy has good goals and objectives, but a set of essential over-arching principles and benchmarks are not clearly enunciated.

- A primary task for initiation of a finer scale management policy will be to achieve eventual agreement between the Industry (as a formal Corporate Entity) and DPI on such management principles. A target of March 2008 should be set for an interim agreement through the Abalone Management Advisory Committee (AbMAC).
- Modern technology and its operation that is necessary for FSM is available but it may take several months to organise purchase and then initiate training which should occur as soon as possible.

Because of the need to move forward as early as possible on the introduction and application of finer scale management, the SARG recommends its initiation be achieved through the use of a "permit" system rather than by regulation. This is counter to Industry's position but is preferred by the SARG as its implementation can be achieved over a shorter time frame. Consideration might be given to providing a regulatory umbrella at a later time.

Another area in which the SARG's approach does not align with Industry's is a recommendation to parallel FSM based operations with a structured independent scientific survey until there is confidence in the outcomes of FSM based operations and assessment. DPI advocates that approach and also is strongly supported by external scientists, as the outcomes from the survey will provide a "verification" tool for the quality and accuracy of data collected under the largely industry-run FSM protocols. The SARG would suggest such "verification" requirements are clearly stated in any Ministerial announcement, even though such a "doubling up" of assessment process will be costly.

The SARG concludes the recovery of the abalone fishery will be enhanced if momentum is achieved from day one and then maintained through a transitional period. Accordingly, it is the SARG's favoured approach for the Department to create a temporary position of an Abalone Recovery Manager, and fill it with a senior person to drive the delivery of finer scale management over the next 2 to 3 years. The SARG also recommends the Department appoint an Implementation Team as soon as possible to assist the Abalone Recovery Manager in development and submission of a detailed policy framework and operational protocols. The team would comprise of officers from DPI (a manager and a scientist) and representatives from Industry.

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<sup>2</sup> This national project attempts to support Industry in the introduction of FSM approaches across all abalone fisheries in Australia. A number of workshops have been held in NSW, however, the results have yet to be transferred into changes to management.

The SARG considers the success of any new initiatives will depend on funding. In the initial Ministerial advice in establishing the SARG, it was indicated that some government funding might be provided and additional funding from Industry may also be forthcoming. Given the current financial status of the abalone industry, the degree to which it can fund the costs of moving to an improved FSM-based data collection and management system, in the SARG's view is severely limited.

The SARG recommends that 'seed' funds be provided by both government and Industry for initiation and application of finer scale management, including the need for a parallel stock assessment process during the necessary 2 to 3 year transition period. The funds would be directed to the above position, the Implementation Team, the introduction of new technology for data collection equipment and training and a revised FSM-based stock assessment for the NSW abalone fishery, over the 2 year fiscal period, from 2007/08 to 2008/09. The recommendation proposes these funds be provided in addition to the current cost sharing arrangements and be based on Industry and government contributing similar amounts. Without appropriate Government financial assistance to underpin the suggested regime shift to FSM management (possibly under a revised cost-recovery framework), the recommendations of this report are unlikely to occur. The policy framework submission will need to identify an estimate of the costs and cost sharing levels.

In its deliberations, it needs to be pointed out that the SARG has focused most of its attention on higher-level processes to advance the recovery of this fishery. However, during its deliberations, it has examined many lower level issues to assure itself that the arrangements being proposed are achievable.

In summary, the success in recovering this fishery will be measured by the level of increase in stocks and health of abalone, and a return to profitability within industry. To achieve these outcomes: government and Industry need to exercise good leadership and the proper application of good science; additional funding to introduce new initiatives; rationalisation of operations within the fishery; improved management practices including FSM; attitudinal changes and commitments by DPI and Industry at all levels; and a revised cost-recovery policy. It will be important for DPI to work collaboratively with Industry and others in responding to SARG's recommendations within the target dates recommended.

The SARG thanks the Minister for the opportunity to provide input to these decisions and we re-iterate the need to commence all the recommended actions as soon as practicable.

Following Ministerial considerations and clear directions on such recommendations, the SARG recommends referral of this report to the AbMAC to assist in implementation of the recommendations.

## ***Foreword***

The management focus for any natural resource is how to deal with and where possible balance the risk levels of the objectives of ecological sustainability and commercial financial viability within a structured management framework.

The best practice approach applied in modern management of natural resources, is to address identified risks, and includes the following key criteria:

- Clearly define and agree on management principles and objectives;
- Formally assign powers, accountabilities, rights and identify obligations of the key participants;
- Recognise the legitimacy of participants' rights within an agreed regulatory management framework;
- Develop a management framework using a risk/cost trade-off<sup>3</sup> to ensure investments in management, including research, are appropriate.
- Have recognised experts provide good science based on rigorous data to assist decision makers;
- Operate under a collaborative ethic, with transparency, professionalism and coordination;
- Apply independent overviews in key policy and decision areas; and
- Follow agreed guidelines to manage activities in a financially responsible and equitable manner.

As a natural resource with certain unique characteristics, the NSW abalone fishery should be managed under such a framework, with policies in place to ensure that each criterion is applied successfully in order to achieve both sustainability of the fishery and the commercial operators' financial viability.

## ***Acknowledgements***

The SARG would like to acknowledge the assistance provided by the DPI in terms of facilities, expert inputs from all AbMAC members; Dr Keith Sainsbury of the Total Allowable Catch Committee, Peter Turnell, Anthony Hurst, Dianna Watkins, Dr Geoff Liggins, Dr Doug Ferrell, Darryl Sullings and Nathan McNamara of DPI; Dr Duncan Worthington; and a number of other experts and those DPI staff and the Industry and community representatives who attended to a Workshop at Merimbula on 26 September, 2007.

Ms Jackie Gerard, Senior Fisheries Management Officer, NSW DPI Wild Harvest Fisheries, provided excellent support services for all SARG members throughout the SARG operations.

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<sup>3</sup> Simply put, relatively low TACCs provide less risk and will restore and maintain populations to higher and safer (in terms of over fishing/disease) levels, which in turn requires less monitoring, research and less frequent stock assessments, resulting in lower costs. The converse is true.

## SARG REPORT

This report has an Executive Summary, Foreword, Acknowledgements and seven chapters:

Chapter 1	Terms of Reference
Chapter 2	Summarises the approach applied by the SARG and the actions undertaken
Chapter 3	SARG's conclusions and recommendations on Term of Reference 1
Chapter 4	SARG's conclusions and recommendations on Term of Reference 2
Chapter 5	SARG's conclusions and recommendations on Term of Reference 3
Chapter 6	Outlines a potential implementation path to deliver the SARG's recommendations
Chapter 7	Summary of the recommendations
Appendices	A. Suggested accountabilities for implementation B. Areas of Agreement; Disagreement; Non-negotiable; and Requiring attention but with no specific SARG recommendation C. References D. Acronyms

## **Chapter 1    Terms of Reference**

The Minister for Primary Industries, the Hon Ian Macdonald, MLC, established a Special Abalone Recovery Group (SARG) in mid 2007 to assist in decisions on both short-term and future directions for management of the NSW abalone fishery through the following three Terms of Reference:

- 1     (a)     “The Special Abalone Group is to recommend any necessary improvements with regard to retaining the 1994 biomass target or adopting a specified alternative.”  
  
       (b)     “The Special Abalone Group is to endorse the current methodology for undertaking the stock assessment for the fishery, or whether or not to proceed further in the development of finer scale management of the fishery, including any alternative monitoring and assessment methodologies and Industry involvement.”
- 2     “The Special Abalone Group is to endorse the current minimum legal size limit for abalone or adopting a specified alternative limit(s).”
- 3     “The Special Abalone Group is to specify any other priority actions to rebuild and maintain the sustainability of the abalone fishery into the future, having regard to the objectives of the *Fisheries Management Act 1994* and the matters identified in the TAC Committee’s report, the approved Fishery Management Strategy and the export approval issued by the Commonwealth Government.”

## **Chapter 2 SARG'S Approach**

SARG was asked by the Minister to respond to its Terms of Reference by late November 2007. The SARG had expected all outcomes of the 2007 independent survey to be available before that date to enable the Group to base its conclusions on the latest science and expert advice. Unfortunately, conclusion of the survey did not match the planned timetable due to bad weather, so results from the Region 1 survey did not become available. SARG delayed its findings to await results and in his response the Minister agreed to extend the date of the SARG's report submission.

### **2.1 SARG'S MEMBERSHIP**

The SARG membership is:

Warren Martin	Independent Chair
Ian Cartwright	Chair, Total Allowable Catch Committee (TAC Committee)
Gary Warren	Industry/AbMAC
John Smythe	Industry
Steve Kennelly	Chief Scientist-DPI

### **2.2 SARG'S ACTIONS**

At the onset of its deliberations, there was agreement by SARG members that it would respond to the specific, scientifically oriented, shorter-term operational issues in its Terms of Reference, based on advice from experts and others. For future management issues, SARG has not attempted to provide detailed recovery proposals but has limited its advice to higher-level directions. For broader scale policy framework, the SARG's expectation is that the Industry and DPI will develop the more detailed operational actions. This is reflected in the SARG recommendations.

The processes applied by SARG leading to the submission of the recommendations to address the three Terms of Reference were:

- Seven meetings of SARG;
- A focussed Workshop in Merimbula with a broad cross-section of representatives from the abalone industry;
- Meetings with individual experts within DPI and Industry and attendance at a special focus group of scientists on actions directed to the recovery of the fishery;
- Receipt of specific submissions; and
- Examination of past reports presented on this fishery and SARG Discussion Papers.

From the advice drawn from the above process, SARG assembled a list of the key issues, analysed these for potential impacts on the recovery of the fishery and then drew conclusions as to possible actions, some short-term, some long-term and with varied priorities. These conclusions became the basis for the recommendations.

### **2.3 DETAILS OF SARG MEETINGS AND WORKSHOP**

The SARG held seven (7) meetings during the period August 2007 to January 2008. The SARG's objectives were to obtain:

- Clear and agreed directions from Industry and DPI to enable SARG to respond to the Minister on SARG's three Terms of Reference; and
- a better understanding of the processes to be applied to shorter-term issues and to a longer-term management approach.

A Workshop was held on 26 September 2007 in Merimbula.

The key outcome from the Workshop was a consolidation of attitudes on:

- Independent surveys and structured fishing;
- Policies for the closure of and access to fisheries;
- Timeframes for future actions and commitments to targets;
- Finer Scale Management;
- Data management issues, technology, intellectual property, etc;
- Size limits;
- Role of AbMAC and Industry bodies over recent times;
- Coordination between Industry and DPI managers and scientists;
- Structural adjustment, diver entitlements and numbers of fishers; and
- Compliance issues – theft, penalties and resources in compliance.

## **2.4 THE DRIVERS FOR CHANGE**

The majority view of experts and operators is that this fishery is currently exhibiting historically very low stocks levels<sup>4</sup>, which convert to low TACCs, low catches, and therefore declining revenue and profitability and increasing Industry “uncertainty”. This has occurred over recent times due to:

- Poor natural recruitment; over-fishing; loss of reefs; reduced habitat quality; disease; and illegal fishing;
- Uncertainty in stock assessments and predictions. The current state-wide and regional assessments and catch controls do not adequately match the spatial structure and dynamics of resource’s availability or productivity; and
- Commercial operators’ dependence each year on abalone that have grown beyond the MSL in that year.

During SARG’s deliberations, much of the discussion focused on the concerns of current policies and what alternatives were available to improve management practices. The issues confronting the SARG were not devising new concepts for stock assessment as much of the advice tendered to the SARG had crossed tables before and are entrenched in the Abalone Fishery Management Strategy. The challenge was to determine how could a new system be initiated and integrated with the current system’s needs and then implemented. This required the SARG to look at successes as well as constraints currently existing, and then identify actions to redress problem areas. The key outcome is a suggested new policy framework on which implementation can be structured.

## **2.5 SARG’S APPROACH IN RESPONDING TO THE TERMS OF REFERENCE**

The SARG’s efforts in responding to the Terms of Reference were to examine the adequacy of current measures and possible alternatives for the future. These examinations covered both institutional and operational objectives and issues.

### **INSTITUTIONAL OBJECTIVES**

- To identify and assess the adequacy of the current institutional mechanisms involved in stock assessment and catch determinations;

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<sup>4</sup> Not all involved in the fishery agree to the current condition of the fishery with some being optimistic, whilst others, which were the majority, were more pessimistic and concerned.

- To assess their relevance under modern management approaches and trends being experienced in the fishery and similar fisheries in other jurisdictions;
- To examine the data limitations which currently exist in the stock assessments and TACC determinations; and
- To provide a policy framework for future management of the abalone fishery.

### **INSTITUTIONAL ISSUES**

- The current independent mechanism applied in TACC determinations;
- The implication of change on governance directions;
- The degree of 'maturity' in the management of the fishery, including the current status of the relationship between Industry and government;
- The drivers of institutional/administrative management within current policies;
- Impacts of financial matters relating to the recovery of the fishery;
- Externalities impacting on the fishery such as illegal fishing/pollution; and
- Processes to implement a Finer Scale Management policy, including alternatives strategies.

### **OPERATIONAL OBJECTIVES**

- To assess how past practices influenced the current situation;
- To identify concerns on the current stock assessment and catch determinations;
- To assess the relevancy of modern technology in this fishery's management; and
- To indicate directions for the 2008/09 stock assessment and TACC determination.

### **OPERATIONAL ISSUES**

- Benchmark indices and limits applied in TACC determinations;
- Minimum size limits;
- Introduction of data management technology; and
- Reporting arrangements.

## **2.6 IMPLEMENTATION OF THE SARG RECOMMENDATIONS**

There is a section within this report at Chapter 7 which outlines a framework for implementing the recommendations. The SARG prepared the advice in that Chapter, not as firm actions, but to enable implementation inertia to be developed from the good advice given to it. DPI and the Industry will need to agree on the implementation timeframes.

## **Chapter 3    Response to Term of Reference 1**

1 (a) "The Special Abalone Group is to recommend any necessary improvements with regard to retaining the 1994 biomass target or adopting a specified alternative."

1 (b) "The Special Abalone Group is to endorse the current methodology for undertaking the stock assessment for the fishery, or whether or not to proceed further in the development of finer scale management of the fishery, including any alternative monitoring and assessment methodologies and Industry involvement."

### **3.1 STOCK ASSESSMENT, TACC DETERMINATIONS AND PERFORMANCE MEASURES**

#### **CONCERNS EXPRESSED BY INDUSTRY AND DPI ON CURRENT PRACTICES**

There have been many concerns expressed by Industry, fishery managers and scientists on the current processes used for stock assessment and TAC setting. Their views are disparate and in the SARG's opinion have centred on:

Differences in risk levels considered acceptable by DPI and Industry under the "precautionary principle" – the latter being driven primarily by shareholders' financial viability and market considerations;

A 'hands off' approach by managers towards FSM as they see development of FSM an initiative and responsibility of Industry;

The relatively coarse and aggregated spatial scale of the regions used in the both the data and the assessments creates uncertainty as to the true status of the resource ;

The degree to which the fishery independent survey is representative of the population, and its cost;

Reluctance to implement new management arrangements that lead to increased regulations, administration and compliance costs;

The desire to give Industry a choice between: (1) a minimal assessment, which could infer a lower TACC, or (2) continuation of the current method in which the reliability of the processes applied in data collection and interpretation are often questioned;

The reliability of assessment interpretations, including issues relating to sources of positive bias in the assessments and the adequacy of the model; and

The capacity of shareholders under a declining TACC to continue to pay the current level of annual costs, as compared to the fishery's commercial value.

#### **PRIMARY CONCLUSIONS ON CURRENT STOCK ASSESSMENTS AND TACC DETERMINATIONS**

The SARG's deliberations into current stock assessments and TACC determinations led to the following conclusions.

The principle of having an independent process in setting the TACC level aligns well with current practices being introduced across other natural resources. The current arrangement of using an independent TAC Committee to determine the annual level of the Total Allowable Commercial Catch is appropriate but there are some issues concerning the timing of announcements and use of reference points, which need addressing.

There needs to be regular revisions to the input parameters used for TACC determinations, and actions are needed on the biomass benchmark to address identified biases and to introduce a new statistical index to reflect changes in recruitment over time.

The minimum size policy should be revised to reduce reliance on abalone that have just recruited to the fishery and to better reflect spatial variations in growth of abalone across regions. This will result in healthier abalone populations and enable better spatial distribution of effort and harvest practices. Policies to increase the minimum legal size from 115mm should be based on adequate scientific justification, bearing in mind the need to consider and to apply the precautionary principle.

The current stock assessment policies and practices applying across the NSW abalone fishery should be replaced by "Finer Scale Management" (FSM) policies. Initiation of the "Finer Scale Management" policies should occur immediately with implementation staged over a 2 to 3 year period.

No significant gains from FSM outputs will be available for the 2008/09 determinations of the TAC Committee, so the continuation of current management practices in 2008/09 is therefore necessary. It is expected that, subject to progress with FSM, some gains will be available for consideration in the setting of the 2009/10 TACC.

Given the current financial status of the abalone industry, the degree to which it can fund the costs of moving to an improved FSM-based data collection and management system is severely limited. Without appropriate Government financial assistance to underpin the suggested regime shift to FSM management (possibly under a revised cost-recovery framework), the recommendations of this report are unlikely to occur.

There are a number of priority issues, which may assist the recovery of the fishery from commercial and resource management viewpoints. These include DPI and Industry addressing: (1) access to Regions 1 and 2 under a structured fishing programme; (2) illegal fishing implications; (3) proactive actions to restore relationships. (4) a cost recovery framework; (5) an Industry corporate entity which is required in moving to finer scale management; and (6) the implications of the Commonwealth government's policies.

An implementation programme for Finer Scale Management needs attention and some guidance is provided to establish early inertia and momentum through a transition period.

## DEFINITIONS OF PARAMETERS

It became apparent during SARG's deliberations with various participants and at the Merimbula Workshop, that there is neither a wide nor common understanding of the significance of each of the performance measures applied in determining the TACC. Definitions of each of the performance measures applied in determining the TACC is required. The suggested definitions of the key indices, based on advice from TAC Committee's experts, are:

Performance measure	A measure of where an indicator is relative to a reference point.
Limit reference point	A point <sup>5</sup> beyond which the state of a fishery/resource is not considered desirable and, wherever possible, a specified action should be taken before reaching it.
Target reference point	The level of fishing and/or resource condition, which is considered to be desirable and at which management action (e.g., stock rebuilding) should aim.

Despite decisions being made by the TAC Committee based on precautionary stock assessments to give a high probability of achieving sustainability benchmarks, recent history is one of reducing abundance of abalone and deteriorating stock condition. The SARG understands that one of the reasons for this involves a positive bias in earlier assessments

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<sup>5</sup> Limit reference points are directly associated with the sustainability of the resource, and represent a point where the risk to the stock is unacceptably high.

but, despite this bias being identified and corrected, there is no guarantee or evidence to support the possibility that all sources of bias in the assessment have been identified and removed. Agreeing and using appropriate benchmarks and reference points will remain an essential element of management for this fishery. Performance against reference points will be measured using a mix of information generated from sources including DPI initiated surveys, industry surveys, and catch and effort data. Anecdotal industry based information will also be considered.

As finer scale management approaches are developed, more performance indicators and reference points will become necessary and it is thus important for NSW to actively continue to support the national research programme into developing further performance indicators and reference points for abalone fisheries, as the benefits from such research will be important for the longer-term sustainability and commercial viability of the NSW fishery.

### **CRITERIA APPLIED IN THE USE OF THE CURRENT INDICES**

The Department's fishery managers, scientists and the TAC Committee's experts indicated to SARG that the following criteria are fundamental givens in using the stock assessment to estimate the current and projected future status of the fishery: (1) quality control to achieve an acceptable degree of confidence; (2) indices used in the TACC determinations should not produce a bias towards possible over-harvesting; and (3) decisions at a time of low stock levels, such as now, must take account of the "precautionary principle", as required under the *Fisheries Management Act 1994*.

### **REVIEW OF THE INDICES**

Given past comments by the TAC Committee, DPI fishery managers and industry, it was hoped that the 2007 Fisheries Management Strategy would consider and make detailed recommendations revised performance indicators and reference points for the fishery. The Strategy makes only very limited recommendations in this regard.

Assessments are only as good as the data available<sup>6</sup> and the adequacy of the indicators used to compare behavioural trends are not adequate for this fishery. Therefore, appropriate reference points, both limit and target, and indicators should be established as a priority. TACCs should reflect a high degree of certainty that the limit reference points will not be triggered.

### **TAC COMMITTEE'S QUESTIONING ON THE ADEQUACY OF PARAMETERS**

The TAC Committee, in its deliberations on sustainability of the abalone stock, has questioned for some time:

The continuing use of the 1994 biomass of mature and exploitable abalone as a benchmark because over-fishing occurred in the early 1990's under the current interpretations of recruitment;

The acceptance of long-term fixed target reference points for stock rebuilding in this fishery, which is characterised by great variability in recruitment, which impacts on the resource and economic status of the fishery;

A lack of actions to address the sources of positive bias in the TACC assessments and why current triggers have remained virtually unchanged<sup>7</sup> from values specified in the 2000 Abalone Share Management Plan-Fisheries Management Regulation; and

The lack of agreed protocols for the interpretation of stock assessment indices.

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<sup>6</sup> The period of record used for determination of the indices in the NSW Abalone fishery is not long (only 20 years) and the data quality and availability early in that period is not good.

<sup>7</sup> They are currently under review in development of a new Management Plan for the fishery. Finalisation of that review should be a target for early 2008.

## **SARG'S CONCLUSIONS ON INDICATORS**

The SARG concluded that:

A new indicator should be introduced to reflect the proportion of catch consisting of abalone which has recruited to the fishery in the last year.

Rather than apply the 1994 index as currently used, the TAC Committee recommends applying a biomass index for exploitable mature abalone based on a level in the vicinity of 1984. The SARG has not attempted to define this benchmark any further, leaving that to the scientists with expertise in that field.<sup>8</sup>

New indicators and reference points should be established to maintain stocks in particular locations, which are less vulnerable to weak recruitment and disease and have a potential for more constant catch rates. Conversely, such indicators should also be capable of protecting stocks in locations that are vulnerable to weak recruitment and disease.

## **RECOMMENDATIONS ON PERFORMANCE INDICES**

- 1.1 Until FSM approaches are sufficiently developed and the outcomes are acceptable, continue and improve the current stock assessment, including:
- (1) Development and application of a more conservative biomass reference point for exploitable mature abalone, such as the mid 1980s biomass;
  - (2) Calculation of a new indicator, the fraction of the catch in each year that has grown across the size limit and has recruited to the fishable population in that year; and
  - (3) New target reference points should be established to maintain stocks in particular locations which exhibit less vulnerability to periods of weak recruitment and freedom from disease outbreaks driven by environmental stress and therefore have the potential for more constant catch rates over time at levels which promote an economically viable industry.
  - (4) Such indicators should also be capable of protecting stocks in locations that are vulnerable to weak recruitment and disease.

## **INDEPENDENCY IN TACC SETTINGS**

The principle of having independence in fishery management in setting the TACC aligns well with current practices across other natural resources areas. Decisions are based on the best scientific and management information with less potential for political or administrative bias.

The SARG'S conclusions on the current independent management model are that there should be no change to that mechanism, with an independent committee (the TAC Committee) determining the annual level of the Total Allowable Commercial Catch (TACC).

There are several administrative actions, however, which may improve service delivery. These include the coordination of the timing of TACC determinations and AbMAC meetings, and ensuring continuance of the public release of a formal report on the TAC Committee's deliberations and decisions.

## **RECOMMENDATION ON INDEPENDENCY IN TACC SETTING**

- 1.2 (a) The annual Total Allowable Commercial Catch (TACC) to continue to be determined by the independent TAC Committee, as prescribed under statute.

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<sup>8</sup> DPI indicated that it would prefer a biomass index for exploitable mature abalone based on a level in the vicinity of 1986.

## 3.2 TACC DETERMINATIONS

### TOTAL ALLOWABLE COMMERCIAL CATCH 2007/08

In its determination of the TACC for the period 01 July 2007 to 30 June 2008, the Committee set a limit of 110 tonnes, on the basis of:

Region 1	No commercial catch, but for south of Port Stephens, 3 tonnes available for a survey.  No commercial catch, but for north of Port Stephens, 5 tonnes available for a survey
Region 2	No commercial catch
Regions 3 and 4	No more than 40 tonnes
Regions 5 and 6	No more than 70 tonnes

### 2008/09 STOCK ASSESSMENT APPROACH

The effectiveness of the current policy framework is constrained by variation in views on fundamental objectives and the policies applied. It is evident, whilst the Industry and DPI agree on an objective of sustainability, there are different views on the operational and administrative principles and objectives for the management of the abalone fishery. Any action to address recovery of the fishery, involving transition from current management to one that is more representative of modern practices, must be based on both the DPI's and the Industry's agreement to new principles and objectives for future management.

Because of this, and the views expressed in the 2007/08 TACC report and determination, SARG considers that it is extremely unlikely any significant gains from FSM will be available for consideration by the TACC Committee in making its 2008/09 and possibly 2009/10 determinations. Continuing current management practices in 2008/09, and possibly 2009/10, is therefore necessary.

### RECOMMENDATION ON CURRENT STOCK ASSESSMENT MEASURES

1.2 (b) Retention of the current stock assessment process for 2008/09 and possibly 2009/10 for setting the TACC, as modified under Recommendation 1.1.
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## 3.3 FINER SCALE MANAGEMENT

This is one of the major decisions on which the SARG believes the recovery of this abalone fishery has to be built. The SARG is using an interpretation of the term "Finer Scale Management", to encompass all activities (institutional, administrative, financial and managerial) for developing and implementing the necessary arrangements.

While Finer Scale Management (FSM) has also been advocated by the TACC Committee, Industry and fishery managers, there is a need for Industry and DPI to develop a clear vision for FSM of abalone in NSW, as it was apparent in the SARG deliberations that there is currently neither a common understanding of what FSM involves, nor agreement on how this might be implemented.

Finer scale management generally is now accepted as "best practice" in Australian abalone fisheries, most of which have moved or are moving in this direction, although the approaches taken vary between jurisdictions.

## PRINCIPLES AND OBJECTIVES TO APPLY IN FUTURE

One of the SARG's recommendations is the introduction and application of a new policy for the management of the abalone fishery, based on finer scale management principles, goals and objectives. Whilst there is a common message in the FSM on broad longer-term goals and objectives, the articulation of clear management principles is not evident. A set of principles needs to be developed and agreed under a policy framework for FSM, containing clear and transparent policies on access to abalone, catch limits (size and tonnage), management fees, governance and coordination arrangements, within a primary objective of long-term sustainability of the fishery.

## ALTERNATIVE MANAGEMENT MODELS

Three options were identified as possible ways to manage the fishery over the next 2 to 3 years as it moves to Finer Scale Management:

- |               |   |
|---------------|---|
| Status Quo    | Continue the current policy of one Minimum Size Limit (MSL) of 115mm and a TACC set annually across the fishery with recommended regional caps, using divers' catch records, fishery independent surveys and models and applying scientists' and managers' inputs..   |
| Alternative 1 | Introduce a harvest control strategy, using varying size limits on a variety of spatial and temporal scales with a TACC set annually across the fishery with strict regional caps and possible zonal caps, to match assessed abundance and condition criteria using industry-based data, fishery independent surveys and modelling for evaluation and validation, with consideration of occasional fish-downs <sup>9</sup> in areas of slower growing abalone. Consideration may also be given to moving abalone from slower growing areas to faster growing areas. Data collection primarily through the use of divers' collections and anecdotal information; and detailed verification using independent surveys of abalone abundance and health for a 2 to 3 year transition period. Data management would apply modern computer technology and protocols across the fishery. |
| Alternative 2 | Alternative 1, with the TACC set annually (or for a longer period), making full use of industry-based surveys and data; occasional independent surveys used primarily for verification and quality assurance; an alternative stock assessment model using FSM approaches and indicators; and catch levels and MSLs applying to individual zones within regions to match assessed abundance and condition criteria.  |

Progression from the status quo to Alternative 2 represents implementation of a Finer Scale Management (FSM) policy with a goal of improving the certainty of data inputs on spatial variance and stock dynamics in many more locations than is the current case. This approach is predicated on (i) a responsible Industry (established as a formal commercial entity) taking on most responsibilities for data collection, and management of fishing effort and minimum sizes; (ii) developing an acceptable level of quality assurance in terms of managing risk; and (iii) finding an acceptable balance of risk, cost and catch.

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<sup>9</sup> A fish-down is most effectively used where a spatially discrete area of a fishery contains a population of slower growing, smaller animals that are sexually mature, but most of which do not reach the minimum size limit set for the fishery or adjacent areas. Provided sustainability criteria are met, a fish-down to remove an agreed proportion of the stock from an area occurs, under a smaller size limit and very strict controls. A fish-down is usually time limited. Fish-downs can be problematic where slow growth areas exist as part of a mosaic of variable growth rates in an area. Fish-downs have been used, apparently successfully, at Mallacoota, where an MSL of 100mm was used to take an agreed amount of quota on specified days, under an arrangement coordinated by the local cooperative.

## **MANAGEMENT OF RISK UNDER FSM**

The Department supports FSM in principle but would require firm evidence that its processes will not add any additional risk to the longer-term sustainability of the resource and fishery, nor add an unacceptable cost or administrative burden, by striking an acceptable balance between voluntary and regulatory approaches.

In SARG's view, given sufficient resources, it is appropriate to parallel the finer scale, Industry-based data collection with targeted independent surveys to provide verification of the FSM data, so as to give Government and the TAC Committee greater confidence in the information used in stock assessment and the catch determinations. The verification practices will need to extend over a 2 to 3 year period. Of course, there will be a significant increase in costs associated with such a "doubling up" of stock assessment methods.

Such verification processes will require significant discussion with Industry under a firm direction that a principle of verification is non-negotiable and will need to address collaborative arrangements for the verification programme and cost sharing.

There also will need to be agreed Quality Assurance provisions to be met in the data collection process. Non-compliance with such provisions might initiate a sanction and repeated non-compliance would have to have more serious consequences.

## **GOVERNANCE CHANGES**

In moving to FSM, the operational management effort needs to be rearranged with Industry taking on greater accountability in many of the day-to-day operational activities. DPI's focus will be more on regulatory, compliance and resource management roles. A clear definition of accountabilities will be essential. The actions would be to delegate well-defined powers, responsibilities, rights and obligations to Industry; and primary accountability for implementation and management of the policy to DPI.

## **TECHNOLOGY ADVANCEMENT**

Application of modern technology for data management, reinforced with appropriate audit and verification processes, is essential as part of an overall move to Finer Scale Management. The SARG understands that the DPI is currently investigating the introduction of new computer technology for application across all fisheries. It will therefore be prudent to ensure:

- any actions being considered for the introduction of technology into the abalone fishery have regard to the DPI's overall data collection and management initiative; but
- the abalone industry should not have to wait for the completion of DPI's investigations. The issue is to make sure any hardware and software proposed for the abalone activities are capable of linkages with other DPI systems.

Experience with other databases indicates that the abalone industry's needs for data archiving are not complex, and every effort should be directed to applying systems available elsewhere through a license application or purchase, and not attempt to design a new system. Industry has advised that there is a system used in Tasmania, or a variation thereof, which could be applied successfully. Data loggers would become compulsory on all divers' boats for data collection and transmittal.

The TAC Committee should be consulted during the development of FSM, particularly with respect to information needs and any necessary actions on modifications of the model and processes used in TACC determinations.

## **TRANSITION PERIOD**

The current policy applying across all regional abalone fisheries in NSW should be replaced by a "Finer Scale Management" policy, implemented in a staged manner over the next 2 to 3 years, under an adaptive management ethic. There will need to be a period of transition between current stock assessment arrangements to a finer scale approach, which will include the 'proving up' of technology and industry-based data collection/management.

## FUNDING THE INTRODUCTION OF FSM

Additional funding for the introduction of a finer scale management system, alternative monitoring and assessment methodologies and industry involvement is seen as essential over the transition period.

Within the SARG's charter, the Minister indicated that potential funds could be available as a tool to initiate actions. In respect of funding, the Group would encourage the Minister to allocate seed money outside the current cost recovery policy for:

- Sufficient funds to co-jointly fund with Industry on a 50/50 ratio (government/Industry) the introduction and application of a new computer-based system, including data loggers for all operators, for data management over the 2 year fiscal period, 2007/08 and 2008/09; and
- Sufficient funds (over the 2-year period, 2008 and 2009) to fund an Implementation Team<sup>10</sup> to progress the implementation of the SARG recommendations.

Future cost-sharing under FSM, without regular independent surveys and a reliance on data provided by Industry for resource management needs, may require adjustment of the above arrangements.

## FSM IMPLEMENTATION

DPI has to decide whether implementation is achievable under permits or best undertaken through regulation. To implement FSM within a short time frame, permits may be more appropriate. If, however, there were to be evidence later that issues arose, which suggest the regulatory approach would be more desirable, it could then be considered.

It is SARG's view that the introduction of a finer scale management approach should occur in this fishery but must be built on a firm foundation in which the principles and objectives are clearly defined and agreed up-front. Table 1 is the SARG's suggestion on an outline of the content of a policy framework. It is not the SARG's task to develop the specific components in such a framework. The Industry and DPI fishery managers and scientists will have to address each component in detail. The TAC Committee also should be involved as this crucial committee sets the most important management restriction in the fishery, as well as making recommendations to the Minister on related matters.

As discussed earlier, FSM is in place or is being introduced in various forms throughout abalone fisheries in Australia. It is strongly recommended that these approaches be carefully assessed in terms of lessons learned when considering the above framework and options for implementation.

The current FRDC FSM project<sup>11</sup> offers an excellent opportunity to progress FSM implementation in NSW. This will require continued engagement of Industry, greater involvement of DPI and action on the recommendations outlined in this report.

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10 Details of the Implementation Team are presented in the section on implementation of the SARG's recommendations.

11 This national project attempts to support Industry in the introduction of FSM approaches across all abalone fisheries in Australia. A number of workshops have been held in NSW, however, the results have yet to be transferred into changes to management.

**TABLE 1 DRAFT FRAMEWORK FOR FINER SCALE MANAGEMENT**

Statutory	Identification and use of appropriate statutes.
Principles/Objectives	Specification of agreed principles and objectives.
Outcomes	Specification of agreed and measurable outcomes.
Tenure	Prescription of the transitional period with a review of outcomes.
Transition	Definition of transition tasks/processes to move to the new model.
Funding	Establishment and cost-sharing principles with seed funding for initial implementation and maintenance.
Equity	Definition of the extent of application to fishers (commercial, indigenous and recreational) with access and harvest rights under prescribed policies.
Spatial coverage	Definition of the policy to all NSW abalone fishery waters from the NSW-Victorian border to the NSW-Queensland border.
Zonal Management	Prescription of the minimum size management unit, in which MSL and catch can be specified with a variable minimum size levels and variable catch rates. In common with other abalone fisheries, consideration to be given to fish-down strategies where appropriate.
Governance	<p>Statutory revision of governance arrangements, if found appropriate, following legal advice, including:</p> <p>Well-defined powers, responsibilities, rights and obligations of participants in the full spectrum of the fishery's management and operation;</p> <p>Primary accountability for implementation and management of the policy rests with DPI, incorporating advice from Industry and appropriate scientists;</p> <p>Appropriate balance between voluntary and regulatory applications;</p> <p>Accountability for the various management and operational functions involved are both singular and joint with a mixed involvement for particular functions, including rights management.</p>
Technology	Introduction/application of electronic systems for data collection and management.
Management Approach	<p>Application of collaborative, adaptive and professional management to reflect the dynamics and spatial characteristics of the fishery, through:</p> <p>Formal coordination mechanisms;</p> <p>Application of good science and modern technology;</p> <p>Parity of risks in decisions on fisheries sustainability and commercial operations;</p> <p>Use of formal protocols and service agreements;</p> <p>Performance reporting, including a review process; and</p> <p>Applications of best practice, comparable with, and built on, those used in other Australian abalone fisheries.</p>

Management Charges

Application of statutory processes and modern cost recovery principles, for:

- Transparency and completeness in financial inputs;
- Cost recovery policies tied to outcome costs rather than inputs;
- Independent assessment of charges to cover extended periods; and
- A tariff structure of costs containing fixed and variable components.

## RECOMMENDATIONS ON FINER SCALE MANAGEMENT

- 1.3 A Finer Scale Management (FSM) policy framework be developed by DPI in collaboration with Industry, which specifies in detail a NSW vision for an approach to stock monitoring, assessment and management that better reflects the spatial characteristics and dynamics of the abalone stock, the scale of the fishery, but recognises the resources and capacity required to implement such a policy.
- 1.4 FSM should be implemented under a transitional process and timeframe using adaptive management approaches over the next 2 to 3 years, to enable variable minimum size limits and an appropriate distribution of catch and effort across the fishery's various regions and zones. The process should begin as soon as possible in 2008.
- 1.5 The roles of DPI and Industry in stock assessments should be examined to better define respective accountabilities and the adequacy of the protocols for use in all activities associated with stock assessment under FSM, and if deficient, prepare new ones.
- 1.6 DPI to encourage and support Industry development and application of measures applicable to FSM, such as monitoring.
- 1.7 The governance arrangements for FSM should be modified to enable devolution of some of the current management and research roles, rights and obligations from DPI to an Industry corporate entity.
- 1.8 Upgrade data management systems in support of FSM approaches to be installed and applied as soon as possible in 2008 across the NSW abalone fishery to the maximum practical level.
- 1.9 Continued engagement of industry and greater involvement of DPI in the FRDC FSM project<sup>12</sup>.

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<sup>12</sup> This national project attempts to support Industry in the introduction of FSM approaches across all abalone fisheries in Australia. A number of workshops have been held in NSW, however, the results have yet to be transferred into changes to management.

## **Chapter 4    Response to Term of Reference 2**

**“The Special Abalone Group is to endorse the current minimum legal size limit for abalone or adopt a specified alternative limit(s).”**

### **4.1    MINIMUM SIZE LIMIT**

Most contemporary abalone fisheries operate under particular harvest strategies that are designed to ensure sustainability of the stock under controlled exploitation policies supported by science. Such strategies include monitoring and assessment of the abundance and quality of the abalone stock and rules to control fishing activity according to the condition of the fishery. Minimum Size Limit (MSL) management, coupled with TACCs, are key tools to control exploitation of the stock.

In responding to this Term of Reference, SARG based its recommendations on:

- Objective of A MSL policy;
- Current minimum size limit policy;
- Industry’s and individual fishers’ views on MSLs; and
- A way forward with a minimum size limit policy.

#### **THE OBJECTIVE OF THE MSL POLICY**

The key objective of a Minimum Size Limit policy is to match the size of the species landed in a fishery with its growth in terms of reproductive capacity. For abalone, this approach should recognise that some abalone reach maturity below the average minimum size limit, whilst others do not reach maturity at that size. These variations in growth rates are associated with varying habitats, food availability, etc.

It is SARG’s opinion that there is a compelling need to address the current MSL policy, which, combined with overly optimistic TACCs, has resulted in the fishery relying on newly emerging, and frequently sub-adult abalone. Multiple minimum sizes in the NSW abalone fishery, combined with relatively small area-based TACCs, would better reflect the nature of these abalone populations and assist in protecting reefs from serial depletions and the harvesting of immature abalone.

#### **THE CURRENT MINIMUM SIZE LIMIT POLICY**

The current NSW Shared Abalone Fishing Management Plan and the Abalone Fishery Management Strategy advocates a 115mm state-wide legal minimum size<sup>13</sup>. Other abalone fisheries in Australia use a combination of minimum sizes, set on a spatial basis to reflect differing growth rates. Some states have chosen to regulate for a range of sizes, while others reinforce regulation with voluntary arrangements by Industry. However, it should be noted that these fisheries enjoy a greater abundance of abalone with a far greater number of year classes and a higher proportion of mature, breeding adults than is the current situation in NSW. These fisheries also have a much greater volume than the relatively small NSW fishery and consequently more resources available for research, monitoring and compliance.

It is the SARG’s view that currently, the NSW abalone fishery needs to enact changes to meet the principles relating to good management of an abalone fishery. Most of these changes relate to giving greater consideration to spatial variation and the dynamics and health of stocks in its various localities, including MSLs. One issue that may restrict progress is the lack

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<sup>13</sup> This size was originally chosen to ensure an appropriate level of reproduction in the overall population and likely to provide at least two years of spawning for individuals with average growth rates before becoming exposed to commercial harvesting.

of information on slow, medium and fast growth areas to enable estimation of the relationship between growth productivity and catch. The FSM data collection strategy will be fundamental in this area. However, the precautionary approach demands that action not be unduly stalled due to the lack of data.

## **VIEWS ON THE MINIMUM SIZE LIMIT**

### **TAC Committee and DPI**

The TAC Committee and DPI contended for some time, as a priority measure, that the minimum size limit should be reviewed and increased, thereby increasing the average size of commercially harvested abalone in NSW. More significantly, appropriately higher MSLs will increase reproductive capacity, the range of exploited size classes and yield-per-recruit, thereby assisting in achieving sustainability. That view still holds.

### **Industry**

Industry has expressed considerable concern that across-the-board changes in minimum sizes could have severe impacts on profitability, and without "fish-down"<sup>14</sup> policies could 'lock up' a substantial proportion of the resource. Effects on NSW processors, whose principle and most profitable markets are based on smaller abalone, were also raised.

Especially important in Industry's view is the need to increase the minimum size limit in the south of the fishery, where the full benefits of this relatively fast-growing fraction of the stock are not being recognised. Having good scientific justification before MSLs are raised is also one of the main platforms advanced by Industry.

SARG notes that industry faced with MSL increases in other states have expressed concern about being excluded from the fishery because of concerns that abalone would simply fail to grow to exceed the larger minimum size. Advice given to the SARG is that subsequent experience has been that these fears have generally been unfounded.

## **REVIEW OF THE MINIMUM SIZE LIMIT POLICY**

There is general DPI and Industry agreement that a single size limit across the NSW fishery is not appropriate, and there is a need to investigate size limits within appropriate geographic zones to reflect the different growth rates associated with variations in habitats, food availability and the health of the individual abalone.

Most recognise that growth rates vary across the fishery. The managers, scientists, experts, shareholders and other stakeholders experienced in abalone fishery management advocate a change in MSL policy to provide a better balance between sustainability and commercial viability. The SARG supports those views.

Poorly researched size limit changes have a very real risk of damaging the fishery and the relationship between industry and researchers and managers. This is particularly so of a large, one-off across the board size limit increase that would simply direct effort more heavily on the areas where a higher proportion of abalone grow past the size limit. That said, the apparent current degree of reliance of the fishery on newly emerging sub-adult abalone, comprising basically a single year class, is not an acceptable way to manage a fishery.

The SARG considered three options for approaching MSL changes:

### **MSL MANAGEMENT OPTIONS**

The SARG considered three options for approaching MSL changes:

- Option 1**      There has been some support from managers for a relatively large, fishery-wide increase in MSL, which would inevitably require a decrease in quota. Given the status of the fishery and its reliance on newly

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<sup>14</sup> Fish-downs are defined at page 20

emerged abalone there are some arguments for this action in terms of increasing reproductive capacity of the stock, reducing year to year catch variation (by having more year classes on the bottom) and potentially improving catch rates.

**Option 2** A second option is to attempt to move directly to an industry-based (in terms of data collection and MSL decision-making) FSM approach, including mandatory use of data loggers and determination of gonad development versus size to generate the necessary data, which industry would use to recommend future MSL decisions at finer scales.

**Option 3** Finally, a compromise position is possible; that is to force incremental increases in MSL and collect FSM data to differentiate between slower and faster grown areas. Provided such increases are done incrementally, the economic implications for the fishery should be manageable. As these incremental (possibly annual) changes are made and data collected, areas of slower growth rates and size at maturity should become apparent and MSLs set accordingly.

The degree to which a variable MSL policy can be successfully implemented is the key question. The answer will depend on how well the FSM approaches suggested are implemented, combined with industry re-organisation and the effective functioning of AbMAC. The FMS recommends implementing different size limits on a variety of spatial and temporal scales in order to implement longer-term actions.

It is the SARG's view that the MSL policy should be introduced, under FSM protocols via staged field programmes to determine if the FSM approach provides cost effective and sustainable management of the fishery.

## **MODIFICATION OF THE MSL POLICY**

The SARG here is an existing legal minimum size policy regulation, so statute considerations apply when seeking to change it. It also must be remembered that it is a statutory obligation for the government to protect the long-term sustainability of this fishery. These factors have been taken into account in making SARG's recommendations on MSLs and the timing of their implementation.

The current policy on the "Total Allowable Commercial Catch" and a single minimum size limit of 115mm applying across all regions in NSW should be replaced now with the introduction of a variable size policy – not only across all regions, but also eventually within regions at zonal levels.

SARG suggests that the third option outlined in the previous section, i.e. seeking fishery wide incremental increases in MSL and the collection of FSM data is the preferred option. As a start, SARG considers that there is a need to increase minimum size limits in the south of the fishery, acknowledging that just over the border in Victoria, the minimum size limit is 120mm<sup>15</sup>.

The speed, at which this, and other MSL increases, should occur, requires consideration of the condition of the stock, the health of the fishery and any impacts on commercial businesses. Implementation of this policy should therefore be staged over the next 2 to 3-year period and should be accompanied by appropriate scientific research to further inform any changes to increase or decrease minimum size.

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<sup>15</sup> The Victorian fishery is based on a number of year classes and is therefore more robust compared to the NSW fishery, which, (as discussed above) has continued to harvest a large proportion of the stock, which has just grown over the new size limit.

## RECOMMENDATIONS ON MINIMUM SIZE LIMITS

- 2.1 As the longer-term sustainability of the fishery is the primary objective of its management, the statutory provision of "precautionary principle" must be the primary policy applied and remain mandatory, supported where possible by science.
- 2.2 The policy of applying a single minimum size limit of 115mm across all regions should be replaced with one which, under a FSM policy, reflects variations in growth rates and ages at maturity at different locations in NSW and allows for variable minimum size limits and catch levels at a zonal level, and has regard to science, practicality and applications (cost, compliance and legislation) which can be adjusted up or down to better reflect this variation.
- 2.3 Structured fishing in the North of Region 1 should be undertaken with the minimum size limit of 117mm as soon as possible.
- 2.4 Structured commercial fishing in the South of Region 1 should be undertaken with the minimum size limit of 120mm as soon as possible, based on the outcomes of the recent survey recommendations.
- 2.5 Structured fishing in Region 2 should be undertaken with the minimum size limit of 117mm as soon as the survey design arrangements are agreed and initiated.
- 2.6 Commercial fishing in Regions 3, 4 and 5 and Region 6 North of Wonboyn should be undertaken with the minimum size limit of 117mm for the fishing period commencing 1 July 2008.
- 2.7 Commercial fishing in Region 6 South of Wonboyn should be undertaken with the minimum size limit of 117mm as soon as practicable, accompanied by "prior reporting"<sup>16</sup>
- 2.8 The mandatory collection of FSM data to determine variations in growth rates and size at maturity should be commenced in all regions as soon as possible in 2008
- 2.9 From 2009/10 onwards under FSM, the minimum size limit for all areas should be considered within each stock assessment and TACC determination, with the objective, wherever possible and appropriate to stock recovery and application of the best available science, to increase size limits.
- 2.10 Prior reporting should be implemented as appropriate to improve compliance.

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<sup>16</sup> In regions where prior reporting is a condition of fishing, all divers are required to formally advise as to fishing intentions, (locations, time etc) to a DPI Fishery Officers

## Chapter 5 Response to Term of Reference 3

"The Special Abalone Group is to specify any other priority actions to rebuild and maintain the sustainability of the abalone fishery into the future, having regard to the objectives of the *Fisheries Management Act 1994* and the matters identified in the TAC Committee's report, the approved Fishery Management Strategy and the export approval issued by the Commonwealth Government."

### 5.1 REGIONS 1 & 2

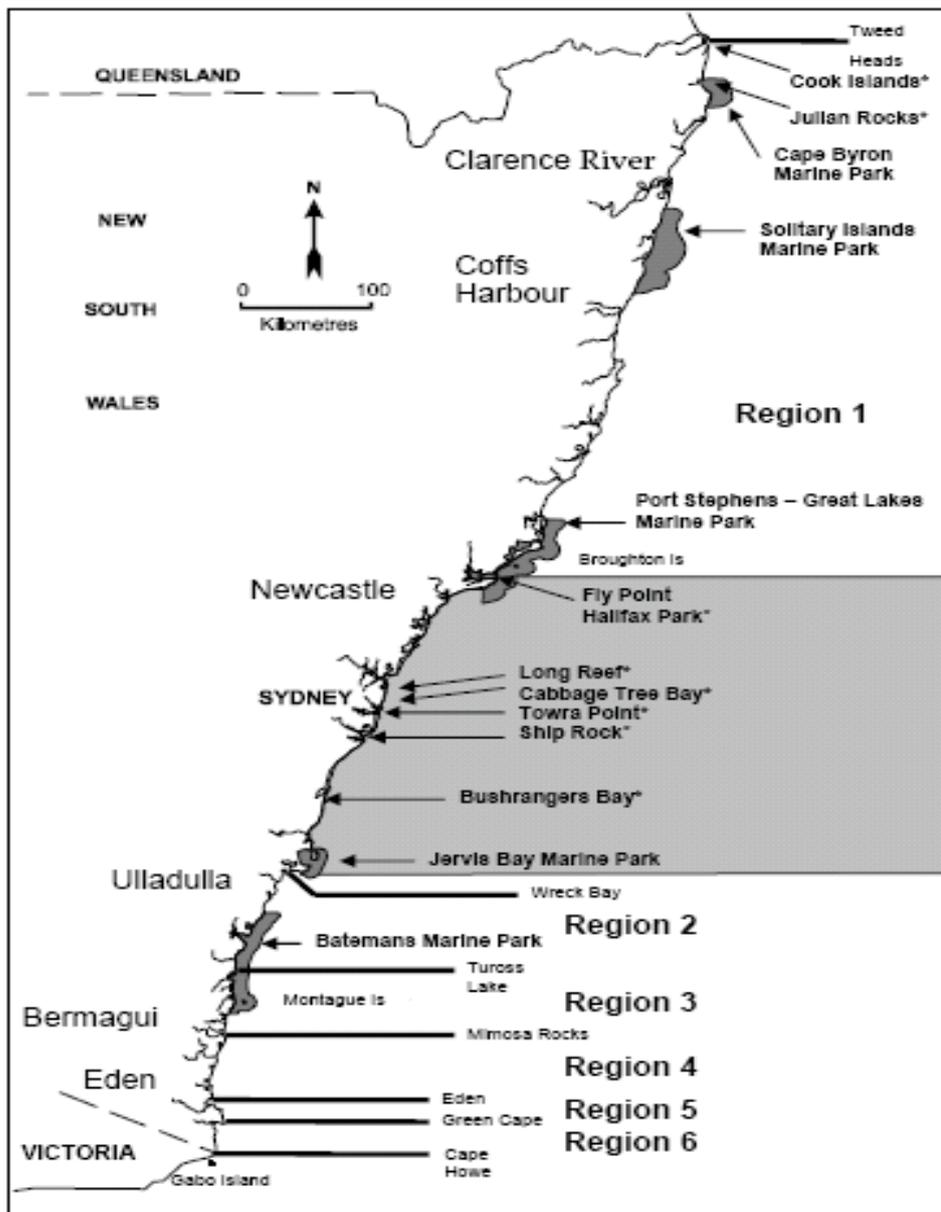


Figure 1 The Extent of the Regions

## WHICH REGIONS ARE CLOSED AND WHY?

Figure 1 shows the extent of the Regions in the NSW Abalone fishery.

The following regions were closed on 03 August 2007 and are effective to 30 June 2008 under Section 8 of the *Fisheries Management Act, 1994*:

North of Region 1 (R1N)	The main reason for closing the area between north of Port Stephens and the Queensland Border is uncertainty over stock levels in that area. The TAC Committee has noted that there has been little fishing in the area and therefore a lack of data on which to assess the status of the stocks and set a regional TACC (cap). The TAC Committee has for some years been advocating the use of modest experimental fishing (under a cap set in addition to the TACC) to provide an initial assessment of stocks.
South of Region 1 (R1S)	The area south of Port Stephens to Jervis Bay was closed due to outcomes from scientific surveys, which indicated significant losses of abalone and little recovery following impacts of <i>Perkinsus</i> , especially in small- and medium-sized abalone south of Port Stephens.
Region 2	Region 2 has been closed due to long-term stock and recruitment declines, as reflected in the stock assessment.

## WHAT ARE THE CONCERNS ON CLOSURES AND ACCESS?

The main issues raised in SARG enquiries concerning closures relate to:

- Lack of data and analysis, on which to base decisions on closures and access;
- Impacts of allowing access on short and long-term sustainability of the fishery;
- Non-transparency/lack of the policies and decision rules which lead to decisions on closures and access; and
- Limiting access rights to local divers in areas opened to structured fishing.

Industry considers that the Regions 1 and 2 closures have created pressure on stocks in other regions<sup>17</sup> that remain open, due to a concentration of effort in these areas. The outcomes are said to be:

- Concentration of harvest effort in adjacent open areas exacerbating local depletion;
- Non-optimal distribution of harvest effort across the whole fishery;
- Increased illegal fishing activity due to no commercial presence;
- An undermining of any conservation or stock rebuilding objectives across the whole fishery; and
- The probability commercial harvested catches will not be kept within regional catch caps.

It is clear that there is considerable pressure from Industry to open Regions 1 and 2 to fishing. The TAC Committee has repeatedly stated that it is not opposed to opening these areas *per se*, but that this must be on the basis of adequate scientific evidence as to the status of the stocks in these regions. For some years, the Committee has been stating its requirements for incorporating a commercial catch in these regions in the overall TACC. Little

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<sup>17</sup> Especially Region 6.

action has occurred in terms of meeting these requirements, other than a recent Region 1 survey.

The TAC Committee has also noted that the 'knock on' effect of the closures by increasing effort in open areas of the fishery raised by industry is only an issue if the stock assessments for the open areas are biased/inaccurate. Regional caps are based on estimates of safe catches within regions.

#### **WHAT ARE THE CURRENT VIEWS OF EXPERTS ON ALLOWING ACCESS?**

North of Region 1 (R1N)	<p>The experts' view is that access to Region 1 (R1N), subject to the results of an adequate survey and assessment, should be allowed for some commercial fishing, but under a structured programme.</p> <p>Allowing access to fishing in a controlled and structured way would lead to the necessary improvements in input data for use in future assessment and catch setting.</p>
South of Region 1 (R1S)	<p>The experts' view is that there is a question over the reliability of past surveys and the impact of <i>Perkinsus</i>. Any access through structured fishing in the Region must be based on good scientific outcomes from the current 2007 survey, particularly in relation to the level of the spawning stock being above the 1994 threshold and a sufficient abundance of sub-legal abalone.</p> <p>Allowing access in a controlled and structured way would lead to improvements in input data used in future assessment and catch setting.</p>
Region 2	<p>The experts' view is that there is a question on the reliability of past data and there is a need following the proposed structured survey, to redo the stock assessment, allowing for any detected bias in past scientific surveys to be identified and tested. If the assessment meets the various criteria set out in the TACC reports, then commercial fishing should commence.</p> <p>Allowing access in a controlled and structured way would lead to improvements in input data used in future assessment and catch setting.</p>

#### **WHAT ARE THE OTHER VIEWS RELATED TO ALLOWING ACCESS?**

The main issues raised in the SARG were enquiries were made by Industry concerning closures and subsequent access to closed regions and relate to:

- No articulated policy on the basis for closures and access;
- The timeframe required for a decision to allow access;
- Adoption of the precautionary principle to maintain closures;
- Divers' anecdotal advice on stock condition is not fully accepted by fishery managers; and
- Access rights, if re-opened, to be limited to local divers.

## SARG'S CONCLUSIONS ON REGIONS 1 AND 2

In respect of the issues raised above, SARG submits the following views on allowing access through structured fishing in Regions 1 and 2:

Fishery sustainability	Any openings to full commercial fishing must be compliant with the principle that the risk to the fishery's sustainability, as judged by relevant fisheries indicators and reference points, is not increased and is based on scientific justification.
Verification model	The structured fishing programmes developed for Regions 1 and 2 should be seen as a part of the transitional arrangements in moving to the finer scale management (FSM) programme discussed above.
Non-transparency of policies	A policy statement, which outlines the principles to be applied in opening and closing areas of the fishery, is required.
Conservation or stock rebuilding	<p>Opening should be initially undertaken under an agreed, structured fishing programme aimed specifically at obtaining the information requested by the TAC Committee in its reports and during the presentation by Dr Sainsbury to the SARG workshop in Merimbula.</p> <p>If opened before the end of the 2007/08 fishing year, the TACC of 110 tonnes should remain as a precautionary measure and afford a greater level of protection to stocks in other areas.</p>
Size limits	In determining the structured fishing strategy, a size limit to be set at 120mm in South of Region 1, 117mm in North of Region 1 and in Region 2, with the objective of increasing it further, subject to data collecting.
Biosecurity protocols	While the current survey seems to indicate that there is little, if any active <i>Perkinsus</i> infection (at a level likely to create mass mortalities), biosecurity protocols should be considered and implemented as appropriate.
Access	Access rights in any areas opened under a structured fishing programs should apply to all shareholders.

## RECOMMENDATIONS FOR REGIONS 1 AND 2

- |     |   |
|-----|---|
| 3.1 | Regions 1 and 2 access for fishing be approved on the following basis:<br>North of Region 1 and Region 2 under a structured fishing programme; and<br>South of Region 1 under structured commercial fishing;<br>taking account of the results from the current survey in Region 1, and the objective to improve information relating to the current status of stocks in those regions and inform the TACC process |
| 3.2 | The re-establishment of full commercial, recreational and indigenous fishing is to occur eventually under a strategy developed by DPI and in consultation with the TAC Committee.   |

## **5.2 ILLEGAL FISHING**

### **ILLEGAL FISHING IMPACT ON RECOVERY OF THE FISHERY**

Continued illegal harvest is regarded as one of the more significant threats to abalone recovery in NSW. It occurs over the whole fishery but the advice tendered to the SARG suggests it is more prevalent in the regions south of Sydney.

### **IMPACTS ON THE TACC DETERMINATIONS**

In its annual TACC determination, the TAC Committee has to deal with illegal fishing in its estimate of illegal catch<sup>18</sup>, which has a significant effect on the TACC. Impacts of illegal fishing were also seen as a potential cause of bias in assessing the status of abalone stock. The SARG suggests that in any recovery programme, there has to be a research objective, which focuses on improving the certainty of the estimates of illegal fishing.

### **PRIOR RECOMMENDATIONS ON ILLEGAL FISHING CONTROL MEASURES**

Numerous reports and recommendations (e.g., the Palmer and Keniry reports) have outlined key issues and types of interventions necessary to address illegal fishing and trading in this fishery. The SARG was advised by DPI that actions on prior recommendations are progressing but no firm indication could be given to a completion time. An update by DPI on progress should be a standing agenda item for future AbMAC meetings.

### **PARTICIPANTS' VIEWS ON ILLEGAL FISHING**

All major participants in the NSW abalone fishery recognise the implications that illegal fishing has on commercial outcomes of legal fishers and processors, and hold common views on strengthening sanctions – especially against organised syndicates and people with repetitive convictions.

### **INDUSTRY**

Industry generally supports the thrust of the recommendations in earlier reports, as its recently stated objectives to the SARG are fundamentally to: (1) increase regulatory sanctions, fines and classifications to an indictable offence for illegal fishing and/or trading; (2) improve coordination of compliance resources; (3) push for a national approach in sanctional management; and (4) avoid closures of fishing grounds wherever possible.

### **FISHERY MANAGERS AND SCIENTISTS**

The DPI's fishery managers and scientists agree to virtually all issues advanced by Industry. One exception is that concerning closures introduced on sustainability grounds. While the potential for increased incidence of illegal fishing in closed areas due to a lack of Industry presence is acknowledged, this alone is insufficient justification not to take action to safeguard overfished stocks. DPI has incorporated many of the early reports' objectives in the 2007 FMS.

In discussions with the Department and industry and in listening to the dialogue at the Merimbula meeting, it is clear to the SARG that there is much to be done in terms of increasing the level of industry intelligence supplied to the compliance area of DPI.

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<sup>18</sup> For the purposes of setting the TAC, the illegal catch is set by the TACC at 40% of the legal catch. This arrangement was introduced in 1987 when the illegal catch was estimated to be 145 tonnes or 40% of the then TACC. The TAC Committee in arriving at their TAC takes account of its understanding that the level of illegal fishing used in the assessment in the fishery is now not less than 40%. If this were not the case, as suggested by some sectors of Industry, then there are clearly serious implications for the future management and TAC setting for the fishery.

## **COLLABORATION ON COMPLIANCE**

Industry contributes to compliance activities but this compliance effort should be significantly increased through:

- Improvement in coordinated and formalised collaboration between Industry and Compliance officers, through Industry intelligence and technologically-driven, joint operations with DPI officers and police. There is no suggestion that Industry should be assigned any powers on compliance – its actions need to be voluntary, linked to its “Code of Conduct” and within the “Articles of Association” for an Industry proposed corporate entity.
- Industry using its “Code of Practice” to deal with operators demonstrating a lack of professional compliance in the use of their abalone access and harvest rights.

## **RESOURCING**

The current level of staffing and professionalism of the compliance management team reflects the priority given to compliance activities and current funding provisions.

In examining the economic value of the fishery, in the SARG’s view there appears to be no real application of a principle, which relates compliance effort with any effects on the value of the TACC due to illegal harvest levels. If staffing and operational funding capabilities were to better match the requirements to address the level of illegal fishing and trading under such a principle, increases in compliance activities would seem warranted based on TACC considerations. Even if the commercial industry were to cease, the risk from illegal fishing would remain, which supports consideration of cost recovery principles raised elsewhere in this report.

Continuance of funding to the progressive introduction of modern surveillance equipment is supported as a recovery tool.

## **RECOMMENDATIONS ON ILLEGAL FISHING AND TRADING**

- |     |   |
|-----|---|
| 3.2 | To assist recovery of abalone stocks, the actions to reduce illegal fishing and trading should be to:                                     |
| (1) | Make illegal abalone fishing and/or trade an indictable offence, as recommended in the Palmer Report, and in line with other states.      |
| (2) | Address all recommendations to combat abalone theft as laid out in the Palmer and other reports.  |
| (3) | Review coordination and funding of available government compliance resources, including joint operations with police.                     |
| (4) | Improve coordinated Industry and DPI compliance efforts, through local and Industry intelligence and modern technology-driven operations. |
| (5) | A research exercise to improve the certainty of the estimates of illegal fishing catches.   |

### **5.3 COST RECOVERY**

As expected, the SARG received a litany of comments from Industry on management fees. Fundamentally, the objective of Industry is to minimise its share of the costs of management of the fishery. While SARG concludes management charges and the cost-recovery policy are matters best handled by AbMAC, Industry and DPI, it is appropriate for comments to be made in this report as costs have implications for the recovery of the abalone resource and, in particular, funding for stock assessments and compliance actions.

Issues directly related to management charges have influenced the relationship between Industry and the DPI. Not addressing the cost recovery aspects in attempting to address the recovery of the fishery will create difficulties in implementing modifications to the fishery's management.

The most significant issue in the cost-recovery area, which has the prospect of influencing recovery activities, is the amount of revenue going to DPI from Industry as management charges. Any reduction in DPI revenue will lead to service adjustments in stock assessments, compliance and management. There should at least be recognition of such impacts by Industry. There are concerns already about the impacts of illegal fishing on TACC assessments and if compliance activities were to be reduced, greater illegal fishing is likely to eventuate, with flow-on effects to harvest levels.

#### **ADMINISTRATIVE AND POLICY MATTERS**

There are administrative matters, which relate to the provision of financial data, which is an issue to Industry. Industry considers that DPI's cost structures and budgets for abalone management and compliance programmes are unclear, not transparent and more budgetary control is needed. This is a relatively easy issue to fix and one, which has had to be addressed in other resource management areas through budget and expenditure reporting, in which financial data is presented under programme outputs.

The other issues are primarily policy-related and need to be addressed by Industry including: (1) independence in setting management charges; (2) sharing of DPI costs; (3) non-equity in cost-recovery levels and policies across NSW' seven share managed fisheries; and (4) the viability of the commercial Industry.

#### **USE OF MOVEMENT TO FSM TO ESTABLISH COST STRUCTURE**

The SARG noted that there is no comparison of the costs of establishing and maintaining FSM stock assessment processes but there is some expectation that this will be cheaper.

Minimising DPI's management costs itself will not necessarily promote either Industry viability or fishery sustainability. It is SARG's view that such estimates should be based on records of actual costs obtained during the transition period for FSM. This will require good recording of effort by Industry and DPI participants. At the end of the transition, a review is proposed and this should embrace cost assessments.

#### **RECOMMENDATION ON COST RECOVERY**

3.3 Management charges and cost recovery policy to be handled by Industry and DPI.
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## 5.4 ISSUES RELATING TO EFFORT MANAGEMENT

The Industry's focus on effort management in its advice to the SARG concerns divers' fishing entitlements. The concerns are twofold:

- The viability of existing divers in a fishery with low harvest rights; and
- The pressures on individual reefs from too many divers undertaking fishing.

There are divergent opinions between the DPI managers and the Industry as to the best approach to resolve this problem:

- The DPI approach is to allow the market to resolve the issue with only minimal interference relating to its statutory responsibilities in the management of such entitlements; and
- The Industry holds the view that any modification has to be handled through legislative processes by issuing statutory entitlements to divers.

The SARG considers this is an issue for AbMAC, but notes that there has already been Ministerial input to the issue which supports the DPI approach.

### RECOMMENDATION ON EFFORT MANAGEMENT

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|-----|---|
| 3.4 | Effective control of diver numbers, either through regulated minimum share holdings or market-based measures have been dealt with through the FMS, and are best handled in the future by AbMAC and DPI. |
|-----|---|

## 5.5 ESTABLISHMENT OF AN INDUSTRY CORPORATE ENTITY

There were several major reform issues raised relating to structural changes to management of the commercial Industry. Two issues surfaced:

- Institutional arrangements associated with any corporate management models; and
- Management of effort to access and harvest abalone.

### AN INDUSTRY CORPORATE ENTITY

In 2004, NSW put out a discussion paper called "New Opportunities for the Seafood Industry in the Management of Commercial Fisheries and Aquaculture". The paper outlined a number of alternative models involving government, a management entity and individual fishing businesses. Under such models the government would apply a system of licenses and contracts to provide appropriate checks and balances. These would provide the incentives necessary to ensure resource users behave in a way that is consistent with the objectives of long term resource sustainability and industry viability. All management and operational decisions are then made jointly through protocols established by the corporate entity.

Recent consultancies examining future management of the abalone fishery in NSW, (by both Keniry and Marsden & Jacobs) contained detailed comments on potential corporate models for future management. ACIL Tasman's current consultancy for DPI into abalone fisheries has reference to such models. The Industry has expressed interest to the SARG in any changes being contemplated.

It is SARG's view that if FSM were to be adopted and there were to be modifications to existing governance arrangements with devolution of some roles and obligations from DPI to the Industry, it will be essential for an Industry-based corporate entity to exist, as foreseen in the 2004 discussion paper.

## RECOMMENDATION ON CORPORATE ENTITY

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|-----|--|
| 3.5 | Establishment of an Industry-based corporate entity to underpin the full and effective implementation of Finer Scale Management. |
|-----|--|

## 5.6 COMMONWEALTH GOVERNMENT INVOLVEMENT

The Commonwealth Government has imposed, under the Commonwealth *Environmental Protection and Biodiversity Conservation Act 1999*, a number of conditions in its Wildlife Trade Operation (WTO) for the NSW abalone share management fishery.

Whilst these new obligations are in place, continued operation of the fishery will be carried out in accordance with the NSW Fisheries Management (Abalone Share Management Plan) Regulation 2000 in force under the *NSW Fisheries Management Act 1994*.

The Commonwealth Department of the Environment and Water Resources has established Guidelines for the Ecologically Sustainable Management of Fisheries, and the reporting and information requirements under the new processes. The primary objective of the export controls from an abalone management viewpoint is directed to dealing with illegal fishing and, more importantly, trading. The emphasis is on Industry actions but DPI's stewardship role is paramount.

Under Commonwealth statutes, the States maintain management responsibility. New statutory requirements based on export fisheries, place obligations on the States through the export approval process. NSW is required to report annually on material changes to the NSW Abalone Fishery's management arrangements, and to require the implementation of an overall management strategy and establishment of recovery actions. The SARG consider DPI's actions align well with the Commonwealth's policy objectives.

NSW DPI<sup>19</sup> has indicated to the Commonwealth Department that it would be willing to explore ways that NSW might be able to adopt the Commonwealth's specific recovery requirements once these are known, as part of the State arrangements for the management of the fishery. Note that the Commonwealth cannot compel NSW to implement its requirements, but the Commonwealth can, and does, make binding requirements on export approval for species such as abalone. In such circumstances, it would seem imperative that the impacts of illegal fishing and the implementation of FSM approaches should be addressed by a much stronger participation by Industry, especially since withdrawal of export approval would have serious implications.

In SARG's view, as far as recovery aspects are concerned, this issue falls within the general findings and recommendations of this report. In other words, the Commonwealth will only provide ongoing export approval if the fishery is demonstrably being managed sustainably, stocks are rebuilding and risks are being addressed. Implementation of the recommendations of this report is aimed to address Commonwealth requirements.

## RECOMMENDATION ON WTO MANAGEMENT/EXPORT APPROVAL

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|-----|--|
| 3.6 | NSW DPI maintain its current arrangements on WTO actions with full engagement with industry through AbMAC processes. |
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<sup>19</sup> AbMAC Agenda notes advice Meeting #01 2007.

# **Chapter 6 Implementation of SARG'S Recommendations**

## **6.1 ADMINISTRATIVE ISSUES**

### **ACTIONS TO ADVANCE FSM**

The key FSM implementation administrative issues for DPI and Industry in managing the transition through a recovery stage are, in SARG's view, actions to:

- Rebuild the relationship between Industry and management through improvements in the current management style applied by Industry and DPI;
- Properly staff and fund the implementation and recovery effort;
- Deal with other externalities associated with the introduction of FSM; and
- Establish a performance review mechanism.

### **THE IMPLEMENTATION PERIOD**

The period 2008 to 2011 is seen by the SARG as an adequate timeframe in which to implement the SARG's recommendations. This period is based primarily on introduction and application of the FSM policies.

### **CURRENT MANAGEMENT STYLES IMPACT ON IMPLEMENTATION**

Modern management of natural resources requires effective collaboration between all participants, be they managers, experts, constituents, beneficiaries or the general community. The arrangements for the NSW abalone fishery's management have been structured on that basis, but in the SARG's view, the collaboration has been poor for some time and remains so, despite a number of attempts to seek conciliation.

The relationship between Department of Primary Industries' (DPI) fishery management and some of the representatives of the commercial abalone Industry is poor. This is not new information. Over recent times, there have been a number of searching enquiries undertaken for government by independent consultants and other experts, in which clear views on the breakdown of attitudes in this relationship were presented.

The relationship between management and Industry has created a climate in which collaboration was breaking down but, in the SARG's view, is not yet fractured.

#### **Department of Primary Industries Wild Harvest Fisheries**

The SARG also has come to the view that it would appear the DPI Wild Harvest Fisheries' current style of management for the NSW abalone fishery involves a "micro-management" approach within a "command and control" ethic. This is justified in an environment in which (1) the abalone stocks are highly depleted and require close monitoring and controlled management; (2) the views of the experts in DPI and in Industry are not always aligned; (3) there are unnecessary Industry demands placed on the fishery managers; and (4) there are relationship tensions between the fishery managers and some of the Industry representatives.

SARG expressed some concern about a perceived tendency to have independent groups or consultants undertake investigations and analyses, often on the same or related topics, which would better lie with expertise within DPI. There is also recognition there are a number of likely reasons for that approach, including: (1) a need for independent expertise and advice; (2) the breakdown in relationship between the DPI and some of the AbMAC Industry representatives; (3) politically motivated calls for review and (4) current resourcing levels within the Wild Harvest Fisheries to effectively deliver services and meet the fishery's management objectives. Related to this issue is the large range of reports and recommendations relating to the abalone fishery that are 'current' in that their findings have not been definitively or transparently rejected, or conversely, accepted and implemented.

## **NSW Commercial Abalone Industry's Style of Management**

Arrangements within the Industry are structured to a degree but it is apparent that there are widely varying opinions on many key issues and AbMAC actions are not always seen as appropriate by the entire Industry. In SARG's view, there are aspects within the current management style, which do not encourage collaborative relationships, both internally and externally. These include:

- Differing opinions from various sectors of the abalone Industry<sup>20</sup>;
- Lack of respect for individuals and personal antagonism;
- A level of self-interest dominating proceedings;
- An ethic of expectation within Industry that actions which should be undertaken by Industry, will be undertaken by DPI; and
- Lower strategic issues being given priority.

It is recognised that these attitudes and approaches are influenced by:

- Lack of good communication and consultation;
- Lack of industry capacity to engage effectively, leading to the use of advocates to voice opinions and lead discussions;
- Inadequate progress on issues that are seen as important;
- Inconsistencies in government policies within and across fisheries;
- Loss of confidence and trust;
- Poorly defined management boundaries; and
- Non-adherence to agreed policies.

## **6.2 RELATIONSHIP ISSUES**

### **HOW HAVE THE RELATIONSHIP ISSUES BEEN DEALT WITH TO DATE?**

Whilst NSW DPI in its 2005 Environmental Impact Statement and 2007 Abalone Fishery Management Strategy has attempted to integrate a number of the external consultants' management recommendations into policies and management strategies, there is little evidence that there has been proactive consideration as to how to fix attitudinal issues, even though there was recognition by prior consultants of a tendency towards a divergent and adversarial relationship between government and Industry<sup>21</sup>.

### **CAUSES OF RELATIONSHIP PROBLEMS**

There is a litany of reasons why relationships have deteriorated. Each of the following causes below was identified to the SARG from group meetings, individual discussions and the Workshop. They are the views of others and have not been interpreted by the SARG.

The causes relate to declining stock levels and a serial reduction in TACC: a lack of good communication; inadequate coordination actions<sup>22</sup>; lack of consultation; inconsistencies in government policies within and across fisheries; poor responsiveness; lack of transparency; cost-recovery policies; the level of risk transfer; loss of confidence and trust; personal antagonism; vexatious claims; provocative statements; focus on the past; non-acceptance of joint responsibilities; lack of progress on many of the external consultants' recommendations;

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<sup>20</sup> Shareholders comprising investment, commercial, and family businesses; divers; processors etc.

<sup>21</sup> March 2004 Final Report Marsden Jacob Associates.

<sup>22</sup> Citing the length of time it has taken the AbMAC to meet.

contrary views on policy directions<sup>23</sup>; management boundaries are not clearly defined; non-adherence to agreed policies; dominant Industry players with a perceived protection of self interest; comparisons of NSW' and other States' policies; lack of continuity in Departmental staff due to movements; and trends towards a litigate ethic<sup>24</sup>.

However, all these issues have occurred in a situation of declining stock levels and a serial reduction in TACC. Without this last over-arching situation, the SARG believes the above relationship issues would be greatly reduced.

The SARG concludes neither Industry representatives nor DPI or its personnel alone have sole responsibility for their relationship problems.

### **THERE IS A NEED TO MOVE FORWARD**

To move to a more collaborative style of management will require leadership and a degree of conciliation. One important aspect will be to deliver services more effectively and efficiently. This will be conditional on:

- The Industry being cooperative and not indulge in unnecessary requests which take DPI fishery management staff away from higher priority work; and
- DPI reacting positively to an Industry's perception (some but not all in Industry) that managers are not responsive to Industry's needs.

It is really a communications issue, which could be solved through conciliation by having representatives of Industry and fishery managers spend time to discuss all the outstanding issues in a less formal environment than AbMAC with the aim of classifying and addressing actions on outstanding issues. Otherwise these issues will remain a thorn in the relationship.

The SARG's view, which is supported by the Industry and the fishery managers, considers it is imperative to draw a "line-in-the-sand" and move away from current styles and work in a more collaborative manner with the common objective of advancing the fishery's recovery. This will require a proactive effort on both sides to address rebuilding of the relationship and importantly putting the focus back on the fishery itself, rather than on less important issues. There is also a need to avoid 'playing the man' by attacking personalities and focusing on 'playing the game' i.e. recovering the biological and economic health of the fishery.

### **ARE THE ATTITUDES CHANGING AND WILL THAT CONTINUE?**

The initial response is yes! In the SARG's recent discussions with DPI and Industry, the term "line-in-the-sand" has been advanced by Industry as a signal that a more cooperative ethic is to apply. Attitudes on finer scale management suggest that there is an ethic within DPI and the Industry pointing toward a positive break with the past. One encouraging approach being promoted by the Industry is to use its "Code of Practice," (which is approaching finalisation) which should instil certain operational ethics among its constituents.

Until the practical difficulties, attitudinal biases and relationship inadequacies are acknowledged and understood by all, tensions will continue and relationships will remain an obstruction to moving forward in management of this fishery. Interactions cannot be taken for granted. They have to be managed. The key task for DPI and Industry will be to work positively together. Clear definitions of responsibilities for the tasks assigned to DPI and Industry will be paramount. Since the actors are unlikely to change substantially, the way ahead will not be either smooth or easy and there are no silver bullets. Some setbacks are to be expected, since injustices, be they real or perceived, are deeply held.

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<sup>23</sup> Research area priorities is one example.

<sup>24</sup> Some operators in Industry resorting to the Court, ICAC and/or the Ombudsman's Office for actions.

## WHAT HAPPENS IF THE RELATIONSHIP ISSUES ARE NOT ADDRESSED?

SARG considers that until the practical difficulties, attitudinal biases and relationship inadequacies are acknowledged; understood; and addressed by all, then:

- Tensions will continue and relationships will remain an obstruction to moving forward in management of this fishery.
- Much of the future effort and funds will be directed to interchanges on past attitudes, reiteration of entrenched positions, arguments over communications or lack thereof, personal conflicts, etc., rather than improving the fishery's management. The day-to-day focus will remain directed at reactive actions rather than proactive actions to assist in recovery.

It will be important that the commitment by government employees and Industry is visible and real. To test whether such improvements eventuate, a review of attitudes in say 12 months time is essential. If reasonable improvements in relationships have not eventuated, further changes in arrangements may be necessary.

## HOW CAN THE RELATIONSHIP BE RE-BUILT?

It is the SARG's view that the relationships can be rebuilt by managing in a proactive manner rather than being reactive (either positively or negatively) to individual requests.

Service delivery	Address and resolve the current outstanding issues, which are perceived by Industry as important but not so by DPI.
Strengthen coordination	Industry and DPI to improve the level of coordination and cooperation in a more structured and formalised manner using working groups consisting of Industry and DPI to deal with specific issues.
Maintain momentum	Recognise the need to maintain a momentum in moving to FSM. Consider the appointment of a designated fishery manager to deliver FSM. Provide formal support through use of external experts to assist in advancing FSM initiation and application.
Provide incentives	DPI and Industry to provide seed funds for introduction of new computer-based technology, including data loggers, and for the funding of the Implementation Team over the 2 to 3-year period.

## 6.3 RESOURCING OF IMPLEMENTATION

SARG strongly recommends a proactive and affirmative action approach to resourcing (in terms of staffing and funding) the implementation of the FSM to ensure, over the period 2008 to 2011, a continuance of any momentum built up through initiation of the SARG's recommendations.

The SARG sees staffing issues to be referred for DPI attention to indicate the adequacy of staff to advance from current arrangements to FSM over a period of 2 to 3 year period, looking at the capacity within DPI and Industry to handle the introduction of FSM, as well as continue to meet its statutory work.

## Future staffing

In discussions on resourcing the FSM implementation, there were views put by DPI and the Industry, which did not align.

The Industry submitted that a senior fishery officer should be appointed to drive FSM implementation. The basis for this request was concerns about prior non-service delivery.

DPI did not see the need to move away from line management arrangements. The fishery managers saw some of the Industry concerns in service delivery were precipitated in some circumstances by the Industry's representatives' lack of understanding of government processes. Changes to DPI's delegated powers to act on fishery activities at a Branch level would assist considerably in improving service.

The SARG's conclusions are the Minister should delegate responsibility to the DPI with clear instructions on:

- Executive accountability for implementation of appropriate SARG recommendations. The SARG recommends that a senior DPI staff member be appointed with accountabilities over both the fishery management and the scientific areas for abalone, as it will require coordination of both Branches.
- The SARG recommends a specific temporary position, (possibly called the "MSL") with assigned powers, accountabilities to drive the recovery actions, r; An Implementation Team<sup>25</sup> comprising of two representatives from DPI (fishery management and science), and two nominees<sup>26</sup> from Industry, to assist the Abalone Recovery Manager over the 2 to 3 year transition period.

The primary tasks in implementation of the SARG's recommendations are shown below in Table 2.

## Funding of Recommended Actions

The SARG considers the success of any new initiatives will depend on funding. In the initial Ministerial advice in establishing the SARG, it was indicated that some government funding might be provided and additional funding from Industry may also be forthcoming. Given the current financial status of the abalone industry, the degree to which it can fund the costs of moving to an improved FSM-based data collection and management system in the SARG's view is severely limited.

The SARG recommends that both government and Industry provide 'seed' funds for initiation and application of finer scale management, including the need for a parallel stock assessment process during the necessary 2 to 3 year transition period. The funds would be directed to the Abalone Recovery Manager position, the Implementation Team, the introduction of new technology for data collection equipment and training and a revised FSM-based stock assessment for the NSW abalone fishery, over the 2 year fiscal period, from 2007/08 to 2008/09.

The recommendation proposes these funds be provided in addition to the current cost sharing arrangements and be based on Industry and government contributing similar amounts. Without appropriate Government financial assistance to underpin the suggested regime shift to FSM management (possibly under a revised cost recovery framework), the recommendations of this report are unlikely to occur. The policy framework submission will need to identify an estimate of the cost sharing levels.

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<sup>25</sup> The SARG should not be the Implementation Team as it would be preferable to have under the new arrangements two DPI officers with hands on fishery and science experience and for accountability in delivery. The Chair should be the proposed "MSL".

<sup>26</sup> The Minister should pick the Industry representatives.

**TABLE 2 A RECOVERY STRATEGY BASED ON SARG'S RECOMMENDATIONS**

TASK		PRIMARY ROLE	TIMEFRAME	OTHER PARTICIPANTS
1	Submission of SARG Report	Chair SARG	February 2008	SARG members
2	Approval actions on SARG recommendations	Minister	February 2008	DPI
3	Allow access to Regions 1 and 2 under structured-fishing <sup>27</sup>	DPI	Depending on survey results and agreement on structured fishing	AbMAC
4	Modify MSL south of Wonboyn	DPI	As soon as possible	
5	Appoint Abalone Recovery Manager and Implementation Team	DPI	March 2008	DPI
6	Prepare a Work Plan to implement FSM	DPI	March/April 2008	Implementation Team
7	Submission of Recovery Programme to the Minister	DPI	March/April 2008	Abalone Recovery Manager Implementation Team TAC Committee
8	Minister's approval of FSM	Minister	April 2008	DPI
9	Initiation of Implementation of FSM	DPI	April 2008	Abalone Recovery Manager Implementation Team TAC Committee

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<sup>27</sup> Based on scientific justification.

## 6.4 EXTERNALITIES

Issues such as pollution remain long-term management matters, which will require considerable research, and should fall into a general research bucket for all marine fisheries off NSW. In SARG's view, such issues are a whole-of-government issue.

In any recovery strategy, decision makers need to be aware of externalities and their implication on the sustainability of the fishery and the commercial Industry's and economic viability. There are some obvious avenues to address such externalities. The SARG feels a possible portfolio would be:

Natural occurrences	Enhanced research targeted at priority issues but undertaken at a national level <sup>28</sup> .
Shareholders viability	Clear evidence from a respected source as to the short and longer-term financial viability of the commercial Industry, clearly identifying key drivers.
Variations in NSW policies	A folio of the policies and their implications applying in all abalone fisheries in Australia to illustrate areas of consistency and variance.
Human interference	Research directed at point source pollutions and impacts from potential climate change.

## 6.5 PERFORMANCE REVIEW MECHANISMS

The SARG suggests there has to be a formal review to assess:

- The effectiveness of review mechanisms to test whether the FSM application is delivering agreed objectives:
- The impacts that any changed management policies and their applications may have on the recovery and continued sustainability of the fishery; and the independent Chair of AbMAC should be asked to prepare the Terms of Reference and arrange/coordinate such a review, responding directly to the Minister on the outcome.

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<sup>28</sup> A review by DPI of the current research alignments with NSW's fisheries management priorities could be the initial action. This could include pollution and climate change implications.

## RECOMMENDATIONS ON IMPLEMENTATION

### 4.1 Resolution of current relationships between DPI and Industry

- (1) A meeting to be arranged between Industry representatives, senior fishery managers of DPI and TAC Committee representatives to discuss the outcomes of the SARG's report, including current attitudinal situations as soon as practicable. The results of this meeting should then be presented to the Minister.
- (2) Establishment of an Industry-based corporate entity, which will drive the recommended changes required under a more industry-based FSM regime.

### 4.2 Resourcing for stock recovery programs

- (1) Establishment of a designated senior level position of Abalone Recovery Manager in DPI responsible for the advancement and delivery of agreed SARG recommendations, and any other actions designed to assist the recovery of abalone stocks.
- (2) Appointment of an Implementation Team comprising of two representatives from DPI (management and science), and two representatives from Industry, appointed by the Minister on advice provided by AbMAC.
- (3) The Implementation Team will be led and chaired by the Abalone Recovery Manager.
- (4) The Abalone Recovery Manager is to submit to the Minister, within two months of appointment, an agreed programme for implementation of SARG recommendations.

### 4.3 Funding of Stock Recovery Programs

- (1) Minister to allocate sufficient funds based on a 50/50 government/Industry contribution to:
  - (a) The costs of development, acquisition and introduction of a modern hardware and software system for application of data collection (including data loggers), archival and dissemination system (applicable to the abalone and other fisheries), and a revised FSM-based stock assessment for the NSW abalone fishery, over the 2 year fiscal period, from 2007/08 to 2008/09; and
  - (b) The cost of the above Implementation Team's operations over the 2 year fiscal period, from 2007/08 to 2008/09.

### 4.4 Performance Review

- (1) A formal independent review on the performance of the implementation actions to be undertaken at the beginning of 2010, through the Chair of AbMAC.

Suggested accountabilities for implementation of SARG recommendations have been prepared as an assistance tool for DPI to advance implementation of the Recommendations. (Appendix A)

## **Chapter 7 Recommendations**

### **7.1 PERFORMANCE MEASURES**

- 1.1 Until FSM approaches are sufficiently developed and the outcomes are acceptable, continue and improve the current stock assessment, including:
- (1) Development and application of a more conservative biomass reference point for exploitable mature abalone, such as the mid 1980s biomass;
  - (2) Calculation of a new indicator, the fraction of the catch in each year that has grown across the size limit and has recruited to the fishable population in that year; and
  - (3) New target reference points should be established to maintain stocks in particular locations which exhibit less vulnerability to periods of weak recruitment and freedom from disease outbreaks driven by environmental stress and therefore have the potential for more constant catch rates over time at levels which promote an economically viable industry.

Such indicators should also be capable of protecting stocks in locations that are vulnerable to weak recruitment and disease.

### **7.2 CURRENT STOCK ASSESSMENT AND TACC DETERMINATION**

- 1.2 (a) The annual Total Allowable Commercial Catch (TACC) to continue to be determined by the independent TAC Committee.
- (b) Retention of the current stock assessment process for 2008/09 and possibly 2009/10 for setting the TACC, as modified under Recommendation 1.1.

### **7.3 FINER SCALE MANAGEMENT**

- 1.3 A Finer Scale Management (FSM) policy framework be developed by DPI in collaboration with Industry, which specifies in detail a NSW vision for an approach to stock monitoring, assessment and management that better reflects the spatial characteristics and dynamics of the abalone stock, the scale of the fishery, but recognises the resources and capacity required to implement such a policy.
- 1.4 FSM should be implemented under a transitional process and timeframe using adaptive management approaches over the next 2 to 3 years, to enable variable minimum size limits and an appropriate distribution of catch and effort across the fishery's various regions and zones. The process should begin as soon as possible in 2008.
- 1.5 The roles of DPI and Industry in stock assessments should be examined to better define respective accountabilities and the adequacy of the protocols for use in all activities associated with stock assessment under FSM, and if deficient, prepare new ones.
- 1.6 DPI to encourage and support Industry development and application of measures applicable to FSM, such as monitoring.
- 1.7 The governance arrangements for FSM should be modified to enable devolution of some of the current management and research roles, rights and obligations from DPI to an Industry corporate entity.

- 1.8 Upgrade data management systems in support of FSM approaches to be installed and applied as soon as possible in 2008 across the NSW abalone fishery to the maximum practical level.
- 1.9 Continued engagement of industry and greater involvement of DPI in the FRDC FSM project.

## **7.4 MINIMUM SIZE LIMIT**

- 2.1 As the longer-term sustainability of the fishery is the primary objective of its management, the statutory provision of "precautionary principle" must be the primary policy applied and remain mandatory, supported where possible by science.
- 2.2 The policy of applying a single minimum size limit of 115mm across all regions should be replaced with one which, under a FSM policy, reflects variations in growth rates and ages at maturity at different locations in NSW and allows for variable minimum size limits and catch levels at a zonal level, and has regard to science, practicality and applications (cost, compliance and legislation) which can be adjusted up or down to better reflect this variation.
- 2.3 Structured fishing in the North of Region 1 should be undertaken with the minimum size limit of 117mm as soon as possible.
- 2.4 Structured commercial fishing in the South of Region 1 should be undertaken with the minimum size limit of 120mm as soon as possible, based on the outcomes of the recent survey recommendations.
- 2.5 Structured fishing in Region 2 should be undertaken with the minimum size limit of 117mm as soon as the survey design arrangements are agreed and initiated.
- 2.6 Commercial fishing in Regions 3, 4 and 5 and Region 6 North of Wonboyn should be undertaken with the minimum size limit of 117mm for the fishing period commencing 1 July 2008.
- 2.7 Commercial fishing in Region 6 South of Wonboyn should be undertaken with the minimum size limit of 117mm as soon as practicable, accompanied by "prior reporting"<sup>29</sup>
- 2.8 The mandatory collection of FSM data to determine variations in growth rates and size at maturity should be commenced in all regions as soon as possible in 2008
- 2.9 From 2009/10 onwards under FSM, the minimum size limit for all areas should be considered within each stock assessment and TACC determination, with the objective, wherever possible and appropriate to stock recovery and application of the best available science, to increase size limits.
- 2.10 Prior reporting should be implemented as appropriate to improve compliance.

## **7.5 REGIONS 1 & 2**

- 3.1 Access to:  
North of Region 1 and Region 2 under a structured fishing programme

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<sup>29</sup> In regions where prior reporting is a condition of fishing, all divers are required to formally advise as to fishing intentions, (locations, time etc) to a DPI Fishery Officers

### South of Region 1 under structured commercial fishing

taking account of the results from the current survey in Region 1, and the objective to improve information relating to the current status of stocks in those regions and inform the TACC process.

- (1) The re-establishment of full commercial, recreational and indigenous fishing is to occur eventually under a strategy developed by DPI and in consultation with the TAC Committee.

## **7.6 ILLEGAL FISHING AND TRADING**

3.2 To assist recovery of abalone stocks, the actions to reduce illegal fishing and trading should be to:

- (1) Make illegal abalone fishing and/or trade an indictable offence, as recommended in the Palmer Report and in line with other states.
- (2) Address all recommendations to combat abalone theft as laid out in the Palmer and other reports.
- (3) Review coordination and funding of available government compliance resources, including joint operations with police.
- (4) Improve coordinated Industry and DPI compliance efforts, through local and Industry intelligence and modern technology-driven operations.
- (5) A research exercise to improve the certainty of the estimates of illegal fishing catches.

## **7.7 COST RECOVERY**

3.3 Management charges and cost recovery policy to be handled by Industry and DPI.

## **7.8 EFFORT MANAGEMENT**

3.4 Effective control of diver numbers, either through regulated minimum share holdings or market-based measures have been dealt with through the FMS, and are best handled in the future by AbMAC and DPI.

## **7.9 CORPORATE STRUCTURE**

3.5 Establishment of an Industry-based corporate entity to underpin the full and effective implementation of Finer Scale Management.

## **7.10 COORDINATION WITH THE COMMONWEALTH ON WTO AND EXPORT ISSUES**

3.6 NSW DPI maintains its current arrangements on WTO actions with full engagement with industry through AbMAC processes.

## **7.11 IMPLEMENTATION OF SARG RECOMMENDATIONS**

4.1 **Resolution of current relationships between DPI and Industry**

- (1) A meeting to be arranged between Industry representatives, senior fishery managers of DPI and TAC Committee representatives to discuss the outcomes of the SARG's report, including current attitudinal situations as soon as practicable. The results of this meeting should then be presented to the Minister.

#### 4.2 **Resourcing for stock recovery programs**

- (1) Establishment of a designated senior level position of Abalone Recovery Manager in DPI responsible for the advancement and delivery of agreed SARG recommendations, and any other actions designed to assist the recovery of abalone stocks.
- (2) Appointment of an Implementation Team comprising of two representatives from DPI (management and science), and two representatives from Industry, appointed by the Minister on advice provided by AbMAC.
- (3) The Implementation Team will be led and chaired by the Abalone Recovery Manager.
- (4) The Abalone Recovery Manager is to submit to the Minister, within two months of appointment, an agreed programme for implementation of SARG recommendations.

#### 4.3 **Funding of Stock Recovery Programs**

- (1) Minister to allocate sufficient funds based on a 50/50 government/Industry contribution to:
  - (a) The costs of development, acquisition and introduction of a modern hardware and software system for application of data collection (including data loggers), archival and dissemination system (applicable to the abalone and other fisheries), and a revised FSM-based stock assessment for the NSW abalone fishery, over the 2 year fiscal period, from 2007/08 to 2008/09; and
  - (b) The cost of the Implementation Team's operations over the 2 year fiscal period, from 2007/08 to 2008/09.

#### 4.4 **Performance Review**

A formal independent review on the performance of the implementation actions to be undertaken at the beginning of 2010, through the Chair of AbMAC.

## ***APPENDICES***

## APPENDIX A SUGGESTED ACCOUNTABILITIES FOR IMPLEMENTATION

### TERM OF REFERENCE 1

Who	DPI Fishery Managers and Scientists develop and apply:	
What	R1.1	<p>Until FSM approaches are sufficiently developed and the outcomes are acceptable, continue and improve the current stock assessment: -</p> <ul style="list-style-type: none"> <li>(1) a more conservative biomass reference point for exploitable mature abalone, such as the mid 1980s biomass;</li> <li>(2) new indicator representing the fraction of the catch in each year that has grown across the size limit and has recruited to the fishable population in that year; and</li> <li>(3) new target reference points should be established to maintain stocks in particular locations which exhibit less vulnerability to periods of weak recruitment and freedom from disease outbreaks driven by environmental stress and therefore have the potential for more constant catch rates over time at levels which promote an economically viable industry.</li> </ul> <p>Such indicators should also be capable of protecting stocks in locations that are vulnerable to weak recruitment and disease.</p>
When	During 2008	

Who	DPI through the Abalone Recovery Manager and the Implementation Team develop, for submission to the Minister, via AbMAC:	
What	R1.3	A Finer Scale Management (FSM) policy framework be developed by DPI in collaboration with Industry, which specifies in detail a NSW vision for an approach to stock monitoring, assessment and management that better reflects the spatial characteristics and dynamics of the abalone stock, the scale of the fishery, but recognises the resources and capacity required to implement such a policy
When	March/April 2008	

Who	The Abalone Recovery Manager, assisted by the DPI managers and scientists, the Implementation Team and Industry, in consultation with the TAC Committee, following Ministerial endorsement of the policy framework, develop, agree and implement:	
What	R1.4	A FSM policy under a transitional process and timeframe using adaptive management approaches over the next 2 to 3 years, to enable variable minimum size limits and an appropriate distribution of catch and effort across the fishery's various regions and zones. The process should begin as soon as possible in 2008.
When	During 2008 and continuing	

Who The DPI, through the Abalone Recovery Manager and the Implementation Team, with involvement of the TAC Committee:

What R1.5 Examine the roles of DPI and Industry in doing stock assessment to better define respective accountabilities and the adequacy of the protocols for use in all activities associated with stock assessment under FSM, and if deficient, prepare new ones.

When March/April 2008

Who DPI staff to:

What R1.6 Encourage and support Industry development and application of measures applicable to FSM, such as monitoring.

When 2008 and continuing

Who DPI submit for the Minister's approval:

What R1.7 Modify the governance arrangements in FSM to enable devolution of some of the current management and research roles, rights and obligations from DPI to an Industry corporate entity.

When May/June 2008

Who DPI and Industry working with the Abalone Recovery Manager and the Implementation Team, to have regard to the current DPI data management review:

What R1.8 Upgrade data management systems in support of FSM approaches to be installed and applied as soon as possible in 2008 across the NSW abalone fishery to the maximum practical level.

When Commencing April 2008, subject to funds availability.

Who DPI to:

What R1.9 Continue its involvement and engagement of industry in the FRDC FSM project.

Why Continual

## TERM OF REFERENCE 2

Who	DPI to continue to apply:
What	R2.1 The "precautionary principle" to maintain the longer-term sustainability of the fishery which is the primary objective of the fishery management.
Why	Continual

Who	The Minister to approve:
What	R2.2 Replacement of the current policy of applying a single minimum size limit of 115mm across all regions with a new policy, which reflects variations in growth rates and ages at maturity at different locations in NSW and allows for variable minimum size limits and catch levels at a zonal level, and has regard to science, practicality and applications (cost, compliance and legislation) which can be adjusted up or down to better reflect this variation.
When	March 2008

Who	The Minister approve:
What	R.2.3 The size limit recommendations under Term of Reference 2 of the report to R2.7
When	March 2008

Who	DPI and Industry to work collaboratively as soon as possible from 2008 to:
What	R.2.9 Collect FSM data to determine variations in growth rates and size at maturity should be commenced in all regions
When	As soon as possible in 2008

Who	DPI Fishery Managers and Scientists and the TAC Committee involved in the stock assessment and the TACC determination:
What	R2.9 From 2008/09 onwards under FSM, the minimum size limit for all areas should be considered within each stock assessment and TACC determination, with the objective, wherever possible and appropriate to stock recovery and application of the best available science, to increase size limits.
When	2008/09 onwards

### TERM OF REFERENCE 3

Who	The Minister to approve as soon as practicable:	
What	R3.1	Access to: North of Region 1 and Region 2 under a structured fishing programme South of Region 1 under structured commercial fishing  taking account of the results from the current survey in Region 1, and the objective to improve information relating to the current status of stocks in those regions and inform the TACC process
When	March /April 2008, if scientifically supported	
Who	DPI in collaboration with Industry and in consultation with the TACC Committee.	
What	R3.2	Work towards the re-establishment of full commercial, recreational and indigenous fishing under a strategy developed by DPI
When	As appropriate based on assessments of the abalone stock conditions.	

Who	The Minister seek approval to:	
What	R3.2 (1)	Make illegal abalone fishing and/or trade an indictable offence, as recommended in the Palmer Report and in line with other states.
When	As soon as possible	
Who	DPI continue to	
What	R3.2 (2)	Address all recommendations to combat abalone theft as laid out in the Palmer report and other reports.
	(3)	Review coordination and funding of available government compliance resources, including joint operations with police.
	(4)	Improve coordinated Industry and DPI compliance efforts, through local and Industry intelligence and modern technology driven operations.
	(5)	A research exercise to improve the certainty of the estimates of illegal fishing catches
When	Commence actions in March/April 2008	

Who	DPI and Industry to ensure:	
What	R3.3	Management charges and cost recovery policy are handled by AbMAC and DPI processes.

Who	Industry to:
What	3.5 Establish an Industry-based corporate entity to underpin the full and effective implementation of Finer Scale Management.
When	Early 2008

Who	DPI maintains:
What	3.6 The current arrangements current arrangements on WTO actions with full engagement with industry through AbMAC processes.
When	Continual

## IMPLEMENTATION

Who	DPI to arrange:
What	R4.1 A meeting between Industry representatives, senior fishery managers of DPI and TAC Committee representatives to discuss the outcomes of the SARG's report, including current attitudinal situations as soon as practicable. The results of this meeting should then be presented to the Minister.
When	March/April 2008

Who	The Minister establish and DPI appoint:
What	R4.2 (1) An Abalone Recovery Manager at senior staff level, responsible for the advancement and delivery of agreed SARG recommendations, and any other actions designed to assist the recovery of abalone stocks.  (2) an Implementation Team comprising of two representatives from DPI and (management and science), and two nominees from Industry, led and (3) chaired by the Abalone Recovery Manager.
When	March/April 2008

Who	Abalone Recovery Manager:
What	R4.2 (4) To submit to the Minister, within two months of appointment, an agreed programme for implementation of SARG recommendations.
When	April 2008

Who The Minister to allocate:

What R4.3 (1) Sufficient funds based on a 50/50 government/Industry contribution for:

- (a) Development, acquisition and introduction of a modern hardware and software system for application of data collection (including data loggers), archival and dissemination system (applicable to the abalone and other fisheries), and a revised FSM-based stock assessment for the NSW abalone fishery, over the 2 year fiscal period, from 2007/08 to 2008/09; and
- (b) The cost of the Implementation Team's operations over the 2 year fiscal period, from 2007/08 to 2008/09.

Who DPI to arrange:

What R4.4 A formal independent review on the performance of the implementation actions to be undertaken at the beginning of 2010, through the Chairperson of AbMAC.

When March/April 2008

## **APPENDIX B    AGREEMENT, DISAGREEMENT AND NON-NEGOTIABLE AREAS**

### **AREAS OF AGREEMENT**

<b>Finer scale management</b>	Staged implementation.  Transition period from current practice to FSM.
<b>Relationships</b>	A "line-in-the sand" approach to resolving differences and moving on.
<b>Technology</b>	Introduction of modern data management hardware and software.
<b>Illegal fishing</b>	Resolution of outstanding actions on stiffening of sanctions and penalties for illegal fishing and trading.
<b>Service delivery</b>	Need to improve effectiveness.
<b>Minimum size limit policy</b>	Progressive implementation.
<b>Governance</b>	Some devolution of powers, roles rights and obligations to Industry. Eventual maturity of the fishery's management to a a true co-management model.  Establishment of an Industry Corporate Entity initially.

### **AREAS OF DISAGREEMENT**

<b>Potential risk minimisation</b>	Verification of finer scale management outcomes using structured fishing surveys.
<b>Structured fishing surveys</b>	Policies for initiation and implementation of surveys.
<b>Minimum size limit policy</b>	Basis for changes to MSL.  Progressive implementation but different views on timing.
<b>Technology</b>	Accountabilities in management of data.
<b>Cost sharing</b>	Policy review.

## **NON-NEGOTIABLE AREAS**

<b>Potential risk minimisation</b>	Application of the statutory obligation of applying the “precautionary principle”.  Verification of finer scale management outcomes using structured fishing surveys.
<b>TACC Determinations</b>	Continuance of independent TACC determinations.
<b>Data management</b>	Data loggers to be introduced as soon as possible for all diving operations
<b>Industry corporate entity</b>	Corporate entity must be established for formal devolution of powers, roles, rights and obligations
<b>Technology</b>	Cost sharing of technology costs during transition
<b>Divers entitlement</b>	Ministerial decision holds re processes for modification of entitlements.

## **AREAS REQUIRING ATTENTION BUT NO SPECIFIC SARG RECOMMENDATION**

<b>Principles</b>	Clear definition and enunciation of policy principles.
<b>Policy clarity</b>	Better documentation and transparency in policies. (Closure and access provisions).
<b>Protocols</b>	Full coverage of operational activities with FSM implementation.
<b>Structured fishing surveys</b>	Policies for initiation and implementation of surveys.
<b>Quality Assurance in data collection</b>	Quality Assurance provisions to be met in the data collection process.  Non-compliance with such provisions might initiate a sanction and repeated non-compliance would have to have more serious consequences.
<b>Cost sharing</b>	It is SARG’s view that cost sharing should be based on records of actual costs obtained during the transition period for FSM. This will require good recording of effort by Industry and DPI participants. At the end of the transition, a review is proposed and this should embrace cost assessments.
<b>Management Indices</b>	Suggested definitions of the key indices
<b>Technology</b>	Linkages with existing/proposed DPI systems.
<b>Service delivery</b>	Formal service delivery agreements between DPI and Industry with FSM.  Improvements in transparency and content in financial reporting to Industry.
<b>TACC Determinations</b>	Better coordination in timing of inputs to TACC determination processes.

## APPENDIX C

## REFERENCES

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- 2 **Chung, G – ABMAC** A Compliance Issue on the Illegal Trading of Australian Dried Abalone – 2007
- 3 The Marketing Aspect of NSW Abalone – November 2007
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- 5 Effective Export Controls for Illegally Harvested Abalone - Discussion Paper, March 2005
- 6 **NSW Department of Primary Industries** Sampling of abalone in NSW for Archiving and Future Analysis for Ganglioneuritis
- 7 Information Paper-New Commercial Fishery Licensing and Management Arrangements commencing on 5 Feb 2007
- 8 Fisheries Management (Abalone Share Management Plan) Regulation 2000
- 9 DPI NSW Commercial Fishers Newsletter-Vol 10, September 2007
- 10 **Keniry, Dr J** Report on the Review of the NSW Abalone Fishery, December 2005
- 11 **Marsden and Jacobs** Future Governance of the NSW Abalone Fishery: Alternative Arrangements for NSW Fisheries and the Abalone Development Company, March 2004
- 12 **NSW Government** Fisheries Management (Abalone Share Management Plan) Regulation 2000
- 13 Fisheries Management Act, 1994
- 14 **Palmer, M** Report on Illegal Fishing for Commercial Gain or Profit in NSW-May 2004
- 15 **Special Abalone Recovery Group** SARG-Industry Workshop #01-29 Sept 07- Chairman's Report of Summary Outcomes
- 16 SARG Discussion Paper #01-Sept 2007
- 17 **Total Allowable Catch Committee** Report and Determination for 2007/08 Abalone Fishery 4 June 2007

## **APPENDIX D    ACRONYMS**

AbMAC	NSW Abalone Management Advisory Committee
DEH	Commonwealth Department of Environment and Heritage
DPI	NSW Department of Primary Industries
ESD	Ecologically Sustainable Development
FMS	DPI's Abalone Fishery Management Strategy
FSM	Finer Scale Management
IPART	NSW Independent Pricing and Regulatory Tribunal
LRP	Limit Reference Point
MSL	Minimum Size Limit
MSY	Maximum Sustainable Yield
NSW	State of New South Wales
SARG	Special Abalone Recovery Group
TAC Committee	Total Allowable Catch Setting and Review Committee
TACC	Total Allowable Commercial Catch
WTO	Wildlife Trade Operation