
ESD Reporting and Assessment Subprogram: Strategic Planning, Project Management and Adoption

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1.0 NON TECHNICAL SUMMARY

Outcomes Achieved

The outcomes from the first three years of operation of the ESD Subprogram were very successful. This was a period of considerable change in the requirements of fisheries management in Australia and the Subprograms activities and outputs have significantly assisted this process of change. Thus, the main concepts of Ecologically Sustainable Development have gone from being vague philosophies into practical, on the ground outcomes for nearly every sector.

A substantial amount of work has been undertaken since 2001 to develop the methods to measure and assess the performance of fisheries across the full range of ESD issues. This work was occurring in a number of regions and the information was being generated rapidly. The main objective of the Subprogram was to act as the coordinating hub for the development of this information and tools for ESD reporting and assessment.

The work that has been done to achieve this implementation of ESD within the Subprogram has been high-class research that is seen as leading the world in the implementation of ecosystem-based management. Consequently, during the operation of the Subprogram, considerable progress has been made in implementing ESD related topics within the fisheries and aquaculture agencies of all Australian jurisdictions and their related industry sectors.

The tools that were developed within the projects managed by the Subprogram include ESD reporting frameworks for both wild capture fisheries and aquaculture; an assessment manual for assisting in the reporting on management of wild capture fisheries; the development of risk assessment modules for assisting to determine which ecological impacts of wild capture and aquaculture sectors require management; and a handbook for the completion of social assessments. These tools are considered to be world's best practice and are now being used not only within Australian agencies and the industry but are being taken up by external groups such as FAO.

The Subprogram, particularly the regular ESD Reference Group meetings, provided a forum for the discussion of ESD related issues amongst fisheries agencies, environmental agencies, the seafood industry and the environmental NGOs. This assisted in developing a greater level of partnership amongst all these stakeholders.

Another key outcome from the discussions held by the Subprogram was the generation of a set of agreed ESD terminology, these definitions have now been agreed by the Australian Fisheries Management Forum and the Marine & Coastal Committee of the Natural Resources Management Standing Committee. This covered terms such as Environmental Management Systems (EMS), Ecologically Sustainable Development (ESD), Ecosystem Based Management (EBM), Ecosystem Based Fisheries Management (EBFM) and Integrated Oceans Management (IOM). The ESD Reference Group determined that ESD was the overall goal and that the other terms (e.g. EBFM) described strategies that were being used to work towards the goal of ESD.

The projects managed within the Subprogram have provided the ability for agencies and the industry to complete detailed management and assessment against all ESD principles for individual fisheries. The next step to develop the tools needed to enable assessments of multi-sector fisheries and also to facilitate multi-sector assessments that can assist with marine planning issues.

Keywords: Ecologically Sustainable Development, Ecosystem Based Fisheries Management, Risk Assessment, fisheries management, reporting frameworks, socio-economic assessments.

2.0 Acknowledgements

A considerable number of people helped with the operation of the Subprogram over the past three years. These include all past and present members of the ESD Reference Group and, until April 2004, the ESD Working Group. Special thanks are to Mr Peter Dundas-Smith who provided significant level of support to this process. Also thanks to Mr Peter Millington who took on the onerous task of chairing both the Reference and Working Groups.

3.0 Background

Ecologically Sustainable Development (ESD) is now accepted as the foundation for natural resource management in Australia. Since the national strategy was published in 1992, ESD has been incorporated, explicitly or implicitly, as a major objective of all fisheries legislation at both State and Commonwealth levels. Moreover, various changes to other Commonwealth and State environmental legislation, along with increased community expectations, have increased the urgency to implement the principles of ESD for all fisheries in a demonstrable manner.

To show that they are meeting the objectives of ESD, fisheries management agencies, and in some circumstances, the industry itself, need to be able to measure and report on progress against these principles. To do this will require the development of suitable operational objectives, appropriately robust indicators and their associated measures of performance and, most importantly, the management methods employed to meet these objectives. Most fisheries agencies have some sustainability measures, particularly those related to retained species. However, the scope of ESD is much broader than these issues and without clear criteria and indicators to measure all aspects of ESD including ecological, economic, social and governance components - agencies and the fishing industry, risk being unable to demonstrate that they are achieving (or even pursuing), ESD objectives.

During the last four years a number of projects have been initiated to specifically address the implementation of ESD related to the fishing industry. A review of the sustainability indicators and ESD issues within each jurisdiction was completed in 1998 (Sainsbury, et al. 1998; FRDC 98/168) from which it was recommended that a nationally coordinated R&D program on sustainability indicators develop options that could be used in all jurisdictions. It was recognised that such a process should, therefore, be closely linked to the operations of the Standing Committee on Fisheries and Aquaculture (SCFA)*. More precisely, the review recommended four main areas that required attention:

- defining the terminology and the ESD framework;
- capturing national and international experience on ESD reporting;
- developing national guidelines; and finally,
- the development and testing of options for sustainability indicators.

Subsequent to this report and the emergence of other related issues, the SCFA established a Sustainability Indicators Working Group in 1999 to facilitate the development of nationally agreed criteria and sustainability indicators. This group coordinated the development of a project proposal designed to develop a conceptual framework and reporting framework for ESD and to test it using a series of case studies. This concept was presented at the Geelong ESD workshop in March 2000 (FRDC 2000/147) where it received strong support from the various stakeholder groups present. There was, however, a clear requirement for the SCFA ESD Working Group to be expanded to include a Reference Group of stakeholders to ensure continued and effective stakeholder involvement in the process.

**This was replaced by the Marine and Coastal Committee of the Natural Resources Management Standing Committee.*

Following the approval for the project to develop reporting arrangements for ESD (FRDC 2000/145), the SCFA Working Group in conjunction with the Reference Group developed an initial conceptual framework for ESD and a series of core objectives. Utilising this framework, proposed reporting arrangements were developed based largely on the work that had been done by BRS (Chesson & Clayton, 1998, Whitworth and Chesson, 2000), the SCFA Research Committee, the FAO report on sustainability indicators for fisheries (FAO, 1999) and the reporting arrangements already in place in jurisdictions (e.g. Fisheries WA, 2000, BRS, 2000), or requested by other agencies (e.g. EA Schedule 4 Guidelines).

This proposed reporting framework has now been tested during a series of case studies that covered a wide variety of fishery types and information levels. At the workshop held in October 2000 to discuss the outcomes of these case studies, it was generally agreed that the process performed well in providing a report of what was currently occurring. However, the areas where further work was identified included:

- The development of expertise to collect and interpret data for the social and economic components,
- Increasing the effective communication of the issues to all major stakeholder groups,
- The development of methods to ensure active participation of indigenous groups in the process,
- Developing the framework and the guidelines to enable the process to become a method of assessment, not just a report.

Each of these issues will require further work. Some of these issues will be incorporated into the current project (2000/145), others however, will require separate projects to be developed. There are already other projects such as 2000/146, which is developing EMS processes for commercial fisheries, which has a direct application to this issue. Furthermore, it is anticipated that many new applications will be developed to address aspects of ESD assessment and reporting. Moreover, there are many other projects, which will have an indirect impact on these issues (e.g. impacts of trawling etc) with their results used to develop or modify the objectives and indicators that can be used.

Given the large amount of work that is already underway, and is likely to be initiated in the coming years, having a process to coordinate research effort at a national level that ensures maximum synergy and minimal duplication, would be a sensible. These projects are likely to fall into two main categories; developing suitable conceptual methodologies to appropriately deal with the new issues identified and building the technical capability at a national level to implement these developments.

4.0 Need

A significant amount of work will be required over the next 3-5 years to incorporate ESD into ongoing fisheries management across Australia. A number of studies are already in progress addressing some of the issues. These include the SCFA-FRDC study to develop the guidelines for reporting on ESD (FRDC 2000/145), the Seafood Services project (FRDC 2000/146), which is assisting fishers to develop EMS processes to improve their environmental standards. Moreover, a number of issues, such as those identified at the recent ESD case study workshop or in previous reviews, will require alterations to current studies but more generally the development of a suite of new projects. The issues to be addressed include:

- developing relevant expertise to collect and interpret data for the social and economic components,
- effective communication of the issues to all major stakeholder groups,
- development of methods to ensure active participation of indigenous groups in the process,
- developing the framework and the guidelines to enable the process to become a method of assessment, not just a report.
- development of ecological indicators
- testing of the robustness of currently used and proposed indicators.

The effective coordination of all current and future ESD related projects will be essential if the ultimate aim of having a nationally agreed system is to be successful. Given that the majority of these projects are likely to be at least partly funded by FRDC provides the opportunity to supply the necessary coordination through the formation of an ESD “Subprogram”.

Using the Subprogram structure would result in all relevant projects being administered through a common system. Thus, their objectives and the appropriate elements of their methodology would be coordinated to ensure maximum effectiveness, efficiency and thereby minimising duplication. Having such a group would also provide a forum for the exchange of ideas and experiences in a timely fashion, which should greatly enhance the synergy and consequently the ultimate outputs from each project.

Such a Subprogram would ideally utilise the SCFA Working Group in combination with the ESD ‘Reference Group’ as its steering committee. The Reference Group includes representatives from other relevant areas of government, commercial industry, indigenous interests, recreational fishing, aquaculture, FRDC and environmental groups.

5.0 Objectives

1. Coordinate and facilitate the development and evaluation of ESD related project applications submitted to FRDC for funding.
2. Conduct an annual research workshop to peer-review and present outcomes from ESD projects to the SCFA ESD working and Reference Groups.
3. Coordinate the preparation and delivery of an ESD Subprogram communications strategy including maintaining a website, bi-annual newsletter, and output of media releases.
4. Facilitate travel of Reference Group members to annual workshops.

6.0 Methods

Project Management

An ESD Reference Group was to be established that would operate as the steering group for the Subprogram. The composition of the Reference Group would include the members of the SCFA (now AFMF) Indicators Working Group (mostly Directors of Fisheries) also with representatives from Environment Australia (now DEH) the commercial industry, the recreational industry and environmental groups plus independent experts.

The group would meet bi-annually to ensure that there was adequate stakeholder involvement in the progression of the various projects being managed by the Subprogram.

The initial terms of reference for the group (which were to be reviewed in the first few meetings) were to:

- Provide strategic advice on areas where further R&D projects would be required and the priority of any submitted proposals.
- Comment on progress of current projects, particularly with respect to their relevance to the long-term aims
- Facilitate communication of results from all projects to stakeholder groups
- Assist in a facilitation required within their jurisdiction/group for the operation of the projects.

Communication

A biennial newsletter was to be developed to assist communication both within the Subprogram and to all stakeholders. This was to form part of larger communication strategy that was to be developed.

7.0 Results and Discussion

7.1 Agreed Roles and Objectives of the Subprogram

During the first two meetings of the Reference Group, the scope and roles of the Subprogram and the relationship with the Reference Group were determined.

7.1.1 Objectives of ESDRA Subprogram

The objectives of the Ecologically Sustainable Development Reporting and Assessment (ESDRA) Subprogram are to:

- Act as the coordinating hub for the development of information and tools for ESD reporting and assessment.
- Facilitate practical implementation of ESD initiatives by providing a leadership role.
- Coordinate and facilitate the development and evaluation of relevant applications on the reporting and assessment of ESD.
- Facilitate the participation of the ESDRA Reference Group.
- Assist project integration and value-adding through regular project workshops.
- Coordinate the formulation and delivery of the ESDRA communications strategy.

7.1.2 ESD Reference Group

The Ecologically Sustainable Development Reporting and Assessment Subprogram will use the ESD 'Reference Group' as its main consultative body. Thus, the ESDRA Reference Group includes representatives from:

- most fisheries agencies;
- other relevant areas of government;
- commercial fishing industry;
- indigenous interests;
- recreational fishing;
- aquaculture;
- Fisheries Research and Development Corporation; and
- environmental groups.

7.1.3 Reference Group Roles

The ESDRA Reference Group has four main roles that are to:

- Provide comments and feedback on the progress of current ESDRA projects
- Assist in the identification of future directions for projects within the ESDRA Subprogram
- Provide comments on applications submitted for funding through the ESDRA Subprogram
- Assist the flow of communication into and from the ESDRA Subprogram and their particular agency/industry/group.

7.2 Meetings

A series of 6 monthly meetings were held over the duration of the project. The dates for the meetings are listed below;

Dates

- June 25-26, 2001, Canberra
- November 30, 2001, Brisbane
- July 17, 2002, Melbourne
- November 28, 2002, Sydney
- July 2-3, 2003, Sydney
- November 6, 2003, Hobart
- April 27-28, 2004, Perth
- November 5, 2004, Canberra

Summary of Meeting Outcomes

June 2001

- Clarification of the objectives and the planned outcomes of the ESD Subprogram and Reference Group.
- Discussion and revision of the Communications Strategy, as the target audience for the initial draft had not been sufficiently focused.
- Agreement of slogan (“Catching Sustainability”) and logo for the Subprogram.
- Sign off of the information to be included in the ESD website.
- Revision of the Risk Assessment Framework to be included as part of an information pack.
- Recognised the need for Standards – need to resource the determination of environmental standards (from which an initial scoping paper was developed).

November 2001

- Discussion and acceptance of the revised Communications Strategy.
- Launch of ESD website.
- A draft publication of the first ESD newsletter.
- New project proposals were circulated, discussed and recommendations made.

July 2002

- Discussion of existing and finishing projects.
- There was detailed discussion and comment on the new Assessment Project.
- Current/Best/Acceptable Practice Manual was renamed the “Assessment Manual”.
- Summary of Aquaculture ESD workshop outcomes and an agreement to have a focused workshop to examine and modify the draft ESD Framework for Aquaculture.

November 2002

- Discussion of current projects.
- Provision of comments on current draft of the ESD Assessment Manual.
- Discussion and support for the new project application to FRDC.
- Jurisdictional updates on progress to implement ESD.
- Discussion of possible new projects and relevant projects.
- Discussion and outline of a proposed way forward for ESD framework for Aquaculture.

July 2003

- Organised a workshop for Tasmania.
- Proposed a short guide to show how the ESD framework fits with the Commonwealth Guidelines for sustainable fisheries and the MSC guidelines.
- Determined the representatives that should act as the Reference Group for the completion of the ESD Framework for Aquaculture.
- Agreed to a submission to FRDC regarding funding options for completing the Aquaculture

framework.

- Identification of the need to develop (in conjunction with NOO) cross fishery and cross sector frameworks to implement ecosystem-based management (EBM).
- Completed an article explaining how the ESD framework and Seafood EMS are linked.
- Initiated the planning for the review of the socio-economic elements of ESD.
- Developed a revised proposal for the FRDC application (Integration and Interconnectedness).
- Subprogram leader to prepare a report on the outcomes of the revised communications strategy and on the potential indicators of investment return.
- Subprogram leader to prepare a submission to FRDC for a new Subprogram.

November 2003

- Circulation of the short guide detailing how the ESD framework fits within Commonwealth and Marine Stewardship Council (MSC) Guidelines.
- Agreement to revise the communication plan as part of the 2004 Subprogram activities.
- Decision made to invite the Chair of Aquaculture Council to be on the ESD Working Group to facilitate communication whilst completing the ESD framework for Aquaculture
- Decision made to write an outline to explain how the ESD and EMS processes were linked.

April 2004

- Agreement on the main strategies of the Subprogram. They were;
 - Understand and communicate relevant issues associated with implementing ESD.
 - Produce tools to assist the process i.e. ESD framework process.
- Agreement on the Social Assessment Case Studies: Gippsland Lakes was chosen for the region based case study and the Marine Scalefish Fishery was chosen for the fishery based case study.
- Discussion and agreement on keynote speakers and main themes for the ASFB workshop.
- ESD Assessment: Integration and Aggregation Project;
 - Provision of feedback to FRDC on the revised project concept and ensuring no overlaps in scope of project.
 - Review and evaluate questions for the project study.
- Agreement to develop a communication plan for ESD and Aquaculture
- Inclusion of Aquaculture related ESD issues in future ESD Reference Group meetings
- Outcomes on the ESD terminology discussion to be presented to MACC and AFMF.
- Agreement to collaborate current ESD processes into the methodology being developed by NOO for regional marine planning.
- Agreement to trial draft cross fishery ESD framework.
- Agreement to discuss the within sector EMS methods (Subprogram leader and SSA).
- Subprogram leader to facilitate the development of a draft communication strategy and draft “message” to present to the Reference Group for feedback.

7.3 Summary of Project Management

7.3.1 Projects completed during this period

7.3.1.1 FRDC 2000/145 – ESD Reporting Phase 1 (Wild Capture Fisheries)

Background

Achieving ESD requires the integration of short and long-term economic, social and environmental effects in all decision-making. Fisheries agencies in Australia are committed to incorporating the principles of ESD into their management of fisheries resources - an important element of which is the ability to report on performance. Consequently, fisheries needed a framework that would enable them to report on their performance with respect to ESD.

In early 2000, the Fisheries Research and Development Corporation (FRDC) funded a study to develop an ESD reporting framework for Australian fisheries. Following the approval for the project the ESD Reference Group met with the SCFA Working Group in June to discuss and agree on the core objectives, terminology, the conceptual framework and the reporting framework.

Objectives

Facilitate the development and consistent application of practical, nationally agreed criteria and indicators by;

1. Completing a series of case studies implementing the agreed draft SCFA criteria and indicators for ESD reporting.
2. Conducting a workshop including representatives of all stakeholders to summarise the results obtained in other tasks related to the development of indicators for fisheries.
3. Completing a workshop report that contains the best available information on indicators and performance measures that could be used immediately to address the ESD criteria provided by SCFA for each main fishery type.
4. Generating a status report using an “Initial National Application” for sustainability indicators in fisheries including an evaluation section that would identify any further research, development or testing required to ensure a complete set of revised criteria, indicators and performance measures that could be used in all fisheries in all jurisdictions
5. Complete a final national application report for Australian fisheries.

Input from Subprogram to the project

In June 2001, the Reference Group agreed that the project should develop a guide detailing how to complete the ESD reports. This guide would use existing case study information to develop the guidelines and resource kit as part of final project report. This should also incorporate a risk assessment section.

They also identified the need to move towards having national standards for performance.

The meeting held in November 2001, determined that the risk assessment module should be renamed to reflect that this method was designed to prioritise issues (not just a risk assessment *per se*). The group also determined the need to get the process externally reviewed (it was suggested that John Sumner may be a useful person for this given his experience in the area of Risk Assessment).

Performance reports

The sections outlining performance reports needed to have a balance of examples (i.e. include socio-economic and governance as well as ecological) and needed to use examples from indigenous /governance trees as these are not well understood.

The diagram located in Sainsbury *et al.* (1998) FRDC report 98/168, illustrating indicators & performance measures should be included. The consultation on final draft – needs to be distributed widely (placed on a website, send direct to all participants of original Geelong conference).

Next Steps

The group identified the need to develop a best practice matrix (gap analysis) to assist in identifying the issues that the best practice guidelines were needed for (*this became FRDC 2002/086*). The project team was given the task of developing a scoping paper that was to outline the next phases of the project (this ultimately became another project to review ESD needs (FRDC 2004/006).

June 2002

Following the completion of the “How To Guide” and the Technical Report in June 2002 there was discussion by the Reference Group of whether there was a need for further work, particularly related to the extension of the material to the various users and the level of assistance required for the socio-economic elements. There was discussion about the level of socio-economic assistance that may be needed by jurisdictions. There was a sense that the main push was currently coming from the commercial sector, who had recognised the need to have such data to counter the material used by the recreational sector.

It was noted that an application to complete a “National Atlas” along the lines of the *Marine Matters*, which had been developed for the SE region, was being submitted. However, a further application (in addition to the National Atlas) may be needed to provide extra assistance (*this was to become a new project application – see below*)

November 2002

There was concern that the take up of this process had not been universal and that the issue may no longer be a high priority in jurisdictions. It was suggested that a series of one-on-one meetings be held with the various directors of the fisheries agencies to ensure that they had a clear understanding of the framework. It was thought that this might lead to a greater level of adoption.

It was agreed that more work was needed in the aquaculture area. This was subsequently funded in 2000/145 part 2 (see below).

July 2003

There was still a requirement to complete a workshop in Tasmania, which had not had a case study or other direct exposure to these methods.

There was a need to develop a short guide to clearly show how the ESD framework fitted with the Commonwealth Guidelines for sustainable fisheries and the MSC guidelines.

Whilst a small amount of extension work was still needed a large increase in the effort to communicate these concepts to the wider public was required. This required a revision of the communication plan.

A presentation was given on the current initiatives within the socio-economic elements of ESD.

These included

- the development of a handbook for conducting social impact assessment,
- the completion of a national atlas and
- the completion of a national survey of attitudes to commercial fishing and aquaculture.

7.3.1.2 FRDC 2000/146 – The Green Chooser Guide for EMS development

Background

This project was an initiative of Seafood Services Australia (SSA) and Ocean Watch Australia. These coordinating agencies developed a framework and guidance material to enable fisheries to adopt voluntary measures to continuously improve environmental performance and achieve an appropriate level of certification. The framework and guidance material was developed through a case study process. It involved a number of fisheries Australia-wide and was designed to be complementary to and build on the SCFA ESD Reporting project.

Objectives

1. To provide a framework and support to enable fisheries in Australia to determine and achieve an appropriate level of environmental accreditation/certification, through implementation of an environmental management system relevant to each fishery, underpinned by a commitment to continuous improvement.
2. Expand the capacity for SeaNet to provide expertise and assistance to industry groups in improving their management practices and in positioning themselves to implement appropriate environmental management systems and standards for their fisheries.
3. To develop a support tool to guide decisions on the appropriate environmental management system to use – this was termed the “The EMS chooser”.
4. To develop nationally and internationally recognised prerequisites for environmental management standards adopted by fisheries throughout Australia.
5. To identify, document and disseminate environmental best practice technologies and techniques to fisheries.

Input from Subprogram to the project

It was determined by the group that an information paper with graphical presentation be developed, to illustrate the links between EMS, Codes of Practice, ESD reporting etc.

Links needed to be established between these SSA Ocean watch websites and the Fisheries ESD website.

In 2002, the progress for this project was discussed at the meetings and feedback on drafts provided to the Project Investigator. There was some discussion that this approach may be extended to cover the needs of the Aquaculture sector - which ultimately occurred.

In 2003, the linkages between the ESD framework and this EMS approach were explained to the group but it was recognised that these linkages needed to be made more explicitly.

7.3.1.3 FRDC 2001/065 – Socio-Economic Valuation of Allocation Options Between Commercial and Recreational Use.

Background

The aim of this project was to provide a socio-economic framework for analyzing resource allocation options and to demonstrate, by three case studies, the practical application of existing valuation methodologies and tools. It would extend the value of previous FRDC studies (e.g Hundloe) and the inter-sectoral equity issues relating to ESD.

A document was drafted that outlined, in reasonably non-technical terms, the fundamental economic concepts involved in this methodology. The document included descriptions of the economic values for benefit-cost analysis of allocation options, which included the theoretical economic framework and possible policy directions for resource allocation to optimize marginal net economic benefits to the community.

Objectives

1. The benefit-cost analyses of fisheries facing intra- and inter-sectoral allocation issues will generate socio-economic data regarding the potential benefits and costs associated with reallocating within and amongst different stakeholder groups in several types of fisheries.
2. Specifically, the particular case studies will provide explicit assessments of the potential benefits and costs of reallocations in three fisheries. These particular fisheries are representative of ESD-related allocation issues in many of Australia's fisheries:
 - a. (i) intersectoral allocation: the Cockburn Sound Crab fishery - a localized crab fishery in an area of increasing coastal residential and industrial development
 - (ii) inter- and intra-sectoral allocation: the Perth Metropolitan abalone fishery - an abalone fishery in which the rapidly expanding recreational sector is quite spatially discrete from the commercial sector but harvests the same stocks
 - (iii) inter- and intra-sectoral allocation: the 'finfish' fishery, including snapper and dhufish - a multi-species finfish fishery that is both used by commercial fishers as part of a diversified portfolio and, increasingly, as a directed target fishery and used by recreational fishers as a directed species fishery of growing importance.

Input from Subprogram to the project

A Consultative Group was established as a sounding board for sectional interests (commercial and recreational fishing organizations and the Fisheries Department) and to ensure linkages to other related FRDC supported projects (e.g. the Cockburn Sound recreational survey and the ESD projects).

In Nov 2002, a follow up project on dynamic modeling was discussed. This project was seen as being a logical extension of the work already done on this issue, moving from a static model to a dynamic model. It was, therefore, supported.

7.3.2 Projects developed during the Subprogram

7.3.2.1 FRDC 2002/086 – Development of Assessment Tools for the National ESD Framework – initial scoping exercise

Background

The previous FRDC project 2000/145 developed the conceptual framework and guidelines to enable reports on the contribution of a fishery to ESD. In November 2001, the ESD Reference Group concluded that there should be follow-up projects to support the progression of this process

from ESD reporting to ESD assessment. This project was the first step in this process and had the following objectives.

Objectives

1. Produce the first edition of the “Best Practice” report/manual for ESD Assessments based on currently available information.
2. Initiate discussions and preliminary testing of the various methodologies that could be used to enable the integration and assessment of possible management responses across all the elements of ESD – (economic, social and ecological dimensions).
3. Use the outcomes of the integration trials to generate a comprehensive project application that will develop the tools necessary to enable integrated ESD assessments within a fishery, amongst fisheries and finally amongst industries – ultimately leading to tools for regional marine planning.
4. Using the gaps and level of completeness within the “Best Practice” manual and the outcomes from the initial testing of models for integration, develop a project application to further evaluate the appropriateness of management options.

Input from Subprogram to the project

The decision that a project to progress the framework towards being a full assessment framework, was made at the first Reference Group meeting in June 2001.

The project application was discussed in detail at the Reference Group meeting in November 2001 where the objectives of the project were refined.

In Dec 2002, comments were sought from the Reference Group on the content and format of the first draft of the Assessment Manual. Comments from Environment Australia were of particular interest because they should be one of the main target audiences for this material.

Whilst it was recognised that the current working draft was still a long way from being in a form for publishing, the direction that it was taking was seen as being potentially very valuable in structuring the way that applications could be assessed and summarising the material that could be used to assist in determining whether the performance of a particular fishery was likely to be acceptable or not.

ESD Manual

At the July 2003 meeting, two key elements of the new assessment project were discussed. The Current/Best/Acceptable Practice Manual (as described in the application) was renamed the “Assessment Manual” which eliminated the difficulties being faced deciding amongst the possible names. It was however recognised that when material was being presented it could be described as current, best or acceptable also.

Further it was agreed that three levels of detail were needed:

1. Generic - Process,
2. Generic - Performance Levels,
3. Specific - Performance levels, Indicators and Management options

It was also agreed that a matrix of fishery types should be included (probably associated with the habitat issues). This would be in addition to the species-based reports.

Finally it was highlighted that the initial edition will probably contain gaps because of a lack of available information.

Examples of the possible scope and details of the “Current Practice” manual were drafted. These were circulated to the ESD Reference Group and the Standing Committee for Natural Resources Management for their comments. Comments on the first draft of the Assessment Manual were sought from the Reference Group.

In July 2003, the Reference and Working Groups discussed the first draft of an Assessment Manual. A major topic for discussion revolved around who the audience would be for this manual. The question of, would it be for someone writing an ESD report or someone assessing an ESD report, was raised. It was agreed that the manual should not try to explicitly state what a standard should be, but be a guide or a reference document. Furthermore, the manual should provide the technical information and not prescribe what policy should be used. It was agreed that the current version (with appropriate editing) should be published as soon as possible. A further update should be generated when the material from all the EA applications was available (possibly as a result of a workshop to discuss these outcomes).

ESD Assessment Application

The two main types of analyses were – Aggregation and Interconnection

i) Aggregation

Analyses that involved aggregation of indicators across and among issues - possibly leading to pass/fail decisions.

A major output of this project would be summaries and explanations of the possible methods that would inform and recommend processes to achieve this.

ii) Interconnection

Analyses leading to “what ifs??” i.e. leading to better outcomes.

There was three steps in this process – (i) summary of current methods, (ii) develop simple qualitative models and (iii) value add on existing quantitative models.

Comments

There was discussion about the different needs in the various jurisdictions, and how fast some of these needs were changing. For example, Tasmania was in the process of developing explicit management goals and targets in relation to ecological, economic and social outcomes.

There were some comments that this project may have been moving too far too quickly, but having a summary of the state of play would be very valuable. In addition, some emphasized the ongoing need for the project to continue developing, providing the methods that would be required in future.

There was considerable discussion of the use of pass/fail versus the use of scores or interpretations at lesser levels of aggregation. It was pointed out that pass/fail decisions were already being made (eg EA strategic assessments, allocation of fishery resources between recreational and commercial users) and that the aim of the project would be to help inform these decisions and make them more transparent. There was a discussion about whether there was any value in generating scores and interpretations at lower levels of aggregation, rather than just have a pass/fail for the fishery as a whole. This could be used to identify areas of good performance and areas where effort towards improvement might be focused. The latter approach matched more the needs and processes of most existing management arrangements and third party assessment.

There were questions about the time frame – in that it should be seen as a long-term tool (it would take a few years to complete in total, but some outputs would be generated relatively quickly). Hence the project was seen as being primarily strategic in the sense of moving beyond the present approaches. Most thought that it was the next logical step. There was some disagreement with the use of the term pass/fail and it was agreed that a tiered process would be useful.

7.3.2.2 FRDC 2003/056: Social Assessment Handbook: A guide to methods and approaches for assessing the social sustainability of fisheries in Australia.

Background

The need to have more tools to undertake social assessments was identified during the initial ESD framework project (2000/145) and in Reference Group meetings. An FRDC preproposal was presented at the November 2002 Reference Group meeting.

Social impact assessment is an area of fisheries management that has received little attention and has been identified as a priority by the Standing Committee on Fisheries and Aquaculture (SCFA) process. Addressing social impacts could inform the choice between management options that have similar resource and economic outcomes but which may have significantly different social impacts. In addition, understanding the social implications of fisheries management decisions or policy approaches may enable coordinated government approaches to ease the transition associated with any structural adjustment processes in an industry.

This project will produce a handbook that will enable all fisheries around Australia to finalise their SCFA assessment process using an approach to social impact assessment that is consistent with the issues and values articulated in Section 6 “Impacts of the Fishery on Community Wellbeing” and Section 7 “Impacts of the Fishery on National Socio-economic benefits”. The social impact assessment (SIA) framework and guidance on methods/approaches for each stage of an SIA will allow practitioners to develop skills and confidence to undertake or commission sound assessments of the social impacts of changes in fishing industry policy. This will also facilitate increased awareness of potential social impacts and improved planning and management to take these into account, amongst fisheries managers. This project will additionally incorporate a component of case study work to review the effect of government action in facilitating the use of social capital to assist fishing communities in adjusting to changes in resource access. The case study component of the work will complement the SIA Handbook through both testing it, and with further assessment criteria of a communities’ ability to adjust to resource access changes.

Objectives

Provide a user-friendly “How To” handbook for practitioners that will;

- 1) Include a framework outlining the scope and content of SIA for fisheries management;
- 2) Describe the range of methods or approaches that can be employed at different SIA stages;
- 3) Provide an assessment of the relative strengths and limitations of different methods or approaches;
- 4) Complete case studies to test application of the handbook.

Input from Subprogram to project

In November 2003, the Reference Group suggested that one of the case studies should cover an inshore finfish fishery, as these fisheries usually had a high level of conflict with other user groups, for which this type of information may be needed. It was noted that more than 2 case studies may be needed and additional funds may need to be requested.

In April 2004, a discussion was held on what two case studies should be used, to assist in the development of the handbook. It was decided that there would be a region based case study and a fishery based case study.

Region based Case Study

The Gippsland Lakes region was chosen for this case study. This would examine the contributions of the various fisheries and associated activities to the Gippsland Lakes' region. This study would include the landing of product from other fisheries in this area, and therefore cover multiple fisheries.

Fishery Based Case Study

This case study would look at how a single fishery contributed to a number of different regions. Previous discussions had identified the SA rock lobster fishery as being a possibility, however this fishery was currently being examined as part of the EMS case study process. There was also the likelihood that a social assessment of the WA Rock Lobster Fishery would be occurring. It was therefore concluded that a study on a coastal scalefish fishery may be more appropriate and the SA Marine Scalefish fishery was proposed.

Other social impact studies

It was decided that if the study on the WA Rock Lobster industry was funded by FRDC, it would be necessary to collaborate with the BRS study to ensure that their work is comparable.

7.3.2.3 FRDC 2000/145: ESD Frameworks Part 2

Background

Following the completion of the wild capture framework. It was identified that other frameworks were needed to enable full implementation of ESD across all sectors. This required a separate framework for aquaculture and also frameworks to enable cross fishery and cross-sectoral assessments.

Aquaculture

It had been suggested that the draft National ESD framework for Aquaculture and the process to complete its development be forwarded to Ministerial Council for their endorsement. If this were to occur, there would be a need to widen the role and membership of the ESD Reference Group. A focused workshop using the expanded Reference Group, to examine and modify the draft Aquaculture ESD framework, could be organised before the end of 2005.

A two-day meeting was held in early 2004. The first day, the Aquaculture Committee (AC) of AFMF met and discussed the need to have an ESD Framework for aquaculture. This draft ESD framework was modified using the comments of the AC members. The following day this modified ESD framework was presented to the Environmental Agencies (eg EPAs EA, Planning agencies) from most jurisdictions. Further amendments were made to the draft ESD framework. The group also discussed an outline for a proposed way forward to obtain the agreement, and hopefully sign on, of industry and other stakeholders (NGOs etc) to this framework. This outline is detailed below:

The Proposed way forward to complete the framework

Organise a workshop between the Aquaculture Committee and the National Aquaculture Council to achieve the following ;-

-
- 1) A joint understanding of the drivers for a NAESDF;
 - 2) Industry agreement on direction;
 - 3) Finalisation of the draft ESD framework;
 - 4) National Aquaculture Council take outcomes back to constituent groups to gain input and ‘buy on’;
 - 5) Aquaculture Committee take outcomes back to state agencies and local industry groups to gain input and ‘buy on’
 - 6) Engagement with the revised ESD Reference Group (ATSIC plus other NGOs and others).
 - 7) Presentation of final draft framework to Seafood Directions;
 - 8) Settle a final position with National Aquaculture Council. (October 2003)
 - 9) Pass final framework through to AFMF/MACC/NRMSC and ultimately NRMMC;
 - 10) Prepare a “how to guide” for aquaculture using case studies.

July 2003

There was still a need to determine who will act as the Reference Group for the completion of the ESD Framework for Aquaculture.

Cross-Fishery/Cross Sector

There has been a high level of confusion in the use of terms such as Ecologically Sustainable Development (ESD), Ecosystem Based Management (EBM), Ecosystem Based Fishery Management (EBFM), Integrated Oceans Management (IOM) and Environmental Management Systems (EMS). As part of the ESD workshop held in April 2004, these specific terms, and the general problem of dealing with different terminology amongst groups and countries, were discussed by the ESD Reference Group.

There is now agreement on ESD definitions, by the Australian Fisheries Management Forum¹ and the Marine & Coastal Committee of the Natural Resources Management Standing Committee (NRMSC). The ESD Reference Group determined that ESD was the overall goal and that the other terms (eg EBFM) described strategies that were being used to work towards the goal of ESD.

7.3.2.4 FRDC 2004/006: ESD Reporting and Assessment Subprogram: Project Coordination and Stakeholder Consultation

Background

The initial ESD Reporting and Assessment (ESDRA) Subprogram project was due to finish in June 2004, however a number of ESD based initiatives were still going to be underway at that time. Moreover, a number of new initiatives had only just been endorsed by the ESD Reference Group and the NRMSC. Therefore, the effective management and coordination of these activities would require an extension of the Subprogram for a further period.

Both the ESD Reference Group and the Marine and Coastal Committee of the NRMSC agreed that the ESD Subprogram should continue for a further three-year term.

¹ Which includes the heads of each fisheries agency in Australia.

Objectives

1. Facilitate the discussion and coordination of ESD related issues amongst the various stakeholder groups.
2. Coordinate and facilitate the development and evaluation of ESD related project applications submitted to FRDC.
3. Coordinate the preparation and delivery of the ESD Subprogram Communications Strategy.
4. Facilitate travel of the ESD Reference Group members to the annual workshop and meetings.

Input by the Subprogram

The proposed application for a second phase Subprogram was discussed at the November 2003 ESD Reference Group meeting. It was agreed that the chairperson for the MACC Working Group should also chair the Reference Group meeting. The Reference Group should therefore include the Subprogram leader plus one or two other Working Group members plus ASIC, NAC, ATSSIS, SSA, FRDC representatives.

It was decided that NGOs would only be invited if there were specific issues that warranted their attendance. Subsequently, in early 2004, it was agreed by AFMF and MACC that the role undertaken by the Working Group would be transferred to the Reference Group as there was no need for the two groups to operate independently.

Scope of the new Subprogram

The new Subprogram should:

- Cover all ESD issues related to single fisheries, cross fishery/multi fishery issues and the fishery elements of multi sector marine planning issues.
- Facilitate the clarification of EMS/EBFM/EBM.
- Facilitate the clarification of integrated fishery assessments (eg spatial management, allocation mechanisms etc).
- Coordinate development of social and economic research techniques.

Meetings

Only one “administration” meeting should be held per year and one themed workshop.

Outcome

These issues were taken into account in developing the new project application.

7.3.2.5 FRDC 2004/036 CSIRO Review of ESD

Background

After the initial project application to develop the tools for integration and aggregation was rejected, the FRDC asked for a revised proposal. It was related that a desktop study should be carried out between February 2005 and January 2006. The revised proposal objectives are as follows:

- Compare and contrast the scope and principles;
- Review benchmarks present in EPBC applications;
- Review responses by Fisheries Management Agencies etc;

-
- Summarise the review to DEH and NOO.

The methods will be:

- Desktop review on the national and international approaches;
- Review assessments reports completed by fisheries agencies Fishing Management Authorities;
- Structured interviews;
- Analyse results;
- Present results.

There was considerable discussion about the scope, need and general concepts of this project. It was also clear that the level of need for integration and aggregation tools amongst agencies was also not clear.

The group had to provide feedback to FRDC that the revised project concept was acceptable. The questions for the study needed to be reviewed and evaluated also. The forum where the questions should be reviewed and developed would include ASCI, WWF, AFMF and the Subprogram. In addition, a review was needed to ensure there were no overlaps in the scope for the project. The project will be managed by the second Subprogram project 2004/006.

7.4 Summary of Project Outputs

FRDC 2001/145 – ESD Reporting phases 1 & 2

Outputs

- A “How To Guide” for Wild Capture Fisheries.
- A Technical Support document for the information collected during the 8 case studies.
- A “How To Guide” for Aquaculture.
- An FRDC final report.
- A published scientific paper in *FISHERIES RESEARCH*.
- An agreed set of definitions for ESD.
- A draft framework for cross fishery and cross-sectoral frameworks.

FRDC 2000/146 – The Green Chooser Guide for EMS development

Outputs

- The brochure *A great future in seafood!*
- The *Seafood EMS* Chooser booklet and information pack.
- The *Step by Step Guide* to completing an EMS for fisheries.
- An FRDC final report.

FRDC 2001/065 – Socio-Economic Valuation of Allocation Options Between Commercial and Recreational Use.

Outputs

- A manual explaining the methods used for valuing recreational fishing.
- An FRDC final report.

FRDC 2002/086 – Development of Assessment Tools for the National ESD Framework – initial scoping exercise

Outputs

- ‘The ESD Assessment Manual for Wild Capture Fisheries Version 1’
- An FRDC application that has subsequently become 2004/006.
- An FRDC final report.

FRDC 2003/056: Social Assessment Handbook: A guide to methods and approaches for assessing the social sustainability of fisheries in Australia.

Outputs

- A draft Social Assessment Handbook (to be completed in the next Subprogram term).

FRDC 2004/006: ESD Reporting and Assessment Subprogram: Project Coordination and Stakeholder Consultation

Outputs

- New Subprogram application.

7.5. Communication

7.5.1 Summary of the Initial Communications Strategy

A draft communications strategy was discussed at the ESD Reference Group meeting in June 2001 and revised for the November 2001 meeting.

7.5.1.1 Background

Because of the complexity of issues targeted through ESD, there has been a general lack of success both in the implementation of the concept and in the development of assessment procedures to evaluate practical achievements on the ground.

The core objectives of Australia’s National Strategy on Ecologically Sustainable Development are:

- To enhance individual and community well being and welfare by following a path of economic development that safeguards the welfare of future generations.
- To provide for equity within and between generations.
- To protect biological diversity and maintain essential ecological processes and life support systems.

With the implementation of ESD within the fisheries sector, the then SCFA identified the need for fisheries management agencies to adopt a fisheries ecosystem management framework, which would provide a more holistic and sustainable approach to the management of aquatic resources.

Communicating these outcomes, and the processes developed to achieve them, is one of the key strategies that must be developed in a planned and strategic way to ensure awareness and support of the principles and processes by all stakeholders, including individuals within the fisheries agencies.

Purpose of the plan:

- 1) To raise awareness, and understanding of the ESD concept and processes in fisheries – (sustainability is being achieved).
- 2) To increase involvement and support of stakeholder and community groups in, and of, the processes.
- 3) To promote the ESD Reference Group, the Subprogram leadership of the various projects at the national level and international level, as to what is happening in ESD and Fisheries.
- 4) Provide a method for communicating the work that is being done on ESD in the fisheries context.
- 5) Facilitate the linkages to all activities on ESD in all industry sectors, jurisdictions, and programs.
- 6) Maximise synergies amongst the various FRDC projects and thereby the efficiencies for funding options
- 7) Promote work being done by Subprogram.
- 8) Provide tools etc for use by jurisdictions.

7.5.1.2 Target Groups and Strategies

There is a diverse range of audiences that need to be informed about the processes that are underway and the achievements that are made. This includes the industry, (recreational, indigenous, aquaculture), managers, researchers, government, general public, specific target groups (eg indigenous, conservation groups SSA, Seanet, GBRMPA) – both national and international. A spreadsheet has been developed that looks at the various target groups and the relative effectiveness of the different communications tools that can be used to disseminate information to them (See attached Table 1).

Table 1. Relative effectiveness of different communication tools used to disseminate information to the various target groups.

METHOD	General Public	Commercial Fishers	Recreational Fishers	Indigenous	Conserv.	Fish. Managers	Scientists	Env Agencies	Politicians	Un-Weighted	Weighted
Priority	1	3	2	2	2	3	3	2	1		
Web- Page	2	2	2	0	2	3	3	2	1	17	39
Articles											0
Newspaper	2	1	2	1	2	1	1	1	1	12	24
Commercial magazine	1	3	1	0	1	2	1	0	0	9	23
Recreation Magazine	1	1	3	1	1	2	1	1	0	11	25
FRDC News	0	3	1	0	1	2	1	1	1	10	25
Newsletters	0	2	1	0	1	2	2	2	1	11	27
Scientific Papers	0	0	0	0	1	1	3	1	0	6	16
How To Guide	1	2	2	0	1	3	3	2	1	15	36
Conferences											0
presentations	0	1	1	1	1	3	2	1	1	11	27
posters	0	1	1	1	1	2	2	2	0	10	25
Workshops	0	2	1	1	1	3	3	2	0	13	34
Interviews											0
TV	2	1	2	1	2	1	1	1	1	12	24
One - On - One	0	1	1	2	2	2	2	1	3	14	30
Extension	1	3	2	2	1	1	1	1	0	12	28
KEY	Minimal	Some	Fair	Best							3
	0	1	2	3							

Given that any budget (both in dollars and people time) for communication is limited, it is sensible to determine what are the most appropriate strategies to maximise the cost effectiveness of activities. Furthermore, the priority of the different target groups for communication may not be the same and these may change through time.

During the early stages of completion of the projects in the Subprogram, there were differences in the priority of communicating to these groups over that period. It was recognised that these priorities would need to be reviewed.

The initial priority groups were the commercial fishers, commercial managers and scientists, because these were the groups that needed to be immediately engaged in the process to get the process started. There was no point communicating aspects to the wider community unless these three groups had actually engaged properly and were making significant progress in the implementation of these ESD schemes. Thus it was the implementation of ESD that should be communicated to the wider community, not the processes used to achieve this.

Given these priorities the most effective means of communications were:

1. The ESD website;
2. Producing “how to guides”;
3. Workshops;
4. One on One.

A second tier of strategies to target these audiences, also cost effective, were:

1. Extension;
2. Newsletters;
3. Conference Presentations.

7.5.1.3 Slogan and Logo

The slogan that was developed for the Subprogram was “CATCHING SUSTAINABILITY”. This slogan was used for all of the communication and documents. The idea of this slogan was that it linked fisheries, in a subtle way, with sustainable development without is being either too clever or too simple.

The logo includes the slogan and a clever design for ESD using a fish as the “S”.



(This logo has subsequently been updated).

7.5.1.4 General Messages

- What is ESD within the fisheries context
- We have developed methods to implement ESD across all fisheries
- There is now a large level of activity in meeting ESD principles - Contribution to Sustainable fishing
- The processes include a high level of transparency and involvement (your future – your say)
- Holistic management for sustainability (everything is connected)
- Taking chewable bites
- Matching risk to knowledge

7.5.1.5 Planning Schedule

November 2001

- Launch of website
 - Background
 - List of current projects and brief descriptions
 - Timetable of current projects
 - Status reports of current projects
 - Hot links to other relevant sites
- First Project Newsletter produced and distributed (& placed on web site)

January 2002

- Initial “How to Guide” placed on the Website.
- Green Chooser put on Website.

February 2002

- Complete final report to FRDC – SCFA – ASIC.

March 2002

- Final version of Guide place on Web Site

7.5.2 Strategies

7.5.2.1 Overview

(i) Website – a dynamic site with following features;

- Overview of ESD
- Project summaries and reports (different levels of detail)
- Bulletin board for summary updates
- Feedback feature
- Timetable of events
- Banners to promote new activities, etc

-
- PowerPoint presentations able to be viewed
 - Hotlinks to relevant sites – states,
 - Secure section for industry stakeholders (possibly later?)

(ii) Media (Nationally)

A planned set of media releases and launches to coincide with the schedule of events (section 6 above) to include for the next six months:

- November 2001
 - national launch of ESD website
 - completion and public release of first ESD reports
- January 2002
 - regular columns begin in agencies' staff newsletters and intranets
 - revised "how to guide" on the website.

(iii) Personal Briefings

Briefing to new Ministers once the result of the election is known.

(iv) Newsletters

- Using industry and agencies staff newsletters as communications vehicle, promote a competition for the development of a logo and slogan for ESD. To be judged by SCFA. Logo and slogan can then be used for promotional purposes – letterheads, ads, posters, and even merchandise (eg T shirts, caps).
- Single page colour newsletter to be produced and distributed initially monthly and later six-monthly to stakeholders, agencies and politicians. The newsletter will be a promotional as well as information tool and will be uploaded onto the website.
- Extension Officer Techniques – direct verbal communication (backed up by material).

(vi) Assistance with Jurisdictional Communications

- Monthly updates sent to jurisdictions for their purposes.

(vii) Evaluation and Review

- Surveys to gauge understanding and agreement on actions.

7.5.3 Summary of ESD Website

The website is the major component of the communication of the Subprogram to assist those wanting to understand or utilise the outputs of the national initiative to implement ESD within the management of all Australian fisheries and aquaculture resources.

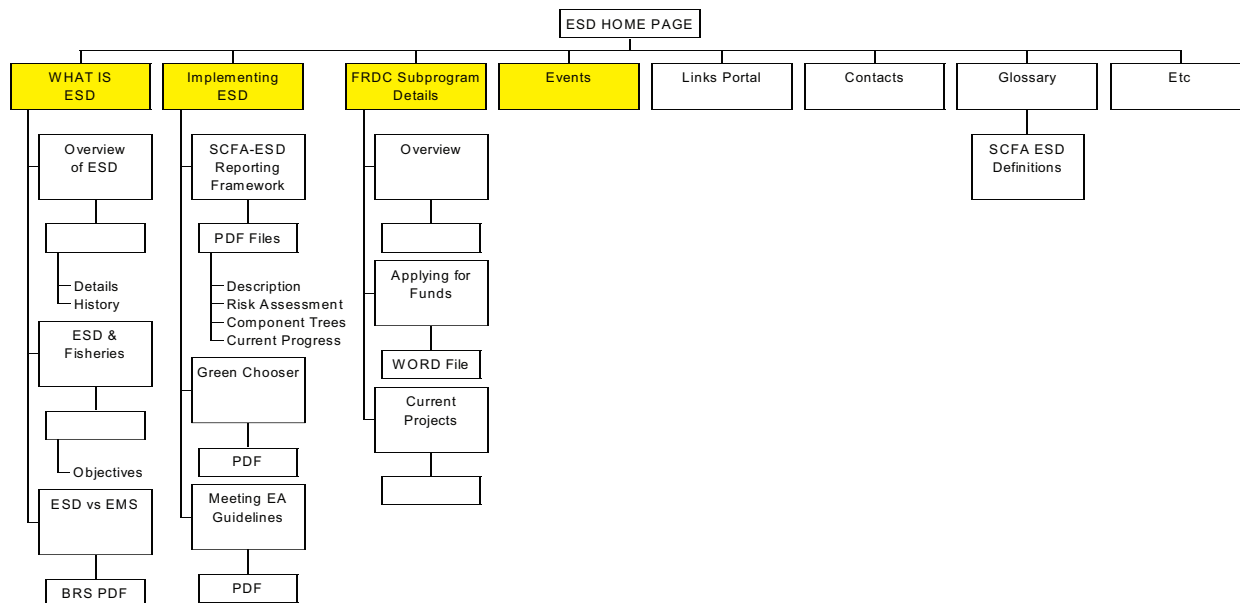
The stand-alone website is aimed at assisting fisheries managers and the industry Australia-wide, to implement ESD. The website will therefore demonstrate to other agencies, such as Department of Environment & Heritage, that their fisheries are managed in an environmentally sustainable fashion, to ensure the existence of fish stocks for future generations.

The National Fisheries ESD Website (located at <http://www.fisheries-esd.com.au>) has been structured on a multi-tier basis with the level of infrastructure provided about ESD should suit a range of stakeholders. However, the information was especially aimed at assisting fishery managers, the industry, environmental groups and the wider community in understanding of the issues and

providing a simple means to find relevant information and downloadable publications. Because ESD and its framework are still developing, the site has been constructed with future directions in mind and ease in expansion.

The major aim of the website is for the collection and dissemination of ESD information for fisheries managers, assisting them in its implementation. However, the site has the potential to become the national information hub on ESD for the entire fishing industry.

The overall design of the website is shown below.



A sample page is presented here:



7.5.4 Newsletters

Seven newsletters have been produced over duration of the project. These are distributed both nationally and internationally to a variety of organisations that include Fisheries and other related agencies, industry groups, recfishing groups, conservation NGO's and other interested parties.

The aim of the newsletters is to provide a summary of the progress of the ESDRA Subprogram, based on the 6-monthly ESD Reference Group meetings. They include:

- Current progress reports on existing projects
- Updates and information on new projects
- Details of upcoming workshops and conferences
- Outcomes of related workshops and conferences
- Jurisdictional updates - what ESD related activities are occurring and what level of uptake of the Subprogram outputs has taken place.
- Identification of future work that needs to be completed eg new frameworks, extension etc.
- Details of the next meetings

7.5.5 Conferences and Meetings

Conference papers were presented by the Subprogram leader at a number of conferences.

These include

- Outlook March 2001
- Seafood Directions November 2001
- National Abalone Conference 2001
- Australian Society for Fish Biology 2002
- National Abalone Conference 2003
- Seafood Directions Sept 2003

7.5.6 Workshop and Meeting presentations (not part of projects).

A number of workshop presentations were completed by the Subprogram leader, that were not part of the initial project case study list. These were undertaken to promote the concepts developed and extend the information to all jurisdictions.

Workshops

- WA Prawn Trawl fisheries (2001)
- WA Abalone fishery (2002)
- WA Snapper fishery (2002)
- WA Shark Fishery (2002)
- Tuna Aquaculture (2002)
- Non-Maxima Pearls in WA (2002)
- Port Philip Bay Aquaculture (2003)
- Tasmanian Scallop fishery (2003)
- South Australian Non-Tuna marine finfish aquaculture (2003)
- Queensland Gulf of Carpentaria Fisheries (2004)

Presentations to Boards/Committees

- AFMA Board
- National Aquaculture Council
- SA Government Aquaculture Issues Group (GAIG)
- WA Marine Protected Reserves Authority

8.0 Benefits

The key benefits of the Subprogram have been;

- the facilitation of the development of a large number of ESD related tools including;
 - reporting frameworks for wild capture fisheries and aquaculture
 - assessment manual for wild capture fisheries
 - development of a risk assessment module for ecological impacts of wild capture and aquaculture sectors and,
 - a handbook for the completion of social assessments.

These tools are considered to be worlds best practice and are now being used not only within Australia but are being taken up by external groups such as FAO.

- To provide a regular forum for the discussion of issues amongst fisheries agencies, environmental agencies, the seafood industry and the environmental NGOs. This has assisted in developing a greater level of partnership amongst all these stakeholders.
- Regular provision of information on progress towards implementing ESD to all key stakeholder groups.
- Regular discussions amongst all jurisdictions about the problems they were facing in meeting EPBC requirements.
- Facilitation of the generation of a number of key research projects designed to make further progress in the development of ESD related tools.
- A key benefit of the Subprogram was the generation of a set of agreed ESD terminology. These definitions have now been agreed by the Australian Fisheries Management Forum and the Marine & Coastal Committee of the Natural Resources Management Standing Committee. This covered terms such as EMS, ESD, EBM, EBFM and IOM. The ESD Reference Group determined that ESD was the overall goal and that the other terms (eg EBFM) described strategies that were being used to work towards the goal of ESD.

9.0 Further Development

Cross Fishery/Cross Sector Frameworks

The relationship between the current fishery based ESD framework and Ecosystem Based Management was discussed a number of times during Reference Group meetings. It was recognised that in terms of the issues examined, depending upon the definition of Ecosystem used, there is either a full overlap between ESD and EBM, or EBM is a subset of ESD. There is, however, a need to extend the scope of the issues being examined. The current framework is examining an individual fishery (because that was the question being asked at the time). What is now needed is a framework that can deal with cross-fishery issues (such as cumulative impacts and allocation amongst groups) up to multisector analyses within the bioregion, leading to regional marine planning which is

synonymous with Integrated Ocean Management. A diagrammatic representation of this is shown below (figure 1).

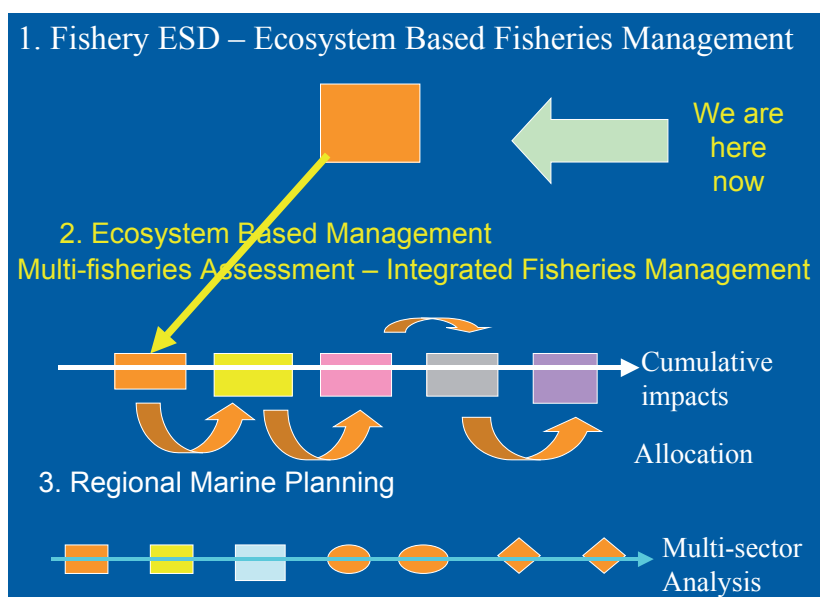


Figure 1. A diagrammatic representation of the relationships between three levels of the ESD related frameworks.

There is a need to develop cross fishery and cross sector frameworks to implement full ecosystem based management. The latter should be done in conjunction with the National Oceans Office.

Review of ESD Needs

Following the first round of EPBC assessments, there is a need to review the requirements of jurisdictions related to ESD. This is both in terms of trying to provide efficient processes to help meet any recommendations flowing from the first series of recommendations but also to try and predict what will be needed for future assessments. This will determine how much extra work, if any, is required to be completed by projects managed by the Subprogram to assist with these single fishery assessments.

The current ESD requirements for jurisdictions and agencies in general need to be determined.

There is a need to complete a review of all ESD needs by agencies.

10.0 Outcomes

Summary of Jurisdictional Uptake

At each of the ESD Reference Group meetings, the representatives of each jurisdiction provided an update of the uptake of the tools developed by the ESD Subprogram. This update was both on the level to which they were using the ESD framework within their general operations, and more specifically, in generating their applications to meet the EPBC requirements.

Over time, presentations by each jurisdiction indicated that the level varies according to the jurisdictional requirements and the level of resources available. All jurisdictions agreed that these tools have affected their processes and outcomes in a positive fashion.

The following is a summary of this uptake as of mid 2004.

Implementation of ESD processes and tools within Wild Capture Fisheries

Western Australia

- All EPBC applications have been submitted (26) – all of which used the ESD framework to develop the applications.
- Beginning the implementation of Integrated Fisheries Management – will determine explicit allocations amongst sectors - this is where the economic and social elements of ESD will be most necessary.
- Held interesting discussions with other WA agencies about the form and function of marine parks and how this fits within a bioregional planning framework.

South Australia

- Now in the process of using ESD framework to update existing management plans and develop new plans.
- The framework has been used to generate status reports for SA fisheries.

Victoria

- ESD Framework has already been used for the development of some management plans – abalone and RL (including some consideration of social objectives).
- At present, there is progress with resource allocation between recreational and commercial fishers regarding 5 key bay and inlet fish species. A framework, which will inform decisions, has been endorsed by cabinet, and studies of net economic and social values of recreational and commercial fishing have been commissioned to help determine appropriate catch shares for these species.

New South Wales

- Elements of national framework are used where appropriate (given specifics of guidelines needed for NSW planning approvals)

Tasmania

- DPIWE and TAFI have been investigating the incorporation of the socio-economic component of ESD framework within the current stock assessments (to become more ‘fisheries’ assessments), although a separate document may be produced.
- Looking to fund a person to investigate (data gathering) the socio-economic issues for certain sectors.
- Taking the first steps towards formally embracing other processes such as ESD framework - within Fisheries Management, but were unsure of what alternative frameworks were available and how to incorporate these within the current process.
- Cautious of the resources that these processes may utilise.
- Particularly interested in the development of meaningful trigger points.
- Would like to bring processes such as MPs and EPBC (and SoE) reporting closer together.

Queensland

- The current round of ecological sustainability reporting to Commonwealth DEH did not utilize the ESD framework.
- Now using the risk assessment elements of the ESD framework (recently 5 Gulf of Carpentaria fisheries put through Risk Assessment process).
- Still a need to educate fishery managers about the benefits of using the ESD framework for management planning.

AFMA

- The framework hasn't strictly been adopted but the concepts are included.
- Phase 1 of an alternative ERA completed – phase 2 ERA just about to begin (using NHT funding).

Commonwealth Policy

- Divergence between fisheries and environment agencies in objectives.
- Question arose as how to communicate this when it was not clear to the group.
- Concern that there may be ramifications of leaving out the social and economic in the application of EPBC etc.

Implementation of Aquaculture Framework

Western Australia

There is widespread use of the ESD framework at the industry level. There has not yet been a large amount of use at the whole of industry level by the Department. They are looking to update their ESD policy next year, which should specify how the implementation of ESD into aquaculture will occur.

South Australia

An Interagency Group is already adopting the ESD framework for aquaculture in SA following a number of presentations by the Subprogram leader.

Industry is also keen to begin to develop an EMS level system – they are unsure how to communicate this at an appropriate level.

Victoria

Victoria is using the elements from the ESD framework that are needed to develop their management frameworks.

Tasmania

Industry

The Tasmanian industry has embraced the concept of using EMSs. They have one of the industry pioneers in EMS (Col Dyke). They are using the ESD 'How to guide', including the risk assessment framework and have already modified component trees for the oyster industry. There is also a National EMS program at Little Swanport estuary that is using the SSA GreenChooser framework to generate an EMS for the estuary.

Government

They consider that the current management arrangements already address many of the issues identified in the ESD framework and are unsure how to incorporate aspects of the National framework, given the advance State planning scheme for aquaculture (13 Development Plan areas, 4 already had/or having 5 year review). They are receptive to ESD framework but cautious about resource implication and they have some confusion over who was the target audience of framework (especially given apparent direction of EMS project).

Queensland

Discussions are occurring between DPI&F and Department of State Development to develop a policy for aquaculture planning in Qld. An ESD framework to guide aquaculture policy development and decision-making is being developed by DPI&F in consultation with the Subprogram leader.

11.0 Conclusion

The outcomes from the first three years of operation of the ESD Subprogram were very successful. This was a period of considerable change in the requirements of fisheries management in Australia and the Subprograms activities and outputs have significantly assisted this process of change. Each of the key performance indicators for this project has been met.

The ideas of ESD have gone from being vague philosophies into practical, on the ground outcomes for nearly every sector. The work that has been completed is classed as high-quality research and we are seen as leading the world in the implementation of ecosystem-based management.

The tools that were developed, especially the How to Guide for wild capture fisheries, have been widely accepted and used. Many of them have been endorsed by bodies such as the Natural Resource Management Standing Committee and the Natural Resources Ministerial Council.

12.0 References

Appendix 1 Other Publications in the ESD Subprogram Series

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3. Fletcher, W.,J. Chesson, J., Fisher M., Sainsbury, K.J., Hundloe, T., Smith, A.D.M. and B. Whitworth (2003) *National Application of Sustainability indicators for Australian fisheries*. Final Report: FRDC Project 2000/145. 48pp.
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5. Fletcher, W.J., Chesson, J., Sainsbury, K.J., Fisher, M. & T. Hundloe (2004) A flexible and practical framework for reporting on sustainable development for wild capture fisheries. *Fisheries Research* 71:175-183.
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10. Schirmer, J. and Pickworth, J. 2005. Social impacts of the South Australian Marine Scalefish Fishery. FRDC ESD Reporting and Assessment Subprogram Publication No. 10. Fisheries Research and Development Corporation and Bureau of Rural Sciences, Canberra. 129p.
11. Schirmer, J. and Pickworth, J. 2005. Social assessment of commercial fishing in the East Gippsland region. FRDC ESD Reporting and Assessment Subprogram Publication No. 11. Fisheries Research and Development Corporation and Bureau of Rural Sciences, Canberra. 57p.
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13. Fletcher, W.J. (2005) A Guide to Implementing an Ecosystem Approach to Fisheries Management (EAFM) within the Pacific Region. Forum Fisheries Agency, Honiara Solomon Islands. (in press)
14. Schirmer, J. (2005) *ESD Reporting and Assessment Subprogram: a social assessment handbook for use by Australian fisheries managers in ESD assessment and monitoring*. Final Report FRDC Project 2003/056 Canberra Australia, April 2005.
15. Fletcher, W.J. (2006) Frameworks for managing marine resources using ecosystem approaches: how do they fit together and can they be useful? *Bulletin of Marine Science* (under review)