

**Geelong revisited:  
from ESD to EBFM – future  
directions for fisheries  
management**

FRDC 2008/057 – Workshop report



Government of **Western Australia**  
Department of **Fisheries**



Ecologically  
Sustainable Development  
*Catching Sustainability*



Australian Government  
Fisheries Research and  
Development Corporation

---

**Fisheries Research Division**  
Western Australian Fisheries and Marine Research Laboratories  
PO Box 20 NORTH BEACH, Western Australia 6920

*Fish for the future*

This workshop report forms part of an on-going process to develop an effective reporting and assessment framework for ESD and fisheries within Australia.

**Correct Citation:**

Millington, P & Fletcher. W. (2008). Geelong revisited: from ESD to EBFM – future directions for fisheries management. Workshop Report. FRDC 2008/057, Melbourne May 2008. Fisheries Occasional Publication No.52, November 2008, Department of Fisheries, Western Australia, 58p.

**Project Team:**

Peter Millington (Principal investigator)  
Rick Fletcher (Co - Investigator)  
Department of Fisheries, Western Australia

This report forms Publication No. 22 of the FRDC - ESD Reporting and Assessment Subprogram.

This final report and other material related to the ESD Subprogram may be downloaded from the web site [www.fisheries-esd.com](http://www.fisheries-esd.com)

*This work is copyright. Except as permitted under the Copyright Act 1968 (Cth), no part of this publication may be reproduced by any process, electronic or otherwise, without the specific written permission of the copyright owners. Neither may information be stored electronically in any form whatsoever without such permission.*

Department of Fisheries  
3rd floor SGIO Atrium  
168-170 St George's Terrace  
PERTH WA 6000  
Telephone: (08) 9482 7333  
Facsimile: (08) 9482 7389  
Website: [www.fish.wa.gov.au](http://www.fish.wa.gov.au)  
ABN: 55 689 794 771

Published by Department of Fisheries, Perth, Western Australia.  
Fisheries Occasional Publications No. 52, November 2008.  
ISSN: 1447 - 2058 ISBN: 1 921258 30 6

---

## Contents

Participants .....	1
Background .....	3
Workshop Objectives .....	3
<b>Summary Outcomes of Workshop .....</b>	<b>4</b>
Session 1: Review of progress on ESD and the outcomes of the ESD Subprogram .....	4
Objective 1a: Review progress of implementation of ESD since the Geelong conference .....	4
Objective 1b: Review outcomes of ESD subprogram and determined what gaps remain for ESD implementation at the individual fishery level .....	5
Session 2: Determine what is needed to assist with the future initiatives of fisheries and marine management .....	6
Objective 2: Determine whether a national program is required to assist in the development of state and federal initiatives associated with fisheries and marine management at the regional scale.....	10
<b>Way Forward.....</b>	<b>12</b>
<b>Appendices.....</b>	<b>14</b>
Appendix 1 .....	14
Final Workshop Agenda .....	14
Appendix 2 .....	52
Workshop Outcomes Table.....	52



## Participants

Simon Vieira	ABARE - Australian Bureau of Agricultural and Resource Economics
Bruce Schumacher	President, Recfish Australia
Chris Makepeace	AFANT - Amateur Fisherman's Association of the Northern Territory
Dave Johnson	AFMA – Australian Fisheries Management Authority
Nick Rayns	AFMA – Australian Fisheries Management Authority
Jackie Schirmer	Australian National University
Gavin Begg	BRS - Bureau of Rural Sciences
Michael Hanslip	BRS - Bureau of Rural Sciences
David Smith	CSIRO - Commonwealth Scientific and Industrial Research Organisation
Tony Smith	CSIRO - Commonwealth Scientific and Industrial Research Organisation
Daryl Quinlivan	DAFF - Department of Agriculture, Fisheries and Forestry
John Kalish	DAFF - Department of Agriculture, Fisheries and Forestry
Ryan Murphy	DAFF - Department of Agriculture, Fisheries and Forestry
Tim Karlov	DAFF - Department of Agriculture, Fisheries and Forestry
Peter Millington	Department of Fisheries, WA
Rick Fletcher	Department of Fisheries, WA
Karen Santoro	Department of Fisheries, WA
Grant Hall	Department of Primary Industries and Fisheries, QLD
Ian Yarroll	Department of Primary Industries and Fisheries, QLD
Rick Officer	Department of Primary Industries and Fisheries, QLD
Kelly Crosthwaite	Department of Primary Industries and Resources, SA
Sean Sloane	Department of Primary Industries and Resources, SA
Will Zaccharin	Department of Primary Industries and Resources, SA
Grant Pullen	Department of Primary Industries and Water, TAS
James Scandol	Department of Primary Industries, NSW
Marcel Green	Department of Primary Industries, NSW
Phillip Gibbs	Department of Primary Industries, NSW
Dallas D'Silva	Department of Primary Industries, VIC
Jon Presser	Department of Primary Industries, VIC
Peter Appleford	Department of Primary Industries, VIC
Heather Brayford	Department of Primary Industry, Fisheries and Mines, NT
Ian Curnow	Department of Primary Industry, Fisheries and Mines, NT
Julie Martin	Department of Primary Industry, Fisheries and Mines, NT
Claire Howlett	DEWHA - Department of Environment, Water, Heritage and the Arts
Ian Cresswell	DEWHA - Department of Environment, Water, Heritage and the Arts
John Gunn	DEWHA - Department of Environment, Water, Heritage and the Arts
Sonia Nielsen	DEWHA - Department of Environment, Water, Heritage and the Arts
Crispian Ashby	FRDC - Fisheries Research and Development Corporation
Jo-Anne Ruscoe	FRDC - Fisheries Research and Development Corporation
Patrick Hone	FRDC - Fisheries Research and Development Corporation
Bruce Wallner	GBRMPA - Great Barrier Reef Marine Park Authority
Bill Sawynok	Infotech Services, Recfishing Research
Kate Brooks	Kal Analysis
Stephen Hood	M.G. Kailis
Jonathan Peacey	Ministry of Fish, New Zealand
Jonathan Rudge	Ministry of Fish, New Zealand
Duncan Leadbitter	MSC - Marine Stewardship Council

Katherine Sarnekis	Northern Territory Seafood Council
Rob Fish	Northern Territory Seafood Council
Anissa Lawrence	Oceanwatch Australia Ltd
Mary Howard	Oceanwatch Australia Ltd
Julian Pepperell	Pepperell Research and Consulting Pty Ltd
Martin Hicks	Queensland Seafood Industry Association
Robin Hansen	Queensland Seafood Industry Association
Ross Winstanley	Recfishing Research
Kane Moyle	Recfishwest
Trevor Watts	SARFAC – South Australian Recreational Fishing Advisory Council
Ross McGowan	Seafood Industry of Victoria
Ted Loveday	SSA - Seafood Services Australia
Gary Leonard	South Australian Fisher
Jonas Woolford	South Australian Fisher
Stewart Frusher	TAFI – Tasmanian Aquaculture and Fisheries Institute
Mark Nikolai	TARFish - Tasmanian Association for Recreational Fishing
Neil Stump	Tasmanian Fishing Industry Council
Neville Perryman	Tasmanian Fishing Industry Council
Glen Sant	Traffic Oceania
Tor Hundloe	University of Queensland
Grant Leeworthy	Victorian Fisher
Corrie Banks	VRFish
Guy Leyland	WAFIC - WA Fishing Industry Council
Dexter Davies	Western Rock Lobster Council
Neil MacDonald	Wildcatch Fisheries SA
Peter Trott	WWF – Australia

## **Background**

In the early 1990s, national consensus was reached among all levels of government of the need to apply the principles of Ecologically Sustainable Development (ESD). By the late 1990s this was reflected by the fishing industry facing greater public accountability for their direct and indirect impacts on the aquatic environment. It was also reflected by the new provisions within the Commonwealth's Environment Protection and Biodiversity Conservation (EPBC) Act 1999. This created the challenge for industry and management agencies to develop methods to address these principles in a practical manner.

In March 2000, FRDC funded a workshop in Geelong to develop a plan to implement ESD. This workshop, which was attended by all jurisdictions, commercial and recreational fishing groups and non-government organisations, identified a set of national projects to enable effective incorporation of ESD within the management of fisheries. These projects, which were coordinated by the ESD Subprogram, generated an ESD framework plus a suite of other tools to enable any wild capture fishery to report against ESD. This was followed by a workshop held in 2002 that similarly addressed the ESD needs for each of the aquaculture sectors.

Since this time, it has been recognised that ESD must extend beyond the individual fishery to cover all fishing activities within a region. This approach is now termed Ecosystem Based Fisheries Management (EBFM). Many jurisdictions have already commenced major programs to implement EBFM. In addition, there are a growing number of regional marine planning initiatives being undertaken by both state and federal agencies that are seeking to address not only all fishing activities but also all non fishing marine activities.

A key finding of the recent review of ESD implementation across all Australian fisheries jurisdictions was the need for a national forum to coordinate approaches to ESD and EBFM. Consensus is needed on the degree to which an integrated, national approach should be taken to further develop tools for EBFM and regional marine planning, or whether these should continue to be developed using jurisdictional based approaches.

## **Workshop Objectives**

1. Formally review (a) the progress nationally against the aspirations of the ESD Conference in Geelong in 2000; and (b) the outcomes of the FRDC ESD Sub-Program which arose as a result of that Conference.
2. Determine whether a national program is required to assist in the development of state and federal initiatives associated with fisheries and marine management at the regional scale.

---

## **Summary Outcomes of Workshop**

### **Session 1: Review of progress on ESD and the outcomes of the ESD Subprogram**

Session 1 was designed to deal with both parts of objective 1. This was achieved through a series of talks by key stakeholders, a panel discussion and a more general discussion of the issues that were raised. The outcomes of all these discussions were summarised and presented to the participants on the second morning of the workshop. The following, therefore, represents the consensus view of the participants.

#### **Objective 1a: Review progress of implementation of ESD since the Geelong conference**

There was general agreement that:

1. Significant progress had been made in the implementation of ESD since Geelong.
  - Management responses were now more sophisticated and there was greater accountability and transparency through the generation of comprehensive status reports and scrutiny of these reports by stakeholders.
  - Industry has itself begun to proactively deal with sustainability issues by adopting an environmental standard such as Environmental Management Systems (EMS).
  - The focus of management demonstrably broadened beyond target species with tangible improvements in the management of many other issues – e.g. bycatch, and Threatened, Endangered or Protected Species (TEPS).
  - There was increased inclusion of broader interests within consultation and assessment processes.
  - There is a new generation of managers/researchers – broader focus, differing skills (e.g. environmental, ecosystem, social).
2. Having to undertake assessments to meet the EPBC requirements had played an extremely important role in this progress.
  - Having to generate comprehensive applications and status reports, and the external scrutiny of these by stakeholders.
  - This process has, in some cases, been costly and data hungry.
  - The need to ensure that ongoing EPBC assessments become more risk-based and not prescriptive was identified.
  - The difficulty in consistency in recommendations was noted.
  - There are moves to have ‘responsible fishing’ replace ‘sustainable’ fishing as the goal because ‘sustainable’ is harder to define.
3. There was still a lack of understanding/acknowledgement by the community about the level of progress that had been made by the fishing industry.
  - Whilst over 100 fisheries have been put through an EPBC assessment and all have passed, public attitudes about the sustainability of fisheries have become more negative.
  - There is a high level of confusion within the community about the various ESD related terms that are used.

- Fisheries as a whole is ‘a brand’, if one fishery (including overseas fisheries) is considered to be a problem they are all branded as such.
  - Thus there may be a mismatch between the regulatory standards being applied to fisheries, such as those to meet EPBC requirements, compared to what the community expects.
  - Alternatively (or in combination with) a minimal understanding of the difference between overseas management problems that are of concern to the community, compared to the high level of fisheries governance generally applied in Australia.
4. Most of the progress had been made in the ecological area with minimal progress in social and economic areas.
    - Possibly as a result of having to meet the EPBC requirements, the majority of effort by jurisdictions was on addressing the ecological elements – ‘one legged stool’.
    - Agencies do not effectively engage the community when making decisions and there is a lack of understanding about how fishery management works.
    - Despite social and economic case studies, there are still no ongoing baseline social/economic assessments of fisheries or regions.
    - There is lack of clarity about what the community wants, and what are the drivers for change.
  5. Whilst valuable tools, including risk-based frameworks, are now available, there has been inconsistent use of these across jurisdictions.
    - While tools may be available, finding time and resources to use/trial/develop these within some jurisdictions is still problematic.
    - There is a lack (or loss) of internal capacity to apply these tools efficiently.
    - There is variability in how industry sees the framework having been adopted – due to different applications across jurisdictions.
    - There has been no application of the EPBC to recreational or import based sectors. Furthermore, should the concept be applied to all sectors before fishing/importing is allowed?

**Objective 1b: Review outcomes of ESD subprogram and determined what gaps remain for ESD implementation at the individual fishery level**

The workshop agreed that:

1. The projects and processes undertaken through the ESD subprogram (and related activities) had, overall, been successful. It has provided the basis to demonstrate whether management has credibility with the issues of resource sustainability, functional ecosystem relationships and habitat processes needed to meet the requirements of the Commonwealth’s EPBC assessment.
  - The National Fisheries ESD Framework is a well structured guide through the process of identifying risks and then developing programs to deal with those issues.
  - The framework has brought a level of rigor and common understanding to issues identification, risk assessment and the management framework has underpinned assessment of fisheries that ensured there was consistency in developing plans.
  - The framework brings industry in a structured way into the debate and brings other stakeholders to the point where they have a better understanding of the industry, its practices and operational imperatives i.e. it assists deal with perceptions.
  - It helps prevent the opportunity to short cut the process in order to avoid unpalatable issues.

- It assists to gather all available information that could contribute to the development and assessment processes.
  - A variety of tools were developed to assist move this process, dependent on the level of resourcing and information available.
  - It has promoted advanced thinking and debate at a national level.
2. The analysis of the progress that had been made towards an ESD based assessment and management of individual fisheries (see table 1 for a more detailed assessment) determined that:
- Target species are relatively well covered; a number of tools were developed and used, many of which include risk based approaches. For the commercial fisheries these processes are now core business but there has been less application for recreational fisheries and minimal application for indigenous fisheries.
  - Non-target/bycatch/by-product species. Many of the tools for target species can be applied to this set of issues but it is often more difficult to demonstrate adequate performance as there are less data; but risk assessments can assist with such deficiencies.
  - The assessment of ecosystem-level issues still requires further tool development, but this may be best done at a regional level, not at the individual fishery level.
  - Economic considerations are not widely used, they are needed to inform management decision making within an ESD framework. There are tools available, but almost no uptake on an ongoing basis.
  - For the social and cultural areas, there is lack of a clear policy framework. This includes a lack of understanding of the issues and acceptance of the value of this information because it is not clear what to measure and, more importantly, to what end?
  - There are multiple tools to assist with overarching management frameworks that include risk-based approaches and adaptive processes such as harvest strategies.
  - There are few tools available to enable integration of the three ESD components to compare management options and assist with decision-making.
  - While some effort has been expended in education and extension, more needs to be done, especially to engage the wider community, industry but also the market.

## **Session 2: Determine what is needed to assist with the future initiatives of fisheries and marine management**

This was the main interactive part of the workshop that included inputs generated from facilitated table discussions, in part based on a series of overview presentations from each of the main stakeholder groups. The three main questions/sections discussed by the breakout groups were:

- Identify likely future drivers for the next 5 - 10 years.
- What are the possible actions to address these drivers?
- What is the degree to which such actions would be assisted by being coordinated through national programs? (which meets objective 2 of this project).

## **Identify agreed drivers and possible actions**

### **Driver 1. Community/Market Expectations/Policies**

#### **Key Goals**

- Quantifying community ESD/EBFM standards and outcomes for use of the aquatic environment
- Informing and getting understanding by community of EBFM expectations.
- Getting an agreed understanding of what EBFM/ESD actually means, which will require community engagement.
- There is also a requirement to have political will to enable any decisions and programs to progress.

#### **Possible Actions**

- 1.1 Define community expectations:
  - Review the available data, information and research on community and market engagement.
  - Using best practice methods, identify community expectations
- 1.2 Evaluate/review:
  - Public Relations strategies to address (influence) expectations
  - The use of branding as a method for increased exposure and engaging public sentiment
  - The requirement to implement existing government policies and/or possible future policy development and alignment.
- 1.3 Develop a national, all-sector, outwards looking community engagement strategy:
  - This will need to be multi level with defined target audiences that does not just deal with the commercial sector nor just individual species, but deals with fishing in general.
  - It will need to clear what we mean by ‘community’? Is this the seafood community (direct), seafood consumers, the broader community (less direct), international community?
  - It should also cover the impacts of other activities on fish stocks and fishing
  - The key messages for each sector will need to be defined and include standardised language to minimise confusion.
  - The objectives for this strategy will need to align with other related federal and state policies to ensure they meet broader community needs.
  - It should include an intelligence program that covers data collection, data curation, analysis, outputs
- 1.4 Develop outcomes, programs and objectives based on confirmed community expectations, that includes a feedback loop.
- 1.5 Move to the use of a formal risk management framework (i.e. progress from just the use of risk assessment)
- 1.6 Increase capacity and understanding by fishers of their responsibilities

### 1.7 Improve political will:

- This may be aided by dealing positively with community expectations.
- Getting endorsement from the Natural Resource Management Ministerial Council (NRMMC): have this group sign off on the final agreed process; e.g. adopting an improved EBFM framework.
- This would include ensuring that there is a commitment to appropriately fund this process.

## **Driver 2. Having an Effective Governance/Response Framework**

### **Key Goals**

- Obtaining the harmonisation of governance and jurisdictional arrangements.
- Getting a clear alignment of the information and data collected with management needs.
- Have an holistic risk based framework for decision making (covering all sectors) that includes effective implementation and robust decision settings.

### **Possible Actions**

- 2.1 Generate a clearly articulated public policy on the real risks from the utilisation of aquatic resources.
- 2.2 Get a high level sign off on what are the acceptable levels of risk and the acceptable levels of impact. This will require science to inform a public policy debate about what is acceptable to define the rules of engagement.
- 2.3 Get acceptance of risk assessment methodologies and risk management as the basis for decision making:
  - This leads to getting more formal outcomes on 'acceptable' levels, (that may vary over time with community attitudes), that will be more robust and provide greater certainty for decision-making.
  - The assessment of risk needs to cover not only ecological but social and economic issues and objectives.
- 2.4 Ensure that there is community consultation within the risk assessment process and any cost benefit analysis.
- 2.5 May need a new policy to capture the current thinking on ESD.
- 2.6 Getting harmonisation of management arrangements. This might include:
  - States and Commonwealth working better together
  - Removing the inefficiencies in the current Offshore Constitutional Settlement (OCS) arrangements
  - Having effective stakeholder representation at a range of scales including the regional level.
  - Getting recognition that there are already a range of tools to support process
  - Top down or bottom up implementation → AFMF → MACC → NRMSC → NRMMC. Or the reverse- especially if this is to include non fishing uses.
  - Consideration of whether there should be a federal EAFM Act?

- 2.7 Getting a good alignment between information available with needs:
- Only collect data that is needed not what is possible because the collection of data is a strategy not a driver
  - Data collections should therefore be based on risk, including external risks (“unknown” unknowns)
- 2.8 Improve the longer term benefits of data collection systems:
- Deal with the collection of ‘ecosystem level’ data.
  - Move beyond environmental data to include social economic cultural and governance information
  - Recognise the opportunities to look at contrasts when they arise
  - Address the general lack of long term data series within Australia (compared with elsewhere) by ensuring ongoing funding for required programs

**Driver 3. Viable (adaptable) sectors (economic/ social viability/ development) that meet community/market expectations and/or government policies <sup>1</sup>**

**Key Goals**

- Getting improved Access Security
- Ensuring that the commercial, recreational and other social values obtained from these resources is realised in an effective manner.
- Ensuring affordability of management (i.e. Who Pays for what?)
- Given that the progress towards ESD is at very different levels for the different sectors, determining which sectors should be included in the future plans (and to what level) is required?<sup>2</sup>

**Possible Actions**

- 3.1 Define objectives for the different sectors
- 3.2 Develop tools to achieve these objectives
- 3.3 Develop tools to measure success (e.g. tools are currently not available to easily measure social success or economic success)
- 3.4 Undertake reviews of the social impacts that are generated by other non-fisheries outcomes.

**Driver 4. Dealing Appropriately with External Factors**

**Key Goals**

- Better alignment of marine planning processes (including the establishment of MPAs) with fisheries management processes and arrangements.
- Integrated Coastal Zone management that includes the assessment of cumulative impacts from all sources.

---

<sup>1</sup> It was noted that this is really a specific community value (i.e. driver 1)

<sup>2</sup> For example, should tourism be included or is this EBM? This decision could be informed by what the community thinks should be included.

- A whole of government decision making framework that effectively deals with these broader issues.
- Clear whole of government objectives for regions that have appropriate guidelines that clearly articulate what impacts are, and are not, allowed on aquatic system health
- Have Governments recognise the need to be accountable for the responsibilities that they already have under their current sets of legislation

### **Possible Actions**

- 4.1 Have it recognised that many external impacts are generated by the outcomes of implementing other legislation and policies.
- 4.2 Develop a more robust and efficient method for dealing with these issues, i.e. a single consolidated agency not a number of smaller agencies with significant overlaps/ disputes.
- 4.3 Clarify relevant legislation to ensure that it takes into account social and economic assessments of the external impacts on fisheries
- 4.4 Ensure that there is a legal obligation of other parties to undertake assessments of the impacts on fisheries and on the fishing industry including social and economic elements
- 4.5 Educate community about the outcomes of these external impacts
- 4.6 Develop industry capacity to equip it to better respond to these challenges
- 4.7 Ensure that the operation of the EPBC Act is amended to include external factors explicitly (it is already included within the legislation)

### **Objective 2: Determine whether a national program is required to assist in the development of state and federal initiatives associated with fisheries and marine management at the regional scale**

This was the second part of the interactive session which included inputs generated from facilitated table discussions based on the drivers developed in the previous session. The groups were asked to provide their comments as to the extent that the actions identified for each of the key drivers would benefit from the establishment of a national forum to facilitate their progress.

#### **Driver 1. Community/Market Expectations/Policies**

##### **Assessment of benefit from taking a national approach**

- A consolidated effort at a national level would be more efficient and generate a more consistent outcome
- A national approach would have a better chance of teasing apart the commonalities from the regional differences
- A national approach is well suited for the development of methodologies and for the standardisation of nomenclature

## Possible Structures

Activity/Issue	Group/Structure
Policy development	AFMF <sup>3</sup>
Understand the influence other groups etc	Project based
Develop an engagement strategy	Project based
Response to above	AFMF
Risk Management	Put into policy by AFMF
Getting sign off by NRMMC	AFMF/MACC to progress

### **Driver 2. Having an effective governance/response framework**

#### **Assessment of benefit from taking a national approach**

- Taking a national approach was considered necessary

#### **Actions where a national approach was relevant**

- Developing Policy - Lead role by AFMF and sign off by NRMMC
- Engagement with environmental agencies, state and federal and indigenous etc
- Institutional harmonisation - AFMF plus service providers for research
- Support project work on risk assessment and risk management – risk benefit cost framework – test case feasibility
- Examining ecological, social and economic issues using cross sectoral tools and research.
- Clarify the role of science

### **Driver 3. Viable Sectors**

#### **Assessment of benefit from taking a national approach**

- With a national approach you would have more coordination.

#### **Possible Structure/Actions**

- There was merit in putting a line under the old ESD framework and ESD subprogram (which was essentially a fisheries ESD program).
- A decision needs to be made as to whether there should be a phase 2 ESD program to deal with the gaps from the first subprogram or whether there is a different structure to deal with EBFM which emphasises the economic and social elements and regional issues.
- Use Case Studies as best methods of determining how to progress
- This must work on determining community aspirations (link to Driver 1)

### **Driver 4. External Factors**

#### **Assessment of benefit from taking a national approach**

There is likely to be benefits from taking a national approach to assist identify the social, biological and economic performance standards for EBFM.

#### **Actions where a national approach was relevant**

- Developing capacity of industry to respond to change and challenges from external sources (e.g. dealing with high dollar).
- Developing cost effective external reporting – streamlining processes

---

## **Way Forward**

### **AFMF**

A short background paper will be developed for AFMF on 13 June in Darwin.

Outputs may be used to form a sub-committee to drive a national agenda

- Policy – this can be developed through the Marine and Coastal Committee.
- Science – can be developed through the AFMF R & D committee as part of 2<sup>nd</sup> year review.
- Something concrete is needed for the NRMSC and 2009 Ministerial Agenda.
- An engagement process for NGOs and wider stakeholders is needed.

### **Assessment of ESD subprogram**

The components still needed to be completed in the ESD sub-program are in the social and economic areas

Determine how:

- to understand stakeholder aspirations/policy for use in ESD EBFM.
- much more do we need to invest in these areas?

### **Looking forward**

- FRDC is looking to assist in this process in partnership with management agencies.
- There is a need for effective stakeholder involvement in policy development and research investment decisions so the way forward must involve a collaborative process.
- There is still a need for under-pinning ecological research and socio-economic studies.
- There is a real capability gap in social scientists who can examine the human behavioural element within an NRM context.
- Cannot afford to move incrementally we need a major shift in focus onto EBFM. This move must be done in a decisive manner to enable a proactive response rather than general reactive mode. How do we do this?
- Need to develop good policies and effective communication with all stakeholders and the community.

### **Short Term Actions (< 6months)**

- AFMF will consider policy options and longer term actions based on outcomes of workshop.
- FRDC will develop a process of engagement with management bodies and stakeholders.

**Table 1.** The status of progress for each of the elements of the ESD framework for the management of individual wild capture fisheries.

Category	Status	Tools/processes methods	Extension	Resources Priority	Other
<b>Target</b>					
Commercial	OK	Most	Reasonable	Covered for major fisheries	
Recreational	Most	Some	n/a	Not as good for minor or recreational, indigenous	
Indigenous	Min	Few	n/a		
<b>By-product</b>		No			
<b>Non-retained</b>	OK	Most	Reasonable	Covered	
				Not for non commercial	
<b>TEPS</b>	Part	Significant progress			Often social drivers are the main issue for this group
<b>Ecosystem</b>	No	Gaps – But is the fishery the right scale or should this be regional?			
<b>Social</b>	No	Many are available – But how to decide when to use?	Not much known by agencies	Usually low priority Lack of planning at the right time.	Lack of clarity about what are social values and whose to use?
<b>Economic</b>	No	Many are available (some cost effective methods available) But how to decide when to use?	preliminary	As above	As above
<b>Integration</b>	No	One model available. Possibly others			Politics is the current alternative Lack of understanding of the principles of doing this. Do the assessments after it is known what outcome wanted Understanding trade offs/ implications/ flow backs
<b>Governance management</b>	Part	Monitoring – yes for commercial, patchy for others Risk Management – translation from RA into RM Management systems – yes for commercial, harder for others		Monitoring for minor and rec fisheries often low levels of monitoring.	Recreational and indigenous sectors not as easy to cover. Management systems – lack of incentives for non-commercial
<b>External drivers</b>	Part				
<b>Education of community</b>	No	Not Sure??	Minimal - rudimentary	Minimal	

---

# Appendices

## Appendix 1

### Final Workshop Agenda

#### Geelong Revisited: from ESD to EBFM – future directions for fisheries management

##### Day 1 – Wednesday 21<sup>st</sup> May

- 9:30**            **Welcome and introduction:** Workshop Chair – Will Zacharin (AFMF Chair)
- 9:35**            **Opening of Workshop** – DPI Vic Deputy Secretary Agriculture & Fisheries, Dr Bruce Kefford
- 9:45**            **Where we were - 2000 revisited** - Daryl Quinlivan – Deputy Secretary DAFF
- Overview of landscape at the time covering both government and industry – why did we do it?
  - Overview of what was generated at Geelong and what was identified as the goals for future?
- 10:10**           **Workshop aims, organisation and definitions** (Workshop Chair)
- 10:25**           (Morning Tea)
- 10:45**           **What happened and where we are now: perspectives on the journey so far**  
(Retrospective analyses and lessons learned)
- Session Chair – Peter Millington
- The FRDC ESD Sub-program: report on progress and achievements plus other related initiatives.** (Rick Fletcher – ESD Subprogram Leader)
- What did we achieve? Perspectives on progress by the stakeholders**
- Fisheries (management) - (Heather Brayford) AFMF
  - Other government agencies – John Gunn DEWHA
  - Industry - Neil MacDonald – Wildcatch Fisheries SA
  - NGOs - Peter Trott - WWF
- 12:30**           Lunch
- 13:30**           **Panel Session: Have we achieved the goals we set at Geelong? Panel Chair** – Peter Millington (ESD Reference Group Chair)
- 14:45**           Afternoon Tea
- 15:00**           **Where we are going: future directions**
- What are the current and future drivers of change?**
- Session Chair – Will Zacharin
- Australian Perspectives (10 min plus 5 for questions)**
- Policy – Fisheries Domestic (Peter Appleford - AFMF)
  - Policy – Fisheries International (John Kalish - DAFF)
  - Policy – Environment and Planning (Ian Cresswell - DEWHA)
  - Recreational Sector (Ross Winstanley – Recfishing Research)
  - Commercial Industry (Guy Leyland - WAFIC)
- 16:45**           Chair – Close Session
- Workshop Dinner Speaker – Ian Cartwright

## Day 2 – Thursday 22nd May

- 8:30**            **Re Cap on Day 1** – Ian Cartwright – Facilitator
- 8:45**            **Where we are going: future directions (contd)**  
**Session Chair** – Ian Cartwright  
**International perspectives (10 min plus 5 for questions)**
- NGOs (Glen Sant – Traffic)
  - Science (T Smith - CSIRO)
  - Fishery Policy (Jonathan Peacey – NZ MFish)
  - Markets and Community (Duncan Leadbitter - MSC)
- 9:15**            **Outlining the Break out Sessions** – Ian Cartwright
- 9:20**            **Breakout Table Session 1** (50 min plus 15 min for reporting back).
- Given the talks yesterday and today, plus your own knowledge, what are the most significant issues and policy drivers for fisheries management in the next five – ten years including the implications for broader regional marine planning? This should be identified at the ‘state’, national and international levels and possibly by stakeholder group (Govt, commercial, recreational etc).
- 10:20**            Morning Tea
- 10:45**            **Breakout Table Session 2** – Ian Cartwright – Facilitator
- Question 2 For each of the key issues what goals and actions could/should be taken to deal with the issues (50 min discussion plus 15 for reporting)
- 12:45**            Lunch
- 1330**            **Breakout Table Session 3**
- What are the possible roles for a National EBFM initiative to assist in delivering these activities?
- 15:00**            Afternoon tea
- 15:20**            **Review and Summation of Workshop Outputs** Ian Cartwright – Facilitator
- 15:40**            **The Next Steps** Peter Millington (Workshop Convenor)
- Determine best ways to coordinate development of future national EBFM research and management/policy initiatives and its linkage with broader aquatic management (EBM).  
Map out the specific actions required for the next 6 months.
- 16:20**            **Close** - Chair of AFMF + FRDC CEO

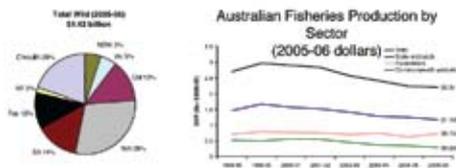
## Ecologically Sustainable Development to Ecosystem Based Fisheries Management

- Where we were - 2000 revisited
- Daryl Quinlivan – Deputy Secretary DAFF

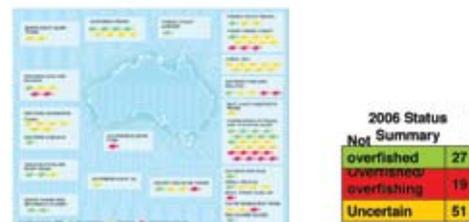
## ESD to EBFM? Where we were and where to

- By 2000 all levels of Government agreed to implement ESD for all activities under their jurisdiction
- Environment Protection and Biodiversity Conservation Act (EPBC Act) enacted 1999
- ESD a major objective of all fisheries jurisdictions
- Moving from ESD to EBFM?

## Economic status of fisheries and ESD



## Biological status of fisheries



## Early agendas and moves to ESD

- Six key themes influencing ESD development and implementation:
  - Commercial fishing interests
  - Fisheries management agencies
  - Environmental agencies /NGO
  - Recreational fishing
  - Indigenous fishing
  - Community expectations

## A common understanding to move forward

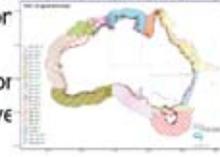
- Closer alignment of agendas between stakeholders but debate on the details:
  - Responsibilities and resources
  - Performance indicators
  - Levels of risk
- ESD the cornerstone of Fisheries management
  - Still criticized for not addressing social (and economic) aspects
  - "ecosystem" aspects

### Are we there yet?

- Come a long way in 8 years, all major fisheries strategically assessed and approved for export under the EPBC Act;
- Continual improvement is reasonably expected;
- Pursuing ESD becoming more of focus of fisheries management; and
- ESD is a continuum and in a system of unknowns we will always be learning more and adapting policy to meet the changing

### Governance – have we got it right?

- Shared jurisdictions and our current legislative framework make pursuit of ESD challenging
- Relationship between State fisheries and Commonwealth Environment
- International fisheries management environment complicates effective of ESD



### Moving forward Nationally - Unknowns

- Progressed biology (ecosystems) but more work needed on the social, and economics aspects of the triple bottom line
- The many unknowns:
  - o Impact of climate change
  - o Potentially less productive fisheries
  - o International markets
- What do we need to know – balancing risk and cost of management

### Moving forward Nationally - Ownership

- Increased ownership of ESD by fisheries managers and industry
- Industry need to realise benefits of ESD responses
- Consistent and clearer measurement of performance on ESD
- More efficient systems and better relationships between key stakeholders

## Workshop aims, organisation and definitions

Will Zacharin  
Chair AFMF

## Workshop Aims

- To formally review:
  - the progress nationally against the aspirations of the ESD Conference held in Geelong in 2000; and
  - the outcomes of the FRDC ESD Sub-Program which arose as a result of that Conference; and
- To determine whether a national program is required to assist in the development of state and national initiatives to consider fisheries and marine management at the regional scale.

## Workshop Process

- First session, between now and an afternoon tea, what has happened since Geelong?.
- A series of talks from different perspectives and a panel discussion to decide if the subprogram has completed its work for individual fisheries.
- If not, what activities still need to be done?

## Workshop Process

- The second component is to outline the possible future directions.
- What do we need to deal with over the next 5-10 years, and how best to do this?
- This will focus on the interactions of fisheries with broader regional and marine planning issues plus the influence of other international drivers
- There will be a series of talks to stimulate ideas
- Tomorrow it will be an interactive session facilitated by Ian Cartwright

## ESD DEFINITIONS

- There is a potential for confusion if we are not clear about what various terms mean.
- The definitions we are using are those that were agreed to by MACC in 2005
- ESD is the overall goal for government and all the other terms (eg EBFM) describe strategies that are used to work towards ESD.
- All these strategies deal with the full set of ecological, economic and social aspects
- The main difference between these strategies is the scope of issues covered – they form a hierarchy within the total ESD framework.

Industry EMS ? Fishery ESD ? EBFM ? EBM ? IOM ? "ESD"

Fishery ESD – management of an individual fishery using ESD principles

EBFM – Collective management of all fisheries activities and fishery resources within a region using ESD principles

EBM – Management of all marine resources and activities within a region using ESD principles

But if you are not sure which term to use, just be clear about what scale and scope you are referring to.

## Final Point

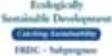
- This is an opportunity to set the direction of future activities so please engage as much as possible




ESD & EBFM FRAMEWORKS

Overview of the Subprogram

Dr Rick Fletcher  
ESD Subprogram Leader



## Outline

- History of ESD Subprogram
- Summary of Progress
- Future potential links to Coastal/Marine Planning
- Some lessons learned

## Why did we start this?

- Fisheries Legislative Requirements (all have ESD in their Acts)
- Other Government Requirements e.g. State Environmental Assessments, Schedule 4, EPBC, GBRMPA (some aspects of ESD)
- Market Leverage/Access (varying aspects of ESD)
- Develop one reporting process that meets most of these needs
  - Initial focus was the assessment and management of individual fisheries and getting export approval

## History of Subprogram

1997-1999 Preliminary work by BRS, SCFA, review of ESD by CSIRO

2000 ESD Conference, SCFA ESD Reference Group, draft ESD guide, case studies and case study workshop

2001 Subprogram funded, Revised ESD Guide, Extra case studies

2002 Completed ESD Wild Capture guide, EMS Guide,

2003 A workshop/review of subprogram  
**NRMSC** supports use of Guide, agrees ESDRG to report to **MACC**. Supports extension to cover multi fishery/sector issues.

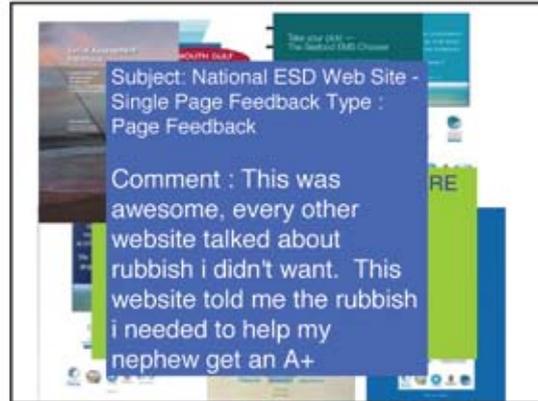
2004 Second Subprogram Project Begun

2005 **MACC** agrees on ESD terminology, using SW as case study. Social Assessment handbook and case studies completed

2006 Second Review of ESD by CSIRO initiated

2007 Decision to assess future of subprogram





### Universal Concepts of Sustainability

- *What impacts are my activities having on the assets that I manage?*
- *What impacts am I having on the assets that someone else manages?*
- *What are the economic/social benefits and costs generated by my activities?*
- *What activities by others affect me and my assets?*

The 'my' can be an individual, a company, a fishery, any industry, a Department, a Jurisdiction.

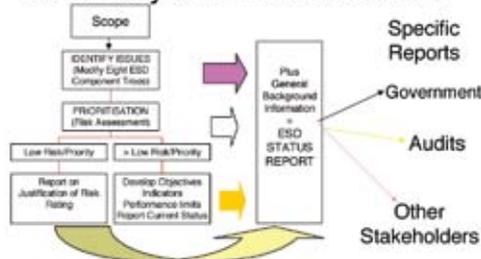
### Basic ESD/EBFM PROCESS

1. Scope and Values
2. Identify Issues
3. Prioritise Issues
4. Develop Management systems (and linkage models)
5. Generate operational plans

THE SAME STEPS ARE USED IRRESPECTIVE OF THE SITUATION BUT THE DETAILS CAN VARY GREATLY

(eg Commonwealth system of ERM/ERA also fits within these same five steps)

### Summary of ESD Framework



### 1. Determining Scope & Values

*Develop a clear description of what you are trying to manage/assess including the societal values that need to be addressed*

Clearly understand that there are issues that you can:

- Control
- Influence
- Only react to

### STEP 1. Tools Developed

- Developed lists of questions and prompts
- Common types of values
- Need to know their relative importance

#### 1 Status

- People often don't realise they are coming from different perspectives and values

### STEP 2. Identifying Issues

Given the scope:

- Identify all possible relevant issues across all areas of ESD/EBFM (retained; non-retained; ecosystem, community; administration)
- Agree on objectives wanted to achieve based on values

### 2. Tools Developed

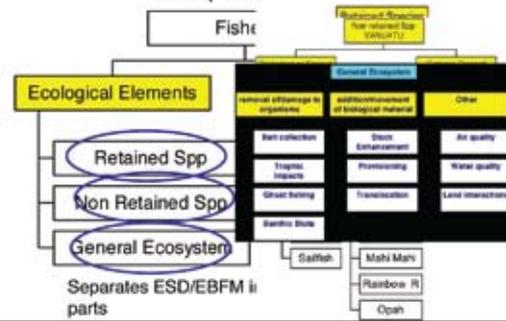
- Series of generic component trees have been developed.
- Trees are refined from stakeholder input.
- There are also variations on this including check lists etc.

#### STATUS

These approaches are sufficient but can be refined or restructured made more automated

Getting good involvement from all groups – could benefit from more involvement by social scientists

### STEP 2: ISSUE Identification Using Component



### Step 3 Prioritisation

*Determine, using some form of risk assessment or prioritisation process, which of these issues really needs to be managed directly.*

- Without doing this properly the process will stall – cannot directly manage everything!

### 3 Tools Developed/ Available

- Qualitative systems based on the AS/NZ 4360 Standard that cover ecological, social and economic issues are available
- Other qualitative and semi quantitative Ecological Risk Assessment techniques have also been generated (e.g. Commonwealth) or are being developed (CSIRO) plus multi criteria systems (NSW).
- The most appropriate one to use may not necessary be the most complicated one.

### Step 3 Status

- Risk Assessment is still difficult to convey to stakeholders in a way that they understand and accept – often confuse uncertainty for risk
- The criteria for assessing broader ecological impacts not as clear as for individual species
- Criteria to assess social and economic issues are also less developed.
- Need to be clear what objective is being assessed, the risk (priority) can change
- May need to separate cumulative risk from that generated by an individual fishery

### 4 Management Systems

If an issue requires direct management, establish:

- what is acceptable performance,
- the management arrangements used to achieve this,
- the monitoring and review processes
- the processes to adjust arrangements when needed

### Management Systems

- Rationale for THESE THREE
- Data Requirements
- Evaluation
- Management Responses
  - Current,
  - Future and
  - if Trigger is reached
- External Drivers

What specifically for this issue for this fishery do you want to achieve and WHY?

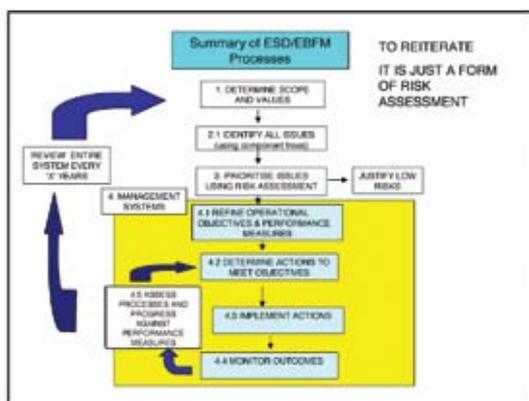
These need to link directly to the objectives and PIs (Harvest Strategies)

### 4 Status - systems

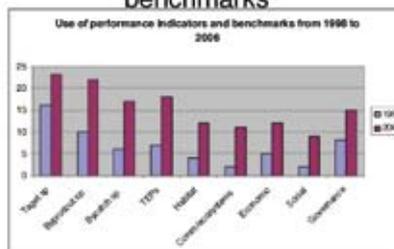
- The system is consistent with all risk management and other feedback systems including EMS and the Commonwealth system (different headings and detail)
- Multiple levels of detail can be used in reports - from quick to complex

### 4 Status – Performance measures/Indicators

- Individual species – many available
- Ecosystem – not many cost effective methods, lack of clarity of what is acceptable impact (caught with social values). Often not be sensible to assess for a single fishery.
- Social and Economic – while many indicators & assessment tools are available, not many examples where used



### CSIRO Review: Change in use of ESD performance indicators and benchmarks





## EBFM Summary Matrix

Asset base	Local Objectives	Priority Management Activities	ESD10 Values sub-objectives	Over Objectives	Risk Status	Exit Dates	Capital Returns, Investment & Incentives	Monitoring & Control Research	Indicators (S, M, L)	Actions

## Putting it All Together

How to link all the components back together again?

How does changing the management of one issue affect all the other elements – particularly those across the different components?

### Status

A few systems already being developed.

Management System Evaluations (MSEs)

- Quantitative (e.g. Atlantis)
- Qualitative (e.g. Dambacher)

## KEY EBFM/EBM ISSUES

- Defining who owns/manages each asset
- Setting up multi agency governance structures to deal with overlaps (running in treacle would be easier)
- Agreeing on what are the 'ecosystems'
- Measuring biodiversity and community structure in a way that can be done in an ongoing manner?
- Determining which social/economic components may be important from the 100's of possibilities

## Overarching EBFM Question

DECIDING WHAT, IN ADDITION TO THE INDIVIDUAL FISHERY MANAGEMENT ACTIONS, REALLY NEEDS TO BE DONE TO ENSURE THAT THE REGIONAL OUTCOMES ARE OK

Even if the answer is not much, that is very useful information to have plus getting an understanding of how the different bits all fit together.

## Conclusion - National ESD Framework

- Used in many commercial fisheries in Australia
- Being implemented for the management for the WC Pacific Tuna Fisheries (FFA)
- Potential use for coastal fisheries in the Pacific (SPC)
- Used as the basis of FAO's EAF approach
- To be used for Canadian Herring Fishery
- Tried in many aquaculture industries
- Used for assessing regional agricultural impacts - Signposts
- Being used to manage irrigation in Northern Australia – Irrigation Futures.

## Final Comments on taking an ecosystem approach

- Deals with all the ecological impacts of activities plus the social & economic implications of these and their interactions
- It is fully consistent with sustainable development – it is not an 'alternative' to ESD
- It requires taking a comprehensive approach based on risk management principles.
- It is a **MANAGEMENT** process that is **INFORMED** by Science.

## Where to from here?

- We have made considerable progress but communicating this widely has been difficult.
- Still a level of confusion about these frameworks/systems and a tendency to 'reinvent wheels'.
- Need to get 'buy-on' to the principles of this process by other groups that operate in or affect aquatic areas to ensure efficient linkages and holistic outcomes can be achieved.
- The ESD framework we have developed is capable of being applied in any situation – maybe getting broader adoption should increase effectiveness in dealing with cross agency issues.
- Getting the policy and governance processes right for EBFM/EBM will be harder than dealing with the science questions.

Northern Territory Government  
DEPARTMENT OF PRIMARY INDUSTRY, FISHERIES AND MINES

## Geelong Revisited

From ESD to EBFM

A fisheries management perspective



Heather Brayford  
21 – 22 May 2008

www.nt.gov.au/dpifm

DEPARTMENT OF PRIMARY INDUSTRY, FISHERIES AND MINES

### Introductory Comments

- Focused on questions/issues provided by Organising Committee
- "ESD" taken in its broadest meaning including introduction of EPBCA and other ESD programs and initiatives
- Based on input from jurisdictions

DEPARTMENT OF PRIMARY INDUSTRY, FISHERIES AND MINES

### ESD and Fisheries Management Impacts

1. Management Response

- More sophisticated - a better, more balanced outcome - but not always, more scrutiny could be exercised in responding to DEWHA recommendations. Over enthusiastic (initial) response has created expensive ongoing monitoring and assessment
- Greater accountability - at jurisdictional, stakeholder and community level
- Greater transparency
- Broader focus - not just target species or single species, but beyond that

DEPARTMENT OF PRIMARY INDUSTRY, FISHERIES AND MINES

### ESD and Fisheries Management Impacts

- Recognition of ecological, social/culture and economic dimensions in the management process - although social/cultural element needs development
- Significant take-up of ESD in jurisdictions - now considered operational, rather than "special" (eg WA, SA, AFMA)
- Some tangible changes in non-target species management - eg by catch action plans, TEPs, EMPs
- Shift from a "response"/"reactive" driven approach to a "proactive" approach

DEPARTMENT OF PRIMARY INDUSTRY, FISHERIES AND MINES

### ESD and Fisheries Management Impacts

2. Reporting, Consultation and Governance

- Enhanced reporting - sophistication of status reports etc.
- Inclusion of broader interests in consultative processes and MACs (eg conservation sector)
- Accountability - increased public scrutiny and greater pressure on managers/researchers to deliver sustainable outcomes
- Strengthening of, or inclusion in, fisheries legislation of ESD principles, including the precautionary principle.
- Knowledge/understanding at broader community level?

DEPARTMENT OF PRIMARY INDUSTRY, FISHERIES AND MINES

### ESD and Fisheries Management Impacts

3. Capacity and People Development

- New generation of managers/researchers - broader focus, differing skills (eg environmental, ecosystem, social)
- ESD officers in some jurisdictions - at least initially (eg WA, NT)
- Sophistication of industry - could be described as a new generation. Proactive response to sustainability
- Recognition of ESD principles by recreational sector - data/information remains problematic

DEPARTMENT OF  
PRIMARY INDUSTRY, FISHERIES AND MINES

### ESD and Fisheries Management Impacts

4. Data, Information and Resourcing

- High cost
- Data hungry
- Resource hungry – disproportionate impact on small jurisdictions
- Risk based approach required
- Need for a more balanced response to DEVMA recommendations

DEPARTMENT OF  
PRIMARY INDUSTRY, FISHERIES AND MINES

### ESD and Fisheries Management Impacts

5. EPBC Act

- Accelerated the "change" process. Already a shift to ESD but EPBC hastened that shift – provided a key driver for jurisdictions and industry
- Could argue it was the legislation "we had to have". But not the only driver
- Stimulated research funding for ESD – related projects, which might not have been available otherwise
- 51 fisheries nationally with Export/Import Declarations
- 69 fisheries nationally with WTO Declaration
- Still effort to achieve some EPBCA/Commonwealth requirements – eg validation of catch figures, validation of by-catch, recreational/recreational data availability

DEPARTMENT OF  
PRIMARY INDUSTRY, FISHERIES AND MINES

### Adequacy of Management Tools

- For target species, tools generally available
- For non-target species (but still species level), many of the tools are available
- Significant gaps in some areas -
  - > Assessment and management of ecosystem impacts
  - > Assessment and management of social/cultural and economic issues
  - > Once tools available, assessment required of environmental versus economic/social issues (finding a balance)
- Objectives tools to relate level of service applied to different fisheries/species are not available or of limited utility (EPBC response)

DEPARTMENT OF  
PRIMARY INDUSTRY, FISHERIES AND MINES

### Adequacy of Management Tools

- Shift in research emphasis – not just target, but broader biodiversity focus
- While tools may be available, finding time and resources to use/develop these is another story
- Data (and cost) hungry – a rush to implement monitoring and assessment regimes where sometimes these may not be serviceable in the long-term or appropriate to scale of fishery.

DEPARTMENT OF  
PRIMARY INDUSTRY, FISHERIES AND MINES

### ESD Sub-Program (and Related) Benefits

- Issues identification, risk assessment and management framework has underpinned assessment of fisheries in a consistent way (although several paradigms have emerged)
- Agreed national principles
- Case studies provided through Sub-Program provided guidance to managers/researchers
- Agreement by the Commonwealth to adopt risk assessment process
- Clarity of terminology although ESD framework still not well understood
- Advanced thinking and debate at a national level

DEPARTMENT OF  
PRIMARY INDUSTRY, FISHERIES AND MINES

### NT Experience

- More "holistic" approach to fisheries management
- Development of catch triggers (target species)
- Development of performance indicators
- Triggers for by-product, by-catch, for some species
- No take sawfish policy
- More detailed threatened species reporting
- Removal of bottom set nets in OBLF (shark)
- Ecological Risk Assessments undertaken for some fisheries (eg Aquarium)
- Development of rudimentary harvest strategies
- Compliance risk assessments

DEPARTMENT OF  
PRIMARY INDUSTRY, FISHERIES AND MINES

### Concluding comments

- Overwhelmingly, move to ESD has been positive
- Governments and industry much better placed now
- Significant costs along the way, especially data requirements and reporting. Data needs will not diminish
- Social/cultural aspects still poorly defined
- Economic aspects still need enhancement

DEPARTMENT OF  
PRIMARY INDUSTRY, FISHERIES AND MINES

### Concluding comments

- How do you measure/demonstrate sustainability?
- What tools are available but haven't been applied?
- What tools are not available at all?
- How do we reduce the cost factors
  - EPBC very prescriptive
  - risk management/assessment
  - With current level of maturity – timely to review EPBC and make it less prescriptive, more cost effective and risk based.
  - Revised assessment guidelines acknowledged (eg streamlined reporting)
  - Annual versus periodic reporting

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## DEWHA Perspectives on the ESD to EBFM Journey

2000-08

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Wisdom #1

*"Everyone involved in fisheries management and fishing needs to accept now that some form of environment impact assessment of management arrangements is going to be a fact of life."*

David Kay – Environment Australia

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Wisdom #2

*"ESD...is a journey that seems to me all about continuous improvement. It's the holy grail; you never get there, you just keep working at it"*

Peter Yuile DAFF

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Outline

- Overview of Strategic Assessment and WTO Processes
- Analysis of key conditions for each jurisdiction
- Bycatch and protected species
- Key achievements and ongoing concerns

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## EPBC Act Assessment

- Brief overviews of:
  - Legislative framework
  - Objectives: Improve environmental performance by fisheries and to ensure maintenance of the integrity of our marine ecosystem
  - 1<sup>st</sup> Round 116 Assessments
  - 2<sup>nd</sup> Round 44 Assessments
  - Partnership Approach

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Number of EPBC Act Assessments

Year	1st Round	2nd Round
1999	116	0
2000	116	0
2001	116	0
2002	116	0
2003	116	0
2004	116	0
2005	116	0
2006	116	0
2007	116	44

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Outcomes of EPBC Act Assessments

### Prohibition

- Export from the fishery is not permitted.

### Wildlife Trade Operation Declaration

- Export permitted while targets are met. Period of declaration ranges from 6 months to a maximum of 3 years – subject to conditions.
- Southern and Eastern Scalefish and Shark Fishery – 3 year WTO

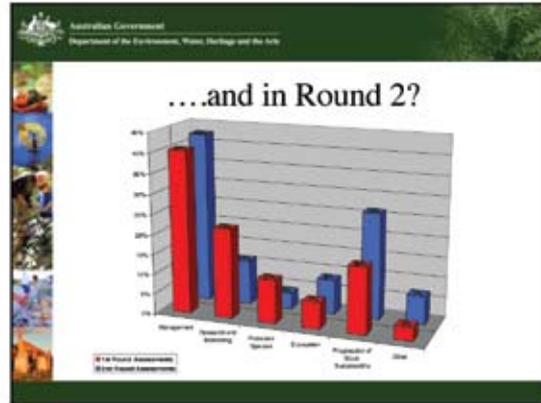
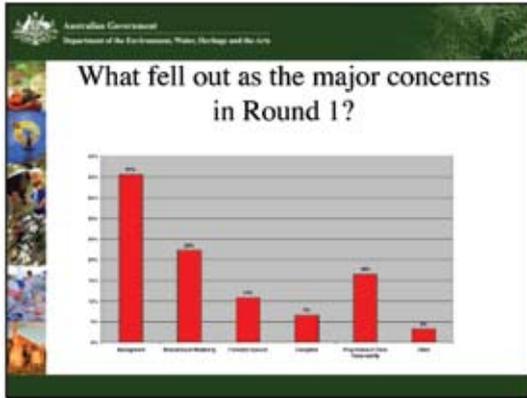
### Exemption

- Fishery added to the List of Exempt Native Specimens for 5 years. Product derived from the fishery is exempt from the export controls of the EPBC Act.
- Heard Island and McDonald Islands Fishery – 5 year Exemption

Australian Government  
Department of the Environment, Water, Heritage and the Arts

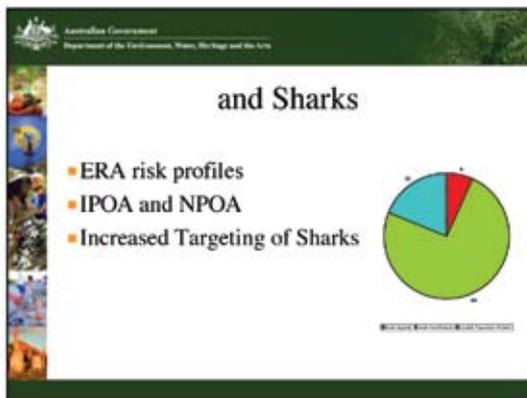
## Recommendations and Conditions

- Export approvals are subject to conditions and recommendations to improve the ecologically sustainable management of a fishery. Based on a commitment to continuous improvement.
- Conditions and recommendations are generally outcome focused to allow fishery managers to determine the best approach/strategy to achieving the desired outcome.
- If conditions are not met, the Minister is compelled to revoke the declaration.



- Australian Government  
Department of the Environment, Water, Heritage and the Arts
- ### What have we learned?
- Consistent ruler over fisheries DOES improve environmental performance of fisheries.
  - Most Oz jurisdictions have worked very hard within their ESD/EBFM agenda to meet the demands of EPBC assessment.
  - Innovation of research-management community partnerships (e.g. ERA, ESD Assessments)
  - Oz leading way internationally in many respects.

- Australian Government  
Department of the Environment, Water, Heritage and the Arts
- ### But there are still big challenges to meet
- "Ecosystem" assessment and performance measures still immature.
  - ESD/ERA-ERM(EBFM)
  - Bycatch of TEPs\*
    - Seabirds (22 in 2007)
    - Seals (65 in 2007)
- \*Only 2 jurisdictions report regularly to DEWHA so these figures underestimate the total number of mortalities in Australian fisheries



- Australian Government  
Department of the Environment, Water, Heritage and the Arts
- ### Summary
- Going back to Peter Yuile's observation...there has been significant improvement.
  - Working closely with fishery managers it's been obvious that many (despite the huge challenge) are seeing the progress made in EPBC Act assessments as a huge achievement.
  - It is costly, at a time when the fishing industry is hurting, but DEWHA remain committed to the journey

Australian Government  
Department of the Environment, Water, Heritage and the Arts

### Wisdom and warning

*"the idea that a ..fisher who as a consequence of a major drop in price for his products (or increase in costs), becomes poor will put major pressure on the environment should not be dismissed"*

Tor Hundloe, UQ.



## GEELONG REVISITED

### FROM ESD TO EBFM - future directions for fisheries management

#### A COMMERCIAL INDUSTRY PERSPECTIVE ON THE ESD FRAMEWORK

Neil MacDonald, General Manager  
Wildcatch Fisheries SA



#### FROM ESD TO EBFM - future directions for fisheries management

##### The Framework

A significant project that brought a consistent approach to the process of developing fishery management planning.

The Framework was a well structured guide through the process of identifying risks and then developing programs to deal with those issues.

Brought a level of rigor and common understanding to a process that ensured there was consistency in developing plans.



#### FROM ESD TO EBFM - future directions for fisheries management

##### The Understanding of ESD within the Framework

Implementing ESD will mean that we need to consider not only the effects on the target species, but also the rest of the ecosystem.

Recognition that economic health of a fishery (such as the profits to commercial fishers or the satisfaction of recreational fishers) relies on sustaining the essential ecological processes.

Ongoing utilisation of fishery resources requires the community (with its competing interests) to be content with the management of the fishery.

The issues are not fixed, they are likely to be subject to an ongoing process of evolution.



#### FROM ESD TO EBFM - future directions for fisheries management

##### The Framework's Structure

The Framework was important in focussing the planning and development process to:

- Bring industry in a structured way into the debate
- Bring other stakeholders to the point where they had a better understanding of the industry, its practices and operational imperatives.
- Prevent the opportunity to short out the process in order to avoid issues.
- Confront the issues of industry, researchers, managers or other stakeholders in the planning process.
- Gather all available information that could contribute to the development and assessment processes. Knowing what information you have or may need to collect is critical to effective planning



#### FROM ESD TO EBFM - future directions for fisheries management

##### Adoption

The critical indicators of the success of a program such as the ESD Framework are the level of acceptance and more importantly adoption.

A key outcome expected from the initial workshop was the development and adoption of industry based codes of practice using the Green Changer / EMS as a basis to demonstrate meeting its environmental obligations.

Use of a consistent and structured framework has enhanced formal fishery management plans through the use of a comprehensive risk based approach.

The ESD Framework has been a robust basis to demonstrate management has credibility with issues of resource sustainability, functional ecosystem relationships and habitat processes to meet the requirements of the Commonwealth's EPBC assessment.



#### FROM ESD TO EBFM - future directions for fisheries management

##### The Challenges

Industries were confronted with the need to deal with what may have been an uncomfortable truth.

The process was effective at identifying the lack of adequate industry best practice or at least the lack of effective documentation of it, as well as critical areas for action such as by-catch mitigation, TEPS interactions or key areas of conflict.

The process was at times uncomfortable for some in industry - considered it a "warts and all" look. Other users eg recreational fisheries were not and are still not put through this process despite growth in participation, investment and catch over the Framework's time.

If we move to explicit allocations between sectors then each sector must be assessed as being at the same level of compliance with the required level of management scrutiny and control, to underpin ESD.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Gaps**

A key component of the ESD approach is a holistic understanding of not just resource sustainability, but its balance against the other essential needs of a society for secure social and economic structures.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Gaps**

A key component of the ESD approach is a holistic understanding of not just resource sustainability, but its balance against the other essential needs of a society for secure social and economic structures.

The balanced approach to ESD should help ensure stable regional communities that support production of a key food source for society. We do not understand our societal structures and economic dependencies and resilience as well as our biological issues.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Gaps**

A key component of the ESD approach is a holistic understanding of not just resource sustainability, but its balance against the other essential needs of a society for secure social and economic structures.

The balanced approach to ESD should help ensure stable regional communities that support production of a key food source for society. We do not understand our societal structures and economic dependencies and resilience as well as our biological issues.

Despite several socio-economic case studies governments have been slow to develop baseline assessments of fisheries or regions.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Gaps**

A key component of the ESD approach is a holistic understanding of not just resource sustainability, but its balance against the other essential needs of a society for secure social and economic structures.

The balanced approach to ESD should help ensure stable regional communities that support production of a key food source for society. We do not understand our societal structures and economic dependencies and resilience as well as our biological issues.

Despite several socio-economic case studies governments have been slow to develop baseline assessments of fisheries or regions.

Given the wave of political resource reallocations there has been little socio-economic evaluation of the consequence of any change. If it has happened it has been 'after the fact'. This shows a lack of adherence to the principles for ESD.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Scorecard**

The ESD Framework developed as a result of the Geelong Conference has

- Been established as a sound policy and planning framework – a success



**FROM ESD TO EBFM - future directions for fisheries management**

**The Scorecard**

The ESD Framework developed as a result of the Geelong Conference –

- Established a sound policy and planning framework – a success
- Was adopted and applied consistently and equitably to all user groups that should comply with ESD – a limited success as it has only been applied to one impacting sector.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Scorecard**

The ESD Framework developed as a result of the Geelong Conference -

- Established as a sound policy and planning framework – a success
- Was adopted and applied consistently and equitably to all user groups that should comply with ESD – a limited success as it has only been applied to one impacting sector.
- Changed our traditional biologically based approach to fishery management – a limited success given the lack of data being collected to answer all of three key categories of the ESD framework.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Scorecard**

The ESD Framework developed as a result of the Geelong Conference -

- Established a sound policy and planning framework – a success
- Was adopted and applied consistently and equitably to all user groups that should comply with ESD – a limited success as it has only been applied to one impacting sector.
- Changed our traditional biologically based approach to fishery management – a limited success given the lack of data being collected to answer all of three key categories of the ESD framework.
- Built a base that underpins a move to co-management using a strong risk based decision making tool – at best is not yet well developed in any jurisdiction.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Future**

The need to complete our ability to fully apply all three categories of the ESD framework requires the application of resources to fill the gaps in our knowledge of:

- Relationships of key ecosystem components; and
- Social and economic values of users groups to the community.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Future**

The need to complete our ability to fully apply all three categories of ESD framework requires the application of resources to fill the gaps in our knowledge of:

- Relationships of key ecosystem components; and
- Social and economic values of users groups to the community.

The need to develop a specialist research node to fill the gap left by the loss of expertise from within BRS that was built while developing the socio-economic template.



**FROM ESD TO EBFM - future directions for fisheries management**

**The Future**

The need to complete our ability to fully apply all three categories of ESD framework requires the application of resources to fill the gaps in our knowledge of:

- Relationships of key ecosystem components; and
- Social and economic values of users groups to the community.

The need to develop a specialist research node to fill the gap left by the loss of expertise from within BRS that was built while developing the socio-economic template.

Change the policies and politics of management and allocation so we have a consistent ESD Framework approach to all users that share the resource.



## SUCCESS OR OTHERWISE OF ECOLOGICAL SUSTAINABLE DEVELOPMENT

### A PERSPECTIVE FROM WWF - AUSTRALIA




### How and Why it happened...

- WWF – Australia engaged in process 1990/91.
- Lack of ESD Champions in the early years.
- New life for ESD, Victoria leads the charge, giving birth to the Geelong ESD workshop.
- Geelong ESD workshop strongly attended and supported.
- WWF – Australia determined that there would be a blueprint for improved fisheries management directions.
- Outcomes of Geelong ESD workshop;
  - establishment of first ESD Steering Committee.




### QUESTION...

Has the original idea of the Geelong ESD workshop succeeded in driving change in the way our precious fisheries are managed?




### QUESTION...

*Has the original idea of the Geelong ESD workshop succeeded in driving change in the way our precious fisheries are managed?*

**Yes, to a degree:**

- Management tools (implementation of spatial & temporal closures, gear modifications & restrictions);
- UN FAO (development of EAF);
- Ecosystem Based Management;
- Marine Stewardship Council;
- Co-management arrangements;
- Various State/Territory and Commonwealth legislation;
- Commonwealth Harvest Strategy Policy;
- Ministerial Direction; and
- Adoption by industry




### Will to make the change from ESD to EBM

- Funding the pursuit of knowledge.
- Loss of knowledge.
- Decision making.
- Monitoring and measuring.




### In Closing...

*"A lot of determined hard working people brought ESD fisheries back to life and the process continues, ESD to EBM must succeed or we stand to lose not only the fish but the industry also – this would be unforgivable!"*

— Margaret Moore, WWF - Australia



DEPARTMENT OF  
PRIMARY INDUSTRIES



**Geelong Revisited**  
Where we are going: future directions  
What are the current and future drivers of change?

Peter Appleford  
Executive Director Fisheries Victoria  
23/07/2008



DEPARTMENT OF  
PRIMARY INDUSTRIES

**Outline**

- What success looks like
- The main issues on the agenda
- The basis set by the ESD program
- The work required



2

DEPARTMENT OF  
PRIMARY INDUSTRIES

**Vision of success**

**Fisheries Management**

- An ecosystem-based management approach
- Clear policy frameworks informed by science
- Flexible and adaptive regulatory and management frameworks
- Predictive modelling capacity to inform strategic fisheries decision making
- A good understanding about the impacts of regulatory change
- Industry/government partnerships that provide for ongoing cooperation.
- Freely available research and monitoring information for use by government and stakeholders.
- A coordinated approach to research and monitoring.



3

DEPARTMENT OF  
PRIMARY INDUSTRIES

**Vision of Success**

**Fisheries Stakeholders**

- Profitable, resilient and competitive industries
- Sustainable and socially-acceptable industries
- R&D seen as a benefit and not a cost, including monitoring and data collection.
- Stakeholders have the capacity and knowledge to respond
- Stakeholders are entrepreneurial and innovative.
- Industry takes responsibility for their future
- Stakeholders work cooperatively to address issues
- Industry is able to provide evidence of performance expected by community to ensure access and markets



4

DEPARTMENT OF  
PRIMARY INDUSTRIES

**The issues moving forward**

**Sustainability**  
- securing the fisheries resources

**Authority to operate**  
- securing access

**Improved management arrangements**  
- reducing the cost and increasing the flexibility

**Impacts of fisheries and regulatory change**  
- environmental, social and economic

**Post harvest development**  
- growing the value of the resource more for the fish



5

DEPARTMENT OF  
PRIMARY INDUSTRIES

**The platform (ESD work)**

Improved the performance of Australian fisheries from an ecosystem based fisheries management context

- Maintained Australia as a leader in fisheries management
- Focussed improvement on an evidence and risk based approach accepted nationally
- Established an auditable process with set performance criteria

This is a large step forward.



6

DEPARTMENT OF  
PRIMARY INDUSTRIES

## Management frameworks

A move to more flexible and adaptive regulatory and management frameworks

- Performance/outcome based regulation
- Increased self regulation and responsibility
- Auditing of performance
- Move along the co-management continuum towards decentralised management

Requires capability improvement in government and industry



7

DEPARTMENT OF  
PRIMARY INDUSTRIES

## Securing the resource - advocacy

Ecosystem based fisheries management needs to address the affect other impacts are having on the fisheries

- These impacts often exert far greater pressure on the system than the fishery
- Attention needs to be drawn to their management
- Interaction with non-fisheries management agencies
- Requires advocacy on behalf of the fisheries resources

Demonstration of impact and causality requires qualitative and quantitative tools



8

DEPARTMENT OF  
PRIMARY INDUSTRIES

## Society, economy as well as environment

As a common pool community resource fisheries are managed to meet and or create public value

- Knowledge of many of the social and economic impacts (through chain) for fisheries is poor
- Quantify the impacts of fisheries and aquaculture
- Quantify the impacts of regulatory decisions
- Determine public values

Require the ability to determine/measure and predict economic and social impacts. This requires data collection/curation and modelling capability



9

DEPARTMENT OF  
PRIMARY INDUSTRIES

## Development – a bigger 'D'

### Profitable, resilient and competitive industries

- Much of the ESD/EBFM work is now core business for agencies and stakeholders
- Growing the value of the resource is a challenge – producing more, new products and or higher prices/lower costs/improved margins
- Need to take a value chain approach to fisheries/aquaculture

New and innovative approaches to address these issues are required.



10

DEPARTMENT OF  
PRIMARY INDUSTRIES

## Summary

- ✓ What success looks like
- ✓ The main issues on the agenda
- ✓ The basis set by the ESD program
- ✓ The work required

## Questions?



11

**Policy Perspectives - from ESD to EBFM**

**International Fisheries –  
Current and Future Drivers of Change**

Dr John Kalish  
General Manager  
International Fisheries & Aquaculture  
Department of Agriculture, Fisheries and Forestry



**The Current Situation**

- Increasing pressure on limited resources
  - World fisheries
  - Aquaculture
- Food security (regional stability and security)
- Overcapacity
- IUU fishing
- Migrating capacity to developing countries (allocation)
- Subsidies
- Market access and trade (globalisation vs protectionism)
- Consumer expectations (clean and green)
- Modern information and fishing technologies (with knowledge comes change?)
- Climate change



**Drivers of Change  
Legal Instruments and Management Forums**

International instruments provide the framework for ESD and EBFM (eg):

- UNCLOS 1982 (Australia 1994) (155 ratifications)
- UNFSA 1995 (Australia 1999) (68 ratifications)
- FAO Compliance Agreement 1993 (Australia 2004) (34 r)
- Code of Conduct 1995 (adopted by 170 countries)
- IPOAs (IUU, capacity, seabirds and sharks)
- Guidelines (EAFM, ecolabelling, turtles, deep-sea fishing)
- Port State measures (under negotiation)

Negotiated by Australia and mirrored by Australian domestic fisheries laws and policies where appropriate



**Drivers of Change  
Legal Instruments and Management Forums**

Governance structures to meet, discuss and negotiate legally binding measures (eg):

- Western and Central Pacific Fisheries Commission (WCPFC)
- Indian Ocean Tuna Commission (IOTC)
- Commission for the Conservation of Southern Bluefin Tuna (CCSBT)
- Southern Indian Ocean Fisheries Agreement (SIOFA)
- South Pacific Regional Fisheries Management Organisation (SPRFMO)
- Forum Fisheries Committee (FFC)
- UNGA, FAO COFI, WTO, CITES, IMO, ILO

However, there are problems....



**Drivers of Change - Decision-making Forums  
(The good, the bad and the ugly)**

Opportunities to influence the directions of world and regional fisheries management  
What happens in international forums?

- The like-minded
- The unwilling
- The unable
- The dishonest
- The pleasers
- The absent

Working to achieve LCD consensus through negotiation  
LCD equals failure



**Drivers of Change  
Flag States' Interests and Capacities**

So what is the problem? Who has the problem?

- Adoption (treaties, conventions, management measures)
- Implementation
- Quality
- Standards
- Reform
- Innovation

Incremental change vs stalling...we'll take the *status quo* thank you....



**Prospects for EBFM**

- No shared understanding of what is EBFM
- Varying views on the need for EBFM
- No agreed view on implementation of EBFM
- Is there a governance gap?
- Is there a regulatory gap?
- Concessions for least developed countries and developing countries
- Policy drivers for most countries are economic and social
- Opportunities for implementation through indirect mechanisms (eg trade restrictions)
- Continued advocacy and science



**Getting on the right track to ESD and EBFM**

- Push the envelope and advocate best practice (eg IUU fishing, deep-sea fishing on the high seas, MCS)
- Think globally: act regionally (FFC, RPOA, IORARC, bilaterals)
- Build capacity - build allies
- Don't jump the gun
- Be alert
- Harmonise



Australian Government  
Department of the Environment, Water, Heritage and the Arts

## "Are we there yet?" Perspective from the back seat drivers

**Ian Cresswell**  
Assistant Secretary  
Marine and Biodiversity Division

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Government drivers

- EPBC Act 1999
  - Assessments and Marine Bioregional Planning
- 2006 Ministerial Direction to AFMA (C'wth fisheries)
  - Initiatives in support of EBFM – reduction in by-catch, independent monitoring, spatial management.
  - Harvest Strategy Policy
- **FISHERIES LEGISLATION!** (C'wth and states)

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Community drivers

- Increased awareness amongst general public of sustainable fisheries issues.
- Need to be accountable.

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Industry drivers

- No ecosystem, no product
- Industry imperative to compete in/ create high value niche markets.
- Impact of co-management on EBFM?

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Key environmental issues

- **Sharks**
  - Crucial role in ecosystem
  - Increasing number of shark fisheries
- **By-catch**
  - Still too high. Protected species, overtake of quota species, low/ no commercial value species.
- **Overfishing**

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Challenges

- **Lack of resources**
  - We've heard the calls that EBFM is too expensive.
  - BUT we've also heard the call that fisheries need to be sustainable.
  - CAN WE AFFORD NOT TO DO IT?
  - Cost of doing business.

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Challenges cont.

- **Data**
  - Data validation
  - Not enough data
- **Tools**
  - Success at quantifying risks.
  - Do we have satisfactory risk management tools yet?

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Challenges cont.

- **Governance**
  - Can existing arrangements (eg OCS) handle ecosystem based fisheries management?
  - DEWHA are not fisheries managers!

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Next steps

- Which fisheries can **REALLY** be sustainable?
- Some fisheries are unprofitable, but have high impact on the ecosystem.

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Next steps cont.

- What would happen to EBFM under deregulated fisheries management?

Australian Government  
Department of the Environment, Water, Heritage and the Arts

## Summary

- **EBFM is everyone's responsibility.**

## Drivers of change: recreational fisheries perspective

Ross Winstanley

Chair, Recfishing Research Steering Committee  
rosswins@bigpond.net.au

## Outline

- 1 Access
- 2 Changing community attitudes
- 3 Co-management & recreational fishers' rights
- 4 Data on recreational fisheries
- 5 Climate change

Implications for the sector

### 1. Access – loss, restriction & mitigation

- Targeted, legislated:
  - MPAs (state and national)
  - PET species protection (eg trout cod, GNShark),
  - biosecurity zones & reservoir closures.
- Non-targeted:
  - port & channel restrictions (navigation, security, privatisation, contamination, public risk avoidance)
  - access tracks on public land
  - RAMSAR sites, C/W land
- "Progress":
  - urbanisation: loss of waters, ↑ time & \$ costs
  - habitat degradation and reduced productivity
  - rising world oil price
  - climate change + drought + water use priorities
- Mitigation: FADs, artificial reefs, stocking

### Community perceptions of the fishing industry

(Source: El Aidi & Byron 2003, FRDC Project 2001/309)

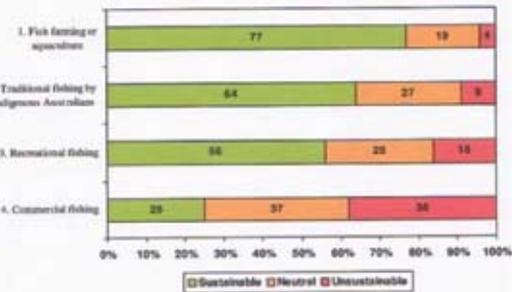


Figure 10 Perceived sustainability of various fishing industry sectors

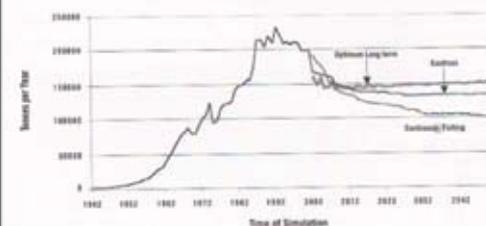
### 2. Changing community attitudes

- Increased focus on humane handling of fish
- Ethical use of fish - catch and release
- Environmental and carbon footprint of recreational fishing
- ↑ recognition of non-consumptive interests, eg MPAs
- Continued public funding of infrastructure & services
- ↑ legislated responses, eg fishing & boat licences, animal welfare, EIA requirements, fuel efficiency
- Positive recreational fishing sector responses
  - good progress on Released Fish Survival program
  - progress on "ESD performance" of tournaments
  - initiation of conservative catch limits
  - recognised benefits of licence-funded programs
  - Recfish Australia's review of 1995 code of practice
  - Recfishing Research's promotion of R&D priorities

### Modelling Australia's fisheries to 2050: management implications

(Source: R Kearney et al. 2003, FRDC Project 1999/140)

#### Total Wild Caught Production with Seal Effect



### 3. Co-management & recreational fishers' rights

- Expect to see the trend of increasing demand for larger shares of inshore scalefishery resources.
- Progress on defining recreational fishers' rights?
  - ECTuna & Billfish Fishery, since Coolangatta in 2002
  - explicit recreational catch shares in a few fisheries
  - re-allocation in some inshore scalefisheries
- Along with increasing application and sophistication of co-management approaches to fisheries management, expect to see increasing demand for clear definition of recreational fishers' rights.
- In the absence of defined rights, management of some rock lobster & abalone fisheries has worked well where rec fishers have been part of the stock assessment, TAC-setting and co-management processes.

### 4. Increasing need for data on recreational fishing and its impacts

#### Impacts on

- stocks of target & non-target species
- biodiversity including PET species
- the environment including fishing's "carbon footprint".

#### Data needed for

- recognition of the social & economic value of recreational fishing
- stock assessment, quota setting & monitoring,
- EPBC Act & state environmental assessments
- objective presentation of rec fishers' cases in allocation & access processes and govt funding bids

Improved delivery of information as a basis for changing rec fishers' expectations, attitudes and behaviour (in response to changing community attitudes, shrinking resources, etc)

### 5. Climate change

#### Changes are already evident

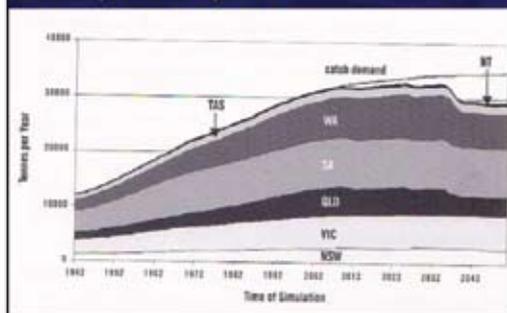
- Southward shift of *Macrocystis* kelp ecosystems, *Centrostephanus*, snapper
- Salinity, acidification, loss of streams, wetlands
- Water use conflicts

#### Future changes

- Retreat of trout fisheries to highlands
- Stocking conflicts with biodiversity protection
- Threats to GBR ecosystem, Leeuwin Current, SE upwellings
- Favourable environments for pest species
- Increasing focus on efficient energy use

### Modelling Australia's fisheries to 2050: management implications - simulated recreational catch

Source: H Kearney et al. 2003, FRDC Project 1999/346



### Implications for the sector - what's needed?

1. Flexibility & openness to change - understanding & incentive based on good data, communication & engagement in change processes.
2. Strong, financially secure and professional leadership and advocacy of the sector (leaders' development and RA funding projects).
3. Improved data on the social & economic benefits of rec fishing - we can make the case for the sustainability of rec fishing and how proactive fishers are in this area but must demonstrate the social & economic value to the community & govts (AFMF, RR, RA & FRDC are addressing).
4. High level collaboration of rec fishers in MPA planning and decisions, co-management & allocation processes, empowered by 1, 2 & 3.
5. Acknowledgement by recreational fishers that "you get what you pay for" - they're going to have to contribute more for good leadership, representation, data and other services.

### EBFM implications

#### Issues & policy drivers with greatest relevance to the EBFM framework:

- Access: MPAs, PET species, RAMSAR, fishing, stocking, FADs, artificial reefs.
- Changing community attitudes: continued improvement to environmental performance and community perceptions of recreational fishing.
- Data on recreational fishing & its impacts: effects of fishing and stock enhancements on biodiversity and non-target and PET species

### Acknowledgements

Recfishing Research acknowledges the support of FRDC in supporting research, development and extension on national recreational fishing priorities, aimed at improving the contribution to the community by way of sustainable, responsible and healthy recreational activities.

DAFF's Recreational Fishing Community Grants Program is also supporting major projects aimed at promoting the environmental responsibility and the social and economic benefits of recreational fishing.



### Key Driver -Environmental - Impact of Climate Change

- Push for more conservative/bigger TACs
- Shifts in stock distribution
- Shifts in habitats

### Trends and Responses – Sustainability and Consumer

- Procurement policies by big end retailers will demand sources from demonstrated sustainable fisheries (Corporate Social Responsibility)
- Will filter through to consumers which will impact on fresh fish markets
- Requirement for 3<sup>rd</sup> Party Certification Schemes with integrity (FAO compliant)
- Government/Industry Schemes generally not viewed as credible by markets/NGOs/consumers
- Relationship to uncertified imports - unclear

### Trends & Responses- Rationalisation, Restructuring & Economic Efficiency

- Cost pressures will demand acceleration of internal reforms and support of industry in changing (not necessarily \$\$\$)
- Adopt more flexible and efficient management instruments
- Management targets need to be sensitive to broad objectives, but not become de-facto instruments to cost shift achieve other goals

### Rationalisation, Restructuring & Economic efficiency (cont.)

- Buy Backs to be connected to better quality management not just less effort
- Progression to more flexible market oriented management for example output controls
- Removal of un-related social objectives in management that add costs
  - For example barriers to contraction of fleet sizes & ownership controls

### Rationalisation, Restructuring & Economic Efficiency (cont.)

- Removal of regulation that impedes economic efficiency and diminishes adaptability
- Alignment and integration of State initiatives in marine conservation, planning and fisheries management
- Alignment and integration of State and Commonwealth Government initiatives in marine conservation, planning and fisheries management

### Trends & Responses- Devolution- Self Management

- Formal Agreements with Government for industry to assume greater management responsibility, but with accountability
- Capture the benefits of creative and cost effective management measures
- Flexibility needed to cope with changing issues

## Trends & Responses- Harmonisation & Encouragement

- Rationalisation and mutual recognition of regulatory and third party schemes that assess and attest to fisheries sustainability
- Government/Industry make judgement on 3<sup>rd</sup> party certification schemes that have integrity (FAO compliant) and traction and back (eg CFG)
- Government assistance through seed funding eg NZ Government \$1 million fund, British Columbia Government \$.25 million, UK Government regional funding, French Government (10 fisheries through MSC programme, others)

## Trends & Responses- Enhanced Trust and Partnerships

- NGOs & Recreational fishers- Cooperative action on matters of mutual interest eg Halt the salt
- Local communities-inshore fishers supply local needs eg Blackwood
- Potential joint ventures indigenous communities
- Fisheries & Retailers- shared cost of certification and chain of custody

## Examples

- Good: Partnership between MSC, CFA and US Based Sustainable Fisheries Fund to utilise risk assessments and EPBC assessments for MSC pre-assessments on all Commonwealth fisheries
- Bad: Commonwealth and State management plans for Ningaloo Marine Park- non aligned planning process, inconsistent objectives, inconsistent zoning schemes, public policy disarray

## Can EBFM ( Marine Planning) help?

- Yes, if used to reform policy and legislation to remove duplication, encourage efficiency and innovation, align conservation and fisheries management objectives at State and Commonwealth levels- require significant resolution of Jurisdictional issues
- No, if no policy agreement on objectives between Governments and industry

## Concluding thoughts

- Change will require some degree of risk and trust
- New mechanisms will have to be tried or at least given a chance!
- Attempting to layer on more systems will not resolve matters as it will just lead to a more inflexible system incapable of adaptation

**TRAFFIC**  
The World's Fish Trade Monitoring System



**FROM ESD to EBFM**  
Where we are going: future directions  
What are the current and future drivers of change?  
Glenn Sant




**TRAFFIC**  
The World's Fish Trade Monitoring System

Responsible Supply

Risk Based Management

- Harvest Strategy Policy – Precaution
- Why? The increasing knowledge of the impact of fishing on the marine environment and its occupants
- Equal opportunity to be conserved (Target, Byproduct and Bycatch) true EBFM
- ERA and ERM a framework for management absent of political interference?

**TRAFFIC**  
The World's Fish Trade Monitoring System

**TRAFFIC**  
The World's Fish Trade Monitoring System

Responsible Supply

- EPBC an important part of responsible supply (From Schedule 4 exemption of WPA Act to EPBC.)
- EPBC = Eco label? No
- Management = Sustainable? Not necessarily
- Greater joint management and cooperation between the States, territory and Commonwealth

**TRAFFIC**  
The World's Fish Trade Monitoring System

**TRAFFIC**  
The World's Fish Trade Monitoring System

Responsible Supply

- Management success measured
- Dynamic management that can respond to eg. Climate change

**TRAFFIC**  
The World's Fish Trade Monitoring System

**TRAFFIC**  
The World's Fish Trade Monitoring System

Responsible Demand

The case of South African Demersal Shark Fishery

- Limited management, monitoring and regulation
- No knowledge of impact
- Almost no collection of data by Australia, the main importer
- Australia undertakes review to resolve data problem
- The need for traceability of all seafood product

**Clips are down for South Africa's sharks**  
10 August 2007, Cape Town, South Africa – The Australian appetite for fish and chips is having an unknown impact on South Africa's shark populations and closer monitoring of the trade is essential, according to a new report published today by TRAFFIC.



**TRAFFIC**  
The World's Fish Trade Monitoring System

**TRAFFIC**  
The World's Fish Trade Monitoring System

Further international Drivers

- IUU Seafood Product controls by USA and EU
- Port State Controls
- CITES
- RFMO's and other Multilaterals





**TRAFFIC**  
The World's Fish Trade Monitoring System

**TRAFFIC**  
The World's Fish Trade Monitoring System



**FROM ESD to EBFM**  
Where we are going: future directions  
What are the current and future drivers of change?  
Glenn Sant






**Future Directions - Science**  
**Tony Smith**  
**Geelong Revisited**

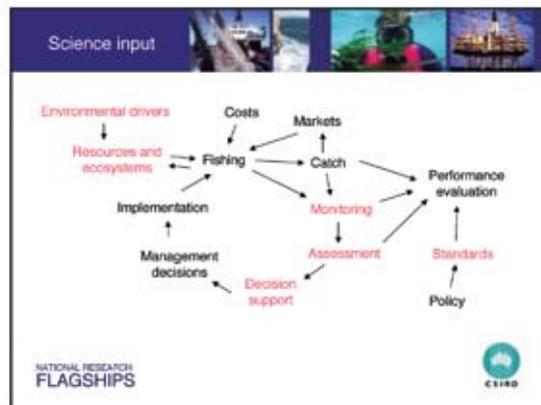
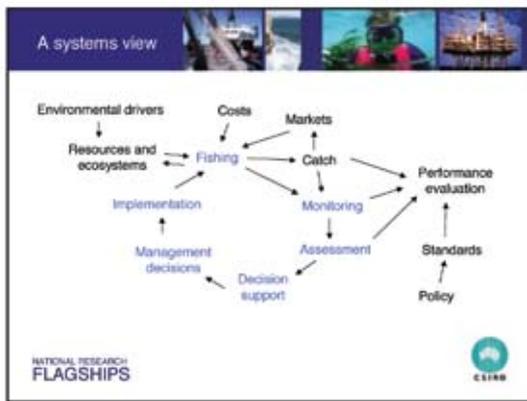
NATIONAL RESEARCH  
FLAGSHIPS



The recent past

- Achievements of the ESD sub-program
- Progress towards EBFM
  - Bycatch, protected species, habitats, ecosystems
  - Integration – whole of fishery performance
  - Economic and social dimensions
- Australia's global position in EBFM R&D
  - ESD framework, ERA, Atlantis etc

NATIONAL RESEARCH  
FLAGSHIPS

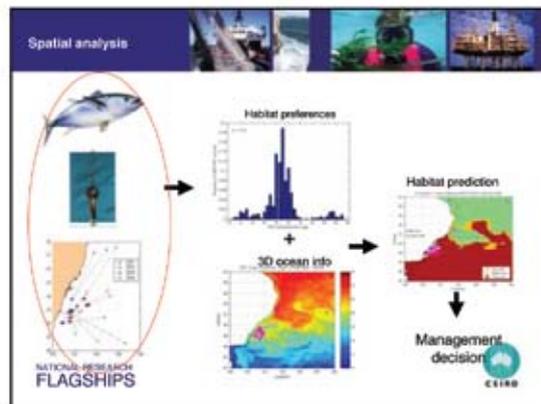



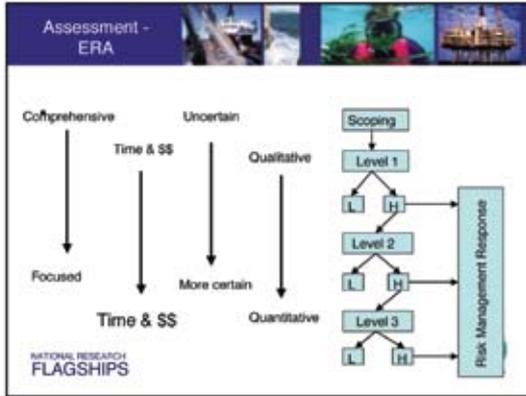
Monitoring

- Increasing industry involvement
- Focus on cost-effective strategies addressing all needs
- Potential from new technologies
  - VMS
  - Electronic logbooks
  - Remote sensing
  - Smart tags
  - Habitat mapping
  - Underwater video



NATIONAL RESEARCH  
FLAGSHIPS



### MSE output - decision table

	Economic objective	Ecological objective	Social objective
Strategy 1			
Strategy 2			
Strategy 3			

NATIONAL RESEARCH FLAGSHIPS

CSIRO

- ### Where to with science
- The "two cultures" problem
  - More focus on the human dimension
    - Incentives versus regulation
    - More effective systems of governance
    - Future scenarios for our fishing industry
- NATIONAL RESEARCH FLAGSHIPS
- CSIRO

- ### Key science challenges
- Measuring sustainability**
- Climate change and shifting baselines
  - Scientific basis for determining acceptable impacts
  - Properly integrating the social and economic with the ecological
- Cost-effective observation and monitoring systems**
- NATIONAL RESEARCH FLAGSHIPS
- CSIRO



**Ministry of Fisheries**

Geelong Revisited: From ESD to EBFM –  
Future Directions for Fisheries Management:

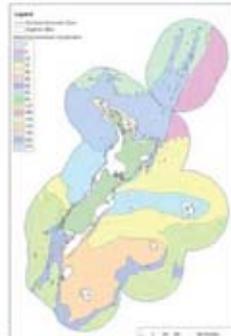
**The New Zealand Experience**

Melbourne, 21& 22 May, 2008  
Jonathan Peacey  
New Zealand Ministry of Fisheries

**Ministry of Fisheries**

ESD but not by that name!

- No explicit focus on ESD; but legislation and policies deliver key elements of ESD
- Moving to *Ecosystem Approach to Fisheries*
- Environmental standards and objectives-based fisheries plans
- Ongoing management of specific environmental impacts
- Increasing environmental research
- Societal views changing rapidly



**Ministry of Fisheries**

Legislation

- Fisheries Act 1996
  - Purpose: Provide for utilisation while ensuring sustainability
  - Environmental principles:
    - Associated & Dependent Species
    - Maintain Biological diversity
    - Habitat of importance
  - Information principles (precautionary approach – but not quite!)
  - Requirement to manage most fish stocks at or above  $B_{MSY}$
- Marine Reserves Act 1971
- Marine Mammals Protection Act 1978
- Wildlife Act 1953



**Ministry of Fisheries**

Policies

- MFish Statement of Intent
  - Overall Outcome: Maximise the value New Zealanders obtain from the sustainable utilisation of fisheries resources and protection of the aquatic environment
  - Contributing Outcomes:
    - Aquatic environment protected
    - Best value able to be realised
    - Credible fisheries management
- Biodiversity Strategy 2000
- Marine Protected Area Strategy
- Fisheries Environmental Strategy
- Comprehensive Oceans Policy attempted, deferred



**Ministry of Fisheries**

Environmental Strategy - 2005

- Assess all environmental effects of fishing; don't just respond
- Environmental standards define acceptable limits of fishing effects
- Social values to be incorporated in standard setting
- Flexibility in how standards are achieved
- Fishery managers to demonstrate fishery meets relevant standards



**Ministry of Fisheries**

Standards and Operational Guidelines

**Approved:**

- Deerred values
- Management of Non-QMS species
- Consultation
- Sealions

**Consultation Completed:**

- Harvest Strategy (TAC-setting)
- Seabirds
- Hectors/MauI Dolphins

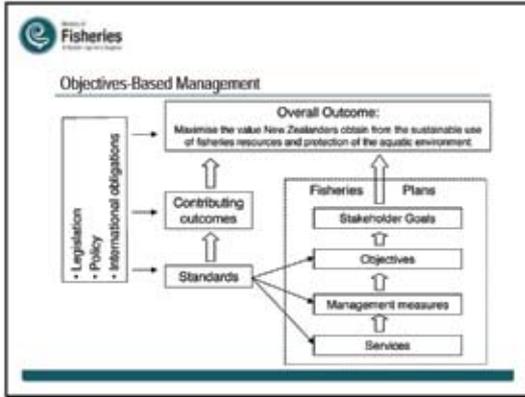
**To be released soon:**

- Benthic Impacts

**To be released later:**

- Environmental Impact Assessment
- Other marine mammals
- Reporting
- Allocation
- Risk analysis
- Input and participation of tangata whenua
- Governance and representation
- Purchase
- Service Delivery

Until the Fisheries Act is amended, standards are only policies that guide advice to the decision-maker (Minister or Chief Executive)



**Fisheries Plans**

- Deepwater fisheries
- Inshore finfish (7 plans)
- Shellfish/Seaweed (11 plans)
- Freshwater eels (2 plans)
- Other freshwater fisheries
- National Plans:
  - Scabid NPOA
  - Shark NPOA
  - Benthic habitat

**Ongoing Environmental Initiatives**

- Codes of Practice & Regulations covering trawl & longline vessels & marine mammals & seabirds
- Benthic Protection:
  - 31 Marine Reserves (7.6% TS)
  - Benthic Protection Areas (32% of EEZ: 52% seamounts; 88% hydrothermal vents)
  - Fisheries Act closures; Cable zones
- Certification:
  - Hoki fishery MSC certified since 2001
  - 3 other fisheries under assessment
  - Environmental certification fund 2008

**Research**

- Total fisheries research: \$40 M
- MFish research: \$20 M
- DoC: impacts of fishing: \$1.8 M
- FRST aquatic env research: \$15 M
- Industry research: \$1.5 M
- Some research cost recovered

Fishing Year	Deepwater, Moki Depth, & Antarctic	Whoiara, Pungu, & Shelton	Aquatic Environment	Non-Commercial Fisheries	Freshwater & other research
2006	~2.5	~1.5	~1.5	~1.5	~1.5
2007	~2.5	~1.5	~1.5	~1.5	~1.5
2008	~2.5	~1.5	~1.5	~1.5	~1.5
2009	~2.5	~1.5	~1.5	~1.5	~1.5
2010	~2.5	~1.5	~1.5	~1.5	~1.5



## Markets and sustainability – where have we been and where are we going?

Duncan Leadbitter  
Regional Director  
Asia Pacific - MSC

In the past ten years there has been considerable growth in number and diversity of market oriented actions aimed at seeking sustainable use. Some of these include:

Trade controls: now even being used by management bodies such as RFMOs. Many trade measures have an enormous influence on markets and supply mechanisms

Much greater focus on supply chains to ensure that illegal supply is targeted. Catch documentation increasing

Fish names and identification also a focus: to reduce illegal supply and provide customer assurance

Corporate Social Responsibility and sustainable procurement policies by companies at various points of the supply chain

Certification and labelling – to acknowledge success  
Consumer advisories of various sorts

### What are the advantages of this proliferation?

“Boat to throat” action on sustainability – threats to sustainable use extend beyond the resources of agencies to control.

Opportunities to increase customer confidence – not just sustainability related but food quality as well

Helps deal with the drivers of and incentives for unsustainable use

### What are the disadvantages?

Costs of running systems – increased traceability, Monitoring Control and Surveillance (MCS)

Potential for consumer confusion and greenwashing

Potential for trade impacts

Potential for duplication and/or mismatching objectives – e.g. CITES vs fisheries management

### Some issues to ponder

In some respects things are moving so fast that checks and balances have either not been devised or are inadequate in some areas

In other areas things are not moving fast enough – traceability mechanisms are at best rudimentary in most parts of the world

Post harvest sector very engaged in other parts of the world but not even at the table here in Australia - yet

### Where may things go in the next ten years?

Pressures on fish resources will increase as wealth increases and new impacts of fishing and aquaculture will be identified

There is no doubt that the landscape has changed in terms of the ways in which fishery production is controlled – traditional fisheries regulation is but one of a suite of control measures

The old ways may continue to work for very local, short chain supply systems but new ways of doing business will need to evolve to meet the new challenges

New business opportunities have already opened up but these will only increase as entrepreneurs move into the diversified marketplace

### Where does Australia sit?

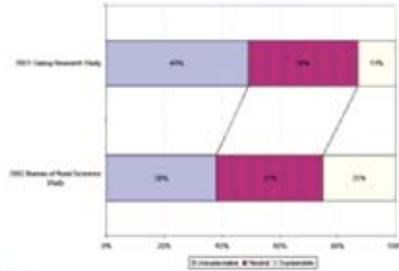
Policy level – up there with world leaders

Performance – no less variable from species to species, area to area and fishery to fishery than many other western nations

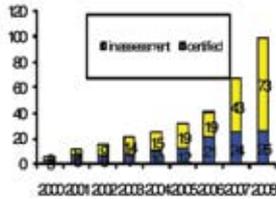
Public understanding – declining from 2002 to 2007

Non government, non industry engagement – long way behind

• Just 13% of Australians feel that commercial wild catch fishing is sustainable in it's current form, this figure is 12 percentage points lower than when this question was asked five years ago.

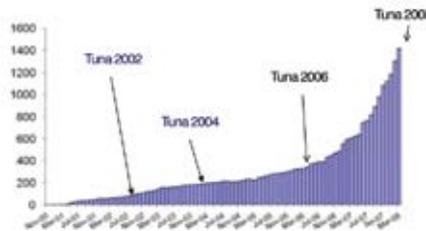


galaxy



Number of Fisheries in the MSC Program

MSC Labelled Product Lines Over Time  
March 2000 – March 2008



## Day 2

### Progress so far with workshop objectives

- Objective 1: Reviewed progress of implementation of ESD since the Geelong conference (**DONE**)
- Objective 2: Reviewed outcomes of ESD subprogramme and determined what gaps remain for ESD implementation at the individual fishery level (**DONE**)

### Objective 1: Review progress of implementation of ESD since the Geelong conference

#### Overall:

- Generally thought significant progress with implementation of ESD since Geelong
- Implementation not consistent across jurisdictions
- Lack of understanding/acknowledgement by community of this progress
- One legged ESD stool
- Valuable tools, including risk-based frameworks now available, not widely used yet

### Objective 1: Reviewed progress of implementation of ESD since the Geelong conference – outcome of subprogramme

Following themes taken from yesterday's table

- **Target species** relatively well covered; tools developed and used; some risk based approaches. Now core business.
- **Non-target/bycatch/by-product species**, as above, but more difficult to demonstrate adequate performance.
- **Ecosystem** still requires considerable development but this may be best done at a regional level not individual fishery.

### Objective 1: Reviewed progress of implementation of ESD since the Geelong conference – outcome of subprogramme

- **Economic considerations** not widely used – needed to inform management decision making in an ESD framework. Tools available, but almost no uptake.
- **Social considerations** as above, or worse – little policy framework/acceptance of value – what to measure and to what end.
- **Integration** – introduced late in programme, but before its time?
- **Education and extension** – effort expended, but more to be done (wider community/industry/markets)

## Looking forward

### Objective 3

Determine if a national programme is required to assist development of initiatives for fisheries and marine management at a regional scale

or,  
Implementing EBFM

### Order of Play - 3 working groups

- 6 groups made by mating tables, maintained through all three sessions.
- Appoint a facilitator and rapporteur
- Start writing early – 10 and 5 minute bells will be tolled
- Present succinctly – time will be of the essence
- Don't repeat previous speakers' comments

### Question 1

- Each table has a number of copies of a table summarising the presentations made in the PM yesterday. The aim of the table is to draw together the themes that need to be tackled under EBFM.
- **Your first task, should you choose to accept it (no choice) will be to fill in missing or duplicated issues.**
- Want to end up with 10 priority issues to focus the next 2 WG sessions, which focus on filling in the rest of the table.

### OVERARCHING DRIVERS

1. MEETING ?? (UNDERSTAND) COMMUNITY EXPECTATIONS  
e.g. Increasing understanding by community
2. LACK OF EFFECTIVE RESPONSE FRAMEWORK  
e.g. Harmonisation
3. COMMUNICATION  
e.g. Aligning Information
4. VIABLE RESILIENT SECTORS
5. EXTERNAL FACTOR

### DRIVERS FOR ESD/ EBFM BASED FISHERIES MANAGEMENT

1. MEETING/ UNDERSTANDING FUTURE COMMUNITY/MARKET EXPECTATIONS/ POLICIES
2. HAVING AN EFFECTIVE GOVERNANCE/ RESPONSE FRAMEWORK
3. VIABLE (ADAPTIVE/ RESILIENT SECTORS (ECONOMIC/SOCIAL VIABILITY/ DEVELOPMENT) that meet COMMUNITY/MARKET EXPECTATIONS/ POLICIES
4. EXTERNAL FACTORS

### POSSIBLE ROLES FOR A NATIONAL EBFM INITIATIVE??

1. MEETING/ UNDERSTANDING FUTURE COMMUNITY/MARKET EXPECTATIONS/ POLICIES
2. HAVING AN EFFECTIVE GOVERNANCE/ RESPONSE FRAMEWORK
3. VIABLE (ADAPTIVE/ RESILIENT SECTORS (ECONOMIC/SOCIAL VIABILITY/ DEVELOPMENT) that meet COMMUNITY/MARKET EXPECTATIONS/ POLICIES
4. EXTERNAL FACTORS

## Appendix 2

### Workshop Outcomes Table

This table summarises the information presented above. The actions and priorities are not included here as they will be developed through the identified processes of AFME, MACC and FRDC.

DRIVERS	GOALS/ OUTCOMES	PROCESSES REQUIRED	CURRENT GAPS & THREATS	SPECIFIC ACTIONS in next 6 months	PRIORITY
1. Community and Market Expectations	<p>As a common pool community resource fisheries are managed to meet and or create public value</p> <p>Informing and getting understanding of community expectations on EBFM</p> <p>Getting an agreed understanding of what EBFM/ESD actually means.</p> <p>Having the political will to enable any identified decisions and programs to progress</p>	<p>Using best practice define and identify community expectations</p> <p>Evaluate and review expectations, public relations strategies and existing government policies</p> <p>Develop a national all sector community engagement strategy</p> <p>Develop programs and objectives based on confirmed community expectations</p> <p>Progress to the use of a formal risk management framework, ie move beyond just risk analysis.</p> <p>Quantify the impacts of regulatory decisions including determining/ measuring and predicting economic and social impacts.</p>	Requires capability improvement in government and industry		

DRIVERS	GOALS/ OUTCOMES	PROCESSES REQUIRED	CURRENT GAPS & THREATS	SPECIFIC ACTIONS in next 6 months	PRIORITY
2. Having and Effective Governance Response Framework	Obtaining harmonisation of governance and jurisdictional arrangements	Generate a clearly articulated policy on the real risks associated with the use of aquatic resources.	Getting harmonisation of management arrangements requires states and commonwealth working better		
	Getting a clear alignment of the information and data collected to the needs of management	Get high-level sign off on what are the acceptable levels of risk and the acceptable levels of impact.	Lack of data collection/ curation and modelling capability		
	Having a holistic risk based framework that includes effective implementation an robust decision settings.	Get acceptance of risk management as the basis for decision making	Increased predictive modelling capacity to inform strategic fisheries decision making		
	Integrated planning process that includes common objectives and sensible outcomes	Removing inefficiencies in OCS	Lack of jurisdictional coordination, overlaps		
	Flexible and adaptive regulatory and management frameworks- Including move along the co-management. continuum	Having effective stakeholder representation	Lack of WoG objectives		
		Getting recognition of the tools already available to assist.	Lack of an EBM framework that has been thoroughly tested		
		Getting data collection systems based on risk			
	Address the affect other non fishery sectors are having on the fisheries	Improve the longer term benefits of data collection systems			
		Effective EBM framework that includes MSE systems to integrate information			

DRIVERS	GOALS/ OUTCOMES	PROCESSES REQUIRED	CURRENT GAPS & THREATS	SPECIFIC ACTIONS in next 6 months	PRIORITY
3. Viable (adaptable) sectors the meet the community and market expectations and government policies	<p>Getting improved access security</p> <p>Ensuring affordability of management</p> <p>Determine with sectors should be included in future EBFM plans and why?</p>	<p>Define objectives for the different sectors and develop tools to achieve these objectives.</p> <p>Need to take a value chain approach to fisheries/aquaculture</p> <p>Increased self regulation and responsibility</p>	Tools to measure success and enable auditing of performance		
4 Dealing appropriately with external factors	<p>Better alignment of marine planning processes with fisheries management.</p> <p>Integrated coastal zone management that includes the assessment of cumulative impacts from all sources</p> <p>A whole of government decision making process that effectively deals with the broader issues</p> <p>Clear government objectives for what impacts are or are not allowed on aquatic system health</p> <p>Have government recognise there responsibilities under existing legislation</p>	<p>Integration and coordination of government processes</p> <p>Have community recognise that many external impacts are generated by non fishery legislation and policies.</p> <p>Develop a robust method for dealing with these external impacts – eg a single agency rather than a number of smaller agencies</p> <p>Clarify relevant legislation to ensure they take into account social and economic assessments</p> <p>Interaction with non-fisheries management agencies</p> <p>Advocacy on behalf of the fisheries resources</p>	<p>Industry capacity to better response to these challenges</p> <p>Demonstrate impact and causality requires qualitative and quantitative tools</p>		