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Towards a strategic relationship between CSIRO and FRDC

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In submitting this report, the researcher has agreed to FRDC publishing this material in its edited form.

Contents

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Abbreviations

CFA	Commonwealth Fisheries Association
CSIRO	Commonwealth Scientific and Industrial Research Organisation
CSR	corporate social responsibility
EBFM	Ecosystem based fisheries management
EPBC	Environment Protection and Biodiversity Conservation
ERAEF	Ecological Risk Assessment for the Effects of Fishing
ESD	Ecologically sustainable development
FRDC	Fisheries Research and Development Corporation
MACs	Management advisory committees
MICE	Models of Intermediate Complexity for Ecosystem assessments
MPA	Marine Protected Area
MSC	Marine Stewardship Council
MSE	Management Strategy Evaluation
NGOs	Non Government Organisations
PISC	Primary Industries Standing Committee
SLO	social license to operate
TAC	Total allowable catch
WAFIC	Western Australian Fishing Industry Council

Executive Summary

FRDC and CSIRO have had a long standing and productive relationship. In recent years, FRDC and CSIRO have had informal discussions regarding developing a more strategic engagement and have agreed that a leadership role between the two agencies to deal with issues of strategic importance would be of great benefit to Australian fisheries.

Two key issues that have been raised, implicitly and explicitly, as priorities by stakeholders and are identified in the 2010 Primary Industries Standing Committee RD&E strategy for fishing and aquaculture and FRDC's current strategic plan, are:

— Social licence to operate implications for industry and management, and

— Implications of changing governance and regulatory frameworks on economic, social and ecological performance of fisheries

Each issue has significant implications for ongoing sustainability, management effectiveness, industry viability and societal views of the industry and its management. Both issues present significant research challenges - not the least being defining the body of work that is required to address them.

A small team from FRDC, CSIRO and the Commonwealth Fisheries Association was formed to undertake a scoping study and develop research strategies and a strategic research plan to address both issues.

Considerable consultation was undertaken in the development of the strategic plans.

Initial project meetings were used to scope the project and work plan. A literature review was undertaken for each of the identified strategic topics and two documents that provided a preliminary identification of key research areas were developed through consultation with the full project team.

These initial documents were used to present the issues to a workshop of Key stakeholders, attended by a number of 'thought leaders', to discuss the issues in the context of both plans.

In addition, a provocative "thought piece" posing two contrasting hypothetical scenarios for the future of Australian fisheries to 2025 was distributed to attendees prior to the workshop to help stimulate discussion. One scenario represented a 'worst case' scenario, showing an extrapolation of current trends and failure to address challenges; the second 'best case' projected a major turnaround in current directions, facilitated by a broad partnership across industry, government, eNGOs and research with strong community support.

The workshop resulted in some engaging and thought provoking conversation and discussion. Adding to the Social License topic was the controversy surrounding the "super-trawler" breaking only days before the workshop.

Following the workshop consultation, a research strategy was developed for each to the two key issues.

It is recognised that there are considerable areas of overlap between the two issues and in fact it can be argued that increasing societal concerns regarding sustainability and broader impacts of fishing has led to increasingly complex governance and regulatory frameworks.

This project has developed a strategic research plan covering the two key areas of social license and governance.

It is recommended that the research plan developed for the two strategic issues is used to guide future research investment in these important areas.

Keywords: Fisheries, Social license, Governance, Regulatory and Institutional frameworks

1. Introduction

In recent years, FRDC and CSIRO have had informal discussions regarding developing a more strategic engagement. Although FRDC and CSIRO have had a long-standing and productive relationship, the current research partnership is characterised by many sector-specific one-off projects mainly focused on Commonwealth fisheries.

Consequently, FRDC and CSIRO have agreed that a more strategic engagement is required to deal with issues of national importance would be of great benefit to all involved in Australia's fishery sectors. A key aspect of this approach is for detailed planning that sets a long term perspective which is cross cutting, multi-disciplinary and is 'independent' of current processes.

FRDC (2012) argue 'myths and perceptions' of fishing and aquaculture are so serious that 'the survival of the seafood and angling industry is at a critical point, with the real prospect it will not be viable in the future'. Consequently, FRDC (2012) have also developed a strategic investment framework: Promoting science and best practice that underpins the Australian seafood and angling industry.

While Australia's fisheries are generally regarded as well managed by international standards, Hone (2010) identified a range of issues and drivers affecting the viability of commercial fishing in Australia. These include:

- Resource access and allocation
- A price / cost squeeze and import competition
- Regulatory burden and management costs
- Increasing impact of conservation issues and measures (including threatened species and MPAs)
- International treaties and obligations
- The pace of change contributing to uncertainty in the operating environment
- Low and deteriorating public perceptions about sustainability and management
- Industry renewal and leadership and the problem of consultation fatigue

Two strategic issues that have been raised, implicitly and explicitly, as priorities by stakeholders and are identified in the PISC RD&E strategy for fishing and aquaculture and FRDC's current strategic plan, are:

- Social license to operate implications for industry and management, and
- Implications of changing governance, institutional and regulatory frameworks on economic, social and ecological outcomes

Each issue has significant implications for ongoing sustainability, management effectiveness, industry viability and societal views of the industry and its management. Both issues present significant research challenges - not the least being defining the body of work that is required to address them.

While the aim of the project was to identify the research needed to address the agreed strategic issues, it was considered likely that the research would cover (but not be limited to) the areas outlined below.

Social license to operate: implications for industry and management

- Summary of current (social) drivers on the industry and management
- The basis for Australians' base views regarding the fishing industry and aquatic ecosystems more generally and how these views arise

- Review of other sectors that have or are facing similar challenges – successes and failures
- Document changing expectations of the industry and management over the last 30 years or so and responses
- Develop a suite of future scenarios and assess implications for industry and management
- Consider how science can inform how to determine 'acceptable impacts' and environmental standards.

Implications of changing governance, regulatory and institutional frameworks on economic, social and ecological outcomes

- Document the change in regulatory frameworks (including within broader Govt frameworks) that impact upon the industry
- Document response to these changes, identifying success and failures
- Summarise current regulations and the broader framework in which they operate and proposed changes
- Undertake an audit of current costs associated with governance and regulatory frameworks
- Identify alternative regulatory frameworks
- Quantitatively assess the economic, social and ecological implications of a range of potential management arrangements

The purpose of the joint activity between CSIRO and FRDC is to get ahead of the game: to invest in research that takes a proactive approach to tomorrow's opportunities and issues for fisheries management. It is not intended to be an exclusive relationship and other research providers will be invited to participate. The project focuses on wild capture commercial fisheries. It takes a 'whole of system' approach integrating across social, economic, environmental and governance considerations. This report describes the results from a small scoping study that developed research strategies to address both issues.

2. Objectives

Objectives:

1. To understand and document the key elements of each strategic issue
2. To identify the body of research required to address each issue
3. To develop a strategic research plan for each research area

3. Methodology

The project was undertaken by a small team from FRDC, CSIRO and Commonwealth Fisheries Association (CFA):

FRDC: Patrick Hone, Crispian Ashby, Richard Stevens, Heather Brayford
CSIRO: David Smith, Tony Smith, Cathy Dichmont
CFA Martin Exel

In addition, Helen Webb and Wendy Steele (CSIRO) provided project support.

The project team held a preliminary meeting on 9th June 2011. The scope of the project was discussed at length and a number of areas clarified. It was agreed that more details were required regarding the two strategic issues and what is intended to be researched.

A brief literature review was undertaken for each topic:

- Social license to operate implications for industry and management, and
- Implications of changing governance, regulatory and institutional frameworks on economic, social and ecological outcomes

Two documents that provided a preliminary identification of key research areas were prepared by the CSIRO members of the project team. These were discussed and modified through several meetings of the full project team.

Key stakeholders were consulted and a workshop was held in November 2012 attended by a number of 'thought leader' stakeholders to discuss both issues in the context of both plans. Interestingly, the controversy surrounding the "super-trawler" broke just prior to the workshop, heightening the SLO discussion that was held.

In preparation for the workshop, a provocative "thought piece" was prepared posing two contrasting hypothetical scenarios for the future of Australian fisheries in 2025 (Figure 1). It was distributed to attendees to help stimulate discussion. Scenario 1 represents an extrapolation of current trends coupled with a failure to address the challenges (a plausible worst case scenario). Scenario 2 represents a major turnaround in current directions, facilitated by a broad partnership across industry, government, eNGOs and research with strong community support (a plausible best case scenario).

Following the workshop and consultation, the research strategies were finalised and a common template developed for the strategic plan.

4. Results and Discussion

4.1. Overview

While a separate research strategy has been developed for each of the two key issues, it is recognised that there are considerable areas of overlap between them. In fact, it can be argued that increasing societal concerns regarding sustainability and broader impacts of fishing has been a major contributor to the increasingly complex governance and regulatory environment.

These are strategic research plans and the potential topics are included to indicate research needs and directions rather than to propose specific projects.

4.2. Stakeholder workshop

Key inputs to the workshop included a brief literature review (included as part of the appropriate research strategy), identification of preliminary research topics (Appendix 3), and optimistic and more pessimistic scenarios of fisheries by 2025 (Figure 1).

Alternative scenarios for the future of commercial fisheries in Australia – food for thought

Commercial fisheries and their management are under unprecedented pressure in the early part of the 21st century. This arises from a range of factors, including increasing operating costs, unfavourable exchange rates, import competition, increasing regulatory complexity, erosion of access rights, and reductions in public funding for research and management. All this is exacerbated by poor and ill-informed public perceptions about the fishing industry and fisheries management.

Looking forward a decade or so, how might this situation have changed? We pose two contrasting scenarios to foster discussion about choices and the means to achieve them.

Scenario 1 This represents an extrapolation of current trends coupled with a failure to address the challenges. By 2025:	**Scenario 2** This represents a major turnaround in current directions, facilitated by a broad partnership across industry, government, eNGOs and research with strong community support. By 2025:
☹ There has been low investment and declining participation resulting in an ageing fleet and an ageing demographic of fishers ☹ Some gears are now banned, or under threat of being banned, and access to fishing grounds is increasingly restricted ☹ Conflict with other non-fishing sectors has increased resulting in further erosion of access ☹ Regulatory complexity has increased with little coordination across agencies ☹ Costs have continued to escalate ☹ Total volume and value of domestic seafood production from wild catch fisheries has declined substantially and most seafood is imported ☹ Industry associations are weak and increasingly focused around individual commodities ☹ Fishery management agencies have disappeared in most jurisdictions, subsumed as minor components in other agencies (environmental or primary industry focused) ☹ Investment in research and monitoring has declined substantially leading to decline in number of eco-certified fisheries ☹ Public perceptions about the commercial fishing industry and fishery management have declined to an all time low ☹ Social license to operate has collapsed, except for a few niche fisheries	☺ Value and volume of production increasing from low levels of 2015 ☺ Innovation in the industry across small to large companies results in new solutions to existing problems ☺ Increasing profitability leads to renewal of fleets and a younger, dynamic age structure ☺ Regional and national branding of seafood coupled with increasing 3rd party certification ☺ Strong industry leadership results in emergence of an effective national peak industry body ☺ Nationally agreed whole of government standards with acceptable impacts defined ☺ Harmonization of objectives and assessment tools across fisheries and conservation agencies resulting in reduction in red and green tape ☺ Flexible management arrangements commensurate with the scale of the fishery ☺ Brand Australia recognised and sought internationally in fishing technology, sustainable product, fishery administration and fishery research ☺ Increasing and affordable investment in monitoring and research with reduction in duplication and rationalization of providers ☺ Active public education and engagement leads to strong community support and social license to operate

Figure 1: Two scenarios of the future by 2025

The workshop considered the current operating environment and this formed the basis for further consideration of the research plans.

Some of the key points raised by participants during the workshop were:

- the role of industry bodies
- leadership of industry bodies
- role science vs advocacy
- political environment vs the facts
- all fisheries have a flow on effect to others (for the good or bad)
- compliance /deterrents for bad behaviour by a small section of industry members
- public lack understanding that fisheries are well managed
- leadership, social capital - have to make a start can't wait until everything is in place and all are in agreement
- responses to situations and issues proactive vs reactive
- Science needs to provide the 'small grabs' of information – not just the large reports

The full workshop report is provided at Appendix 2.

4.3. Research Strategy - Social License to Operate

This section considers the first strategic issue 'social license to operate'. This issue relates directly to Theme 10 (*Resilient and supportive communities*) of FRDC's 2010-2015 RD&E Strategic Priority areas

It also indirectly relates to Themes 4 (*Ecologically sustainable development*), 5 (*Governance and regulatory systems*) and 6 (*Resource access and allocation*) (FRDC 2010). It is also a key driver for FRDC's Strategic Investment Framework.

4.3.1. Introduction and Context

The concept of 'social license to operate' relates to the way in which society can restrict or expand the freedom to undertake activities within that society. It is a concept that is being increasingly adopted across a range of industries. The term is a shorthand way of describing the latitude that society allows its citizens to exploit resources for private purposes (Williams and Martin 2011). Apparently Shell was the first to use the term (Mureau 2000) when the company recognised that its commercial freedoms were limited by the license that society provides it to carry out its business (Williams and Martin 2011). Its contemporary use can be traced to the emergence of the sustainability and corporate social responsibility literature (CSR) (Doleschal-Ridnell 2011) and it has become a significant part of the corporate social responsibility agenda (Brownea et al 2011).

There is extensive recent literature on 'social license to operate' and CSR, but although the term is a well-understood concept, and is now widely used, there is no agreed strict definition.

From the web site Socialicense.com:

> "The Social License has been defined as existing when a project has the ongoing approval within the local community and other stakeholders, ongoing approval or broad social acceptance and, most frequently, as ongoing acceptance.
>
> At the level of an individual project the Social License is rooted in the beliefs, perceptions and opinions held by the local population and other stakeholders about the project. It is therefore granted by the community. It is also intangible, unless effort is made to measure these beliefs, opinions and perceptions. Finally, it is dynamic and non-permanent because beliefs, opinions and perceptions are subject to change as new information is acquired. Hence the Social License has to be earned and then maintained"

Basically it involves keeping the public on-side and it is a growing concern for companies (Robin 2012). Thompson and Joyce (2008) argue that social license is:

- Granted by the local community
- Intangible, informal, and non-permanent
- Has to be earned and then maintained
- Defined at several levels including
    - Ongoing approval
    - Ongoing approval, with broad social acceptance
    - Ongoing acceptance

Black (2010) notes that social license:

- Is a perception based on the legitimacy of a mine, company or industry
- Entails acceptance (the basic level) and approval (a higher level)
- On occasions can transcend approval to a sense of ownership or be with-held
- Will vary over the life of a project and by stakeholder group

Recent literature/studies have included implications for agriculture (Mureau 2000; Williams and Martin 2011), forestry (Dare et al 2008; TCA; Forestry CRC), pulp mills (Kagen et al 2003), mining (Shepard 2008; Doleschal-Ridnell 2011), wind farms (Hall et al 2012) and even banking (Robin 2012).

There is also an increasing literature on methods to analyse and measure the social license to operate (Mureau 2000; Black 2010; Boutilier and Thompson 2011; Williams and Martin 2011). However, the applicability to the fishing industry of these case studies and approaches needs further analysis and consideration.

Recent examples where society has caused 'licenses' to be delayed or 'revoked' include the Tamar Valley pulp mill, native forest logging, live cattle exports to Indonesia, deepwater offshore drilling in response to BPs deepwater horizon oil spill, and GM produce in Europe.

A very important point is that in many cases, community concerns will over-ride license for activities/developments even if they have met a (strict) approvals process. This is a key issue for commercial fisheries.

Implications for commercial fisheries in Australia

Australia's commercial fisheries are relatively small by world standards yet have large ecological, social and political footprints. A large proprtion of the catch is high-value species that are mostly exported. For example, Australia's marine fisheries account for 0.2% of global marine fisheries landed in tonnage, but 2% of marine fisheries landed by value.

Australian fisheries are generally regarded as well managed by global standards. The country is seen as a leader in the implementation of ecosystem-based fisheries management; an approach that considers the broader ecosystem impacts of fishing as well as those on the target species.

A review (Smith and Webb 2011) of recent fishery assessments indicated that the major target and byproduct species were:

- Overfished 9%
- Sustainably fished 53%
- Uncertain 19%
- Not assessed 18%

Within stocks that were assessed with some certainty 15% were rated as overfished (noting an overall positive trend) which compares very favourably with the current global figure of 30%.

In addition, EBFM/ESD has been adopted as a policy goal; participatory management is a core component of Australia's fisheries management systems; spatial management is used extensively by all jurisdictions; projects are underway supporting national status reports and formal harvest strategies; harvest strategies and reference points are regarded as conservative by international standards; Commonwealth fisheries have implemented an ecological risk assessment framework for the effects of fishing which is being widely adopted world-wide (eg MSC);

Despite these positives the commercial sector faces a significant 'social license to operate' issue. In 2011, only 37% of surveyed Australians believed our fisheries were sustainable (FRDC 2012). During the recent MPA debates, many NGOs and academics argued that additional protection was required beyond the proposed parks, implying directly, or through omission, that fisheries were poorly managed or, at worst, it was open slather beyond the parks.

The recent controversy and subsequent banning of the proposed 'super-trawler' in the Commonwealth-managed Small Pelagic Fishery is a case in point. According to the best available science (Buxton et al 2012), the TAC was sustainable and conservative. The vessel was to have 100% observer coverage and mitigation devices were to be used to minimise interactions with threatened, endangered and protected species. Despite these factors, there was a ground-swell socially and politically, that led to the EPBC Act being changed and the vessel being banned for two years.

These negative perceptions flow though into policy and management, and in resource allocation debates and decisions. FRDC is sufficiently concerned to have developed a strategy to address this imbalance in perceptions.

The key question is 'why are commercial fisheries viewed so poorly'?

In some parts of the world, fishing industries are a part of the social and cultural fabric, whereas that is less true for Australia. Furthermore, despite Australia's fisheries management having a good history and reputation of stakeholder engagement, recent experiences have highlighted that it may not have been as broad and effective as required. As a result, it is important that this issue is directly and overtly addressed in Australia.

Clearly, there is the need for major and extensive studies that focuses on why Australians have these views and where they originate.

While participatory management is a key feature of fisheries governance in Australia, does the fishing industry engage adequately and effectively with the broader community?

A potential driver includes the current polarised debate about the status of global fisheries in the high-impact scientific literature. On the one hand is the pessimistic view that the collapse of marine fisheries is imminent and inevitable (Pauly et al 1998, Worm et al 2006), on the other hand, is a more optimistic view that declining stocks can be turned around by better fishery's governance (see Fulton et al 2011 and references therein). The pessimistic view, in particular, also likely influences the perceptions of Australians regarding the status of our own fisheries. For example; while the Worm et al (2006) paper made front pages around the world, a second paper (Worm et al 2009), published in the same high-end journal (Science), that painted a far more positive picture received considerably less media attention. The national science debate about MPAs and fisheries management also tends to paint a negative picture.

Another contributor is that while the broader impacts of fishing have to be within 'acceptable levels', there has been little formal debate about what "impacts" and "acceptable levels" means in practice. Clearly interest groups may well have significantly varying views on what these are, leading to further controversy, polarisation and confusion.

Another factor could be that while commercial fisheries is but one user of the aquatic environment, there is no over-arching policy framework that addresses multiple uses and potentially competing management objectives.

Five broad research topics are described below:

- Review of recent history,
- Meta-analysis/ case studies and lessons learnt,
- Communication,
- Practical responses and tool development, and
- Scenario evaluation.

4.3.2. Review of recent history

NEED

Much can be learnt from the past in Australian fisheries. Many aspects of fisheries management has been effective, but has not always been implemented in a consistent and similar manner in all jurisdictions. Furthermore, SLO is an issue experienced and addressed in similar industries - e.g. mining, water, forestry, beef – and much can be learnt from the successes and failures of their approaches. In addition, corporations have had to address corporate social responsibility (CSR) for decades and may well have many approaches that could be applicable to the fishing industry. This subject is divided into several topics – a literature review of SLO research, review of changing SLO expectations, how and where the general community obtains its views, and drawing lessons learnt using an analysis of social media.

POTENTIAL TOPICS

- Extensive review of SLO and CSR literature

The literature on SLO and CSR is extensive and particularly true for papers that concentrate on its definition. The need is for a review focusing on how science has and can underpin SLO in the Australian fishing industry and its allied management systems. Furthermore, the

review should extend beyond fisheries, to other industries with similar SLO profiles, such as other natural resource industries.

- Document changing SLO expectations over time

Social expectations with regard to SLO have changed over time and needs to be documented. The key question is whether there is some ability to predict future trends by undertaking a retrospective analysis. Have expectations of the public and stakeholders changed continually over time or has this potential change occurred in leaps and bounds? Have these changes been due to internal (to Australia) pressures or due to international changes in perceptions adopted in Australia?

- Where or from what does the community form its views?

An important component of influencing others is an analysis of what factors and sources of information and communication best works under certain circumstances. A review of various forms of communication (journals, media - including social media, main stream media articles, magazines, conferences etc.) will need to be undertaken. An analysis of readership demographic by media type and topic will show whether there is, for example, a gender or regional breakdown of different forms of communication. The key issue is what influences the community and whether the pattern (regular or not) and source (media type) matters to its effectiveness.

4.3.3. Meta-analysis/ case studies and lessons learnt

NEED

Meta-analysis differ from reviews in that it collects quantitative measures and analyses these using a cross-cutting view of the topic. Any meta-analysis needs to look at other industries as well as different fisheries within Australia and internationally. In addition to meta-analysis, a deep dive into case studies needs to be undertaken. Both of these methods (meta-analysis and case studies) need to clearly target questions such as demographics, media type and method, and whether society has a common understanding of SLO (or not).

POTENTIAL TOPICS

- Lessons learnt and reasons for successes and failure

An analysis of case studies that highlight successes or failures in fisheries and allied industries, would allow one to obtain a common understanding of what is SLO, how society adjusts its view of SLO and how industry responds to SLO. Here again it would be important to undertake an analysis of whether demographics and communication methods mattered with respect to these case studies. These case studies should include why stakeholder engagement processes such as Management Advisory Committees have been supported in the past, but in some cases have been disbanded – and whether these changes relate to success or failure.

- The historical role of social media in influencing opinion

An analysis of the historical role of social media will inform on its influence. The speed with which social media can reach large numbers would also be analysed as well as the role of key accounts/leaders in establishing media reach and who initiates and why. This should include methods such as social network analysis and standard statistical analyses.

4.3.4. Communication

NEED

The importance of communication is well known with regard to good stakeholder engagement. Others have seen fisheries engagement in Australia as being quite successful and, in some cases, a model to be adopted. Yet recent events in Australia have shown that the past system has not prevented negative, and at times uninformed, public perception of fisheries. This highlights the need for a research project to investigate communication – successes, failures, methods, roles etc.

POTENTIAL TOPICS

- The role of advocacy versus science

Some groups, especially NGO's, have used advocacy very effectively. However, many scientists and industry members argue that scientists involved in fisheries science and the management interface should maintain their independence. Yet, how does one then effectively influence others and maintain neutrality? For example, is there a role for an independent scientific body that provides scientific commentary on key issues of public interest? These bodies do exist elsewhere in the world or in allied industries. This component would therefore look into these groups' successes and failures, and whether these can apply to fisheries. An analysis of how these groups communicate to the public in general is also needed. It is also important to investigate how scientists can themselves become recognised as trusted advisors. Some would argue that, presently, the public perception is that scientists are not neutral and their advice is therefore undervalued. This analysis could be extended to include similar issues in industry and with managers.

- The use and influence of social media in the future

An input to this topic would be the historical social media analysis of above. This topic would be a forward-looking exercise of rolling out the lessons learnt from the meta-analysis into case studies. Here one option would be to use a scientifically designed experiment of how best to use social media to influence opinion through case studies. The media and public perception can be monitored over time.

- The role of the industry

Given the poor public perception of the commercial fishing industry in Australia, an important area that needs to be examined is the role of industry in communication and the promotion of sustainable practices. It was also clear during the controversy around the 'super-trawler' that few Australians understood how fisheries in Australia are managed. It is suggested that an industry 'corporate' strategy to educate the public on fisheries in Australia would be beneficial in dealing with these perceptions. Perhaps industry-led events such as specific 'port-days' would also help raise the profile of the industry in positive way. What have other industries done? What are the success stories? What has proven to be less successful?

4.3.5. Practical responses and tool development

NEED

The above analyses need to be turned into a practical outputs that can be implemented in a cost-effective manner. Tools that would allow for a common use in both small scale and large-scale fisheries, and for different jurisdictions would be essential.

POTENTIAL TOPICS

- Assess applicability of SLO methods to fisheries

There are several methods used in the past to assess SLO in different industries. An analysis of different scientific SLO methods, their applicability to fisheries, and their pros and cons would be undertaken. The output would be common tools and a guide for their use by managers, scientists and industry.

- Defining acceptable impacts

While the broader impacts of fishing have to be within 'acceptable levels',there has been little formal debate about what "impacts" and "acceptable levels" means in practice. Clearly interest groups have largely varying views on what these are, leading to further controversy and polarisation and were likely to have been influential in the poor perception of some industries sectors. Although tools (such as the ERAEF) have moved this topic forward, they are not well understood or known by the community nor have they been used to complete the definition of acceptable impacts.

The key question is: how can the formulation of acceptable impacts be informed and what tools best input to this debate? What is required is research that helps define acceptable impacts and environmental standards. This is a topic where biophysical and social and economic researchers will need to work closely together.

- Develop a process for strategic repositioning

The above should input into a program of how best to undertake a complete strategic repositioning. Some key questions are:

- How does one promote leadership within science, industry and managers that will raise the SLO of fisheries?
- What processes and governance structures are needed to facilitate good broad stakeholder engagement, and how would that be resourced?
- What communication measures would be needed and what are the roles of different structures in this regard?
- What is on the horizon, beyond social media?

4.3.6. Scenario evaluation

NEED

The analyses above can be turned into tools that can be added to scenario evaluation methods such as management strategy evaluation. Scenarios using different management options with different forms of communication or different engagement processes could be compared. The network and demographic analyses could be part of the tools used here. The need is to draw all the above analyses into a single platform that can then be used for a strategic evaluation of methods of how and when to influence SLO. This can be a key input into the strategic repositioning process mentioned above.

POTENTIAL TOPICS

- Developing the scenario evaluation toolkit

As indicated above a range of tools may be available. Some might be adopted from the SLO literature and modified to meet the specific sector needs. Other methods that could be trialled include online methods to engage the public; participatory approaches; the use of 'end to end' ecosystem models such as Atlantis that have been appropriately extended. No single method or approach will be able to be used in all situations. The toolkit should comprise qualitative, semi-quantitative and quantitative methods.

- Evaluating alternative strategies to improve SLO in commercial fisheries

The aim is to identify a suite of alternative strategies or approaches to address the issue that could be assessed qualitatively or quantitatively using methods such as MSE. An important focus of such research is to identify clear operational objectives and performance measures upon which the efficacy or otherwise of a strategy could be assessed.

4.4. Research Strategy – Governance, Regulatory and Institutional Frameworks

4.4.1. Introduction and context

Why can governance and regulation be regarded as strategic issues for Australian fisheries? Several reasons can be put forward. The first and to some extent most obvious reason (especially from an industry perspective) is the increasing complexity of the legislative, institutional and regulatory environment and the increasing regulatory burden. This coincides with a period of increasing economic pressure on the fishing industry, and possible threats to its very existence (see accompanying paper on license to operate). The second is increasing empirical analysis of various aspects of governance and management that suggests that some well accepted assumptions may not be borne out by the evidence. The third is a body of practical experience and review of various models of governance suggesting that improvements need to be made.

The ways in which fisheries are governed and regulated have changed substantially over the past three decades, with large changes occurring in the past five years. The most recent manifestations of these changes include large resource allocation to conservation (MPAs in both Commonwealth and State waters), as well as substantial changes to the co-management model in several jurisdictions. The latter include replacement of management advisory committees (MACs) in South Australia by an overarching Fisheries Council, while in Western Australia the Minister now undertakes industry consultation and engagement principally through the peak industry body (WAFIC).

Hone (2010) and others have identified a range of issues and drivers affecting the viability of commercial fishing in Australia. These include:

- Resource access and allocation
- A price / cost squeeze and import competition
- Regulatory burden and management costs
- Increasing impact of conservation issues and measures (including threatened species and MPAs)
- International treaties and obligations
- The pace of change contributing to uncertainty in the operating environment
- Low and deteriorating public perceptions about sustainability and management
- Industry renewal and leadership and the problem of consultation fatigue

The ways in which fisheries are governed and regulated either contribute directly to several of these issues, or impact on how easily the fishing industry is able to deal with others (the capacity for adaptive response).

Approaches to legislation, policy and management vary across jurisdictions in Australia, although efforts are being made in some areas to harmonise approaches and identify national standards. Examples of the latter include approaches to stock status reporting and harvest strategies.

Fisheries governance is widely regarded as a “wicked problem” (Jentoft and Chuenpagdee 2009) in the sense that problems are complex and difficult to define, strictly technical solutions do not exist, and most problems are resolved only in the short term and tend to reappear. Fishery management agencies find it increasingly difficult to manage issues without extensive consultation and negotiation with other formal and informal institutions (Gibbs 2008) leading to a “network” approach to fishery governance. There is ample evidence of the increasing complexity of the regulatory environment (Gullett 2008, Jentoft 2007). Although Australia has adopted a generally participatory approach to fisheries management, models for co-management are widely debated (Ansell and Gash 2007) and increasing participation in fisheries governance is at best a mixed blessing (Vivero et al. 2008).

While there is a considerable academic literature on fishery governance (see above), there are also a number of more pragmatic and empirical studies and reviews appearing, including several focused on Australian fisheries. These include reviews of governance, institutional and management arrangements in particular jurisdictions (e.g. Stevens 2009, Stevens et al. 2012), evaluation of governance arrangements for particular fisheries (Dichmont et al. 2012), and benchmarking of governance across fisheries (Grafton et al. 2007). Other studies have examined particular issues such as ecosystem approaches to management (Webb 2010). Broader empirical evaluation of particular management measures such as ITQs are also appearing (Costello et al. 2008, Essington et al. 2012) raising questions about the effectiveness of some widely adopted measures.

Several patterns emerge from the academic literature and from practical experience. Despite government statements and intentions (e.g. outcomes from the review of the EPBC Act), the regulatory environment continues to increase in complexity and likely overall cost (though more information on costs is needed). Although the existence of State and Federal jurisdictions adds to the complexity in some instances, it also provides contrasting models of governance from which valuable lessons can and have been drawn. Increasing empirical research on successes and failures of alternative management approaches provides evidence that assumptions about performance are not always well founded (co-management, access rights). Existential threats to fisheries are also increasingly being recognised. The overall trend is to increasing recognition of the importance of governance and institutional arrangements, while noting that predicting responses to changes in regulation and management remains a difficult challenge (Fulton et al. 2011).

Governance is a broad term that covers the full range of processes that lead to regulation and outcomes in fisheries from legislation, through policy, to management. Systems of governance evolve over time and some of the responses to these changes can be hard to foresee. There is a broad body of literature on fisheries governance, but it has not been a major focus of research for Australian fisheries. Nevertheless the important place that fisheries governance plays in economic, ecological and social outcomes warrants an increased research focus in this area. Much can be learned from the successes and occasional failures of fisheries governance, and the range of approaches in different jurisdictions provides useful contrasts for analysis. While Australia has a generally good reputation for effective fisheries governance, new pressures and changes in the external social and political environment warrant increased research in this area.

Four broad research topics are described below:

- Review of recent history,
- Meta-analysis/ case studies and lessons learnt,
- Practical responses and tool development, and
- Scenario evaluation.

4.4.2. Review of recent history

NEED

The way Australian fisheries are governed and regulated has changed substantially over the past three decades, with large changes occurring in the past five years. While fishery governance in Australia is widely regarded as being effective and is sometimes held up as a model for other counties and regions (e.g. interest in our approach to harvest strategies in the EU), recent changes however have resulted in a substantial increase in complexity in the legislative, institutional and regulatory environment for the industry.

Research on fisheries governance has been increasing worldwide in recent years. There is a need to review the findings from these studies to evaluate how the broad features of fishery governance in Australia has changed over time to help determine the governance arrangements that best promote sustainable fishing outcomes, and the circumstances under which they do or do not apply.

POTENTIAL TOPICS

- Review recent research findings concerning fisheries governance and regulation, including increasing institutional interactions with other marine sectors

There has been increasing research on fisheries governance in recent years, including aspects related to institutional arrangements, incentives (such as property rights and eco-labelling) versus regulation, and consideration of the factors promoting stewardship. The review would mine this literature to help determine the governance arrangements that best promote sustainable fishing outcomes, and the circumstances under which they do or do not apply. This could be of value in its own right as a synthesis of existing information, and also provide a basis for other components of the research program outlined below.

- Historical analysis of the evolution of governance and regulatory systems for fishery management in Australia

This research would analyse the broad features of fishery governance in Australia and how they have changed over time. This would take into account the differences between jurisdictions as well as the similarities. Relatively recent changes include introduction of harvest strategy policy, adoption of the principles of EBFM, and changes to co-management arrangements. The analysis would focus on the implications of these changes for effective governance set in the context of broader oceans governance.

4.4.3. Meta-analysis/ case studies and lessons learnt

NEED

While theory abounds concerning the "solution" to the fisheries management "problem", there are increasing attempts to take a more empirical approach to what works and does not work in fisheries governance. In addition, there have been several recent reviews on how regulatory regimes and cost recovery policies vary among jurisdictions in Australian fisheries as well as some in specific jurisdictions.

All jurisdictions are facing cost pressures for monitoring, assessment, compliance and management, and "cost catch risk" tradeoffs are under active discussion. There is a need to identify the most cost effective regulatory arrangements for Australia. Resource allocation is another large issue for fisheries and lies at the heart of many of the pressures on commercial fisheries at the present time.

POTENTIAL TOPICS

- Empirical analysis of the successes and failures of alternative management approaches, including meta-analysis and more detailed case studies in selected jurisdictions

This component would build on and participate in current attempts to construct a global database of fisheries and their governance, as a precursor to analyses that seek to identify the factors leading to successes and failures in fisheries management. The findings and insights generated from such meta-analyses would be tested using more detailed case studies of specific Australian fisheries.

- Trends in the costs of regulation.

This component would compile and analyse relevant data across jurisdictions, building on and extending these reviews, to identify the most cost effective regulatory arrangements for Australian fisheries, noting that these can vary depending on the nature and scale of the fisheries, the jurisdictional complexity, and the legislative framework. It would take into account the impacts of cost recovery policies, and identification of options for cost saving or sharing. Comparison of issues and trends in other resource sectors (forestry, mining) could form part of the analysis.

- Analysis of resource allocation issues in the marine environment

This component would compile information on the issues of resource allocation in the marine environment for all users, particularly changes in recent years, taking into account recent analysis and reviews and seek to identify strategies that will give the commercial fishing industry a clear voice and a better bargaining position when it comes to resolving such conflicts.

4.4.4. Practical responses and tool development

NEED

There is currently duplication as well as lack of agreed standards and tools that are applied, for example, to strategic assessment of fisheries under the EPBC Act and under various state-based environmental legislations. Acceptance of common tools would greatly facilitate assessment and management of fisheries and their impacts on marine conservation issues.

Tools such as the Atlantis modelling framework for integrated assessment of fisheries as well as other human uses of the marine environment have been under active development over recent years. These tools are now being supplemented with others including Models of Intermediate Complexity for the Ecosystem (MICE) models and more qualitative approaches to modelling. A strategic need exists to continue development of such tools, and in particular to train a new generation of users and developers capable of undertaking the future analyses that will be required to assess the impacts of changing regulatory and management environments within which fisheries will be managed.

POTENTIAL TOPICS

- Common assessment tools

This topic would review the various frameworks, approaches and methods used to assess impacts of fishing and identify assessment tools, such as ecological risk assessment, that could be accepted and adopted across (at least) fishery and conservation management agencies.

Having reviewed the common needs and options, the next stage would be to actively promote the adoption of common accreditation schemes, standards and tools across departments and jurisdictions. While fully compatible and accredited assessment approaches may be some way off, it should be possible to develop and gain acceptance for smaller changes as a confidence building measure.

- Modelling the fisheries socio-ecological system

To date most of the focus of modelling studies has been on the bio-physical components. While there have been recent advances in modelling the human aspects of the system, this has had much less attention. It is important, of course, because generally we manage people not fish. Any formal, quantitative assessment of governance and institutional frameworks and assessment of alternative approaches will require modelling frameworks that can explicitly account for the human dimensions of the system. Research is needed on how to model various components of human adaptive responses to policy including the role of institutions in the dynamics of response. To meet this challenge a trans-disciplinary approach is required, which draws together research across complex biophysical and human systems.

- Tools for integrated assessment in the marine environment

This study would extend existing tools and where necessary develop new tools for integrated assessment that can be used to assess the social, economic and ecological implications of alternative governance arrangements. This could extend beyond EBFM into broader ecosystem based management, ensuring that fisheries issues and fishery governance arrangements are strongly represented in debates about marine resource and environmental management and resource allocation.

- Developing National Fishery Management Standards

There is a need for greater efficiency in government while reducing red and green tape, simplifying regulation and pursuing sustainable and profitable fisheries. In doing so, fisheries management also aims to gain and maintain the trust and confidence of fishery stakeholders and the general public by ensuring management is a transparent and participatory process. The current operating environment for fisheries and fishing businesses involves a range of standards and policies applied by a range of regulators with lack of consistency at whole of government level and among jurisdictions about standards and considerable duplication in process.

This study aims to reduce this complexity through the development of nationally agreed standards for fisheries management.

4.4.5. Scenario evaluation

NEED

Many industries face the challenges of the present and the future by taking a deliberate and deliberative approach to envisioning and developing long-term options to safeguard their futures. This involves the application of specific sets of skills for such “future studies”. The commercial fishing industry has not yet embraced such approaches, but they constitute an important and final element in an overall research approach to improved fisheries governance.

POTENTIAL TOPIC

- Options for future governance

This component would identify options for future governance and ways to improve regulatory efficiency for improved profitability, compliance and sustainability of Australian fisheries – what are the practical changes that could make a difference?

4.5. Discussion and Conclusion

The two issues examined here have significant implications for ongoing sustainability, management effectiveness, industry viability and societal views of the industry and its management. Both issues present significant research challenges and the aim has been to develop strategic research plans that provide guidance but are not prescriptive in how to address them. The plans should form the basis for guiding future investment.

There is clearly a linkage between the two issues. It is clear that concerns regarding the broader ecosystem impacts of fisheries have led to increased regulatory demands on wild fisheries. For example, while fisheries are managed by fisheries agencies, Commonwealth and state export fisheries have to be assessed under EPBC by the Commonwealth environment department. However, the call for a reduction in 'red and green tape' is not limited to the fisheries sector.

The closeness of the issues has led to similarly constructed strategic research plans. Each contains the following broad research focal areas:

- Review of recent history
- Meta analysis/case studies and lessons learnt
- Practical responses and tool development
- Scenario evaluation

A key component is to establish indicators and performance measures so that the outcomes of research can be clearly measured.

Communication is clearly a critical research area for 'social license to operate' but less so for issues around governance and regulation and the plans reflect this.

'Social license to operate' is an issue facing many sectors. A multi-sector workshop convened by Forests and Wood Products Australia and the CSIRO was held in March 2013. Representatives from across the Rural R&D corporations discussed the challenge of establishing a cross-sector research program to better understand, measure or manage SLO for Australian rural industries. While the need is common, the drivers and operational objectives were different for different sectors. However, several common issues were identified:

- Communication and understanding
- Environmental standards and 'acceptable' standards
- Cultural issues and integration
- Shifting baselines

A working group to develop a multi-sector research program should be encouraged.

While the focus of the research plans has been on commercial fisheries, fisheries are but one user of Australia's marine estate. It is likely that there will be increasing competition for space and resources within and between fishery sectors and with other users and industries. There is a need for further research which considers fisheries within a multiple-use context, within the broader marine context.

The strategic research plans clearly identify the need for better integration of social and economic research with bio-physical sciences. To meet the challenges posed by these two issues a trans-disciplinary approach is required, which draws together research across complex biophysical and human systems.

5. Recommendations

This project has developed strategic research plans for two strategic issues which have been raised, implicitly and explicitly, as priorities by stakeholders and are identified in the PISC RD&E strategy for fishing and aquaculture and FRDC's 2010-2015 RD&E plan:

- Social license to operate implications for industry and management, and
- Implications of changing governance, institutional and regulatory frameworks on economic, social and ecological outcomes

It is recommended that they guide future research investment in these important areas. To achieve this it is suggested that:

- The plans provide stand alone advice on research directions, and
- Aspects of the plans are integrated into the next FRDC research plan and the revision of the research plan in RD&E strategy for fishing and aquaculture

It is also argued that a multi-sector research program across rural R&D corporations, particularly in regard to SLO, should be encouraged.

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Appendix 1 Preliminary identification of key research areas.

Social license to operate: implications for industry and management

Research Response and Science Plan requirements

We suggest that the following key research areas should form the basis of the detailed research plan:

- Rigorous and extensive review of social license to operate and corporate social responsibility literature:
    - Theory
    - Case studies
    - Methods, monitoring and evaluation
    - Identification of successes and failures
- Documenting changing expectations on the industry and management over the last 30 years or so and responses
- Summary of current (social) drivers on the fishing industry and management
- Determining from what Australians base their views regarding the fishing industry and aquatic ecosystems more generally and why?
- Who are the key players and influencers? Who sets the rules/parameters
- Assess the applicability of SLO methods to commercial fisheries and extension of existing or development of new approaches and methods
- Determining the current and appropriate level of community engagement and methods to achieve this, including partnerships between industry and eNGOs
- Consider how research can inform determining 'acceptable impacts' and environmental standards and how this might be achieved. Is there a role for ecolabelling and certification?
- Consider process and approach necessary to align management of multiple uses in the marine environment
- Continue to develop new methods and further research to assess the interactions among multiple sectors and monitor cumulative impacts from these sectors
- Identify practical management, policy and industry actions and responses that would address the issue
- Develop a suite of future scenarios and assess implications for industry and management
- What are the combined performance measures of success for the project?

Implications of changing governance, regulatory and institutional frameworks on economic, social and ecological outcomes

Research Response and Science Plan requirements

We suggest that the following key research areas should form the basis of the detailed research plan:

• A comprehensive review of recent research findings concerning fisheries governance and regulation, including increasing institutional interactions with other marine sectors

• A historical analysis of the evolution of governance and regulatory systems for fishery management in Australia, focusing particularly on recent changes and their implications, and set in the context of broader oceans governance

• An empirical analysis of successes and failures of alternative management approaches, including meta-analysis and more detailed case studies in selected jurisdictions

• A review of trends in the costs of regulation, taking into account the impacts of cost recovery policies, and identification of options for cost saving or sharing. A comparative study of issues and trends in other resource sectors (forestry, mining) could be included.

• Identification of common assessment tools (e.g. ecological risk assessment) that could be accepted and adopted across (at least) fishery and conservation management agencies and promotion of common accreditation schemes. While fully compatible and accredited assessment approaches may be some way off, it should be possible to develop and gain acceptance for smaller changes as a confidence building measure.

• Analysis and clarification of resource allocation issues in the marine environment, taking into account recent analysis and reviews

• Development of tools for integrated assessment in the marine environment that can be used to assess the social, economic and ecological implications of alternative management arrangements

• Identification of options for future governance and ways to improve regulatory efficiency for Australian fisheries – what are the practical changes that could make a difference?

Appendix 2 workshop report

FRDC/CSIRO Joint Strategic Research Project Workshop
Thursday 1st November, 2012
Park Royal Hotel, Melbourne Airport

Workshop Report

Attendees: Ian Cartwright *(facilitator)*, Kate Brooks, Graeme Byrnes, David Carter , Michael Harte, Julia Jabour, Brian Jeffriess, Jeff Moore, Stuart Richey, Keith Sainsbury

Project team attendees: Tony Smith, Cathy Dichmont, Crispian Ashby, Heather Brayford, Richard Stevens, Helen Webb, Wendy Steele,

Apologies: Marcus Haward, Ian Knuckey, Martin Exel, David Smith, Patrick Hone

1. Welcome and purpose

Cathy Dichmont welcomed participants to the workshop and thanked them for giving their time to attend. Ian Cartwright was introduced as workshop facilitator.

Participants introduced themselves and offered comment on what they were hoping to gain from the day.

Some broad considerations:

- The issues are very real for the fishing industry.
- Why is there such little community support for the industry within Australia? In many countries fisheries is a highly valued and supported sector.
- Current pressures are not new or unique to Australia. International context - the same issues are happening in many places. Also in other industries.
- There are international as well as Australian drivers that impact fisheries.
- Political leadership of the industry is lacking – particularly at State level.
- Western Australia is currently the only state with a fisheries policy document in place.
- Need research that will make a difference.
- Many positives in Australian fisheries which are well considered internationally – need to build on the huge progress of harvest strategies, ERAs etc.
- Acknowledged that one solution will not fit all jurisdictions.
- Critical need to remain positive

2. Project outline (Cathy Dichmont)

- Strategic research plan to address the two issues, Governance and Social License to Operate (SLO)
- Key objective is to agree on a body of research that will address the two issues.
- Question of what is 'governance'?

- Recognition of increased complexity and increased regulatory burden for fishers - both governance and operational environment, and within a broader context of the EPBC Act and MPA s and other legislation that impacts on fisheries (eg. OH&S, Marine licensing).
- Meta analysis can identify where policy approaches are working or not, eg. Recent literature starting to show that ITQs theoretical strategy may not result in a successful outcome across all fisheries.
- Australia's international reputation is high but low SLO in Australia.

3. Current operating environment and general discussion:

Based around a paper by Richard Stevens on work undertaken as part of the review of NSW Commercial fisheries management policy and administration)

An additional paper by Keith Sainsbury and Richard Stevens "Strategic positioning and communications for Australian Fisheries" was also distributed to participants.

Comment and discussion points:

- NSW Review :
    - recommendation that a peak industry body be established in NSW and that it be properly resourced. Minister has accepted recommendation
    - industry was supportive of report
    - the review has been well received but the crunch will be when government decides what they will do with it

The NSW story presents an excellent case study – Southern Councils v's response to Northern Councils.

- General :
    - it is generally accepted there is a need to control effort
    - governments aren't regarded as trustworthy
    - people don't believe science
    - NGOs are more trusted
    - do we need more research, or is it more about communication?
    - the answer isn't always more science or more research – but it is a recipe to establish legitimacy of information
    - Industry needs leadership and vision
    - there is need for science to stand up and defend the industry when it needs to be defended – even if it is political. In terms of politics – science needs to play its part. This point was not unanimously agreed to by participants as worried about loss of neutrality.
    - Establish the role of various institutions in this type of debate – ie. in the Margiris, CSIRO went missing……
    - can't wait for everything to be cohesive before things are moved forward
    - can't wait for all research agencies etc. to be all on board

- Industry compliance and behaviour:
    - compliance and regulations are the central point to it all
    - regulator and public compliance is important. It has to be seen to give community confidence
    - there is a strong lack of compliance in the industry
    - it is widely accepted there are elements of "bad behaviour" by some industry participants – a reality to be aware of
    - strong deterrents for doing the wrong thing are required in all forms of the industry

- Governance:
  - role of fisheries governance, different jurisdictional arrangements
  - roles re institutions, government, management, fisheries
  - decision making processes - how they are structured
  - no consistency between any jurisdictions on cost recovery, compliance etc
  - Cohesion across govt, policy, management required
  - what we do, how we do it and decision making to meet corporate and governance goals - How to be effective in decision making based on informed timely information
  - synergy with other types of regulations e.g. EPBC Act.

- "Social License to Operate" (SLO):
  - small fisheries communities may be supported at the local level where social capital is built
  - issue of how social capital is developed in response to SLO
  - the Fishing Industry is often demonised, especially trawling
  - extremely difficult for industry to establish a SLO if the scientists can't stand up and defend it
  - the term "social license' is often confused by Fishers as it implies the need to `get another licence'. Need to be clear and outline what is meant ie. it is more about corporate social responsibility. Alternative words/term would be more palatable for the fishing industry, however the term is now well established so would be difficult to change
  - perception opinions vs the facts and providing the facts in a timely manner

- Communication:
  - recent examples of social media have been difficult to counter (live cattle, super trawler)
  - some felt there was nothing anyone could have done to have turned around the public campaign about the Margiris.
  - lack use of social media by science – greater use of such things as Twitter needs to be considered
  - continual presence to become trusted
  - NGO's are prolific users of social media
  - there is no one single place to go for authoritative comment on the fishing industry
  - what is the role of science in backing up industry issues - especially where misinformation is being used, body of evidence available but not used.
  - Scientists need to ensure that what is being said in the media is correct –not advocacy or arguing for or against a position but to correct the incorrect statements.
  - academics do need to remain independent
  - need a place where the correct information can be placed for reference, a place where people can speak out and facilitate the ability to correct misinformation and mechanisms to get information out
  - consider a "think tank" structure, along lines of Australian Farm Institute – it isn't a lobby group but is a trusted source for information - but is it delving into advocacy ?
  - significant need for improved 'extension' of research
  - scientific information needs to be translated to suit the particular audience
  - many issues of communication come down to terminology and providing facts in timely way
  - a broader way of thinking is required around strategic communication.
  - SLO can be built by ongoing small deposits of information
  - FRDC – now on Facebook and twitter – needs to be broadened

- The Austral experience and their approach to SLO:

- branding /positioning/commitment to sustainability
- MSC products provenance- 3 fisheries now accredited /master chef landscape
- advertisement/web page/monitoring social media
- internal and external communication
- ranking of priorities: be safe, obey all the rules, make a dollar

- Austral view of what is needed :
  - everyone has a role to play - govt and industry
  - a national industry voice, well resourced run by the right people
  - efficient legislative environment - commonwealth vs jurisdictional
  - support for science
  - management active in understanding governance framework
  - development of an industry 'corporate strategy' that explains what we do. Austral as a company has 'sustainable seafood' as theirs.
  - stronger compliance – it has to be seen to be there

- Some questions to be considered:
  - what is the role of science in the face of adversity?
  - how do you inform perception?
  - how do we dispute erroneous statements?
  - how do you manage the resource differences between large profitable and small marginal fisheries in responding to SLO issues, social media and meeting day to day management and sustainability requirements?
  - how and when can science can inform and contribute to issues once it becomes political

Chair summing up of points raised:

- role of industry bodies
- leadership of industry bodies
- role science vs advocacy
- political environment vs the facts -
- all fisheries have a flow on effect to others (for the good or bad)
- compliance /deterrents for bad behaviour by a small section of industry members
- public lack understanding that fisheries are well managed
- leadership, social capital - have to make a start can't wait until everything is in place and all are in agreement
- responses to situations and issues proactive vs reactive
- Science needs to provide the 'small grabs' of information – not just the large reports

4. Strategic research plans for Governance and SLO

GOVERNANCE

Comments and discussion:

- Project Criteria:
  - determine the criteria for good governance/decision making/how decisions are made/networks
  - a clearly identified need
  - roles and constraints, leadership
  - should make a difference
  - needs to be integrated
  - research that get taken up and applied
  - need to be measurable

- multidisciplinary research team
- Users/uptakes how is research going to make a difference. Need a change of mind set. This work if already undertaken could have been useful in the Borthwick review. A strategic approach for the future – not a short term fix

- Project Considerations:
  - who are the end users?
  - Governance, management , industry, science what are the respective roles and limits and complementary functions
  - demonstration real world applications –linked to a good case study
  - identify the impediment to governance
  - Governance/ decision making frameworks internal/external - understand the frameworks (what it does rather than what it should do)
  - what are the high priority areas that are industry driven?

- Seafood Australia proposal (David Carter):
  - Austral fisheries mind map analysis (the elements) presentation on proposed internal governance of overarching peak body Seafood Australia. A template for all fisheries - one voice
  - principal purpose - to create a profitable industry
  - nodes from mind map - what research could help develop and contribute to outcomes

What are the research questions - where can we use research?

- Governance:
  - Meta analysis and case studies for broader governance how to predict good governance the determinants/ characteristics using case studies for success/failure
  - Consultation co-management
    - Consultation is linked to profitability of fisheries
    - what makes MACs and RAGs effective or not over time (calibre of people involved)
    - the results/outcomes /impacts from the loss of the MACs and RAGs
    - the roles of the MACs and RAGs - survey people involved
  - why is industry not getting traction in the formal governance process
  - industry organisations - what makes them work and what doesn't
  - what makes an effective governance organisation
  - what makes successful fisheries
  - the changing external environment/drivers for fisheries political, economic, social
  - Access - resource sharing structures between fisheries, fisheries sectors and other marine industries (MUM)
  - Sound policy and legislation and what happens without it
  - Ocean governance
  - How fishers play the external environment and how industry organises themselves
  - understanding how the external environment informs strategic change
  - Cost of good governance to industry what can/willing to bear
  - Austral fisheries as a case study for governance and elements of the mind map
  - Governance of small fisheries has the same elements as for big but one size doesn't fit all – establishment of a good framework that can then be scaled accordingly.

- Fisheries compliance:
  - measuring risk based compliance efficiencies
  - currently very ineffective methods of measuring compliance

- how do you measure the effectiveness and how do you work out the cost to the community
- what are the tools you use
- voluntary vs legislative compliance etc.
- review of the different models for compliance

- Profitability of the industry
  - Restructure of fisheries myths vs the actual - who still in fisheries, how many jobs lost through restructuring, is it really working, what happens to communities when small fisheries close down.
  - Potential case studies - *Western Port* –Fishery sustainable but the minister closed it down and *Oregon Trawl Industry*

- Internal environment and image:
  - How to gain legitimacy - what makes your fishery different , the story the evidence
  - How to maintain the image (surveys, focus groups)
  - Does the industry value representation
  - Influence and strategic approach for institutional change
  - Internal industry/fishers traceability, provenance of product, MSC certification, marketing and customers
  - Leadership - the different approaches and development for the future so as to have the people in place. Currently these people are entering the mining sector
  - What management regime would help small fisheries (case studies Oregon and NZ)

- Additional considerations:
  - Small fisheries in Multiple Use Management (MUM) space and controversial situations have little political clout
  - there is much to learn from existing governance models

SOCIAL LICENSE to OPERATE (SLO)

Comments and discussion:

- Defining SLO
  - The term and the name = social responsibility to community
  - Industry has issue with the term SLO – consider *Corporate social responsibility*
  - Need to be clear to define interpretation of SL at outset of the project

- Components of SLO:
  - Mutual respect and trust – what leads to mutual respect and what damages it: agencies, science, recreational, conservation, politics
  - Community perceptions/values how formed and change overtime

- Considerations:
  - Role of science and SLO
  - Science that informs management actions
  - Key issue misinformation vs facts in social media
  - Where community getting/forming views
  - The role of social media
  - Branding follow up with the experts in the field
  - Defining acceptable impacts
  - How do you explain the uncertainty in science to the public

- Extension – requires new thinking
- How to communicate science effectively to policy makers to have maximum effect. (Leopold courses).
- Strategic repositioning to raise the effectiveness of science communication in Australia. *Book Escaping the Ivory Tower: a guide to making your science matter Nancy Baron*
- Role of science different to communication
- Practical outcomes from science for end users
- Education in schools and community engagement important
- Methodology
- Learning how to make use of social media, networking oerhaps a role for FRDC to provide information on webpage
- The super trawler ruling - how did it happen how to stop it happening again
- Applying the lessons
- Advocacy verses scientific
- What are acceptable limits

Suggested reading:

- "Trust me I'm lying" – R Holiday
- "Escaping the Ivory Tower: a guide to making your science matter" - Nancy Baron