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# Co-management in Commonwealth Fisheries

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March 2015

FRDC Project No 2008/045

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ISBN 978-0-646-94103-5

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FRDC Project No 2008/045

Year of publication: 2015

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The Fisheries Research and Development Corporation plans, invests in and manages fisheries research and development throughout Australia. It is a statutory authority within the portfolio of the federal Minister for Agriculture, Fisheries and Forestry, jointly funded by the Australian Government and the fishing industry.

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# Acknowledgments

The project involved many people over a number of years, each playing some role or contributing to trialling co-management in Commonwealth fisheries. It is inevitable that someone may be missed in this acknowledgement and for that, sincere apologies – you all made a valuable contribution.

The project was undertaken in collaboration with co-investigators, trial participants, staff from Australian Fisheries Management Authority and Fisheries Research and Development Corporation and a number of other committed people. In particular, thanks go, in no particular order, to co-investigators:

Annie Jarrett, CEO NPF Industry PTY LTD

Dale Sumner, General Manager Lakes Entrance Fishermen's Cooperative Society Limited

Jeff Moore, Executive Officer Great Australian Bight Fishing Industry Association Inc

Shalan Bray, then Australian Fisheries Management Authority

John Andersen, Australian Fisheries Management Authority

Paul Murphy, then Australian Fisheries Management Authority

Fritz Drenkhan, then President, South-east Trawl Fishery Industry Association

Matt Barwick, Greenfish Consulting Pty Ltd (then NPF Industry PTY LTD projects officer)

Chris Melham, then Chief Executive Officer, Commonwealth Fisheries Association

Appreciation goes to Commonwealth fishers based in Lakes Entrance, the LEFCOL Board and LEFCOL staff for their valuable time and assistance. Appreciation also goes to the Directors of NPF Industry PTY LTD and the Great Australian Bight Fishing Industry Association Inc for their support and assistance during the trials.

Others from AFMA (past and present employees) who provided assistance included: Glenn Hurry, Nick Rayns, Melissa Brown, Steve Auld, Beth Gibson, Anne Shepherd (Datafix), John Garvey, Malcolm Southwell, Adam Wade, Michael Tudman, Mark Farrell, Joshua Fielding, Brodie Macdonald, Jillian Harrap, Mallory Terwijn and Lara Johnson.

The steering Committee members provided valuable guidance throughout the project. The committee included Paul Murphy (Chair), Crispian Ashby (FRDC), Annie Jarrett, Jeff Moore, Dale Sumner and Nathan Hannah (DSEWPaC).

# Abbreviations

AFMA	Australian Fisheries Management Authority
DSEWPaC	Department of Sustainability, Water, Populations and Communities (now called Department of Environment)
FAA	Fisheries Administration Act 1991
FIS	Fishery Independent Survey
FMA	Fisheries Management Act 1991
FRDC	Fisheries Research and Development Corporation
GABIA	Great Australian Bight Fishing Industry Association Inc
GABTF	Great Australian Bight Trawl Fishery
LEFCOL	Lakes Entrance Fishermen's Cooperative Limited
LEDSUT	Lakes Entrance Danish Seine Unit Trust
MOU	Memorandum of Understanding
NORMAC	Northern Prawn Fishery Management Advisory Committee
NPF	Northern Prawn Fishery
NPFI	Northern Prawn Fishery Industry Pty Ltd
SESSF	Southern and Eastern Scalefish and Shark Fishery
SFRs	Statutory Fishing Rights

# Executive Summary

## What the report is about

The Australian Fisheries Management Authority (AFMA) worked with three Commonwealth fishery groups between 2008 and 2011 to explore the potential for implementing a co-management approach in the management of Commonwealth fisheries. The project involved trials with varying functions to test the capacity of the fishing industry and government to adopt co-management arrangements. The trials provided on-ground testing of the work undertaken by the Fisheries Research and Development Corporation's (FRDC) working group on the co-management initiative, published in 2008.<sup>1</sup>

The trial fishery groups included the majority of fishers operating out of the Lakes Entrance port in Victoria, supported by the Lakes Entrance Fisherman's Cooperative Society Limited (LEFCOL); the Great Australian Bight Fishing Industry Association Inc (GABIA); and the Northern Prawn Fishery Industry Pty Ltd (NPMI).

Co-management can be described as an arrangement where responsibilities and obligations for sustainable fisheries management are negotiated, shared and delegated between government, industry and other stakeholders.<sup>2</sup>

The trials corroborate the key finding in the FRDC report that certain pre-conditions need to be met by industry to successfully implement co-management. There are some limitations in Commonwealth fisheries and their management that if overcome would increase benefits of co-management.

## Background

The decade leading to the commencement of this project was a difficult period for the Commonwealth fishing industry and AFMA. Some key fish stocks were in decline and excess fishing capacity was eroding profit potential in the fisheries along with the relationship between industry and AFMA. In 2005 the then Minister for Agriculture, Fisheries and Conservation directed AFMA to make significant improvements to the management of Commonwealth fisheries. A series of management reforms followed, including the development of the Commonwealth Harvest Strategy Policy.<sup>3</sup> The Government provided fisheries management levy subsidies over three years to assist industry with the costs of transitioning to the new operating environment.

In addition to fish stock and capacity problems, external cost pressures were also weakening fishery profits. On the back of management changes, in 2007 the Australian Government took steps to improve the economic performance of Commonwealth fisheries by funding a fleet restructure. This achieved significant reductions in fleet size, removing excess capacity and some related capital in some Commonwealth fisheries.

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<sup>1</sup> *Report of the Fisheries Research and Development Corporation's National Working Group on the Fisheries Co-management Initiative* – project no. 2006/068, 2008. Fisheries Research and Development Corporation, Canberra.

<sup>2</sup> *Ibid*, 1.

<sup>3</sup> The Commonwealth Harvest Strategy Policy was a significant improvement to the management process for Commonwealth fisheries, establishing clear linkages between fishery monitoring, assessment and harvest control rules. A description of harvest control rules and discussion about the implementation of the policy can be found in Anthony D. M. Smith, David C. Smith, Malcolm Haddon, Ian A. Knuckey, Keith J. Sainsbury and Sean R. Sloan, 2014. *Implementing harvest strategies in Australia: 5 years on*. ICES Journal of Marine Science, 71(2), 195-203.



Throughout these events, interest in co-management was growing and two Australian reports on co-management were published in 2008.<sup>4</sup> These reports provided the information and guidance needed to undertake trials of co-management in Commonwealth fisheries.

### **Aims/objectives**

The primary aim of the project was to test the capacity and resolve of the fishing industry and government to put co-management into practice. Further, the project was to explore what could be achieved in terms of potential benefits and to get a first-hand view of the changes in government and industry that would be needed to make a shift from consultative management to collaborative and/or delegated management. If the theoretical benefits of co-management could be brought to fruition, then steps could be taken to implement co-management where it was shown to work and expand it to other interested Commonwealth fisheries.

### **Methodology**

The methodology generally followed the steps for developing co-management described in FRDC (2008). The three fishery groups worked closely with AFMA to scope a range of co-management activities and functions and the frameworks under which they could be undertaken. These activities and functions were put into practice on a 'trial and error' basis over a two to three year period. It was anticipated that the groups would learn and adjust the arrangements and structures they had developed. The three trial groups and AFMA would then consider and document the costs and benefits drawn from the experience. Where it was shown to work well, co-management would be further developed in those fisheries and potentially expanded to other Commonwealth fisheries.

### **Results/key findings**

NPFI meets the pre-conditions required for the successful implementation of co-management and this group was motivated to trial across the spectrum of co-management to delegation with promising results, albeit without decision-making (as it applies to decisions that would normally be made by the AFMA Commission or CEO).

The NPF trials were implemented through a mix of contracted (delegated) functions and an MOU with AFMA. Whilst the trials were challenging at times, NPFI and AFMA believe they have been largely successful and will continue to evolve. The NPF trial achieved some cost-savings by devolving functions from AFMA to NPFI, capacity building within NPFI and an improving relationship between AFMA and the NPF industry. The trials demonstrated NPFI's ability to deliver functions on AFMA's behalf, to manage projects effectively and to take a leadership role in a co-management framework.

Key achievements have been NPFI's management of the Crew Member Observer program resulting in the number of shots recorded increasing by 611% and an increase in data collected since taking over this function in 2008; the management of the catch and effort data program which resulted in some cost savings; and the take-up of electronic fishing logs (e-logs) across the fishery, also lowering costs.

NPFI taking responsibility for the in-season management program to determine season closing dates has resulted in a high level of cooperation in catch reporting from fishers. Adopting the co-management philosophy has also had a positive influence on industry compliance with fishery rules and regulations.

The willingness of NPFI to take on the challenge and risks of these trials and the collaborative approach between AFMA, NORMAC and NPFI was pivotal to the success of the trial. The maturity and cohesiveness of NPFI and the strong relationships between NPFI and AFMA resulted in a highly successful co-management trial even throughout the somewhat turbulent period where future management

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<sup>4</sup> Above n 1; and *Comanagement for Commonwealth Fisheries*, 2008. Fisheries Economics, Research and Management Pty Ltd, Project R05/0783, Australian Fisheries Management Authority, Canberra.

arrangements were under review.<sup>5</sup> The trial confirmed the need for a strong, well-managed and cohesive industry association, strong government/industry relationships and shared support for the trials to be successful.

The co-management trials did not deliver the degree of cost saving that NPFI had expected from managing activities and functions on behalf of AFMA. This is primarily because NPFI is unable to raise revenue from all NPF SFR holders, not just those who are shareholders in the Company, and thereby free itself from the need to fund co-management activity through AFMA's levy system. This subjects the industry to AFMA's regulatory and financial framework. This frustrated NPFI which under normal circumstances is less encumbered as a private company. The review of management arrangements for the fishery which was occurring at the same time as the co-management trials also meant the cost of NORMAC increased rather than reduced during the trials.

NPFI also noted that whilst there was strong support for co-management in parts of AFMA the culture needed to support co-management was not AFMA-wide.

GABIA meets the pre-conditions required for successful co-management. However the relatively small scale of the GABT fishery influenced GABIA's overall view of potential benefits from a more delegated form of co-management and lowered its desire to invest resources needed to move beyond collaboration. This was seen to work well for the fishery.

The co-management arrangement between GABIA and AFMA improves the management of the GABTF. Building on previous initiatives, GABIA and AFMA now work under a dual advisory model, which sets out responsibilities, including the relationship with the MAC and RAG.

Furthering co-management in the GABTF developed a structure that provided a higher level of certainty about the outcomes of decision making in the fishery. Profitability of the fishery was enhanced through better utilisation of resources, particularly in the area of research, monitoring and data collection, in which GABIA plays a leading role. Along with the more streamlined advisory process, overall management cost in the fishery has been reduced. The co-management approach has improved the working relationship between GABIA and AFMA.

GABIA now has direct responsibility for budget responses, fishery closures. GABIA has a central role in monitoring, strategic research and stock assessment planning and setting total allowable catches (TACs). It applies the decision rules within the agreed harvest strategy for the fishery and recommends multiple year TACs to AFMA. AFMA supported GABIA's recommendations throughout the project and remains satisfied with GABIA's overall co-management arrangement. . Stock assessment cycles are no longer annual, leading to efficiencies, cost savings and the potential for resources to flow to other key priorities. The research and associated management program is targeted at the risk/catch/cost principle. The enhanced data collection program has improved fishery information, contributed to the development of a bio-economic model to pursue greater economic yields and biological sampling of underutilised species. The enhanced fishery information program developed by GABIA was documented in a 'boat operating procedures manual' so that fishers can adhere to standards for data collection, sampling and handling. The fishery has been able to extend this work into seabird vessel management plans to mitigate the risk of interactions with seabirds. The manual also provides a wide range of standards beyond data collection.

GABIA members, along with the Lakes Entrance trial participants took part in a quota monitoring trial to assess continuous reconciliation of catches against quota. This strategy has now been implemented across the SESSF and other quota-based fisheries.

The Lakes Entrance group met few of the pre-conditions for successful co-management and was unable under the trial to develop co-management to a level that would endure and bring any significant benefit to

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<sup>5</sup> The management review considered the potential for changing the management of the fishery (and the associated fishing rights) from input controls based on transferable effort units to output controls based on individually transferable quotas.

fishers in the port, although collaboration with LEFCOL to harmonise its business system for accounting and reporting of catch handled through the cooperative to AFMA was a trial success and remains in place. During the project it was demonstrated that greater collaboration between industry and management is more likely to deliver better policy outcomes. The participants in the trial showed a high level of commitment to working more closely with AFMA during the trial. It is costly however to maintain that level of intensive collaboration in any specific port, particularly given there is also many other ports in the fishery. The Commonwealth Trawl Fishery is well represented by an Industry Association and although the Association was not ready at the time to engage in the co-management trials, it would likely meet the co-management pre-conditions. The Association does not however represent all fishing methods used in the SESSF.

The working relationship developed with LEFCOL is mutually beneficial and could be further developed, including with other similar fishing businesses. The alignment of business systems is a model for other ports and businesses and provides a good mechanism to account for catch under the quota system and for collecting other information relevant to the fishery.

### **Implications for relevant stakeholders**

Depending on the extent of collaborative or delegated responsibility, co-management is a significant change to the way commercial fisheries might be managed in the future. As a result, it can be expected that there are implications for a range of stakeholders. The trials undertaken in Commonwealth fisheries show there is capacity within competent fishery organisations that widely represent the industry to engage in co-management and there are benefits in adopting such an approach.

Under co-management, commercial fisher organisations can expect to play a more hands-on role in fisheries management services and decision-making ranging from greater collaboration in the fisheries management processes through to full provision of fisheries management services. Among other things, this project found that to make co-management a reality, fishery organisations will need to be adequately supported by their membership in terms of resourcing and fisher commitment. Fishers will need to understand the benefits of representation and its role in implementing successful co-management.

The general public is often represented by non-government organisations in the fisheries management process. This group includes conservation, recreational and sport fishing and indigenous interests. Under co-management, maintaining transparency and access to the management process and demonstrating sustainability will be an increased focus for management and industry.

Co-management is still developing but potential benefits are being shown where co-management is being used. Policy makers will need to consider the implications of co-management with a view to giving it broad support as a legitimate part of an evolving fisheries management framework. Fishery managers will also need to adapt to the different role they will play in co-management. This would include new skill development in areas such as auditing. More efficient and cost-effective tools for monitoring will be needed to support the evolution of co-management.

### **Recommendations**

The outputs from these trials should be widely communicated to the broad range of AFMA's stakeholders, the Government and the general community.

Additional work needs to be done to gain greater agency-wide support for and adoption of a co-management culture.

Australian fisheries are disparate and unique in many respects so there is unlikely to be a 'one size fits all' formula for co-management in Australian fisheries. However, regulatory frameworks, for example, policies and management plans need to be as aligned as possible to facilitate co-management strategies being trialled and adopted.

Industry needs to organise itself and support representative organisations.

Co-management should not be forced and must be built on the basis of mutual trust and respect.

Competent industry groups such as NPFI and GABIA are well placed to further develop co-management, for example, to investigate a 'standards and audit' approach to co-management. This will provide an example of what can be achieved for other fisheries.

### **Keywords**

Co-management, fisheries management, collaboration, trials, fisheries management functions and powers, delegation, contracts, legislation.

# Introduction

AFMA is the Commonwealth agency responsible for managing marine fisheries that fall within the jurisdiction of the Commonwealth. Other Australian marine fisheries and inland fisheries are managed by the States and Northern Territory. AFMA manages 16 active commercial fisheries around Australia, as well as Torres Strait fisheries on behalf of the Protected Zone Joint Authority.<sup>6</sup> Two Commonwealth fisheries and part of a third were involved in the co-management trials. A brief description of the three fisheries in the co-management project is at Appendix 3. AFMA applies rights-based fisheries management and the majority of Commonwealth fisheries including those fisheries involved in the co-management trials, operate under statutory management plans implemented under the *Fisheries Management Act 1991* (FMA). Fishers have been granted statutory fishing rights (SFRs) under these plans. The following objectives must be pursued by the Minister in the administration of the FMA and by AFMA in the performance of its functions:

- (a) implementing efficient and cost-effective fisheries management on behalf of the Commonwealth; and
- (b) ensuring that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development (which include the exercise of the precautionary principle), in particular the need to have regard to the impact of fishing activities on non-target species and the long term sustainability of the marine environment; and
- (c) maximising the net economic returns to the Australian community from the management of Australian fisheries; and
- (d) ensuring accountability to the fishing industry and to the Australian community in AFMA's management of fisheries resources; and
- (e) achieving government targets in relation to the recovery of the costs of AFMA.<sup>7</sup>

In 2005 the then Minister for Agriculture, Fisheries and Conservation directed AFMA to take immediate action in all Commonwealth fisheries to cease overfishing and recover overfished stocks, to avoid stocks becoming overfished in future and to manage the broader environmental impacts of fishing.<sup>8</sup> This action was driven by decline in some key fish stocks due to excess fishing capacity and consequent over-fishing.

Improvements made in response to the Ministerial Direction included the Australian Government's harvest strategy policy, finalising ecological risk assessments and management responses to mitigate high ecological risks, increased bycatch reduction measures and increased fisheries monitoring.<sup>9</sup>

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<sup>6</sup> The actual number of fisheries managed by AFMA depends on what level of governance structure within which the fishery is considered. Some fisheries operate within a combined governance framework. For example the Southern and Eastern Scalefish and Shark Fishery is managed under a single statutory management plan and is considered one fishery but in reality it is a group of distinct fisheries with overlapping species and covers a range of fishing methods.

<sup>7</sup> Cost recovery is undertaken in line with the Cost Recovery Impact Statement 2010 (current at time of writing). AFMA recovers about half of its domestic fisheries management costs directly from fishery concession holders through levies.

<sup>8</sup> A direction by the Minister can be made in exceptional circumstances under Section 91 of the FAA.

<sup>9</sup> Bycatch is a term used to describe that part of a commercial catch that was unintended, that is, caught incidentally when targeting other species. It is Australian Government policy is to minimise bycatch in Commonwealth fisheries.

These changes coincided with a time when industry was feeling the effects of growing import competition, strengthening of the Australian dollar and increases in costs of production. A consequence of tighter controls on catches to recover fish stocks and external economic pressures had also begun to put a strain on the working relationship between AFMA and the commercial fishing industry.

Although the fisheries management measures increased management costs at this difficult time, the Government also took a number of steps to improve the economic performance of the commercial fishing industry. This included significant fleet restructures through the Government's business exit program, offered under its 'Securing our Fishing Future' package as well as industry-wide levy subsidies over three years from 2006 to 2009. A number of key fisheries, including the Northern Prawn Fishery (NPF) and the Commonwealth Trawl Fishery<sup>10</sup> were able to achieve significant reductions in fleet size, which under better management provided an opportunity to improve economic performance.

The combination of improved management settings and positive effects of fleet restructure presented the kind of business environment for co-management to be viable.

From its inception, AFMA was established to implement a consultative model of fisheries management.<sup>11</sup> AFMA works closely with the fishing industry and other stakeholders through its Management Advisory Committees (MACs) and Resource Assessment Groups (RAGs) in developing management arrangements. But aside from this, the fishing industry traditionally has had little direct involvement in management functions or decision-making in Commonwealth fisheries. While stakeholder consultation is undoubtedly valuable in fisheries management, it did not prevent some fish stocks or the working relationship from decline.

Co-management at various levels is being used around the world as a means to address failures in traditional fisheries management approaches to achieve key objectives such as maximising sustainable and economic yields from fisheries resources.<sup>12</sup> From a regulatory perspective, co-management also offers potential to lower costs of management through sharing management responsibilities and associated fishery management services.

Where it is used, co-management is generally at some point along a continuum of management models that range beyond command and control and consultation to collaboration and/or delegated functions.<sup>13</sup> These models are progressive states from the 'centralised' model where government assumes the highest level of control over functions and decisions (see Figure 1). The creation of AFMA by the *Fisheries Administration Act 1991* (FAA) took Commonwealth fisheries management from a centralised model to a consultative model. Even under a delegated model, government is likely to retain some involvement, for example, environmental policy setting and surveillance activities.

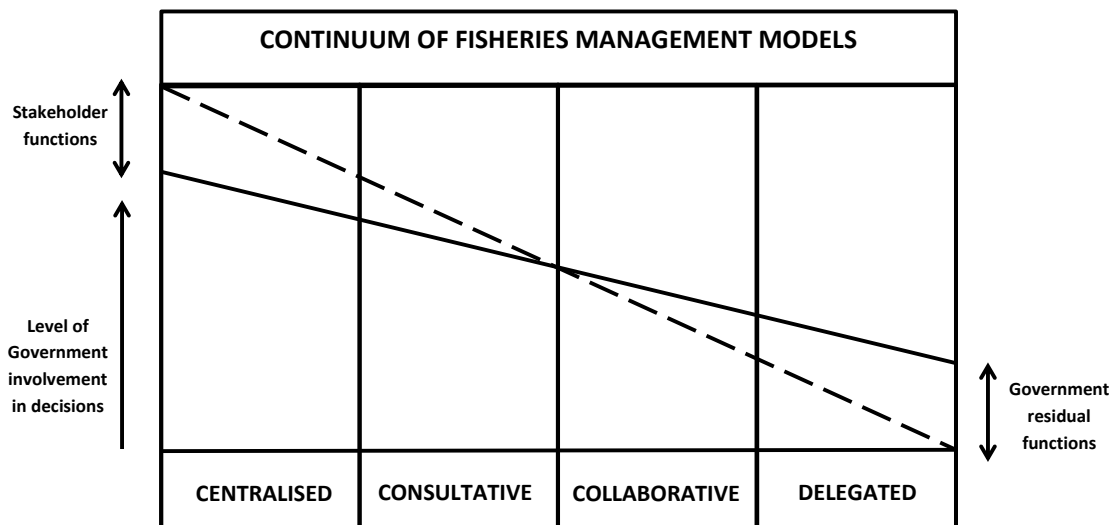
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<sup>10</sup> The Commonwealth Trawl Fishery is a sector of the Southern and Eastern Finfish and Shark Fishery.

<sup>11</sup> Consultative management is a step forward from command and control, but does not fit the definition of co-management because, apart from a capacity to provide advice to a regulator, it does not involve sharing management functions or decision-making with fishers.

<sup>12</sup> See for example, numerous case studies where forms of co-management are in use around the world in: Townsend, R., R. Shotton and H. Uchida (eds), 2008. *Case studies in fisheries self-governance*. FAO Fisheries Technical Paper 504.

<sup>13</sup> For a discussion about the various models of management and associated levels of government and fisher involvement in functions across the continuum, see above n 1, 9-10.



**Figure 1 Relationship between fisheries management models and the level of government versus stakeholder involvement in decision-making (from FRDC 2008).**

Co-management can bring about potential benefits for the fishing industry and government. These include reduced conflict, more inclusive and transparent decision-making, improved compliance, increased cost-effectiveness of fisheries management, and more stream-lined services.<sup>14</sup> For these benefits to be realised there needs to be preparedness for change by both government and industry and a flexible regulator with legislation that enables co-management with industry and potentially other stakeholders. Clearly defined fishery boundaries and expectations from the parties and a well informed and led industry sector that can accept responsibility for its operations and conduct are also thought to be necessary for co-management to work well.<sup>15</sup>

The practical application of delegated fisheries co-management is limited, with few examples in Australia or overseas.<sup>16</sup> The timing for the development and testing of co-management arrangements to move beyond the consultative model was well placed for AFMA and the Australian fishing industry. A guidance framework for developing co-management arrangements was developed by the FRDC working group.<sup>17</sup>

The overall aim of this project was for AFMA and industry to work together in designing a series of trials, across a range of fisheries and to test industry undertaking fisheries management responsibilities and functions and other collaborative arrangements. The focus of the project was on industry-AFMA co-management arrangements.

The three fishery groups taking part in the co-management trials were:

<sup>14</sup> Above n1, 5-6, 12.

<sup>15</sup> Fisheries Economics, Research and Management Pty Ltd, 2008. *Comanagement for Commonwealth Fisheries*. Project R05/0783, Australian Fisheries Management Authority, Canberra, 5-20.

<sup>16</sup> Ibid, 12.

<sup>17</sup> See generally, above n 1. This report was largely developed as a guide to agencies considering co-management.

- The majority of fishers operating out of Lakes Entrance port in Victoria who fish in the Commonwealth Trawl Fishery and Gillnet, Hook and Trap Fishery. These fisheries are part of the Southern and Eastern Scalefish and Shark Fishery (SESSF). This trial significantly involved the Lakes Entrance Fisherman's Cooperative Society Limited (LEFCOL);
- The Great Australian Bight Fishing Industry Association Inc (GABIA), representing all of the concession holders in the Great Australian Bight Trawl Fishery (GABTF). This fishery is also part of the SESSF but is based in the Great Australian Bight; and
- The Northern Prawn Fishery Industry Pty Ltd (NPF) representing more than 90% of the fishing rights held in the NPF.

These fisheries were selected because of their stated interest in co-management and capacity to meet several of the pre-conditions identified for successful adoption of co-management.<sup>18</sup>

This project provides an opportunity to examine new business practices and management approaches that may benefit both AFMA and industry. Greater stewardship of fisheries resources is a potential result where management responsibilities are effectively transferred to industry. It is possible that industry can undertake certain functions more efficiently than government. Furthermore, there is a strong alignment between collaborative management, strengthening fishing rights, resource stewardship and achieving key fisheries management objectives. In order to pursue co-management, alternative approaches need to be trialled, tested and evaluated as to whether they offer improved efficiency and cost-effectiveness compared to current management arrangements.

This project explored co-management models by examining different ways of doing business in partnership within three different fisheries and business entities. The project provides an opportunity to simplify administrative processes, reduce management costs, increase industry stability and improve the working relationship between AFMA and industry. In recognition of these changes, AFMA will need to adopt a more risk-based approach and apply greater flexibility, while industry needs to accept greater responsibility for fishery outcomes.

The project was a planned, experimental approach to adopting shared management arrangements, allowing both industry and AFMA to build confidence in the integrity and effectiveness of the approach. Notably, substantial reductions in the cost of management may be difficult to achieve without significant changes to the current management landscape and/or AFMA's current functions.

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<sup>18</sup> Above n 1, 19-20.



# Objectives

Objectives of the project – as agreed in the contract

The objectives of the project were to:

1. Develop, trial and assess specific fisheries management and/or administrative functions that can be taken up by the fishing industry under various co-management institutional structures;
2. Build on existing and/or implement alternative arrangements that will simplify regulations, reduce management costs, increase industry stability and/or streamline business practices; and
3. Improve industry/AFMA relations and stewardship of fisheries resources by adopting a more collaborative and/or delegated approach to management.

# Method

The project was designed to build on two recent investigations of co-management in the Australian fisheries context. These are; Co-management: Managing Australia's fisheries through partnership and delegation, Report of the Fisheries Research and Development Corporation's national working group on fisheries co-management initiative (2008), and Co-management for Commonwealth Fisheries, FERM (2008). The first paper presents a guide for working with fisheries or other stakeholder groups to develop a co-management approach. The paper discusses the structural and cultural aspects of a transition to co-management and the conditions that are likely to be needed to make that transition successful. The second paper reviews the potential for and types of co-management in two Commonwealth fisheries case studies: the GABTF and the Southern Bluefin Tuna Fishery. These two papers provided a sound theoretical basis for undertaking experimental trials of co-management with certain Commonwealth fisheries.

Three separate trials of co-management commenced on the basis of demonstrated interest and agreement among the Commonwealth Fisheries Association (CFA), AFMA and the FRDC. Three fishery-based groups agreed to trial co-management; GABIA, NPFI and SESSF fishers working out of Lakes Entrance (including LEFCOL).

AFMA was also keen to respond to other opportunities to work with different Commonwealth fisheries, such as the Southern Bluefin Tuna Fishery and Eastern Tuna and Billfish Fishery given interest on their part and adequate resources within the project timeframe and budget. Such opportunities would only be taken later in the project cycle on the basis that they add to the co-management outcomes and do not adversely affect achieving the outcomes of the existing trial elements.

Within each fishery trial group the project team were to undertake the following:

- Identify the key drivers that support the shift to co-management;
- Assess the various functions where the case fishery has a willingness and capacity to take on management responsibility;
- Assess the benefits that can be gained from taking responsibility for specific functions and how the shift addresses AFMA's obligations and legislative objectives, particularly where the specific function/s is/are a fundamental aspect of proper fisheries management;
- Assess any administrative or legal changes that might need to be made in both the short and long-term;
- Develop an MOU or other form of agreement covering terms, functions and responsibilities that will match the specific institutional form and AFMA;
- Develop the audit processes needed to provide credibility and transparency of co-management arrangements;
- Develop relevant performance indicators to assess trial cases, including critical aspects providing public certainty that AFMA's legislative objectives are continually pursued;
- Assess the capacity to broaden the application of specific co-management models emerging in the trials to other Commonwealth fisheries or fishery groups.

The above project tasks were to be undertaken through workshops and working groups. Co-management cases would be allowed to evolve over the course of the project on a trial basis through to more permanent models that could be implemented within the case fisheries where these are shown to work. Aspects found to work well may need to be supported by legislative change in order to be more broadly implemented.

In designing the project and undertaking the different trials the following guiding principles were adopted:

- Industry's role is to manage their business in a way that meets their needs and obligations;
- AFMA's role is to manage fisheries resources in a way that instils confidence in the Australian community that sustainable fishing practices are met;
- Facilitate an acceptance of change by AFMA and acceptance of new responsibilities by industry;
- Mutual trust and respect from industry and AFMA;
- Functions are of benefit to industry and AFMA;
- Functions are generic and can be applied elsewhere;
- Functions are cost-effective and/or balanced against the efficient delivery of services and AFMA's legislative objectives; and
- Functions increase the accuracy and timeliness of information for decision-making.

A steering committee was established to oversee the overall program, with individual project teams established for each trial.

The development of industry Codes of Practice (CoPs) or Guidelines for the project would be central to its success, as too the design of an audit program for monitoring industry self-regulated functions.

There are significant legal implications with handing responsibility for meeting the legislated objectives of the FMA and FAA. New provisions would in the long-term be needed to provide for the delegation of certain functions to industry and/or to establish new structures that allow industry to be jointly involved in decision-making. To overcome these issues initially, an MOU or individually binding contracts would be established between AFMA and industry participants detailing their respective shared obligations. Importantly, the project would enable any arrangements to be tested before investing in amendments to the legislation. AFMA was to seek legislative amendments to broaden its powers regarding co-management.

## **Case 1: Southern and Eastern Scalefish and Shark Fishery - Lakes Entrance**

Scheduled period:

Phase 1	Design - November 2007 - April 2008
Phase 2	Trial - May 2008 – April 2009
Phase 3	Trial evaluation May 2009 – July 2009
Phase 4	Extend evaluated trial in the SESSF August 2009 – December 2010
Phase 5	Extension and development of implementation elements of co-management January 2010 – December 2010

Rationale:

The Lakes Entrance Fishermen's Co-operative Society Limited (LEFCOL) expressed the desire to work with AFMA in designing a trial to test industry-regulated functions involving a transfer of responsibilities. The trial was to move the integrity and compliance of a range of fisheries management arrangements from AFMA to LEFCOL. The approach would place the emphasis on the Co-op (and the Commonwealth fleet it services) as the central point for auditing rather than individual vessel operators/concession holders.

Protocols:

A range of quota management, data collection and compliance functions will be conducted by LEFCOL with a view to broader and long-term implementation in other co-ops and fisheries. This trial would involve the following main functions: quota pooling and monitoring; quota transaction and reconciliation processes; automated data transmission and data collection protocols (eg, port sampling); and industry self-regulated compliance (eg, vessel inspections) functions.

The first stage of the trial would be dedicated to understanding the business practices of LEFCOL and fish receivers in general. Several workshops and meetings would be conducted initially with industry to refine the functions and activities to be undertaken by LEFCOL and AFMA. Project progress would be routinely assessed via the steering committee and project team.

The trial would include development of software to automate the catch unloading data that fish receivers collect from fishers via electronic scales and be sent to AFMA for quota management purposes. This would build on previous electronic scales work that was conducted a decade prior, but was unsuccessful as it was not tailored to industry needs. This would streamline the business processes of industry, while ensuring near "real-time" and more accurate data for AFMA. Data schemas and specifications were to be developed to reflect the data flows and integration to AFMA's IT framework. Appropriately qualified software developers would be sourced to produce the automated electronic scales and data transmission software. A systematic development, testing and implementation plan would be undertaken to ensure the software accommodates both industry and AFMA needs. Following implementation, an audit and assessment plan would be conducted to monitor the effectiveness of the systems.

The LEFCOL trial would commence at the start of the fishing season in May 2008 and run for 12 months. Following this period, the trial will be evaluated against performance indicators. Other fisheries management functions will need to be evaluated and trialled. Broader application of co-management throughout the SESSF would require further development with stakeholders and this, along with the initial trial evaluation would occupy the second year of the project. The third year of the project would involve extension work the fishing industry and development of the final co-management model, including the development of a supporting legislative framework.

## **Case 2: Great Australian Bight Industry Association**

Scheduled period:

- |         |   |
|---------|---|
| Phase 1 | Design - June 2008  |
| Phase 2 | Trial - July 2008 to April 2010                           |
| Phase 3 | Trial evaluation May–July 2010                            |
| Phase 4 | Extend evaluated trial in GABTF August 2010 to mid-2011   |
| Phase 5 | Extension and implementation of co-management by end 2011 |

Rationale:

The GABT fishery was an ideal candidate for co-management with a small number of participants, a strong and active industry association (GABIA) encompassing all SFR holders and a history of undertaking initiatives to improve the management of the fishery (FERM, draft final report 2007). GABIA also expressed a willingness and commitment to a cooperative management approach and had developed a proposal containing a range of fisheries management functions.

Protocols:

GABIA was particularly interested in playing a hands-on role in the future management and research arrangements in their fishery. GABIA submitted a detailed proposal which formed the basis of starting to trial co-management in the GABTF. See 'Project Materials Developed'. The 'vision statement' introducing the GABIA proposal is:

'A sustainably managed and profitable demersal and midwater trawl fishery, supplying high quality fresh and frozen product to domestic and overseas markets and built through a co-management approach with all stakeholders'.

The specific aspects of GABIA's proposal would be addressed in the trial and would be complemented with broader management functions developed in a workshop forum about capacity for gaining efficiencies through co-management. This would lead up to a trial period, evaluation and steps towards the development of a model of co-management suitable for this and potentially other fisheries – as detailed in the Lakes Entrance Trial.

Workshops and meetings would be conducted with GABIA to scope the functions and activities to be undertaken as part of the trial.

### **Case 3: Northern Prawn Fishery Industry Pty Ltd**

Scheduled period:

- |         |   |
|---------|---|
| Phase 1 | Design - June 2008  |
| Phase 2 | Trial - July 2008 to June 2010                            |
| Phase 3 | Trial evaluation - August 2010                            |
| Phase 4 | Extend evaluated trial in NPF August 2010 to mid-2011     |
| Phase 5 | Extension and implementation of co-management by end 2011 |

Rationale:

In 2007, the Northern Prawn Fishery (NPF) industry formed a registered company, NPF Industry Pty Ltd (NPMI) that incorporates over 90% of the fishery gear SFR holders. The fishery and company fulfil many of the essential pre-conditions required for successful implementation of co-management arrangements including a strong industry structure with the majority of members united towards an outcome of greater responsibility for decision-making and the long-term sustainability and profitability of the fishery.

Protocols:

The focus of this trial will be to assess the greater role NPMI can play in the management of the fishery, particularly with respect to fully administering an electronic log-book system, complemented by NPMI administered scientific and crew based fishery observer programs, and management of fishery information needed for stock assessments and management planning. NPMI would also explore the capacity to fully run the management advisory role currently undertaken by NORMAC. The trial would also be used to assess the potential for establishing third party observer and monitoring services for Commonwealth fisheries. NPMI was at the time developing a proposal to outline the detail of their initial interests for establishing and trialling co-management.

Several workshops and meetings will be initially conducted with NPMI to scope the functions and activities to be undertaken as part of the trial. The process of working with NPMI would be the same as applied in the Lakes Entrance and GABIA cases.

In all three cases, part of the trial development process would be the development and establishment of an audit program (where needed) and process for dealing with conflict or failures.

# Results

Initial negotiations between AFMA, FRDC and industry leaders began in late 2007. The trials started to be rolled out in early 2008 and were undertaken over three phases (design, test and evaluation) through to late 2011. The sequence for commencing the test phase for each group was staggered and driven by each group's state of readiness, the negotiation approach adopted by each group and other factors such as complexity of the arrangements being developed.

The first trial to enter the test phase was the Lakes Entrance group. The trial coincided with the commencement of the SESSF fishing season on 1 May 2008. The NPFI trial followed in February 2009 in time for the beginning of the NPF fishing season on 1 April 2009 and the GABIA trial commenced in August 2009. GABIA was already participating in co-management arrangements prior to this date but the commencement of the trial with signing the MOU formalised its co-management arrangements within the project.

The approach taken by each fishery group to develop co-management arrangements for their trial, the range of co-management activities each group negotiated under various forms of agreement and the results of each trial is detailed below.

## Lakes Entrance trial

It was from within the Lakes Entrance Fishermen's Cooperative Limited (LEFCOL) where initial interest in co-management and the leadership to explore it in the Lakes Entrance port emerged. SESSF commercial fishing operators in other fishing ports throughout the fishery were not initially invited to participate in the trial although it was always considered that co-management could be extended if successful in the trials. This was also an opportunity to test co-management at a port rather than fishery level.

Twenty out of 23 Commonwealth vessels licenced in the Southern and Eastern Scalefish and Shark Fishery (SESSF) operating at the time out of Lakes Entrance joined in the trial. The vessels covered various fishing gear types, including otter board trawl, Danish seine and one gillnet vessel. The auto-longline gear type, which is a relatively small sector by numbers, was not represented in the trial. The SESSF is complex and diverse, and partly for this reason is not represented by a single industry association.<sup>19</sup> LEFCOL plays a key role in the port of Lakes Entrance and its Board members cover all but one of the gear sectors (auto-longline being the exception). Its Board not only considers matters related to the LEFCOL business but from time to time considers management issues impacting its members and engages directly with AFMA and other agencies. The LEFCOL Chairman, General Manager and members all supported the trial and participated on the trial working group. The General Manager also supported significant aspects of the trial through LEFCOL business and administration, including auditing.

The trial working group agreed to flesh out co-management activities and a framework for the trial through scoping workshop. Two workshops were held in Lakes Entrance in December 2007 and March 2008. These meetings included Board members of LEFCOL, Commonwealth fishers based in Lakes Entrance, AFMA staff covering the areas of management, compliance and data services and a range of other stakeholders. Other stakeholders included the heads of NSW Fisheries (first meeting) and Victorian Fisheries (second meeting), Seafood Industry Victoria, SETFIA and GABIA Executive Officers. It was at the second meeting where the trial elements and documents were finalised.

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<sup>19</sup> The South East Trawl Fishing Industry Association (SETFIA) represents only the Commonwealth Trawl Fishery within the SESSF and at the time its membership was 80% of the trawl sector fleet. SETFIA had recently been through internal changes and was not in a position to focus on co-management at the time of the trials. SETFIA contributed to the co-management investigation only as a member on the steering committee.

The Lakes Entrance group determined that a Code of Practice (CoP) was the best approach to document and guide the co-management trial. Participants in the trial signed a Memorandum of Understanding (MOU) on 30 April 2008. The CoP and MOU general template are included under 'Project materials developed'. The co-management activities agreed with the Lakes Entrance group were:

- A LEFCOL process to transmit catch landing information (equivalent to Commonwealth Catch Disposal Records) direct to AFMA on a weekly basis, including
    - Auditing of LEFCOL records on catches and landings
- Increased cooperation with AFMA and compliance with fishery management arrangements, including in particular those aspects set out in the CoP:
- Catch recording, including a focus on reporting interactions with threatened, endangered and protected species
  - Carriage of AFMA observers
  - Self-regulation (reporting illegal fishing activity through the crimfish hotline)
  - Fishing and navigating in closed areas
  - Adopting standardised fishing gear
  - Industry initiated increased penalties for breaches of the CoP and SESSF management arrangements (outside of existing AFMA compliance program)
- Continuous balancing of catch against quota
  - Quota pooling, where multi-company structures, such as the Lakes Entrance Danish Seine Unit Trust (LEDSUT), could pool quota (outside of the normal process which requires quota to be nominated directly to a boat statutory fishing right)

Under the compliance arrangements, AFMA and Victorian Fisheries agreed that the trial boats would be exempt from Victorian Fisheries officers boarding in relation to Commonwealth matters and for Commonwealth compliance officers to generally restrict activities to port-based monitoring. AFMA and Victoria also agreed to work closely with the Lakes Entrance group to improve arrangements in relation to snapper catches in the trawl sector. These arrangements were bound in an Offshore Constitutional Settlement Agreement between the Commonwealth and Victoria.

The collaboration with LEFCOL to harmonise its business system for accounting and reporting of catch handled through the cooperative to AFMA was a trial success. Normal practice is for both fisher and first receiver to send catch disposal records to AFMA where the process of accounting quota SFRs against individual catches takes place. LEFCOL as a first receiver of fish from the SESSF had a responsibility to provide a duplicate of the fisher's catch disposal record which corroborates the species and weights of fish at the first landing point for monitoring catch against quota in the fishery. By adapting the LEFCOL catch recording system to AFMA's data requirements, LEFCOL was able to save fishers valuable time at the landing wharf and increase the efficiency of the catch reporting process to AFMA. This also removed a step in the process for LEFCOL as it no longer needed to use the Catch Disposal Records.

As part of the trial with Lakes Entrance, AFMA contracted an audit expert to work with the AFMA compliance team to develop audit skills and an audit framework suitable for use in fisheries management. AFMA used the framework to undertake six random audits of the LEFCOL catch reporting process over the course of the trial. The audit approach is attached in 'Project materials developed'. While the audits detected some minor human errors, overall the LEFCOL process was found to be rigorous and reliable for catch reporting. The few errors found in the audits were small administration errors that were picked up and rectified through normal accounting processes by either LEFCOL or AFMA.

Other fish receivers and fish market operators were given the opportunity to engage in the co-management trial in a similar way to LEFCOL in the latter stages of the trial. Southland Fish Supplies took up the opportunity to provide catch landing information to AFMA on behalf of fishers using its fish handling facility in Eden, New South Wales. As in Lakes Entrance, this exempted fishers from



filling out duplicate paperwork they would normally complete at the time of disposing catch to the first fish receiver. Southland Fish Supplies business processes were recognised in the same way as LEFCOL's. Both used computerised business management systems, able to be modified to align with AFMA's information needs and able to be audited.

Under the quota management system, catches of quota species must be covered by quota SFRs held by the fishers. Quota is deducted from a fishers holding by AFMA each quarter on the basis of landing records submitted by the fish receiver (and fisher). The existing system in the SESSF of reconciling once every quarter was leading to some operators finding themselves over-caught and finding it difficult to obtain quota at the end of each quarter and sometimes unable to find quota at end of the season. The legislation requires fishers to hold uncaught quota SFRs for all quota species taken (that is, at the time of capture). The policy which was being applied by AFMA at the time was to check each fisher's holding of SFRs against their reported catch every quarter (a quota reconciliation policy). This policy was widely supported by the industry but despite the transferability of SRFs, there was a growing trend of fishers being over-caught against SFR holding. This was discussed within the co-management working group meetings. It was noted that quarterly reconciliation points allowed individuals holding excess quota to capitalise through high leasing prices, driven by knowledge that some fishers had little alternative but to lease in quota SFRs at the quarterly point if they were over-caught. The penalty for failing to reconcile catch against quota is suspension of SFRs (suspended fishing) until the situation is reconciled. Fishers in the trial accepted that a policy change may come and decided to trial a policy of reconciling monthly and agreed to communicate directly with AFMA when reconciling became a problem. The Lakes Entrance fishers participated in a collaborative effort to improve the process of reconciling quota with catches on a more continuous basis. This experiment assisted AFMA in developing a new quota policy and prepared trial operators for an eventual change to which they might otherwise have found difficult to adjust. Most operators in the trial were able to manage a monthly reconciliation process. The LEDSUT group participating in the quota pooling trial were best placed to face the change because the pool of quota spread across eight boats provided greater flexibility for managing quota needs. A few operators continued to find quota management challenging but nonetheless gained experience from this part of the trial, preparing them to adjust their quota management strategies. AFMA has since implemented a monthly quota reconciliation policy applicable to all Commonwealth fisheries managed under a quota system.

The SESSF management plan allocated two types of SFR. The primary tool for managing the fishery is quota SFRs which are fully tradeable. A boat/fishing gear SFR was also allocated for each boat operating in the fishery. This is a single SFR that authorises entry to the fishery, and thereby limits the number of fishers in the fishery. The management plan requires quota SFRs to be nominated against each boat SFR. This is an administrative process that requires time and cost from fishers to ensure each boat carries the appropriate amount of quota for expected catch. Quota pooling was trialled which allowed operators with multiple boats an exemption to nominating their quota holding against one individual boat. AFMA would simply deduct quota from the total pool of quota held by the operator as catches were made by each boat. This element of the trial was only used by LEDSUT (a group of eight Danish Seine vessels formed into a unit trust). LEDSUT found the pooling trial to save time and money because only one single quota transaction was made by each of the LEDSUT operators at the beginning of the season. From the perspective of efficiency this was a success and has been implemented in other fisheries, however there are few multiple boat owners in the SESSF for it to be widely utilised. There is also an issue with respect to the unit trust model that makes quota pooling more complex than under a standard company model. This is because the fishers within the unit trust maintain individual responsibility for the legal operation of their fishing vessels and if one operator breaches the fishery rules, compliance action taken by AFMA may impact all operators in the trust if it were to involve suspension or cancellation of SFRs which would, under the trial, all be held by the unit trust (LEDSUT). A normal company model entails a single entity having responsibility for each vessel and all SFRs owned by the company.

The Lakes Entrance trial, apart from LEFCOL providing a catch landing reporting service, did not result in the industry taking on the role of delivering AFMA functions or making decisions. The trial

was more about the Lakes Entrance fishers collaborating more closely with AFMA to build a trust-based relationship with the hope for more streamlined administration and reporting arrangements and lower compliance costs. The trial elements developed by the working group therefore tended to naturally focus around these two aspects of fisheries management and administration and not surprisingly a COP was deemed the appropriate framework for conducting the trial. There was only modest change during the trial period in terms of decreased regulation or real cost saving. The participating fishers and LEFCOL committed time and effort to meeting regularly and discussing the elements of the COP. Unfortunately the trial tended to be more about industry compliance and apart from a few administrative improvements, ultimately offered too few gains from the fishers' perspective. As participants drew this conclusion the levels of commitment to the trial process among some appeared to waver towards the latter stages of the trial. However with each collaborative meeting there was renewed optimism and evidence of belief among the participants that the trial may deliver beneficial outcomes. The demonstrated willingness to improve the working relationship was a good co-management trial result. Relationship building between fisher and regulator is one of the key benefits of co-management identified in the literature and the trial proved this to be of importance to fishers.

Over the course of the trial, AFMA staff visited Lakes Entrance at least every quarter. Meetings were convened (and well attended) to discuss the trial and management issues important to the trial participants. Managing trawl sector catches of snapper, which are regulated as a byproduct with a relatively low trip limit, was a particularly complex problem that was looked at closely by the trial working group.<sup>20</sup> Snapper is a highly regarded recreational species and State governments which generally manage recreational fishing, want commercial catches of snapper regulated. The trawl sector can find it difficult to avoid an occasional catch of snapper which can well exceed the trip limit. Fishers are understandably unhappy about having to return valuable fish to the water with low chance of survival. The Commonwealth and the States are obliged to cooperate in the management of fisheries under Offshore Constitutional Settlement Agreements. These agreements deliver a complex of jurisdiction over fisheries in Australia. Despite the intention of a workable outcome for snapper through negotiations with Victorian Fisheries in particular, this issue proved too difficult to resolve to the satisfaction of trial participants. There was nonetheless significant collaboration between AFMA and trial participants in trying to find a solution.

A summary of the Lakes Entrance trial results is in Table 1.

## **Northern Prawn Fishery trial**

NPFI developed a proposal for co-management and sought the AFMA Board's<sup>21</sup> agreement to the proposed arrangements in June 2008. The NPFI proposal is included under 'Project materials developed'. The then AFMA Board provided 'in-principle' agreement to undertake the trial but requested NPFI to work with AFMA to refine and finalise the arrangements. Two meetings between AFMA and NPFI were held in the latter part of 2008 and the final elements of the co-management trial were agreed. A policy document to guide the trial was developed. A data management plan to support the key trial activity which was the management of catch and effort information from the fishery. The NPFI co-management policy document and data management plan are included under 'Project materials developed'. The NPFI trial was the only trial to include a partial delegation of functions for which funding was required. AFMA contracted NPFI to undertake the agreed fisheries management services. The contract covered all necessary roles, responsibilities and clauses to ensure the functions would be carried out to a standard that AFMA would provide as well as a 'get out' clause, should that have been needed. The contract was commercial-in-confidence and is not copied in this report. The

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<sup>20</sup> Byproduct are commercially valuable species that are caught but not targeted by the fisher.

<sup>21</sup> AFMA became a Commission in 2008 and Board members became Commissioners.

contract specified a data management plan for undertaking the first function on the list below. The data plan is included under 'Project materials developed'. The contracted services included:

- Managing the program for NPF catch and effort information;
  - leading a shift to electronic logbooks (e-logs) across the NPF fleet
  - quality checking all catch and effort raw data and informing AFMA of needed data cleaning
  - reconciling logbook entries with seasonal landing returns
  - preparing and circulating data summaries
  - liaising with CSIRO in relation to data inputs for stock assessments
- Delivering the annual pre-season briefings with crew and skippers;
- Managing the crew member observer program; and
- Project administration of the NPF independent monitoring program, including running the fishery-based tender process for the survey vessel/s.

Additional to the activities/functions under contract, the NPF also undertook to make recommendations directly to AFMA on commercial and operational matters in the NPF. This was implemented through a co-management policy and MOU. This function is normally undertaken by the NPF Management Advisory Committee (NORMAC). Removing this task from NORMAC aimed to reduce the level of meetings needed each year by at least one with a saving of around \$10,000 - \$15,000. However, at the time, the NPF was working towards a significant management transition that required additional NORMAC advice and these savings were not fully realised during the trial period. Once management arrangements are settled in the fishery, these savings should be made. The recommendations made by NPF included setting the total allowable effort in line with the NPF harvest strategy, in-season management such as determining the closing dates of the fishing season and developing the annual NPF budget. NPF kept NORMAC informed of all recommendations made to AFMA.

NPFI managed the NPF data program throughout the trials and continues to undertake this function. NPFI has improved the standard of program management and data quality for the fishery over this time. NPFI has the majority of its fleet on e-logs, and data flow to AFMA and back to NPFI is undertaken efficiently through an automated system upload of e-log information to the AFMA database. NPFI was able to review the data in a timely manner and recommend amendments to AFMA to ensure the AFMA database is maintained with high quality data. There has also been extension work undertaken by NPFI to improve the initial reporting quality from skippers. NPFI developed data summaries for industry and provided data to a range of users, including CSIRO for NPF stock assessments. The data is considered by AFMA and the CSIRO to be complete and reliable for its use in the fishery. Some savings were achieved as a result of outsourcing this function however these are difficult to quantify as the service being provided under contract is wider than that carried out by AFMA. A project officer employed by NPFI undertakes a range of tasks, including some tasks which AFMA did not previously do, and has added value in the delivery of those tasks. This included collecting a wider range of information such as gear specifics, bycatch program monitoring, collection and distribution of NPF economic data for stock assessment purposes and extension and reporting to industry. As well, there have been additional imposts on AFMA's data management team such as mapping for marine planning purposes, increasing costs outside of the co-management function. Nevertheless, the costs attributed to co-management are not significantly higher and significant value is added to the management of the fishery.

NPFI undertook the pre-season briefing of skippers and crews in key ports around the fishery prior to each season during the trial. NPFI undertook these industry briefings, previously carried out by AFMA staff, primarily to ensure operators are made aware of and understand all of the NPF management arrangements applicable for that season and to deliver a summary of the fishery information collected in the previous season along with historical context. The briefings were attended by some AFMA staff in case any clarification of management arrangements was needed. The pre-

season briefings provided by NPMI under the trial met AFMA's expectations and may also carry more influence with the industry members.

NPMI has significantly improved the results of the crew-member observer program during the co-management trial. This program involves volunteer crew on NPF trawlers trained to undertake a similar role to independent scientific observers for a subset of the observing requirements in the fishery. The focus of the program is on interactions between fishing and marine species listed under Commonwealth environment legislation. The fishery independent observer program is unable to cost-effectively deliver the quantity of information collected by crew members on 10 NPF vessels across the length of the fishing season. The information collected is sent directly to CSIRO and quality checked in comparison to the data collected from other sources, including by the independent observer program and scientific surveys periodically undertaken in the fishery. Table 3 presents a comparison of program targets and performance against the targets pre and during co-management. The program cost to industry has increased under the management of NPMI as a result of NPMI voluntary funding of incentive payments to improve participation in the program and this has led to significant program improvements. Some additional funding was provided to obtain personal data assistant devices (palmtop computers) with cameras for more accurate reporting.

The NPF scientific observer program represents about 10% of the recoverable costs of management in the fishery and is an area of potential savings under a different service provision model. NPMI undertook a feasibility study to determine its capacity to cost-effectively take on the management of this program if outsourced to a private service provider. NPMI worked closely with AFMA on two occasions to seek tenders for the provision of fishery scientific observers. On the first occasion, the tender evaluation panel recommended retaining AFMA as the service provider. NPMI and AFMA remained committed to exploring outsourcing options with NPMI having a contract management and observer coordination role. It was also decided to increase the tender to two years of service provision to attract greater interest from providers. On this occasion the tender evaluation panel recommended an external service provider. After undertaking a review of the overall cost impact of the recommended external provider for the NPF, including costs of NPMI management, plus AFMA's program for all other fisheries the CEO decided to retain AFMA as the sole provider for all Commonwealth fisheries. NPMI demonstrated its capacity for participating in government tenders and reviews and a commitment to increasing its role in AFMA functions, however, the company was frustrated by the process and disappointed with its outcome. This process highlighted the challenge of co-management at a fishery level where it involves functions related to high cost, industry-wide programs. It was found that to realise cost savings a critical mass of a particular function needs to be outsourced (not a small portion of the program) to drive a reduction in program overheads. If only a fraction of the program is outsourced, overheads may not be able to be reduced and these costs would be redistributed among the other fisheries. The tender undertaken with NPMI provided positive experience for AFMA which it has now used in preparation for testing the market for the full AFMA scientific observer program.

NPMI took on the management of the fishery independent monitoring surveys (FIS) with CSIRO scientists carried on-board industry vessels. These surveys have been in place since 2002 and provide valuable information for NPF stock and fishery assessments. The primary role of the surveys is to estimate prawn abundance but a wider range of information is collected. The surveys are designed to be repeated over time at fixed survey stations across the fishery. The vessels are supplied by industry on the basis of a tender process and the survey is led by a CSIRO cruise director. NPMI were well placed to undertake the vessel tender process and coordination of the successful tender vessel/s. NPMI worked closely with CSIRO and AFMA to ensure the surveys undertaken during the trial met the program parameters and expectations of AFMA, CSIRO and the NPRAG.

A summary of the NPMI trial results is in Table 2. It was not possible to determine an accurate comparison of the cost of co-management activities with NPMI to AFMA's costs pre-trial. This is because the functions undertaken by NPMI were broadened and expanded by NPMI to improve

effectiveness. Start-up costs were also generally higher while NPFI began to identify and apply efficiencies over time. NPFI and AFMA are satisfied that co-management activity is cost-effective.

## **Great Australian Bight Trawl Fishery trial**

The GABIA co-management trial included all members of GABIA (which includes all operators in the fishery). GABIA initially expressed interest in co-management in late 2006 and took a proposal to the then AFMA Board in early 2008. The GABIA proposal is included under 'Project materials developed'. In-principle agreement was reached on the proposal and for GABIA and AFMA management to work closely on its finalisation and implementation. This proposal formed the basis for developing a co-management arrangement under the co-management project. Two meetings between AFMA and GABIA in October 2008 and March 2009 were undertaken to consider co-management activities and a co-management arrangement was documented and finalised by the Chair of GABIA, signing the MOU in August 2009.

GABIA, along with GABMAC, GABRAG, were seeking to develop a structure that provided identifiable benefits, including:

- A higher level of certainty about the outcomes of the decision making process
- Improved, adaptive management arrangements to fit the unique nature of the fishery
- Reduced costs and administrative burden for management and research
- Improved profitability of the fishery through optimum utilisation of the resources
- Improved industry/government/stakeholder working relationships

The Co-management arrangement is included under 'Project materials developed'. The co-management activities undertaken with GABIA were:

- A procedure for GABIA to make recommendations directly to AFMA on operational and commercial matters in the GABTF (a 'management advisory procedure');
- A GABIA-led precautionary strategy for setting long-term Total Allowable Catch (TAC) and catch trigger limits underpinned by cost-effective fishery monitoring and strategic research and stock assessment;
- A quota management strategy that is based on continual (rather than quarterly) balancing of quota holdings with catch;
- Investigate and implement a system to collect and record relevant fishery information to support and improve the ecological, biological and economic assessment and management of the fishery;
- Investigate and implement a 'product traceability process' that encourages optimising quality, efficient product handling, monitoring and reporting through the chain of custody from boat to receiver, with the intent to maximise market returns;
- Development of an 'operational procedures manual' (OPM) that incorporates a suite of operational and commercial requirements for the GABTF that will be administered by GABIA. The boat operational procedures manual for 2010 is included under 'Project materials developed'.

GABIA was particularly interested in using co-management to gain certainty around the development and implementation of the fishery harvest strategy and designing a strategic and cost-effective plan for research, monitoring and data collection. These areas are generally high cost in all fisheries but GABIA also wanted to achieve a stable level of catch and supply to markets. It was these aspects of the GABTF platform of management that formed the basis of the co-management arrangement and subsequent trial. Implementing e-logs and finding efficient and cost-effective ways to collect relevant information, including economic data about the fishery were complementary to a strategic harvest strategy approach. For GABIA, business certainty was more relevant than purely saving money, but it recognised that there were savings to be made from a strategically-based harvest strategy. This is the same as taking a risk-catch-cost approach and has worked well for the fishery throughout the trials and

to date. Many of the initiatives have since become AFMA policy, including strategic operation of MACs, risk/catch/cost framework applied to research and assessments in the broader SESSF and continuous quota reconciliation.

Other elements of the trial, particularly providing advice on operational and commercial matters and the development of the boat operations manual were also complementary to the GABIA harvest strategy. GABIA took a similar approach to NPFI in that it intended to work closely with its MAC and RAG, seeing these groups as relevant to achieving its overall co-management strategy and to ensure the wider group of stakeholders remained in touch with the fishery. Because of the relative stability of the management arrangements in the GABTF, the meetings of GABMAC and GABRAG were able to be kept to a minimum and in the case of the MAC remained more focussed on high level matters. GABIA nonetheless ensured these groups were fully briefed on the advice provided by GABIA to AFMA. Apart from one minor instance of confusion about timing the advice from GABIA was consistent with policy and legislation and was able to be accepted by AFMA over the course of the trial. GABIA's commitment to working with the MAC and RAG made this an effective and efficient process. The GABTF stock assessments and fishery surveys, leading to advice about setting of TACs were all undertaken in accordance with the strategic plan developed by GABIA and the fishery harvest strategy.

The development of the e-log program was slower than GABIA wanted, but positive progress remained throughout the trial and the program was implemented post the trial period across all but one boat in the fleet. This has proven to be an ongoing success, with lower logbook and data management costs, and more timely access to quality, enhanced fishery data.

The GABIA fleet was and remains interested in traceability but beyond undertaking an initial investigation, the fleet was not ready to adopt a traceability program. The benefits of traceability primarily fall to the industry rather than government and from this perspective it is less relevant to AFMA as a co-management activity. Though there is potential for gaining greater certainty about catch under a quota-system if the fishery has a traceability program in place and particularly if this is done as part of a process to achieve accreditation for eco-labelling such as Marine Stewardship Council certification. This is a costly process for any fishery and in GABIA's case its state of readiness did not coincide with the co-management trial.

The boat operational procedures manual was an initiative to document not only management rules, but also fishing business information and industry initiated best practice guidelines on a range of matters to improve the overall at-sea operation of boats in the fishery. This included among other things, gear requirements, closures, compliance, bycatch recording, occupational, health and safety, product handling and processing requirements and data collection protocols. The manual was developed in close cooperation between GABIA (the boat owners) and skippers to ensure it met practical requirements and was seen to be 'owned' by the industry. AFMA provided assistance with design-work and printing. The manual was designed as a water-proof, loose leaf booklet so that updates could be made cost-effectively by GABIA and AFMA.

A summary of the GABIA trial results is in Table 5.

## Trial Result Tables

**Table 1 Results of Lakes Entrance trial**

Activity	Performance criteria	Result
<p>A LEFCOL process to transmit catch landing information (equivalent to Catch Disposal Records) direct to AFMA on a weekly basis.</p>	<p>All catch landed at LEFCOL by Commonwealth fishers provided to AFMA each week in the form required?</p> <p>Weight by species is accurate for each unloading (suitable for quota monitoring purposes).</p> <p>LEFCOL facilitates periodic auditing by AFMA to confirm data quality.</p>	<p>LEFCOL worked with a programmer to adapt their business management system to meet AFMA information requirements, consistent with the existing catch disposal records that fishers and receivers outside the trial must complete and return to AFMA on landing catch from the SESSF.</p> <p>In the course of the trial all landed catch, apart from shark taken by the single gillnet operator (as agreed), was recorded by LEFCOL through their business system. All weights by species were reported to AFMA on a weekly basis. On occasion, where the transmission extended beyond one week communication between LEFCOL and AFMA was undertaken and the situation rectified.</p> <p>AFMA undertook five audits and randomly selected months and boats for which all records held by LEFCOL were thoroughly checked. Apart from minor human errors, the audits demonstrated reporting was accurate and correlated with retail sales evidence (which AFMA does not normally collect). A high level of cooperation was afforded AFMA by LEFCOL in conducting the audits.</p> <p>LEFCOL demonstrated its commercial incentive to record accurately the weights and species of all catch handled.</p>
<p>Increased compliance with fishery management arrangements.</p> <p>Industry initiated increased penalties for breaches of the code of practice and SESSF management arrangements (outside of existing AFMA compliance program).</p>	<p>Vessel checklists maintained on board the vessel at all times.</p> <p>Checklists inspected by AFMA Fisheries Officers at random.</p> <p>High levels of compliance detected.</p> <p>AFMA monitoring systems detect no breaches of management rules.</p>	<p>AFMA compliance staff conducted several covert visits to the port to inspect trial vessels. All vessels were found to be carrying vessel check lists and no breaches of the code of practice were detected.</p> <p>On two occasions, a potential breach of the code of practice was detected, one by VMS (operating in a closure) and a second through quota reconciliation (failure to reconcile). The closure breach was mediated in accordance with the conflict resolution process. The reconciliation breach was handled in accordance with the agreed penalty structure. It was concluded</p>

	<p>Any breaches detected are handled through the agreed penalty system with the cooperation of the fisher and/or boat owner.</p>	<p>during these conflict resolution processes that code of conduct arrangements (under co-management) are best applied fishery-wide for equality (all operators are subject to the code).</p>
<p>Improved catch reporting on fishery logbooks, including a focus on reporting interactions with threatened, endangered and protected (TEP) species.</p>	<p>Logbook entries of trial participants are periodically reviewed by AFMA.</p> <p>Assessment shows marked improvement in quality and consistency of reporting overall.</p> <p>Level of TEP species interactions reported is markedly increased.</p>	<p>While some operators increased efforts to report, others did not and this had a negative impact on those making an effort. While the activity was not uniformly successful, there was useful knowledge sharing about the need for fishery information, how it is used and how the laws around providing information are applied. There was also evidence of increased interest from participants in TEP programs with a number of operators volunteering to become involved in trialling fishing gear-based TEP bycatch reduction projects. Overall, the catch reporting element of the trial was viewed by participants to be inequitable in its application only to trial participants.</p>
<p>Continuous balancing of catch against quota.</p>	<p>All trial participants over quota by more than 500kg for 30 days contact AFMA to discuss reasons for over-quota situation.</p> <p>Failure to contact is followed-up AFMA and a further 7 days provided to cover catch with quota.</p> <p>Failure to reconcile at end of 7 days leads to suspension of SFRs until quota is reconciled.</p>	<p>The consultation aspect of this trial element assisted AFMA in developing a new quota policy and prepared the trial operators for an eventual change to which they might otherwise have found difficult to adjust.</p> <p>Most operators in the trial were able to manage a monthly reconciliation process. The LEDST group participating in the quota pooling trial were best placed for the change because the pool of quota across eight boats provided greater quota management flexibility.</p> <p>Only one operator communicated with AFMA about difficulties covering catches under the trial.</p> <p>A few operators found monthly quota management to be a significant challenge and also failed to communicate their problems to AFMA. This group required numerous follow-up contacts by AFMA staff.</p> <p>Co-management appeared less relevant in this activity as those operators that met the challenge generally managed their businesses in compliance with fishery rules and took a more business-like approach in</p>



		<p>their fishing operation.</p> <p>AFMA gained insight into quota trading and certain trading behaviours. Industry also considered the impacts of the existing quota management arrangement on trading.</p> <p>The exercise served the purpose of preparing operators for policy change and demonstrated the value of experimentation in the lead up to significant policy adjustments.</p>
<p>Quota pooling, where multi-company structures, such as the Lakes Entrance Danish Seine Unit Trust (LEDSUT), could pool quota (outside of the normal process which requires quota to be nominated directly to a boat statutory fishing right).</p>	<p>Multiple boat operators take part in quota pooling.</p> <p>AFMA systems keep track of pooled quota effectively.</p> <p>Significant savings are made by operators through the reduction in transactions.</p>	<p>Only LEDSUT took advantage of quota pooling. The LEFCOL General Manager reported significant saving of time and transaction costs from quota pooling. The majority of quota was transacted once at the beginning of the season and only top-up quota transactions were needed by the pool.</p> <p>The quota monitoring section of AFMA was able to acquit all catches of pool boats at the boat level to available quota held by LEDSUT throughout the trial period. There were no breaches of quota reconciliation within the pool during the trial.</p> <p>AFMA needed to apply a flexible approach to allow quota pooling (the arrangement was inconsistent with the Fishery Management Plan) and it highlighted compliance issues with quota pooling under this type of institution where the members do not share liability beyond their personal contributions). This would be different if the entity owned and operated all the boats in the pool, which in the case of LEDSUT, did not.</p>
<p>Trial boats exempt from Victorian Fisheries boarding in relation to Commonwealth matters and Commonwealth compliance officers generally to restrict activities to port-based monitoring.</p>	<p>No trial boat was boarded in port by a Victorian state compliance officer.</p> <p>No trial boat at sea unless it was in a joint Commonwealth / State operation (as agreed in the code of practice).</p>	<p>The activity required the cooperation of Victorian Fisheries and this was given. Victorian Fisheries took an interest in the co-management trial and worked towards its undertaking in terms of the compliance activity.</p>

<p>Improved Offshore Constitutional Settlement arrangements.</p>	<p>AFMA negotiated with adjacent States to achieve cross-border rationalisation of a range of fishery rules and improve access arrangements for key species.</p>	<p>Discussions and negotiations were undertaken between AFMA and State fisheries management agencies. These negotiations could not achieve the kind of change desired by the Lakes Entrance group within the timeframe of the project. The industry group leaders participated in some negotiations and experienced the complexity of negotiating in the fisheries management environment.</p>
<p>Adopt improved fishing gear standards as documented in the code of practice.</p>	<p>Trial boats maintained fishing gear in accordance with the agreed standards.</p>	<p>No trial boats were detected using fishing gear inconsistent with the agreed standards, which were higher than those regulated under the management plan.</p>

**Table 2 Results of Northern Prawn Fishery trial**

<b>Manage catch and effort data program</b>		
<b>Description</b>	<b>Performance criteria</b>	<b>Result</b>
Receive from AFMA raw fishing log data and scientific observer data and securely hold that data.	Data was provided to NPFI by AFMA as per contract?  No leakage of data.	E-log data was routinely transmitted directly to AFMA. Forty-two of 50 NPF vessels and automatically loaded into an AFMA data-base. The raw data was transmitted weekly by email to NPFI in a form that could be loaded onto the NPFI data base. This has now been changed to monthly transmissions to reduce cost. There is no evidence of data leakage and none reported by NPFI. The data is treated as commercial-in-confidence and NPFI has a strong incentive to maintain security. All fishers provided written agreement for their data to be transferred to NPFI and data confidentiality agreements were signed and adhered to by NPFI.
Chase up outstanding logbook, e-log and seasonal landing returns.	All outstanding log-books, e-logs and seasonal landing returns were received.	All outstanding catch and effort records were collected and all seasonal landing returns were accounted for by NPFI. The NPF data has historically been reconciled for 100% of the fleet by AFMA and this has been maintained by NPFI.
Review the fishing log data for errors and quality issues and liaise with industry to improve or correct that data.  Advise AFMA by agreed means of fishing log data quality issues and errors.  Analyse data holdings with seasonal landing returns.	Quality checks occurred and AFMA advised of errors within agreed timeframes.  Percentage of returns received and level of coverage achieved?	NPFI routinely reviewed the catch and effort log data and all data was quality checked. Recommendations for changes were made by NPFI in line with the contract and in a timely manner. All data was cross-checked at season-end against seasonal landing returns and anomalies followed up and reported to AFMA for amendment.  100% of boat-season-days for the NPF fleet were accounted for by catch and effort returns – including nil fishing days.
Receive revised fishing log data from AFMA and securely hold that data.	Completed without errors.  Completed for 100% of fleet.	All catch and effort data was amended by AFMA in line with NPFI recommendations. These were reviewed by AFMA and found to be consistent with the types and scale of changes made to NPF catch and effort data under AFMA's quality control process. 100% of the fleet was accounted for in both years of the co-management trial.
Prepare and provide summaries (including annual data summary) and	Annual data summary prepared and distributed	NPFI developed and provided summaries of catch and effort data to industry and other stakeholders in line with the contract. Data

<p>other reports as required for commercial and assessment purposes to relevant stakeholders: AFMA, Commonwealth Scientific and Industrial Research Organisation (CSIRO), Northern Prawn Fishers and SFR holders, Northern Prawn Research Advisory Group (NPRAG), Northern Prawn Management Advisory Committee (NORMAC); Australian Bureau of Agricultural and Resource Economics and Sciences (ABARES) and Queensland Department of Primary Industries (QDPI) in a timely manner.</p>	<p>as per contract.</p>	<p>was provided in the appropriate form to scientific agencies for stock assessment purposes.</p> <p>Industry preparation of the summary from data they are collecting and quality checking has led to greater communication among industry and other stakeholders. This extends to other data related aspects of management, including scientific surveys, stock assessment and other data collection programs.</p> <p>AFMA staff attending the pre-season briefings concluded this function is being effectively provided by NPFI.</p>
<p>Answer data requests from AFMA, CSIRO, ABARE, QDPI and BRS and ensure AFMA is provided a copy of the request and response.</p> <p>Refer any data requests from NPF industry or other parties not mentioned in the point above to AFMA.</p>	<p>Data requests prepared and distributed as per contract.</p> <p>All data reports prepared and distributed as per contract.</p> <p>Percentage of requests undertaken by AFMA that NPFI had the capacity to undertake.</p>	<p>Numerous data requests were handled by NPFI during the two years of the trial and these were handled in accordance with the contract. Agencies reported satisfactory responses to requests to NPFI for data.</p> <p>A number of types of requests were handled by AFMA that could have been undertaken by NPFI. These were identified and discussed with NPFI to further improve the efficiency of the data management function.</p>
<p>Consult and liaise with NPF stakeholders (such as NPF SFR holders, skippers, crew, AFMA and CSIRO) regarding data management.</p>	<p>NPFI consulted and liaised with industry. Consultations recorded.</p>	<p>The NPF project manager has maintained regular contact with key stakeholder groups for a variety of purposes related to data management. The strong relationships between AFMA, CSIRO and NPFI have enabled effective cooperation to maximise value from data management activities. For example, under the co-management contract NPFI has conducted an annual gear survey to inform power analysis, and has begun collecting detailed economic data to inform the bio-economic model. Increasing the percentage of fishery coverage is a result of effective industry consultation on data collection activities.</p>
<p>Actively promote, and assist industry to achieve, full fleet take-up of e-logs.</p>	<p>Number of boats participating measured by uptake before and after the trial.</p>	<p>NPFI have continued to actively promote adoption of e-logs, particularly through pre-season briefings and delivery of skipper training to ensure familiarity with data collection requirements and maximising</p>

		<p>quality of data collected.</p> <p>NPFI have continued to work with Catchlog Pty Ltd (e-logbook software developer) to improve the software in an attempt to ensure that their products are consistent with needs of fishers, thereby further increasing likelihood of uptake.</p> <p>Whilst the percentage of vessels using e-logs has not increased significantly during the co-management trial this is likely to be due to the high percentage already using this technology, and those not using it are predominantly lease-holders rather than owner operators.</p>
<p>NPFI is responsible for obtaining and disseminating gear survey data to AFMA, CSIRO and ABARES (not a contract item but is included in the data management plan and was undertaken by NPFI).</p>	<p>Survey designed and disseminated and able to be used in assessment process.</p> <p>Timeframe required for completion of surveys.</p> <p>Percentage of fleet completing survey.</p> <p>Quality of data received.</p>	<p>NPFI have conducted annual gear surveys since 2008, and economic surveys since 2010. An annual adaptive management process has been implemented in partnership with CSIRO, AFMA and industry to identify opportunities for further improvement in data collection to better meet the needs of data users, whilst being as easy as possible to deliver from industry representatives.</p> <p>Data has been provided in a timely manner in all years that surveys have been conducted. A progressive increase in the % fleet coverage has been reported for both the gear survey and economic surveys. In 2013 90% of the fleet completed the gear survey, and 71% completed the economic survey.</p> <p>Discussions with researchers have indicated they are satisfied with the quality of data provided.</p>
<p>The standards and procedures to be complied with in relation to the services for data handling are to be strictly in accordance with the data management plan specified in the contract.</p>	<p>Performance determined by reports supplied by NPFI and surveys undertaken – CSIRO, AFMA Managers (NPF and data) and NPFI Directors (for industry).</p>	<p>NPFI and AFMA collaborated to ensure that NPFI gained and employed the skills needed to manage the quality, integrity and security of NPF catch and effort information, which is integral to the overall time-series of data for the fishery and for making assessments about the fishery.</p> <p>Key recipients of the data from the NPF, such as AFMA, CSIRO and ABARES reported a smooth transition to management by NPFI and quality outcomes with respect to timeliness of responding to requests and consistency in quality of the data. CSIRO were able to undertake assessments on the</p>

		<p>fishery using the data and were not hampered in any way by the change in management of the data – CSIRO reported that the direct relationship with NPFI was beneficial to the overall data service.</p> <p>NPFI reported gaining experience in data management and understanding of the range of issues associated with managing a data collection program. This was demonstrated through program delivery. NPFI demonstrated ownership over this critical aspect of fisheries management and demonstrated capacity to extract quality information from their industry.</p>
Cost-effectiveness of NPFI management of the data program.	Compared costs of running the data management program – NPFI vs AFMA.	The cost of managing the program under co-management has not generated significant savings for industry but overall cost-effectiveness has improved with improvements in data quality and comprehensiveness.

### Manage crew-member observer (CMO) program

Description	Performance criteria	Result
<p>The CMO program provides an additional source of information to the scientific observer program, scientific surveys and the daily catch and effort logbook program. The CMO program has a primary focus on reporting interactions with TEP and other high risk species. NPFI have the role of administering the CMO program, including:</p> <ul style="list-style-type: none"> <li>• Development and monitoring of the CMO program budget</li> <li>• Annual recruitment of CMOs</li> <li>• Development and implementation of a training program</li> <li>• Assisting CMOs in the collection and recording of data on catches of TEP and high risk species in the NPF and other relevant bycatch</li> </ul>	<p>The program objectives were met by NPFI with respect to:</p> <ul style="list-style-type: none"> <li>• recruitment and management of 10 CMOs (measured by number of CMO's participating before and after the trial)</li> <li>• the target of 2,350 trawls monitored in each season</li> <li>• quality and timeliness of reporting CMO data</li> <li>• photographs provided to allow species identification</li> <li>• data able to be analysed</li> <li>• a comparison of data collected prior to and following industry management.</li> </ul>	<p>NPFI has increased the value of the CMO program in statistical terms and in program outcome. Although CMO numbers have not generally increased, the various statistics – numbers of observations across the species range, and the number of photographic records provided in support of species identifications have increased significantly (in the order of 700%). The number of specimen samples collected has gone down significantly, however this is due to the increased number of photographic records reducing need for physical sample collection, which is likely to provide further reductions in program cost.</p> <p>The support for CMOs at the boat level has improved due to the industry running the program (AFMA was historically unable to efficiently and effectively provide this aspect of the function). Previously, not all skippers supported crews undertaking these additional duties and CMOs reported being pressured to focus on normal deck duties. Industry to industry liaison has occurred with the program and this has increased awareness of the need for</p>

<p>data as required for the fishery</p> <ul style="list-style-type: none"> <li>• Ensuring data collected meets data protocols established by CSIRO and the NORMAC bycatch sub-committee, including obtaining data</li> <li>• Maintain a secure CMO database and transfer data to AFMA and CSIRO.</li> </ul>	<p>NPFI in consultation with AFMA and CSIRO developed and implemented a training program prior to the start of each tiger prawn season.</p> <p>All data was securely held and transferred efficiently and effectively to CSIRO, AFMA and other agencies as required.</p> <p>Program was managed within budget. Financial performance determined by examination of costs incurred by industry compared to the cost of the function previously performed by AFMA - taking into account the expected costs that AFMA would have incurred had it performed the function during the trial period.</p> <p>Overall program management capacity as determined by AFMA and CSIRO as the main recipients of the data.</p>	<p>reporting by CMOs and has gained the support of vessel owners and their skippers. This has been further enhanced through delivery of TAFE-accredited skipper and crew training in environmental performance, in which the importance of CMO and Scientific Observer data collection was reinforced.</p> <p>Crew Member Observer retention has significantly increased, from 28% in 2008 to 100% in 2012 and 91% in 2013. There has been year-on-year increases in the number of shots monitored by CMOs shots collected, from 1334 in 2009, to 3367 in 2013. The minimum number of trawl shots monitored (2350 shots) has been significantly exceeded since 2010.</p> <p>The CMO training program was managed by NPFI and included experts from CSIRO and the AFMA Observer program to ensure CMOs were well equipped to undertake observing duties. The NPFI provided on-going monitoring of CMO capacity during the season, both at-sea and through communications. NPFI secured funds to equip CMOs with personal digital assistant (computers) to improve recording and reporting. NPFI also initiated other incentives to increase CMO retention and performance, involving bonuses awarded in exchange for achieving targets for verified data quality and quantity.</p> <p>All data collected was transferred to CSIRO in a timely fashion and was assessed by CSIRO to be of high enough quality to be analysed and contribute to monitoring interactions with listed and other high risk species.</p> <p>Under NPFI management the CMO program has been successfully managed within the agreed budget in all years.</p> <p>AFMA staff reported that the program is being managed by NPFI to a standard that meets program needs, recognising that NPFI's efforts to raise data quantity and quality were needed, and that AFMA was unlikely to have accomplished this had it retained management responsibility for the program.</p>
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<b>Provide advisory role for operational and commercial matters</b>		
<b>Description</b>	<b>Performance criteria</b>	<b>Result</b>
<p>The following advices were determined to be operational matters for which NPM could work directly with AFMA fishery managers:</p> <ul style="list-style-type: none"> <li>• TAE setting (catch/gear levels). NPM will recommend the level of catch / effort in the NPF in accordance with the level of standardised effort calculated by NPRAG and within the parameters of the harvest strategy fishery</li> <li>• Fishing season opening and closing dates (including season extensions)</li> <li>• Spatial and temporal closures (including the direction “prohibition on fishing”)</li> <li>• Gear trial areas (if required)</li> <li>• Implementation of in-season data collection to determine season closure dates</li> <li>• Implementation of small prawn in-season management strategies</li> <li>• Implementation and reviews of NPF code of responsible fishing</li> <li>• Implementation of bycatch mitigation strategies (bycatch reduction program)</li> <li>• NPM to provide advice to AFMA on NPF fishery budgets</li> </ul>	<p>On agreed operational and commercial matters, advice was provided to AFMA in a manner that could be used effectively to make decisions on such matters.</p> <p>The advice was provided in a format that met the standards stipulated in the trial agreement and was provided in a timely manner such that decision timeframes were able to be met. Any legislative instruments were made in timely manner.</p> <p>Cost-efficiency gains made.</p> <p>Performance report by the senior fishery manager with respect to Commission response where relevant.</p>	<p>NPM made timely recommendations on all matters as agreed in the co-management arrangement. Advice was made with reference to the objectives for the fishery and in a format to facilitate an effective approvals process with AFMA. All legislative instruments were made to ensure fishery rules were implemented in line with operational timeframes.</p> <p>NPM undertook an efficient and effective process to inform NORMAC of all recommendations and subsequent decisions by AFMA.</p> <p>The number of NORMAC meetings has not reduced as a result of NPM undertaking this function. Meeting numbers have been consistent with previous years due to significant levels of consultation on changing management arrangements that have been occurring over the trial period. However NORMAC meetings were able to be more focused on the higher-level order of business. Given the situation, in the absence of NPM undertaking this function, more meetings and greater cost could have been expected. When the fishery settles after a period under new management arrangements, savings can be expected from shorter and fewer meetings. Savings will come from reductions in sitting fees, meal costs, travel and accommodation and more efficient use of peoples’ time.</p> <p>AFMA noted that operational business is conducted with NPM in accordance with the co-management arrangements, the NPF management plan and relevant policies. NPM, despite the distractions of significant change occurring, is operating professionally, efficiently and effectively in delivering operational advice and recommendations under the co-management</p>



<ul style="list-style-type: none"> <li>NPFI to provide advice and input into the annual compliance risk assessment.</li> </ul>		arrangement. This is done in a way that meets the standards required by the Commission to pursue its legislative objectives and undertake its fisheries management functions with respect to the NPF.
<b>Coordinate and manage the NPF scientific monitoring program</b>		
<b>Description</b>	<b>Performance criteria</b>	<b>Result</b>
<p>Pre-season scientific monitoring surveys are conducted as part of the fishery-independent monitoring program for the NPF,</p> <p>The surveys consist of three components;</p> <ul style="list-style-type: none"> <li>Boat charter (contracting boats to facilitate data collection)</li> <li>At-sea data collection (at sea operations to record and collect the necessary biological data);</li> <li>Data analysis (to determine spawning and recruitment indexes and provide information for the NPF assessment on allowable effort).</li> </ul> <p>NPFI is to assist AFMA in the competitive tender process and the on-going management of the boat charter component of the program.</p>	<p>A market test was conducted.</p> <p>A value for money independent service provider for data collection and analysis was sourced.</p> <p>Surveys are conducted; data is collected and analysed and contributes to the assessment of the NPF.</p>	<p>AFMA and NPFI worked together to produce tender and other documentation (including contractual arrangements, evaluation and procurement). NPFI provided key feedback, assistance in drafting the documents and liaising with other agencies in the formation of the documents and completion of the survey process.</p> <p>NPFI assisted AFMA with a market testing process which ensured value for money for data collection and data analysis services, NPFI then took on the management of the boat charter component of the fishery-independent monitoring program.</p> <p>Boats were sourced directly from the fishery through an expression of interest process undertaken by NPFI. This is an ongoing aspect of the program that NPFI continues to manage.</p> <p>Surveys were conducted during the course of the co-management trial and relevant data was available for the annual NPF stock assessment process.</p>

**Table 3 Crew-member observer program performance targets pre and during co-management**

Element	Target	Results / Year		
		2010	2011	2012
Number of crew members	10	5	9	10
Number of shots reported	2350	1293	2547	3231

**Table 4 Results of Great Australian Bight Trawl Fishery trial**

<b>A procedure for GABIA to make recommendations directly to AFMA on operational and commercial matters in the GABTF (a ‘management advisory procedure’)</b>		
<b>Description</b>	<b>Performance criteria</b>	<b>Result</b>
<p>GABIA to make recommendations to AFMA on commercial and operational matters in the fishery, including advice on the following:</p> <ul style="list-style-type: none"> <li>• Advice on the development and improvement of harvest strategies and ERA</li> <li>• TAC/E setting/decisions (within HSP and legislative requirements)</li> <li>• Review of fishery budget and levies and monitoring of expenditure</li> <li>• Implementing the bycatch and discard program including seabird VMPs</li> <li>• Industry recording of discards</li> <li>• Economic data collection</li> <li>• Species sampling/biological data collection</li> <li>• Research (with RAG), including Orange Roughy research plan, survey zones and survey dates</li> <li>• Setting dates and running the FIS</li> <li>• Compliance risk assessment, plan and issues</li> <li>• E-log program – data use management.</li> <li>• Industry input to development of marine protected areas</li> <li>• Directions such as closures</li> </ul>	<p>GABIA met the expectations of AFMA, other government agencies and interested parties (primarily MAC members) in terms of applying the agreed principles and processes for undertaking this role, including timeliness of recommendations.</p> <p>Recommendations were considered by AFMA to be consistent with AFMA’s legislation, relevant to AFMA policies including the GABTF harvest strategy and decision rules.</p> <p>No recommendations were referred back to GABMAC.</p> <p>AFMA implemented all recommendations.</p> <p>GABMAC and GABRAG were informed of advice.</p> <p>The cost of running GABMAC was less or no higher than prior to GABIA taking on this role.</p>	<p>GABMAC meetings streamlined from 3-4 per year to 1 per year; operating at a strategic level. The “dual advisory model” under co-management was implemented into AFMA policy in 2009.</p> <p>GABIA worked with GABRAG advice, informing GABMAC of TAC recommendations made directly to the AFMA Commission, in an agreed recommendations template.</p> <p>All TACs set based on GABIA recommendations.</p> <p>No concerns raised about the consultation process.</p> <p>Advice from GABIA on harvest strategy targets for the GABTF taken, leading to further research (industry initiated through FRDC) and economic targets implemented in stock assessments based on bio-economic modelling. Led to more scientifically-based target reference points for the key species.</p> <p>GABIA provided budget submissions and worked through budget issues directly with AFMA, informing the MAC of outcomes.</p> <p>Day to day operational issues were dealt with successfully, including gear directions, seabird management (including boat specific seabird management plans implemented), bycatch</p>

		<p>workplan and fishery compliance</p> <p>Bycatch recording in logbooks and industry data collection improved.</p> <p>Orange Roughy research organised and carried out by GABIA to satisfaction of AFMA and scientists.</p> <p>Gulper sharks management and closures developed, implemented and supported.</p> <p>GABMAC costs were reduced (see figures 2 and 3 and tables 6 and 7).</p>
<p><b>GABIA to develop a precautionary strategy for setting long-term Total Allowable Catch (TAC) and catch trigger limits underpinned by cost-effective fishery monitoring and strategic research and stock assessment</b></p>		
<b>Description</b>	<b>Performance criteria</b>	<b>Result</b>
<p>GABIA will take a leading role in the on-going planning and consideration of strategic research, monitoring and data collection in the GABTF in direct collaboration with GABMAC, GABRAG and AFMA.</p> <p>GABIA will recommend TACs for Deepwater flathead and Bight redfish in line with the agreed ‘future research and assessment plan’ and agreed harvest strategy decision rules.</p>	<p>A long-term strategic research, monitoring, data collection and TAC setting plan was developed.</p> <p>The above plan was agreed by the AFMA Board.</p> <p>The plan was implemented in accordance with research outcomes, monitoring results, data collected and harvest strategy decision rules.</p> <p>GABIA coordinated and managed the GABTF independent surveys and Orange Roughy surveys.</p> <p>The cost of this role was within the annual budget.</p>	<p>Setting of multi-year TACs in the GABTF and now implemented on an ongoing basis (see table xxxx for GAB research and assessment strategy).</p> <p>Multi-year TACs have now been considered extensively by SESSFRAG, with direct GABIA input; developed and implemented in other SESSF sectors.</p> <p>TAC-setting and strategic research and stock assessment plan developed and reviewed periodically through the RAG. GABMAC informed or asked to make recommendations if required.</p> <p>GABTF Harvest strategy developed, including decision rules and breakout rules, in line with Commonwealth Harvest Strategy Policy requirements.</p> <p>FIS and Orange Roughy surveys coordinated and managed by GABIA effectively with stringent</p>

		<p>sampling requirements; reported to GABRAG and MAC annually.</p> <p>Research and other management costs were reduced, largely due to collaboration on management and management settings in line with the risk/catch/cost approach.</p>
<p><b>GABIA to investigate and implement a system to collect and record relevant fishery information to support and improve the ecological, biological and economic assessment and management of the fishery</b></p>		
<b>Description</b>	<b>Performance criteria</b>	<b>Result</b>
<p>GABIA will develop and implement an enhanced, integrated data collection program which may include:</p> <ul style="list-style-type: none"> <li>• on-board scales</li> <li>• e-logs</li> <li>• reporting of quota species discards</li> <li>• improved reported estimates of bycatch</li> <li>• Industry collection of biological data for input to stock assessments</li> <li>• the collection of economic information to support maximum economic yield estimates</li> </ul>	<p>Investigations were undertaken into existing program gaps.</p> <p>Improved reporting of discards of quota and non-quota species.</p> <p>An e-log software provider that met the approved schema was contracted and e-logs implemented on all boats in the fishery.</p>	<p>Electronic logs were investigated and a schema developed for AFMA's approval.</p> <p>OLRAC e-log software was approved for the fishery by AFMA.</p> <p>E-logs were not implemented within the trial timeframe but have since been implemented in the fishery across all demersal trawl boats in the fleet. One boat in the fleet is Danish seining; e-log options are being looked into for that vessel.</p> <p>AFMA is receiving e-log data in close to real time.</p> <p>Economic data was collected from GABTF operators for input to a bio-economic model, resulting in economic yield targets for key species.</p> <p>GABIA vessels significantly improved reporting of quota and discards. Discarding of quota species has been reduced to practically nil.</p> <p>Length frequency collected by industry on a shot by shot basis which resulted in significantly better input to the stock assessments.</p> <p>GABIA met the requirements of the developing slope species sampling regime to support</p>

		triggers and biological data collection.  Cost of logbooks, data management, licensing and compliance all generally decreased over the period 2007-2013/14.
<b>GABIA to implement a quota management strategy that is based on continual (rather than quarterly) balancing of quota holdings with catch</b>		
<b>Description</b>	<b>Performance criteria</b>	<b>Result</b>
<p>GABIA agreed to the following:</p> <ul style="list-style-type: none"> <li>managing their quota holdings to suit their fishing activities at all times during the fishing season</li> <li>in line with the above, ensuring that relevant quota holdings are at all times sufficient to cover likely catches</li> <li>in the event of catches exceeding relevant quota holdings, immediately rectifying the situation through quota transactions</li> <li>making immediate contact with AFMA when a quota balancing problem arises</li> <li>a policy of as close to zero discarding of quota species as practicable and a hundred percent recording of quota discards in relevant logbooks</li> <li>working with AFMA to resolve quota balancing problems, ensuring that overfishing or poor fishing practice does not occur as a result; and</li> <li>developing a communication strategy for GABTF operators/skippers outlining the above</li> </ul>	<p>GABIA shifted from a quarterly balancing of quota to a continuous balancing of quota.</p> <p>Quota balancing issues were raised directly with AFMA to assist in the development of an improved quota management policy.</p> <p>Discards of quota species reduced to an insignificant amount. All discards were recorded In the logbooks.</p> <p>GABIA developed a communication strategy to improve industry quota management and reporting.</p>	<p>On one or two occasions during the trial, quota for shark was difficult to acquire on the continuous basis. GAB operators and AFMA were able to quickly resolve these issues collaboratively.</p> <p>The GABTF trial of continuous quota balancing helped industry and AFMA identify that such a strategy is achievable.</p> <p>Quota discarding in the GABTF has remained negligible, with the few damaged fish, resulting in well under 1% discards, being 100% recorded in logbooks.</p> <p>GABIA developed a bycatch and discards flyer for industry, which was integrated into the GABTF boat operating procedures manual. The flyer stresses the importance of not discarding quota species, promotes recording of all discards in the fishery and demonstrates how to record discards in logbooks. A specific “Managing quota” card was developed for the manual.</p>

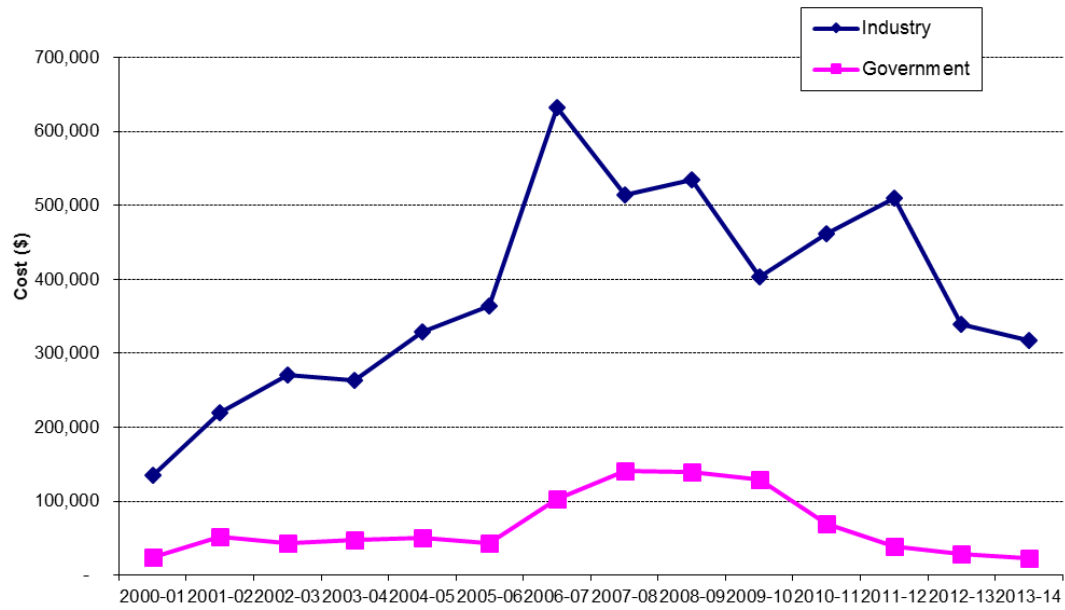
required arrangements for quota monitoring.		
<b>GABIA to develop and administer an ‘operating procedures manual’ that incorporates a suite of operational and commercial requirements for the GABTF</b>		
<b>Description</b>	<b>Performance criteria</b>	<b>Result</b>
<p>To ensure skippers and crews are able to easily identify and understand how to deliver standards of practice required in the GABTF, GABIA and AFMA will develop, and GABIA will manage the application of, an <b>‘Operating Procedures Manual’</b>. The manual will incorporate the full suite of operational agreements and requirements for the fishery and guidelines for their application, including but not limited to:</p> <ul style="list-style-type: none"> <li>• implementing the bycatch and discarding work plan (including development of Vessel Management Plans for seabird mitigation)</li> <li>• compliance with at-sea fishery management regulations (such as reporting, gear requirements and closures)</li> <li>• monitoring and reporting on biological and ecological aspects of fishing, including comprehensively completing logbooks (including take-up of e-logs)</li> <li>• application of occupational health and safety principles;</li> <li>• an animal welfare policy</li> <li>• product quality/handling procedures.</li> </ul>	<p>The operating procedures manual was developed and implemented in the fishery.</p> <p>GABIA took responsibility for maintaining the manual.</p> <p>Skippers and crews adopted the measures and guidelines contained in the manual and there was a high level of compliance detected in the fishery.</p>	<p>A comprehensive boat operating procedures manual was developed by GABIA, AFMA and boat skippers.</p> <p>The manual was developed on water-proof paper in a folder that could be updated easily and distributed to all boats.</p> <p>The manual ensures fishers, skippers and crews are able to easily identify and understand how to deliver the standards of practice required to fish in the GABTF.</p> <p>The manual included 15 sections covering commercial and fishery management guidelines, including catch handling, reporting, fishery information requirements, wildlife protection, pollution and relevant compliance matters for the fishery.</p> <p>The manual was (and remains) periodically updated by GABIA and AFMA.</p> <p>Based on internal GABIA consultations and AFMA accounts, operators, skippers and crews have implemented all the guidelines and requirements contained in the manual.</p>

**GABIA and AFMA to investigate and implement a ‘product traceability process’ that encourages optimising quality, efficient product handling, monitoring and reporting through the chain of custody from boat to receiver, with the intent to maximise market returns**

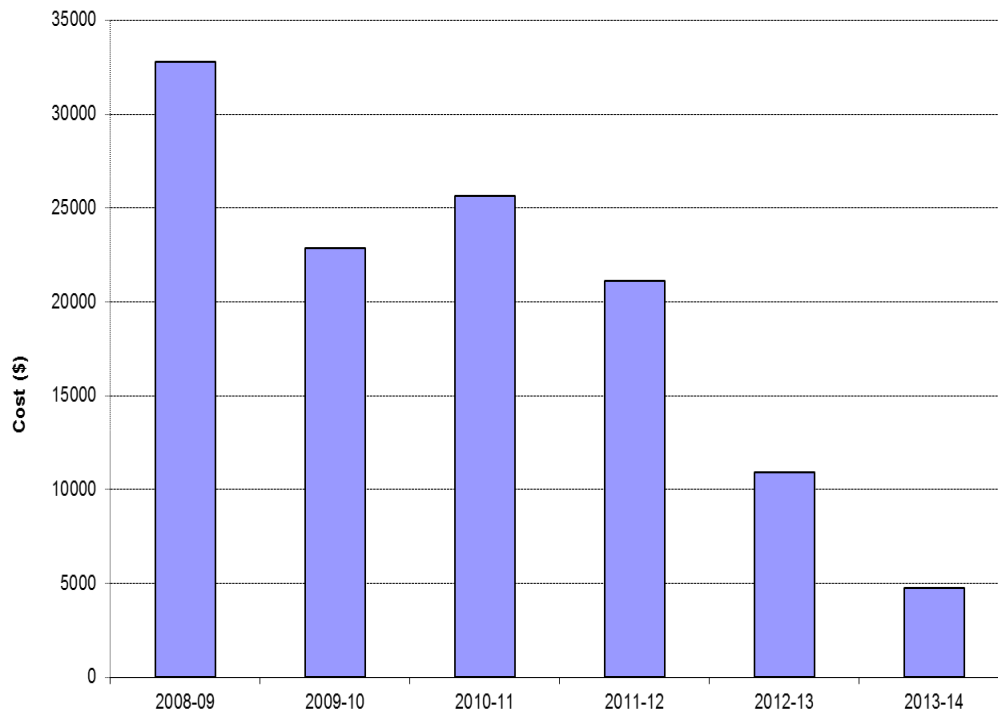
An investigation into traceability programs was undertaken by GABIA and AFMA. A number of barriers to an effective traceability program for the GABTF were identified. GABIA determined that until a consistent catch handling program across the fishery and other supporting systems, such as electronic catch disposal and electronic logbooks were fully developed and implemented, traceability was premature for the fishery. **This aspect of the co-management trial was not taken any further.**

**Table 5. Actual costs for stock assessment, monitoring, data management, Great Australian Bight Management Advisory Committee and Great Australian Bight Resource Assessment Group (\$ rounded)**

	2008	2009	2010	2011	2012	2013
<b>REDFISH (Assessment)</b>	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00
<b>FLATHEAD (Assessment)</b>	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00	30,000.00
<b>ISMP*</b>	40,000.00	40,000.00	60,000.00	40,000.00	40,000.00	40,000.00
<b>FIS</b>	287,000.00	121,000.00	85,000.00	0.00	0.00	0.00
<b>CAF</b>	30,000.00	20,000.00	20,000.00	20,000.00	20,000.00	20,000.00
<b>Data services</b>			20,000.00	30,000.00	22,000.00	20,000.00
<b>Species Monitoring</b>	5,000.00	5,000.00	8,000.00	10,000.00	10,000.00	10,000.00
<b>RAG (meetings)</b>	51,000.00	52,000.00	48,000.00	36,000.00	41,000.00	32,000.00
<b>MAC (meetings)</b>	17,000.00	9,000.00	11,000.00	12,000.00	15,000.00	15,000.00
	<b>490,000.00</b>	<b>307,000.00</b>	<b>312,000.00</b>	<b>208,000.00</b>	<b>208,000.00</b>	<b>197,000.00</b>



**Figure 2. Great Australian Bight Trawl Fishery budgeted management costs (unadjusted) over time; co-management commenced informally in 2005/06 and formally in 2008 under the co-management project (FRDC Project 2008/045)**



**Figure 3. Great Australian Bight Trawl Fishery Logbook costs**



**Table 6: Great Australian Bight Trawl Fishery length frequency samples used for input to stock assessments and observing stock changes over time for Deepwater flathead and Bight redfish – total collection in bold**

	2007/08	2008/09	2009/10*	2010/11	2011/12	2012/13
<b>Deepwater flathead</b>	<b>292</b>	<b>1464</b>	<b>25,583</b>	<b>4,610</b>	<b>11,371</b>	<b>8,200</b>
(Industry collected)	0	0	23,757	3,784	10,090	6,174
<b>Bight redfish</b>	<b>141</b>	<b>1374</b>	<b>16,112</b>	<b>1,572</b>	<b>9,355</b>	<b>6,025</b>
(Industry collected)	0	0	13,982	1,355	7,191	5,530

\* Co-management trials commenced and industry data collection fliers instigated

# Discussion

The theory of co-management is well documented and is not elaborated on in this report. The fishing industry clearly has an economic incentive to maximise the value of fish resources to which it has long term access. Yet it is clear that governments around the world have not always done remarkably well in providing the right set of incentives for maximising the value of fisheries resources.<sup>22</sup> Co-management, particularly in fisheries where there are well defined fishing rights, is an approach to harnessing that incentive. Australian fisheries management is well regarded by experts however the management of fisheries is complex and getting it right remains challenging for all fishery management agencies and stakeholders. It was therefore worth exploring co-management as an alternative approach to improving the set of incentives for industry stewardship and finding a more efficient and effective mix of fisheries management service delivery by government and industry.

The objectives of this project were to:

1. Develop, trial and assess specific fisheries management and/or administrative functions that can be taken up by the fishing industry under various co-management institutional structures;
2. Build on existing and/or implement alternative arrangements that will simplify regulations, reduce management costs, increase industry stability and/or streamline business practices; and
3. Improve industry/AFMA relations and stewardship of fisheries resources by adopting a more collaborative and/or delegated approach to management.

The trials largely achieved the first project objective. The results for the second objective were less obvious but some progress was made in the trials to coincide with initiatives that AFMA and industry were developing outside of the co-management project. Objective three is a longer-term outcome of co-management although there was evidence and both parties agree that throughout the trials co-management did improve relations. The attitude that the industry groups showed towards the trial elements indicated stewardship but this will require longer-term monitoring under sustained co-management. Importantly the trials validate the work done by the FRDC working group and in other research into co-management, particularly in relation to the conditions needed for co-management success. The trials presented a clearer picture of the settings and structures needed within AFMA, government more broadly and within the Commonwealth fishing industry to engage in co-management more effectively. These findings are also likely to be of use to other fishing industry groups and fishery management agencies. The level of achievement against the project objectives is discussed below.

## **Objective 1. Develop, trial and assess specific fisheries management and/or administrative functions that can be taken up by the fishing industry under various co-management institutional structures.**

### **Fisheries management and/or administrative functions**

The trials were a cautious venture into examining the sharing of fisheries management and/or administrative functions between AFMA and the fishing industry. The specific activities/functions undertaken were driven primarily by the industry participants themselves. This stemmed from the groups' views about potential benefit to their fisheries and their sense of capacity and resources to allow them to play a greater role in those functions. In hindsight this is probably fortuitous because

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<sup>22</sup> Willman, Rolf and Kieran Kelleher, *Economic Trends in Global Marine Fisheries*, 2010. In R. Quentin Grafton, Ray Hilborn, Dale Squires, Maree Tait and Meryl J. Williams (eds), 'Handbook of Marine Fisheries Conservation and Management', Oxford University Press, 20-42.

AFMA's readiness and ability to fully delegate critical functions was equally moderated by caution. It is clear that gaining wide support for co-management, particularly at the delegated end, is just as critical for government as it is for industry and this needs to be given priority if co-management is to grow beyond the current level of arrangements.

Guidance on choosing fisheries management activities/functions to trial was also drawn from FRDC (2008) which presents a view about what types of functions lend themselves to co-management and what functions do not. Aspects of around 22 of the 47 functions listed in FRDC (2008) were trialled at some level during the project. It is noted that 13 of the 47 functions listed are advised in FRDC (2008) to remain solely the role of Government. None of these functions, for example, enforcement and prosecution, were trialled. Both AFMA and industry took a cautious approach to the delegation of functions. The natural progression of the trials was to collaborate on the performance of functions and decision-making processes rather than immediately transferring full function responsibility. An exception to this was NPMI which in all practicality took full responsibility for the NPF log-book program. This included encouraging industry to take up electronic logbooks (e-logs), quality control of the raw data, secure storage and management of data distribution for assessment and other purposes. Nevertheless, essential activities contributing to a wider range of functions were undertaken by all three groups.

Managing a crew-member observer program was also fully undertaken by NPMI. This activity demonstrated the capacity of NPMI to not only collect information about the fishery but also to act as a program manager. The crew-member observer program was undertaken more successfully by NPMI than it had been while under AFMA management, which at the time was contemplating the value of the program in terms of the information that was being collected from the fishing industry. GABIA also took on a data collection role which involved coordinating the collection of fish samples used to determine fish size and growth, essential inputs to fish stock assessment. These examples show that industry can have an advantage over government when it comes to running programs that require industry to behave in a certain way and accept responsibility for, and report on, their own actions. This advantage could be extended to other programs or functions where influence over behaviour is needed to achieve the best policy outcome. This is a significant aspect of co-management as a valuable fisheries management approach.

All three groups demonstrated capacity to efficiently collect a range of fishery information and maintain standards so the information can be used by AFMA to manage the fisheries. Collecting fishery information is a critical function of AFMA and all fisheries management agencies and forms the basis on which they make management decisions. Collecting consistently, high quality and complete information about a fishery however has always been difficult for agencies at a global scale. It can be argued that if the industry body collects the information, it stands a better chance of gaining the cooperation of its members. It may also be able to do this more efficiently and at less cost than government. Taking on the responsibility for a function provides an effective means of coming to understand the function. All three trial groups have a far greater appreciation of the role of information collected to manage their fisheries and have demonstrated a desire to undertake their roles to high standard. This kind of ownership behaviour is difficult to reproduce when a function is under the full control of government and carries intrinsic value.

Auditing and clear standards are needed to provide certainty for the community that the integrity of the information is maintained and this is an area that requires further development. While AFMA did develop forensic auditing technique as part of the project, it is also important for AFMA to develop techniques to ensure data integrity. The types of information collected about fisheries have a range of purpose and different techniques will be needed to cover different purposes. It is critical that data accuracy and consistency is maintained over its life-cycle, which is particularly important in fisheries assessment where long time-series data is most valuable. The catch landing information collected by LEFCOL is used primarily for quota reconciliation where point-in-time accuracy is needed. The information collected by NPMI and GABIA is used primarily for stock assessment purposes where long-term accuracy and consistency is needed.

Good fisheries management relies heavily on good information. This information not only comes from the fishery, it also comes from expert advice from industry, scientists, conservationists, recreational fishing bodies, other relevant stakeholders and fishery managers, which all play a key role as part of management advisory committees (MACs) within AFMA's management structure. The MACs assist AFMA in making decisions about the management of Commonwealth fisheries. The fishing industry in particular provides expert advice about the operational and commercial aspects of fishing and fishing businesses. The Commonwealth fishing industry has also become far more knowledgeable about the biology and ecology of the fisheries in which they work and are able to work more closely and effectively with scientists and other stakeholders as part of the MACs and RAGs.

The operational and commercial machinery of the industry while useful to other stakeholders on the MACs is less important to the primary role of the MACs. An examination of the wide range of information and advice coming from MACs suggests that these advisory bodies can more effectively consider and advise AFMA on matters of broader public interest. This would include higher level government policy such as bycatch and harvest strategy policy development, the development of management plans and other fisheries legislation and the application of environmental policy. Tailoring the MAC agenda in this way increases time and focuses attention on these more relevant matters. Both NPMI and GABIA have trialled undertaking the role of advising AFMA directly on operational and commercial matters relevant to their fisheries and this appears to be working. Both groups also inform and the MACs about their advice and remain in touch with the other stakeholder groups. It is always open for MACs to probe industry advice if deemed prudent. Both NPMI and GABIA recognised that other stakeholder groups need to remain in touch with the fishing industry and what is happening in their fisheries. This relationship is important to the wider acceptance of the industry and its visibility as a legitimate steward for the sustainability of the fishery. It also provides industry with a benchmark for its views and approach with those who may represent the wider community.

Research is another key fisheries management service and is an area of high cost to industry and government. Commonwealth fisheries have begun to take a risk-catch-cost approach to research. This means that where taking a high level of catch presents greater risk to fish stocks or the marine environment, the greater the investment is needed in research and assessment. In this way, catch can be aligned with risk and investment in knowledge. The fishing industry pays the cost of the majority of this type of research and therefore should be able to make decisions about the risk-catch-cost strategy to take. The information gained through the research and assessment is used in accordance with the Commonwealth harvest strategy policy to set the catch or effort levels in the fisheries. GABIA's initial interest in co-management was largely driven by this approach. NPMI is also taking greater interest in the approach.<sup>23</sup> GABIA developed a multi-year plan to undertake stock assessment and fishery independent surveys to deliver information about the stocks and which is used to set total allowable catches at sustainable and profitable levels. GABIA and NPMI both manage their respective fishery independent surveys, contracting out the scientific services and using industry vessels, skippers and crews. Both of these programs have worked efficiently and effectively.

Fisheries compliance was an important part of the co-management trials and the trial groups engaged in various activities to improve compliance outcomes. This is a very relevant areas of investigation because compliance with fishery rules can be seen as a make or break outcome for co-management. Fishers must demonstrate the capacity to comply, particularly if voluntary measures are to become part of the co-management environment. The Lakes Entrance group was most interested in building their co-management trial around compliance activities. This is not surprising given that Lakes Entrance is the most productive port in the SESSF, it being a quota-based fishery and very visible and accessible

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<sup>23</sup> The Commonwealth Trawl Fishery sector also manages fishery independent surveys for Orange Roughy. These surveys use scientists from the Commonwealth Science and Industry Research Organisation or independent scientists to oversee the survey and collect and analyse the data. It is likely that this service will remain a feature of co-management in Commonwealth fisheries.

for fisheries compliance operations both at a Commonwealth and Victorian State level. The fishers in this port are not strangers to port-based compliance activity and were keen to differentiate the majority of legitimate operators in the port from the non-compliant minority. The reputation of fishery groups has emerged as an important aspect of co-management. The Lakes Entrance trial was seen as an opportunity for industry to highlight its legitimacy and along with NPFI and GABIA, build a relationship with AFMA based on mutual trust. Putting co-management into practice with all three groups demonstrated that trust is a key ingredient and is something that requires consistent affirmation through practice. The range of activities undertaken that work towards a collaboration on compliance and trust included the development of a compliance checklist for trial participants in Lakes Entrance, an industry-developed penalty structure, commitments to improve logbook reporting, quota balancing and cooperation in carrying observers. A conflict resolution process was agreed with the Lakes Entrance group in cases of non-compliance. It was because compliance was the dominant characteristic of the Lakes Entrance trial that the principal document for the trial was a code of practice. The GABIA trial included the development of a comprehensive vessel operations manual which broadly covered fisher responsibilities relating to the fishery. Skippers and vessel owners took part in designing the content and layout of the manual to ensure ownership at the industry level. NPFI also took on responsibility for conducting pre-season briefing in key ports for skippers and crews, which covered the rules for the fishery in that season. It is effective in clarifying understanding of the rules and how they will be enforced. AFMA officers attend the briefing only to provide clarifications if needed. The pre-season briefings are organised and run by the industry. Other activities undertaken by NPFI also has compliance elements and included catch and effort reporting, reporting interactions with protected species and in-season management for setting the dates of the fishery closure each season.

While it cannot be said that all of the compliance measures were achieved in the Lakes Entrance trial, there was a good level of success towards building a more professional and trust-based relationship between AFMA and the port. The primary downside for industry that lowered their expectations from co-management was the failure to establish and demonstrate other tangible benefits such as could be achieved from sharing functions and transferring responsibility. Co-management based primarily on compliance by its nature remains firmly linked to the managing agency for undertaking enforcement and prosecution. The penalty structure developed by the group was rarely triggered but on the few occasions it was, it was not a simple or satisfactory outcome for either the fisher or AFMA. The main reason was the penalty structure did not apply to all fishers in the fishery, creating a sense of inequity for the participants. This was always going to be difficult with the Lakes Entrance trial because it only represented a subset of a large and diverse fishery. This exemplifies the essential pre-conditions described in FRDC (2008) relating to the need for fisher organisations. The trials add to that the need for significant representation across the fishery by those organisations. Wide representation is needed in order to create an effective mechanism for industry being able to legally enforce agreements, which is also considered to be a pre-condition for successful co-management.

## **Institutional structures**

There are two types of institutional structures relevant to co-management. One is the institutional structure used to facilitate co-management by AFMA and the other is the institutional structure of the co-management participant. Both are discussed below in relation to the trials.

### ***Institutional structures to facilitate co-management***

During the course of the trials, AFMA amended its legislation to support delegation of functions to 'primary stakeholders' for the purposes of co-management. The amendment added to a list of persons in section 92 of the FAA to whom the Chief Executive Officer (CEO) of AFMA may sub-delegate functions for domestic fisheries management. Amendments were also made to section 17 (11) of the FMA removing limitations of delegating functions relating to making Directions and Determinations that deal with matters such as fishery closures, gear restrictions and setting allowable fishing capacity. These aspects of the legislation have not been delegated by AFMA however both NPFI and GABIA provide advice directly to AFMA on these matters. Delegation applies to functions and powers of

AFMA. There are many activities that contribute to the delivery of a function and at what point it can be said that a function, rather than an activity is being delivered under a co-management arrangement is worth consideration. A judgement will be made by the CEO of AFMA about when a formal delegation in writing is required to provide institutional integrity for a function to be carried out as an effective means of pursuing AFMA's legislative objectives. Such consideration will be required when and if AFMA shifts further along the co-management continuum to delegation of functions and/or powers.

In terms of facilitating co-management by AFMA under the trials, only two types of institutional structures were adopted; a simple non-legally binding agreement or MOU and a legally binding contract. A MOU was acceptable for use in the trials as a means to assign responsibility for certain activities, rather than functions, and an MOU appeared to be satisfactory for this purpose.

Each group documented their specific trial activities and established a framework for their undertaking. AFMA set no boundaries around the types of agreement it wanted to use but rather allowed these to emerge from discussion with each group in relation to the specific activities. The Lakes Entrance group developed a code of practice, which was particularly suitable for that trial. GABIA simply detailed the activities in a document of co-management arrangements. These two groups undertook to implement their respective arrangements under a MOU.

The majority of activities/functions undertaken by NPFI were done under an annual, agency contract. The details of NPFI functions were captured in the Schedule to the contract. Advice to AFMA on operational and commercial matters was described in a document called the NPF co-management policy which, like the other two groups, was implemented under a MOU.

The need for a contract with NPFI arose from the need to provide funding for it to undertake certain activities/functions normally undertaken by AFMA staff. These included running the crew-member observer program, managing the fishery independent monitoring surveys and managing the logbook program. Taking on these functions required NPFI to employ a part-time project officer. Funding co-management carries some problems for both industry and government and this is discussed under objective 2 below.

Contractual arrangements offer a potential structure for undertaking a range of co-management activities or functions and are provided for as a means of delegation under section 92 FAA. Contracts are enforceable and could be used not only by the governing agency but also by industry bodies as a means of binding fishers to agreed arrangements. This could include for example, complying with codes of practice. Contracts however can be adversarial if conflict arises.

A co-management arrangement may be more complex under contractual arrangements but may offer an industry body more certainty after investing in a function. Contracts can also be terminated and the terms of termination can be negotiated in making the contract. Regardless of the institutional structure of any agreement about co-management, it will need to be underpinned by mutual trust between AFMA and the fisher group. There is no benefit to be gained from confrontational experiences.

Formal delegation was only tested in the trials with NPFI under contract. The only significant difference between an MOU and a formal delegation under s92 FAA is its legally binding characteristic. The legislation setting up delegation effectively makes the delegate 'an agent of AFMA' for the purpose of carrying out the function or exercising the power. AFMA remains legally responsible for any functions carried out by a delegate. S92 provides for the CEO to direct the delegate. Whether it is an MOU or contract that is used to implement a co-management arrangement, the functions/activities need to be well specified in the documentation and provide for performance measurement, any resources needed for the function/activity and cover reporting and audit requirements.

## ***Institutional structures of the industry groups***

There were different institutional structures offered by the industry groups in the co-management trials. Two were based on industry representative bodies and the third was the Lakes Entrance port-based fishers and their cooperative, LEFCOL. NPFI and GABIA are both incorporated bodies with constitutions or rules that link the business welfare of their members to the supply of sustainable seafood. GABIA is small but fully represents all fishing rights held in the fishery. NPFI represents a significant majority at over 90%. LEFCOL does not represent the fishers in the SESSF and has no mandate to act on their behalf. One of its subsidiaries, LEDST ( a unit trust), plays a more representative role for a subset of Danish seine operators mainly in terms of managing quota, monitoring supply and demand and recommending fishing patterns to maximise returns. GABIA is an incorporated association, NPFI is a private company limited by shares (those shares being equivalent to the number of statutory fishing rights held by each member) and LEFCOL is a cooperative society. All three institutions are legal entities, separate from its members, and can sue and be sued. All three institutions fit the definition of 'primary stakeholder' as it applies to co-management under AFMA's legislation and can therefore be delegated to assist AFMA in carrying out its functions. Despite delegating a function, AFMA does not absolve itself from responsibility for the outcomes of the function. A 'delegate' is an agent of AFMA. AFMA can direct a delegate in how to carry out a function and AFMA can terminate a delegation.

In terms of differences between the institutional structures provided by the trial groups, co-management at the port level as undertaken in Lakes Entrance, rather than at the fishery level, is not likely to deliver the kinds of benefits being sought more broadly from co-management, particularly if it involves delegated functions. That does not mean that working closely with fishery-associated institutions such as LEFCOL has no benefit. On the contrary, very fruitful collaboration can result, and did in the co-management trial with LEFCOL. In some ways, this can be likened more to a simple business relationship rather than co-management. If that relationship benefits the agency and the institution and its members, then it is worth pursuing. The primary difference which is of significant importance is the relationship of the institution to the fishers in its associated fishery. NPFI and GABIA offer a voice for all or most of the fishers within their respective fisheries and can and do act on their behalf in negotiating with AFMA and other agencies on a wide range of matters impacting their members. This is what makes these institutions essential to co-management. LEFCOL, despite its importance to the fishery, does not fill that role.

The trials confirm the pre-condition of having a competent organisation with which to work and the trials also show the importance of the organisation having wide support from the majority of the fishery. The trials demonstrated that fisher-based institutions can participate productively in management and administration activities and functions and can form a productive relationship with AFMA. The type of institution adopted by the industry group is less relevant to co-management success.

## **Objective 2. Build on existing and/or implement alternative arrangements that will simplify regulations, reduce management costs, increase industry stability and/or streamline business practices**

While the trials had at their core an aim to simplify arrangements to reduce costs, this objective was only marginally successful across the trials but with continued use of co-management it can be expected that further simplification and cost reduction can be achieved. This was also a key area of focus for AFMA outside of co-management. The initiation of the co-management trials coincided with a broader commitment from AFMA to review business efficiency. A Cost Reduction Working Group (CRWG) was established in April 2007 with a goal to identify and recommend options for reducing fisheries management costs. The then AFMA Board considered and broadly adopted the report recommendations, including the commencement of co-management trials. There were 25

recommendations designed to improve efficiency and cost-effectiveness of AFMA's management and administration.

While the co-management trials included the same goal as that of the CRWG, their focus was primarily about collaboration on fisheries management functions/activities and decision-making processes. It was more difficult to consider cost reduction per se, but rather undertake the activities and examine their cost benefit potential. Based on the trials, cost saving in the management of fisheries is yet to be shown as a significant outcome of co-management.

The CRWG identified the cost of MACs as one area where efficiency could be achieved with cost caving as a result. MACs consist of experts across the range of key stakeholders in the fisheries. In 2006-07, the direct cost of operating 12 AFMA MACs was around \$800,000 and significantly more in indirect costs. A recommendation of the group was to rationalise the number of MACs, particularly across fisheries with species overlap and/or where there was a strong ecological connection. GABIA and NPFI taking on the role of providing advice directly to AFMA on commercial and operational matters complemented the MAC rationalisation process already in train. Reducing the agenda of the MAC can remove the need for a MAC to meet as often or for shorter periods. GABIA has shown this to be the case during the trials but this is a relatively small and stable fishery. NPFI on the other hand undertook the co-management trials at a time of significant management review in the fishery. NORMAC has therefore not met less often than previously, but it could be argued that it met less often than it otherwise might have had NPFI not been advising on operational and commercial matters. Once management arrangements become properly settled in this fishery, the cost of NORMAC can be expected to reduce.

Cost savings can potentially be made where industry, with lower overhead costs and specific areas of expertise, performs certain functions instead of the government agency. This assumes the government agency is not necessarily the most efficient and/or cost-effective provider of all services.<sup>24</sup> It also assumes that when an industry steps in, the agency can effectively lower its costs. NPFI has successfully taken on the role of collecting and managing the fishery catch and effort information program. Examination of the information collected by NPFI shows the data quality and completeness to have improved in comparison to being managed by AFMA in recent, previous years. There are also other sources of data collection in the fishery, such as independent observers and scientific surveys that can be interrogated to corroborate the integrity of the data. The trial showed that NPFI can effectively manage their data program but the scale of cost savings is modest. The non-monetary benefit of industry managing the program and being committed to high quality data collection is highly valuable.

The collection of fishery information is a complex task in which all fisheries management agencies engage. Industry is well placed to voluntarily and efficiently collect fishery-dependent information rather than through costly collection programs run by government. GABIA and NPFI coordinated the collection of various types of information from their fisheries, including fish samples to determine fish length and growth, information about interactions with protected wildlife, catch and effort information and economic information. Under various protocols and standards, these data services can be undertaken by responsible fishing industry bodies working with their industry members and the managing agency. These services are also reasonably undertaken within existing resources of an industry body. With improving technology, these services will become easier to run. Industry reported that their involvement in the data collection programs has increased the overall willingness within the fisheries to collect quality information and has increased interest in its use. While NPFI and GABIA undertook their respective data services efficiently, it can be argued that AFMA has developed an efficient data program on a larger scale. In particular areas of service delivery, including the data

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<sup>24</sup> See for example, Australian Public Service Commission, 2009. *Policy Implementation through Devolved Government, Contemporary Government Challenges Series, Australian Government*, Australian Public Service Commission, 5-7.



collection and management AFMA has developed an economy of scale over time, driven to an extent by cost pressures under the cost recovery system in which it operates.<sup>25</sup> Cost recovery has been a significant feature in Commonwealth fisheries management under the philosophy of beneficiaries of government services meeting the costs of those services. Improving technology will also enhance AFMA's scale economy and competitiveness.

The collaboration with LEFCOL to report catch landings, demonstrates that business practices between industry and regulator can be harmonised to save time and money. LEFCOL business programs largely record the same information as AFMA requires for its own business purposes.<sup>26</sup> LEFCOL is the first link in the distribution channel from fisher to retailer for a significant proportion of the catch landed from the SESSF. There was recognition of the incentives for LEFCOL to run a legitimate business process. LEFCOL derives operating income from its fish handling service to industry, including disbursements of catch sales to the fishing vessel owners. LEFCOL must maintain accurate records in order to be accountable to the members who use the service. LEFCOL were able to relieve fishers of a paperwork burden and this is likely to be mutually beneficial to LEFCOL. It also provides a point for cost-effective auditing by AFMA. This arrangement is repeatable across this fishery and in other fisheries, as it was with another SESSF first receiver handling reasonable quantities of fish. A large proportion of the landed catch from the SESSF is handled through a relatively small number of auditable establishments, each with incentives to operate legitimate business processes. This provides an opportunity to increase the effectiveness of managing quota evasion which is a significant downside to the use of quota as a management tool.

Quota pooling was trialled with LEDST to streamline quota management processes for industry. The arrangement in the co-management trials allowed LEDST to be exempt from nominating quota SFRs against each Boat SFR in the LEDST group of eight boats. LEDST reported significantly reduced time and transaction costs as a result of pooling. Quota pooling has been picked up by other Commonwealth fisheries as an effective way to manage quota by companies with multiple boats. In the case of LEDST which is a unit trust rather than a company, this arrangement requires flexibility and trust from AFMA. This is because LEDST is unable to operate as the legal entity with respect to the eight boats in the pool. Rather it is an arrangement between the members of LEDST with respect to pooling quota but each member carries the legal responsibility for their own boat. A liability issue arises for LEDST should one of the pool boats breach a fishery law. If this occurred, all SFRs in the pool could be at risk should the breach be of a kind that leads to suspension or cancellation of SFRs. Under a standard company model, this issue is resolved because the company is the legal entity for each boat and the full holding of SFRs in the pool.

### **Objective 3. Improve industry/AFMA relations and stewardship of fisheries resources by adopting a more collaborative and/or delegated approach to management**

This objective is more difficult to evaluate in that the measure of a relationship is subjective and is better made over a longer period than the trials. From AFMA's perspective a legacy of the trials has been a change to the way in which AFMA and these industry groups worked and continue to work together. While relationships slipped on occasion, all parties in the trials took the co-management arrangements seriously. The NPFI and GABIA trial arrangements have remained in place beyond the project timeframe. Specific arrangements with LEFCOL and LEDST also remain in place. There is continued interest in expanding the existing trials with NPFI and GABIA and SETFIA is now developing a co-management arrangement for industry management of snapper catches in the SESSF

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<sup>25</sup> This was noted by FERM (2008) in the context of observer services, above n 14, 40.

<sup>26</sup> Some program elements were added to the LEFCOL business system to fully align with AFMA data requirements but this was a relatively simple programming update.

trawl sector. This is evidence of mutual support for co-management and some indication of its potential endurance despite occasional disruptive experiences.

In the case of NPM the co-management trials coincided with a significant review of fishery management arrangements in the NPM. The majority of NPM industry took a position of intense disagreement on the fundamental capacity to change the management of the fishery from individual transferable effort (ITEs) to individual transferable quotas (ITQs).<sup>27</sup> It took several years of investigation and investment in research to comparatively test the relative performance of these management regimes in the NPM and ultimately a decision was reached to remain under ITEs. This process would have tested any relationship between industry and regulator and it is notable that the co-management relationship stood up throughout and beyond. It is also true that throughout the trial arrangements with all three groups, there were difficult times when industry and AFMA could not agree or did not work collaboratively. Again, the co-management arrangements were not adversely impacted in the long-term. It should be expected that a perfectly smooth relationship is unattainable and it is more about how the partners deal with conflict that is important. Having an agreed conflict resolution approach under co-management is considered essential.

The experience from the trials is that the more business-like the arrangements, the more stable the arrangements will become and have more chance of long-term success. Most often when an issue arose in any of the trials it was commonly due to a failure to recognise expectations of the parties in the business relationship, for example, failure to inform or involve the other party where it was reasonably expected to occur. This is more likely to happen when there is a shift from one style of management to another - a shift along the co-management continuum - in which both parties have less experience as collaborators. It could be expected that parties will become more attuned to shared expectations as co-management arrangements mature.

Relationships between the regulator and industry can improve and develop where co-management involves a consistent approach to collaboration on problem-solving. The expertise of industry can be harnessed more frequently to achieve better outcomes on difficult problems. Recognising the value of industry or more generally, stakeholder expertise, builds trust and this is a fundamental plank in the co-management relationship and catalyst for better management outcomes. For example, solutions to bycatch problems are likely to be best found in collaboration with the industry and other experts in the field. The development of turtle excluder devices which are extremely effective came from collaboration between scientists, technologists and the fishing industry working together in the field. This made each party part of the solution and industry has embraced the technology. In the co-management trials, the approach and result of collaboration was more evident in Lakes Entrance where more frequent face-to-face contact was possible due to the proximity of the port to AFMA. This is despite the fact that this was not a fishery-level trial and is not continuing post-project to the extent of the NPM and GABIA trials. The trial participants in Lakes Entrance opened the doors to their businesses with the hope of building a better relationship with AFMA and improving management outcomes in their fishery. In many cases the level of collaboration undertaken in Lakes Entrance during the trial may not be cost-effective over a long term, however in dealing with specific problems the outcome may well be worth the investment. Other ways to meaningfully collaborate need to be thought through with the stakeholders.

Improved stewardship of fisheries resources and the marine environment is a primary goal in managing fisheries and there is belief that co-management can play a prominent role. It is likely to be a more long-term outcome and more measurable in that context. However, there is little doubt from the trial experiences that better collaboration and building trust has an empowering effect. The long-term legacy of stewardship from co-management is likely to be achieved from effectively transferring to the

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<sup>27</sup> Managing Commonwealth fisheries through ITQs has been Commonwealth Government policy since AFMA was created in 1991 and moving all major Commonwealth fisheries to ITQs was part of the Ministerial Direction to AFMA in 2005.

industry the responsibility for reaching and maintaining high standards of operation. Managers and policy-makers cannot efficiently and effectively enforce this kind of outcome, and globally, this has been learned the hard way with unfortunate results.<sup>28</sup> What is learned from the trials particularly is that key attributes of co-management, which are trust, respect, recognition and empowerment, must be built from the ground up. This is why the trials were a cautious beginning to co-management and why making the shift to delegated management will be inevitably slow. The trials were very much about learning the ropes and coming to understand what is needed from the participants to make co-management work. The trials indicate that building a strong relationship based on these attributes has real stewardship potential, particularly where benefits and progress can be made evident to all.

## **Challenges to achieving effective co-management in Commonwealth fisheries**

### **Legal constraints**

There are no specific legal constraints in AFMA's legislation to co-management in Commonwealth fisheries. Section 92 of the FAA provides for the Commission to delegate any of the domestic fisheries management functions or powers to the CEO and subsection 92(3) gives the CEO the discretion to sub-delegate these powers and functions to various individuals and entities, including to a person engaged under contract to assist the Authority<sup>29</sup>. Therefore provided that the co-management entity is engaged under contract to assist AFMA, any of the domestic fisheries management functions can be so delegated. Furthermore section 93 of the FAA makes provision for the sub-delegation of functions and powers for which the CEO is responsible, which includes the function of assisting the Commission, and specific reference is made to a delegation of such powers and functions to primary stakeholders under co-management arrangements. This provision is mirrored in sub section 17(11) of the FMA in relation to any powers conferred on AFMA under a plan of management for a fishery. A function or power that is performed or exercised under s92 delegation is taken to have been exercised or performed by the Authority. Section 56 of the FMA provides that neither AFMA nor a person acting for or on behalf of AFMA is liable to an action, suit or proceeding for or in respect of an act or matter in good faith done or omitted to be done in the exercise or purported exercise of any power.<sup>30</sup>

The trials demonstrated that competent fishery groups are capable of taking up responsibility for AFMA functions. Under any co-management arrangement, the framework for a function or decision would be underpinned by a policy, operating procedure or other detailed plan to provide clear guidance to the delegate. For example, underpinning the NPMI data management role was a detailed data management plan. Delegated decision making has not been tested in the trials however AFMA has made decisions consistent with advice from industry groups carrying out specific functions in accordance with co-management arrangements. This suggests that decision making by competent groups is not at all unforeseeable under co-management.

There is ample opportunity for competent groups to engage in co-management without having a delegated role. Both NPMI and GABIA for example, directly provide advice to AFMA on operational

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<sup>28</sup> Food and Agriculture Organisation, 2009. *The state of world fisheries and aquaculture 2008*. Rome: Food and Agriculture Organisation of the United Nations. See also R. Quentin Grafton, Ray Hilborn, Dale Squires, and Meryl J. Williams, *Marine Conservation and Fisheries Management: At the Crossroads*, 2010. In R. Quentin Grafton, Ray Hilborn, Dale Squires, Maree Tait and Meryl J. Williams (eds), 'Handbook of Marine Fisheries Conservation and Management', Oxford University Press, 3-19.

<sup>29</sup> The term 'Authority' means AFMA.

<sup>30</sup> References to the sections of the FAA and FMA in relation to powers and functions should be read in the full context of the legislation.

and commercial matters in their respective fisheries. This role is agreed between AFMA and these groups under an MOU. It is not a legally binding instrument and should such roles fail to work they can be concluded by either party.

## Funding

Funding of co-management activity is a multi-faceted issue, impacting both fishery groups and government. While examples of co-management are appearing across Australia there are still questions to answer about its potential benefits and institutional support. Uncertainty about the benefits and stability of co-management will impact an organisation's or individual's preparedness to invest resources in co-management. The more practical work done and reported in this area is likely to reduce some of these uncertainties and fears about investment.

Many Commonwealth fisheries bodies enjoy wide support from a strong member-base. However few bodies represent 100% of the fishery. This creates difficulty in voluntarily fund raising where non-members derive benefit without contribution. Representative fishery bodies also come under scrutiny from their members to show real financial benefits from funded activities. Such voluntary activity and fund-raising is in addition to the costs of fisheries management collected by the government under the cost recovery system. There are also many competing priorities for funding, including marketing, research and development and broader industry issues. The lack of clarity about co-management benefits and competing priorities may deter fishery organisations from seeking voluntary collections from their members to fund co-management.

The above constraints has meant that funding for co-management activities to date has primarily been through research and development while specific activities/functions in Commonwealth fisheries that require additional resources have been funded through the AFMA levy system. Working through AFMA's levy system introduces a further range of issues and costs.

There are costs associated with co-management being funded through the AFMA levy system. Salary and overhead costs are incurred when AFMA staff has any involvement in the co-management process. These costs substantially diminish potential cost benefit from the co-management arrangement but would be largely eliminated if the industry self-funded the activities. The cost benefit would be realised through a reduced overall levy.

A problematic twist to any single fishery taking on management functions is the impact this can have on AFMA service delivery costs for remaining fisheries. AFMA routinely provides a range of fisheries management services such as observers, licensing and quota monitoring, research administration, vessel monitoring and data collection and management across all Commonwealth fisheries. It can be argued that AFMA provides some or all of these services at a cost that is competitive in the market.<sup>31</sup> Some fisheries may therefore be content with the AFMA service cost and have little interest in taking it on under co-management. However a particular fishery may well be able to provide a fisheries management service more cost-effectively than AFMA.<sup>32</sup> If AFMA cannot reduce its overhead cost following the exit of one fishery from the service, these costs will be borne by the remaining fisheries. This is a significant challenge for AFMA and industry, and may be a fundamental threat to the future of co-management. The capacity to achieve full scale economy from co-management in Commonwealth fisheries is likely to be reduced if it occurs at a fishery level rather than at the industry

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<sup>31</sup> AFMA currently provides some services to State/Northern Territory fisheries agencies and is interested in expanding service delivery where it has particular expertise and a level of scale economy. Such expansion may enhance the scale economy and lower costs for all users.

<sup>32</sup> Cost is not the only factor in assessing advantage. It has been noted that NPFI in providing the crew-member observer program has an advantage over AFMA with respect to influencing its member's behaviours. However, this is not a program that AFMA conducts in any other fishery.

level. This is frustrating for those fisheries wanting to pursue co-management to reduce their management costs.

There is a potential limitation to AFMA funding for co-management imposed by rules under the *Financial Management and Accountabilities Act 1997* (FMA Act).<sup>33</sup> AFMA must ensure proper use and management of public resources and may in some cases find it prudent to open the service delivery to a wider group of providers. However in most cases it is unlikely that under a co-management arrangement, a provider other than the fishery body in question would possess the needed expertise or be able to deliver the desired co-management outcomes. An industry body funding its own activities is not subject to FMA Act obligations.

## **Disparate nature of Australian fisheries**

Commonwealth fisheries and indeed all Australian fisheries are managed as distinct units. There is some level of rationalisation, but little. For example the SESSF group of fisheries are under a single management plan. Even in this case each fishery within the SESSF operates quite distinctly from the others despite there being significant overlap in species and stocks. The disparate approach to fisheries management in Australia has led to a complex system of boundaries and jurisdictions. This not only adds a layer of complexity for co-management, it can also reduce potential benefits because it tends to confine co-management to fishery level.

Many Australian fisheries are not represented by a peak fishery body and as such the managing agency is forced to consult on management issues with fishers individually, rather than collectively. This normally occurs by inviting comment on specific issues and aside from working with the MACs, there is little opportunity for cost-effective collaboration, let alone delegation of functions. The experience with the Lakes Entrance trial, although delivering some benefits, demonstrated the difficulty of not being able to work directly with a representative body.

As noted under ‘funding’ above, the trials show that co-management even at the fishery level has limitations and costs. However, this is an area where with greater will and support, co-management could reach greater potential. A single representative body such as the CFA could develop economies of scale in fisheries management service delivery that could not be emulated at the fishery level. This is clearly a matter for industry to consider. There are models of industry-wide peak bodies in Australia that collaborate successfully with government to provide autonomy and strategic direction for their industry through service delivery. The Cattle Council of Australia and its industry service bodies have agreements with government in relation to research and development, collection and dispersing of levy money, marketing and market access.<sup>34</sup> A strong and widely supported representative peak body would make the hope of such autonomy probable for the fishing industry.

## **Making a shift to delegation**

The co-management trials in Commonwealth fisheries were a cautious investigation of co-management in that some functions were taken on by the industry groups, but in general, decision-making remained with AFMA. The existing co-management arrangements with NPFI and GABIA and business arrangements with LEFCOL provide a snapshot of what can be achieved but overcoming barriers to co-management could pave the way for greater sharing of responsibility with industry, including decision-making.

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<sup>33</sup> The FMA Act will be replaced by the Public Governance, Performance and Accountability Act 2013 on 1 July 2014.

<sup>34</sup> See for example, ‘*Beef 2015 and beyond*’, Cattle Council of Australia: National Strategies for Australia’s Grassfed Beef Sector.

That these fisheries and AFMA continue to support these arrangements is evidence of mutual value. At this point there is strong interest from NPFI to expand the co-management arrangement and the feasibility work on this is imminent. Only when a delegated model is tested will we have a more realistic idea of the greater potential for co-management in Commonwealth fisheries. There are also a number of challenges to work through to undertake such tests, not least creating a more flexible and efficient funding environment.

While there has been support from AFMA and other agencies for the co-management trials, co-management is not a whole-of-government policy despite amendments to the legislation to enable co-management in Commonwealth fisheries. It would be prudent to seek whole-of-government policy support to provide a more certain environment in which to invest in the expansion of co-management in Commonwealth fisheries.

### **Widening the net of co-management participants**

The co-management trials were focussed on a partnership between the commercial fishing industry and AFMA. There are other important stakeholders who are legitimate co-users of fisheries resources and the marine environment and who already contribute to good fisheries management in Australia. Co-management may be an equally appropriate framework for other stakeholders, either inclusively or separate to the arrangements with industry. Many of the issues in fisheries relate to other stakeholders, including shared access, cultural or recreational enjoyment, maximising returns from these resources and caring for the marine environment. The approach for bringing in other interested stakeholders may not be too different from the trials undertaken with the commercial sector.

### **Validating the co-management framework proposed by the FRDC working group**

The report 'Co-management: Managing Australia's fisheries through partnership and delegation' was developed to assist and guide the testing and development of co-management as a means to improve fisheries management outcomes. The trials conducted with Lakes Entrance, NPFI and GABIA validate the approach outlined by FRDC (2008) and in particular, the set of pre-conditions for successful co-management. The report also highlights the attributes of mutual trust and respect. In the experience of the trials, co-management is very much about its participants, both industry and government, developing and applying these attributes. The method undertaken in the trials was based around the steps outlined in the FRDC report for taking co-management forward. This process worked well and allowed flexibility for each group to shape their co-management arrangements to suit their fishery. It has been remarked that there is no 'one-size-fits-all' in fisheries management and these trials support this observation.

More care should have taken in developing agreed performance measures from the outset of the project and while this has not prevented the continuation of the co-management arrangements, greater clarification of the results may have resulted, although this report captures and describes the results in most cases qualitatively.

The FRDC report, while recognising that other stakeholders are relevant in co-management, had its focus on the commercial fishing sector.<sup>35</sup> Guidance for bringing other stakeholders into co-management would be useful although this may be achievable in further co-management trials.

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<sup>35</sup> The definition of co-management used in the co-management report includes, government, fishers, and other interest groups and stakeholders.

# Conclusion

This report concludes there is current potential for co-management in Commonwealth fisheries within the constraints of industry groups meeting pre-conditions described in FRDC (2008). Co-management arrangements of lesser complexity, such as collaboration agreements, can also be used more broadly as a means of managing fishery-specific problems.

Arrangements for co-management can be negotiated relatively simply but there needs to be clear specification of roles and responsibilities. There is enabling legislation for co-management in Commonwealth fisheries legislation. In the case of AFMA, a delegate appointed in accordance with the legislation becomes an agent of AFMA. The legislation is structured such that responsibility and accountability for carrying out domestic fisheries management functions and powers in pursuit of the legislative objectives is never transferred from AFMA when delegated.

Fisheries management functions shown in the trials to be managed successfully by a competent industry group include data collection and management, project management of fishery independent surveys, research planning and priority setting, advisory and consultation activities, industry-led observer programs that complement independent observer programs and compliance with codes of conduct. Competent industry bodies demonstrate project management capacity, which could be applied to fishery management functions yet untested. While key decision-making powers, such as setting fishing capacity, were not delegated, advice on such matters was accepted by AFMA under the trials. This indicates that there is not likely to be a barrier to the delegation of decision-making powers under well-constructed co-management arrangements with a competent fishery body where there is relevant policy or legislative frameworks for making such decisions.

Co-management at the collaborative level can also be undertaken with fishing and processing businesses as a means of streamlining administration processes. This can save time and resources for industry and government. The trials demonstrated that greater use of genuine collaboration will improve the relationship between industry and government. While collaboration is a powerful tool for building trust, it can also lead to solving difficult problems in fisheries management. Collective skill and broad support can be harnessed through genuine collaboration.

There are limitations to co-management that could be addressed with some change in both government and industry. This would improve and widen co-management potential. The limitations stem from two key areas. The first change needed stems from the disparate character of some sectors of the Australian fishing industry, which has limited the capacity and/or appetite for supporting peak industry representation. A few individual fisheries have recognised this problem and have organised their own peak representation. These bodies, if well supported and governed are well placed to participate in and benefit from co-management at the fishery level. Government will always find it hard, if not impossible, to collaborate with a multitude of individuals. Peak representation is crucial to an efficient and effectively managed commercial fisheries sector, particularly under co-management.

The second key area of limitation is funding co-management activity at the fishery level. Funding is currently complicated on one hand by government rules and obligations and on the other by the fund raising problems facing industry. Government is subject to stringent financial management and accountability rules, while industry finds it difficult to raise funds where some operators are not members of, and do not contribute to, the representative industry body. Fishery self-funded co-management will deliver greater financial benefit and remove frustrations that industry has when shackled to government processes.

While AFMA believes that on the whole, it delivers efficient and cost-effective fisheries management, this does not mean that a competent industry group could not do it for less cost or to an equally acceptable or better standard. Greater economies of scale may be able to be achieved through co-management if it were undertaken at an industry rather than fishery level. This is in part due to private

industry being generally less fettered than government and able to achieve lower overhead structures but also due to the capacity to take on whole service programs which are industry-wide. The benefits of strong representation also go beyond saving costs of management. In an environment where consumers are becoming more influenced by sustainability there is more incentive for industry to demonstrate stewardship through its practices. Co-management provides industry an opportunity to do this under its own leadership. The industry bodies showed in the trials they can have a positive influence within their own sector to the benefit of service delivery and policy outcomes.

Notwithstanding the potential for conditions affecting industry and government to change, achieving stability and security is important. Co-management offers capacity to build a more stable management framework with greater collaboration between government and industry and this may improve resilience to changing conditions. The trials show that such a relationship needs to be built from the ground up and be based on trust and respect.



# Implications

The trials show that fishing industry groups can play a greater role in the management of fisheries if they possess a number of the key attributes described as pre-conditions by FRDC (2008). In doing so, the relationship with the regulator can become more business-like and mutually productive. The full suite of potential benefits from co-management is not yet clear and some fisheries will remain cautious about taking a co-management path. It is clear that meeting certain pre-conditions is necessary for successful co-management, particularly the need for industry groups to be well represented by a competent organisation having strong support and the resources to engage in co-management. Some fisheries may not meet nor seek to meet the pre-conditions.

The trials show that across the range of different fisheries there is not likely to be a 'one size fits all' model of co-management and the arrangements for co-management will be designed around the uniqueness of the fishery. The disparate nature of Australian fisheries will continue to limit the benefits of co-management because it is difficult to achieve economies of scale undertaking varied co-management activities on a fishery by fishery basis.<sup>36</sup> Industry's current limited capacity to generate voluntary funds to purchase fisheries management services will also limit the potential benefits of co-management.

Communities expect governments to maintain sustainable fisheries that provide access to sustainably caught seafood. Co-management can make a positive contribution to AFMA's pursuit of the legislative objectives and under the right conditions can engender a responsible approach to fishing. The community and others with an interest in fisheries will continue to demand transparency in the management of community resources and will want to ensure fisheries continue to be managed to the highest standards possible. The application of co-management could be seen as a fundamental shift and it will be important that this change be properly communicated. There may also be expectations from other stakeholders to engage in co-management. This may improve levels of community support for commercial fishing.

Co-management is still developing but will require supporting policy, potential revisions to legislation and a flexible or alternative structure within the governing agency. The lack of flexibility of a government agency can inhibit the potential of co-management. For managers and policy makers, co-management is a break from tradition. It requires preparedness for and instigation of change in attitude and culture. It may also require skill sets that fishery managers may not currently possess. For example managers would have a greater focus on auditing and monitoring under a more delegated model. While AFMA is the primary agency responsible for managing Commonwealth fisheries, the Department of Environment also administers legislation that impacts fisheries and their management.

Furthering co-management cannot be imposed by government or industry. The terms need to be negotiated in collaboration with regulators, resource users and other stakeholders. Government can encourage co-management through policy development, enabling legislation and greater flexibility in the funding of co-management services.

The concept of co-management and particularly at the "delegated responsibility" end of the spectrum is dependent on mutual trust. The regulator must trust the industry group and the industry must trust the regulator. Where this has not existed previously, co-management may be developed cautiously. The trials demonstrated that trust can be developed and nurtured but it takes the will and agreement of both parties and like any partnership will be put to the test. Commitment to improvement and resilience to its achievement must exist on both sides.

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<sup>36</sup> *Comanagement for Commonwealth Fisheries*, 2008. Fisheries Economics, Research and Management Pty Ltd, Project R05/0783, Australian Fisheries Management Authority, Canberra, 45.

# Recommendations

The authors supported the following recommendations out of the trials of co-management in Commonwealth fisheries:

**The outputs from these trials should be communicated to the broad range of fisheries stakeholders, the Government and the general community.** The authors noted that many fisheries are yet to understand the potential benefits from co-management and/or how co-management is developed and implemented. While the experiences from the trials do not fully demonstrate all potential benefits and costs, they should give fishing industry groups insight enough to consider or trial co-management at a level that suits their circumstances. There is little risk from investigating co-management and it is shown that the aspects that work well can be adopted while those that do not can be terminated.

**Agencies should seek whole-of-government policy support for co-management as a legitimate fisheries management framework.** While some governments have included co-management into their fisheries policy framework, not all have. Despite supporting the development, trial and adoption of co-management in Commonwealth fisheries the Government is yet to make this approach part of the Commonwealth Fisheries Policy. This is needed to provide greater certainty for the fishery groups working in this area already and for those yet to consider the approach. Under good governance, risks can be identified and managed. For benefits from co-management to continue developing through industry and government investment, a more certain policy framework is needed.

**Additional work needs to be done to gain greater agency-wide support for and adoption of a co-management culture.** Co-management is a shift from the norm in Australian fisheries management. It is clearly a partnership approach that requires mutual trust and respect between the parties but this culture must exist widely among the industry and the managing agency. Given that decisions are often a result of agreement at multiple levels within the agency, so must the culture exist at multiple levels.

**Flexible funding models are needed to maximise cost efficiencies from co-management arrangements.** Government agencies are subject to far greater accountabilities and rules than private enterprise. The trials demonstrated that funding for industry bodies to undertake co-management can be more complicated and constrained if it occurs within the cost recovery system. Industry finds it difficult to fund co-management voluntarily, despite the potential for cost saving. It is recommended that alternative funding models are needed to achieve the full benefit from industry providing fishery management services.

**The regulatory frameworks, for example, policies and management plans need to be as aligned as possible to facilitate co-management strategies being trialled and adopted in any fishery.** Australian fisheries are disparate and unique in many respects so there is unlikely to be a 'one size fits all' formula for co-management in Australian fisheries. The prospect of co-management is made more complex where management arrangements across fisheries are different and where managements within the fishery are overly prescriptive. Co-management implies industry taking on a greater role and exercising leadership in the fishery. This would be subdued under complex and prescriptive arrangements.

**Co-management should not be forced and must be built on the basis of mutual trust and respect.** Noting the nature of Australian fisheries, co-management may not result in benefits in all fisheries and given the demonstrable pre-conditions for successful engagement in co-management, not all fisheries will be able to adopt co-management. It is therefore recommended that co-management be an approach that is encouraged and made available rather than an approach that industry is pushed to adopt. This would be counterproductive because it is the voluntary nature of the approach that contributes significantly to making it work. This is analogous to self-determination.

**Industry needs to organise itself to support fishery representative organisations.** It has been demonstrated that a competent industry organisation is a critical pre-condition for successful co-management. However, if more fisheries became organised in this way, the more potential there would be for further economies of scale to benefit the industry. Leadership and good governance will serve industry in many ways, not just enabling co-management.

**Competent industry groups such as NPFI and GABIA are well placed to further develop co-management, for example, to investigate a ‘standards and audit’ approach to co-management.** While delegating functions is depicted as the extreme end of the co-management continuum, this should not imply that the functions to deliver good fisheries management must be undertaken in a prescriptive way. To do so may inhibit innovation, limit efficiency and constrain policy outcomes. Co-management could be delivered in a way that invokes innovation and best-practice in the industry. At least one Commonwealth industry group has raised an interest in a ‘standards’ approach to co-management whereby the industry demonstrates it can operate under well-defined standards that can be monitored and audited. The authors believe such an approach should be investigated.

## Further development

Co-management was tested but not to its fullest extent in these trials. Some fisheries management functions were successfully taken on by industry groups, but decision-making remained largely with AFMA. A greater range of functions with more decision-making could be taken up by competent Commonwealth fishery bodies and this warrants further on-ground investigation. Not all industries will necessarily want to engage in co-management to any significant extent but some may find benefits in increasing collaboration with AFMA to achieve better policy outcomes. This can be pursued on an opportunistic basis and does not require further investigation.

A number of different stakeholder groups have an interest in good fisheries management. In some cases the interest is about sharing the marine environment space or sharing the fisheries resources. In other cases it is about preserving culture or conservation of the marine environment. Fisheries cannot be properly managed in isolation from the range of stakeholders. Further investigation on how to best incorporate other stakeholders in co-management arrangements is also warranted.

Co-management, like the fisheries themselves and the business environment in which they operate, is likely to evolve. The models being used around the world to increase participation, improve stewardship and to increase efficiency are likely to change. This in itself will drive the need for further development, but for now there is much to be done within the current framework of fisheries management to improve co-management through on-ground investigation with interested and innovative sectors of the industry.

# Extension and Adoption

The final report will be posted on the AFMA web-site. The results of this project will be presented to the Australian Fisheries Management Forum. An AFMA News article will notify Commonwealth fishers and other stakeholders of the availability of the final report.

Co-management will continue to be used and further developed where practical in Commonwealth fisheries. It is also expected that a co-management approach involving arrangements for collaboration and increased industry responsibility will be taken up in other fisheries as an alternative means of resolving fishery-specific issues.

The co-management report will be developed into a short paper for submission to a relevant fisheries policy journal.

# Project coverage

The project and its progress were reported in AFMA news articles throughout the course of the trials.

The project received coverage in FISH during the trial period, making reference directly about the trials and more generally about co-management, including in other Australian jurisdictions;

*“Co-management nets cost savings”* September 2008

*“Industry stalwart sees hope in shared management”* March 2009

*“Mr Crosthwaite goes fishing”* March 2010

*“Engagement: The first step for co-management”* June 2010

*“Co-management to benchmark new standards”* March 2011

*“Co-management critique”* June 2011

The project received coverage at Seafood Directions 2010 in Melbourne, Australia:

*“Co-management as an important cog in the supply chain”*

[http://www.seafooddirections.net.au/images/archivecontent/2010\\_Melbourne/SD10\\_2\\_Steve%20Bolt on.pdf](http://www.seafooddirections.net.au/images/archivecontent/2010_Melbourne/SD10_2_Steve%20Bolt%20on.pdf)

*“Great Australian Bight Trawl Fishery and Co-management”*

[http://www.seafooddirections.net.au/images/archivecontent/2010\\_Melbourne/SD10\\_2\\_Jeff%20Moore.pdf](http://www.seafooddirections.net.au/images/archivecontent/2010_Melbourne/SD10_2_Jeff%20Moore.pdf)

# Project materials developed

The following materials were developed during the trials (Appendices 3-9):

Memorandum of Understanding (used by each trial group)

Lakes Entrance Code of Practice

GABIA Co-management Arrangement

GABTF Boat Operations Procedures Manual

NPFI Co-management Policy

NPF Catch and Effort Information Data Management Plan

AFMA Audit Approach

# Appendices

## Appendix 1 - List of researchers, project staff and contractors

### Researchers

Steve Bolton - Principal Investigator

Annie Jarrett – Co-investigator

Jeff Moore – Co-investigator

Dale Sumner – Co-investigator

Shalan Bray – Co-investigator

Matt Barwick – Co-investigator

John Andersen – Co-investigator

### Project Staff

AFMA staff - Jillian Harrap, Mallory Terwijn and Lara Johnson

### Contractors

Gerry McNamara – Auditing Consultant



## **Appendix 2 - Trial fisheries – some key statistics**

The following key statistics are drawn from Fishery Status Reports 2011 – Australian Bureau of Agricultural and Resource Economics and Sciences.

### **Southern and Eastern Scalefish and Shark Fishery - Commonwealth Trawl Sector**

#### **Area**

The SESSF, including the Commonwealth Trawl Sector (CTS), covers the area of the Australian Fishing Zone extending southward from Sydney around the NSW, Victorian and Tasmanian coastlines to Cape Jervis in South Australia. The fishery is a primary source for a wide range of scale fish and some shark species for domestic consumption in south-eastern Australia.

#### **Principal species**

The fishery is multi-species but the principal species caught are Blue Grenadier, Tiger Flathead, Pink Ling and Silver Warehou.

#### **Estimated catch**

2010-2011: 14,694 tonnes

#### **Estimated value of production**

2009-10: \$55.4m

#### **Main markets**

Fresh fish supplied to the eastern seaboard (Sydney and Melbourne) and some export components.

#### **Fishing methods**

Predominantly otter trawl and danish seine methods, with some mid-water trawling.

#### **Number of fishing concessions**

59 Boat statutory fishing rights

#### **Stock status (CTS and scalefish hook)**

Of the 28 fish stocks assessed in 2011 sixteen stocks were assessed as neither overfished nor subject to overfishing. Three stocks were assessed to be overfished but not subject to overfishing. Three stocks were uncertain with respect to being overfished but not subject to overfishing. Two stocks were assessed as both overfished and subject to overfishing. One stock was assessed as overfished but uncertain with respect to overfishing. Three stocks were uncertain both with respect to being overfished and being subject to overfishing.

#### **Consultation and communication**

The consultative process for the CTS occurs through the South East Management Advisory Committee (SEMAC).

## **Southern and Eastern Scalefish and Shark Fishery - Shark Gillnet and Hook Sector**

### **Area**

Same as CTS but fishing areas are more limited

### **Principal species**

Gummy Shark

### **Estimated catch**

2010-11: 1834 tonnes

### **Estimated value of production**

2011-12: \$16,500,000

### **Main markets**

Fresh fish supplied to the eastern seaboard and some export components

### **Fishing Methods**

Shark gillnet and shoo

### **No. of fishing Concessions**

Gillnet 62

Shark Hook 13

### **Stock status**

Four species were assessed in 2011. Both Elephantfish and Gummy shark were assessed to be neither overfished nor subject to overfishing. Saw shark was assessed as uncertain and School shark overfished and subject to overfishing.

### **Consultation and Communication**

The consultative process for this sector occurs through SEMAC.

## **Great Australian Bight Trawl Fishery**

### **Area**

The Great Australian Bight Trawl Fishery (GABTF) extends from Cape Leeuwin in Western Australia to Cape Jervis near Kangaroo Island in South Australia. Apart from some coastal areas closed to fishing the fishery extends to the edge of the 200nm Exclusive Economic Zone (the Australian Fishing Zone)

### **Fishing grounds and principal species**

The Sector is primarily a demersal (bottom) and developmental mid-water trawl sector based on regular trawling of shelf and upper slope species and periodic trawling for the deeper dwelling species. The GABTS is based on demersal catches from three distinct depth regions: the shelf/upper slope fishery, slope fishery and the deepwater fishery. The shelf fishery in less than 200m depth is where the majority of the catch, Deepwater Flathead and Bight Redfish, are caught. The slope fishery extends from about 200 to 700m depth with sporadic targeting of Blue Grenadier, Western Gemfish and Pink ling. The deepwater fishery in waters 700-1000m historically targeted Orange Roughy.

### **Estimated catch**

2011-12: 2,280 tonnes

### **Estimated value of production**

2010-11: \$11,100,000

**Main markets**

Melbourne and Perth

**Fishing methods**

Otter trawl, some mid-water trawling and Danish seine

**No. of Fishing Concessions**

10 boat statutory fishing rights (SFRs) – 5 active vessels in this period

**Stock status**

Deepwater Flathead, Bight Redfish and Ocean Jacket (west) were assessed as not overfished and not subject to overfishing. Orange Roughy is uncertain with respect to being overfished but is not subject to overfishing.

**Consultation and communication**

The consultative process for the GABTF occurs through the Great Australian Bight Trawl Fishery Management Advisory Committee (GABMAC) and through co-management arrangements with the Great Australian Bight Industry Association (GABIA).

**Northern Prawn Fishery****Area**

The Northern Prawn Fishery (NPF) is located off Australia's northern coast, and extends from the low water mark to the outer edge of the Australian Fishing Zone in the area between Cape York in Queensland and Cape Londonderry in Western Australia.

**Target Species**

The NPF targets nine commercial species of prawns including White Banana, Red-legged Banana, Brown Tiger, Grooved Tiger, Blue Endeavour and Red Endeavour prawns. Scampi, squid, scallops and bugs are also taken.

**Estimated catch for principal species for 2011 (tonnes)**

Banana Prawns 7,141; Tiger Prawns 749; Endeavour Prawns 437

**Estimated value of production for 2011**

\$94.9 million

**Main markets**

Banana and endeavour prawns are mainly domestic fresh and frozen and tiger prawn is mainly export frozen to Japan

**Fishing method**

Otter Trawling

**Maximum number of Boat SFRs**

52- all boat SFRs utilised in the fishery

**State of the Resource (BRS, 2013)**

Banana Prawns – not overfished and not subject to overfishing  
Brown Tiger Prawns – not overfished and not subject to overfishing  
Grooved Tiger Prawns – not overfished and not subject to overfishing  
Blue Endeavour Prawn – not overfished and not subject to overfishing  
Red Endeavour Prawn – uncertain

**Consultation and Communication**

The consultative process occurs through the Northern Prawn Fishery Management Advisory Committee (NORMAC) and through co-management arrangements with the Northern Prawn Fishery Industry Pty Ltd (NPFIL).

**Marine Stewardship Council**

The Northern Prawn Fishery is certified against Marine Stewardship Council (MSC) standards for sustainable wild caught fisheries.

**Appendix 3 - Memorandum of Understanding (NPI example – as used by each trial group)**

**MEMORANDUM OF UNDERSTANDING**

**between**

**AUSTRALIAN FISHERIES MANAGEMENT AUTHORITY**

**and**

**NPF INDUSTRY PTY LTD**

THIS MEMORANDUM OF UNDERSTANDING is made on the \_\_\_\_\_ day of 2008 between the AUSTRALIAN FISHERIES MANAGEMENT AUTHORITY and NPF INDUSTRY PTY LTD.

## **INTERPRETATION**

In this Memorandum of Understanding (Memorandum):

"Concession holder" means the holder of a statutory fishing right;

"Co-management Policy" means the Co-management Policy found at Annex 1;

"NORMAC" means the Northern Prawn Fishery Management Advisory Committee established by AFMA under the Fisheries Administration Act 1991.

"NPF Industry Pty Ltd" means the incorporated proprietary limited company registered with the Australian Securities and Investment Commission.

## **OBJECTIVES**

This Memorandum:

1. Provides a formal basis for NPF Industry Pty Ltd, representing shareholders who are Commonwealth fishers operating in the Northern Prawn Fishery (NPF) and other Commonwealth fishers operating in the NPF who are not shareholders, to participate in the trial of Co-management with the Australian Fisheries Management Authority (AFMA).
2. Establishes a basis for NPF Industry Pty Ltd to deal directly with AFMA on a range of commercial and / or operational matters normally dealt with by NORMAC. This is to provide:
  - a. greater NPF industry involvement in the management process;
  - b. greater efficiency and cost-effectiveness of consultation between the NPF industry and AFMA;
  - c. greater efficiency and cost-effectiveness of a range of management activities; and
  - d. an improved working relationship between the NPF industry and AFMA.

## **AGREEMENT**

NPF Industry Pty Ltd and AFMA agree to operate in accordance with the arrangements set out in the co-management policy (annex 1).

This Memorandum and associated arrangements do not in any way diminish AFMA's responsibilities in relation to the pursuit of its legislated objectives or in the performance of its functions. AFMA reserves the right to take prescribed actions under legislation in relation to breaches of conditions and obligations pertaining to the fishing concession.

This Memorandum contributes to the overall co-management trial in the NPF. Other services (co-management functions) being undertaken by NPF Industry Pty Ltd as agents of AFMA are provided for in a separate contract.

## **GENERAL CONDITIONS**

### Organisation Contacts

Officers from each organisation will be appointed to maintain contact on behalf of their respective organisation in relation to matters covered by the Memorandum. These officers are as follows:

#### **AFMA:**

Chief Executive Officer

#### **NPF Industry Pty Ltd:**

Chief Executive Officer

### Terms of Memorandum

The Memorandum will remain in force until terminated by either party (AFMA and NPF Industry Pty Ltd). Termination may be by either party at any time through written notification to the other signatories.

The Memorandum may be amended at the request of either party subject to both parties agreeing in writing to the change.

Following the first 12 months of this Memorandum being in effect, both groups will review the arrangements agreed to in this Memorandum. In particular, this review will focus on the performance of the trial in terms of the expected benefits to the parties.

### Legal standing

This Memorandum does not create any legal relations between the parties and no aspects are legally binding.



IN WITNESS WHEREOF the parties have executed this Memorandum of Understanding as at the date indicated.

Signed on behalf of the  
Australian Fisheries  
Management Authority by

Signed on behalf of NPF Industry Pty  
Ltd

.....

.....

Chief Executive Officer

Chairman, Director NPF Industry Pty  
Ltd

in the presence of

in the presence of

.....

.....

.....  
(print name)

.....  
(print name)

**Appendix 4 - Lakes Entrance Code of Practice**



Australian Government  
Australian Fisheries Management Authority



# CO-MANAGEMENT TRIAL

## LAKES ENTRANCE

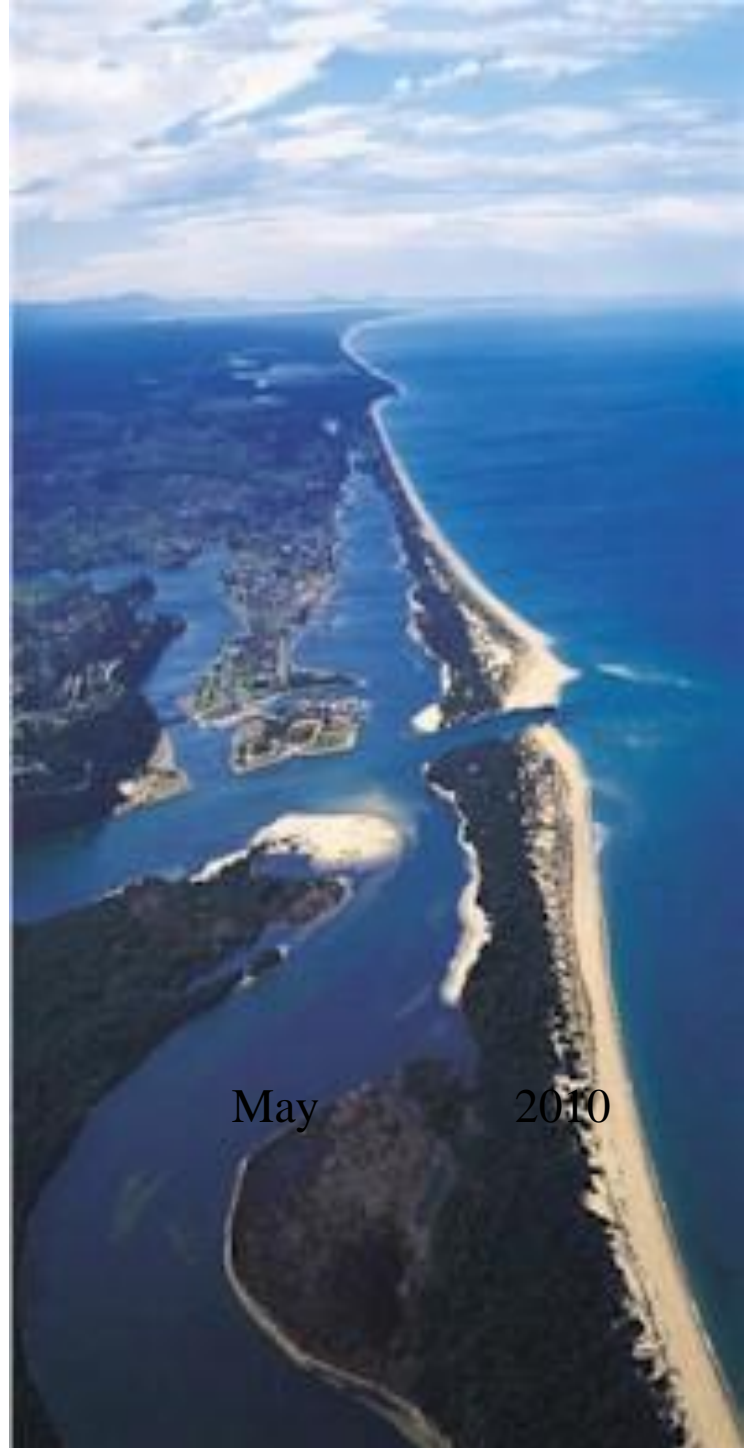
## CODE OF PRACTICE

Phase

Three:

May

2010



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## 1. Background

Co-management has been described as sharing roles and responsibilities between the fishing industry and AFMA in a way that improves and potentially maximises the efficiency and effectiveness of management and administrative arrangements. An effective system of co-management is considered to provide a range of benefits to both industry and Government, including a basis on which to continue securing fisheries resources whilst securing the business of fishing. The current climate of economic, environmental and social pressures acting upon the fishing industry provides a strong incentive to explore the possibilities of co-management.

In 2008, the Lakes Entrance Fishermen's Cooperative Society Limited (LEFCOL) and a number of individual Lakes Entrance fishers initiated a trial of co-management with the Australian Fisheries Management Authority (AFMA). The trial which commenced 1 May 2008, was based on a range of simplified and altered administrative practices between the LEFCOL, Commonwealth fishers based in Lakes Entrance and AFMA. The trial provided an opportunity to try new business arrangements, different approaches to regulation and a more collaborative approach to fishery management.

Following a successful two years trialling co-management in Lakes Entrance, LEFCOL, individual fishers and AFMA wish to further explore and continue to trial co-management in Lakes Entrance.

Phase three of the Lakes Entrance co-management trial commences on 1 May 2010, as part of the trial, the fishing industry will commit to a high standard of business operations and AFMA will trust and respect this commitment through flexibility and innovation in management and administration. As partners in the trial, both AFMA and industry will work together to develop, implement, refine and test alternative management and administrative arrangements

## 2. The trial

The Lakes Entrance co-management trial is open to Commonwealth fishers endorsed to operate in the Southern and Eastern Scalefish and Shark Fishery (SESSF), whose principal business is based in Lakes Entrance and who generally operate from Lakes Entrance. The trial will take place for the 12 months of the 2010-11 SESSF fishing season commencing on 1 May 2010. During the 2010-11 SESSF season the trial and associated arrangements will be extended to other ports, fishing co-operatives and fishers where practicable.

The intent of the trial is to explore opportunities for industry to play a greater role in developing and implementing new management and administrative arrangements, including monitoring and information collection functions.

The trial will be monitored mainly through auditing functions and periodic reviews undertaken by a working group. Auditing will cover LEFCOL, Lakes Entrance Danish Seine Unit Trust (LEDSUT), other company structures and those individual signatories to the trial whose business activities are not fully associated with LEFCOL.

LEFCOL, company structures and individual signatories will conduct their fishing and associated operations in a responsible manner, striving for continuous improvement and cooperation, using information and technology as it becomes available. This will be demonstrated through commitment to the practices agreed to under the trial.



### **3. Purpose and application of the Code of Practice**

The purpose of this Code of Practice (the Code) is to document the accepted and agreed practices for all participants involved in the SESSF Lakes Entrance co-management trial. Operators participating in this trial agree to the Code through signing the Memorandum of Understanding (MoU) and acknowledge their understanding and acceptance of the trial arrangements. It is the responsibility of concession holders/trial participants to ensure their skippers and crew members are aware of the arrangements of this trial and comply with relevant obligations.

This code applies to:

- Australian Fisheries Management Authority (AFMA);
- Lakes Entrance Fishermen's Cooperative Society Limited (LEFCOL);
- Lakes Entrance Danish Seine Unit Trust (LEDSUT) and other company structures; and
- Individual signatories to the MOU.

This Code may be amended in the course of the trial to include new and/or additional arrangements that will enhance the overall development of co-management for the benefit of all parties. Amendments will be discussed with the Lakes Entrance co-management working group and signatories to the trial prior to inclusion into the Code.

### **4. Code not to affect other Codes of Practice**

AFMA and the participants in this trial recognise that a code of practice currently exists for the SESSF (developed by the South East Trawl Fishing Industry Association (SETFIA)) and at no stage is the co-management code of practice intended to overrule or contradict anything contained in that code.

### **5. Principles of the Code**

In designing the trial the following guiding principles apply:

- Industry's role is to manage their business in a way that meets their obligations and needs;
- AFMA's role is to manage fisheries resources in a way that instills confidence in the Australian community that sustainable fishing practices are met;
- Facilitation and acceptance of change by AFMA and acceptance of new responsibilities by industry;
- Mutual trust and respect from industry and AFMA;
- Functions are of benefit to industry and AFMA;
- Functions are generic and can be applied elsewhere;
- Functions are cost-effective and balanced against the efficient delivery of services and AFMA's legislative objectives; and
- Functions increase the accuracy and timeliness of information for decision-making.



## 6. Obligations under the Code

### 6.1 All participants

Signatories to the trial will operate their fishing activities in accordance with the provisions of the Code. Signatories to the trial will also operate their fishing activities in accordance with the *SESSF Management Plan 2003* and related fisheries management regulations unless otherwise stipulated by the Code.

It is the responsibility of concession holders/trial participants to ensure their skippers and crew members are aware of the arrangements of this trial and comply with relevant obligations.

Trial participants recognise the benefits of a sustainable fishery and commit to making an individual contribution to achieving sustainability through responsible fishing practices. To this end, participants commit to the following obligations.

#### 6.1.1 Vessel operations

Trial participants will ensure their fishing operations are carried out in accordance with Commonwealth fisheries management arrangements and legislative requirements. All participants will operate their vessel in accordance with the [Vessel Checklist](#) (Appendix 1), which details the relevant obligations. These will be subject to random audits performed by AFMA staff.

#### 6.1.2 Gear requirements

Trial participants will comply with the fishing gear requirements 'defined' under the relevant Commonwealth SESSF concession, permit or management arrangement for each method of fishing. Only defined gear, including specifications established under the Code will be carried and used on trial participant's vessels.

The [Fishing gear types and methods](#) (Appendix 2) detail the gear types and specifications that will be carried and used during the trial. Gear possession requirements will be monitored by AFMA staff through random audits.

Trial participants, through this code, acknowledge that responsible fishing practices stem from using and possessing, whether in port or at sea, fishing gear that complies with the standards set in this Code.

Gear that is subject to change as requirements change will be reflected in a revised Code.



### **6.1.3 Catch recording**

Effective fishery management is dependent on relevant information. To contribute to quality management, participants in the trial agree to provide accurate daily estimates of retained catch and detail all interactions with protected and prohibited species, including accidental catch.

Participants in the trial recognise the need to minimise bycatch and discarding of target species. Participants will support AFMA's bycatch and discard program and work under that program to estimate and characterise bycatch and discards in their fishing operations and develop strategies, such as improving selectivity of fishing gear to minimise bycatch and discarding.

#### **6.1.3.1 Logbooks**

All trial participants agree to provide accurate, daily estimates of retained catch in the appropriate logbooks, including detailing discards and interactions with protected and prohibited species. Log sheets should be returned to AFMA within three days of landing, LEFCOL will help facilitate this through providing log sheets to LEFCOL at the time of landing.

The accuracy and timeliness of catch data is recognised by trial participants as fundamental to improving the store of information, ensuring robust decision making and facilitating effective fisheries management.

#### **6.1.3.2 e-Logbooks**

AFMA is committed to the development of e-Logs to make the provision of fishery information easier and more effective. Participants will support testing of e-Logs, as an alternative to logbooks, when systems become available.

### **6.1.4 Quota balancing**

Phase three of the Lakes Entrance code of practice involves the continual balancing of quota against catch. Trial participants agree that an effective quota system is needed to support an ecologically and economically sustainable SESSF. Significant problems can develop under an ineffective quota management system, such as increased discarding, black market fish, reduced SFR value and inaccurate information for stock assessment. AFMA is undertaking a review of quota management in Commonwealth fisheries. This review will lead to the development of a quota management policy that is consistent with AFMA's legislation and objectives and works in the interests of the fishing industry.

The purpose of the quota management aspect of the trial is:

- for industry to continually balance quota against catch;
- for AFMA to efficiently and cost-effectively monitor quota use; and
- to investigate the range of problems that may arise under a system of continual balancing of quota against catch.



Trial participants agree to:

- manage their quota holdings to suit their fishing activities at all times during the fishing season (the objective is for fishers to do this for each fishing trip);
- make contact with AFMA when a quota management problem arises; and
- work with AFMA to understand quota management problems, ensuring that overfishing or poor fishing practices do not occur as a result.

Should trial participants be over quota for greater than 500 kg of any quota species for 30 days and not contact AFMA to discuss the situation, the trial participant will be contacted by AFMA and be required to reconcile the over quota position within seven days. Failure to reconcile will result in suspension until the over catch position is reconciled.

These arrangements will be reviewed at the first Lakes Entrance trial working group meeting for phase three.

In all cases, catch of quota species landed to the end of the SESSF season on 30 April 2011 must be reconciled by the date requested by AFMA in writing.

This element of the trial includes AFMA working with trial participants to provide input to the quota management review process.

The AFMA contacts to discuss over quota issues during the trial are:

Steve Bolton  
Senior Manager, Co-management  
Ph: 02-6225 5328 or 0412741207  
Email: [Steve.bolton@afma.gov.au](mailto:Steve.bolton@afma.gov.au)

Shalan Bray  
Manager, Co-management  
Ph: 02-6225 5383  
Email: [Shalan.bray@afma.gov.au](mailto:Shalan.bray@afma.gov.au)

#### **6.1.5 Carry-over and carry-under**

Trial participants will observe the over and under determinations for quota species in accordance with the SESSF management arrangements.

#### **6.1.6 Observers**

Independent monitoring of fishing activities provides verified fishery information vital to the overall management of the fishery and a source for validating management processes for the community. Trial participants will support AFMA's observer program as an element of responsible fishing practices and agree to contribute towards meeting program coverage targets through the carriage of observers. The observer program seeks to spread the overall targeted observer coverage widely throughout the fleet and fishery. Trial participants will meet any specific observer requirements applying to the SESSF gear sectors.

Trial participants and associated skippers contacted by the AFMA observer section agree to inform the observer section regarding their next trip so that an observer may be placed on board. Communication between fishers and the observer section is vital for the efficient placement of observers on vessels.

### 6.1.7 Self-regulation

Abusing fisheries regulations and conditions, such as avoiding the use of quota and fishing illegally, erodes the value of fisheries and fishing rights. To make it easy for fishers to report such activities, AFMA has developed an **1800 CRIMFISH (1800 267 634)** crime hotline number for reporting all suspected or known Commonwealth domestic fisheries offences.

Trial participants and all other responsible fishers are encouraged to report to AFMA through this number on any illegal fishing activities or practices they have knowledge of or observe. This will assist in enhancing compliance and apart from protecting fishery resources and fishing rights, could potentially lead to reduced monitoring costs.

It is preferred but optional if callers wish to identify themselves to AFMA, however AFMA requires the date, place and time of the suspected offence and details of any person(s) of interest. Callers that do provide their identification can remain anonymous in respect to any follow up or prosecutions that may result.

### 6.1.8 VMS and navigating in closures

Trial participants highlighted to AFMA the issue of vessels fishing in closures (both SESSF and voluntary closures) and the difficulty with monitoring closures, especially industry imposed voluntary closures. On 12 February 2010, AFMA put in place a regulation that uses VMS, vessel location, speed and time spent within regulated closures to monitor activity in closures. The regulation prevents vessels navigating through a closure unless they are steaming at a speed greater than five knots for a period greater than 30 minutes (navigation parameters). These parameters allow vessels to legitimately transit through closures in a way that is not consistent with fishing.

As part of phase three of the Lakes Entrance co-management trial, participants agree to AFMA monitoring voluntary closures using VMS with the same navigation parameters used for regulated closures.

Specifically, trial participants agree to the following in relation to SESSF and voluntary closures:

1. A master of a boat must not navigate through a closure, unless, the information given by the boat's vessel monitoring system shows that:
  - a. The boat was navigated in the closure for a period of 30 minutes or more; and
  - b. Whilst in the closure the speed of the vessel was not between 0 and 5 knots as calculated below.
2. A boat may navigate through a closure if:
  - a. AFMA had given approval for the boat to be navigated in the closure because of an unforeseen emergency, or the circumstances were beyond the control of the boat; and
  - b. The boat was navigated in the closed zone in accordance with any instructions given by AFMA.
3. A boat's speed will be calculated:
  - a. by dividing the straight line distance between any two consecutive VMS points by the time elapsed between those consecutive points.



Trial participants must contact the AFMA duty officer on **0419 205 329** should the need to navigate at less than five knots in a closure arise.

Where a vessel is detected operating outside the navigation parameters in any closure (SESSF or voluntary) AFMA is to advise the relevant MAC and either SETFIA or SEFA of the vessel name, location, speed and the relevant closure. AFMA can only advise of this information if the trial participant provides permission for AFMA to do so by signing a disclosure of information form.

### **6.1.9 Communication**

During the trial, participants should contact AFMA if in doubt about any of the arrangements under the trial or if any issues arise. During such occasions it is important that both AFMA and industry are able to understand the nature of the problem, why it occurred, if it may affect the trial or if trial arrangements should be revised. Issues that are not reported or ignored may later be picked up during an audit process and potentially incur a penalty. This may be prevented through communication. If in doubt, let AFMA know by contacting the AFMA duty officer in the first instance on **0419 205 329**.

## **6.2 Operators landing to LEFCOL as the first receiver**

### **6.2.1 Catch disposal records (CDRs)**

Operators unloading to LEFCOL, as the first receiver, will not be required to complete a CDR. All catch information, based on individual unloading tally docket generated by LEFCOL, will be transferred to AFMA weekly. An operator may still choose to submit a CDR as per existing fishery-wide arrangements and should let LEFCOL know if this is the case.

#### ***Instructions for landing to LEFCOL***

All catch should come across the LEFCOL scales.

The following information needs to be provided to LEFCOL for each trip/landing:

- vessel name;
- trip start and finish dates;
- daily fishing logbook number and page number(s) used during the trip;
- if LEFCOL is the first receiver;
- state catch (species and quantity); and
- take-home pack (species and quantity).



### **6.2.2 Take-home packs**

During the trial take-home packs must be detailed on the tally docket, including species and quantity. Skippers are to notify LEFCOL staff of the details of the take-home pack as part of their catch declaration requirements. This information will be provided to AFMA to ensure that all catch records are recorded. A take-home pack maximum of 10 kg whole weight per trip for quota species and a maximum of 10kg whole weight per trip of non-quota species applies regardless of crew numbers or trip length. Take home packs greater than these amounts must be recorded on the CDR.

### **6.2.3 Prior reporting**

LEFCOL is committed to responsible fishing practices and supports AFMA's fishery management arrangements. Prior-reporting is therefore not required under the trial when unloading to LEFCOL.

## **6.3 Operators landing to other fish receivers**

### **6.3.1 Catch disposal records (CDRs)**

Where catch is not landed and received through LEFCOL as the first receiver, trial participants are required to complete and return the appropriate CDR as specified on the CDR instructions. This includes catch landed in Lakes Entrance and sent to other markets and receivers (where that market or receiver is the first receiver) or where catch is landed outside of Lakes Entrance.

## **6.4 LEFCOL**

### **6.4.1 Fish receiver operations**

As a responsible fish receiver, LEFCOL acts in the spirit of requirements placed on all authorised fish receivers. In particular, LEFCOL will maintain accurate records of all catch landed and received into the cooperative and will take responsibility for the submission of accurate catch landing information to AFMA. LEFCOL are accountable for and ensure all records accurately reflect the weight of each species caught for each operator at each landing into the cooperative and this information is transmitted to AFMA.

LEFCOL are to ensure the tally docket is not released back to the fishing operator until the following has been recorded for each landing:

- vessel name;
- trip start and finish dates;
- daily fishing logbook number and page number(s) used during the trip;
- the first receiver for quota decrementation purposes;
- state catch (species and quantity);
- take-home pack (species and quantity);
- docket details as per usual practice (species/quantities/boxes); and
- species processing form code.



LEFCOL will make available to AFMA any records required for auditing purposes. This includes, but not limited to, records of all catch landed into the cooperative, catch received and held, records of catch further consigned/transported to other fish receivers or overseas, catch sold to the co-operative shop or other local shops and any associated financial records.

LEFCOL will provide AFMA full support and access to information when required for auditing purposes.

#### **6.4.2 Automated data transmission**

LEFCOL, through the use of electronic scales and the integration of data with the Fish Tracker computer software, will electronically transmit all catch information to AFMA through a secure method, providing the details of each unload. The information to be transmitted includes operator, vessel, species, weights and size/grade information recorded on tally docket, and as detailed above (section 6.4.1).

Data is to be transmitted to AFMA weekly, originally in paper and excel format and electronically when this system is available.

In the event of a computer malfunction or breakdown (either at AFMA or LEFCOL), AFMA and LEFCOL will work together to develop a contingency plan to ensure the required data is collected and transmitted. This could include LEFCOL providing AFMA with the tally docket information and AFMA entering this information into the AFMA database.

### **6.5 Multi-company structures**

#### **6.5.1 Quota pooling**

Multi-company structures under the trial, such as the Lakes Entrance Danish Seine Unit Trust (LEDSUT) will be able to pool quota separate to boat statutory fishing rights (SFRs). A single representing entity will be nominated at the start of the SESSF fishing season and all quota from each concession holder would need to be seasonally transferred (leased) to the nominated entity at the start of the fishing season. The nominated 'single' entity will take responsibility for allocating and reconciling pooled quota holdings and related paperwork at the nine and twelve month reconciliation periods.

Vessel operators are responsible for the activities carried out whilst on a fishing trip and any related offences. The nominated entity will be liable for quota reconciliation and any related offences. As per current arrangements, levy invoices will be sent to individual concession holders.

Where multi-company structures are formed that involve vessels with different concessions/SFRs that utilise different types of fishing gear and target different species, any suspensions due to quota reconciliation offences will be directed towards the vessel(s) that primarily catch the over-caught species (for example, where a multi-company structure over-catches on gummy shark quota, AFMA would suspend the concession associated with the boat that targets gummy shark).

A specific trial involving the LEDSUT pool will involve monthly quota holdings being sent to AFMA to eliminate the need for quota transfers.



## **6.6 AFMA**

### **6.6.1 Compliance**

During the trial, AFMA will be developing its capacity to monitor compliance with most regulations being checked in port and as such will not carry out routine 'at-sea' vessel inspections in relation to trial vessels.

AFMA compliance staff may however be required to undertake an 'at-sea' inspection as part of a broader compliance operation. In such cases, AFMA may also coordinate compliance activity with state fisheries agencies. This type of activity is not considered routine or random in the context of day-to-day monitoring but may be an essential response for addressing suspected or known serious breaches of fisheries laws.

Victorian fisheries officers will not be commissioned to conduct vessel inspections for routine Commonwealth matters in relation to trial participants (noting that state fisheries officers may still check vessels for compliance with state regulations where such concessions are nominated on trial vessels).

### **6.6.1 Quota balancing**

As part of trialling new arrangements to quota balancing, AFMA commits to the development of an efficient, responsive quota monitoring strategy, and taking a collaborative approach with trial participants to understanding quota management issues within the fishery.

## **7. Offshore Constitution Settlement (OCS) arrangements**

OCS arrangements preserve jurisdiction and provide for complementary management of fisheries resources between the states and the Commonwealth. AFMA will work with the Department of Agriculture, Fisheries and Forestry (DAFF) and state fisheries agencies on the further development of OCS and associated arrangements. These arrangements can be made more efficient and effective whilst reducing the discarding of fish resources and simplifying cross-jurisdictional administration.

AFMA will instigate changes to existing arrangements under the trial where agreements can be reached with state and Commonwealth agencies and Ministers in relation to trialling alternative complementary management arrangements.

Changes currently being developed for the trial include an annual management arrangement to replace trip limits for some key species and standardisation of some arrangements across Victoria, Tasmania and New South Wales.

## **8. Penalty structure**

An agreed penalty structure covering breaches of key regulations and trial obligations is detailed in the MOU.

## 9. Trial working group

A working group has been formed to periodically review the trial arrangements, its performance and to recommend any improvements, additional arrangements and consider new participants. The working group will meet quarterly but may also meet on an ad hoc basis if needed to resolve specific issues requiring more urgent consideration.

## 10. Performance indicators / assessment

Apart from periodic reviews by the working group, the trial will be formally assessed against performance indicators to determine the capacity for AFMA to adopt a model of co-management in the SESS Fishery. For example, performance indicators are needed to assess:

- the capacity for industry to effectively and efficiently take on greater management and administrative responsibilities;
- the capacity of co-management to pursue legislated objectives; and
- the cost-effectiveness of, and efficiencies made through, trial arrangements.

## 11. Resolving differences

Although the co-management trial is about building trust and relationships between government and industry, there may be a time when a difference of opinion arises or there is a different interpretation of a function, role or process. This may lead to some level of conflict between AFM, LEFCOL and the signatories to the trial. In the first instance, where there is any doubt about the application of the MOU and this code, contact between the trial participant and AFMA should be established as soon as possible. Contact should be made where possible before there is any potential breach of the code.

Decision rules for dealing with conflicts:

- Where a conflict arises it is agreed that there is an initial attempt to resolve the conflict as quickly and efficiently as possible through open discussion between the trial participant, the relevant fishery manager and the co-management section. The executive manager fisheries or general manager operations may also be consulted at this time. The co-management area is to be informed of the issue by the relevant fisheries manager.
- If the issue in question cannot be resolved within 14 days, it will be brought to the AFMA CEO for discussion and resolution.
- If either party believes the matter is of a serious nature that cannot be allowed to remain unresolved for any length of time, the matter may be brought immediately to the attention of the relevant AFMA Executive, including the AFMA CEO.
- In the event that the matter cannot be resolved, the matter may be referred to the Commission.

## 12. Appendix 1 – AFMA vessel checklist - Co-management trial Lakes Entrance

### Before leaving port:

1. A current copy of AFMA fishing concession/s authorising fishing activities in Commonwealth waters (including all permits, statutory fishing rights and quota holdings) is on board. ↑
2. The vessel's distinguishing symbol is visible and clear, and the co-management registration sticker is clearly displayed.
3. There is an AFMA authorised representative on board to complete all logbooks and required documentation.
4. The required logbooks are carried on board the vessel.
5. All gear in possession on board the vessel is in accordance with the fishing concession specifications (refer ***Fishing gear types and methods*** as outlined in *Code of Practice* for the gear requirements for each method). Gear is detailed in the required logbook.
6. No unauthorised gear is on board the vessel.
7. An AFMA approved VMS is installed and reporting to AFMA.

### Whilst at sea:

8. The correct logbook has been completed in accordance with the instructions for each fishing and non-fishing day.
9. All shot information has been recorded before the next shot is undertaken. The last shot of the trip is completed before return to port.
10. Adhere to all fishing closures, including Commonwealth, state and industry imposed closures and ensure the boat is navigating at **five knots** or more through the closure.
11. Discard information has, where possible, been noted and details of all interactions with protected or prohibited species have been recorded.

### On return to port:

12. a) If disposing of catch to LEFCOL as a first receiver, the tally docket is completed with the following details:
  - trip start and finish dates;
  - daily fishing logbook number and page number(s) used for the trip;
  - state catch (species and quantity); and
  - take-home pack (species and quantity – no commercial quantities).b) If LEFCOL is **not** the first receiver the catch disposal record (SESS2A) has been completed in accordance with the instructions;
13. If not landing into LEFCOL, a prior landing report has been lodged with AFMA 2 hours prior to landing. Call (03) 9625 1145 for gillnet and hook vessels and (03) 96254483 for trawl vessels.
14. Logbook pages for the month have been submitted within 3 days of landing. There are no missing pages or overdue log sheets.
15. If in doubt, contact the AFMA duty officer on **0419 205 329**

**To report illegal fishing and associated activities call 1800 CRIMFISH (1800 274 634)**





## 13. Appendix 2 - Fishing gear methods

The methods of fishing that are covered by this Code are detailed below.

Other methods of fishing that are conducted from Lakes Entrance under different jurisdictions will not form part of this Code or the trial.

### 13.1 Otter-board trawling:

#### Gear requirements

A minimum mesh size and configuration of:

1. 90 mm single twine mesh; or
2. 102mm double twine mesh; or
3. 90 mm double twine mesh with one of the following bycatch reduction devices:
  - a. Single square mesh ( $\geq 90\text{mm}$ ) panel in upper side of codend bag (15x20bars); or
  - b. A large rotated mesh (T90) ( $\geq 90\text{mm}$ ) in upper codend (15x18meshes).



#### Codends:

Standardised with a maximum throat circumference of 100 meshes. The codend is to be made from 1 panel of mesh with no tapers.

### 13.2 Danish seining

#### Gear requirements

Mesh size and configuration:

$\geq 35\text{mm}$  Danish seine at any part of net.

In addition to this industry apply the following:

1. A maximum size rope of 24mm
2. A minimum codend mesh size of 35mm and maximum codend mesh size of 50mm when targeting school whiting
3. A minimum codend mesh size of 70 mm when targeting tiger flathead.
4. Use a minimum codend size of 35 mm when targeting whiting inside (shallower than) 80 metres depth (This depth line delineates the normal habitat range of school whiting in Victorian waters);
5. Use a minimum codend size of 70 mm when fishing outside (deeper than) 80 metres depth; and,
6. Change to the 70 mm flathead codend inside 80 metres when not targeting school whiting.
7. The carrying and use of codends with mesh sizes between 51mm and 69mm is prohibited



### Codends:

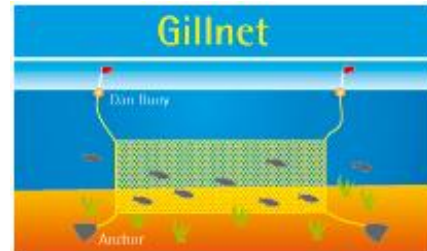
Standardised with a maximum throat circumference of 120 meshes when targeting flathead and 200 meshes when targeting whiting.

The codend is to be made from 1 panel of mesh with no tapers.

## 13.3 Gillnetting

### Gear requirements

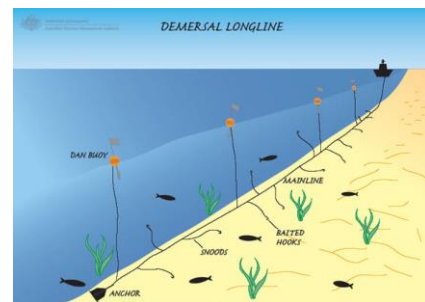
1. Max 4200m x 20 mesh deep or
2. 3360m x 25 mesh deep; or
3. 2800m x 30 mesh deep; or
4. 2000m x 40 mesh deep; and
5. Net 15 – 16.5cm (5.9" - 6.5") mesh.



## 13.4 Demersal & auto-longline

### . Gear requirements

1. an upper limit of 15,000 hooks
2. operators must install a bird scaring tori line (as per AFMA's specifications) on their fishing vessel
3. all operators with automatic baiting equipment must observe and comply with Fisheries Management Regulation 2001 (No. 1), Schedule 1 Amendments Part 12 Incidental Catch of Seabird Division 3 Discharge of Offal Regulation Numbers 75, 76 and 77



**Appendix 5 - GABIA Co-management Arrangement**



**Australian Government**  
Australian Fisheries Management Authority



# Co-management Arrangement

between

**Australian Fisheries Management Authority**

and

**Great Australian Bight Fishing Industry Association Inc**

for a

**Co-management Trial**

Version 1.9 - July 2009

# Document Information

## Distribution List

Title	Name	Date
AFMA	Staff and Commissioners	
GABIA	Jeff Moore (EO) and members	
GABMAC/GABRAG	MAC and RAG members	

## Version Control

#	Status	Change Description	Author(s)	Date
01	Version 1.1 to 1.5	Drafting the arrangement	Jeff Moore, Steve Bolton, Shalan Bray, Steve Auld, Ian Knuckey, GABIA members	22 April 2009
	Version 1.6	Additional drafting of arrangement	As above	4 May 2009
	Version 1.7	Final Draft arrangement for clearance with GABIA and AFMA	Jeff Moore, Ian Knuckey, Shalan Bray	5 May 2009
	Version 1.8	Clearance of arrangement through AFMA	AFMA	10 June 2009
	Version 1.9	Finalised Arrangement	Jeff Moore, Steve Bolton, Shalan Bray	1 July 2009



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## **PART 1: BACKGROUND**

### **1. Co-management trials**

AFMA, with support from the Fisheries Research and Development Corporation, is trialling co-management in Commonwealth fisheries. Co-management trials are being run over three years in each of three fisheries;

- The Great Australian Bight Trawl Fishery (GABTF);
- The Southern and Eastern Scalefish and Shark Fishery (in the port of Lakes Entrance); and
- The Northern Prawn Fishery (NPF).

The aims of the co-management trials are to engage industry in the business of fisheries management and administration through collaboration on, and/or the delegation of, fishery management functions and initiatives. The trials are expected to demonstrate what can be done to achieve more cost-effective and efficient management and administration and that collaboration in an environment of trust and respect can improve fisheries management outcomes.

The Great Australian Bight Fishing Industry Association Inc (GABIA) has been working closely with AFMA on a range of research and management initiatives for a number of years. In February 2008, GABIA submitted a proposal to the then AFMA Board (now Commission) to increase their role in the management process and reduce costs through more efficient approaches. The AFMA Board recognised the relationship that GABIA and AFMA had developed over recent years and GABIA's professional approach to working with stakeholders with interests in the fishery. The recommendations in the proposal put to the AFMA Board by GABIA were broadly accepted and implemented where practicable. These are summarised in Annex 1.

This co-management arrangement is given effect through a Memorandum of Understanding (MoU). The MoU is a formal agreement to implement the recommendations in GABIA's proposal of February 2008 and other strategic initiatives developed between GABIA and AFMA.

### **2. Purpose and scope of the arrangement**

This co-management trial and arrangement between GABIA and AFMA is an agreement to collaborate in the management of the GABT fishery and the pursuit of the legislated objectives attached at Annex 2. The trial specifically aims to develop and implement lasting measures that:

- improve administrative and operational efficiency of research and management processes in the GABTF;
- maintain and improve the ecological and biological sustainability of the GABTF; and
- increase the economic returns of the GABTF through improved GABTF harvest strategies, fishing practices (including post-harvest practices) and marketing over the long term.



Part 2 of this arrangement provides detail on how AFMA and GABIA will collaborate on the following co-management initiatives:

1. A procedure for GABIA to make recommendations directly to AFMA on operational and commercial matters in the GABTF (a '**management advisory procedure**');
2. A GABIA-led precautionary strategy for setting long-term Total Allowable Catch (TAC) and catch trigger limits underpinned by cost-effective fishery monitoring and strategic research and stock assessment;
3. A quota management strategy that is based on continual (rather than quarterly) balancing of quota holdings with catch;
4. Investigate and implement a system to collect and record relevant fishery information to support and improve the ecological, biological and economic assessment and management of the fishery;
5. Investigate and implement a '**product traceability process**' that encourages optimising quality, efficient product handling, monitoring and reporting through the chain of custody from boat to receiver, with the intent to maximise market returns;
6. Development of an '**operational procedures manual**' (OPM) that incorporates a suite of operational and commercial requirements for the GABTF that will be administered by GABIA.

GABIA and AFMA recognise that in order to succeed in the development and implementation of the co-management program there is a need for communication, reporting, monitoring, evaluation and conflict resolution strategies. These program elements are part of the arrangement and are detailed in Part 3.

### 3. Guiding principles

In developing and undertaking this trial, the following principles were/are applied:

- Industry and AFMA should collaborate to manage fisheries resources in a way that meets their respective needs and ensures that a sustainable fishery, in which economic returns are optimised, is being pursued and instils confidence in the Australian community;
- Facilitation and acceptance of change by AFMA and acceptance of new responsibilities by industry;
- Mutual trust and respect from industry and AFMA;
- Functions are of benefit to industry and AFMA;
- Functions are, as much as possible, able to be applied elsewhere;
- Functions are cost-effective and balanced against the efficient delivery of services and AFMA's legislative objectives;
- Functions increase the accuracy and timeliness of information for decision-making; and
- Industry and AFMA recognise that fisheries management is an adaptive process of improvement and agree that the information detailed in this arrangement may be amended at any time with the agreement of both parties.





## **PART 2: CO-MANAGEMENT INITIATIVES**

### **4. Management advisory procedure**

AFMA is currently undertaking a process to rationalise Management Advisory Committees (MACs). The process envisages fewer MACs across the Commonwealth fisheries with a more strategic focus on policy, standards and processes. The initiative encourages well established industry bodies to take on the role of advising AFMA, on industry's behalf, on operational and commercial matters that are also part of the fisheries management process. Additionally, there is potential for industry bodies to be engaged in decision-making on a range of management issues pending outcomes of the co-management trials and necessary changes to policy and legislation.

Regardless of the MAC rationalisation process and potential changes to GABMAC, GABTF stakeholders will have to rely more heavily on direct communications between industry and AFMA for effective and efficient management of the fishery. This change to consultative arrangements will only be achievable if industry associations have the capacity and desire to meet the requirements and responsibilities and a clear management advisory procedure is agreed between industry, AFMA and other stakeholders.

The following sub-sections provide the agreed basis for GABIA to take on the role of principal advisor to AFMA on operational and commercial fishery matters, which will lead to decisions on management in the GABTF. AFMA's role in this process is also detailed.

#### **4.1 Making recommendations to AFMA**

When developing recommendations to AFMA, GABIA will strive to meet the expectations of AFMA, other government agencies and interested parties.

In making recommendations, GABIA will apply the following sound principles and/or processes:

- Fully consult with all GABTF SFR holders and other relevant stakeholders. A minimum standard for full consultation is one that provides an accessible opportunity for all interested persons to know of the issue/s and be able to provide comment and have their comment considered;
- Where relevant, seek and consider expert advice and/or scientific advice, including with GABRAG;
- Take account of and highlight any issues in relation to policies, legislation and assessments, particularly with AFMA's legislative objectives, the SESSF Management Plan, the ecological risk assessment, Commonwealth Harvest Strategy Policy, bycatch policy, the strategic assessment and any other relevant considerations. Recommendations on TAC setting will be made in accordance with decision rules under the GABTF harvest strategy;
- Document all relevant considerations, such as expert advice, legislation, policy or procedures that were taken into account to support the recommendations and consultation undertaken;



- Document reasons where a recommendation departs from expert and/or scientific advice or policies;
- Notify GABMAC, GABRAG and/or other relevant bodies of outcomes of all recommendations to ensure the MAC and RAG remain informed about management of the GABTF and GABMAC is specifically consulted regarding TAC setting in the fishery.
- Openly consider and address any conflicts of interest in making recommendations to AFMA; and
- Take into account AFMA's administrative processes, legislative requirements and associated timeframes to ensure recommendations, particularly TAC recommendations, are practicable and achievable.

GABIA will develop an approved template for making recommendations to AFMA. The template will be constructed to meet and demonstrate that the recommendation principles listed above have been applied.

In general, GABIA will make recommendations to AFMA on a wide range of operational and commercial matters. During the co-management trial, AFMA and GABIA will continue to explore the levels of responsibility that can be effectively/efficiently taken up by the industry association whilst maintaining broad accountability on decision-making to the Australian public. AFMA will work closely with GABIA to identify strategic or policy significance arising out of the matters it deals with and all such matters will be referred to GABMAC for consideration.

As a guide, the table at Annex 3 provides a preliminary overview of the division of responsibility between GABMAC, GABRAG and GABIA/AFMA for providing the primary advice to AFMA on matters relating to the GABTF.

The revised Fisheries Management Paper No.1 on MACs will detail the terms of reference and relevant responsibilities for MACs. This will be used to inform GABIA and AFMA when determining the need for broader consideration of particular matters. In any case, GABIA will inform GABMAC of all recommendations made to AFMA.

## **4.2 AFMA's responsibility**

AFMA will consider the recommendations from GABIA in a timely manner and determine whether recommendations are consistent with AFMA's legislation, relevant GABTF and AFMA policies including the GABTF harvest strategy and decision rules.

Provided recommendations demonstrate the application of the guiding principles, AFMA will implement the recommendations. A recommendation that, in AFMA's view, is a departure from policy, legislation, the GABTF harvest strategy and/or decision rules may be referred to GABMAC.

AFMA will advise GABIA in a timely manner of the outcome of all recommendations, including details about their implementation. If AFMA rejects a recommendation the reasons for this will be fully explained to GABIA in a written response. AFMA will work closely with GABIA in the management of the fishery to minimise conflict in relation to the management advisory procedure and specific recommendations and/or decisions under this arrangement.



## **5. TAC setting, strategic research and stock assessment planning and monitoring**

In line with the guiding principles under this arrangement, the parameters of setting TACs and catch limits, strategic research, stock assessment planning and monitoring approach may be updated where necessary to ensure relevant objectives are still being met, this will be done in consultation with GABRAG, GABMAC and AFMA.

### **5.1 TAC-setting**

GABIA, with support from GABRAG and GABMAC, developed a long-term approach for setting TACs and catch limits, which is consistent with the agreed harvest strategy. This is supported by a long-term program for monitoring and stock assessment. This approach ensures relevant information is obtained and used in accordance with decision rules under the fishery's harvest strategy. The GABTF harvest strategy is developed and implemented in accordance with the Commonwealth Harvest Strategy Policy.

This approach was accepted by the AFMA Board in February 2008 and will continue to be implemented under the co-management arrangement. The detail of the approach, which is drawn from the initial GABIA proposal of February 2008, is documented in 'An Explanation of Current GABTF TACs, Harvest Strategies and Decision Rules (Deepwater flathead and Bight redfish), February 2009' which is attached at Annex 4.

### **5.2 Strategic research and stock assessment planning and monitoring**

GABIA has made a solid and long-term investment in science to gain a better understanding of the biology and population dynamics of GABTF stocks, particularly of the two key target species – deepwater flathead and Bight redfish. This has included onboard and port-based sample collections through the Integrated Scientific Monitoring Program (ISMP), industry based collections, species stock assessments, targeted research projects and a time-series of Fishery Independent Surveys (FIS). GABIA, GABRAG and GABMAC now share the view that the research and monitoring strategy together with a suitably precautionary harvest strategy that includes the setting of appropriate catch trigger levels and annual TACs, will ensure the sustainability of GABT fishery stocks, provide stability and certainty for operators and deliver more cost-effective research and management in the fishery. GABIA will take a leading role in the on-going planning and consideration of strategic research, monitoring and data collection in the GABTF in direct collaboration with GABMAC, GABRAG and AFMA.

Table 1 of Annex 4 summarises the pre-determined arrangement and timing of TAC setting, research and monitoring arrangements for the GABT fishery as agreed with the AFMA Board in February 2008. Annex 5 provides additional detail.

### **5.3 AFMA's responsibility**

AFMA will be responsible for considering the recommendations from GABIA in line with the document "An Explanation of Current GABTF TACs, Harvest Strategies and Decision Rules (Deepwater flathead and Bight redfish), February 2009". AFMA will determine whether GABIA's recommendations on TAC setting are consistent with the Commonwealth Harvest Strategy Policy, the GABTF harvest strategy, agreed decision rules and AFMA's legislative and process requirements.



In relation to catch limits and TAC setting, AFMA will determine whether GABIA's recommendations are consistent with the principles outlined in section 4.1 and 5.1, and in particular, are consistent with the agreed<sup>1</sup> decision rules under the GABTF harvest strategy. AFMA will implement GABIA's recommended TACs where they are clearly consistent with the above, noting that the AFMA Commission retains the final decision making powers in relation to TAC-setting. Where there are alternative views or AFMA believes there is additional information to suggest a different TAC/s should be implemented, AFMA will engage GABIA directly to review the recommendation.

AFMA will monitor GABIA's role in leading the development of research, stock assessment and planning with GABIA working directly with GABMAC and GABRAG. AFMA will monitor and review how the assessment and research priorities of the fishery are managed and the associated process, ensuring GABIA recommendations are consistent with AFMA's legislation, relevant policies and decision rules.

## **6. Quota monitoring strategy**

GABIA is committed to improving the security and value of fishing rights in the GABTF. GABIA recognises that a quota management strategy must provide an incentive for appropriate fishing practices in order to promote the value and security of statutory fishing rights. The best strategy is one that ensures fishers hold relevant quota at all times when fishing for GABTF quota species.

The strategy that GABIA and AFMA will implement during the course of the co-management trial and this arrangement entails the following elements and responsibilities.

GABIA members commit to:

- managing their quota holdings to suit their fishing activities at all times during the fishing season;
- in line with the above, ensuring that relevant quota holdings are at all times sufficient to cover likely catches;
- in the event of catches exceeding relevant quota holdings, immediately rectifying the situation through quota transactions;
- making immediate contact with AFMA when a quota balancing problem arises;
- a policy of as close to zero discarding of quota species as practicable and a hundred percent recording of quota discards in relevant logbooks;
- working with AFMA to resolve quota balancing problems, ensuring that overfishing or poor fishing practice does not occur as a result; and
- developing a communication strategy to GABTF operators/skippers outlining the above required arrangements for quota monitoring.

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<sup>1</sup> An agreed decision rule under the GABTF Harvest Strategy is one that is relevant at the time the recommendation is considered by AFMA.



AFMA commits to:

- the development of an efficient quota monitoring policy and process;
- taking a collaborative approach with GABIA to understanding and resolving quota management issues within the GABTF; and
- auditing and reviewing the approach to quota management.

The co-management strategy will include working with GABIA to provide input to the AFMA quota management review process and the development of a long-term quota management policy that is consistent with the above, AFMA's legislation and objectives.

## **7. Enhanced fishery information collection program**

Collecting and using reliable information about a fishery is arguably the most important function in the fishery management process. Robust, reliable information is fundamental to all decisions and in most cases a lack of reliable information is a direct cause of issues and problems between AFMA and its stakeholders. As part of this and other arrangements, GABIA will take on greater responsibility to ensure that reliable information is collected about the GABTF stocks through the ISMP, vessel and port-based monitoring and the FIS. GABIA is also committed to ensuring the wider range of information related to other aspects of the management process is also collected in an efficient and cost-effective way.

GABIA undertake to investigate and implement a system to monitor and collect relevant fishery information for the GABTF fleet. This information will be stored in relevant or new database(s) in an agreed format, maintained by AFMA and/or GABIA. This information will be used to support and improve the ecological, biological and particularly, the economic assessment and management of the GABTF.

The following sub-projects within the co-management trial are aimed at ensuring there is a comprehensive information base to underpin ecological and economic sustainability in the GABTF. The full cost implications have not been taken into account at the time of developing this arrangement.

### **7.1 Electronic log-book program**

Timely and accessible catch and effort information is critical to the pursuit of cost-effective and efficient management of the GABTF. The daily shot-by-shot catch and effort information from the fishery, which includes information on the discarded catch is a key input to the GABTF stock assessment and management process. Making this information available in the most efficient and effective way is an important component of the co-management trial.

AFMA has developed a system to facilitate electronic submission and uploading catch and effort information from fishing vessels (e-logs). For the GABTF, this is subject to the following elements being in place:

- a method-based e-log schema<sup>2</sup> for fish trawl operations, developed by AFMA, as a matter of priority; and

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<sup>2</sup> A schema is the prescribed array of information fields needed for a particular fishery and method of fishing. At the time of writing only the prawn trawl method schema has been developed and tested.



- all operators in the GABT fishery adopting and using an e-log software package that can meet the above method-based schema and for it to be tested and approved.

GABIA has selected OLRAC to provide the e-log software package (OLFISH) and is committed to implementing the e-log program as soon as possible.

GABIA undertakes to ensure all operators utilise the e-log to a standard that includes accurate weights of target species (using on-board scales), accurate weight estimates for discarded target species and high levels of accuracy for other fishery information reported through the e-log.

AFMA will be the primary holder and receiver of catch and effort information for the fishery and will maintain the primary database.

During the co-management trial, GABIA and AFMA will investigate how the e-log system can:

- be utilised to provide GABIA with close to real-time information about the status of catch against TACs at appropriate geographical and time scales;
- be utilised to provide GABIA with close to real-time information about the status of catch against monitoring and/or research trigger catch levels at appropriate geographical and time scales;
- be integrated with other databases where benefits to do so are identified and agreed by both parties; and
- with the use of approved on-board scales, be used for quota monitoring purposes, both for AFMA and GABIA / industry.

## 7.2 Electronic catch disposal records

The current AFMA procedure for monitoring the actual weight and disposal of fish from authorised Commonwealth fishing vessels for quota management purposes is through a paper-based system of catch disposal records (CDRs). This system requires the boat skipper to complete and return to AFMA a section of the CDR each time the boat unloads product to the first fish receiver. The process then requires the first receiver of fish to complete and return to AFMA a separate section and page of the CDR validating the weight of product landed. The two independent records validate the total weight of species landed for quota monitoring and management. The paperwork is commonly a duplicate of the information provided by the skipper in log-books and of the business records maintained by both the fishing company and the first receiver. The paper-based system does not support an efficient quota monitoring process.

During the co-management trial, GABIA and AFMA will develop and implement a process whereby the e-log system can be used as the first level of quota monitoring and decrementation. Appropriate scales will be required on each GABTF vessel and a procedure developed to ensure high standards of reporting exists. Initially, electronic and/or paper based CDRs sent to AFMA by each first receiver of fish from GABTF will be used to verify the e-log submissions for each landing and provide the final species and weights for quota monitoring and decrementation purposes. The CDRs can also serve as an auditable control when differences or problems are detected.



All first receivers will be subject to an audit program by AFMA or an auditor appointed by AFMA, which will be designed to provide cost-effective monitoring of catches in the GABTF. In the long-term, this type of program could be funded through the fishery levy base if shown to be successful from both an efficiency and effectiveness point of view during the trial. If particular receivers demonstrate poor business practices during auditing, higher levels of auditing outside the program will be required and recovered on a fee for service basis. The audit program will be developed in consultation with GABIA and the first receivers.

In cases where the first receiver of product from a GABTF vessel is not one of the existing GABT fishing companies and a signatory to this arrangement, a standard paper-based CDR will be required to be submitted to AFMA in accordance with existing CDR requirements.

AFMA will be the primary receiver and holder of CDR information for the fishery and will maintain the primary database(s).

### **7.3 Economic information**

In line with the Commonwealth Harvest Strategy Policy, the GABTF is committed to implementing a management strategy that ensures ecological sustainability and realistically maximises the economic returns from the fishery. The GABTF already collects most of the information required to underpin demonstration of its ecological sustainability. Through the co-management project, a more rigorous mechanism for collection and analysis of the fishery economic information will be pursued that will enable formal estimation of maximum economic yield (MEY) for the shelf-break fishery (Bight redfish and deepwater flathead stocks). Currently, the Commonwealth Harvest Strategy Policy sets a proxy for  $B_{MEY}$  at  $1.2B_{MSY}$  – this equates to a target biomass level of 48%  $B_0$  if the default level of 40% is used for  $B_{MSY}$ . For GABTF shelf species, this proxy is likely to be higher than the true estimate of  $B_{MEY}$ , thereby forcing the fishery to forego economic yield. It is in the interest of the fishery to estimate a more accurate  $B_{MEY}$  for the shelf stocks, which will better pursue the objective of managing stocks to achieve maximum return to the Australian community.

During the co-management trial, GABIA and AFMA will investigate a data collection system to support an MEY assessment of the GABTF. The scope of this sub-project includes:

- Establish the relevant economic data required to fully populate a bio-economic model for the key target species in the GABTF;
- Establish how to collect this information for each fishing season;
- Establish verification, ownership and sharing protocols for this information;
- Establish the type of database needed and where and by who it will be maintained;
- Take into account the CSIRO/AFMA research project on fishery data needs; and
- Develop the database and implement the program.

### **7.4 AFMA's responsibility**

AFMA believes that co-management includes assisting fishery groups in their endeavours to engage in activities that improve ecological and economic sustainability of the fishery. Enhancing the collection and reporting of fishery information is an area in which industry and



AFMA can add significant value to the management process and is a measure that can benefit all Commonwealth fisheries.

AFMA will work with GABIA to build and adopt a comprehensive information collection program through limited co-funding, technical expertise and finalising the development and implementation of an e-log program for the fish trawl method.

AFMA will work with GABIA to rationalise reporting frameworks and facilitate direct electronic reporting of information using where possible the existing computing platforms in GABTF businesses, such as forms that can be readily adopted and transferred to AFMA databases.

AFMA will develop an audit program intended to measure and validate records and reduce compliance and transaction costs.

## **8. Product traceability process**

Product traceability is a process where relevant details about a product such as date of production (in this case, catch and boat identifier) and all subsequent handling points are recorded and remain with the product throughout the chain of custody.

Product traceability is becoming more widely used by producers and manufacturers around the world as part of their marketing strategy. It is also used by high-end consumers to judge the ecological sustainability credentials of their food. Product traceability, for example, is one of the requirements in order to obtain Marine Stewardship Council certification. Large supermarket chains such as Woolworths require a product traceability process from their fresh and frozen food suppliers. This is part of Woolworth's guarantee of quality and it also facilitates efficient and effective product recall and hazard point identification. Benefits of traceability other than certification include raising quality standards and food safety, building competitive advantage through branding and loyalty and providing chain communication and information.

The GABTF can be classified as "ecologically sustainable" (EPBC Act Strategic Assessment and Commonwealth Ecological Risk Assessment process). Through the development and implementation of measures to demonstrate the fishery's sustainability, quality and traceability, the GABTF industry can position itself to provide economic stability into the future by gaining the most value out of its products. Traceability can also be coupled with other initiatives such as accurate reporting and fleet management to provide the regulator (AFMA) and other stakeholders' confidence that the fishery meets the highest standards of management.

In the co-management trial, AFMA and GABIA will investigate the technology and processes required to introduce traceability to the fishery. The project scope will mainly relate to the first two links in the chain, from catch to first receiver. It will be industry's initiative to develop and extend traceability further along the chain of custody to the consumer when processes are developed to ensure a consistently high standard of fish quality and traceability across the fleet.





The traceability project may include:

- Documenting “best practice” wild-capture fish traceability systems to identify benefits and systems most likely to be applicable to the GABT fishery and potentially other Commonwealth fisheries;
- Developing an efficient fish box system that standardises quality, weights and/or grades of fish species;
- Sourcing and implementing the most cost-effective technology for applying and carrying the product information from the boat and through the chain;
- Integrating efficient and cost-effective catch and landing reporting systems that meet AFMA’s and industry’s information requirements; and
- Improving fish receiver responsibilities and systems for handling, recording, reporting and maintaining records; and
- Developing a cost-effective audit program for the fishery.

### **8.1 AFMA’s responsibility**

Currently, AFMA’s key responsibility is to ensure accurate recording and reporting of all catch from the time it is captured until it arrives at the first receiver. Under the co-management trial, AFMA, together with GABIA, will further explore the implications of its legislated economic objective with respect to improving the economic efficiency of the GABTF through the traceability sub-project. Both AFMA and industry are exploring beyond the traditional boundaries of management governed by regulation. Product traceability nevertheless does provide incentive for industry to improve catch monitoring, reporting accuracy and record keeping activities, which are regulated activities.

AFMA will contribute limited funding, resources and technical expertise under the co-management project to assist GABIA to develop product traceability technology and infrastructure and to integrate this process into other related AFMA management activities such as quota monitoring and reporting programs.

AFMA will also integrate this activity with the development and implementation of an audit program.

## **9. Vessel operational procedures manual**

Much has been done to achieve a demonstrably high standard of ecological sustainability in Commonwealth fisheries. The GABTF is assessed as ecologically sustainable and work is under way within the co-management trial to monitor and measure the economics of the fishery.

As is often the case in modern commercial fisheries, owners of the fishing businesses need to rely on skippers and crews to operate their fishing vessels in ways that contribute towards the sustainability of the fishery. It is becoming evident that this can be a complex task, made more difficult by a common failure to effectively transfer relevant information and responsibility to the skippers and crews. The incentives for skippers and crews to apply best practice are



often vague and tenuous. These individuals must at least be well informed about required management practices and standards in order to be equipped enough to deliver on the high expectations placed upon them, and where possible have an incentive to do so.

To ensure skippers and crews are able to easily identify and understand how to deliver the standards of practice required in the GABTF, GABIA and AFMA will develop, and GABIA will manage the application of, an '**Operational Procedures Manual**' (OPM). The manual will incorporate the full suite of operational agreements and requirements for the fishery and guidelines for their application, including but not limited to:

- all previous GABIA industry agreements;
- implementing the bycatch and discarding work plan (including development of Vessel Management Plans for seabird mitigation);
- compliance with at-sea fishery management regulations (such as reporting, gear requirements and closures);
- monitoring and reporting on biological and ecological aspects of fishing, including comprehensively completing logbooks (including take-up of e-logs);
- application of occupational health and safety principles;
- an animal welfare policy;
- product quality/handling procedures, including arrangement developed to implement product traceability; and
- an audit process to monitor application of the OPM, a structure to educate crews and to provide increased monitoring of boats where specified OPM requirements are not being adequately met. Costs of additional monitoring will be borne by the relevant concession holder.

### **9.1 AFMA's responsibility**

AFMA believes that the activities of skippers and crews operating fishing vessels can significantly contribute to fishery management objectives. The responsibility to ensure that boat operators comply with the various rules has traditionally been left to concession holders.

During the co-management trial, AFMA will play a greater role in assisting GABIA in the area of communicating information to skippers and crew by jointly developing an operational manual and by expanding the role of observers to include auditing functions.



## **PART 3 OTHER MATTERS**

### **10. Communication, consultation and reporting**

In order to maintain and enhance an environment of trust and respect, effective communication between AFMA and GABIA and other interested parties is necessary. GABIA and AFMA agree to communicate regularly in a frank and open manner on the status of this arrangement, issues in the fishery and recommendations. GABIA undertakes to consider the impacts of its recommendations and management actions on other parties and to develop appropriate means of communication with such parties. AFMA will assist GABIA in communications with interested parties when requested.

GABIA is responsible for consulting with its stakeholders and all GABTF SFR holders on all matters relating to the management of the GABTF on which it will make recommendations under this arrangement.

GABIA will provide AFMA and GABTF SFR holders with meeting notices, including the timing and venue for the meeting and a list of agenda items pertaining to the issues listed under this arrangement.

Recommendations to AFMA should be documented and framed in a way that demonstrates the recommendation principles (section 3) are being applied, for example, that consultation has occurred, expert advice is considered and legislation and policies are considered and applied. AFMA and GABIA undertake to develop a standard reporting/recommendation template under this arrangement. Recommendations should be reported in accordance with appropriate timeframes that are relevant to decision-making timeframes.

AFMA are to maintain communication with GABIA on policy and/or legislative changes that may affect the fishery.

### **11. Resolving differences**

Although the co-management trial is about building trust and relationships between government and industry, there may be times when differences of opinion on an outcome arise or there is a different interpretation of function, role or process. This may lead to some level of tension between AFMA and the GABIA. In the first instance, where there is any doubt about the application of this arrangement, contact between GABIA and AFMA should be established as soon as possible. Contact should be made where possible before there is any breach of these arrangements. As a rule, when in doubt, make contact.

Decision rules for dealing with issues:

- Where an issue arises it is agreed that there is an initial attempt to resolve the issue as quickly and efficiently as possible through open discussion between the EO of GABIA and the GABTF manager or senior fishery manager. The executive manager fisheries or general manager operations may also be consulted at this time. The co-management area is to be informed of the issue by the GABTF manager.
- If the issue in question cannot be resolved within 14 days, it will be brought to the AFMA CEO for discussion and resolution providing the issue is documented and both GABIA and AFMA management are fully informed of the issue.



- If both parties believe the matter is of a serious nature that cannot be allowed to remain unresolved for any length of time, the matter may be brought immediately to the attention of the relevant AFMA Executive, including the AFMA CEO.
- In the event that the matter cannot be resolved, the matter may be referred to the Commission for decision. Under such circumstances, both AFMA and GABIA will be provided the opportunity to advise the Commission in writing (or other effective and agreed means) of the nature of the issue and recommendations.

## **12. Performance measurement and evaluation**

It is critically important to monitor, evaluate and report on the performance of all aspects of the co-management trial to determine which elements can achieve a mutual benefit for GABTF, industry and AFMA, the extent of such benefits and importantly, what can be implemented permanently and more widely in other Commonwealth fisheries. Evaluation, through monitoring and assessment, will bring together what is learned from the range of activities that will be undertaken during the trial.

AFMA is developing a simple, generic performance evaluation framework to evaluate each of the three trials in Commonwealth fisheries. The evaluation framework will include high level questions relating specifically to efficiency and cost-effectiveness of activities and their legacy in terms of wider application and long-term expected outcome. Some broad questions will focus on co-management as a model for future management and the industry / AFMA working relationship through the co-management trials.

The questions will be linked directly to performance measures, for example, direct cost to industry, change in activity / staffing level and cost incurred by AFMA, reporting response time and overall quality, the level of acceptance of recommendations by AFMA / Commission, degree and success of consultation and outcomes of conflict resolution.

The evaluation framework will be developed and finalised in consultation with the co-management steering committee which involves participants in each of the trials. The timeframe for completing the evaluation framework is mid-2009.



## Annex 1: Summary of recommendations accepted by the AFMA Board in February 2008

1	That the Board endorses the use of a target biomass level of $B_{40}$ for the deepwater flathead and Bight redfish Harvest Strategy
2	That the Board endorses the GABIA and GABMAC recommended TAC for deepwater flathead of 1,400t in 2008/09 (plus 20t research quota for the FIS) and the long-term Harvest Strategy outlined
3	That the Board endorses the GABIA and GABMAC recommended Bight redfish TAC of 2,000t for 2008/09 (plus 20t research quota for the FIS), noting the long-term research and assessment strategy outlined
4	That the Board endorses, in principle, the use of the FIS (and other stock health) indicators for decision rules to be used in years where assessments are not scheduled to be undertaken
5	That the Board endorses the proposed TAC-setting cycles as outlined above for Bight redfish and deepwater flathead, noting there are safeguards (decisions rules) implemented in the event of significant change
6	That the Board agrees that stock assessments only need to be undertaken to feed into TAC-setting years, as per the GABIA proposal
7	That the Board endorses the following ISMP program for the GABTF: <ul style="list-style-type: none"> <li>- Status quo for 2008;</li> <li>- No at-sea component in 2009 (albeit for FIS observers);</li> <li>- Onshore biological data collection (in consultation with GABIA) will occur in years for which there is no at-sea component of the ISMP; and</li> <li>- Industry-led discard recording in logbooks will play an increasingly important role, to be audited by at-sea ISMP observer coverage in 2010 and 2013</li> </ul>
8	That the Board notes GABIA's commitment to the FIS as a key component of ongoing research in the GABTF, with 2 more years (2008 and 2009) of annual FIS and a review following to determine if annual surveys should continue or be undertaken at a different frequency (eg, every second year)
9	That the Board notes the industry-led catch sampling being undertaken for "developing" species and that industry and AFMA annually monitor the catch against prescribed triggers
10	That the Board notes GABIA's strategy to ensure accurate recording of discards in logbooks and the auditing process through onboard ISMP observers
11	That the Board agrees to 1 GABRAG meeting in May (consideration of indicators, etc) and in years where assessments are being undertaken, a second meeting in October/November
12	That the Board: <ul style="list-style-type: none"> <li>- agrees to holding a maximum of two MAC meetings per year, with agendas to stay focussed on issues of strategic importance; and</li> <li>- notes GABIA's recommended changes to the consultation process through GABIA taking on a greater role and the strategy for progressing this suggested change</li> </ul>



## **Annex 2 : AFMA's legislative objectives**

- (1) *The following objectives must be pursued by the Minister in the administration of this Act and by AFMA in the performance of its functions:*
- (a) *implementing efficient and cost-effective fisheries management on behalf of the Commonwealth; and*
  - (b) *ensuring that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development (which include the exercise of the precautionary principle), in particular the need to have regard to the impact of fishing activities on non-target species and the long term sustainability of the marine environment; and*
  - (c) *maximising the net economic returns to the Australian community from the management of Australian fisheries; and*
  - (d) *ensuring accountability to the fishing industry and to the Australian community in AFMA's management of fisheries resources; and*
  - (e) *achieving government targets in relation to the recovery of the costs of AFMA.*
- (2) *In addition to the objectives mentioned in subsection (1), or in section 78 of this Act, the Minister, AFMA and Joint Authorities are to have regard to the objectives of:*
- (a) *ensuring, through proper conservation and management measures, that the living resources of the AFZ are not endangered by over-exploitation; and*
  - (b) *achieving the optimum utilisation of the living resources of the AFZ; and*
  - (c) *ensuring that conservation and management measures in the AFZ and the high seas implement Australia's obligations under international agreements that deal with fish stocks; and*
  - (d) *to the extent that Australia has obligations:*
    - (i) *under international law; or*
    - (ii) *under the Compliance Agreement or any other international agreement; in relation to fishing activities by Australian-flagged boats on the high seas that are additional to the obligations referred to in paragraph (c)—ensuring that Australia implements those first-mentioned obligations;*

*but must ensure, as far as practicable, that measures adopted in pursuit of those objectives must not be inconsistent with the preservation, conservation and protection of all species of whales.*

### **Objectives of the SESSF Management Plan 2003**

The objectives of this Management Plan are as follows:

- (a) to implement efficient and cost-effective fisheries management of the fishery on behalf of the Commonwealth;
- (b) to ensure that the exploitation of the resources of the fishery and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development and the exercise of the precautionary principle



- and, in particular, the need to have regard to the impact of fishing activities on non-target species and the long-term sustainability of the marine environment;
- (c) to maximise economic efficiency in the exploitation of scalefish and shark resources within the fishery;
  - (d) to ensure AFMA's accountability to the fishing industry and to the Australian community in the management of the resources of the fishery;
  - (e) to reach Government targets for the recovery of the costs of AFMA in relation to the fishery;
  - (f) to ensure, through proper conservation and management, that the living resources of the fishery are not endangered by over-exploitation;
  - (g) to ensure the best use of the living resources of the fishery;
  - (h) to ensure that conservation and management measures in the fishery implement Australia's obligations under international agreements that deal with fish stocks, and other relevant international agreements;
  - (i) to ensure, as far as practicable, that measures adopted in pursuit of these objectives are not inconsistent with the preservation, conservation and protection of all whale species.



### Annex 3: Guide to the respective roles and responsibilities of GABMAC, GABRAG and GABIA/AFMA

ITEM	GABMAC	GABIA /AFMA	GABRAG (advice to AFMA/ GABMAC/ GABIA)
Changes to harvest strategies	✓		
Advice on the development and improvement of harvest strategies and ERA		✓	✓
TAC/E setting/decisions (within HSP and legislative requirements)		✓	
TAC/E setting/decisions (outside of HSP or decision rules)	✓		
Stock assessment advice and RBC calculations including reference points			✓
Future management decisions - Input/output controls - New directions	✓		
Plan amendments	✓		
ERA/ERM	✓		
Review of fishery budget and levies and monitoring of expenditure		✓	
Government policy considerations	✓		
Review of biological catch & effort, economic and observer data to determine and monitor trends, issues, key target and byproduct /bycatch species monitoring and advice on data generally			✓
Implementing the bycatch and discard program including seabird VMPs		✓	
Industry recording of discards		✓	
Routine management issues • Directions • Setting FIS and OR research survey dates • Deepwater closures changes • etc		✓	
Economic data collection		✓	
Species sampling/biological data collection		✓	
Public interest issues (AFMA or GABIA to deal with directly)	✓		
Research (with RAG), including OR research zones		✓	✓



Compliance risk assessment, plan and issues		✓	
E-log program – data use management		✓	
Strategic research including the Plan	✓		
Strategic assessment review	✓		
Marine protected areas	✓ (input)	✓	

**13. Annex 4: current GABTF TACs, harvest strategies and decision rules**



**An explanation of current GABTF TACs, Harvest Strategies and Decision rules**

**(Deepwater flathead and Bight redfish)**

**February 2009**

**Great Australian Bight Fishing Industry Association Inc.**

trading as **GABIA**

ARNI 47 212 570 401

## Overview

In February 2008, GABIA submitted to AFMA a proposal and associated recommendations, *Future Arrangements for TAC-setting, Research, Assessments and Consultation in the GABTF*, as a proactive, innovative and demonstrably precautionary blueprint for future management and research arrangements in the GABTF. The proposal was considered by the AFMA Board and was agreed to be consistent with the Commonwealth Harvest Strategy Policy (HSP), GABTF *Future Direction Vision Statement*, Fisheries Management Act (FMA) objectives and the Ministerial Direction.

Robust and timely monitoring programs and decision rules have been agreed and applied to ensure the research and assessments necessary for effective management are conducted in the most cost effective and efficient manner. This means that in any given year, depending on the monitoring outcomes and decision rules, research and assessments will be performed in a pre-determined fashion to a level gaining maximum cost efficiencies whilst retaining scientific rigor and industry/AFMA confidence (Table 1).

**Table 1: GABIA proposal – future research and assessment plan**

		2008	2009	2010	2011	2012	2013
<b>B. REDFISH</b>	TAC	2,000t	2,000t	As recommended by GABIA			
	Assessment	x	✓	x	✓	x	x
<b>D. FLATHEAD</b>	TAC	1,400t	1,300t	1,200t	As recommended		
	Assessment	x	x	✓	x	x	✓
<b>ISMP</b> (onboard)		✓	x	✓	x	x	✓
	(onshore)	x	✓	x	✓	✓	x
<b>FIS</b>		✓	✓	TBA	✓	TBA	✓
<b>Slope species MONITORING</b>		✓	✓	✓	✓	✓	✓
<b>LOGBOOK</b> (discards recording)		Education✓	Monitoring✓	Audit✓	✓	✓	✓
<b>RAG</b> (meetings)		1	2	2	2	1	2
<b>MAC</b> (meetings)		1	1	1	1	1	1
<b>BYCATCH</b>	T90 net trial	✓	✓	As recommended			
	T90 extensions	✓	✓	✓	✓	✓	✓
	Seabird VMP		<b>Develop</b>	✓	✓	✓	✓

This document details the agreed harvest strategies and decision rules for the GABTF key target species deepwater flathead and Bight redfish as proposed in the original *Future Arrangements for TAC-setting, Research, Assessments and*

*Consultation in the GABTF* document. This document also reports on the processes utilized during 2008 to ensure the final harvest strategies and decision rules to be applied over the next few years are consistent with all requirements, as per the AFMA Board's recommendation.

## Summary

### Deepwater flathead (Default position)

	2008/09	2009/10	2010/11	2011/12
TAC	1,400t	1,300t	1,200t, reviewed for 2011/12	From 2010/11 review
Harvest/assessment strategy	Agreed	Agreed	Agreed, reviewed for 2011/12	From 2010/11 review
Decision rules	Agreed	Agreed	Agreed, reviewed for 2011/12	From 2010/11 review
Stock Assessment	No	No	Yes	No, unless agreed

### Bight redfish (Default position)

	2008/09	2009/10	2010/11	2011/12
TAC	2,000t	2,000t, reviewed for 2010/11	From 2009/10 review	From 2009/10 review
Harvest/assessment strategy	Agreed	Agreed, reviewed for 2010/11	From 2009/10 review	From 2009/10 review
Decision rules	No	To be developed	Agreed, from 2009/10 review	From 2009/10 review
Stock Assessment	No	Yes	No, unless agreed	From 2009/10 review

Notes:

1. Annual years shown are fishing years, being 1 May through to 30 April
2. DF review (from default position) is every three years, unless otherwise agreed between GABIA and AFMA
3. BR review period to be agreed during 2009/10

### GABRAG

	2008/09	2009/10	2010/11	2011/12
Meetings	Possibly 1, February 2009? Only if necessary...	1 in August, Bight redfish focus (stock assessment) and monitor DF indicators. Also FIS review to determine future frequency. Second meeting held if necessary to finalise assessment/FIS review	1 in August, deepwater flathead focus (stock assessment) and monitor BR indicators. Second meeting held if necessary to finalise assessment	Based on stock assessment and other needs agreed in previous years...

## Background

Most of the TAC-setting, assessment and other cycles for the key target species and research initiatives are now in place for the fishery as per the GABIA *Future Arrangements* proposal. The Board agreed with GABIA's suggestion that during 2008, GABRAG should provide advice on the decision rules to be applied for deepwater flathead and Bight redfish.

The Great Australian Bight Resource Assessment Group (GABRAG) held its first meeting for 2008 in Adelaide on 5 and 6 June and among other things, considered the GABIA recommended harvest strategy and decision rules. The relevant outcomes of the GABRAG meeting were then considered by SESSRAG in August 2008.

The GABIA EO provided a paper that was considered by SESSRAG in August 2008, detailing the decision rules and justification of the harvest strategy for deepwater flathead and Bight redfish in the GABTF (Attachment A).

The GABRAG outcome (from the June 2008 meeting) in this regard was:

### **Action GABRAG 1/2008: 4 (GABIA/AFMA)**

**AFMA and GABIA to collaborate to produce a paper outlining the justification of the decision rules (Deepwater flathead) to be circulated out of session to the RAG, this is to be completed by the 14<sup>th</sup> of June so this can be submitted to SESSRAG at the end of June.**

## Discussion

The deepwater flathead and Bight redfish TACs, harvest strategy and decision rules (below) were considered by GABRAG and SESSRAG in 2008 and it was agreed they were reasonable, based on the stock assessment indicators/circumstances of those species. In addition, a number of recommendations, detailed below, were also made following these meetings.

### **Deepwater flathead**

Current base case assessment estimates (for  $B_{40}$  target reference point):

- Biomass at 56% of pre-fishing
- $B_{MSY} \sim B_{27}$
- 2007/08 annual Recommended Biological Catch (RBC) of 1,524t
- Long term annual RBC of 1,030t
- Projected RBCs based on 20:40:40 Harvest Control Rule (HCR):

2007/08	1,524
2008/09	1,360

2009/10	1,205
2010/11	1,110
2011/12	1,063
2012/13	1,049

The FIS and the collection of age and length frequency data as well as the monitoring of catch and effort information will be ongoing regardless of whether an assessment is to take place in that year. The information obtained from these sources will be analysed and presented to the RAG each year well prior to the date at which a decision on the TAC for the next year is made.

Deepwater flathead decision rules:

- GABIA recommended default TACs: 1,400t 2008; 1,300t 2009; 1,200t 2010
- Proposed next assessment: during 2010, for May 2011 TAC and future harvest strategy
- If the FIS relative abundance index in the current year is  $\geq 20\%$  lower compared with the previous year then a full stock assessment will be undertaken in the current year;
- If the FIS relative abundance index over a two year period is  $\geq 30\%$  lower compared with the previous year then a full stock assessment will be undertaken in the current year;
- If the FIS relative abundance index in the current year is  $\geq 20\%$  higher compared with the previous year then it is GABIA's option to either keep the TAC the same for the next year or undertake a full stock assessment from which a new TAC may be derived;
- If the RAG is concerned with any other indicators (eg. length-frequency distributions, age distributions, commercial CPUE) then it can decide to undertake a full assessment in that year
- A final option is for the FIS abundance index from Feb/March to directly influence the TAC decision made for 1<sup>st</sup> May commencement of the new fishing year, thus acting as real-time data collected at-sea to inform stock management. For example, a strong positive change in the 2009 survey abundance index (available early/mid April) could trigger an increase (up to 10%) in the TAC for the 2009/10 quota year. Under such circumstances, the TAC can only increase a maximum of 10%, noting that under such circumstances, an assessment would have to be completed during that year. Under such a scenario, industry decides if there will be a TAC increase that year, as this would also trigger an assessment and industry covers the costs of the assessments.

### Deepwater flathead Recommendation

GABRAG/SESSFRAG outcomes (deepwater flathead) endorsed by GABIA and in line with the *Future Arrangements* agreement:

1. **Endorse the harvest strategy and decision rules (as indicated above), and note that, given observed variation of the deepwater flathead FIS outcomes, the decision rules appear to be adequately conservative.**

2. An MSE should be completed at some stage in the future to ensure the best indicators/decision rules are being applied.
3. Review of the decision rules for deepwater flathead to occur every 3 years, in line with the default assessment/TAC-setting cycle (including review of the long term target HCR and outcomes of the GABTF MEY study, noting annual agreed changes can vary the default timing of assessments)

### ***Bight redfish***

Current base case assessment estimates (for  $B_{40}$  target reference point):

- Biomass at 82% of pre-fishing
- $B_{MSY} \sim B_{24}$
- 2007/08 RBC of 5,383t
- Long term RBC of 1,730t
- Projected RBCs based on 20:40:40 HCR:

2007/08	5,383
2008/09	4,359
2009/10	3,590
2010/11	3,019
2011/12	2,603
2012/13	2,305
2013/14	2,097

Bight redfish decision rules:

- Default TACs: 2,000t in 2008, 2,000t in 2009
- Next assessment: during 2009, for 1 May 2010 TACs and future harvest strategy/decision rules
- If the RAG is concerned with any indicators over the period between stock assessments (FIS abundance index,  $I_{freq}$  distributions, commercial CPUE), then it can decide to undertake a full assessment in that year.

Based on this, GABRAG and SESSFRAG agreed that considering the precautionary nature of the TAC and other stock health indicators, it was comfortable to agree with the GABIA proposal (already approved by the AFMA Board) to wait until during 2009 for an assessment on Bight redfish, which will inform TAC-setting for the 1 May 2010 fishing year.

Further, GABRAG agreed that the development of decision rules for Bight redfish should be deferred until during 2009, as there will be additional information on the status of the fishery (stock assessment) and also another survey point at this time.



### **Bight redfish Recommendation**

- 1. Endorse the harvest strategy and decision rules (as indicated above); and.**
- 2. Complete a stock assessment and develop decision rules for Bight Redfish during 2009, following the FIS.**

### **Further information**

In the first instance, further information can be obtained by contacting the GABIA Executive Officer, Mr Jeff Moore, on mobile number 0400 166 649 or via email [gabia@internode.on.net](mailto:gabia@internode.on.net)

Alternatively, the AFMA Manager of the GABTF, Mr Steve Auld, can be contacted on (02) 6225 5306 or email [Steve.Auld@afma.gov.au](mailto:Steve.Auld@afma.gov.au)

## **Annex 5 – Additional detail to GAB research and monitoring**

### **Stock assessments**

The input of FIS data, continued biological collections and the move to SS2 stock assessments have greatly improved confidence in GABTF assessments. The assessments have revealed that the stocks are well above target biomass levels. This has allowed the setting of precautionary longer-term TACs with explicit triggers and decision rules. Depending on a range of indicators and the decision rules, stock assessments will not need to be undertaken every year for both species.

Under default arrangements, stock assessments will only be undertaken to feed into TAC-setting years, as set out in Annex 4.

### **Integrated Scientific Monitoring Program**

Discard rates are now well known, and have been relatively stable during 8 years of data collection. Bycatch composition and levels are also known and have been consistent throughout the programs history. Industry is putting in place a number of initiatives to reduce the level of bycatch in the fishery. The industry-led discard reporting program will ensure high-level discards continue to be recorded. Therefore , the at-sea component of the ISMP will not be run annually. Collection of biological samples will be undertaken through more cost-effective port-based sampling for all major species. The FIS will continue to monitor key species abundance indices for ERA requirements and collect biological samples.

GABIA will oversee the following default ISMP program for the GABTF:

- No at-sea component in 2009 (albeit for FIS observers);
- Onshore biological data collection (in consultation with and/or coordinated by GABIA) will occur in years for which there is no at-sea component of the ISMP; and
- Industry-led discard recording in logbooks will play an increasingly important role, to be audited by at-sea ISMP observer coverage in 2010 and 2013

### **Fishery Independent Surveys**

The GABTF, through GABIA, is now in a unique position of having established an effective, efficient and scientifically rigorous fishery independent monitoring program. GABIA sees the FIS as an ongoing component of core research in the fishery. The survey has now run for five years (making a 5 year time series for a robust relative abundance index).

GABIA is responsible for organising the FIS survey trips, including scientific permits, start and end dates of surveys and observers.

GABIA, through GABRAG, will oversee a review of the FIS during 2009 to determine if annual surveys should continue or be undertaken at a different frequency (eg, every second year). Following this review, GABIA will recommend to AFMA the FIS scope and frequency.

### **Slope Species Monitoring**

Part of "targeted research", GABIA, through GABRAG and GABMAC, has put in place triggers (as safeguards) and a monitoring strategy for key "developing" species. This keeps management costs down whilst ensuring precautionary catch limits and data collection occurs for future use in species assessments (if/when prescribed and precautionary catch trigger levels are met).

Costs are borne directly by GABIA and are due to monitoring through data collection. Costs may increase if triggers are reached and data analysis is required.

GABIA will continue to collect required information (Table 1, Annex 4) and report annually to GABRAG.

GABIA will work with AFMA to monitor catches throughout the year and report sample collections vs collection targets and catches to ensure GAB operators are complying with the requirements

### **Industry-led program for monitoring discards**

GABIA understands the need for accurate discard information and requirement to fill out catch and effort data, as well as TEP interations, in logbooks.

GABIA will deliver an education and auditing program in the GABTF to ensure accurate recording of discards in GAB logbooks

### **Other research measures**

GABIA is directly involved with a range of research measures and initiatives in the GABTF to address bycatch, stock discrimination, data collection and broader fishery issues. These include the orange roughy research program, T90 extensions and the T90 net project, blue grenadier stock discrimination project, orange roughy research and data collection and GAB habitat mapping. GABIA will continue to work with GABRAG and AFMA and progress research priorities in the fishery.

**Appendix 6 - GABTF Boat Operations Procedures Manual**



**Australian Government**

**Australian Fisheries  
Management Authority**



**Australian Government**

**Fisheries Research and  
Development Corporation**

# BOAT OPERATING PROCEDURES MANUAL

**Great Australian Bight Trawl Fishery**



The information in this manual is intended to serve as a guide only. AFMA and GABIA shall in no way be liable for any loss caused, whether due to negligence or otherwise, arising from the use of or reliance upon this document. The document is not intended to replace any operator's concession concerning the conditions under which they are required to operate. Operators must still read and understand the relevant documents, including but not limited to the following:

- Fisheries Management Act 1991;
- Fisheries Management Regulations 1992;
- Southern and Eastern Scalefish and Shark Fishery Management Plan, 2003, and the associated legislation;
- Conditions on Boat SFR certificates and permits;
- Marine Pollution Laws; and
- Great Australian Bight Trawl Fishery Bycatch and Discarding Workplan 2008.

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Great Australian Bight Fishing Industry Association Inc., 2010.

ISBN: 978-1-877044-39-7

Acknowledgements: Jill Harrap, Shalan Bray, Jeff Moore, Steve Bolton, Steve Auld, GABTF owners, skippers and crew.

Supported by funding from the FRDC on behalf of the Australian Government.

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**Please keep this manual up to date and replace cards or insert new cards as necessary.**

# PREFACE

In 1883, a great scientist of the time, Thomas Henry Huxley stated,

*“I believe, then, that the cod fishery, the herring fishery, the pilchard fishery, the mackerel fishery, and probably all the great sea fisheries, are inexhaustible; that is to say, that nothing we do seriously affects the number of the fish. And any attempt to regulate these fisheries seems consequently, from the nature of the case, to be useless.”*

He made this statement based on the fishing powers of the time. However, the periods of industrialisation and developments in technology have driven a dramatic increase in fishing power. Failing to keep pace through management has resulted in the collapse of some of the world's largest fisheries.

Securing the future of commercial fisheries in the face of today's fishing power is one of the most difficult challenges faced by the fishing industry and fishery managers alike.

However, the Great Australian Bight Fishing Industry Association Inc. (GABIA) and the Great Australian Bight Trawl Fishery (GABTF) are leading the way in fisheries management through collaboration with government to ensure the ecological and economic sustainability of the fishery. This collaborative approach aims to build trust between industry and government, enhance transparency and ensure the fishery is managed efficiently and effectively.

The GABTF is part of the Southern and Eastern Scalefish and Shark Fishery (SESSF). The main target species in the GABTF are Bight Redfish and Deepwater Flathead which are primarily caught with demersal trawl. There is also a developing slope fishery in which Western Gemfish and other slope species are targeted sporadically. The GABTF is a relatively small fishery with only ten boat statutory fishing rights (SFRs) and six companies. All SFR owners are members of GABIA.

As a fishing boat operator in the GABTF, you have a key role in the management of your fishery. The way you operate this boat is of critical importance to its owner, GABIA, the partnership with government and the long term future of the fishery.

This operational manual is intended to provide you with the working knowledge required to meet standards of practice either developed or fully supported by GABIA. In meeting these standards you will continue to lead the way in fisheries management, ensure your own future and set an example for others to follow.

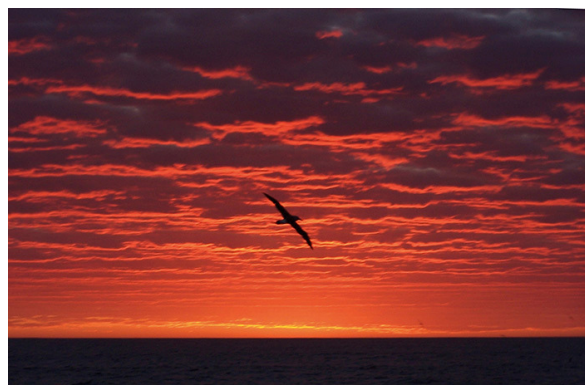


Photo: GABIA.

*The vision of the Great Australian Bight Trawl Fishery is to be a sustainable and profitable demersal and midwater trawl fishery, built through a co-management approach with all stakeholders, to supply high quality fresh and frozen product to domestic and overseas markets.*

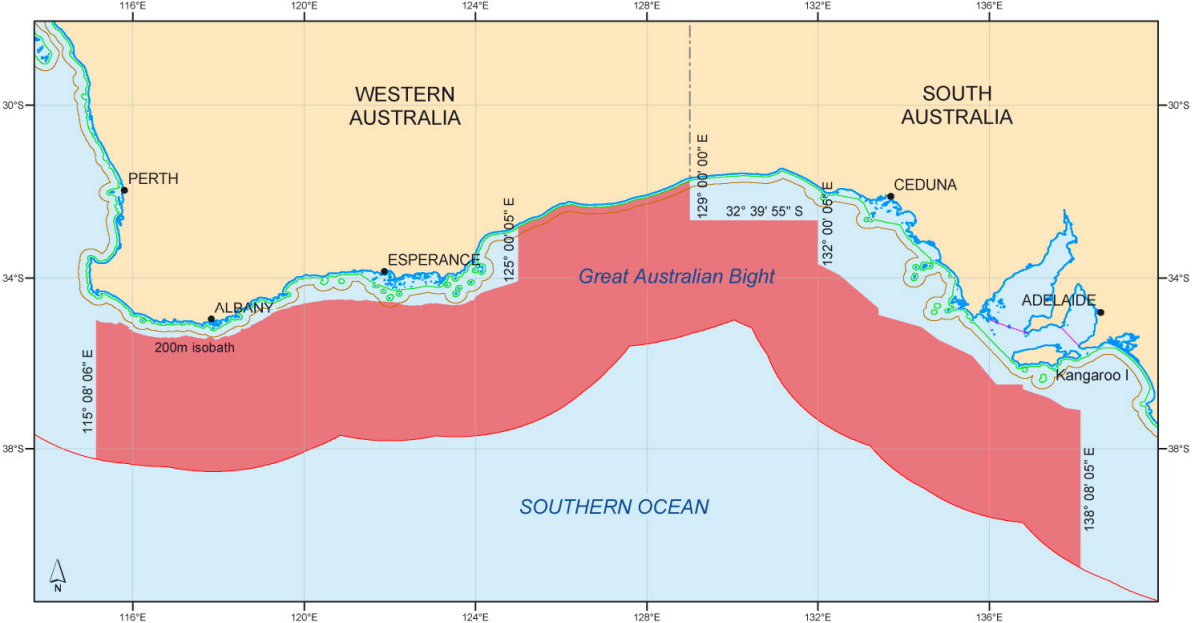


# AREA OF THE GABTF

The area of the Commonwealth GAB Trawl Sector is the part of the Australian fishing zone (AFZ) bounded by a line beginning at the intersection of the 200 metre isobath south of Australia with the meridian of longitude 115° 08' 06" E, and running progressively as described below:

1. south along that meridian to its intersection with the outer limit of the AFZ;
2. generally easterly along that outer limit to its intersection with the meridian of longitude 138° 08' 05" E;
3. north along that meridian to its intersection with the parallel of latitude 37° 05' 55" S;
4. westerly along the geodesic to 37° 02' 55" S, 137° 47' 05" E;
5. north-westerly along the geodesic to 36° 48' 55" S, 137° 24' 05" E;
6. westerly along the geodesic to 36° 36' 55" S, 136° 47' 05" E;
7. north along that meridian to its intersection with the parallel of latitude 36° 29' 55" S;
8. west along that parallel to its intersection with the meridian of longitude 136° 10' 05" E;
9. north-westerly along the geodesic to 35° 49' 55" S, 135° 36' 05" E;
10. westerly along the geodesic to 35° 26' 55" S, 134° 48' 05" E;
11. north-westerly along the geodesic to 35° 09' 55" S, 134° 25' 05" E;
12. westerly along the geodesic to 34° 52' 55" S, 133° 25' 05" E;
13. north along that meridian to its intersection with the parallel of latitude 34° 41' 55" S;
14. north-westerly along the geodesic to 33° 56' 00" S, 132° 30' 00" E;
15. westerly along the geodesic to 33° 32' 00" S, 132° 00' 00" E;
16. north along that meridian to its intersection with the parallel of latitude 32° 39' 55" S;
17. west along that parallel to its intersection with the boundary between the adjacent areas of South Australia and Western Australia;
18. north along that boundary to its intersection with the outer limit of coastal waters of southern Australia;
19. generally westerly along the outer limit of the coastal waters of Western Australia to its intersection with the meridian of longitude 125° 00' 05" E;
20. south along that meridian to its intersection with the 200 metre isobath; and then
21. generally westerly along that isobath to the point where the line began.

# AREA OF THE GABTF (CONTINUED)



1



# BOAT SPECIFIC OPERATIONS

# 2



## HAZARD ANALYSIS AND CRITICAL CONTROL POINTS

# CARD 2A: INTRODUCTION TO HACCP

## BACKGROUND

Good product handling practices are important for delivering high quality product and maximising boat income and profit.

Hazard analysis and critical control points (HACCP) is an internationally recognised system for ensuring good product handling. This is a proactive system that aims to prevent food safety hazards from occurring.

The system involves identifying and monitoring certain points in the production process at which food safety hazards may occur. These are known as critical control points (CCPs). If the monitoring result at a CCP is not within safe limits then a pre-planned action is undertaken to ensure the hazard does not occur.

Another method for ensuring product quality is through traceability. Traceability means keeping track of fish after they are caught, and through the transportation, processing and distribution phases.

Accurate record keeping is essential for traceability. GABIA and AFMA are working together to investigate traceability options for the GABTF.

## YOUR RESPONSIBILITIES

- Ensure all crew are adequately trained in HACCP.
- Ensure all crew comply with the boat's HACCP plan.
- Ensure all record keeping is accurate and up to date.

## REFERENCES

*Product Traceability: A Desktop Study for GABIA from AFMA Co-management section, 2009.*

## CONTACT DETAILS

GABIA EO: 0400 166 649



Photo: AFMA.

3



# REPORTING

# CARD 3A: DAILY FISHING LOGS

## BACKGROUND

The daily fishing log program is one of the most important tools for gathering information on fishing catch and effort. Daily fishing log information is used by fisheries managers and researchers to assess fish stocks and gain a picture of the changes in the fishery over time. Accurate reporting in daily fishing logs is essential to ensure that fisheries remain sustainable and profitable.

The GABTF is in the process of implementing electronic daily fishing logs (E-logs).



Photo: AFMA.

3

## YOUR RESPONSIBILITIES

- Complete the Southern and Western Trawl Daily Fishing Log (SWT01A or its replacement).
- Return the original white copy of the daily fishing log pages to AFMA within three days of the completion of each fishing trip.
- Clearly mark any spoiled or incorrectly completed daily fishing log pages and return these to AFMA.
- Ensure an authorised agent of the concession holder completes and signs the daily fishing log.
- If you wish to authorise another person to complete the daily fishing log and/or Commonwealth managed fisheries transit forms, you must obtain approval from AFMA by completing the authorised agent nomination form (AA).

## CONTACT DETAILS

AFMA Data section: 1300 723 621

GABIA EO: 0400 166 649

# CARD 3B: CATCH DISPOSAL RECORDS

## BACKGROUND

A catch disposal record (CDR) must be completed on landing. The CDR form provides details on the species caught and their accurate weight. CDRs are designed to verify catch landings and provide information for fisheries management purposes.

## YOUR RESPONSIBILITIES

- Always land fish to a person holding a fish receiver permit.
- Complete the Great Australian Bight Trawl Fishery CDR (GAB2C or its replacement) within 50 metres of the landing point.
- Return the original white copy of the CDR to AFMA within three days of unloading.
- The yellow and blue copies of the CDR must accompany the fish to the receiver.
- Clearly mark any spoiled or incorrectly completed CDR forms and return these to AFMA.
- If you have multiple receivers you must complete a separate CDR for each receiver.
- Complete the Commonwealth managed fisheries transit form (CTF) when landing fish and using multiple vehicles to transport the fish to one receiver.
- If you wish to authorise another person to complete the CDR forms, you must obtain approval from AFMA by completing the authorised representative nomination form (AA).

## CONTACT DETAILS

AFMA Data section: 1300 723 621

GABIA EO: 0400 166 649

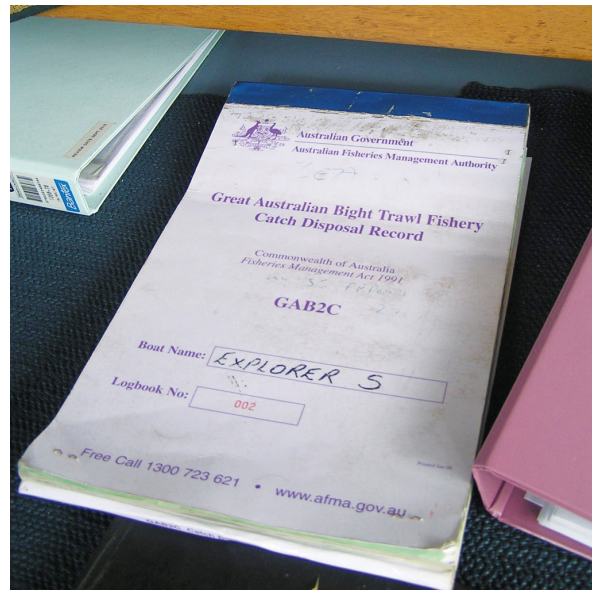


Photo: AFMA.



# 4



## BYCATCH AND DISCARDS

# CARD 4A: RECORDING BYCATCH

## BACKGROUND

Bycatch refers to the part of catch made up of non-target species. Bycatch is an issue of concern for the sustainability of the marine ecosystem and must be minimised to the greatest extent possible.

There are a number of industry initiatives in the GABTF that assist in quantifying and reducing bycatch, including:

- the GABTF Bycatch and Discard Workplan which outlines actions that will be undertaken in the GABTF to address bycatch and discarding issues;
- gear modifications pursued by industry, including the move to T90 extensions and/or codends on all nets used for fishing on the shelf;
- area closures;
- investigation of seabird mitigation measures, including offal management and mitigation devices;
- individual vessel management plans; and
- production of a GABIA bycatch and discards flier to assist in accurate reporting of bycatch and discards in daily fishing logs.

## YOUR RESPONSIBILITIES

- Take all reasonable measures to ensure that bycatch is kept to a minimum.
- Comply with initiatives to address bycatch issues.
- Suggest any new ideas for reducing bycatch to the boat owner, concession holder, or the GABIA EO.

## REFERENCES

*Great Australian Bight Trawl Fishery Bycatch and Discarding Workplan, 2008.*

*GABIA Recording Discards flier, March 2009.*

## CONTACT DETAILS

AFMA Bycatch and discards section:

1300 723 621

GABIA EO: 0400 166 649



Photo: AFMA.

# CARD 4B: RECORDING DISCARDS

## BACKGROUND

Discarding is the general practice of returning the unwanted part of the catch to the sea. There is a strong community perception that discarding species of potential commercial value is wasteful. Discarding should be minimised to the greatest extent practical.

Despite the general misconception within industry that reporting discards will lead to compliance action, GABTF operators have been reporting discards over the last few years. It is important that as a GABTF operator you continue to record discards correctly so that scientific and economic assessments about the fishery are accurate. For example, reports of greater levels of juvenile quota species being discarded could be an indication of a recruitment event in the fishery.

## YOUR RESPONSIBILITIES

- You must record all of the following details in your daily fishing log on a shot-by-shot basis:
  - total discards of each quota species;
  - total discards of other mixed fish; and
  - total discarded sponge.
- Quota species are Deepwater Flathead, Bight Redfish, School Shark, Gummy Shark, Saw Shark and Elephantfish. Do not include discards of these species in the “other mixed fish” category.
- If possible, provide more specific species and weight details for the total other mixed fish category.

## REFERENCES

*Great Australian Bight Trawl Fishery Bycatch and Discarding Workplan, 2008.*

*GABIA Recording Discards Flier, March 2009.*

## CONTACT DETAILS

AFMA Bycatch and discards section:

1300 723 621

GABIA EO: 0400 166 649



Photo: AFMA.

# CARD 4C: GABIA BYCATCH AND DISCARDS FLYER

## BYCATCH MUST BE RECORDED

YOU NEED TO RECORD DISCARDS IN CATCH AND EFFORT LOGBOOKS

### Great Australian Bight Trawl Fishery

Over the last few years, GABTF skippers have successfully made more accurate recordings of discards in GABTF catch and effort logbooks!

Bycatch (that part of the catch that is caught and then discarded) has become an issue of increasing concern in fisheries worldwide. Apart from the sustainability concerns about discarding, it is generally perceived as a “waste” to throw fish and other bycatch over the side. It is an issue that fishers can no longer ignore.

#### Industry initiatives to help better quantify and reduce bycatch in the GABTF:

- Skippers **must** record estimated total discards of each **quota species**, total discards of “**other**” species and total **sponge** discards from each shot in daily catch and effort logbooks.
- Gear modifications - T90 (rotated mesh) extensions and/or codends are mandatory in the GABTF if fishing 200m depth or shallower.
- Sustainable utilisation of current bycatch species through market development being explored
- Investigation of spatial management measures to address specific bycatch issues being considered.

The GABTF Bycatch Workplan aims to:

- Respond to high ecological risks assessed through AFMA’s Ecological Risk Assessment and other assessment processes;
- Avoid interactions with species listed under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act);
- Reduce discarding of target species to as close to zero as practically possible; and
- Minimise overall bycatch in the fishery over the long-term.

#### What must be recorded...

##### 1. Total discarded catch of each quota species

(deepwater flathead, Bight redfish, school shark, gummy shark, saw shark, elephant fish);

##### 2. Total other (mixed fish) discarded

(do not double count ie, do not include quota species in this mixed discard figure); and

##### 3. Total discarded sponge

by each individual GABTF vessel, on a **shot by shot** basis on daily catch sheets in the logbook.



#### FOR MORE INFORMATION

If you require more information about any of the issues raised or have any concerns or suggestions about bycatch reduction in the GABTF, please contact:  
Jeff Moore, GABIA Executive Officer  
0400 166 649  
gabia@internode.on.net



# CARD 4C: GABIA BYCATCH AND DISCARDS FLYER (CONTINUED)

## Example of filling out discard information

Southern and Western Finfish Trawl  
Daily Fishing Log  
SWT01A

For each shot and species/component of catch:

- Step 1 ..... Estimate weight to be discarded
- Step 2 ..... Record estimated discard weight
- Step 3 ..... Record discard code

4

Australian Fisheries Management Authority  
Box 7051  
Canberra Business Centre ACT 2610

**Catch and Effort – SWT01A Daily Fishing Log** Original Copy – Send to AFMA  
Please use separate sheets for each fishing day

Date: 15 / 10 / 04 Log No: Page No:

Boat Name: **Deep Blue** Dist. Symbol: **LFB123** TRIP DATES  
Departed: 15/10/04  
Returned: 15/10/04

EXTENDED NON-FISHING I did not work between 6/10/04 and 14/10/04 NON-FISHING CODE (Circle)  
In Port Searching Bad Weather Steaming Other fishery Which?

TRAWL DETAILS	SHOT 1			SHOT 2			SHOT 3		
	GAB	WDW	Other	GAB	WDW	Other	GAB	WDW	Other
Fishery (circle)	SPF	HS		SPF	HS		SPF	HS	
Gear No. (from gear sheet)	1	2		1	1				
Ground and mesh size (mm)	100	s	D	100	s	D	40	s	D
Ground gear disc height	9	inch/cm		9	inch/cm				
Trawl method (circle one from each section)	OT DS	PA OT2	DEM MID	OT DS	PA OT2	DEM MID	OT DS	PA OT2	DEM MID
Start time of shot	0400			1700			1715		
Start position Latitude	3	2	2 5	2	9	1 7	4	1	1 7
Start position Longitude	1	2	9 5 8	1	1	2 3	1	4	8 4 0
End time of shot	0550			1920			2230		
End position Latitude	3	2	2 9	2	9	2 7	4	1	4 0
End position Longitude	1	3	0 5	1	1	2 6	1	4	8 4 3
Average trawl depth	420 m/salt			240 m/salt			120 m/salt		
Trawl depth average temp	8			14			14		
Shot valid (circle)	Yes			Yes			Yes		

CATCH DETAILS	Estimate weight (kg) of each species	Weight Kept	Form Code	Weight Discarded	Dis. Code	Weight Kept	Form Code	Weight Discarded	Dis. Code	Weight Kept	Form Code	Weight Discarded	Dis. Code
Deepwater Flathead	FLD	320	W			100	W			1000	W	2	DM
Bight Redfish	REB	200	W			300	W	3	DM	320	W		
Orange Roughy	ORO					80	W						
Chinaman Leatherjacket	LJC												
Yellowspot Boarfish	BOP												
Big Spine Boarfish	BOB					100	W						
Knifefish	KNI												
Smooth Oreo	DOO												
Latchet	LAT												
King Dory	DKK												
Mirror Dory	DM												
Gemfish	GEM												
Ruby Snapper	SNR												
Rosy Jobfish	JOR												
Tang Snapper	SNT												
Arrow Squid	SOA					40	W						
Deepwater Bug	BUG												
Gummy Shark	SHG												
School Shark	SHS												
Saw Shark	SHW												
Elephant Shark	SHL												
Angel Shark	ASH	60	TR										
Alfonsino	ALF												
Blue Mackerel	MAS												
Jack Mackerel	MAJ												
Yellowtail Scad	MAY									4000	W		
Perchlet	PEA									1000	W		
Wobegong Whiskery sharks						20	TR						
Parasitica						30	TR						
Mixed fish		100	TR	200	UM			320	UM			300	UM
Sponge				20	UM			10	UM			8	UM

### Discard Codes

- NQ = No Quota
- MP = Market Price
- US = Under Size
- UM = Un-marketable
- DM = Damaged

### Quota species

Simply record the estimated weight discarded. The appropriate discard code must also be recorded.

In this example, for shot 2 of the day, the operator retained 300kg of whole and discarded 3kg of damaged (DM) Bight redfish

A reminder of what discards must be recorded...

1. Total discarded catch of each quota species, (deepwater flathead, Bight redfish, school shark, gummy shark, saw shark, elephant fish);
2. Total other (mixed fish) discarded (do not double count ie, do not include quota species in this mixed discard figure); and
3. Total discarded sponge

**NOTE:** You must still record retained catch for each species—this has not changed

### Recording other "Mixed fish" and Sponge

After estimating quota species discards and recording them, simply estimate the remainder of the discards as "Mixed fish" and/or "Sponge", then record the estimated discard weight and appropriate discard code of each, for each shot



# 5



## DATA COLLECTION AND RESEARCH

# CARD 5A: OBSERVERS

## BACKGROUND

The AFMA observer program provides a valuable data collection and verification service to the fishing industry, managers and researchers. The role of observers is to collect independent, accurate and reliable data on Commonwealth fishing operations, catches and interactions of boats and fishing gear with wildlife and the environment.

Observers do not have the authority to direct fishing operations, provide operational advice or act in an enforcement role. However, they are required to report all illegal fishing activity.

Observers may be placed on your boat from time to time. You will be contacted by AFMA's observer section if you are required to host an observer.

## YOUR RESPONSIBILITIES

- Facilitate the carriage of observers and ensure they have adequate food and accommodation.
- Assist the observer in completing their duties with safety and integrity.
- Allow the observer to have access to parts of the boat to which the observer reasonably requires access.
- Allow the observer to use facilities and equipment that the observer reasonably requires to undertake their duties on board the boat.
- Provide the observer with access to information that the observer reasonably requests in relation to the boat, its equipment or fish taken using the boat.
- Allow the observer to leave the boat upon request from AFMA.

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery Management Plan, 2003.*

*Fisheries Management Regulations, 1992.*

## CONTACT DETAILS

AFMA Observer section: 1300 723 621

GABIA EO: 0400 166 649



Photo: AFMA.

# CARD 5B: GABTF SLOPE SPECIES SAMPLING

## BACKGROUND

Catch sampling provides important information about the fishery, including the number of fish at each age class. This information is used to conduct population analyses and stock assessments. Crew-based catch sampling also provides a cost-effective alternative to observers. The Great Australian Bight Research Assessment Group (GABRAG) has identified six species that need to be sampled:

- Gemfish;
- Blue Grenadier;
- Pink Ling;
- Hapuku;
- Blue-Eye Trevalla; and
- Ribaldo.

The amount you need to sample depends on the type of fish and how much you catch.

- **For Blue Grenadier and Gemfish:** if you catch more than 300kg in any shot, or more than 3000kg in any trip, then you must provide a sample.
- **For Pink Ling, Hapuku, Blue-Eye and Ribaldo:** if you catch more than 50kg in any shot, or more than 200kg in any trip, then you must provide a sample.

## YOUR RESPONSIBILITIES

- Be aware of the species that need to be sampled and the catch thresholds for sampling as described above.
- Provide samples by:
  - randomly selecting 100 fish and placing them into bins. Clearly label the bins as 'research', and also label them with the date, time, position of shot and boat name;
  - or**
  - randomly selecting 100 fish and recording the length measurement for every fish and collecting otoliths from 50 fish, in accordance with GABIA's fish sampling instructions.

- Before unloading contact the GABIA EO or Russell Hudson and inform them of the samples or data that you have collected.

## REFERENCES

*Fish Sampling Instructions for Species in the Great Australian Bight Trawl Fishery, May 2007, GABIA.*

*GABIA Vessel Sample Collection Flier, April 2009.*

## CONTACT DETAILS

GABIA EO: 0400 166 649

Russell Hudson: 0417 131 010



Photo: Lauren Brown, 2003.



# CARD 5C: DEEPWATER FLATHEAD AND BIGHT REDFISH LENGTH FREQUENCY SAMPLING

## BACKGROUND

GABTF operators have agreed to collect length frequency samples for Deepwater Flathead and Bight Redfish. This provides a cost effective way to collect data for stock assessment.

This process is to be undertaken to supplement dedicated fishery independent sample collections.

## YOUR RESPONSIBILITIES

On a shot by shot basis, or otherwise when operations permit sample collection:

1. Select a sample of ungraded fish of Deepwater Flathead and/or Bight Redfish (one to two bins of each species);
2. Weigh or estimate the total catch weight of each species from the shot (only the species to be sampled) and record this weight on the length-frequency form;
3. Weigh the sample for each species and record this weight on the length frequency form;
4. Measure all fish, ensuring the snout of the fish is aligned with the end of the ruler, the body is straight and the mouth is closed. Measure the fish using the length measurement type (TOT or LCF) as shown on the back of this page. Round each measurement down to the nearest whole cm;
5. Mark the length of each fish in the appropriate box on the form (refer to the attached demonstration form);
6. Once all fish have been measured, complete the remaining fields on the form, including the integrated scientific monitoring program (ISMP) zone (refer to the attached map of ISMP zones); and
7. Send the completed forms with your logbook pages to AFMA at the address below.

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery, Great Australian Bight Trawl Sector, At-sea Length Frequency Sampling Guidelines.*

*Fish Sampling Instructions for Species in the Great Australian Bight Trawl Fishery, May 2007, GABIA.*

*GABIA Vessel Sample Collection Flier, April 2009.*



## CONTACT DETAILS

GABIA EO: 0400 166 649

Send forms to:  
Australian Fisheries Management Authority  
Box 7051  
Canberra BC  
CANBERRA  
ACT 2610

# CARD 5C: DEEPWATER FLATHEAD AND BIGHT REDFISH LENGTH FREQUENCY SAMPLING (CONTINUED)

Appropriate length measurements and species information.

SPECIES NAME	PICTURE AND MEASUREMENT CODES	SPECIES CODE
Deepwater Flathead <i>Neoplatycephalus conatus</i>	 <p style="text-align: center;"><b>TOT</b></p> <p style="text-align: center;">Snout tip to furthest edge of the caudal fin (tail)</p>	FAO code: <b>FTL</b> CSIRO code: <b>37296002</b>
Bight Redfish <i>Centroberyx gerradi</i>	 <p style="text-align: center;"><b>LCF</b></p> <p style="text-align: center;">Snout tip to the centre of the caudal fin fork</p>	FAO code: <b>CXZ</b> CSIRO code: <b>37258004</b>

5



Photo: AFMA.

# CARD 5C: DEEPWATER FLATHEAD AND BIGHT REDFISH LENGTH FREQUENCY SAMPLING (CONTINUED)

Example of a length-frequency form.

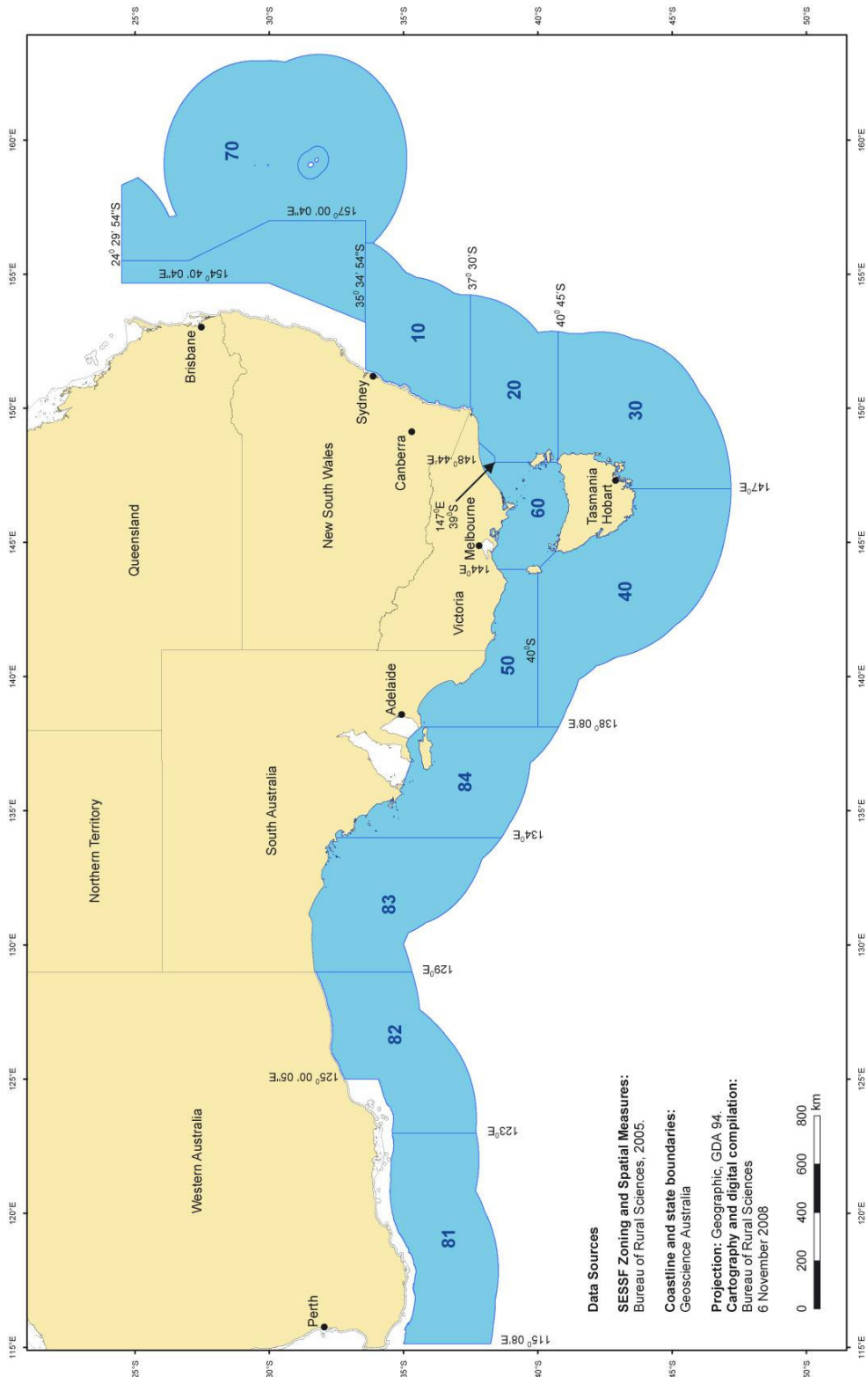
Australian Government Australian Fisheries Management Authority		LENGTH FREQUENCY DATA FORM (ISMP PORT SAMPLING) (DEMO ONLY)										
Date	14/7/2010	Sampler Name	Jason Berg			Vessel	Vessel Name					
Trip Start Date	8/7/2010	Trip End Date	16/7/2010	Zone	8.3	Port Landed	Ceduna					
Species	Deepwater Flathead	Sorted	Unsorted	Fishing Method	Trawl	Total species catch weight (per grade if graded)	3525					
Species Code	FTL	Retain	Discard / Unknown	Graded	Ungraded	Sample weight (kg)	65					
Length code	TOT											
	TALLY			TOTAL			TALLY			TOTAL		
	MALE	FEMALE	UNK	M	F	U	MALE	FEMALE	UNK	M	F	U
10												71
11												72
12												73
13												74
14												75
15												76
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33						4						94
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35						6						96
36						5						97
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38						8						99
39						4						100
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41						3						102
42												103
43						1						104
44						3						105
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46						2						107
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70												131

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# CARD 5C: DEEPWATER FLATHEAD AND BIGHT REDFISH LENGTH FREQUENCY SAMPLING (CONTINUED)

## Southern and Eastern Scalefish and Shark Fishery Zones



# CARD 5D: FUTURE RESEARCH IN THE GABTF

## BACKGROUND

Research programs are important to help develop fisheries in the GABTF, and ensure fishing is ecologically and economically sustainable. Some of the research programs currently undertaken in the GABTF include:

- fishery independent surveys;
- the integrated scientific monitoring program; and
- research into fishing gear using a minimum mesh size of T90mm at the codend to help reduce bycatch.

GABIA recently reviewed and consolidated the research and monitoring programs undertaken in the GABTF. This review has helped to ensure that research remains cost effective and efficient, and it also helped to guide the future research activities that will be undertaken in the fishery.

## YOUR RESPONSIBILITIES

- Be aware of the research and assessment programs in the GABTF.
- Assist with research in the GABTF as required.

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621

GABIA EO: 0400 166 649



Photo: AFMA.

# 6



## WILDLIFE INTERACTIONS

# CARD 6A: PROTECTED SPECIES INTERACTIONS

## BACKGROUND

Some species need to be protected to aid their recovery from a population decline, and to ensure their long term survival. *The Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act) protects:

- listed threatened species and ecological communities;
- listed migratory species;
- listed marine species; and
- all cetaceans.

You must report all interactions with protected species in accordance with the *Southern and Eastern Scalefish and Shark Fishery Management Plan 2003*. It is not an offence to have an interaction with a protected species if you are acting in accordance with the management arrangements of the fishery and taking reasonable steps to avoid an interaction or injury. However it is an offence not to report this interaction.

An 'interaction' means any physical contact that a person, boat or gear has with a protected species that causes death, injury or stress to the species. This includes, for example, collisions, catching, hooking, netting, entangling or trapping of a protected species.

Some of the protected species that are found in the GABTF include seabirds, seals, sea lions, sea horses, sea dragons, pipefish, Great White Sharks and Grey Nurse Sharks. AFMA's *Protected Species ID Guide* can help to identify these species.

*Remember: don't get caught, just report!*

## YOUR RESPONSIBILITIES

- Ensure you are familiar with the protected species relevant to the GABTF.
- Take all reasonable measures to avoid interactions with protected species.
- If an interaction results in injury to a protected species, you must do everything practical to give aid to the animal.
- Report all interactions according to the instructions in your daily fishing log. Do this by circling 'yes' in the box at the bottom of the logsheet and completing the wildlife and other protected species form (located in the back of your daily fishing log).
- If there is an observer present, immediately inform them of the interaction, however you are still required to report the interaction in your daily fishing log.

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery Management Plan, 2003.*

Department of Environment  
protected species listing website:  
<http://www.environment.gov.au/epbc/protect/index.html>

*Protected Species ID Guide, AFMA and the National Heritage Trust, 2006.*

## CONTACT DETAILS

AFMA Environment section: 1300 723 621

# CARD 6B: TAGGED WILDLIFE

## BACKGROUND

Researchers investigating wildlife will periodically tag animals or use bands to help understand aspects of their biology and population status. Researchers are very interested in encounters and observations of tagged animals made by fishers.

If you have an encounter with tagged wildlife, record as many details as practicable in the wildlife and other protected species form in your daily fishing log. If possible, record the band or tag number in the allocated box and any other details in the comments section, such as size, sex or a description of the animal. Photos are also useful to help identify the animal.

## YOUR RESPONSIBILITIES

- If you have an encounter with a tagged animal, record as much detail as practicable in the wildlife and other protected species form located at the back of your daily fishing log. AFMA will notify the appropriate researchers.
- If the animal is alive, record as many details as possible, then release it carefully noting the condition in which it was released.
- If the animal is dead, you are encouraged to retain the tag or band and return it to the appropriate authority.

## CONTACT DETAILS

AFMA Environment section: 1300 723 621



Photo: Noa Younse, istockphoto.



# CARD 6C: SEABIRD INTERACTIONS

## BACKGROUND

Seabirds are attracted to fishing boats because they provide an easily accessible food source.

However, seabirds are listed species under the EPBC Act and they can be injured through interactions with the fishing boat. The warp lines are a particular threat to seabirds.

While research shows that seabird interactions are uncommon in the GABTF, there are practical measures that can be used to further reduce these interactions.

Industry has worked closely with AFMA to develop seabird management plans that have been specifically tailored for each boat in the GABTF. These plans will help reduce seabird interactions.

## YOUR RESPONSIBILITIES

- Ensure all crew understand and comply with your boat's seabird mitigation options.
- Ensuring all mitigation equipment is deployed in accordance with the plan.
- Manage all discards and offal in accordance with the Seabird Management Plan.
- If an interaction occurs, comply with your responsibilities for threatened species interactions, including your reporting obligations (refer to card 6a).
- Report any occupational health and safety issues that arise from seabird mitigation measures to the boat owner and/or concession holder.
- Any ideas of ways to reduce seabird interactions should be raised with the boat owner and/or concession holder, or be referred to the GABIA EO.

## REFERENCES

*Great Australian Bight Trawl Fishery, Seabird Management Plan.*

*Southern and Eastern Scalefish and Shark Fishery Management Plan, 2003.*

Department of Environment protected species listing website: <http://www.environment.gov.au/epbc/protect/index.html>

*Daley, R, Knuckey, I., Dowdney, J., Williams, A., Bulma, C., Sporcic, M., Fuller, M., Smith, T. (2007). Draft Ecological Risk Assessment for the Effects of Fishing. Report for the Great Australian Bight trawl sub-fishery of the Southern and Eastern Scalefish and Shark Fishery. Report for the Australian Fisheries Management Authority.*

## CONTACT DETAILS

AFMA Bycatch and discards section:  
1300 723 621

GABIA EO: 0400 166 649



Photo: AFMA.

# CARD 6D: GABTF SEABIRD MANAGEMENT PLAN BOAT SPECIFIC

## BACKGROUND

There has been increasing pressure on trawl fisheries to manage threats that fishing may pose to seabirds. This has created a need to implement mitigation measures that will reduce or avoid seabird interactions, whilst providing for continued safe and cost effective commercial fishing.

Despite uncertainty about the extent of seabird interactions in Australian trawl fisheries, GABIA and AFMA believe that a proactive and coordinated approach is necessary. Consequently, GABIA and AFMA have developed a suite of measures that aim to mitigate seabird interactions while providing for continued safe and cost effective commercial fishing. These measures are detailed in a seabird management plan (SMP) that is specifically tailored to each boat.

## VESSEL DETAILS

## CONTACT DETAILS

## HAZARD SUMMARY

Hazard	Threat to Seabirds
Warp Wires	<ul style="list-style-type: none"> <li>• Contact through mid air collisions</li> <li>• Contact and drowning by warps from surface contact</li> <li>• Snagging on warp sprags</li> </ul>



Photo: Peter Woods

## MITIGATION PRACTICES

- When practical, discharge bycatch and offal when gear is out of the water;
- Batching of all offal;
- Discharge of all bycatch as quickly as possible;
- Maintain warp condition and remove all sprags;
- Continue the efficient deployment and retrieval of the net.

## HANDLING PRACTICES

If seabirds are incidentally caught and are still alive:

- Make every reasonable effort to ensure that seabirds are released alive;
- When possible, attempt to remove seabirds from netting or meshes without jeopardizing the life of the bird; and
- Always wear gloves, long sleeves and protective eyewear when handling seabirds because they have sharp beaks and are capable of serious bites.

# CARD 6D: GABTF SEABIRD MANAGEMENT PLAN (CONTINUED)

## REPORTING REQUIREMENTS

- Provided an operator is fishing in accordance with the accredited *SESSF Management Plan*, it is **NOT** an offence to have an interaction with a protected species. However, failure to report an interaction in your daily fishing log (SWT01A) **IS** an offence.
- **All seabirds are protected** under Australian law and as such seabird interactions must be recorded in the *Listed Marine and Threatened Species Form* at the back of your daily fishing log and submitted to AFMA with the relevant fishing logs sheets.
- Notes on the effectiveness of the mitigation devices should be recorded in the comments section of your log page.
- Try to identify seabirds that are captured. All boats should have a copy of the protected species ID guide onboard.
- If a tagged/banded seabird is captured, operators should record the band number and as many details as possible in the *Listed Marine and Threatened Species Form*, noting the condition in which it was released.

## CREW AWARENESS

- Crew and boat safety always remains paramount. In this context and in line with this SMP, all reasonable care should be taken to minimise seabird interactions.
- Ensure crew are briefed on the seabird mitigation procedures and fully understand the actions required.
- Crew need to be aware of the seabird activity around the boat and report any additional observed risks to seabirds to the skipper, who will inform AFMA.
- Ensure skippers are informed of any mitigation gear failures or potential improvements that may increase seabird mitigation effectiveness.
- Any OH&S issues arising from the use of seabird mitigation measures or procedures must be reported immediately to the skipper, to be forwarded to GABIA.

## REFERENCES

*Great Australian Bight Trawl Fishery, Seabird Management Plan.*

## MITIGATION OPTIONS

A collection of possible mitigation options that could be employed in the GABTF:

Mitigation options	Location	Details
Offal and discard management <i>Most important factor in reducing seabird interactions.</i>	Trawl deck/Processing deck	<ul style="list-style-type: none"> <li>• Have the capacity to hold discards and offal.</li> <li>• Discharge bycatch and offal in batches rather than a constant release.</li> <li>• Gut fish/offal into holding bins then release when full.</li> <li>• Hold discards and offal while net is being shot away.</li> </ul>
Bird bafflers	Stern quarters, port and starboard	<ul style="list-style-type: none"> <li>• Flexible or semi rigid lines attached to arms protruding from port and starboard to prevent birds from flying down the side of the boat to feed on discharge from scuppers and trash chute.</li> </ul>
Warp scarers	Attached to warps, extending forward of the warp.	<ul style="list-style-type: none"> <li>• Streamers and cables attached to warps (eg by karabiners) to make the warps more visible to deter seabirds.</li> </ul>
Tori / Streamer lines	Stern quarters, outside port and starboard warps	<ul style="list-style-type: none"> <li>• Lines trailed behind the boat with streamers attached every 5m with a drogue to keep the line taut.</li> </ul>

7



# POLLUTION AT SEA

# CARD 7A: MARINE POLLUTION

## BACKGROUND

It is not an environmentally or socially acceptable practice to dump rubbish into the sea. Marine pollution reflects poorly on the fishing industry and damages its reputation.

Marine pollution can damage boats and harm animals.

Australian laws restricting the discharge of certain types of rubbish have been in place since 1990 and all boat operators should be aware of these restrictions. There are severe penalties for discharging rubbish at sea, with fines up to \$1.3 million.

The Department of the Environment, Water, Heritage and the Arts is developing a Threat Abatement Plan for the impacts of marine debris on vertebrate marine life. AFMA will subsequently develop a response that may introduce new guidelines for minimising such impacts.

## YOUR RESPONSIBILITIES

- Understand and comply with pollution laws.
- Do not throw any plastics into the sea.
- Do not discharge any rubbish within 12 nautical miles from land.
- Minimise onboard rubbish, for example by using crockery instead of disposable plates and cups.
- Make all efforts possible to retrieve lost fishing gear. If this is not possible, then report the position of the lost gear to the Rescue Coordination Centre (RCC□Australia).
- Boats greater than 12 meters in length must have MARPOL information placards on display.
- Boats over 400 tonnes must have a waste management plan, and maintain a rubbish record book in accordance with MARPOL requirements.
- Report any sightings of illegal rubbish discharge to the Australian Maritime Safety Authority or the local authorities.

## REFERENCES

Australian Maritime Safety Authority  
website: [http://www.amsa.gov.au/Marine\\_Environment\\_Protection/Protection\\_of\\_Pollution\\_from\\_Ships/Stow\\_it\\_Dont\\_Throw\\_it/](http://www.amsa.gov.au/Marine_Environment_Protection/Protection_of_Pollution_from_Ships/Stow_it_Dont_Throw_it/)

## CONTACT DETAILS

Australian Maritime Safety Authority:  
(02) 6279 5026

Rescue Coordination Centre: 1800 641 792 or  
(02) 6230 6811

Contact the GABIA EO if you require MARPOL  
information placards: 0400 166 649



Photo: Luoman, istockphoto.

# 8



## LICENSING AND QUOTA MANAGEMENT

# CARD 8A: GOFISH

## BACKGROUND

GOFish is AFMA's online business facility, and has replaced Quotaview. GOFish can be used for:

- viewing, exporting and printing quota holding and catch summaries and quota transaction statements;
- leasing boat statutory fishing rights (SFRs), quota SFRs and individual transferable quotas (ITQs);
- permanent transfers of boat SFRs, quota SFRs, ITQs and permits;
- nomination and denomination of boat SFRs, permits and quota SFRs to and from boats;
- submitting applications for scientific permits, fish receiver permits and condition variations; and
- updating your contact details.

To register for GOFish you need to complete the appropriate forms and return them to AFMA.

These forms can be found at:

<http://www.afma.gov.au/GOFish/default.htm>.

## YOUR RESPONSIBILITIES

- Register for GOFish.
- Ensure your contact details are kept up to date.

## REFERENCES

AFMA website:

<http://www.afma.gov.au/GOFish/default.htm>

## CONTACT DETAILS

To access GOFish:

<http://www.afma.gov.au/GOFish/default.htm>

For more information or to report a problem:

AFMA Licensing section: 1300 723 621

Australian Government  
Australian Fisheries Management Authority

**WELCOME TO THE GOFISH PORTAL**  
Manage your fishing concessions online

User ID:

Password:

Remember me next time.

[Forgotten your password?](#)

AFMA website | Copyright | Disclaimer | Privacy policy | Security policy | Refund policy | Shipping policy | Contact us

AFMA Direct 1300 723 621

# CARD 8B:

## FISHING CONCESSIONS

### BACKGROUND

You must have a valid fishing concession to fish in any Commonwealth fishery. For the GABTF, this is comprised of statutory fishing rights (SFRs) including:

- a boat SFR; and
- quota SFRs allowing you to take a certain quantity of GABTF quota species.

All concessions must be nominated to an Australian boat.

Certificates are issued for each type of SFR. The certificate of boat SFR lists the conditions for fishing, and you must fish in accordance with these conditions.

The *Fisheries Management Act 1991* requires AFMA to maintain a Register of SFRs. All details on this register are public and cannot be withheld. This register is available on AFMA's website at [www.afma.gov.au/information/publications/fishery\\_registers/default.htm](http://www.afma.gov.au/information/publications/fishery_registers/default.htm).

### YOUR RESPONSIBILITIES

- Have a valid fishing concession.
- Have a copy of your fishing concession on board the boat at all times.
- Fish within the conditions and areas of your concession.
- Do not fish outside the Australian fishing zone (AFZ) without a valid high seas concession. This can be obtained by submitting a completed HS1 application form to AFMA and paying the application fee.
- Do not engage in fishing inside the AFZ and on the high seas in the same trip without prior written permission from AFMA.

### REFERENCES

*Fisheries Management Act, 1991.*  
*Southern and Eastern Scalefish and Shark Fishery Management Plan, 2003.*

### CONTACT DETAILS

AFMA Licensing section: 1300 723 621



# CARD 8C: MANAGING QUOTA

## BACKGROUND

In the GABTF certain species are managed under statutory fishing rights (SRFs). These are:

- Bight Redfish;
- Deepwater Flathead;
- Orange Roughy, Albany/Esperance zone;
- School Shark;
- Gummy Shark;
- Saw Shark; and
- Elephantfish.

Concession holders must have uncaught quota prior to the commencement of a fishing trip. It is important to monitor catch against quota holdings at all times. This can be done using AFMA's online business facility, GOFish (refer to card 8a). There are penalties and legal ramifications for catching in excess of your quota holdings.

Quota may be leased or permanently traded in the SESSF. To do this, you need to make arrangements with the other SESSF operators or a quota broker, and complete the appropriate forms online using GOFish or mail the completed hardcopy forms to AFMA.

## YOUR RESPONSIBILITIES

- Monitor your catch against quota holdings.
- Ensure all catches of quota species can be covered with uncaught quota SFRs.

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery Management Plan, 2003.*

## CONTACT DETAILS

AFMA Licensing section: 1300 723 621

GOFish:

<http://www.afma.gov.au/GOFish/default.htm>



Photo: AFMA.

# CARD 8D: TOTAL ALLOWABLE CATCH

## BACKGROUND

Total allowable catch (TAC) refers to the total amount of a particular species that may be caught by all concession holders combined during a fishing year. TACs are based on scientific and industry input provided through the Resource Assessment Group (RAG). TACs are set by the AFMA Commission following consideration of RAG and scientific advice, recommendations from GABIA and comment from Management Advisory Committees (MACs).

**Table: 2010–11 SESSF TACs for GABTF species.**

QUOTA SPECIES	2010/11 TAC (T)
Bight Redfish	1653
Deepwater Flathead	1100
Elephantfish	65
Gummy Shark	1717
Orange Roughy (Albany/Esperance zone)	50
Saw Shark	255
School Shark	216

## YOUR RESPONSIBILITIES

- Be aware of the TACs for each species in the GABTF.
- Maintain awareness of the total fishery catch against the TAC.
- Cover your over quota position to prevent compliance action.

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621

GABIA EO: 0400 166 649

# CARD 8E: OVERCATCH AND UNDERCATCH

## BACKGROUND

In some fisheries AFMA allows limited flexibility to catch slightly more or slightly less than your allocated quota for that season, and to carry this surplus or deficit into the following fishing season. This system helps address the issue of varying fish abundance between seasons, and allows planning of the best time to take catches in order to maximise returns.

Overcatch refers to catching more than your allocated quota for a particular species in a fishing season. In some circumstances AFMA may set a percentage of overcatch that is allowed, which will be subtracted from your quota allocation for that species in the following season.

The AFMA commission may also set a determined amount. This is an amount, in addition to the percentage of overcatch, which an operator may take under certain conditions without committing an offence.

Undercatch refers to catching less than your allocated quota for a particular species in a fishing season. AFMA may allow a certain amount of this uncaught quota to be credited in kilograms to the following season. Undercatch is not transferable.

## YOUR RESPONSIBILITIES

- Know the overcatch, determined amount and undercatch provisions applying to each species in the fishery for each season.
- Monitor your catch against quota holdings.

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery Management Plan, 2003.*

## CONTACT DETAILS

AFMA Licensing section: 1300 723 621



Photo: AFMA.

9



# HARVEST STRATEGY

# CARD 9A: HARVEST STRATEGY FOR DEEPWATER FLATHEAD AND BIGHT REDFISH

## BACKGROUND

A harvest strategy sets out the management actions necessary to achieve defined biological and economic objectives in a fishery.

Deepwater Flathead and Bight Redfish are managed under a harvest strategy based on sound scientific and industry information.

GABIA and AFMA, with input from the management advisory committee and resource assessment group, have agreed to a proactive, innovative and demonstrably precautionary blueprint for management and research arrangements in the GABTF. The arrangements are consistent with the Commonwealth Harvest Strategy Policy, GABTF *Future Direction Vision Statement* and *Fisheries Management Act 1991* objectives.

A harvest strategy, which is reviewed annually, has been adopted for the GABTF. The GABTF harvest strategy contains control rules to maintain stocks in the fishery at ecologically sustainable levels. The GABTF program of research and assessments provides scientific rigor and confidence among industry and AFMA. The research and monitoring undertaken in the GABTF ensures there is adequate data and information to implement a high quality harvest strategy and is forward planned to maximise cost-effectiveness and efficiency. (See table overleaf.)

## YOUR RESPONSIBILITIES

- Be aware of the harvest strategy, TAC setting, assessment and monitoring work undertaken annually in the GABTF.
- Adhere to any industry responsibilities under the harvest strategy for the GABTF.



Photo: Peter Woods

## REFERENCES

Commonwealth Harvest Strategy Policy,  
GABTF *Future Direction Vision Statement*.

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621

GABIA EO: 0400 166 649

# CARD 9A: HARVEST STRATEGY FOR DEEPWATER FLATHEAD AND BIGHT REDFISH (CONTINUED)

**Table: Deepwater Flathead and Bight Redfish harvest strategy and GABTF research, monitoring and assessment plan.**

ITEM		2008-09	2009-10	2010-11	2011-12
<b>Bight Redfish</b>	TAC Assessment	2,000t x	2,000t ✓	1,653t x	1,556t <sup>#</sup> ✓
<b>Deepwater Flathead*</b>	TAC Assessment	1,400t x	1,300t x (update)	1,100t ✓	TBD x
<b>MEY study</b>		x	Developed	✓	n/a
<b>MSE</b>		x	x	✓	n/a
<b>FIS</b>		✓	✓	x	✓
<b>ISMP - onboard</b>		✓	x	✓	x
<b>ISMP - onshore</b>		x	✓	x	✓
<b>Slope species monitoring</b>		✓	✓	✓	✓
<b>Logbook</b>	(discards recording)	Education ✓	Monitoring ✓	Audit ✓	✓
<b>GABIA length measurements</b>	Industry onboard	NA	✓	✓	✓
<b>RAG meetings</b>		1	2	2	2
<b>MAC meetings</b>		1	1	1	1
<b>Bycatch</b>	T90 extensions	✓	✓	✓	✓

\*default setting – can be influenced by decision rules

# MEY study outcomes may mean re-running the 2009 model with updated catch and biomass target

# CARD 9B: GABTF SLOPE SPECIES DEVELOPMENT

## BACKGROUND

The slope and mid-water fisheries in the GABTF are yet to be developed to any great extent. For some species there is not enough information to calculate TACs. To address this issue, GABIA, GABRAG and GABMAC have implemented a strategy for increased data collection and research to ensure that these species are managed sustainably. Section 5 of this manual highlights the need for collection of slope species in the GABTF. (See table overleaf.)

## YOUR RESPONSIBILITIES

- Be aware of the GABTF development strategy.
- Comply with requirements for fishing species listed in the development strategy as necessary.

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621  
GABIA EO: 0400 166 649

# CARD 9B: GABTF SLOPE SPECIES DEVELOPMENT (CONTINUED)

Table: Great Australian Bight Trawl Fishery slope species development strategy.

SPECIES	TRIGGER TO COLLECT BIOLOGICAL DATA	TRIGGER FOR DATA COLLECTION AND DEVELOPMENT OF ASSESSMENT PLAN	CEASE FISHING FOR THAT SPECIES	COMMENCE STOCK ASSESSMENT
<b>Gemfish</b>	Currently collected	400t	500t/year	1000t/3 years
<b>Blue Grenadier</b>	Currently collected	400t	500t/year cease fishing. If a spawning aggregation is found, trigger an acoustic survey (500t) and operator collects 100 whole fish.	1000t/3 years
<b>Ling</b>	Currently collected	100t	250t	250t
<b>Blue-eye Trevalla</b>	Currently collected	100t	250t	–
<b>Ribaldo</b>	Currently collected	100t	250t	–
<b>Hapuka</b>	Currently collected	100t	250t	–
<b>Gulper sharks</b>	Code of practice by industry to not target these species in addition to area closure.	–	2t	–
<b>Deepwater sharks (Black/Brier)</b>	Code of practice by industry to not target these species in addition to area closure.	–	–	–
<b>Chinamen Leatherjacket</b>	Management measures on Bight Redfish and Deepwater Flathead influences catch.	–	–	–
<b>Angel Shark</b>	Management measures on Bight Redfish and Deepwater Flathead influences catch.	–	–	–
<b>Jackass Morwong</b>	Management measures on Bight Redfish and Deepwater Flathead influences catch.	–	–	–



10



# CATCH REQUIREMENTS

# CARD 10A: INCIDENTAL CATCH LIMITS FOR STATE MANAGED SPECIES

## BACKGROUND

GABTF boat SFR holders are subject to a variety of catch restrictions under Commonwealth law.

When fishing in waters of the Commonwealth GABTF, catch of the following finfish, molluscs and crustaceans must be in accordance with the following Offshore Constitutional Settlement

(OCS) State catch limits for South Australia and Western Australia. The limits refer to trip limits. Please remember the information presented in this manual is a guide only and should not be taken to replace South Australia, Western Australian or Commonwealth fisheries law.

**Table: Incidental catch limits for state managed species.**

FINFISH		
SPECIES	WESTERN AUSTRALIA	SOUTH AUSTRALIA
Billfish	Prohibited	Prohibited
Black Cod	Prohibited	Prohibited
Great White Shark	Prohibited	Prohibited
Grey Nurse Shark	Prohibited	Prohibited
Tuna and Tuna-like Species	Prohibited	Prohibited
Australian Anchovy		Prohibited
Australian Salmon		Prohibited
Banded Morwong		Prohibited
Bastard Trumpeter		Maximum 20kg*
Black Bream		Prohibited
Blue Groper		Maximum 50kg*
Blue Sprat		Prohibited
Dusky Morwong		Prohibited
Garfish		Prohibited
Grassy (Rock Flathead)		Prohibited
King Gar		Prohibited
King George Whiting		Prohibited
Luderick		Prohibited
Magpie Morwong		Prohibited
Mulloway		Maximum 100kg*
Pilchard		Prohibited
Red Mullet		Prohibited
Sea Sweep		Prohibited
Snapper		Maximum 50kg*
Snook		Prohibited

# CARD 10A: INCIDENTAL CATCH LIMITS FOR STATE MANAGED SPECIES

## (CONTINUED)

FINFISH		
SPECIES	WESTERN AUSTRALIA	SOUTH AUSTRALIA
Sprat		Prohibited
Wrasse		Prohibited
Yelloweye Mullet		Prohibited
Yellow-finned Whiting		Prohibited
Striped Trumpeter		Maximum 20kg*
Yellowtail Kingfish		Maximum of 10 fish*

- a total combined incidental catch of 200kg for these finfish.

MOLLUSCS		
SPECIES	WESTERN AUSTRALIA	SOUTH AUSTRALIA
Arrow Squid		No incidental catch limit
Red Ocean Squid		No incidental catch limit
Southern Ocean Arrow Squid		No incidental catch limit
Yellowback Squid		No incidental catch limit
Scallops		Prohibited
Abalone		Prohibited
Specimen shells or shellfish (class Gastropoda)		Maximum 50kg combined (Industry voluntary agreement to not take any specimen shells or shellfish)
All other molluscs		Maximum of 500kg except those species listed with no incidental catch limits

CRUSTACEANS		
SPECIES	WESTERN AUSTRALIA	SOUTH AUSTRALIA
Deepwater Prawn		No incidental catch limit
Red Prawn		No incidental catch limit
Prawn (Family Penaeidae)	Prohibited	Prohibited
Royal Red Prawn		No incidental catch limit
Scarlet Prawn		No incidental catch limit
Carid		No incidental catch limit
Lobster (Family Palinuridae)	Prohibited	Prohibited
Bay Bug		Maximum 200kg
Giant Crab		Maximum of 5 crabs
Other Crustaceans		Maximum of 50kg
Coral	Prohibited	Prohibited

**Note:** In the initial drafting of the OCS between the Commonwealth and South Australia, Red Snapper (*Centroberyx gerrardi*) was erroneously identified as a predominantly state-caught species and was put under the control of South Australia. Later, it was realised that Red Snapper was a common name for Bight Redfish which is one of the major target species in the Commonwealth GABTF. Bight Redfish are not limited by the OCS arrangement.

# CARD 10A: INCIDENTAL CATCH LIMITS FOR STATE MANAGED SPECIES (CONTINUED)

## YOUR RESPONSIBILITIES

- Adhere to incidental catch limits.
- Report discards of any of these species in your daily fishing log.
- Avoid fishing in areas/at times when this may result in catches that exceed limits.

## REFERENCES

*Fisheries Management Regulations, 1992.*

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621

# CARD 10B: LANDING AND PROCESSING CATCH

## BACKGROUND

The SESSF Management Plan imposes a 'no processing at sea' condition on all fishing concessions in the GABTF to ensure quota species can be readily identified. Scalegfish must be landed either:

- whole;
- gilled; or
- headed and gutted.

Shark finning is not permitted. Fins must be landed attached to the carcass.

Landing shark livers only is not permitted, however they may be landed separated from the carcass.

Gummy and School Shark must be at least 45cm in length when measured from the rearmost gill slit to the ventral insertion of the caudal fin.



Photo: AFMA.

The following table provides a summary of the landing and processing requirements for sharks, rays, Dogfish and Elephantfish.

**Table: Summary of requirements for landing/processing.**

SPECIES	HEAD	BELLY FLAPS	PECTORAL FINS	DORSAL FINS	CAUDAL FINS	PELVIC FINS	CLASPERS
Sharks	✓	✓	✗	✗	✗*	✓	✓
Angel sharks	✓	✓	✓	✗	✗*	✓	✓
Skates, rays	✓	✓	Must be landed, but may be landed separated from carcass	✗	✗	✓	✓
Banjo sharks	✓	✓	✗	✗	✗	✓	✓
Dogfish (Family Squalidae)	✓	✓	✓	✗	✗*	✓	✓
Chimaeras (Elephantfish)	✓	✓	✓	✗ 1st dorsal may be removed	✓	✓	✓

✓ May be removed

✗ Must not be removed

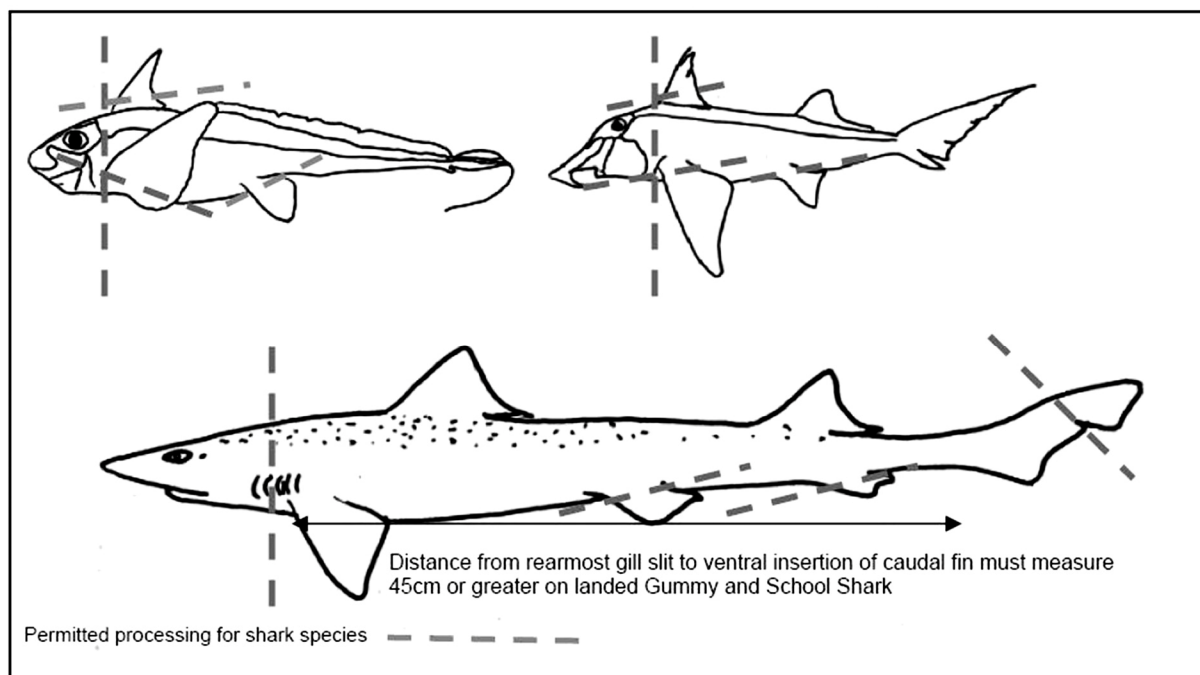
\* Tail tip may be cut off at sub terminal notch

# CARD 10B: LANDING AND PROCESSING CATCH (CONTINUED)

The following diagram shows permitted processing for shark species in the SESSF.

(a) and (b) show the standard processing cuts for all chimaeras.

(c) shows the standard processing cuts for all sharks.



## YOUR RESPONSIBILITIES

- Comply with the conditions on your fishing concessions for landing and processing catch.
- Do not process catch at sea.
- Do not fillet catch at sea without prior written authorisation from AFMA, and in addition with an AFMA observer present on your boat when the filleting occurs.

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery Management Plan 2003.*

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621

# CARD 10C: TRANSHIPPING AND UNLOADING CATCH

## BACKGROUND

There are rules in place to prevent unauthorised transshipping and unloading of catch to unlicensed fish receivers. These help prevent quota evasion and maintain the integrity of the fishery.

## YOUR RESPONSIBILITIES

- Do not tranship fish caught by another boat without prior written authorisation from AFMA.
- Do not transfer your fish onto another boat without prior written authorisation from AFMA.
- Unload all fish from the GABTF within Australia or an External Territory, except if you have prior written authorisation from AFMA to unload elsewhere.
- Land fish to an authorised fish receiver holding a valid fish receiver permit.



Photo: AFMA.

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery Management Plan, 2003.*

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621

11



# COMPLIANCE



# CARD 11A: VESSEL MONITORING SYSTEMS

## BACKGROUND

AFMA uses integrated computer vessel monitoring systems (ICVMS) to track the location of boats nominated to Commonwealth concessions. This offers a cost-effective way to monitor boats fishing in real time.

Any vessel nominated to your concession must be fitted with an ICVMS of a category specified in the register of AFMA approved automatic location communicators. This register can be found at

<http://www.afma.gov.au/industry/vms/approved.htm>

### Manual reporting

If the ICVMS stops working, the concession holder must manually report the boat's position every four hours unless otherwise directed by AFMA. Reports should include boat name, distinguishing symbols, latitude and longitude, date and time.

### Temporary switch off

Temporary switch off (TSO) is a formal arrangement that allows an ICVMS unit to be legitimately switched off, which may be appropriate if a boat is undergoing maintenance, is berthed for an extended period or there are other exceptional circumstances. To apply for a TSO you must submit the appropriate form to AFMA.

## YOUR RESPONSIBILITIES

- Ensure you have a working ICVMS before departing on a fishing trip.
- Do not interfere or tamper with the ICVMS.
- Do not switch off the ICVMS without prior approval from AFMA obtained through the Temporary Switch Off form.
- If the ICVMS stops working at sea, manually report the boat's position every four hours and comply with any further directions from AFMA.
- Do not switch off the ALC in port.
- Do not leave port if the ALC is not working. You must contact AFMA and wait until you have permission to depart.

Please refer to the ICVMS conditions on your fishing concessions for more information.

## REFERENCES

*Fisheries Management (Southern and Eastern Scalefish and Shark Fishery) Regulations, 2004.*

AFMA website:

<http://www.afma.gov.au/management/compliance/monitoring/default.htm#vms>

## CONTACT DETAILS

AFMA Compliance section: 1300 723 621

To report a problem with the ICVMS or for manual reporting:

Phone: 02 6225 5369 (if prompted, follow instructions on the voice mail)

Mobile: 0419 205 329

Fax: 02 6225 5440

Email: [VMSreporting@afma.gov.au](mailto:VMSreporting@afma.gov.au)

# CARD 11B: NAVIGATION REGULATION

## BACKGROUND

When travelling through AFMA fishery closures you must comply with navigation rules made under the Fisheries Management Regulations 1992. These rules allow AFMA to monitor and enforce compliance with closures through VMS.

The deemed speed of a boat is calculated by taking the straight line distance between two consecutive VMS points, and dividing that distance by the time the boat has taken to travel between the two points. This means you are advised to take the most direct route when travelling through a closure.

## YOUR RESPONSIBILITIES

- Maintain a minimum speed of five knots when travelling through a closure.
- If the closure is in effect for less than 24 hours, either maintain a minimum speed of five knots or remain stationary.
- If you enter a closure, remain in that closure for a minimum of 30 minutes. This will allow boat speed to be calculated.
- When practical, take the most direct route when navigating through a closure.
- Read and understand the Fisheries Management Regulations 1992, including part 9A, regulations 37A-D.
- In some circumstances you may apply for an exemption, for example, due to an unforeseen emergency or circumstances beyond your control. To request an exemption contact the AFMA Duty Officer as soon as possible on 0419 205 329 and follow any directions given.

## REFERENCES

*Fisheries Management Regulations, 1992.*

AFMA website:

<http://www.afma.gov.au/industry/notices/n20100315.htm>

## CONTACT DETAILS

AFMA Compliance section: 1300 723 621



Photo: Peter Woods.

# CARD 11C: ILLEGAL FISHING

## BACKGROUND

Illegal fishing degrades the integrity of Australian fisheries. Everyone is responsible for reporting suspected illegal fishing activity, and all reports are treated in strict confidence.



## YOUR RESPONSIBILITIES

- Report any suspected illegal fishing operations as soon as possible. Reports can be made anonymously, and ideally should include:
  - the date, time and location that the activity took place;
  - names of any associated persons; and
  - any photographs or other evidence.

## CONTACT DETAILS

Report suspected illegal fishing to one of the following:

CRIMFISH: 1800 274 634 or 1800 CRIMFISH

CRIMFISH website: [www.afma.gov.au/crimfish](http://www.afma.gov.au/crimfish)

AFMA's Duty Officer on 0419 205 329

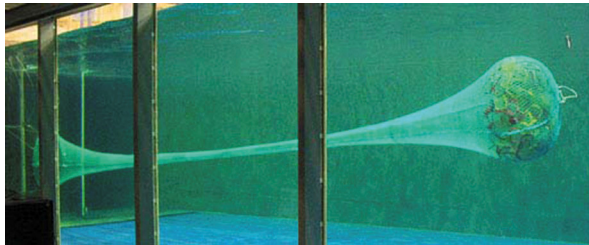
GABIA EO: 0400 166 649

# CARD 11D: FISHING GEAR

## BACKGROUND

There are a number of fishing gear types that are permitted in the GABTF. These are demersal otter trawl, mid-water trawl and pair trawl. Demersal trawl is the primary method used in the fishery.

There are gear specifications for net mesh size to help reduce incidental catch of small fish. Fishing in the GABTF is prohibited unless using nets with a minimum mesh size of 90mm. GABIA has also introduced other gear requirements and specifications.



Above: Traditional codend. Notice the mesh is pulled in, reducing the opening.



Above: T90 codend. Notice the larger opening.

## YOUR RESPONSIBILITIES

- Fishing nets must have a minimum mesh size of 90mm.
- Use a T90 (straight mesh turned 90 degrees) or square mesh (turned on the bar) gear extension and/or codend configuration for all nets.
- Take all reasonable steps to minimise the loss of fishing gear.
- If you want to trial mid-water trawl using mesh smaller than 90mm ensure you have an appropriate concession. Applications for this concession should be sent to AFMA via the GABIA EO.
- Abide by GABIA ground gear specifications where steel bobbins and rubber discs should not exceed 15 inches (375mm) in diameter.
- Ensure that chafing mats, or any other type of wear reducing material, do not cover any part of the chosen bycatch reduction configuration.
- If you identify an alternative method for reducing incidental bycatch through gear modifications, report this to GABIA and AFMA for consideration.

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery (Minimum Gear Requirements) Direction, 2007.*

## CONTACT DETAILS

AFMA Licensing section: 1300 723 621

GABIA EO: 0400 166 649

**12**

# **GABTF DEEPWATER MANAGEMENT ARRANGEMENTS**

# CARD 12A: GABTF DEEPWATER MANAGEMENT STRATEGY

12

## BACKGROUND

A deepwater management strategy has been developed and implemented in the GABTF to ensure the sustainability of deepwater fishing, including for Orange Roughy. Deepwater environments are generally more vulnerable to fishing than shallow environments.

These arrangements include:

- establishing clearly defined deepwater management zones across the GABTF;
- implementing deepwater fishery closures to provide full protection of deepwater benthic habitats and species (refer to card 12b);
- implementing the Orange Roughy research zone for the protection and study of GABTF Orange Roughy stocks (refer to card 13a);
- identifying research and management triggers for species caught in the deepwater management zones (not including Orange Roughy);
- setting a precautionary trigger limit for Orange Roughy of 10 tons for each deepwater management zone (outside of research zones); and
- industry agreements including restricting targeting of deepwater sharks, and no long tows (exceeding 5 hours) in waters deeper than 700m.

The deepwater management zones can be described as waters 700m and deeper to the edge of the exclusive economic zone and within the boundaries:

- eastern zone—138° 08' to 136° 00' E;
- central east zone—136° 00' to 133° 00' E;
- central west zone—133° 00' to 129° 00' E;
- western zone—129° 00' to 121° 00' E; and
- far west zone 121° 00' to 115° 08' E.

## YOUR RESPONSIBILITIES

- Understand and comply with the deepwater management strategy.
- Do not fish in closed waters.
- Do not target Orange Roughy in commercial fishing operations.

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621

GABIA EO: 0400 166 649

# CARD 12B:

## GABTF DEEPWATER CLOSURES

12

### BACKGROUND

A deepwater management strategy has been developed and implemented in the GABTF to ensure the sustainability of deepwater fishing. Part of this strategy is spatial closures for demersal and otter trawling, which have been implemented in the following locations:

- central west zone—from 134°00' to 134°20', adjacent to the Gulper Shark closure (refer to Schedule 24 of the Scalefish and Shark Fishery Closures Direction No 1 2009);
- Salisbury Canyon—closure outside 700m to demersal trawling (over Salisbury Canyon to exclusive economic zone) from 123° 20' to 123° 40' E (refer to Schedule 25 of the Direction); and
- western and far west zone—closure outside 700m to demersal trawling from 120° 00' to 122° 00' E (refer to Schedule 26 of the Direction).

(Refer to the back of this card for a diagram).

The far west closure will be extended to the 200m isobath between 121°30'E to 122°00'E by 30 June 2010.

### YOUR RESPONSIBILITIES

- Be aware of areas closed to fishing.
- Do not fish in closed waters.
- Comply with the navigation regulation when navigating through these closures (refer to card 11c).

### REFERENCES

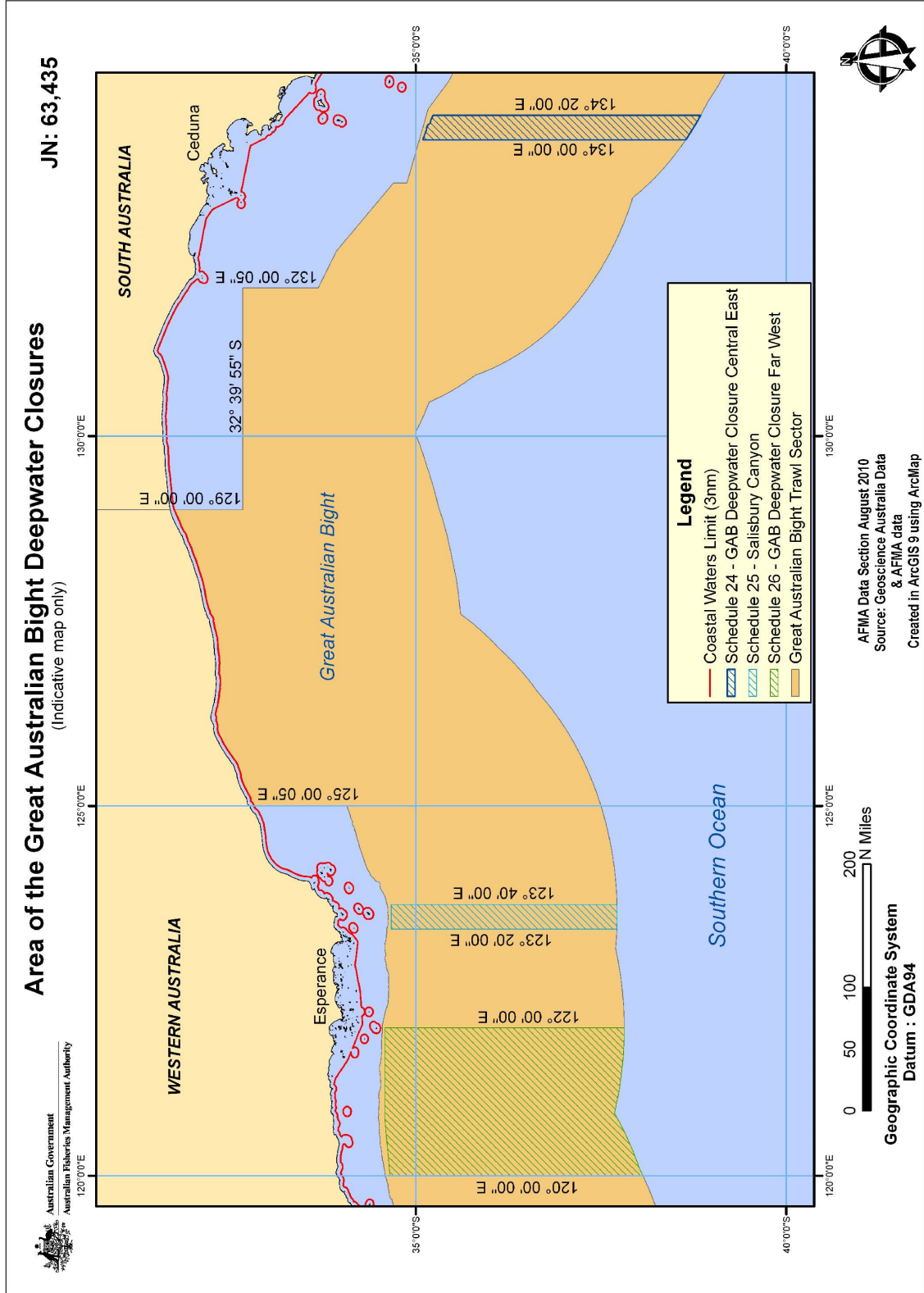
*Scalefish and Shark Fishery Closures Direction No. 1, 2009, Schedules 24, 25 and 26.*

### CONTACT DETAILS

AFMA SESSF section: 1300 723 621

GABIA EO: 0400 166 649

# CARD 12B: GABTF DEEPWATER CLOSURES (CONTINUED)





# CARD 12C: MANAGEMENT ARRANGEMENTS FOR ORANGE ROUGHY

12

## BACKGROUND

In November 2006, Orange Roughy was listed as Conservation Dependant under the *Environment Protection and Biodiversity Conservation Act 1999* (EPBC Act). The listing requires additional measures to address the specific objectives and requirements of the Orange Roughy Conservation Program. The Conservation Program was established to ensure that Orange Roughy does not become vulnerable, endangered or critically endangered, as defined by the EPBC Act, within a period of 5 years. Most importantly, Orange Roughy cannot be commercially targeted in the GABTF.

Annually, GABIA develops an Orange Roughy Research Plan to allow fishing under a scientific permit, granted upon application by AFMA, within the Orange Roughy research zones (Card 13a). The aim is to collect biological information on the age, size structure, sex ratio and sexual stage of orange Roughy stocks and ultimately support assessment of the status of the stocks.

Information to support stock discrimination between the SETF and the GABTF, as well as within the GABTF, is also a major focus of this Research Plan.

This is achieved through the following objectives:

1. Full biological data (length, sex, gonad stage) must be collected from a minimum of 1000 individuals, and otoliths from a minimum of 500 individuals, from each Research Zone fished under a scientific permit;
2. The fishing vessel(s) should, on an opportunistic basis, conduct acoustic grid surveys of orange Roughy marks in a Research Zone with a Simrad ES60 echosounder; and
3. Stock discrimination (in the future) using biological samples, both within the GAB and between GAB and Tasmanian stocks.



Photo: GABIA

Information from other Orange Roughy fisheries indicates that individual shots may not be representative of the actual size/sex structure of the entire aggregation. It is better to collect the biological data from numerous small (5-10t) shots rather than one large (50t) shot. For this reason, whilst fishing under a scientific permit, skippers must endeavour to take catch data from a minimum of 5 shots in any one Research Zone.

### Temperature logging

All vessels possessing an Orange Roughy scientific permit and undertaking shots for Orange Roughy as part of any GABTF Research Plan should endeavour to record water temperature at fishing depth and/or fit temperature loggers to the headline of the net to collect water temperature depth profiles.

### Data handling and storage

GABIA ensures that all information collected under the GABTF Research Plan is made available to the appropriate research providers undertaking stock assessment of GABTF Orange Roughy.

# CARD 12C: MANAGEMENT ARRANGEMENTS FOR ORANGE ROUGHY (CONTINUED)

## YOUR RESPONSIBILITIES

- Understand the information in this card, particularly that no commercial targeting of Orange Roughy is permitted in the GABTF.
- To access the Orange Roughy research zones, any boat must have applied for and received a scientific permit for the specific purpose of conducting Orange Roughy research.
- An Orange Roughy Research Plan applies under the Scientific Permit arrangements.
- Be aware that GABIA considers and agrees on the boat(s) to conduct Orange Roughy research each year.
- Boats undertaking Orange Roughy sampling must collect full biological data, otoliths and undertake temperature logging. Acoustic grid surveys are also required opportunistically.
- Be aware of:
  - i. details of the GABTF deepwater management strategy as set out in Card 12A, including specific arrangements for Orange Roughy;
  - ii. the GABTF deepwater closures set out in Card 12B;
  - iii. the Orange Roughy research zones set out in Card 13A.

## REFERENCES

GABIA's *Management strategy for sustainable deepwater fishing in the GABT*, March 2007  
GABIA's *Orange Roughy Research Plan for the GABTF*

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621  
GABIA EO: 0400 166 649

13



# CLOSURES

# CARD 13A: ORANGE ROUGHY RESEARCH ZONES

## BACKGROUND

The Orange Roughy is listed as conservation dependent under the Environment Protection and Biodiversity Conservation Act 1999. It is important to comply with the Orange Roughy research zone closures to help ensure the long term survival of this species. The zones are closed to all trawl methods.

Fishing in the research zones is only permitted with a scientific permit under an agreed research proposal. The areas of the zones are bounded by:

### Albany

118.167°E 35.400°S  
118.733°E 35.133°S  
118.733°E 35.500°S  
118.167°E 35.767°S

### United Nations

131.633°E 33.750°S  
131.633°E 34.250°S  
131.250°E 34.167°S  
131.250°E 33.667°S

### Bremmer

119.267°E 34.833°S  
119.500°E 34.733°S  
119.500°E 34.933°S  
119.267°E 35.033°S

### The Knob

132.433°E 34.383°S  
133.000°E 34.683°S  
133.000°E 34.983°S  
132.433°E 34.683°S

### Humdinger West

124.100°E 34.400°S  
124.100°E 34.800°S  
123.767°E 35.033°S  
123.767°E 34.633°S

### Kangaroo Is Hill

137.667°E 37.100°S  
137.167°E 36.906°S  
137.167°E 36.742°S  
137.731°E 37.026°S

### Humdinger / Magic

124.600°E 34.550°S  
124.600°E 34.250°S  
125.000°E 34.167°S  
126.400°E 33.500°S  
126.400°E 34.000°S  
125.000°E 34.467°S

### Racetrack / Hamburger

134.000°E 35.100°S  
134.000°E 35.400°S  
133.750°E 35.333°S  
133.200°E 35.100°S  
133.200°E 34.800°S  
133.750°E 35.033°S

### Lomvar Gully

129.667°E 33.533°S  
130.100°E 33.433°S  
130.100°E 33.733°S  
129.667°E 33.833°S

(Refer to the back of this card for diagrams).

## YOUR RESPONSIBILITIES

- Be aware of areas closed to fishing.
- Do not fish in a closed area.
- Comply with the navigation regulation when navigating through these closures (refer to card 11c).

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery Closures Direction No. 1, 2009, Schedules 27–35.*

## CONTACT DETAILS

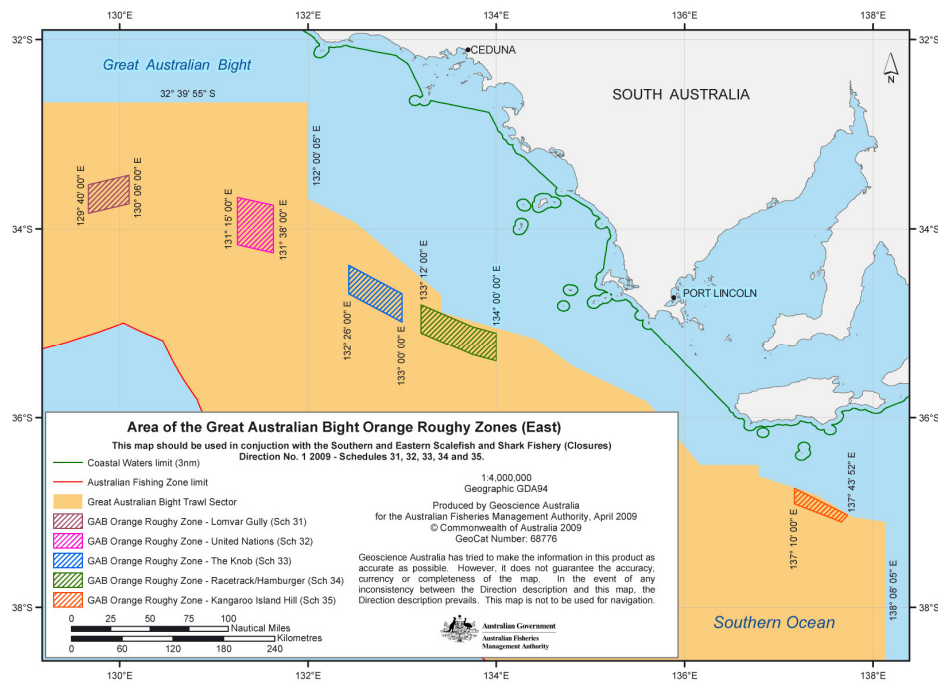
AFMA SESSF section: 1300 723 621  
GABIA EO: 0400 166 649

# CARD 13A: ORANGE ROUGHY RESEARCH ZONES (CONTINUED)

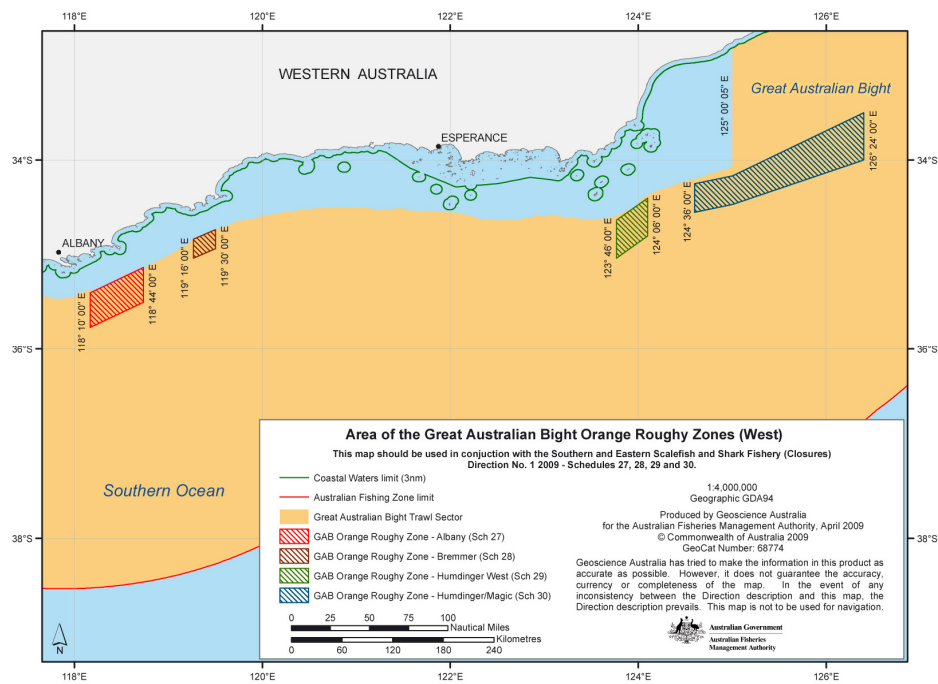
13

## GABIA Orange Roughy research zone closures

### a) East zones



### b) West zones



# CARD 13B: COMMONWEALTH MARINE PROTECTED AREAS

## BACKGROUND

The Great Australian Bight Marine Park provides protection for Southern Right Whales and Australian Sea Lions, and also preserves a representative sample of the unique seafloor plants, animals and sediments of the area. It is made up of two zones:

### 1) The marine mammal protection zone

This area is seasonally closed to all boat access from 1 May to 31 October every year. However, you still have the right to travel through the area for innocent passage.

Commercial fishing outside of this seasonal closure may be allowed in accordance with a permit. Contact the Department of the Environment, Water, Heritage and the Arts for more information.

### 2) The benthic protection zone

Demersal trawling is not allowed in this area, and it is closed to all Commonwealth GAB Trawl Sector boat SFRs.

Commercial fishing outside of this seasonal closure may be allowed in accordance with a permit. Contact the Department of the Environment, Water, Heritage and the Arts for more information.

(Refer to the back of this card for a diagram).

## YOUR RESPONSIBILITIES

- Be aware of areas closed to fishing.
- Do not fish in a closed area.

## REFERENCES

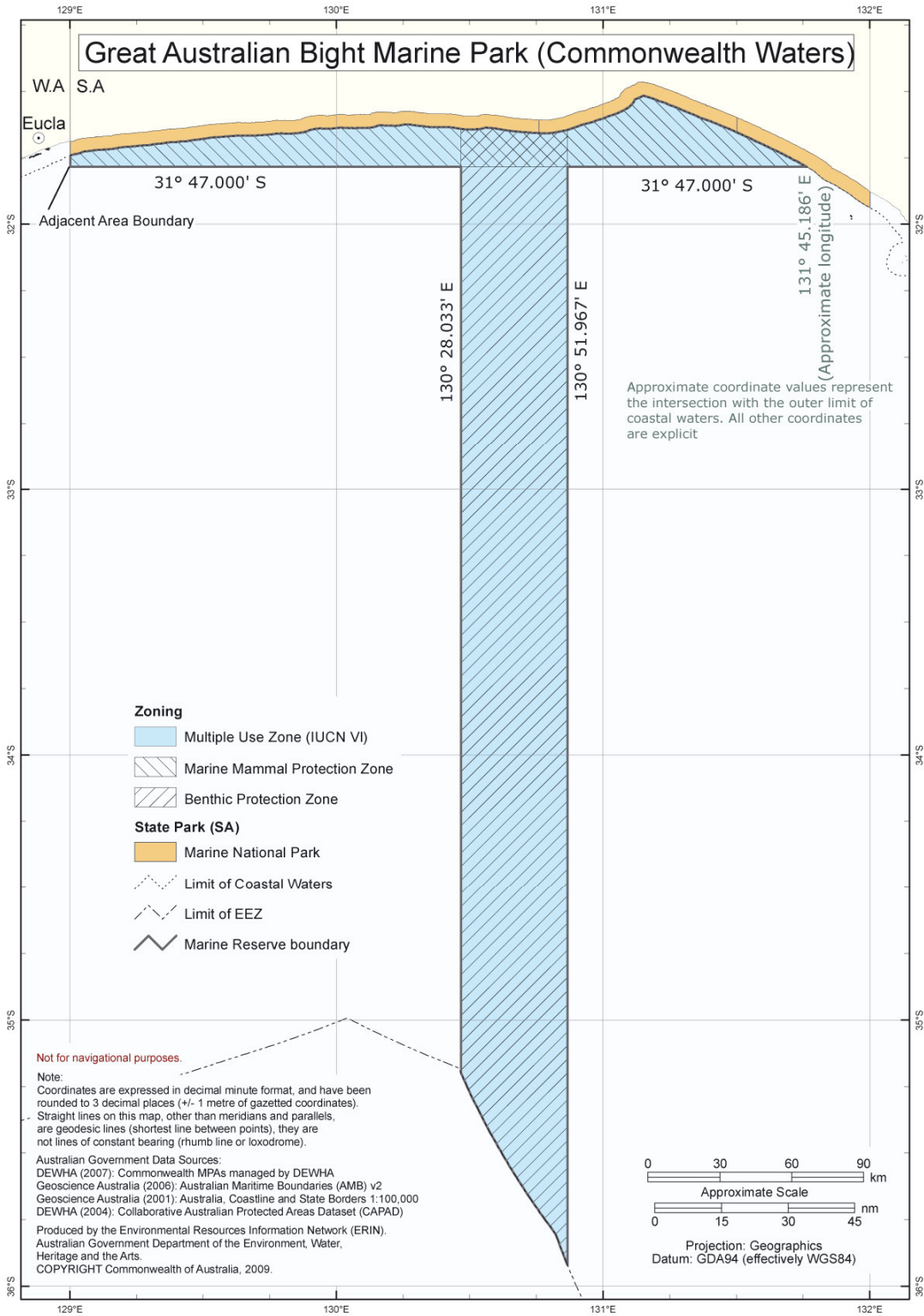
Department of Environment website:  
<http://www.environment.gov.au/coasts/mpa/gab/maps/index.html>

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621  
GABIA EO: 0400 166 649

# CARD 13B: COMMONWEALTH MARINE PROTECTED AREAS (CONTINUED)

13



# CARD 13C: MURRAY MARINE RESERVE

## BACKGROUND

The Murray Commonwealth Marine Reserve stretches south of the River Murray mouth off the South Australia coast from the inshore State waters to the edge of Australia's exclusive economic zone. This area aims to protect sample of the key features in the area, including continental shelf and slope, abyssal plain and Sprigg Canyon. It also helps protect Australian Sea Lions, New Zealand Fur Seals, School Shark and Gulper Shark.

(Refer to the back of this card for a diagram).

## YOUR RESPONSIBILITIES

- Be aware of areas closed to fishing.
- Do not fish in a closed area.

## REFERENCES

Department of the Environment, Water, Heritage and the Arts website:

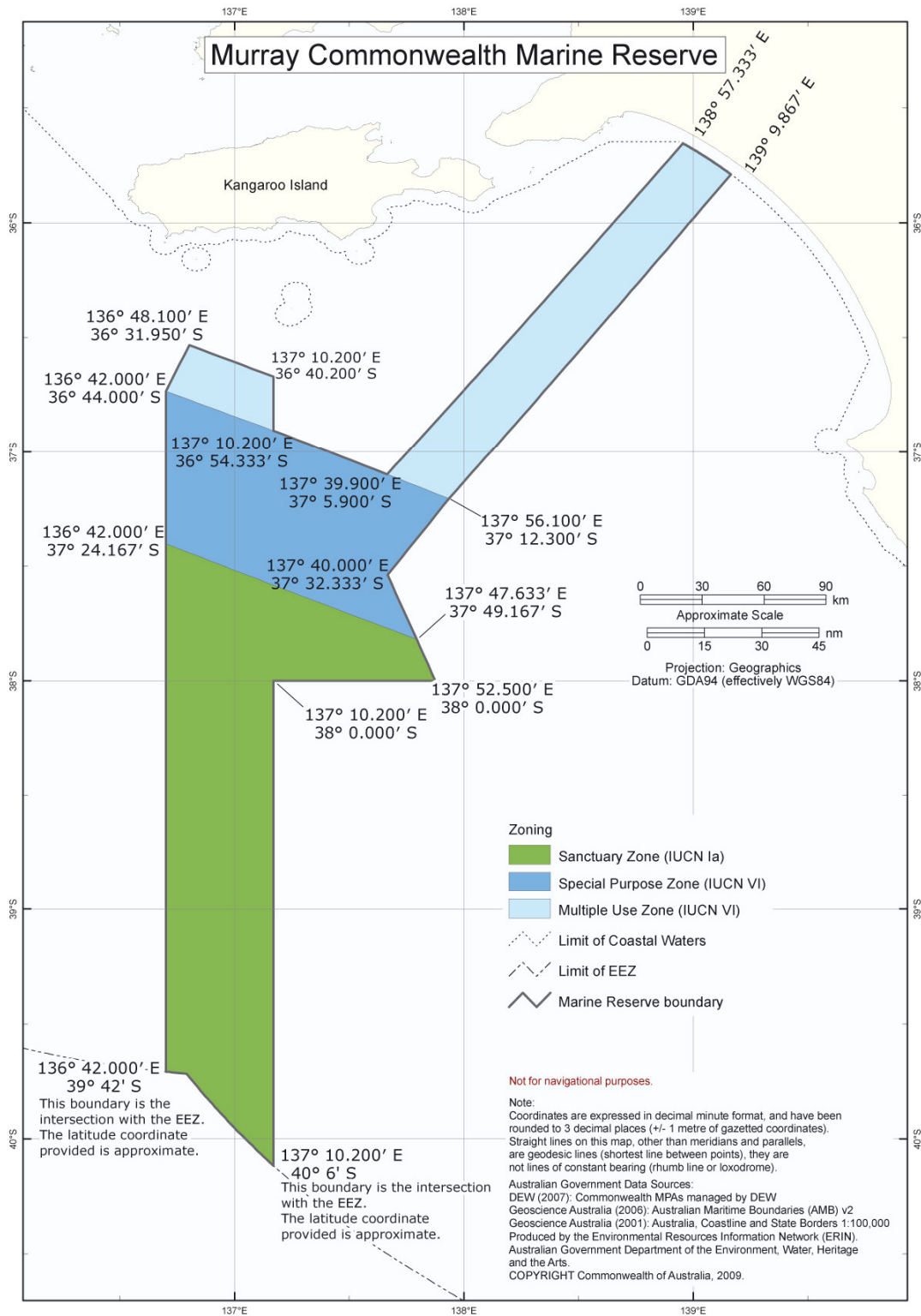
<http://www.environment.gov.au/coasts/mpa/southeast/murray/index.html>

## CONTACT DETAILS

AFMA SESSF section: 1300 723 621



# CARD 13C: MURRAY MARINE RESERVE (CONTINUED)



# CARD 13D: GULPER SHARK CLOSURES AND MANAGEMENT

13

## BACKGROUND

Gulper Sharks are slow growing species with low reproduction rates. This means they are particularly vulnerable to rapid stock depletion and are slow to recover. While research suggests they are lightly fished in the GABTF, stocks appear to have declined in other areas of the Southern and Eastern Scalefish and Shark Fishery.

Southern Dogfish, Harrison's Dogfish and Endeavour Dogfish have been nominated for listing under the EPBC Act.

In the GABTF, a closure has been implemented to protect the Southern Dogfish (*Centrophorus zeehaani*) in the area between 133°45'E and 134°45'E at depths between 300m–600m. This area is closed to all fishing methods. (Refer to the back of this card for a diagram).

The GABTF far west deepwater closure has been extended to further protect Gulper Sharks. (Refer card 12b and diagram on next card, GAB far west Gulper Shark closure).

Additionally, GABIA has agreed to a voluntary annual incidental catch limit of 2 tonnes of Gulper Sharks, as a code of conduct not to target these species.

## YOUR RESPONSIBILITIES

- Be aware of areas closed to fishing.
- Do not fish in a closed area.
- Do not target Gulper Sharks.
- Do not exceed catch limits of 15kg per day or 90kg per trip for trips over six days for Harrison's Dogfish, Southern Dogfish, Endeavour Dogfish and Greeneye Spurdog combined.

- Be aware of the 4.5 tonne trigger limit for Harrison's Dogfish, Southern Dogfish and Endeavour Dogfish for the entire SESSF.
- Identify all Gulper Shark catch to the species level using the *Protected Species ID Kit* and the *Gulper Shark ID flier* (refer to the attached flier).
- Comply with the navigation regulation when navigating through these closures (refer to card 11c).

## REFERENCES

*Southern and Eastern Scalefish and Shark Fishery Closures Direction No. 1, 2009, Schedule 17.*

*Protected Species ID Guide, AFMA and the National Heritage Trust, 2006.*

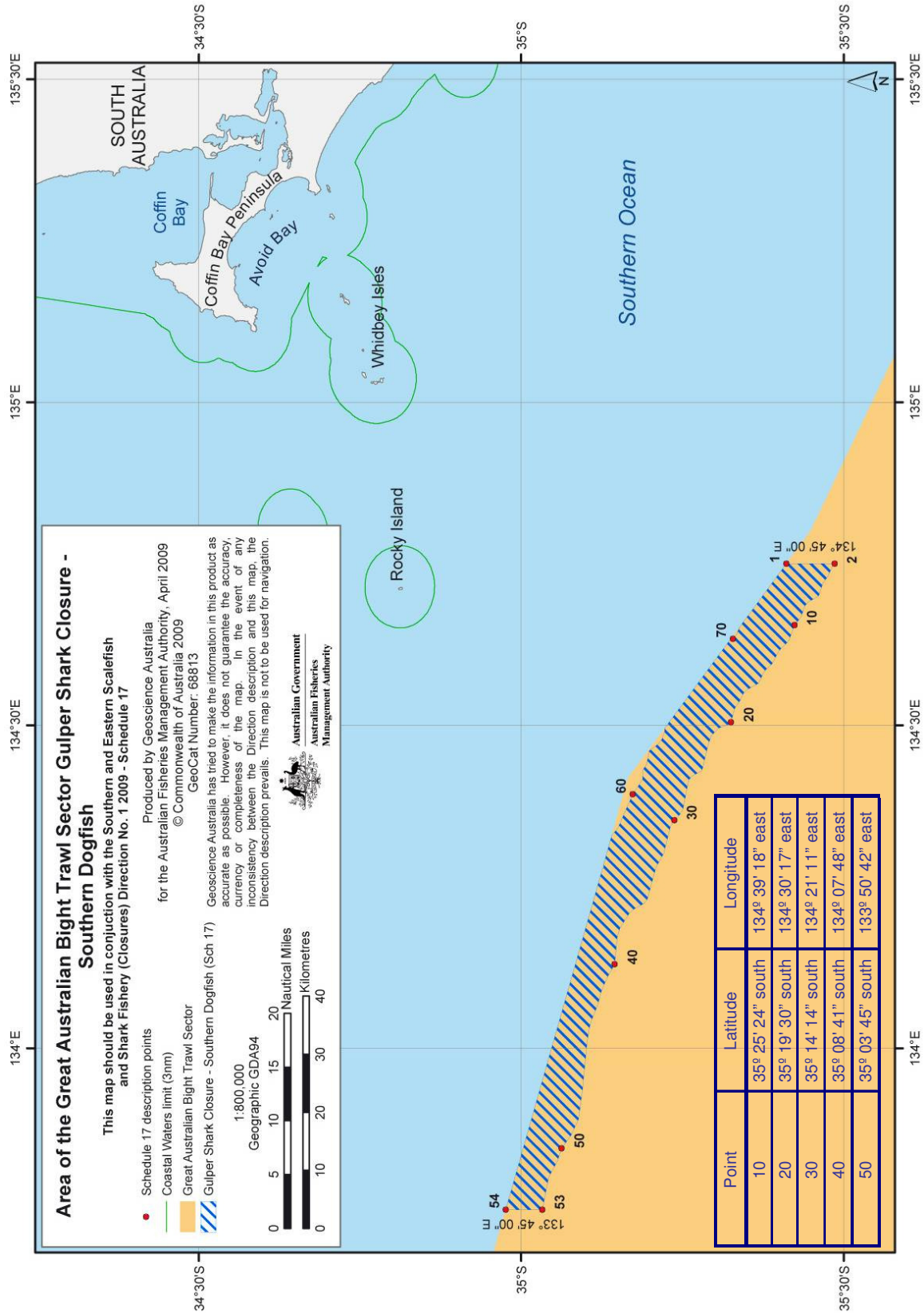
*Daley, R, Knuckey, I., Dowdney, J., Williams, A., Bulma, C., Sporcic, M., Fuller, M., Smith, T. (2007). Draft Ecological Risk Assessment for the Effects of Fishing. Report for the Great Australian Bight trawl sub-fishery of the Southern and Eastern Scalefish and Shark Fishery. Report for the Australian Fisheries Management Authority. Canberra, Australia.*

## CONTACT DETAILS

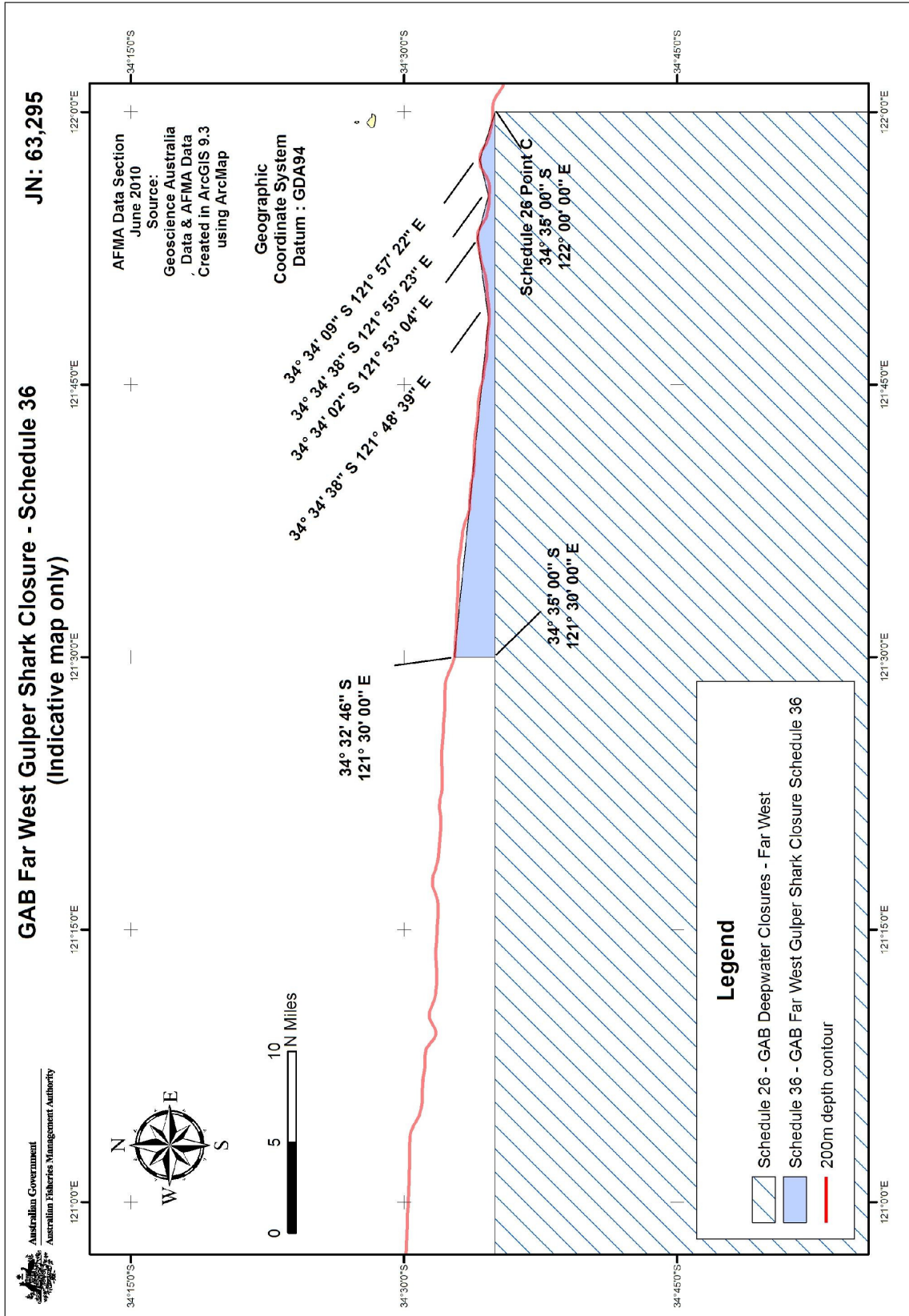
AFMA SESSF section: 1300 723 621

GABIA EO: 0400 166 649

# CARD 13D: GULPER SHARK CLOSURES AND MANAGEMENT (CONTINUED)



# CARD 13D: GULPER SHARK CLOSURES AND MANAGEMENT (CONTINUED)



# CARD 13D: GULPER SHARK CLOSURES AND MANAGEMENT (CONTINUED)

## Gulper shark identification key

Gulper sharks can be distinguished from other sharks by having no anal fin, spines present on both dorsal fins that are about the same size, and a notch in their tail. Use this key to help identify your shark. If you identify a gulper shark, follow the instructions on the back of this poster to find out how to submit a sample and be in the running for a great prize.

**Does the shark have?**

- Anal fin absent**
  - NO → Other shark species
  - YES →
- Dorsal fins far apart**
  - NO → Bramble shark
  - YES →
- Large prickles absent**
  - NO → Prickly dogfish
  - YES →
- Spines on both dorsal fins**
  - NO → Black shark
  - YES →
- Notch in tail**
  - NO → Squalus spp.
  - YES →
- 2 big dorsal spines the same size**
  - NO → Rear dorsal spine larger than front spine
    - YES → Lantern or Platypus shark
    - NO → Smallspine dogfishes
  - YES →

**Gulper sharks**

- Relatively small second dorsal fin
  - YES → Endeavour dogfish
  - NO →
    - Long snout and white back edge of dorsal fins → Harrison's dogfish
    - Short snout and no white edge on fins → Southern dogfish

Additional features for Harrison's dogfish: Long snout, White edge on fins

Additional features for Southern dogfish: Short snout, No white edge on fins

Additional features for Endeavour dogfish: Short snout, Second dorsal fin much smaller than first

Additional features for Smallspine dogfishes: Two small spines same length

Additional features for Black shark: Spines absent

Additional features for Squalus spp.: No notch in tail

Additional features for Prickly dogfish: Prickly skin

Additional features for Bramble shark: Dorsal fins close together

© Fishwell Consulting 2009. Images supplied by CSIRO and FRDC.

14



# IMPORTANT DATES AND CONTACT LIST

# CARD 14A:

## IMPORTANT DATES

The 2010 fishing season will be **for 12 months from 1 May 2010 to 30 April 2011**.

- **6 March 2010**—TACs finalised for 2010 fishing season. Quota transaction statements will be issued to operators in the week commencing 16 March 2010. Operators should now be keeping a close eye on their remaining quota holdings and catches for the 2009 fishing season (no change to current procedures).
- **30 April 2010**—is the end of the 2009 fishing season.
- **1 May 2010**—is the start of the 2010 fishing season.
- **By 5 May 2010**—you must have sent in all 2009 catch disposal records. AFMA will then generate a final quota transaction statement. If you are in an over quota position, you must balance all your excess catches of quota species by leasing or transferring in 2009 uncaught quota. You will need to lease or transfer sufficient 2009 uncaught quota to reduce your overcatch to the allowable overcatch percentage applicable to that species. If, upon receipt of the final quota transaction statement you feel that there is a discrepancy in the figures, you should contact AFMA immediately to rectify the issue.
- **29 May 2010**—All seasonal trading (leasing), including that to cover any over quota status closes at 5PM Eastern Standard Time. Once this date has passed AFMA will close off the 2009 season and conduct the over catch/under catch process. You will then be notified in writing of your end of 2009 quota position.
- **30 June 2010**—undercatch and overcatch is calculated by AFMA and a report for the 2009 season is posted to concession holders.

- **28 July 2010**—first quota and catch balancing (snapshot) date for the 2010 season.
- **9 August 2010**—final day to cover overcatch from first quota and catch balancing period.
- **27 October 2010**—second quota and catch balancing (snapshot) date for the 2010 season.
- **10 November 2010**—final day to cover overcatch from second quota and catch balancing period.
- **26 January 2011**—third quota and catch balancing (snapshot) date for the 2010 season.
- **9 February 2011**—final day to cover overcatch from third quota and catch balancing period.
- **6 April 2011**—last date for any permanent transfer of any SFR for the 2010 fishing season.
- **30 April 2011**—is the end of the 2010 fishing season.
- **1 May 2011**—is the start of the 2011 fishing season.

Note: GABIA members have agreed to trial continuous balancing of catch against quota holdings as part of the co-management arrangement between GABIA and AFMA.

# CARD 14B: CONTACT LIST

## AFMA

Phone: 1300 723 621  
(This number can be used during business hours (8.30am–5.30pm) from anywhere in Australia for the cost of a local phone call).

or: (02) 6225 5555

Fax: (02) 6225 5500

Website: [www.afma.gov.au](http://www.afma.gov.au)

Post: Australian Fisheries Management Authority  
PO Box 7051  
Canberra BC  
ACT 2610

## GABTF MANAGEMENT TEAM AT AFMA

Ms Beth Gibson,  
Demersal and Midwater Trawl Senior Manager  
(02) 6225 5305

Mr Steve Auld,  
Manager Southern and Western Trawl Fisheries  
(02) 6225 5306  
Fax (02) 6225 5441

## GREAT AUSTRALIAN BIGHT FISHING INDUSTRY ASSOCIATION (GABIA)

President  
Mr Semi Skoljarev  
Telephone: 0428 837 221  
Email: [semisk@bigpond.com](mailto:semisk@bigpond.com)

Executive Officer  
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BEGA NSW 2550  
Telephone: 0400 166 649  
Email: [gabia@internode.on.net](mailto:gabia@internode.on.net)

Treasurer  
Ms Marcia Valente  
Telephone: 0413 453 965  
Email: [Valente@bigpond.net.au](mailto:Valente@bigpond.net.au)

## STATE FISHERIES CONTACT DETAILS

**Tasmania:** Department of Primary Industry, Water & Environment, (03) 6233 2147

**South Australia:** Department of Primary Industries and Resources, (08) 8463 3000

**Victoria:** Department of Primary Industries, (03) 5332 5000

**New South Wales:** New South Wales Fisheries, 1300 550 474

**Queensland:** Queensland Fisheries Service, (07) 3404 6999

**Western Australia:** Department of Fisheries, (08) 9482 7333

**Northern Territory:** Department of Resources, (08) 8999 2144



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# LICENCES, PERMITS AND OTHER FORMS



**Appendix 7 - NPFI Co-management Policy**



Australian Government

Australian Fisheries Management Authority



# Co-management Policy

between

**Australian Fisheries Management Authority (AFMA)**

and

**NPF Industry Pty Ltd.**

for the

**Northern Prawn Fishery (NPF) co-management trial**

December 2008

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## 1. Background

AFMA, in partnership with the Fisheries Research and Development Corporation, is trialling co-management in Commonwealth fisheries. The trials cover three fisheries; the Northern Prawn Fishery (NPF), the Southern and Eastern Scalefish and Shark Fishery (in the port of Lakes Entrance) and the Great Australian Bight Trawl Fishery. Aims of the co-management trials are to engage industry in the business of fisheries management and administration through collaboration and/or the delegation of fishery management functions. Co-management expected to lead to the development of more cost-effective and efficient business practices and an improved AFMA/Industry relationship.

In June 2008, NPF Industry Pty Ltd developed and submitted a proposal to the then AFMA Board (now Commission) to commence a trial of co-management. This proposal was further scoped and developed between AFMA and NPF Industry Pty Ltd. The focus of the co-management trial is initially on three key elements:

1. Catch and effort data management;
2. Crew-member observer program management; and
3. A new structure for dealing with decision making on commercial and operational matters in the NPF.

This document provides policy guidance for implementing a structure to deal with decision making on commercial and operational matters in the NPF (element 3 of the above list) and is implemented through a Memorandum of Understanding (MOU) between AFMA and NPF Industry Pty Ltd. The other elements (1 and 2) are implemented through a separate commercial contract.

Recognising that fisheries management is an adaptive process, this policy may be amended at any time with the agreement of AFMA and NPF Industry Pty Ltd.

## 2. Purpose of the policy

While AFMA has begun to trial co-management, consultation is also under way with the Commonwealth fishing industry and other key interest groups with regard to the rationalisation of management advisory committees (MACs). This entails the development of an alternative approach to the advisory and consultative arrangements that MACs have undertaken since AFMA was established. The goal is to reduce the number of MACs in Commonwealth fisheries, to approximately six or less, and recast the role of the MACs to more strategic in nature. MACs would meet less and only consider strategic and high level policy issues related to fisheries and the marine environment. It is expected that greater efficiency and cost-effectiveness in reaching and implementing fisheries decisions will result in the longer term.

In order to achieve this goal, it will be necessary for fishing industry bodies, such as NPF Industry Pty Ltd, to take on the role of advising on operational and commercial matters in the fisheries management process. There is also potential for decision-making on a range of management issues to be delegated to industry bodies pending outcomes of the co-management trials and necessary changes to the legislation being made.

This policy and associated MOU provides the agreed basis for NPF Industry Pty Ltd to make recommendations directly to AFMA that will lead to decisions on management in the NPF.



This includes directions and determinations under the *Northern Prawn Fishery Management Plan 1995* (as amended). The policy:

- Identifies the key issues on which recommendations will be made in managing the NPF during 2009;
- Outlines the agreed approach between AFMA and NPF Industry Pty Ltd for delivering the recommendations;
- Outlines communications and protocols for NPF Industry Pty Ltd to undertake in formulating recommendations to AFMA;
- Outlines the specific roles and responsibilities of AFMA and NPF Industry Pty Ltd; and
- Requires that performance of relevant trial aspects, including the performance of NPF Industry Pty Ltd in carrying out advisory functions, be evaluated.

### **3. Legislation and NPF Management Plan**

Under AFMA's legislation there are limitations on what and to whom certain fisheries management decisions can be delegated, either through a formal instrument of delegation or by contract. Under the current legislative framework AFMA is unable to delegate the making of directions or determinations provided for under a plan of management. This applies to setting, among other things, total allowable effort (TAE) or catch (TACs) and implementing spatial and temporal closures.

AFMA therefore provides responsibility to NPF Industry Pty Ltd under the MOU to work directly with AFMA to provide recommendations in relation to these and other relevant management functions, as set out in this policy, for consideration by AFMA and/or the Commission.

Under this policy framework, NPF Industry Pty Ltd must demonstrate that its recommendations pursue AFMA's legislated objectives and the objectives of the NPF Management Plan 1995.

#### **AFMA's legislated objectives are:**

- (1) *The following objectives must be pursued by the Minister in the administration of this Act and by AFMA in the performance of its functions:*
  - (a) *implementing efficient and cost-effective fisheries management on behalf of the Commonwealth; and*
  - (b) *ensuring that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development (which include the exercise of the precautionary principle), in particular the need to have regard to the impact of fishing activities on non-target species and the long term sustainability of the marine environment; and*
  - (c) *maximising the net economic returns to the Australian community from the management of Australian fisheries; and*



- (d) *ensuring accountability to the fishing industry and to the Australian community in AFMA's management of fisheries resources; and*
  - (e) *achieving government targets in relation to the recovery of the costs of AFMA.*
- (2) *In addition to the objectives mentioned in subsection (1), or in section 78 of this Act, the Minister, AFMA and Joint Authorities are to have regard to the objectives of:*
- (a) *ensuring, through proper conservation and management measures, that the living resources of the AFZ are not endangered by over-exploitation; and*
  - (b) *achieving the optimum utilisation of the living resources of the AFZ; and*
  - (c) *ensuring that conservation and management measures in the AFZ and the high seas implement Australia's obligations under international agreements that deal with fish stocks; and*
  - (d) *to the extent that Australia has obligations:*
    - (i) *under international law; or*
    - (ii) *under the Compliance Agreement or any other international agreement; in relation to fishing activities by Australian-flagged boats on the high seas that are additional to the obligations referred to in paragraph (c)—ensuring that Australia implements those first-mentioned obligations;*
- but must ensure, as far as practicable, that measures adopted in pursuit of those objectives must not be inconsistent with the preservation, conservation and protection of all species of whales.*

**The Objectives of the NPF Management Plan 1995 are:**

1. Ensure the utilisation of the fishery resources within the Northern Prawn Fishery is consistent with the principles of ecologically sustainable development and the exercise of the precautionary principle.
2. Maximise economic efficiency in the utilisation of the fisheries resources within the Northern Prawn Fishery
3. Implement efficient and cost effective management of the Fishery.
4. Effectively communicate and consult with AFMA, the fishing industry, other marine resource users and the broader community.
5. Ensure that the incidental catch of non-target commercial and other species in the NPF is reduced to a minimum.





## 4. Recommendation making

Following sound principles when developing recommendations will ensure that NPF Industry Pty Ltd can meet the expectations of AFMA, other government agencies and all other interested parties. Certain recommendations will be made through a process of decision rules under the NPF harvest strategy. In making recommendations, NPF Industry Pty Ltd will apply the following principles and/or processes:

- Adequate consultation by NPF Industry Pty Ltd with all NPF SFR holders and other relevant stakeholders;
- Relevant consideration of expert advice and/or scientific advice, including with NPRAG;
- Pursuit of relevant legislation and consistency with associated policies, particularly with AFMA's legislative objectives, the NPF Management Plan, the NPF harvest strategy, the NPF ecological risk assessment and the NPF strategic assessment and relevant decision rules;
- Documentation of relevant considerations, such as legislation, policy or procedures that were taken into account to support the recommendations;
- Documentation of reasoning where a recommendation departs from expert and/or scientific advice or policies;
- Notification to NORMAC to ensure the MAC are informed of all recommendations / decisions on the management of the NPF; and
- A process to consider and address any conflicts of interest in making recommendations to AFMA.

## 5. Scope of functions of which NPF Industry Pty Ltd will assume responsibility

During the course of the NPF co-management trial, NPF Industry Pty Ltd will be responsible for the day-to-day operational functions described in *Sections 5.1, 5.2 and 5.3* in accordance with the principles and processes described above.

### 5.1 Functions for which NPF Industry Pty Ltd will assume for recommendation-making responsibility (implemented through determinations and directions)

#### 5.1.1 TAC/TAE setting (catch /gear levels)

The NPF Industry Pty will recommend the level of catch / effort in the NPF in accordance with the level of standardised effort calculated by NPRAG and within the parameters of the harvest strategy for the fishery.

Whilst the gear unit system remains in place, the NPF Industry Pty Ltd will recommend if the effort will be implemented either through gear and/or time constraints (relating to head/foot rope length and/or season length).



### **5.1.2 Fishing season opening and closing dates (including season extensions)**

Using the above TAC/TAE setting recommendation, the NPF Industry Pty Ltd will recommend the first and second season opening and closing dates in accordance with the decision rules contained in the NPF harvest strategy and decision making framework.

### **5.1.3 Spatial and temporal closures (including the direction “prohibition on fishing”)**

NPF Industry Pty Ltd will be responsible for recommending if changes to spatial and temporal closures are required. CSIRO’s advice on and agreement to any such proposed changes to spatial and temporal closures (including permanent closures) will be sought.

### **5.1.4 Gear trial areas (if required)**

The NPF Industry Pty Ltd will recommend to AFMA the specified dates for gear trials

## **5.2 Functions for which NPF Industry Pty Ltd will assume implementation responsibility:**

- Implementation of in-season data collection to determine season closure dates
- Implementation of small prawn in-season management strategies
- Implementation and reviews of NPF code of responsible fishing

### **5.2.1 Implementation of bycatch mitigation strategies (bycatch reduction program)**

The NPF has been pro-active in minimising trawl bycatch through the implementation of TEDs and BRDs since 2000. NPF TEDs eliminate almost all catch of adult turtles and other large animals. On-going refinement of bycatch reduction measures continues through the issue of scientific permits. This allows industry to trial new technology in accordance with protocols developed by the NPF Bycatch Committee and approved by NORMAC.

NPF Industry Pty Ltd will continue to implement measures to reduce bycatch by trialling new technologies and approaches in accordance with the protocols already developed by NORMAC.

## **5.3 Functions which NPF Industry Pty Ltd will provide direct advice to AFMA:**

### **5.3.1 NPF fishery budgets**

NPF Industry Pty Ltd will work with AFMA to develop NPF budgets for consideration by the AFMA CEO.



### 5.3.2 Compliance and risk assessments

AFMA will seek NPF Industry Pty Ltd input into the annual compliance risk assessment which will be used to determine priority risks across Commonwealth fisheries.

Industry will work together to minimise potential breaches of fishery regulations through an education program and the application of independent sanctions on skippers who breach fishery regulations.

NPF Industry Pty Ltd and AFMA will work together to develop and set standards for compliance breaches in the fishery.

## 6. AFMA's responsibilities

AFMA will be responsible for considering the recommendations from NPF Industry Pty Ltd and for determining whether or not the recommendations are consistent with AFMA's legislation and relevant NPF policies including the NPF harvest strategy and relevant decision rules. Provided recommendations are consistent with AFMA's legislation and the policy framework as described in *Sections 3, 4 and 5*, AFMA will proceed to implement the recommendations.

Any decisions which would result in a departure from the agreed policy framework, including the NPF harvest strategy and relevant decision rules, will be sent to NORMAC and the Commission for consideration.

Any proposed changes to the NPF harvest strategy or to decisions rules which support the NPF harvest strategy must go through the MAC process.

The regulatory responsibility to give effect to decisions (eg *NPF Directions*) remains with AFMA.

AFMA retains the overall responsibility for accepting or rejecting recommendations from NPF Industry Pty Ltd.

AFMA will advise the NPF Industry Pty Ltd once AFMA has given effect to the recommendations received. If AFMA rejects a recommendation the reasons for this will be fully explained to the NPF Industry Pty Ltd in a written response.

AFMA will provide a quarterly reconciliation of the NPF budget to the NPF Industry Pty Ltd.

The AFMA compliance area will provide the NPF Industry Pty Ltd the compliance annual report at the end of each financial year for information.



## 7. Communication

In order to ensure an environment of trust and respect, effective communication between AFMA and NPF Industry Pty Ltd is necessary. NPF Industry Pty Ltd and AFMA agree to communicate regularly on the status of this policy, recommendations and any proposed changes.

## 8. Resolving differences

Although the co-management trial is about building trust and relationships between government and industry, there may be a time when a difference of opinion arises or there is a different interpretation of function, role or process. This may lead to some level of conflict between AFMA and the NPF Industry Pty Ltd or the NPF Industry more broadly. In the first instance, where there is any doubt about the application of this policy, contact between NPF Industry Pty Ltd and AFMA should be established as soon as possible. Contact should be made where possible before there is any breach of these policy guidelines.

Decision rules for dealing with conflicts:

- Where a conflict arises it is agreed that there is an initial attempt to resolve the conflict as quickly and efficiently as possible through open discussion between the CEO of NPF Industry Pty Ltd and the NPF manager or senior fishery manager. The executive manager fisheries or general manager operations may also be consulted at this time. The co-management area is to be informed of the issue by the NPF manager.
- If the issue in question cannot be resolved within 14 days, it will be brought to the AFMA CEO for discussion and resolution.
- If either party believes the matter is of a serious nature that cannot be allowed to remain unresolved for any length of time, the matter may be brought immediately to the attention of the relevant AFMA Executive, including the AFMA CEO.
- In the event that the matter cannot be resolved, the matter may be referred to the Commission.

## 9. Performance measurement and evaluation

It is critically important to monitor, evaluate and report on the performance of all aspects of the co-management trial to determine which elements can achieve a mutual benefit for NPF industry and AFMA, the extent of such benefits and importantly, what can be implemented permanently and more widely across Commonwealth fisheries. Evaluation, through monitoring and assessment, will bring together what is learned from the range of activities that will be undertaken during the trial.

AFMA is developing a generic performance evaluation framework to evaluate each of the three trials in Commonwealth fisheries. The evaluation framework will include higher level (program) and lower level (activity / outcome driven) questions in five categories listed below:



- Appropriateness
- Impact
- Effectiveness
- Efficiency; and
- Legacy

These questions will be linked directly to key performance indicators, for example, direct cost to industry, change in activity / staffing level and cost incurred by AFMA, response time in reporting by industry, overall quality of reporting by industry, the level of acceptance of recommendations by AFMA / Commission, degree and success of consultation and the levels and outcomes of conflict. Each performance area and set of evaluation questions will require the identification of data / information sources that will provide the basis for measurement and comparison.

The evaluation framework will be developed and finalised in consultation with the co-management steering committee which involves participants in each of the trials. The timeframe for completing the evaluation framework is March 2009.

## **10. Consultation and reporting structure**

NPF Industry Pty Ltd is responsible for consulting within its shareholders and all NPF SFR holders on all matters relating to the management of the NPF on which it will make recommendations under this policy.

NPF Industry Pty Ltd will provide AFMA and NPF SFR holders with meeting notices, including the timing and venue for the meeting and a list of agenda items pertaining to the issues listed under this policy.

Recommendations on the issues covered under this policy will be taken within AFMA's legislative and policy framework and in accordance with the agreed NORMAC / AFMA-approved decision rules. NPF Industry Pty Ltd will seek expert advice from AFMA, the NPRAG, NORMAC sub-committees and other experts as necessary when taking decisions about recommendations on management issues.

Recommendations to AFMA must be documented and framed in a way that demonstrates the recommendation principles are being applied, for example, that full consultation has occurred, expert advice is considered and legislation and policies are applied. Recommendations should be reported in accordance with appropriate timeframes that are relevant to decision-making timeframes.

AFMA will determine whether or not each decision was taken within AFMA's legislative policy framework and in accordance with the agreed decision rules and documented processes. The AFMA CEO or Commission will retain the capacity to over-ride or seek additional advice on any recommendations on decisions made under co-management arrangements where it believes the industry is departing from agreed decision rules or if a decision or action would cause policy or legislation to be breached. In such cases appropriate feedback and/or direct consultation should be provided to NPF Industry Pty Ltd.

The regulatory responsibility to give effect to determinations, directions and compliance activities remains with AFMA.



## **Appendix 8 - NPF Catch and Effort Information Data Management Plan**



Australian Government  
Australian Fisheries Management Authority

 Data Management Plan for  
Northern Prawn Fishery (NPF) catch and  
effort and observer information use by  
*NPF Industry Pty Ltd*

February 2010

Version: 1.2

[www.afma.gov.au](http://www.afma.gov.au)

 Protecting **our** fishing future

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## Version Control

#	Status	Change Description	Author(s)	Date
01	Version 1.1	Original	Shalan Bray	17/12/2008
02	Version 1.2	Modifications to responsibilities	Shalan Bray	February to June 2010



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# 1 Overview

## 1.1 Background

AFMA is trialling co-management in Commonwealth fisheries, including in the Northern Prawn Fishery (NPF) to develop more cost-effective and efficient business practices, improve AFMA/Industry relationships and engage industry in the business of fisheries management and administration through collaboration or delegation.

The co-management trials, being undertaken over the next three years across three fisheries, will build on established principles and explore models that can allow businesses, groups or fisheries to undertake business more efficiently and cost-effectively with AFMA.

In June 2008, NPF Industry Pty Ltd developed and submitted a proposal to the then AFMA Board (now Commission) to commence a trial of co-management. This proposal was further scoped and developed with AFMA to focus on three key elements:

1. Catch and effort and observer data management;
2. Crew-member observer functions; and
3. A new structure for dealing with commercial and operational matters in the Northern Prawn Fishery.

The AFMA Commission at its 2nd meeting in August 2008 agreed for NPF Industry Pty Ltd and AFMA to trial these elements subject to a co-management agreement that provides relevant checks and balances.

This Data Management Plan (the Plan) describes and details the data management functions being trialled by NPF Industry Pty Ltd and the conditions and requirements involved in undertaking the functions. The Plan ensures the management of data and information undertaken by NPF Industry Pty Ltd is in line with AFMA standards and requirements relating to Commonwealth fishery information including privacy, security and confidentiality.

This data management plan is implemented through an agency contract between AFMA and NPF Industry Pty Ltd that is legally binding.

## 1.2 Issue

The Plan seeks to address three main issues in the NPF:

1. A comprehensive take-up of e-logs in the NPF to improve the efficiency and cost-effectiveness of data collection;
2. Improved timeliness and efficiencies in relation to data collection, cleaning and reconciling of NPF catch and effort logbook data and providing data summaries to MACs, RAGs, DEWHA and CSIRO; and
3. To ascertain whether data management functions can be undertaken cost-effectively by industry through industry ownership and a more streamlined business structure.

## 1.3 Objectives / Purpose

The take-up of e-logs and the data/information collected electronically as a result offers efficiency gains for fisheries management as well as improvements in data quality. The analysis of data and input of data into fishery assessment models is a time consuming activity that is needed in order to meet a range of policy and legislative fishery management functions. The purpose of this trial is to determine whether transferring responsibility for certain data management functions from government to industry can lead to increased cost-effectiveness and quality of outcomes.

The Plan facilitates that NPF Industry Pty Ltd:

1. has primary responsibility over the co-ordination of activities relating to catch and effort information in the NPF;
2. receives raw and summarised fishing log data and observer data and securely holds the data;
3. follow-ups overdue logbook, E-log and seasonal landing returns;
4. advises AFMA by agreed means of data quality issues and errors of current fishing log data and assists in fixing such issues and errors;
5. analyses the data and reconciles with seasonal landing returns (SLRs);
6. prepares and provides summaries (including annual data summary report) and other input reports for assessment purposes to relevant stakeholders such as AFMA, CSIRO, NPRAG, NORMAC, ABARE, QDPI and DEWHA; and
7. encourages full fleet take-up of e-logs.

The Plan requires the following:

- Commercial contract between AFMA and NPF Industry Pty Ltd;
- Agreement from NPF SFR holders for NPF Industry Pty Ltd to receive and manage their catch and effort information; and
- Where permission is not granted by all SFR holders, arrangements entered into between AFMA and NPF Industry Pty Ltd in relation to the management of the residual data.

The aim of this Plan is to describe the processes used for sharing AFMA data with NPF Industry Pty Ltd and the requirements for NPF Industry Pty Ltd to manage this data, co-ordinate the activities associated with the data and undertake the above functions.

## 2 Scope

### 2.1 In-Scope Activities

Under this Plan NPF Industry Pty Ltd will undertake data management functions to gain experience in dealing with, managing and reporting on catch and effort and observer information in the NPF. In addition NPF Industry Pty Ltd will gain an understanding of the activities associated with having central responsibility for the information/data.

Provision of raw catch and effort and observer data will be for:

- Season 2, 2008<sup>1</sup>
- Season 1, 2009

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<sup>1</sup> with assistance and training from AFMA at the Canberra office

- Season 2, 2009
- Season 1, 2010
- Season 2, 2010 (subject to contractual arrangements)
- Season 1, 2011 (subject to contractual arrangements)

This data may include non-log data sources such as data compiled at sea by crew-based and independent scientific observers. Data may also include technical and economic information about the NPF where required.

Summarised NPF catch and effort information from previous years can be requested through this Plan. Any requirement for NPF Industry Pty Ltd to work with historical data unsummarised (prior to season 2 2008) must be completed at AFMA's Canberra office under AFMA staff supervision. This data cannot be removed from AFMA's premises.

Summarised data refers to catch and effort information that does not contain any personal information and relates to a minimum of 5 vessels.

**Activities permitted under this plan are:**

- cleaning catch and effort data and advising AFMA of data quality issues and errors;
- assisting to fix data quality issues and errors where practical and in association with the SFR holder;
- data analysing;
- reconciling the data with seasonal landing returns;
- preparing and providing data summaries and data reports for assessment purposes to AFMA, CSIRO, NPRAG, NORMAC and BRS;
- other data requests as approved by AFMA;
- NPF gear survey
- encouraging maximum fleet take-up of e-logs.

NPF Industry Pty Ltd must meet AFMA data protection, handling, recording, confidentiality, privacy, security and infrastructure standards and principles as detailed in this Plan and associated appendix.

NPF Industry Pty Ltd must make available all relevant records and systems to allow their data management processes to be audited by AFMA or an independent auditor at any time.

## 2.2 Out of Scope Activities

Raw catch and effort data prior to the NPF second season 2008 is not included in this data management plan and cannot be provided to NPF Industry Pty Ltd. Summarised historical data can be requested as detailed above in 'In-scope activities'. Any requirement to work on raw historical data must be completed at AFMA's Canberra office under AFMA staff supervision. This data cannot be removed from AFMA's premises unless in summarised form.

Individual NPF SFR holders who do not agree for their catch and effort information to be transferred to NPF Pty Ltd will be excluded from this Plan and the data will remain with AFMA at all times. Arrangements for NPF Industry Pty Ltd to manage the residual data will be developed.

Data requests from stakeholders/interested parties that are not detailed in In-scope activities must go through AFMA (NPF Manager) in the first instance. Where permission from AFMA is provided these may then be actioned by NPF Industry Pty Ltd. AFMA must be provided with the response to each request.

Requests for data by any NPF SFR holder (current or previous) or authorised representative must go through AFMA in the first instance. No data of individuals or data pertaining to less than five NPF vessels can be given out by NPF Industry Pty Ltd at any time. No personal information of any kind can be given out by NPF Industry Pty Ltd.

Observer and historical catch and effort data cannot be changed by NPF Industry Pty Ltd and can not be given out except to those authorised to receive data summaries and reports as per In-scope Activities.

## **2.3 Deliverables**

- Relevant timeframes and deadlines met for data reconciliation, data analysis and provision of clean data and data summaries to AFMA and other relevant stakeholders;
- Improved timeliness of previous years data reconciliation and reports, including annual summaries;
- Improved data quality;
- Complete, or as close to complete as possible, NPF fleet take-up and use of e-logs;
- E-log/logbook data completed and submitted to AFMA on time; and
- Industry data management capacity gained.

## **2.4 Timetable**

The commencement of this Plan was in December 2008 and is current provided contractual arrangements are in place.

# **3 Data Management**

## **3.1 Data Collection**

AFMA will be the first receiver of catch and effort data. This information will come directly from NPF trawlers that have adopted e-log technology or through log-sheets from those NPF fishers that do not take up e-log technology.

AFMA will also be the first receiver of scientific observer data from the NPF and the seasonal landing returns (SLRs).

These data sources will be inputted into the appropriate AFMA database by the data entry section.

AFMA's logbook data resides in the Daily Fishing Log Ingress database and scientific observer data in the Observer Voyager Oracle database.

NPF Industry Pty Ltd will be the first receiver of Crew Member Observer data. This data will be provided to AFMA and CSIRO as required.

## **3.2 Data Release**

AFMA will provide the raw catch and effort data for all consenting NPF SFR holders to NPF Industry Pty Ltd at agreed times for the period of the Plan and contractual arrangements.

Current raw catch and effort information will be provided to NPF Industry Pty Ltd every fortnight during each fishing season, and two weeks after the end of each fishing season. The transmission of data will be via e-mail with attached files using the security measures detailed in Appendix 1 – security requirements.

For the second season 2008, data at the end of the season will be provided in a single data dump or NPF Industry Pty Ltd will work with AFMA staff at the Canberra office with the relevant information.

The Seasonal Landings Returns will be provided by AFMA to NPF Industry Pty Ltd on request.

AFMA will provide NPF scientific observer information and data at the end of each fishing season once this has been entered into the observer database, if this is not available four weeks after the end of the season, AFMA will provide paper copies on request.

The extraction and transmission of the data will be as automated as possible to minimise the impact on AFMA staff resources. If the process can be fully automated it may be possible to increase the frequency to weekly transmissions of catch and effort information during the fishing seasons.

Future development may include the option of NPF Industry Pty Ltd accessing AFMA data directly via a remote access. However, AFMA cannot commit to this kind of arrangement in the near future.

### 3.3 Data Sharing Arrangements

NPF Industry Pty Ltd will be responsible for maintaining the confidentiality of all AFMA data provided under the contract. The data is to be treated as 'Commercial in Confidence' and in line with AFMA's objectives under the *Fisheries Management Act 1991*, and Secrecy Regulation 36 under the *Fisheries Management Regulations 1992* referred to in Appendix 2 and 3.

NPF Industry Pty Ltd will also be responsible for adhering to legislation, policies and guidelines as detailed in Appendix 1 through Appendix 7.

It should be noted that NPF Industry Pty Ltd should use the five<sup>2</sup> boat rule when releasing summarised data. The five boat rule is detailed in the 'Data Release Guidelines' listed in Appendix 4.

The advice from AFMA's legal section is that AFMA can share current logbook data from NPF SFR holders only with the written consent of the relevant SFR holder, and historical data can only be made available in summary form. AFMA will ensure that only summary data or data from consenting concession holders will be supplied to NPF Industry Pty Ltd.

NPF Industry Pty Ltd have developed a database to store data obtained from AFMA. The development and maintenance of this database and any other software required to fulfil the contract, is the responsibility of NPF Industry Pty Ltd. Documentation will include a Data Dictionary and an entity relationship diagram for the database, as well as copies of relevant codes tables.

With the introduction of electronic logbooks, the majority of NPF gear data will be collected through annual surveys independent of logbooks. NPF Industry Pty Ltd will be involved in the design of the survey and also provided with this data as it becomes available during 2010. Some fishers may still use the existing NPF paper logbooks, with the provision for supplying AFMA with vessel and gear data. This data will be made available to NPF Industry Pty Ltd as a part of the logbook data provided as appropriate.

Where permission is not granted by SFR holders, appropriate arrangements will be entered into between AFMA and NPF Industry Pty Ltd in relation to the management of the residual data

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<sup>2</sup> This rule/policy is currently being reviewed and any changes will be reflected in a new version of this plan.

## 3.4 Methodology Linage

1. Upon receipt of catch and effort data, NPF Industry Pty Ltd will clean the data, identify any issues and provide this information back to AFMA. Changes made will be advised on a fortnightly basis, unless NPF Industry Pty Ltd data manager is on leave or at sea, in which case changes made will be reported and data returned to AFMA within the month. The reasons for making the changes will be documented and sent to the data entry section. If the changes relate to logbooks, AFMA will update the database. If changes relate to e-logs, upon permission from the SFR holder, AFMA will delete the relevant records (or season?) and the SFR holder is to resubmit the correct data/information. Any changes must be supported with written documented authority from the relevant SFR holder or authorised representative authorising the change and/or deletion of the previous record. The authority and corrections will need to be submitted to AFMA's data processing section.
2. AFMA will advise NPF Industry Pty Ltd when data has been changed (logbooks) or when a record (or records) have been deleted and are able to be re-submitted (e-logs).
3. NPF Industry will reconcile the catch and effort data against fisher's seasonal landing returns (SLRs);
4. NPF Industry P/L will provide AFMA with all changes resulting from the reconciliation of data against the SLRs and the reasons for such changes including authorisation from the SFR holder or authorised representative;
5. AFMA will make NPF Industry Pty Ltd changes to the data-set and AFMA will provide the cleaned and reconciled data to NPF Industry Pty Ltd once this has been completed;
6. NPF Industry Pty Ltd will provide to AFMA all changes required for the data set to be made as accurate as possible;
7. AFMA and NPF Industry Pty Ltd will agree on a final version of catch and effort data information for data analysis and summaries at the end of each fishing season;
8. AFMA will provide NPF Industry Pty Ltd the scientific observer data at the end of each fishing season once this has been entered into the observer database;
9. NPF Industry Pty Ltd will create data summaries with the catch and effort and scientific observer data information; and
10. Data summaries and information derived from the above data sources may be provided only to those agencies approved in the Agency contract, with the exception of the annual fishery summary report which will be published and available publicly.
11. NPF Industry Pty Ltd will provide reconciled data to CSIRO in accordance with CSIRO/ NPF Industry P/L agreed arrangements and AFMA will be notified of the provision of this data.



## 3.5 Roles and Responsibilities

The table below provides a breakdown of the specific roles and responsibilities under this Plan.

Activity	Organisation
Collect and store catch and effort information including entering of paper log information	AFMA
Register clients on GoFish	AFMA – Data entry team
Send fortnightly data dumps to NPF Industry P/L	AFMA – Data management team
Primary contact regarding e-logs, logbooks, SLRs and the co-ordination of all activities associated	NPF Industry P/L
Check data and identify incorrect and incomplete information, missing information/days, error messages (fortnightly checks would be useful to identify issues as they arise)	NPF Industry P/L
Contact clients and skippers to rectify incorrect, incomplete or missing information and error messages	NPF Industry P/L
Advise AFMA of changes to data (where client permission has been granted) following the agreed process	NPF Industry P/L
Make changes to logbook data where requested and appropriate approval provided	AFMA – Data entry team
Provide confirmation once requested changes have been made	AFMA – Data entry team or data management team
Reconcile end of season catch and effort information to ensure 100% has been collected	NPF Industry P/L
Develop gear survey	AFMA, CSIRO and NPF Industry P/L in conjunction with other stakeholders agree on survey format
Provide update on gear survey information received when requested by NPF Industry P/L	AFMA – Data entry team
Enter gear survey information as received	AFMA – Data entry team
Chase missing, incorrect or incomplete gear surveys	NPF Industry P/L
Send out SLRs	AFMA – Data entry team
Enter SLR information as received	AFMA – Data entry team
Provide update on SLR information received when requested by NPF Industry P/L	AFMA – Data entry team
Requests for any data or data related action items to ensure all data management tasks can be completed. AFMA to be CC'd into all replies of requests. Caveats must apply to all uncleaned and unreconciled data.	NPF Industry P/L
NPFI to be notified of issues with systems that may affect e-logs and/or e-log transmission	AFMA – Data entry team or data management team

## **3.6 Consultation with other Providers / Users**

AFMA will trial this process and report progress to CSIRO and NORMAC on a regular basis.

AFMA will review the data management process biannually and will modify the process (in consultation with NPF Industry Pty Ltd) to improve efficiency and effectiveness of the approach.

Any changes to the Plan must be documented and agreed to by both parties. AFMA will seek NPF SFR holder authorisation to transfer catch and effort information. AFMA will write to the CSIRO providing detail of the data management arrangement.

## **3.7 Source Data**

The source data is primarily NPF daily E-log and logbook data.

Secondary data sources include crew-based observer records (managed by NPF Industry Pty Ltd), scientific observer records, seasonal landing returns and other technical and economic information provided by fishers.

## **3.8 Data Attributes / Fields**

The data format used will mirror the format used by AFMA in the Daily Fishing Logs database including code and data standards. Data will be extracted as comma separated (.csv) files on a table by table basis. The tables will initially include the main vessel, operation, catch and effort, wildlife and seasonal landing return (SLR) tables, as well as the code tables needed to interpret the data only for approved SFR holders. Additional tables will be provided as the need arises. A complete Daily Fishing Logs database NPF data dump will be provided each time, eliminating the need to track changes occurring between data dumps. Data dump files will be named "NPF, table name, date of the extract" (e.g. NPF\_operation\_2008-11-10), so that the different versions of the tables can be distinguished.

The observer data will be provided in Microsoft Excel worksheets with the following: Trip information, shot data, biological data, catch composition, wildlife abundance, TEP interactions and appendix of codes. Files will be named according to the season of which the data relates.

## **3.9 Exclusions**

There may be a small number of NPF SFR holders who are not members of NPF Industry Pty Ltd who do not give NPF Industry Pty Ltd permission to deal with their information. This will cause AFMA to continue to perform the above functions for this small amount of data.

## **3.10 Standards, Policies and Legislation**

Provided in Appendix 1 to 7 of this Plan

Additional policies on data transmission and information security currently in draft form will be included in the Plan when finalised.

## **3.11 Reporting requirements**

NPF Industry Pty Ltd will be responsible for providing the majority of reporting from NPF logbook data that is currently undertaken by AFMA's Data and Information Services team. The reporting by AFMA includes annual reconciliation and data dumps to CSIRO, half

yearly and yearly data extracts used for NPF data summaries, ad hoc queries of data as required by AFMA fisheries managers, MACs and other government regulatory bodies.

NPF Industry Pty Ltd will be required to maintain statistics on the amount and type of data requests serviced under the Plan and associated contract, the clients receiving the data, and the time and duration spent on each request, which needs to be made available to AFMA on request. AFMA will provide a copy of the Data Extract Register Access database currently used by the Data and Information Services team for NPF Industry Pty Ltd to track requests. AFMA will also provide a demonstration on how to use the register, but will not be responsible for any maintenance of this software.

AFMA has a standard operation procedure (SOP) covering the release of data, NPF Industry Pty Ltd will use this SOP when determining how data should be released and to who. A copy of the data release guidelines are included as Appendix 4. AFMA's Client Service Charter detailing the service standards expected of NPF Industry Pty Ltd are included as Appendix 5. NPF Industry Pty Ltd will be expected meet and seek to improve current expected turnaround times for data requests detailed in these service standards.

AFMA will provide NPF Industry Pty Ltd documentation and training on how to undertake the annual reconciliation and data dump to CSIRO, and the data extracts needed for half yearly and yearly data summaries. AFMA will also show NPF Industry Pty Ltd some samples of ad hoc queries and indicate the time taken to complete these as part of the training in December 2008.

NPF Industry Pty Ltd will be required to migrate all the functions covered in the contract between AFMA and NPF Industry Pty Ltd back to AFMA at any time, including the documentation of any reports and derived data products developed by NPF Industry Pty Ltd.

## **4 Data Storage / Maintenance**

### **4.1 Storage and Maintenance**

Primary catch and effort data sets and observer data must be stored on secure computing equipment, encrypted and backed up on a regular basis.

Catch and effort and observer is classified as 'Commercial in confidence' and all storage, handling and maintenance must abide by the Commercial in Confidence classification requirements as detailed in Appendix 1 of this Plan.

### **4.2 Quality Control/Assessment**

Only changes to current season catch and effort information are permitted and AFMA will make such changes as provided by NPF Industry Pty Ltd through supported written documentation with the appropriate consent.

### **4.3 Documentation and Policy Development**

NPF Industry Pty Ltd will be responsible for developing their own data management policy and procedures document that will cover all aspects of data management such as receipt, storage, maintenance, back-up, archival, transfer, security, access and distribution and appropriate infrastructure.

Formal documentation will be required and submitted to AFMA prior to the end of the first season 2009.

## **5 Data Access**

### **5.1 Specific Distribution Instructions**

NPF Industry Pty Ltd will not distribute any raw NPF data supplied by AFMA.

Any derived data must be distributed in accordance with data release guidelines in Appendix 4. NPF Industry Pty Ltd must ensure that the data has been handled appropriately and in line with AFMA standards and data management principles as provided in the relevant Appendix.

### **5.2 Usage Constraints & Recommendations**

NPF Industry Pty Ltd may only use the raw, historical and derived data in accordance with the contract and the Plan between AFMA and NPF Industry Pty Ltd.

## **6 Data Security**

The data security requirements pertaining to catch and effort data and observer data are detailed in Appendix 1 of this Plan.

### **6.1 Logical Security**

NPF Industry must implement security access controls to protect data from access and disclose by unauthorised persons.

These will be documented in NPF Industry Pty Ltd data management policy.

### **6.2 Physical Security**

Logical and physical security must be consistent with the data classification assigned to the data by AFMA.

Where specific agreements on security classification have not been detailed then the Australian Government Standard as set out in ACSI 33 will apply.

Logical and physical security controls must be documented in the data management policy developed by NPF Industry Pty Ltd which must be maintained for quality assurance and audit purposes.

## **7 Data Backups**

While AFMA will hold the primary data source, data back-ups are still the responsibility of NPF Industry Pty, and the procedure for backing up data should be detailed in the data management policy and be in accordance with the data classification assigned by AFMA.

## 8 Stakeholders & Resources

### 8.1 Stakeholders

- AFMA
- NPF SFR holders
- NPRAG
- CSIRO
- NORMAC
- BRS
- ABARE
- QDPI

### 8.2

### 8.2 Responsibility & Resource Matrix

Activity	Organisation	Team Resource
Transmission of catch and effort information	AFMA	Data and Information Services team
Transmission of observer data	AFMA	Observer section
Data change management	AFMA and NPF Industry Pty Ltd	Data entry (AFMA)
Data storage	NPF Industry Pty Ltd	
Data back-up	NPF Industry Pty Ltd	
Approved data summaries	NPF Industry Pty Ltd	
Provision of reconciled data to CSIRO	NPF Industry Pty Ltd	

## 9 Financials

### 9.1 Budget

As detailed in the Agency contract between AFMA and NPF Industry Pty Ltd for a co-management trial

## **10 Target Infrastructure**

NPF Industry Pty Ltd will document the infrastructure and security arrangements in the data management policy referred to in section 4.3.

## **11 Risk Management**

AFMA and NPF Industry Pty Ltd will undertake a risk assessment covering the functions of this Plan and associated contract covering such areas as data transfer, confidentiality, availability, legal issues, operational issues, data integrity and financial issues, the risk assessment process is at Appendix 8.

# Appendix 1: Classified information - Security requirements: COMMERCIAL-IN-CONFIDENCE

## a. Disclosure or access

All COMMERCIAL-IN-CONFIDENCE (IN-CONFIDENCE) information should be protected in a way that only staff with a demonstrated 'need-to-know' have access. If your duties require you to access the information to make a decision then you have a 'need-to-know'.

## b. Marking

IN-CONFIDENCE information should be clearly marked so that people handling it know that it is sensitive and must be protected from unauthorised access. To address this requirements every page of a printed document must have the classification (COMMERCIAL-IN-CONFIDENCE) clearly written at the top and/or bottom of every page, in capitals, bold text and a minimum of 5mm high (preferably red).

File covers created for the storage of IN-CONFIDENCE material must be clearly marked with the IN-CONFIDENCE marker.

## c. Copying

Copies of IN-CONFIDENCE material should be kept to a minimum and stored in a manner that limits access to those staff with a 'need to know'. Excess copies are to be destroyed as defined below.

## d. Handling

IN-CONFIDENCE information must not be left unsecured at any time. The custodian of the information must secure it in a lockable cabinet when not in use to prevent unauthorised access. A password protected screen saver should be used for computers that hold IN-CONFIDENCE information – again to prevent unauthorised access.

If IN-CONFIDENCE information is taken out of the office, it must be kept with the custodian at all times and stored securely.

If computer systems are used to store IN-CONFIDENCE information the hard disk encryption must be used to protect the information stored. The computer system used to store IN-CONFIDENCE material must have security credentials of USER ID and a complex strength password enabled, passwords should be changed every 6 to 8 weeks.

Companies must use one of the hard disk encryption products listed here [http://www.dsd.gov.au/infosec/evaluation\\_services/epl/epl.html#pcsecurity](http://www.dsd.gov.au/infosec/evaluation_services/epl/epl.html#pcsecurity) . Under no circumstances should any other products be used.

## **e. Disposal**

Classified information can fall into unauthorised hands because of inappropriate disposal; it must never be thrown in the bin without being destroyed first.

Hard copy IN-CONFIDENCE information must be shredded with a B Class crosscut shredder.

Electronic media must first be erased with a disk wiping tool, or shredded in a B Class shredder or pulveriser.

Laptops or computers used to host IN-CONFIDENCE material should have their hard disk drive erased using the approved disk wiping tool prior to disposal.

## **f. Transferring IN-CONFIDENCE information**

### **i. Via the mail**

IN-CONFIDENCE mail sent within Australia must be contained within a single opaque envelope that does not indicate the classification of the contents. No IN-CONFIDENCE material is to be sent overseas without permission from AFMA.

Mail containing IN-CONFIDENCE material must only be sent to people with a demonstrated right to access that material as described in 1.1.

### **ii. Electronically**

IN-CONFIDENCE information should not be sent via email unless protected by encryption techniques. For example documents such as Word, Excel and Adobe can be password protected. Passwords can be advised by phone or secondary email. Emails containing IN-CONFIDENCE material must only be sent to people with a demonstrated right to access that material as described in 1.1.



## Appendix 2: AFMA's Objectives

### 3 Objectives

- (1) The following objectives must be pursued by the Minister in the administration of this Act and by AFMA in the performance of its functions:
  - (a) implementing efficient and cost-effective fisheries management on behalf of the Commonwealth; and
  - (b) ensuring that the exploitation of fisheries resources and the carrying on of any related activities are conducted in a manner consistent with the principles of ecologically sustainable development (which include the exercise of the precautionary principle), in particular the need to have regard to the impact of fishing activities on non-target species and the long term sustainability of the marine environment; and
  - (c) maximising the net economic returns to the Australian community from the management of Australian fisheries; and
  - (d) ensuring accountability to the fishing industry and to the Australian community in AFMA's management of fisheries resources; and
  - (e) achieving government targets in relation to the recovery of the costs of AFMA.
- (2) In addition to the objectives mentioned in subsection (1), or in section 78 of this Act, the Minister, AFMA and Joint Authorities are to have regard to the objectives of:
  - (a) ensuring, through proper conservation and management measures, that the living resources of the AFZ are not endangered by over-exploitation; and
  - (b) achieving the optimum utilisation of the living resources of the AFZ; and
  - (c) ensuring that conservation and management measures in the AFZ and the high seas implement Australia's obligations under international agreements that deal with fish stocks; and
  - (d) to the extent that Australia has obligations:
    - (i) under international law; or
    - (ii) under the Compliance Agreement or any other international agreement;in relation to fishing activities by Australian-flagged boats on the high seas that are additional to the obligations referred to in paragraph (c)—ensuring that Australia implements those first-mentioned obligations;but must ensure, as far as practicable, that measures adopted in pursuit of those objectives must not be inconsistent with the preservation, conservation and protection of all species of whales.

## Appendix 3: Secrecy Regulation 36

### 36 Secrecy

- (1) A person must not:
  - (a) make a record of information that is in a logbook concerning the affairs of another person; or
  - (b) communicate to a person information that is in a logbook concerning the affairs of another person; or
  - (c) give a person a part of a logbook in which information is recorded.

Maximum penalty: 5 penalty units.

- (2) However, a person may do an activity mentioned in paragraph (1) (a), (b) or (c) if the activity is done in accordance with:
  - (a) the Act, the *Fisheries Administration Act 1991* or these Regulations; or
  - (b) an order of:
    - (i) a court; or
    - (ii) a tribunal; or
    - (iii) a person having authority, under a law, or with the consent of parties, to receive evidence.

*Note* A defendant bears an evidential burden in relation to the matter set out in this subregulation — see section 13.3 of the *Criminal Code*.

- (3) Subregulation (1) does not apply to information concerning the affairs of a person:
  - (a) that is compiled for statistical purposes with other information of the same kind; and
  - (b) that does not set out the name of the person who provided the information or to whom it relates.

*Note* A defendant bears an evidential burden in relation to the matter set out in this subregulation — see section 13.3 of the *Criminal Code*.

# Appendix 4: Data Release Guidelines

## Data Release Guidelines

by Thim Skousen

**AFMA Data and Information Services Program  
Australian Fisheries Management Authority  
73 Northbourne Ave  
Civic, ACT 2600**

**12 November 2008**

### 1. Introduction

Logbook data collected by AFMA is considered confidential and is protected by the secrecy provisions (Section 36) of the *Fisheries Management Regulations 1992* (Appendix 4 above) and privacy principles under the *Privacy Act 1988*. AFMA is not obliged to release logbook data. AFMA generally only release this data in line with AFMA's Objectives (Appendix 3 above). Data requests under the FOI act will be dealt with by AFMA's legal section. AFMA releases data to researchers who are doing research commissioned by AFMA and to researchers involved in the fisheries assessment processes. Any such release of data is subject to strict confidentiality arrangements and other conditions to ensure that the provisions outlined above are not breached. Researchers are required to sign a formal Deed of Confidentiality to confirm their understanding and commitment to comply with the confidentiality guidelines. The Deed contains disclaimers about any data released, limiting AFMA's liability for errors or omissions of data.

AFMA insist that only aggregated data is published in any reports or presented at any forum external to AFMA. A general working rule of thumb that is often used is to aggregate data such that the catch statistics represents 5 or more individual boats. (Bruce Philips - 1994). This level of aggregation is used by a number of agencies. An additional qualifier used by some agencies is to also ensure that no data from an individual unit of aggregation account for more than 75% of the total statistic.

AFMA sometimes summarises data (aggregated as not to identify individual data providers) for other projects but this is not common. According to AFMA's cost recovery policy, time spent servicing these requests must be cost recovered from the requestor. AFMA will only provide summarised data where the level of aggregation does not identify the original data providers.

## **2. Release of detailed data**

AFMA does release detailed logbook data identifying individual vessels and details of their catch and effort including position of catch, type and amount of gear used, and amount of catch by species except as detailed below.

### **2.1 Release of data to Researchers**

Releasing data to Australian researchers under the signing of a 'Deed of confidentiality' (Appendix 2 above) is considered a relatively low risk. Australian researchers are generally employed by state or Commonwealth government organisations, with legislation, policy and procedures binding staff to treat certain data as confidential. Australian researchers working as private consultants are not covered by the same confidentiality regimes. Data will only be released to consultants under the signing of a 'Deed of confidentiality' where AFMA consider the consultant to be of sufficient integrity and where no known conflict of interest exists with other work done by the consultant.

The 'Deed of confidentiality' prohibits researchers from sharing AFMA data with third parties except with the written permission of AFMA.

### **2.2 Release of data to State Fisheries Organisations**

A few of AFMA's logbook programs share logbooks with state fisheries agencies. The AFMA logbook is distributed to Commonwealth fishers that also participate in a like fishery in state waters. The fishers complete log returns for both the Commonwealth and state fishing activity. Completed log-sheets are sent to AFMA and entered onto the AFMA database. Where such arrangements exist AFMA is committed to provide any logbook data collected from state waters to the relevant fishery organisation on a timely basis.

### **2.3 Release of data to Regional and International Management Organisations**

Arrangements with regional and international management organisations require AFMA to share logbook data. However, the release of detailed data to these organisations is somewhat problematic, as it will generally not be possible to persuade them to sign and abide by AFMA's specific 'Deed of Confidentiality' nor would AFMA be able to enforce this Deed should any breaches of confidentiality occur. Data will only be released to these organisations in aggregated format unless the arrangements entered into by AFMA specifically state otherwise. If detailed data has to be released AFMA will seek to get a 'Deed of Confidentiality' in place.

## **2.4 Release of data to Regulatory Bodies**

Although AFMA's legislation prevents the release of detailed logbook data, there may be cases where the legislation of other regulatory bodies will require AFMA to share this data. The legislation of the 'Commission for the Conservation of Antarctic Living Resources' (CCAMLR) mandata AFMA to release logbook data relating to fishing in Antarctic and Sub-Antarctic waters administered by CCAMLR. Because the release of this data is mandated in law, CCAMLR has not been requested to sign a 'Deed of Confidentiality' with respect to this data.

## **2.5 Release of data to Joint Authorities**

AFMA manage some fisheries jointly with state governments. Torres Strait fisheries are managed jointly between AFMA and the Queensland Government. The joint arrangement may require either party to collect and manage logbook data, and to share this data with the other party on request. AFMA will only release data to a Joint Authority if the arrangement specifically states that data sharing should take place.

## **2.6 Release of data to Courts of Law**

Regulation 36 of the *Fisheries Management Regulations 1992* states that detailed logbook data can be released under a court order. Solicitors and their staff acting on behalf of AFMA in the prosecution of Commonwealth fishers in breach of AFMA's legislation with relation to logbook data, will if necessary be given access to detailed logbook data (including original log sheets).

Court cases involving disputes between parties other than AFMA will generally only be giving aggregated data, unless it can be demonstrated that detailed data is essential. If detailed data is required AFMA will request the data only be viewed by solicitors and judges involved, but not by clients.

## **2.7 Release of data to Concession Holders**

Logbook data may be released back to the Concession holders that originally provided the data to AFMA. In some cases Concessions are transferred from one Concession holder to another. However, no Concession holder can have access to another Concession holder's data for that Concession. Third parties may only get access to any Concession holder's data with the written permission of that Concession holder.

## **2.8 Release of data to Contractors**

Logbook data may be released to contractors working directly to AFMA. The conditions of the release of the data need to be specified in the contract and include clauses to ensure that the data is kept confidential.

# **3 Release of aggregated data**

AFMA sometimes summarises data (aggregated as not to identify individual data providers) for other projects but this is not common. According to AFMA's cost recovery policy, time spent servicing these requests must be cost recovered from the requestor. AFMA will only provide summarised data where the level of aggregation does not identify the original data providers. Requests for summarised data will only be met if the use of the data is deemed to be in line with AFMA's objectives (Appendix 3 above). Where AFMA accept a request for summarised data AFMA will provide the requestor with a written estimate of the cost of the task at hand, and only go ahead with the service of the request with the written acceptance of this estimate by the requestor.

## 4 Release of data under AFMA's Client Service Charter

AFMA's Client Service Charter states that AFMA will:

### **In collecting and disseminating catch, effort and other information through our Logbook Program:**

- within ten days of receiving a request to do so (10 days from receiving approval from AFMA for those stakeholders not approved), provide stakeholders or owners of fishing information with compilations of the information that they have provided to us. This service will necessarily depend on the quantity and completeness of the databases on which the fishing information is stored. If we are unable to respond to your request within that time, we will inform you as soon as possible;
- provide compilations of logbook data, subject to confidentiality arrangements, within 45 days of receiving a request to do so. If we are unable to respond to your request within that time, we will inform you as soon as possible; and
- protect the confidentiality of information recorded in logbooks and not disclose that information unless authorised or required to do so by law or in consultation with the information provider.

Any request for the release of AFMA data will be processed according to the following steps.

The process is initiated when AFMA receives a request for data in writing via the post, facsimile or e-mail. All mail received by AFMA is stamped with the date of receipt by AFMA's Record Management Unit (RMU). Facsimiles and e-mail generally have a date and time of transmission included as a part of the header.

On receipt AFMA will assess the task, assign the task a task number, and register the task on the 'Data Extract Register. AFMA will then acknowledge the receipt of the data request in writing by e-mail, facsimile or mail. In doing so AFMA will make reference to the relevant Client Service Charter conditions outlined above. If required the acknowledgment will include a 'Deed of Confidentiality' (Appendix 2 above) as well as copies of the secrecy provisions (Section 36) of the *Fisheries Management Regulations 1992* (Appendix 4 above), and AFMA's Statutory Objectives (Appendix 3 above).

Once AFMA receives the signed 'Deed of Confidentiality' (if required) the data can be released to the requestor. Where the data section has some doubts about releasing data (eg to fisheries research consultants) the data section may seek the approval of the relevant fisheries manager before going ahead with data extraction and release.

# Appendix 5: Client Service Charter – Service Standards

## Our service standards

In carrying out our work we will:

- at all times be honest, ethical and professional;
- be helpful and courteous to our clients and listen to what they tell us;
- endeavour to use plain English in all of our communications;
- place emphasis on open and transparent processes;
- respond promptly to requests for advice and information and provide information that is, to the best of our knowledge, complete and accurate at the time;
- consult widely to give stakeholders an opportunity for direct input into the fisheries management decision making process;
- ensure that clients are able to discuss the decisions which affect them with someone who is able to understand and respond to their concerns;
- inform clients about decisions that will affect them; and
- impartially apply relevant legislation, policy and guidelines.

## We aim to provide a high level of service to all our clients by:

- responding to inquiries and messages promptly;
- replying to correspondence that requires a response within 15 working days from the date of receipt in AFMA. If your inquiry is likely to take longer to deal with we will contact you in writing or by telephone to advise you of progress;
- including a date, contact name, direct telephone number, email address (where relevant) and file reference number in all correspondence we send to you; and
- informing you about decisions that will affect you.

## In relation to services that we provide to our industry clients, we will:

### When processing Commonwealth licensing and entitlements transactions:

- process routine applications for leases, transfers and other dealings affecting fishing concessions within seven days of receipt, subject to you supplying us with everything we need to complete the transaction and to clearance being obtained from other State licensing authorities, where relevant. Where applications are more complex, we will write to you within seven working days of receipt to confirm receipt of your application and advise an expected response date. We will maintain contact with you and continue to advise you of the status of your application; and
- advise you of your rights of review and avenues for appeal, if applicable.

## **In collecting and disseminating catch, effort and other information through our Logbook Program:**

- provide logbooks relating to existing logbook programs within seven days of receiving a request to do so;
- within ten days of receiving a request to do so, provide owners of fishing information with compilations of the information that they have provided to us. This service will necessarily depend on the quantity and completeness of the databases on which the fishing information is stored. If we are unable to respond to your request within that time, we will inform you as soon as possible;
- provide compilations of logbook data, subject to confidentiality arrangements, within 45 days of receiving a request to do so. If we are unable to respond to your request within that time, we will inform you as soon as possible; and
- protect the confidentiality of information recorded in logbooks and not disclose that information unless authorised or required to do so by law or in consultation with the information provider.

## **When providing professional Observer services to domestic and foreign fishing vessels operating within the AFZ and subject to arrangements for the nature of the observer's functions being satisfactorily addressed beforehand:**

- provide trained, competent observers for domestic vessels within ten days of a request to do so and within 21 days of requests for vessels in foreign ports;
- ensure that our observers:
  - forward samples collected while at sea within three days of returning to port; and
  - provide reports about their activities and observations at sea within five weeks of returning to AFMA following completion of a cruise. This timeframe may be subject to change where observers have collected large amounts of data



# Appendix 6: Determinations relating to logbooks and the furnishing of returns

## 42 Determinations relating to logbooks and the furnishing of returns

- (1) AFMA may, by a written determination, in relation to a particular fishery, provide for holders of fishing concessions in respect of that fishery to keep and maintain logbooks containing information in respect of their activities in that fishery.
- (1A) Without limiting the generality of subsection (1), a determination by AFMA in respect of a particular fishery may cover matters including:
  - (a) the form and content of logbooks for that fishery to be kept by the concession holder; and
  - (b) the secure storage of such logbooks; and
  - (c) the period for which retention of such logbooks is required; and
  - (d) the furnishing to AFMA of such logbooks or of returns of information contained in them.
- (1B) The content of the logbook kept by the holder of a fishing concession in respect of a particular fishery, and of any return of information from such a logbook, may extend to information in relation to:
  - (a) the taking of fish under that fishing concession and the sale or disposal of such fish; or
  - (b) the carrying, landing, transshipping or transporting of fish taken under that fishing concession; or
  - (c) the receipt or processing of fish taken under that fishing concession and the sale or disposal of fish so received or processed; or
  - (d) the course, or position at regular intervals, inside or outside the outer limits of the AFZ, of boats to which the fishing concession relates; or
  - (e) any other matter relevant to the fishing concession in that fishery that is specified in the determination.
- (1C) The obligations arising under this section from a determination made under subsection (1) in relation to a particular fishery override any provision to the contrary, in force immediately before the making of the determination:
  - (a) in a plan of management for that fishery; or
  - (b) in a condition to which a fishing concession in respect of that fishery is subject.
- (2) It is a condition of a fishing concession that the holder of the fishing concession will comply with the requirements of any determination made under subsection (1).
- (3) A determination made under subsection (1) is a disallowable instrument for the purposes of section 46A of the *Acts Interpretation Act 1901*.

## Appendix 7: AFMA to compile statistics

### 167 AFMA to compile statistics

- (1) AFMA must cause to be compiled, from logbooks or returns furnished under section 42 or from other sources, statistics in relation to matters mentioned in subsection 42(1B).
- (1A) AFMA may publish or make available, in any way it thinks fit, any of the statistics compiled under subsection (1).
- (2) AFMA, if directed in writing by the Minister to do so, must make available to a person specified by the Minister such statistics mentioned in subsection (1) as are specified by the Minister.

## Appendix 8: Risk Management

### Risk Exposure

The level of risk exposure provides a measure of the exposure based on the likelihood and potential consequence of the risk. The level of exposure is measured in accordance with the following table.

		Consequence				
		severe	major	moderate	low	negligible
Likelihood	almost certain	extreme	extreme	high	high	high
	likely	extreme	high	high	high	medium
	possible	high	high	high	medium	medium
	unlikely	high	high	medium	medium	low
	rare	high	medium	medium	low	low

### Associated Documentation

Associated documents include:

- Data Management Plan for the NPF
- Data management policy and procedures
- Contract between AFMA and NPF Industry Pty Ltd for the management of NPF catch and effort and observer information
- The crew-based observer program manual (or other such title),
- The NPF Scientific observer program manual (or other such title),
- ACSI 33, plans and templates

**Appendix 9 - AFMA Audit Approach**

# Fishery Management

## An Audit Approach

G.McNamara  
Audit Consultant  
August 2009

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# Fishery Management – An Audit Approach

## Executive Summary

### *Introduction*

AFMA is investigating the use of “*auditing*” as a cost effective tool to complement the shift to centralised compliance and new roles and responsibilities that industry may assume in fisheries management and administration under co-management. The FRDC<sup>1</sup> report for the Fisheries Co-management Initiative<sup>2</sup> defines fisheries co-management as an arrangement in which responsibilities and obligations for sustainable fisheries management are negotiated, shared and delegated between government, fishers and other interest groups and stakeholders.

The stated goals for this project are the development of an enhanced audit approach to be used by AFMA to monitor key compliance risks in the fishery management process and to provide a précis of skills necessary for implementation of the audit approach.

This paper presents an “*Audit Approach*” for AFMA and has been based on the range of activities being undertaken in the co-management trial at Lakes Entrance.

### **Overall Conclusion**

The use of audit techniques in reviewing fishery operations at ports has the potential to allow AFMA to develop levels of assurance that systems and processes in place are operating effectively and that the veracity of information produced by those systems is of an acceptable standard. Use of statistical sampling techniques as part of the audit process will provide the opportunity for extrapolation of audit results. This in turn will assist in determining the frequency with which fishery processes are audited. It should provide an incentive for fishery operators to maintain the quality of their information sources at a high level. Those fishery operations that maintain systems and processes properly, and where the veracity of information provided to AFMA is of a high standard, are likely to require less frequent reviews. This in turn has the potential to increase the effectiveness of AFMA review activity and to be of economic benefit to industry as fewer reviews will have a direct effect on the level of cost recovery that industry has to bear. In addition, use of statistical sampling techniques can improve the efficiency and economy of the review process itself.

This will be particularly relevant in those fisheries that adopt a partnership with AFMA under co-management arrangements. In those fisheries that do not adopt the co-management approach, the scope for using auditing techniques at port operations will be limited to the extent of AFMA jurisdiction at those locations.

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<sup>1</sup> Fisheries Research and Development Corporation

<sup>2</sup> FRDC Project 2006/068

## **Key Recommendations**

The following is a summary of the key recommendations listed in the main body of the attached report. For more detailed information concerning the following recommendations please refer to the relevant section of the report.

### **Auditing**

- Consideration should be given to using audit techniques as a tool when reviewing processes operating at fishery ports as part of the co-management arrangements

### **Audit Management**

- Consideration should be given to the creation of a small audit unit.

### **Auditable Topics**

- Auditable topic models should progressively be developed to cover all Commonwealth fisheries.
- Consideration could be given to extending AFMA legislative jurisdiction beyond the first fish receiver point through to the point of product sale.

### **Statistical Sampling Concepts**

- Consideration should be given to the evaluation and purchase of statistical sampling software tools.
- All audit sampling should be statistically based.
- Consideration should be given to the definition of error materiality in the co-management catch disposal context

### **Audit Documentation**

- All audit activity should be adequately documented.
- Consideration should be given to the adoption of a 10 year retention period for co-management audit documentation in alignment with documentation generated by compliance liaison and compliance monitoring activity
- AFMA should consider whether an additional archival entry needs to be devised specifically to cover co-management audit documentation.

### **Audit Training Strategy**

- The proposed audit manager should be responsible for both initial training of audit field staff and ongoing maintenance of their auditing skills.

### **Audit Automation**

- Future consideration could be given to use of an integrated audit software package within the overall AFMA information systems architecture.



# **Fishery Management – An Audit Approach**

## **Report**

### ***Why Auditing?***

#### **What is audit?**

The general definition of an audit is an evaluation of a system or process. Audits are performed to ascertain the validity and reliability of information and to provide an assessment of a system's internal control framework. The goal of an audit is to express an opinion on the system or process in question, based on work performed on a test basis. Due to practical constraints, an audit seeks to provide only reasonable assurance that the process under review is free from material error. Hence, statistical sampling is often adopted as an audit technique.

Throughout this report the term “*audit*” is frequently used. In this context it should not be confused with the term “*internal audit*” which has a different connotation altogether and refers to the review of financial and non-financial systems and processes within AFMA. Nor should it be confused with the term “*external audit*” which refers to the activity performed by the Australian National Audit Office (ANAO) on behalf of the Federal Government. In the AFMA co-management context the intention is to use tools and techniques which are commonly used by auditors as a cost effective means of reviewing processes in operation.

#### **How does it fit in this environment?**

Historically fisheries management has involved compliance inspections conducted by Fisheries Officers. This was originally governed by the use of State based Service Level Agreements (SLAs). However more recently this function has been centralised and is now managed from AFMA head office in Canberra. The frequency and coverage of this compliance activity is based on the results obtained from an annual risk assessment.

The second phase of the Lakes Entrance Co-management Trial commenced in May 2009 and is due to continue for a period of twelve months. A recent AFMA report states et al that as part of developing Co-management initiatives AFMA is trialling the use of auditing as a means of verifying relevant parties are complying with Commonwealth legislation. There are nineteen vessels involved in the trial. Eight of these are Danish Seine vessels which operate as the Lakes Entrance Danish Seine Unit Trust otherwise referred to as LEDST. In addition there are eleven other vessels involved.

The intention is that the audit concepts proposed in relation to the Lakes Entrance model will then be able to be adapted for use in other fisheries as the co-management trial expands in coverage and as an activity that complements the centralisation of compliance services in AFMA.

The guiding principles of co-management in Commonwealth fisheries are to reduce the overall cost of fisheries management, to promote voluntary compliance and to encourage the development of partnership arrangements between AFMA and industry. This builds on established principles and

creates models that will allow business groups or fisheries to undertake business more efficiently and effectively with AFMA.

From an AFMA perspective this includes consideration of its regulatory monitoring activity with a view to increasing the efficiency, effectiveness and economy of that process.

It is intended that the use of an audit approach would complement the existing compliance inspection regime by providing an alternative means of examining a process to form an opinion on the effectiveness of the regulatory environment.

## **Auditing**

One of the goals of the co-management trials is to improve the economy of the regulatory environment. Under current arrangements there is a measure of cost recovery involved in management of this environment. While it is in the interests of both AFMA and individual fisheries to consider the economy of those arrangements, AFMA also needs to maintain a level of assurance regarding the effectiveness of the process. Use of audit techniques is seen as a means of achieving this end.

The application of audit techniques to processes operating at fishery ports is intended to provide AFMA with a reasonable assurance that the processes under examination are operating effectively within the regulatory environment. As the processes themselves are often repeatable then it is reasonable to expect that the level of assurance obtained by an audit should be relevant no matter how many system repetitions occur. The level of assurance obtained by the auditor can then be used to determine the frequency with which the particular process will need to be re-examined in future. It is suggested that categories of assurance to be used could be high, medium and low. If the auditor obtains a high level of assurance about the effectiveness of a system under review then it would be reasonable to expect that the interval before the next review of that system or process could be extended. Conversely if a low level of assurance is obtained then consideration could be given to that system or process being re-examined after a shorter interval.

In addition, it should be remembered that as well as considering the level of assurance that can be placed on a system in operation, the auditor should also consider whether that system is actually achieving its intended outcomes. It doesn't matter how efficient the system is, if it is not effectively achieving the desired outcome then this needs to be highlighted with relevant AFMA management. It may well be that in such a case the process may require major alteration or even replacement in order to achieve those outcomes.

The overall aim of using auditing as a tool is to use levels of assurance as a means of improving the economy of the review process. Less frequent reviews, while maintaining reasonable levels of assurance, should decrease the costs of the review regime. This in turn should provide financial incentives to industry because the level of cost recovery should diminish in direct proportion to the effectiveness of their systems or processes in maintaining the regulatory environment. Efficient use of limited staff resources is also of interest to AFMA.

## **Recommendation**

It is recommended that:

- Consideration should be given to using audit techniques as a tool when reviewing processes operating at fishery ports as part of the co-management arrangements.

## **Future Changes in Operational Environment**

This report is primarily based on the processes and systems that are currently in operation. Over time there is the probability that the operational environment in fisheries will change. These changes are likely to bring with them changes in the quantity and variety of data collected by AFMA. The importance of audit access to the data collected will remain. It will be this data that audit will continue to use for sampling to support review activity.

The Fisheries Management Act 1991 makes provision for fish receivers with responsibility for verifying landed catch and notifying such action to AFMA through the medium of a Catch Disposal Record. Fish receiver permits while not transferrable are readily obtainable under current arrangements for the sum of \$150 per year without the requirement for providing proof of identity. There is anecdotal evidence that the current arrangements are open to manipulation. In conjunction with the co-management project, separate consideration is currently under way concerning the development of a replacement process supported by a more robust control framework. Auditability of all new systems should remain a paramount criterion as the operational environment changes.

## **What skills are needed?**

At the outset it should be remembered that we are discussing the skills used by auditors and not internal auditing per se.

In the AFMA context the types of skill suggested for the audit process under consideration include the ability to plan and organize a review, sound analytical abilities, a good understanding of statistical analysis techniques and their application, good report writing skills and good time management skills. Let us now deal with each of these in turn.

As the use of auditing techniques is meant to complement other inspection activity it is important that audits be planned in consultation with the inspection teams. It could be counterproductive for audits and inspections to occur at the same time due to the time resource input required on the part of fishery staff. Coordination of these activities would greatly assist in the efficiency of the AFMA operation. Planning each audit is also important as there are a number of tasks that will need to be completed at each stage of the audit process. In addition the auditor needs to be able to organize the audit documentation so that it is complete and is able to be easily followed by a third party that has not necessarily been involved in the audit itself. This is because the documentation may be reviewed by the auditor's manager and in time be used by the next auditor to assist in a subsequent review that particular topic.

The auditor needs to be able to use sound analytical skills in analyzing the results obtained from the audit. It is this analysis that determines the level of assurance that can be applied to the system under review. If one misinterprets the data then the accuracy of the proposed level of assurance can be brought into question.

Use of statistical analysis techniques is the way in which the auditor determines the sample size necessary for examination. If this task is not properly performed then the inferences drawn from the results obtained can be questionable. There are various tools available to assist the auditor in drawing an appropriate statistical sample. AFMA needs to decide on an appropriate support tool for this purpose.

The ability to write an audit report of a good standard is important as this document is the means of communication both within AFMA and also with the fishery under review. It needs to be clear, concise, readable and above all understandable by all concerned. The report process itself also needs to be timely if the recommendations are to be implemented. Reports issued in an untimely manner may have diminished relevance as the information contained therein may have been overtaken by time.

Auditors need to be able to manage their tasks within allocated budgets otherwise the audit process itself may well become inefficient and uneconomic. Where budgets may prove to be insufficient then the auditor should seek guidance from their manager. It should be pointed out here that such guidance should be sought well in advance of the allocated budget expiring. This is of course because there can be no guarantee that management will agree to a budget extension and that the auditor may have to manage within the existing allocation.

## **Management of the Audit Function**

As stated previously, use of auditing techniques should be considered as being complementary to other compliance activity. As such, from an organizational perspective, an audit function would logically fit within the Operations Branch. It is **not** an AFMA Internal Audit function that for the sake of independence might otherwise logically fit in Governance Branch with reporting lines to the Executive.

While the use of auditing techniques will initially be trialed as part of the co-management project, it does not necessarily follow that the co-management section should be responsible for ongoing management of the audit function on a long term basis. However responsibility for the ongoing quality assurance of audit activity and for the ongoing maintenance of the audit skills base will need to be allocated.

One solution might be to allocate this responsibility to a small Auditing Section. This section would have responsibility for the management of the overall audit function. Initially there would probably be sufficient workload involved in establishing the audit function to employ a full time EL1. However it may transpire over time, as the function consolidates, that this workload may diminish to a lower percentage requirement.

Audit field staff could be drawn from Compliance Section on a voluntary basis and provided with appropriate tuition. Such staff would not necessarily need to remain in an audit role on a permanent basis. By rotating such staff through the audit function one could widen the available skill resource base available for audit work as well as provide new skills to these staff.

## Recommendations

It is recommended that:

- Consideration should be given to the creation of a small audit unit with responsibility for
  - management of the audit function;
  - coordination with other complementary compliance activity;
  - development and maintenance of an audit work schedule (audit program);
  - quality assurance of audit work; and
  - training new audit field staff and skills maintenance for existing staff.
- Potential audit field staff should be identified within the existing compliance function
- Identified staff should be rotated through the audit function on a voluntary and project by project basis.
- Field audit staff should be provided with appropriate tuition in the audit role prior to commencing such activity.

## Auditable Topics

The term “*sea to market*” has been coined in this report to describe the end to end fishery process. It refers broadly to the point from where the fish product is captured through to the point of sale. In the co-management documentation there are various provisions for audit activity to occur during the trial. This is meant to refer to additional activity over and above regular AFMA compliance reviews. At sea inspections are an exception to that rule and it has been agreed that during the trial they will only happen as part of a wider operation that may also involve State / Territory cooperation.

In developing an audit program one first needs to consider all of the activity that occurs in the particular area of interest. To this end the sea to market process was conceptually divided into three major components, i.e. vessel onboard activity (**catch capture**), port activity (**catch disposal**) and wholesale / retail activity (**catch sales**). Under each of these headings their respective component sub-activities were then considered. Appendix A to this report provides further explanation on this topic.

The next step was to consider how these activities might be audited either individually or in associated process groupings. In the first instance an attempt was made to deconstruct fishery operations in order to identify auditable topics under each of the three main categories. A list of those topics identified in respect of the Lakes Entrance trial can be found at Appendix A of this report. Examples of auditable topic models for some other fisheries are also contained in Appendix A.

The term auditable topic refers to a process entity under consideration for review that is of a manageable size. In some instances these can be combined for the purposes of a larger review. There are a number of different ways of designing an approach for auditing in this environment.

One option could be to take a vertical perspective of the overall sea to market activity. In such a case one would look at the three overarching activity groups separately. This would mean that each of the three groupings mentioned above (i.e. catch capture, catch disposal and catch sales) would be reviewed separately. It is recognised that much of the catch capture onboard vessel activity is already covered by the existing domestic compliance reviews / operations.

There has, however, been some discussion concerning the possibility that in future fishers in Commonwealth fisheries may be required to accurately record their catch electronically on a daily basis with such records unable to be altered. This data would then be transmitted to AFMA in port. These data files could be a useful source of information for future audit activity in this area.

An example of a vertical approach might be an audit of the catch receipt component (weight and species reconciliation processes) of the catch disposal grouping. In this instance the auditor would need to observe the process in action and review the associated documentation involved. The audit conclusion derived from such a review would relate to the veracity of information gained from that process. Provided that the sample used was sufficient then the audit conclusion gained could be extrapolated to form an overall audit conclusion with regard to the process used at that site each time a vessel unloads. This is because the process observed should be repeatable irrespective of the vessel involved.

Using such an approach would mean that one could derive an audit conclusion regarding the veracity of the management processes in use in each of the three vertical slices of the overall processes as mentioned above. In implementing such an audit approach one would need to be cognisant of the level and quantum of interactivity between each of the three vertical slices.

A second option could be to adopt a horizontal perspective of the overall function. In such an instance one could consider the process involved from catch capture and catch disposal through to catch sales. An example of such an approach was used in a co-management audit conducted in July 2008. The stated scope of that audit “involved a ‘scoping’ of the landing processes into LEFCOL<sup>3</sup> and tracing fish product from the catch disposal record reported to AFMA both back to when the fish species was caught and forward to the point of sale and receipt.” The audit sample was based on information derived from CDR records held by AFMA covering four vessels for a period of one week in June 2008. As part of the audit process this CDR information was cross-checked with relevant documentation obtained at LEFCOL covering the process from vessel unloading through to product sale.

The sample vessels were drawn from across the different fishing methods. This reflects a cluster sampling approach which is further discussed under the heading of statistical sampling in this report. However the sample in this case could be considered to be judgement based and as such the audit opinion is only relevant to the sample examined. If the sample were more statistically based then the results could have been extrapolated across the entire fleet of vessels using LEFCOL as first receiver during the period under review.

There may be some benefits to be gained by using both of the audit approaches mentioned above. However if one is using the vertical perspective approach one would need to be wary of the level of interaction between the three vertical slices as mentioned above. This has the potential, if not properly taken into consideration, to have an adverse effect on the final result. Therefore using the horizontal approach is probably less prone to error and would be recommended in this instance.

It is recognised that normally AFMA jurisdiction would currently end at the first fish receiver in the process. However co-management arrangements are based on co-operative sharing of information. Therefore when reviewing fisheries included under co-management arrangements it may be possible to extend the area under review through to the sales process. Perhaps in future AFMA might consider extending current legislative coverage through to the product sale point.

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<sup>3</sup> LEFCOL – Lakes Entrance Fishermen’s Cooperative limited

The effectiveness of the regulatory environment governing the catch disposal process is under consideration by AFMA management with a number of alternative solutions being discussed. Development and implementation of the chosen solution will take time. In the interim, use of auditing and statistical sampling techniques will complement the current surveillance and compliance approach. In designing the new regulatory environment consideration will need to be given to the degree to which it will be auditable. When the new arrangements are implemented consideration will need to be given to the planned extent of review activity including the use of audit and statistical sampling tools.

The initial auditable topic model was developed for the Lakes Entrance fishery operation and subsequently adapted to suit the Eastern Tuna & Billfish Fishery. This process should be continued as each new fishery commences participation in Co-management arrangements.

## **Recommendations**

It is recommended that:

- auditable topic models should be developed for each fishery as they become included under co-management arrangements; and
- consideration could be given to extending AFMA legislative jurisdiction beyond the first fish receiver point through to the point of product sale.

## ***Statistical Sampling Concepts***

Use of statistical sampling techniques will assist in increasing the efficiency and effectiveness of the proposed audit process. Audit results obtained from statistically based samples are able to be validly extrapolated over the audit population of transactions / fishers.

## **Statistical Sampling Tools**

A search of the AFMA Library for associated texts was unsuccessful. Internet based research was then conducted. A number of statistical sampling software tools were located, some of which are available for trial period download. One of the sites reviewed was that of the National Statistical Service which is a Commonwealth Government site. This particular site has a sample size calculator device available for use online at no cost and includes operational information for the calculator.

A decision needs to be taken as to whether or not automation tools should be obtained and what the best option might be. The use of automated tools speeds up the sampling process and should remove all questions of partiality on the part of the person drawing the sample. There was not sufficient time available in the current project to include a full evaluation of all available audit automation tools.

Alternatively the research also revealed that there are various text books available which contain pages of statistical tables that could be used to assist in sample derivation.

## Statistical Measurement

Statistical measurement is a technique used by auditors to substantiate results.

*“When a sample is obtained statistically, it is possible to state, with a stipulated degree of confidence that the number of errors in the sample applies proportionally to the un-sampled portion of the population as well. Statistical sampling provides the user with the following advantages:*

- *The sample result is objective and defensible. It is not subject to questions of bias that might be raised relative to a judgement sample.*
- *The method provides a means of knowing, in advance, the size of the maximum sample needed. Sample size and justification for expense or time are defensible as reasonable when the confidence level desired is reasonable for the risk being evaluated.*
- *The method provides an estimate of the degree of risk that the sample may not be representative of the entire population. This limits deviation due to sampling variations.*
- *Statistical sampling can be more accurate than an examination of every item in a large population. This is certainly true where the volume and tediousness of the data under review can lead to errors of omission or fact by the user.*
- *Statistical sampling may save time and money. Frequently, a statistical sample may include fewer items than a fixed percentage sample. Also one sample may be used to test several characteristics of a given record.*
- *Objective evaluation of test results within known limits of reliability.*
- *Data may be combined and evaluated even though obtained by different users.<sup>4</sup>”*

There are a number of statistical terms that are often encountered when researching this topic. These include average, range, standard deviation, reliability, precision, confidence interval and frequency distribution. Further elaboration of these terms can be found in Appendix B to this report.

## Sampling Plans & Selection Techniques

The sampling plans most commonly used include estimation sampling, acceptance sampling, discovery sampling, dollar unit sampling and judgement sampling. These are further described as follows:

- Estimation sampling – this the most widely used approach. There are two types namely attributes sampling and variables sampling. The former is used when the question of “how many?” is pertinent. It is used to determine the characteristics or attributes of a population. The latter is used when the question of “how much?” is pertinent. For example when applied to populations made up of dollars, days etc it can provide an estimate of an average or total value of a population.
- Acceptance sampling – for example when a sample of a given size is drawn by random sampling methods, and of not more than a given number of errors is found, the field examined is considered to be acceptable.
- Discovery sampling – sometimes referred to as exploratory sampling, is used where evidence of a single error or instance of irregularity would call for intensive investigation. This is commonly used when investigating fraud.
- Dollar unit sampling – this uses a combined attributes and variables method of statistical inference. It differs from most sampling techniques in that the sampling units are defined as individual dollars rather than physical units.

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<sup>4</sup> Extract from How to use Statistical Sampling (Kaplan - AuditNET website)



- Judgement sampling – relies on the auditor’s judgement on determining sample sizes and methods. As already discussed under the heading of auditable topics this is not a recommended course of action. It involves a subjective selection of items for testing and a subjective evaluation of the results. It relies on intuition and non-quantitative methods in the evaluation process. It could be criticised on the grounds that it is not scientific and may be rendered inconsistent and unreliable. There is also the likelihood that audit results will vary depending on the skill of the auditor concerned.
- Targeted sampling – is something of a catchall. It may also be referred to as judgement sampling with selection based on a particular condition. Most non-random sampling plans would probably be included in this category.

The more commonly used selection techniques are unrestricted random numbers, interval sampling, stratified sampling, cluster sampling and multistage samples. These are described as follows:

- Unrestricted random numbers – in this case each item in the population has an equal chance of being included in the sample.
- Interval sampling – here the samples are selected from within the population in such a way that there is a uniform interval between each sample item selected after a random start.
- Stratified sampling - using a stratified sampling approach one would segregate the audit population of interest into a number of classes or strata each of which is a set of sampling units with similar characteristics. Each of the strata could then be sampled independently.
- Cluster sampling – the population is formed into groups or clusters of items. Then the items within the selected clusters may be sampled or examined in their entirety.
- Multistage samples – involves sampling on several levels. As an example the auditor could take a sample from several locations and then a further sample from within the sampled items.

It could be argued that in the fishery audit context the use of an acceptance sampling plan together with interval sampling selection technique could be usefully employed in most contexts. However one should not disregard the possibility that on occasion other approaches may better suit certain types of audit reviews.

## **Evaluation of Results**

No matter what type of sampling plan or technique is used, one will be faced with the task of evaluating the test results obtained. At this point one needs to consider such issues as pre-defined acceptable error rates and materiality of errors detected. Materiality is the term often used to describe how serious the error is in relation to the operation of the system or process.

For example would an error of 10 kilograms out of 1 tonne of fish on a CDR<sup>5</sup> be material? Questions such as this about materiality will need to be resolved by AFMA management. Once decisions are made about relative levels of materiality then this can be reflected in the relevant audit report.

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<sup>5</sup> CDR – Catch Disposal Record

## **Recommendations**

It is recommended that:

- consideration should be given to the evaluation and purchase of statistical sampling software tools suitable for audit use.
- all audit sampling should be statistically based.
- consideration should be given to the definition of error materiality in the co-management catch disposal context
- only material errors should be mentioned in the body of the report with non-material errors being listed in an appendix or attachment to the report.

## ***Audit Documentation***

Auditing Standard AUS 208 establishes standards and provides guidance on the format and content of audit documentation. The term documentation refers to the material prepared by the auditor in connection with the performance of the audit.

Audit documentation assists in the planning and performance of the audit; assists in the direction and review of the audit work; and records the audit evidence resulting from the audit work performed to support the auditor's conclusion.

Audit documentation should be sufficiently complete and detailed so as to provide an understanding of the audit work undertaken. The auditor should prepare working papers that record the auditor's planning; the nature timing and extent of the audit procedures performed; and the results and conclusions drawn from the audit evidence obtained.

Audit documentation provides a record of activity undertaken during the audit. The logic flows within the documentation should be easy to follow. It should be sufficiently detailed and explicit enough for another person, not involved in the original audit, to be able to follow the audit process from approval of the audit plan through to the contents of the final report. An example of such a review might be a quality control review performed by the auditor's supervisor or manager.

Conversely the structure of this documentation should not be overly onerous for the auditor to compile, such that it requires an inordinate amount of time to complete. The following documentation structure is suggested for consideration by AFMA:

- Planning Section
  - Including background research etc
- Scoping Section
  - A copy of the approved audit plan:
    - clearly stating the title, objectives, scope, boundaries and methodology for the audit; and
    - bearing evidence of approval by the auditor's manager.
  - Entry interview documentation
  - A list of all relevant contacts including phone numbers and email addresses where appropriate
- Sampling Approach Section
  - Clearly stated sampling rationale to be used
  - A copy of all samples drawn for the audit

- Testing Section
  - All substantive evidence gathered during audit
  - Test results cross-referenced to analysis section
- Evaluation of Results Section
  - Determination of relative materiality of results including rationale used
  - Results cross-referenced to draft and final reports
- Reporting Section
  - A copy of the draft report issued
  - Exit interview documentation
  - Management comment on issues raised in the draft report
  - A copy of the final report issued including management comment

The pages in each of the six sections mentioned above (i.e. planning, scoping, sampling approach, testing, analysis and reporting) should have unique folio numbers. Each section should be separately indexed. A suggested format for the index page can be located at Appendix C of this report. The documentation should be stored in a ring binder which should be clearly labelled on the front cover and spine, based on an agreed standard format. The suggested label format can be located at Appendix C of this report.

The type of audit being discussed in the context of this project is **not** strictly an internal audit as usually defined in the Commonwealth context. As such archival references to internal audit working documentation do not strictly apply in this case. The AFMA Archival Disposal Schedule states that documentation relating to Compliance Liaison and Compliance Monitoring<sup>6</sup> should be retained for a period of 10 years after action is completed. Documentation generated during co-management audit activity would logically fall under this definition.

## **Recommendations**

It is recommended that:

- consideration should be given to the adoption of the proposed audit documentation structure referred to above.
- consideration should be given to the adoption of a 10 year retention period for co-management audit documentation in alignment with documentation generated by compliance liaison and compliance monitoring activity
- AFMA should consider whether an additional archival entry needs to be devised specifically to cover co-management audit documentation.

## ***Audit Training Strategy***

This report proposes that an audit manager should be responsible for overall management of the audit function. This would include responsibility for training audit field staff. Given that it is proposed that audit field staff be rotated through the audit section on a task by task basis, these staff will need to be provided with ongoing assistance in maintaining their auditing skills. To this end a step by step set of instructions has been developed and is located at Appendix D to this report.

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<sup>6</sup> National Archives of Australia records Authority 2007/00204327 Entry #s 16128 & 16129

## **Recommendation**

It is recommended that:

- the audit manager should be responsible for both initial training of audit field staff and maintenance of their ongoing auditing skills.

## ***Audit Automation***

It is recognised that currently the development of an audit function within the regulatory environment is at the formative stage. As such the function itself needs time for consolidation. However future consideration could be given as to whether this new function could benefit from some form of automation. In doing so one would need to consider the desired level of automation required and the various options available. It is recognised that for any investment of this type there would need to be a corresponding benefit for AFMA and potential flow-on benefits for industry.

Such automation can take various forms. In the first instance it could be as simple as provision of a statistical sampling software package for audit use. This is likely to be a relatively low cost option and has already been discussed in this report.

At the other end of the scale consideration could be given to a higher level of automation. In this scenario an audit database system would periodically collect relevant data from AFMA systems and this would be stored in some form of audit data repository. This data would then be used by an audit statistical sampling package to derive audit samples for specific tasks. The results obtained from audit activity would then be input to an automated risk management system to adjust the perceived risk level as necessary. This risk management information would then be one of the inputs to subsequent sampling processes. It would be expected that such an audit software package would become a corporate system maintained by Information Services Branch. Other matters for consideration would include ongoing system ownership, system development and maintenance budgetary implications and system change management responsibility.

Such a degree of audit automation would require a corresponding level of investment. The relevant proposal would need to demonstrate a corresponding degree of return on investment for the organisation.

## **Recommendations**

It is recommended that in the:

- short term consideration should be given to the purchase of a suitable statistical sampling software package as already discussed earlier in this report.
- longer term consideration could be given to the development and implementation of an integrated audit software package within the overall AFMA information systems architecture.

## Appendix A - Examples of Auditable Topic Models

The following auditable topic models represent operations at some Fisheries. The term auditable topic refers to a process entity under consideration for review that is of a manageable size. In some instances these can be combined for the purposes of a larger review. It is also recognised that much of the activity reflected in the Catch Capture component, as well as the post-trip vessel inspections, is currently covered by the inspection regime performed by fisheries officers. In addition the SESSF<sup>7</sup> is currently part of the co-management trial. For the purposes of the co-management trial the intention is that use of auditing techniques will commence at the Catch Disposal stage and will exclude post trip vessel inspection activity.

### Southern & Eastern Scalefish & Shark Fishery (Lakes Entrance)

The following represents an initial attempt to deconstruct operations at this fishery into what might be considered as auditable topics.

- Catch Capture
  - Pre-trip vessel inspections (regulated and voluntary measures)
  - Integrated Computerised Vessel Monitoring System (ICVMS) operations
  - AFMA Observer reviews
  - Quota and trip authorisation monitoring
- Catch Disposal
  - Catch Receipt
    - Weight and species reconciliation
  - Information management support systems
    - Information transmission to AFMA
  - Post-trip vessel inspections (regulated and voluntary measures)
- Catch Sales
  - Sales Management
    - LEFCOL<sup>8</sup> retail outlet
    - Markets
    - Other sales

It has also been confirmed by discussion that the above model is likely to fit the operational environment at the Great Australian Bight (GAB) fishery in South Australia.

On the next page there are some examples of what an auditable topic scope might look like. It should be remembered that these are examples only and that they would need to be refined by the field auditor before undertaking the task.

As AFMA operational arrangements and legislative jurisdiction change in the future then this will be reflected in changes to the type and scope of auditable topics such as those mentioned above.

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<sup>7</sup> SESSF – Southern & Eastern Scalefish & Shark Fishery

<sup>8</sup> LEFCOL – Lakes Entrance Fishermen’s Cooperative Limited

## Example Audit Scoping Information

The following examples are provided in relation to possible audit scopes for some of the above suggested audit topics. Such scoping information would need to be refined by the field auditor at the commencement of the particular audit task.

### **Audit Title:**

Catch Capture (Pre-trip vessel inspections (regulated and voluntary measures))

### **Coverage:**

This compliance activity is **not** to be covered by co-management audit activity. It is anticipated that it would probably cover compliance with participant obligations for vessel operations under the co-management agreement. These include possession of a current copy of an AFMA fishing concession authorising fishing activity in Commonwealth waters; clear visibility of both the vessel's distinguishing symbol and the co-management registration sticker; an AFMA authorised representative onboard to complete all logbooks and required documentation; possession of required logbooks; possession of fishing gear appropriate to the concession held; and no unauthorised gear on board. .

### **Audit Title:**

Catch Capture (Integrated Computerised Vessel Monitoring System operations)

### **Coverage:**

This compliance activity is **not** to be covered by co-management audit activity. It is anticipated that it would probably cover installation of an AFMA approved Vessel Monitoring System on the vessel which periodically reports vessel position to AFMA; and remote monitoring of vessel activity by fisheries officers based on positioning data received.

### **Audit Title:**

Catch Capture (AFMA Observer Reviews)

### **Coverage:**

This compliance activity is **not** to be covered by co-management audit activity. It is anticipated that it would probably be covered by the AFMA Observers onboard the vessels, who provide independent, reliable, verified and accurate information on the fishing catch, effort and practice of a wide range of vessels operating inside and, periodically, outside the AFZ.

### **Audit Title:**

Catch Capture (Quota and Trip Authorisation Monitoring)

### **Coverage:**

This compliance activity is **not** to be covered by co-management audit activity. It is anticipated that it would probably be covered by current AFMA monitoring activity of individual quotas and trip authorisations.

### **Audit Title:**

Catch Disposal (Catch Receipt – Weight & Species Reconciliation)

### **Audit Scope:**

The scope of this audit would include examination of the processes involved covering the unloading and weighing of catch, the reconciliation with estimated weights and species data from the vessel concerned and the completion of the Catch Disposal Record.

**Audit Title:**

Catch Disposal (Information Management Support Systems – Information Transmission)

**Audit Scope:**

The scope of this audit would include examination of the processes involved covering the collection of CDR data, preparation of that data for further processing and transmission of that data to AFMA. It will also include consideration of the veracity of the transmission medium used.

**Audit Title:**

Catch Sales (Sales Management)

**Audit Scope:**

The scope of this audit would cover examination of the processes involved from the point following completion of the CDR to the point at which the catch is sold to the retail outlet including review of relevant documentation supporting those processes. The retail outlet population covered by this audit could include the LEFCOL shop, Markets and other sales.

**Audit Title:**

Catch Disposal (Post Trip Vessel Inspections)

**Coverage:**

This compliance activity is **not** to be covered by co-management audit activity. It is anticipated that it would probably cover completeness of trip documentation (e.g. log books) and catch inspection etc.

**Eastern Tuna & Billfish Fishery (Mooloolaba)**

This fishery is currently neither part of the current Co-management trial nor under quota management arrangements. Advice received indicates that both sets of arrangements could potentially apply in future. Bearing that in mind, the model has been discussed with relevant AFMA staff and confirmed as appropriate given those pre-conditions.

It is also recognised that much of the activity reflected in the catch capture component, as well as the post-trip vessel inspections, is currently covered by the inspection regime performed by fisheries officers. The audit scope samples mentioned above would also be relevant for this fishery when it becomes part of the co-management project.

- Catch capture
  - Pre-trip vessel inspections
  - Integrated Computerised Vessel Monitoring System (ICVMS) operations
  - AFMA Observer reviews
  - Trip documentation completion (Log books)
- Catch disposal (Port landing)
  - Catch receipt
    - Weight and species reconciliation
  - Information management arrangements
    - Manual data transmission to AFMA
  - Post-trip vessel inspections
- Catch sales
  - Sales management
    - Overseas markets(air freighted fresh chilled to Japan & USA)
    - Other sales (domestic market)

## Appendix B –Statistical Terminology

### Statistical Terms

- Average – the average or mean is the primary measurement of central tendency of a variable.
- Range – the range of a variable is the difference between the most extreme values for the variable.
- Standard deviation – the standard deviation is a measure of the distance of all values from the mean.
- Reliability – this is also known as the confidence level. It is a common sense notion of accuracy which is meaningless unless it is used in conjunction with the concept of precision. Reliability is about the probability that the statistic measured by the sample closely approximates the statistic of the entire population or that the confidence level will contain the true value being estimated.
- Precision – this is a common sense notion of accuracy which is meaningless unless it is used in conjunction with the concept of reliability. Precision is also another way of describing confidence level. It is the range of values about a statistic measured by a sample that will have a given probability of containing the true value of the population's statistic. It is described in terms of a plus or minus value about a sample mean.
- Confidence interval – this is the plus or minus interval about the sample statistic. It is another way of expressing the concept of precision.
- Frequency distribution – a frequency distribution is the classification of the elements of a set of data by a quantitative characteristic.



## Appendix C –Audit Documentation Examples

### Folder Label

AUDIT WORKING PAPERS

**AFMA**

SESSF

LEDSUT Catch Receipt Verification

Final Report Issued: MM / YYYY

Audit Reference #: YYYY / ###

## EXAMPLE

### Audit Plan

#### Topic

Catch receipt (weight and species reconciliation) for Lakes Entrance Danish Seine Unit Trust (LEDSUT) vessels.

#### Objectives

The objective of this audit is to verify the completeness, accuracy and veracity of processes in place for the landing and documentation of catch and fish species by the LEDSUT fleet.

#### Scope & Boundaries

This audit will be limited to examination of information in relation to the LEDSUT fleet only. It does not include any of the other vessels currently participating in the Co-management trial. The LEDSUT fleet consists of the Anne Louise, Kendean, Marley Point, Miranda Bay, Nephelle, Nungurner, Southern Hunter and Wellington Cape vessels. The period under examination during this audit will be from nn/nn/nnnn to nn/nn/nnnn.

#### Methodology

The audit will be undertaken using the standard AFMA audit methodology. Following the entry interview, process maps will be developed documenting quota verification activity undertaken at Lakes Entrance. At the conclusion of the fieldwork an exit interview will be conducted with Lakes Entrance fishers and / or Lakes Entrance Fishermen's Cooperative Limited (LEFCOL) management. A draft report will be prepared and issued for comment with those comments being incorporated in the final report. All audit working documentation will be collated and filed in accordance with AFMA audit documentation standards. The sampling approach taken for this audit was as follows:

Prepared by: \_\_\_\_\_  
(Signature & Title)

Date:

Approved by: \_\_\_\_\_  
(Signature & Title)

Date:

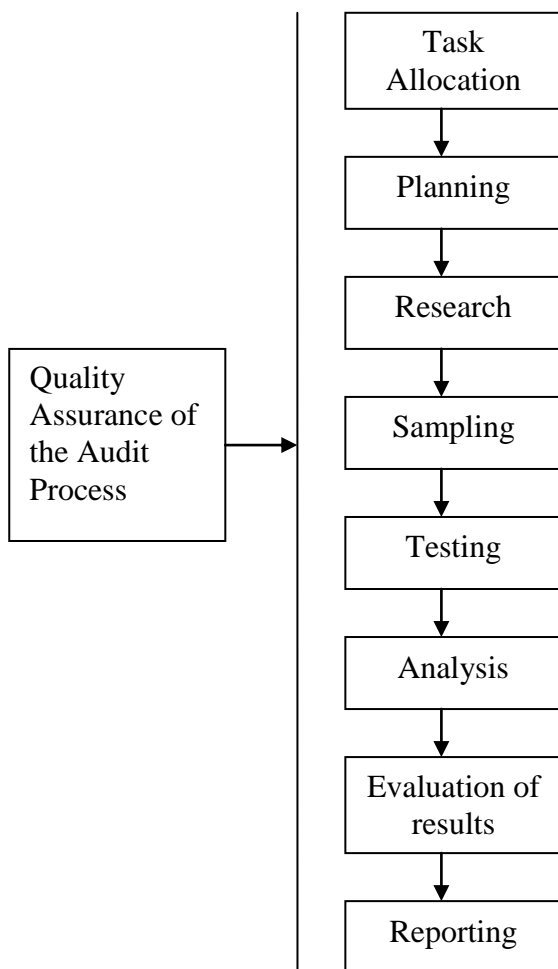


## Appendix D – Step by Step Audit Process

This paper discusses a proposed step by step audit process for use in AFMA reviews of fishery operations.

### Overview

The following diagram is intended to represent the suggested audit process at a high level.



Let us now deal with each of these basic steps in turn.

## **Process**

### **Task Allocation**

At the start of the process the Audit Manager allocates a specific audit task to the field auditor. The allocation process could also include a budget for the task. The budget could specify an estimate of the number of hours necessary for task completion and other associated costs such as travel funds etc. The task allocation information should be contained in a document signed by the Audit Manager.

### **Planning**

Once the field auditor has been allocated the task then they will need to determine what component tasks need to be completed and what corresponding budget information will be needed for each of those components. A typical set of audit components would include planning, research, sampling, testing, evaluation of results, and reporting. Quality assurance of audit work undertaken should not be included in budgets for individual audit tasks. It is a separate task undertaken by the audit manager and should be budgeted separately from audit activity.

The end product for this phase should be a documented audit plan which should be referred to the Audit Manager for approval to proceed. An example of such a document appears in Appendix C. Typically it would include a statement of the audit topic, a description of the audit objectives, the scope and boundaries of the task and the methodology to be used.

The audit topic should be self evident from the task allocation document. The audit objectives should describe the reason for the audit being undertaken as well as any specific AFMA objectives that might be relevant. The description of the task scope and boundaries should specify precisely what is and just as importantly what is not to be included in the review. It should not allow room for any misinterpretation of exactly what is being reviewed. The methodology section should describe the process to be used by the auditor when undertaking the task. A brief description of the sampling process to be used could be included here.

### **Research**

The field auditor would then need to undertake sufficient background research to fully acquaint themselves with the specific details of the topic that they are about to review. Such research should cover any previous reviews on the topic and all available information either in documentary or electronic format. In the event that the system in question has not previously been reviewed it may be necessary to carry out a short preliminary field trip to gather relevant information on the topic. Where a physical description of the system or process is not available then this could be derived from observation of the system in progress. The field auditor needs to become a topic expert during this phase of the audit task.

### **Sampling**

Statistical sampling techniques should be used to allow for extrapolation of results obtained from a sample. The objective of this phase is to decide how many test cases or transactions etc will need to be examined to obtain a reasonable level of assurance about the performance of the system or process under review. A detailed description of sampling techniques is contained in the relevant section of this report.

## **Testing**

This phase is where the auditor uses the samples derived in the previous phase and tests the effectiveness of the system or process under examination. This often involves investigating relevant documentation supporting the system activity.

## **Evaluation of results**

The objective of this phase is to draw an overall conclusion about the level of assurance that can be attributed to the system or process under examination. It involves looking at the test results obtained from the samples used. It involves determining whether any errors or departures from procedure have been detected and how serious those errors might be. The seriousness of an error is sometimes called materiality. All this means is how serious the error is in relation to the operation of the system or process. For example is an error of 1 kilogram of fish on a CDR<sup>9</sup> really material? Questions such as this about materiality will need to be resolved by AFMA management. Once decisions are made about relative levels of materiality then this can be reflected in the audit report.

## **Reporting**

An audit report is a means of communication. It presents a summary of the audit work undertaken. It advises AFMA management of the level of assurance that can be attributed to systems and processes at a fishery and attests to the veracity of information provided by that organisation to interested Government Agencies.

The exact format of the report will need to be confirmed by AFMA management. However it is suggested that an executive summary be attached to the main report. This will allow senior management to quickly understand what audit work was undertaken, the auditors overall conclusion and the key recommendations.

It is suggested that a draft version of the report should be issued to interested parties for comment or response to issues raised. The length of the response period needs to be determined by AFMA management. Typically this is usually about ten working days for audit reports. Comments and responses received should then be included in the final version of the report.

Timeliness of reporting is very important. A lack of timeliness may result in issues raised in the report being overtaken by circumstances, resulting in a loss of continuing relevance.

## **Quality Assurance**

After the draft report has been issued for comment, and while awaiting receipt of those comments from interested parties, the field auditor should collate all of the documentation relating to the audit task. Comments concerning audit documentation are contained in the relevant section of the report. The audit manager should perform a quality assurance review on the audit documentation as soon as possible after completion of the audit. This will allow for timely feedback to the field auditor about the quality of their work and possible opportunities for improvement. The quality assurance review should be documented and a copy signed by both parties filed in the inside cover of the folder containing the audit documentation.

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<sup>9</sup> CDR – Catch Disposal Record

## Quick Guide

- Receive audit allocation document from audit manager
  - Review the task description and the budget information
  - Consider the size of the task to be performed
  - Determine if budget allocation of hours and travel funds is sufficient
  - Discuss concerns with audit manager
  
- Plan the audit work in detail
  - Consider budget allocations for all component tasks
  - Develop audit plan document
  - Refer audit plan document to audit manager for written approval
  - Amend audit plan document as directed by audit manager where necessary
  - Plan travel arrangements as required
  - Contact fishery location being audited
  
- Research topic to be audited
  - Review all possible sources of information including physical documentation and electronic media such as intranet and internet sites
  - Use research to develop a good background knowledge of the topic under review
  
- Derive an audit sample
  - Consider what data sources might be available
  - Determine the most appropriate sampling approach
  - Determine the most appropriate sample size for this task
  - Draw samples from data sources
  
- Test the system
  - Visit the test site
  - Conduct an entry interview with management of the area under review
  - Use the samples derived previously to perform tests
  - Gather all supporting documentation relevant to the tests being performed
  - Supplement documentation review with observation and inquiry as necessary
  
- Evaluate results
  - Draw together all test result material
  - Analyse results with regard to system effectiveness and veracity of information produced
  - Draw preliminary conclusions about errors detected and their relative materiality
  - Where necessary confirm preliminary conclusion by further investigation
  - Conduct preliminary exit interview with management of the area under review

- Reporting
  - Collate all audit documentation
  - Draw conclusions based on evaluation of test results
  - Write draft report
  - Submit draft report to audit manager for comment
  - Amend report as necessary
  - Issue draft report for auditee comment
  - Prepare audit documentation for quality assurance review by audit manager
  - Include auditee comments received into report
  - Submit final report to audit manager for comment
  - Amend report as necessary
  - Issue final report



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