



Australian Government  
Fisheries Research and  
Development Corporation

# Co-management:

Managing Australia's fisheries  
through partnership and delegation



REPORT OF THE FRDC'S NATIONAL WORKING GROUP  
FOR THE FISHERIES CO-MANAGEMENT INITIATIVE  
— PROJECT NO. 2006/068



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through partnership and delegation



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*Co-management: Managing Australia's fisheries through partnership and delegation*

(Report of the Fisheries Research and Development Corporation's national working group on the fisheries co-management initiative — project no. 2006/068)

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The background of the page is a faded, light-colored photograph of a fishing boat on the water. The boat's structure, including the deck and rigging, is visible in the upper right corner, while the rest of the boat and the water extend towards the horizon. The overall tone is muted and professional.

Fisheries co-management is 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

This is the definition of fisheries co-management developed by the Fisheries Research and Development Corporation's national working group on the fisheries co-management initiative.

It reflects the increasing recognition among fishers and fisheries managers alike of the need for a cultural change, away from an untrusting, often conflicted "them versus us" approach to one of partnership based on joint responsibility for decision-making and implementation in fisheries management.

This definition also encompasses the key factor of delegation of functions to fishers, which many other co-management models do not envisage.

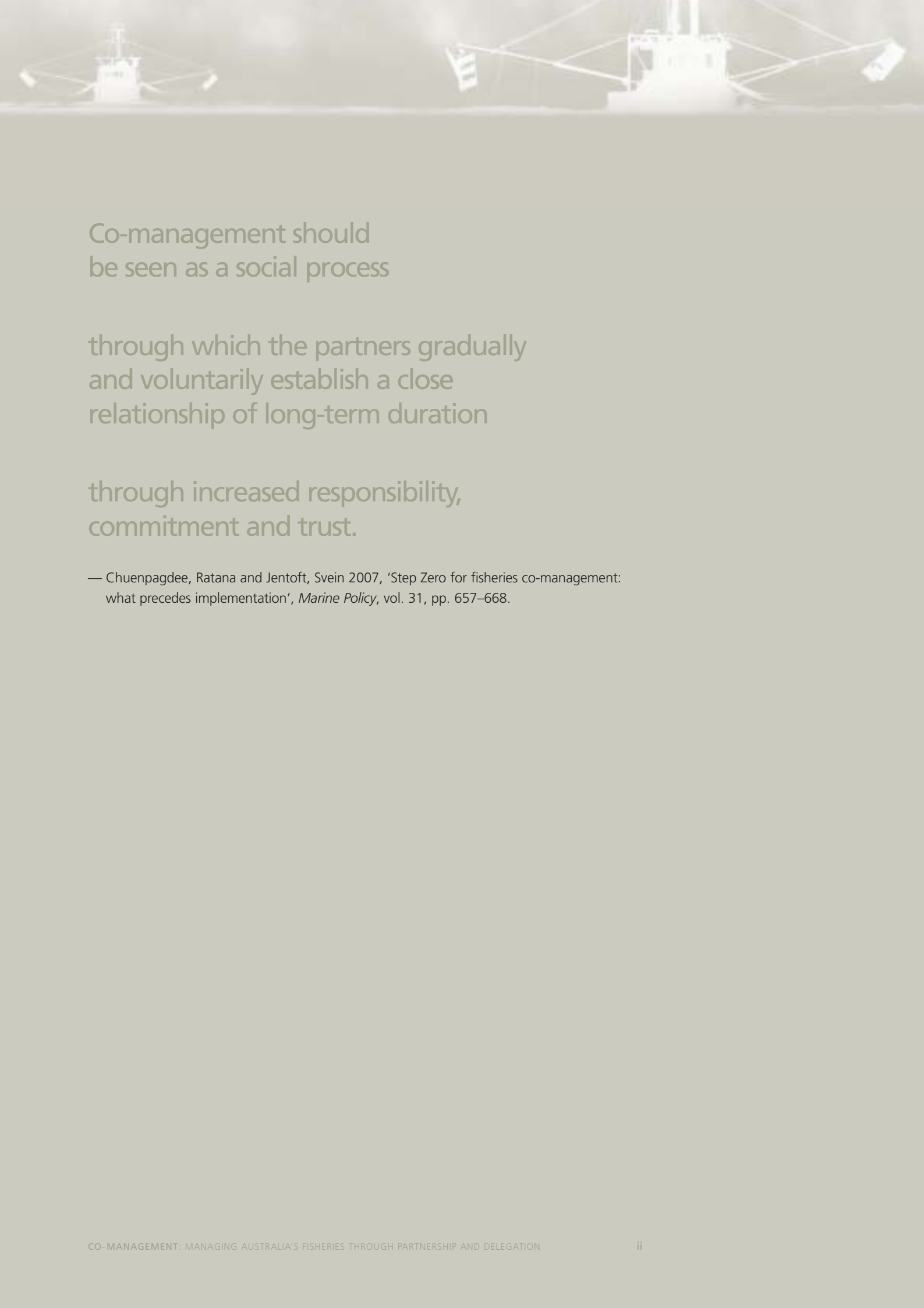
**Key points from this report  
are presented on pages 31–34.**

**The report is available electronically  
from [www.frdc.com.au](http://www.frdc.com.au)**



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Co-management should  
be seen as a social process

through which the partners gradually  
and voluntarily establish a close  
relationship of long-term duration

through increased responsibility,  
commitment and trust.

— Chuenpagdee, Ratana and Jentoft, Svein 2007, 'Step Zero for fisheries co-management:  
what precedes implementation', *Marine Policy*, vol. 31, pp. 657–668.



# Details of the FRDC co-management initiative project

In August 2006, the Fisheries Research and Development Corporation formed a working group to consider fisheries co-management in Australia and to report to the Corporation's board by December 2007. This is the working group's report, excluding project documentation that is not relevant to a wider audience (but which is available on request).

## FRDC project number

2006/068, Fisheries co-management initiative

## Principal investigator

Peter Neville, PO Box 222, Deakin West ACT 2600

## Keyword

Co-management

## Working group members

■ Peter J. Neville	Chair
■ Peter Franklin (Commonwealth Fisheries Association)	Member
■ Tor Hundloe (Griffith University; consultant)	Member
■ Will Zacharin (Australian Fisheries Management Forum)	Member
■ John Harrison (Recfish Australia)	Member
■ Steve Gill (Western Rock Lobster Council)	Member
■ Crispian Ashby (FRDC)	Member
■ Ted Loveday (Seafood Services Australia)	Technical member
■ Shane Hansford (Department of Primary Industries and Fisheries, Queensland)	Executive officer



# Glossary

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bycatch	Species and sizes taken incidentally in a fishery where other species and sizes are the target.
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code of practice	A statement of an industry's or group's commitment to conduct its activities or business in accordance with specified principles of good practice.
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co-management	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. See <i>stakeholders</i> .
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ecosystem	A community of living organisms interacting with each other, and the environment in which they live.
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EMS	Environmental management system: A management system that puts in place a continual process of planning, implementing, reviewing and improving the actions that an organisation undertakes to manage its risks and opportunities relating to the environment; food safety and quality; occupational health and safety; profitability; public relations; and other aspects of the organisation.
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ESD	Ecologically sustainable development: Using, conserving and enhancing the community's resources so that ecological processes, on which life depends, are maintained and the total quality of life — now and in the future — can be increased.
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fisher	A person following commercial (wild-harvest or aquaculture), recreational or indigenous fishing practices. See <i>stakeholders</i> .
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fisher organisation	A group, association or company formed by commercial (wild-harvest or aquaculture), recreational or indigenous fishers. See <i>stakeholders</i> .
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fisheries management models	Include centralised, consultative, collaborative and delegated models, as described respectively on page 2.
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fisheries manager	A person or persons appointed by government agencies to manage Commonwealth, state or territory fisheries.
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fishery	<p>In this report, the term usually refers to the areas of water or seabed that are the state and Commonwealth fisheries of Australia and the fishing activities within them.</p> <p>The wider definition is: A class of activities by way of fishing, including activities identified by reference to all or any of:</p> <ul style="list-style-type: none"><li>■ a species or type of fish;</li><li>■ a description of fish by reference to sex or any other characteristic;</li><li>■ an area of water or seabed;</li><li>■ a method of fishing;</li><li>■ a class of boats;</li><li>■ a class of persons; and/or</li><li>■ a purpose of activities, as determined by the relevant management authority.</li></ul>
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fishing industry	<p>Includes any industry or activity conducted in or from Australia concerned with: taking, culturing, processing, preserving, storing, transporting, marketing or selling fish or fish products.</p> <p>There are three principal fishing industry sectors: the commercial sector (usually called the “seafood industry”, and comprising wild-harvest and aquaculture), the recreational sector and the indigenous sector.</p>
FRDC	Fisheries Research and Development Corporation.
ITQ	Individual transferable quota.
MAC	Management Advisory Committee.
MOU	Memorandum of understanding.
R&D	Research and development.
stakeholders	<p>The general definition is: People, organisations or groups with an interest or stake in an activity.</p> <p>In this report, in the interests of clarity, a distinction has been made between fishers and their businesses and organisations on the one hand, and other stakeholders — that is, organisations, businesses, groups and individuals with an interest in the fishery — on the other hand. Fishers are the primary stakeholders in fisheries, and they and their organisations are likely to be the only stakeholders to whom direct management of a fishery is delegated under co-management arrangements. The term “stakeholders” is used to refer to those other individuals or entities that, irrespective of their interest in a fishery or the context in which it operates, are unlikely to be directly involved in the fishery’s management, although they are likely to be involved in policy, consultative or advisory processes.</p>
TAC	Total allowable catch.

# F

## Foreword

“Co-management” is not an esoteric, minor improvement in a management system. Potentially it is a lifeline for the future sustainability of Australia’s fisheries and the businesses and communities that depend on them.

The planet’s oceans are enormous, wild natural resources, “managed” by the nations that have title to them through international agreements. Nations do so with widely varying degrees of success. Australia is considered to be among the small number of nations leading the world in fisheries management. But all is not well with some of Australia’s fisheries, despite the efforts of those who make use of them. Some fisheries are overfished, while others are subject to on-going management changes, including effort reductions and buy-backs in some cases.

The reality is that fisheries managers cannot manage wild fish — only the behaviour of fishers and, to a severely limited extent, some aspects of the ecosystems on which they depend. Advances in knowledge have shown that it is essential to move the level of management from “local” to “total ecosystem”. As this has occurred, the weaknesses of historic “command and control” approaches to fisheries management have become all too apparent.

During the past decade or so, the nature of natural resource management, on land and in the sea, has undergone profound change. In the interests of environmental sustainability especially, efforts have been increasing in government and industry to achieve more inclusive approaches. As the need for managing on an ecosystem scale has increased, fisheries managers have moved away from simply a focus on the biology and behaviour of particular species towards interactions among different species and between fish and their habitats. This “ecosystem approach” to fisheries management has led to other entities having legitimate roles in managing the harvesting of fish and the associated human impacts on their habitats. The release of Australia’s Oceans Policy, introduction of regional marine plans, enactment of the Commonwealth’s *Environmental Protection and Biodiversity Conservation Act* and changes in state fisheries legislation have also prompted change in the way Australia’s fisheries are managed.

To obtain the best economic, environmental and social outcomes from fisheries, it is now well recognised that managers must interact well with commercial, recreational and indigenous fishers and with other people in the community who seek to use fisheries natural resources. Genuine interaction and partnerships are at the heart of co-management, but practical ways of achieving it have proved exasperatingly difficult. In 2006, responding to interest from government, industry and researchers, the board of the Fisheries Research and Development Corporation commissioned a report to aid its understanding of the drivers behind co-management, the potential benefits and the conditions necessary for its successful implementation. The board then initiated a project (Fisheries co-management initiative — no. 2006/068) to report more comprehensively for a wider audience, including those proposing a number of individual co-management projects.

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Co-management is  
a lifeline for fisheries  
and fishers ■ ■

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Fisheries managers  
cannot manage  
wild fish — only  
the behaviour  
of fishers ■ ■

This report comprises the findings of the FRDC project. It is the product, principally, of the impressive expertise of members of the project's working group and their collective knowledge of the commercial (wild-harvest and aquaculture), recreational and indigenous industry sectors and interests. This was supplemented with discussions with fisheries management agencies. It is not something that will simply "sit on the shelves": too much is at stake for that. The report is drafted as a practical "How to..." guide, providing a flexible framework which may be applied at various levels, within different commercial, recreational or indigenous fisheries depending on the prevailing circumstances.

Fisheries management is too complex for a "one size fits all" approach. Therefore, wide consultation is needed at the specific fishery level to assess the best approach to gain the benefits of co-management, including lower costs, more responsive fisheries resource management, improved compliance and better returns on R&D investment. The working group's views at this stage are comprehensively outlined in this report.

A particular value of the report lies in its enabling everyone to have a common understanding of the continuum of fisheries management activities that could be encompassed by co-management. It builds on that understanding by proposing a framework for systematically tackling the challenges of co-management and reaping its many benefits.

The co-management framework proposed in the report also facilitates an audit of a fishery to describe the management activities and the pre-conditions necessary to achieve co-management, thus enabling a fishery to make informed decisions about how it might change its management processes to achieve the associated benefits.

The working group established a specific definition of co-management that includes the essential elements of collaboration and delegation. It also acknowledged the supremely important factor — mutual trust — without which co-management will founder.

This report will undoubtedly be a springboard for further decisions about the adoption and implementation of co-management arrangements by government and industry. Among other things the co-management framework proposed by the working group will underpin efforts to measure and improve the performance of fisheries and their management. Already, several individual projects have been started that are consistent with the framework of this report.

It is very pleasing to see the high degree of interest in this project throughout the industry and in government. The report is taking Australia further on its journey to economic, environmental and social sustainability of its fisheries resources.



Peter J. Neville  
National working group chair  
Canberra, June 2008

Mutual trust is the  
most important  
pre-condition  
to successful  
co-management ■ ■

# 1

## Co-management defined

### What is co-management?

Many definitions of shared fisheries management or co-management exist in the literature and are used around the world. The working group adopted the following definition:

**Fisheries co-management:** 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.

This definition reflects the increasing recognition among fishers<sup>1</sup> and fisheries managers alike of the need for a cultural change — away from a confrontational “them versus us” approach to one of *partnership* in seeking to achieve a common objective of shared responsibility for the sustainable use of the resource. The definition also encompasses the key factor of *delegation* of functions to fishers, which many other co-management models do not envisage.

It will be useful to examine some of the elements of this definition.

The nature of the *responsibilities and obligations* needs to be adequately defined either in an administrative, legislative or contractual form, so that all parties are clear about changes in responsibilities and obligations. It will never be possible to design a “one size fits all” proposal, given the varied nature of fisheries and the diverse needs for management. Thus, co-management will involve building the proposal and the model specific to each case.

The *negotiation process* operates on two levels:

- First, a broad policy or strategic discussion is required on the nature of what the co-management policy framework will entail, involving fishers, government and a broad range of other stakeholders — that is, organisations, businesses, groups and individuals with an interest in the fishery.
- Second, a more focused negotiation would be undertaken on the implementation of co-management, involving directly affected fishers and the fisheries management agency. Other stakeholders would be engaged as necessary.

Co-management should not be confused with “community-based management”, although responsibility for some aspects of local fisheries management may be delegated to specific communities where appropriate. Community-based management is more about local communities being involved in undertaking functions determined by governments (or the management agency), but not about their having the authority for deciding these management arrangements themselves. In some situations, it can also be about the community itself deciding on local management for localised fisheries, where government does not have the desire or resources to manage such fisheries.

<sup>1</sup> In this report a fisher is defined as a person following commercial (wild-harvest or aquaculture), recreational or indigenous fishing practices.

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Co-management should not be confused with “community-based management” ■ ■

### How the term “stakeholders” is used in this report

The general definition of “stakeholders” is: People, organisations or groups with an interest or stake in an activity.

In this report, in the interests of clarity, a distinction has been made between fishers and their businesses and organisations on the one hand, and other stakeholders — that is, organisations, businesses, groups and individuals with an interest in the fishery — on the other hand. Fishers are the primary stakeholders in fisheries, and they and their organisations are likely to be the only stakeholders to whom direct management of a fishery is delegated under co-management arrangements. The term “stakeholders” is used to refer to those other individuals or entities that, irrespective of their interest in a fishery or the context in which it operates, are unlikely to be directly involved in the fishery’s management, although they are likely to be involved in policy, consultative or advisory processes.

It is generally recognised that improved management can be realised through enhanced involvement of fishers and all other stakeholders and through utilisation of their knowledge in the management of the resource. Notwithstanding this, government, on behalf of the Australian public, must always retain overall responsibility for the sustainability of the resource.

Co-management has the potential to realise (or at least approach) the ideals of social equity, economic efficiency and ecological sustainability. It is about more than just increased consultation, better administrative efficiency and cost reduction. It is a fundamental shift in thinking about how the objectives of resource sustainability, long-term use and commercial viability can be achieved.

### Transition from “command and control” to delegation

As will be discussed in more detail on page 9 (in conjunction with figure 1), fisheries management arrangements vary in the degree of delegation for day-to-day management decision-making across a continuum. It is convenient to characterise them into four models:

- Most fisheries commence under a **centralised** “command and control” framework in which government takes full responsibility for almost all management decisions, with little or no consultation with fishers and other stakeholders.
- The progression towards co-management starts with the establishment of a **consultative model** in which management decisions are discussed and debated. However, the majority of management decisions are still made by the government or management agency.
- The consultative arrangement may mature into a **collaborative model**, in which decision-making is negotiated and shared between government and fishers, fisher organisations and other stakeholders with some decisions, such as fishing times or area closures, assigned to fishers or fisher organisations.
- Under a **delegated model**, agreed, negotiated management decisions are made by governments, fishers, fisher organisations and other stakeholders within a broad framework and agreed functions are undertaken, or services delivered, by a fisher organisation under a formal agreement.<sup>2</sup> Operating in this way within a broad regulatory framework is achievable when all pre-conditions for delegation to a fisher organisation have been met to the satisfaction of all parties.

<sup>2</sup> The major functions retained by government are listed on page 15.

Consultative and collaborative models of fisheries management may contain elements of co-management, but true co-management can only be embodied by the delegated model ■ ■



### An example of a collaborative model: well down the co-management path, but not completely

- The Spencer Gulf prawn fishery has 38 licence holders. The fishery operates for about 60 nights per season between November and June.
- A management plan for the fishery has established the management objectives and performance indicators for the fishery. These objectives include biological, economic, environmental and social outcomes within an ecologically sustainable development framework.
- The fishers employ an Executive Officer and Coordinator at Sea to administer the association and take responsibility for developing the annual harvesting strategy.
- The South Australian Government provides advice on prawn biology, abundance and spawning biomass, but the fishers make all the management decisions about where to fish, when to fish and how much fish will be taken during a fishing period.
- Progress is being made to a delegated model, in which further management responsibility will be provided under a formal contractual arrangement, with government taking more of an audit role for compliance and performance against the management plan.

To progress to a higher co-management model, specific pre-conditions need to be attained to ensure industry or user groups have the capability and capacity to take over management decision-making and delivery of functions and services. A fundamental requirement is for government to be prepared to accept the principle of co-management and its associated cultural changes.

Government in this sense involves the various parts of government directly responsible for the use and sustainability of the fisheries resources, including agencies responsible for fisheries, the environment, marine park planning and freshwater interests.

### What is co-management *not*?

Co-management is not about government delegating all responsibility for core functions. Service responsibilities mandated by government (or management agency) include:

- powers to make regulations
- powers to grant the initial authorisation to fish
- compliance, investigation and prosecution powers
- participation in international and national fisheries management planning exercises.

Compliance with contractual arrangements for co-management also remains a function for government in order to fulfil community obligations and expectations for sustainable fisheries management.

Co-management is not, in itself, about determination of property rights or about taking resource re-allocation decisions. However, if government is able to resolve these issues successfully beforehand, the atmosphere in which co-management discussions can take place will be more positive. Thus, although these issues are independent of co-management, they are important to a supportive context.

Co-management is a fundamental shift in thinking about resource sustainability, long-term use and commercial viability ■ ■

Co-management involves negotiating outcomes and then delivering services through particular organisations or groups. It is not necessarily about achieving consensus among all fishers in relation to how various groups of fishers choose to manage their share of the resource, provided there are no detrimental impacts on other fishers. Co-management is therefore not a vehicle for specific interest groups to extend their influence beyond their legitimate areas of interest or responsibility. Instead, it is a vehicle for a more trusting partnership to move towards improved fisheries management.

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Co-management is not, in itself, about determination of property rights



Photo Clive Huggan.

# 2

## Some crucial questions

### Why move to co-management?

The working group recognised that existing fisheries management regimes continue to demonstrate deficiencies in many areas. Given the various pressures facing management today, it considered what alternative approaches may offer, and what was necessary to achieve those approaches.

Fishers continue to dispute the efficiency and effectiveness of government service delivery and lament the inability of current management systems to respond quickly to changed industry circumstances and industry opportunities.

Governments are concerned that current management regimes are becoming increasingly costly to administer and that many of these costs cannot be passed on to fishers. The costs and complexity of management have been significantly affected by moves to incorporate a fisheries ecosystem approach to management, develop a comprehensive ecologically sustainable development (ESD) framework for fisheries, and apply environmental legislation to fisheries management.

At the same time, the commercial sector is facing higher costs of operations, hence reduced profitability, and has significant concerns about security of future access as a result of restructuring and adjustment programs. Albeit to a lesser extent, the recreational sector has parallel concerns. All industry sectors are facing the related impacts arising from development of marine parks.

Current management systems, while generally increasing consultation among all parties, still suffer from conflict and confrontation among fishers and other stakeholders. Often, the parties involved also lack an appropriate measure of trust, respect and responsibility among themselves.

### What can co-management offer?

The working group considered that the following improvements could be achieved with a co-management model:

- a fundamental change towards a partnership approach based on shared responsibilities for implementing sustainable management
- a more transparent and effective cost structure, and more efficient delivery of services and functions
- potentially, but not necessarily, lower costs of fisheries management<sup>3</sup>
- improved trust and working relationships among parties
- more flexible and adaptive management processes

Current management regimes are becoming increasingly costly to administer ■ ■

<sup>3</sup> A New Zealand example, which achieved a 40% saving, is described on page 29.

- reduced necessity for political decision-making
- greater scrutiny of legislative frameworks and regulatory controls
- opportunity to enhance the public perception of fishers
- opportunity for building capacity and skills of people involved in managing the fishery
- greater ability to innovate and respond to industry development needs.

### What fisheries management can be shared with or delegated to fishers?

Sustainable fisheries management comprises a complex set of functions. However, provided certain pre-conditions are satisfied, there is potential for many functions to be delegated to fishers. Fishers may decide either to deliver services themselves or to outsource their delivery.

A detailed assessment of these functions and the extent to which they might be able to be delegated is provided in **table 2** (page 16).

### What functions should remain with government?

Co-management does not involve delegating all functions to fishers, since governments must retain those functions relating to overall stewardship of the resource and in ensuring community expectations are satisfied when fisheries resources face competing uses. The major functions retained by government are listed on page 17.

### What pre-conditions must exist for co-management?

There is no “one size fits all” model for determining what functions could be delegated under co-management. The form of the model depends on:

- the fishery
- the prevailing business and environmental circumstances
- the strength of unity among fishers and their organisations
- the predisposition of government to move to such a model.

Many pre-conditions (discussed on pages 19 and 20) must usually be satisfied for co-management to be successfully implemented. The most crucial at an early stage are willingness by governments to consider management models involving greater shared responsibility, and willingness by a significant proportion of fisher group members to move to co-management.

### What steps are crucial?

A step-by-step guide to implementation is provided on pages 25–27.

The initial impetus to co-management may be driven by fishers or governments. Regardless of who initiates dialogue, one of the crucial steps is a detailed business case to test the particular proposal for the fishery or group concerned. It is essential that the fishers and the fisheries agency develop it in partnership, so that all parties can be sure that each aspect of the co-management model is included and costed and that the model meets the underpinning legal requirements.

The other crucial step is the development of the organisation that carries the fishers forward.

The co-management implementation process is a lengthy one, since it is ultimately about building mutual trust and responsibility based on performance and risk management. Nevertheless, those same factors are the source of many of the strengths of a co-management approach.

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Co-management is ultimately about building mutual trust and responsibility, based on performance and risk management ■ ■

# 3

## Co-management barriers and opportunities

Much has been written in recent years about joint management, shared management and co-management of fisheries. Interest has been growing in the potential advantages of closer partnership between fishers and management agencies in undertaking complicated — and often divisive — fisheries management decisions.

This interest has been further emphasised recently through increased awareness and scrutiny of the national fisheries management framework through the Australian Fisheries Management Forum, the Australian Government's Department of the Environment, Water, Heritage and the Arts, and bodies such as the Marine Stewardship Council. A desire for fisheries to operate within the bounds of ESD is increasingly a requirement of the Australian community. Fisheries managers and industry leaders increasingly recognise that stocks need to be managed through a fisheries ecosystem management approach.

### Increased costs to government and fishers

Other factors that have increased interest in co-management include:

- cost recovery policies of governments
- increasing economic pressures on commercial (and to an extent recreational) fishing
- desire to strengthen access rights for commercial and recreational fishers
- growing recognition of the need to formally accommodate Aboriginal and Torres Strait Islander traditional fishing practices.

Thus, “joint management” arrangements are being re-evaluated to see how they can deliver better outcomes in the eyes of fishers, other stakeholders, the community and governments.

It is also generally true that, acknowledging the cost-recovered commercial fisheries, it is difficult for fisheries management agencies to obtain more funds to meet expectations to deliver a whole range of new services and activities inherent in adopting a fisheries ecosystem approach. New ways of delivering fisheries management services therefore need to be found and tested to see whether they offer greater efficiency and effectiveness to resource users and governments alike.

The introduction of cost recovery policies, especially for commercial fishers, gave fishers the incentive to examine services and question the management costs they were being asked to fund and whether these activities could be performed more cost-efficiently. The first major response by industry occurred during the formal inquiry by the Industry Commission into cost recovery, from which the report *Cost recovery for managing fisheries* was published in 1992.

It is difficult to obtain more funds to meet increasing community expectations for environmental sustainability ■ ■

The report noted that “many participants in the inquiry objected to having to pay for management that they did not consider to be efficient.” Commercial fishers spoke of inefficient institutional arrangements; lack of integration of research with other aspects of fisheries management; failure to manage fisheries within a meaningful ecological framework; and high, uncompetitive operating costs in government agencies that were providing management services.

Since the Industry Commission inquiry, some of these matters have been addressed. For example, both national and state-based ESD programs now exist to place management in an ecological framework. There is also, through processes developed by the FRDC, far better alignment of research with each sector’s needs. Fisheries Management Advisory Committees (MACs) enable more scrutiny of costs, re-ordering of priorities and better alignment of services with prioritised management needs.

Despite these gains, unresolved issues remain. Fishers still dispute the effectiveness and efficiency of some aspects of government management services, particularly since there is generally no competitive tendering for delivery of activities and industry is still “at arm’s length” from the delivery of most services.

The Industry Commission’s approach to the industry’s claims is worth noting. It distinguished between two conceptually distinct elements in fisheries management: the management of the resource itself, and the management of the fishing industry.

Managing the resource pertains to the biological objectives of sustaining the resource, often among competing demands between differing interest groups. This is a crucial function of governments on behalf of the community. However, with increasing adoption of ESD principles and environmental management systems (EMSs), industry is playing an increasing role in fisheries management.

On the other hand, effective management of the industry often pertains to economic matters that can improve the performance and profitability of the industry. Such functions include controlling product quality and marketing, implementing measures to reduce the costs of fishing, and a host of decisions affecting fishing as a business — including varying harvest strategies, size of product, timeliness of catch, and speed of response to changing economic and business circumstances.

The Industry Commission recognised that a history of open access to a common property resource complicates both resource management and industry management and could lead to “the tragedy of the commons” in an unmanaged fishery. In this situation, fishers are forced to be fiercely competitive, resulting in dissipation of profits in commercial fisheries: there is almost no cooperation among fishers, and too much effort and money is spent on chasing too few fish. It was because of this very nature of open-access fisheries that governments were forced to become more involved in management, generally through regulation. Fierce competition in over-capitalised fisheries leads to increased probability of over-exploitation of fish stocks, and a loss of economic efficiency.

As fishers and governments have collaborated more closely, with MACs becoming the norm and more specific fisheries management plans being developed for particular fisheries, rethinking of the division of responsibilities between fishers and managers has become timely. This is particularly true for those commercial, recreational and indigenous fishers with a direct interest and capacity to undertake some fisheries management functions.

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As fishers and governments collaborate more closely, rethinking of the division of responsibilities has become timely

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Fishers could still dispute the effectiveness and efficiency of some aspects of government management services

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The Industry Commission was strongly influenced in 1992 by the argument that since cost recovery was imposed on commercial fisheries, industry should take a greater role in decision-making. It made the following formal recommendation:

The Commission recommends that the Commonwealth should enable fishermen within a specific fishery to provide for themselves collective fishing industry management services by allowing a body corporate to be established, if such is the wish of fishermen. All fishermen (including recreational fishermen and charter boat operators, if they were involved) entitled to operate in the fishery would automatically be members.

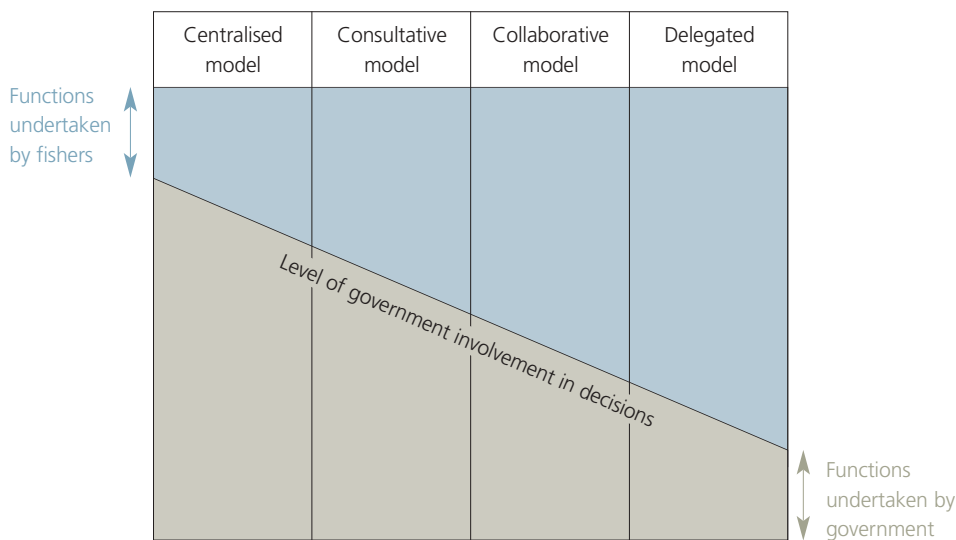
Unfortunately, very little progress has been made towards this approach. The reasons, and the pre-conditions necessary for its successful implementation, follow.

Before doing so, however, it is instructive to observe that the Industry Commission report regrettably demonstrates that simply proposing change and alternative systems is not sufficient to guarantee further consideration and implementation. Factors such as leadership, resources, commitment and the other pre-conditions discussed in this report have to be addressed to ensure implementation.

### Relative engagement of government and fishers, their organisations and other stakeholders

The four models for fisheries management arrangements described on page 2 incorporate levels of engagement in decision-making by fishers that increased from the centralised model to the delegated model. The progression of involvement of fishers or their organisations in fisheries decision-making for all three sectors of the fishing industry is shown in figure 1.

Figure 1: Levels of parties' engagement in decision-making under the four types of fisheries management model<sup>4</sup>



The figure shows the four types of fisheries management models ranging from the centralised model on the left (high on “command and control” by the government agency) to the delegated model (high on significant management delegation to fishers) on the right.

Leadership, resources, commitment and other pre-conditions are important in implementing co-management ■ ■

4 The figure is based on a concept from the Environment and Natural Resources Committee's 2000 report, *Inquiry into fisheries management — discussion paper*, Parliament of Victoria. ISBN 07311 5513 0.

All fisheries management agencies in Australia have moved from a fully centralised system to the consultative model; some have moved to the collaborative model. Two examples of the collaborative model involving specific legislation that defines the nature of the collaboration have been the Queensland Fisheries Management Authority (now defunct) and the Australian Fisheries Management Authority (about to be changed to a fisheries commission). In these cases, government has enshrined in legislation the nature of the functions, responsibilities and activities that the collaborative board undertakes in carrying out fisheries management functions. However, this arrangement does not involve any delegated decision-making, or service delivery, to fishers and hence does not fully meet the working group's definition of delegated co-management. In the delegated model, not only is authority for certain functions delegated to fishers or their organisations, but fishers are able to undertake the functions themselves or to arrange to have them undertaken by third parties — which could be government.

Examples of some forms of delegated co-management currently occur in some jurisdictions in relation to limited fisheries management functions. The development of these concepts is discussed in the following chapter because of the potential benefits they can offer to fisheries management.

Some of the crucial issues that need discussion with a move further to the right in figure 1 and that help to define the nature of co-management are embodied in the following questions:

- *How comprehensive must the list of "stakeholders" be?* This can range from commercial, recreational and/or indigenous fishers alone, through to the community's interests as a whole, including NGOs, those indirectly affected, local government, etc.
- *How comprehensive must the definition of "fishery" be?* A fishery could vary from a single-species fishery operating in a restricted area with limited apparatus, through to a broader fishery ecosystem approach within which the fishing activity occurs.
- *How comprehensive should the potential list of fisheries management functions be?* Possible functions include data collection, administration, monitoring, research, compliance, law-making and policy-making; or alternatively may only include those functions for which fishers have expressed some interest.
- *How comprehensive must the knowledge base be concerning an understanding of the allocation and attribution of all costs and benefits of existing management arrangements?* These issues, including their impact on designing co-management arrangements, are discussed in the following chapters.

All fisheries management agencies have moved from a fully centralised system to the consultative model and some to the collaborative model ■ ■





# 4

## Co-management drivers

The search for “better’ management models is a continual process, which is driven by a variety of influences ranging from cost/price issues, efficiency/equity issues, and cultural/relationship issues between fishers and the management agency. The conflicting governmental goals of economic growth and environmental protection for the resource also drive the means by which fisheries management is delivered.

As mentioned earlier, fisheries management is currently often associated with significant conflict among parties, limited cooperation, and sometimes superficial consultation processes. There has been a mixed track record in delivering robust economic outcomes (for both commercial and recreational sectors) and a history of poor engagement with the indigenous sector.

It is therefore useful to discuss the drivers for co-management by considering the various expectations and aspirations of the different fishers, to test whether there are common goals and good unity of purpose in furthering co-management. **Table 1** lists drivers towards co-management that are relevant in varying degrees to commercial, recreational and indigenous fishers and to government.

Table 1: Common drivers towards co-management

Common drivers towards co-management	Sectors to which they are relevant
Enhanced culture involving a genuine partnership, shared responsibility and improved stewardship for common outcomes	All sectors
Reduced conflict, improved trust and better working relationships among management and fishers	All sectors
Reduced necessity for political decision-making	All sectors
Increased transparency of management costs and service delivery	All sectors
Potentially lower costs of fisheries management	All sectors
Greater scrutiny of the existing regulatory approach and opportunity to develop more cost effective and accountable management	All sectors
Improved acceptance of and compliance with management decisions	All sectors
More inclusive and transparent decision-making	All sectors
More flexible and adaptive management in “real time”	All sectors
Improved ability to innovate and respond to industry development needs	All sectors
Increased opportunity for capacity building and skills development in organisations	All sectors
Improved public perception of industry	Commercial and recreational sectors
Improved cooperation among fishers	Commercial and recreational sectors
Improved investment climate for fishers	Commercial sector
Opportunity for better social outcomes via improved work/life balance	All sectors
Opportunity to highlight the economic and social importance of flow-on impacts of recreational fishing, both marine and freshwater	Recreational sector
Chance to implement and have recognised environmental management systems and codes of practice	All sectors
Expanded extension and education opportunities across the community	All sectors
Opportunity for finer-scale regional (or spatial) management	All sectors



### Drivers related to Aboriginal and Torres Strait Islander fishers

While many of the drivers shown in the table apply to indigenous fishers, it needs to be recognised that Aboriginal and Torres Strait Islander fishers may operate as fully licensed commercial fishers, as recreational fishers, or as customary fishers. A number of legal determinations have clarified their particular status, in varying circumstances; other initiatives are under way in all jurisdictions — for example, through the National Native Title Tribunal — to develop a suite of Indigenous Fishing Principles. As the initiatives are implemented the importance of co-management aspirations for indigenous fishers will become clearer. Meanwhile, related strategies already in place include activities to expedite indigenous engagement in commercial fishing, and training and vocational development. FRDC is seeking to further sponsor this work by funding particular projects as they arise.

Parallel with these developments, many state bodies are developing Indigenous Land Use Agreements (ILUAs) as a cooperative vehicle to negotiate increased participation by indigenous people in fisheries where management decisions are delegated to indigenous fishers.

## Co-management and costs of management

The foregoing list of drivers can be summarised into two categories:

1. *Process-driven* — a more effective process of cooperation in making, delivering and enforcing management decisions by moving towards co-management
2. *Cost-driven* — an analysis of current costs of management shows there is potential for significant cost savings by fishers undertaking certain functions.

To address cost savings, the working group looked at several fisheries and their associated management costs. The broad conclusion of the working group was that, although there may be functions for some fisheries that could be delivered more cost-effectively, the more substantial and long-lasting gains in management will be made through enabling more direct involvement of fishers in, and fishers' responsibility for, making management decisions. Additionally, co-management could institute a more responsive and flexible process to fine-tune management decisions in a more timely fashion in the face of a fast-changing environment — particularly the changing economic environment. This conclusion arises from the reality that MACs always include close scrutiny of costs of management and often approve budgets for fisheries. Further, for most fisheries, R&D and compliance items account for between 75 and 80 per cent of the total costs. Given the overheads and infrastructure needed to operate these functions across a number of fisheries, it is impossible for the fishing industry to achieve economies of scale to deliver such functions, particularly in a single fishery or circumstance.

No doubt opportunities for greater cooperation exist in these areas and should be pursued if they can result in some cost savings. However, the working group considers the most important issue is how decisions are made about the priorities to be focused on — not simply the delivery of functions related to those priorities. Therefore, greater involvement of fishers in making these decisions would have the effect of delivering better management, more cost-effectively.

Having said this, the working group also believes that fisheries agencies should continue to work towards greater transparency and a common language and definitions in identifying and recording the costs of fisheries management. This alone would enable direct comparisons and more informed debate about the costs of delivering fisheries management functions and the possible benefit that could arise from co-management.

As an example of the possibilities that can be achieved in cost savings relating to the transfer of some functions, the New Zealand experience is worth noting.

Fishserve is an industry-based company owned by SEAFIC, the New Zealand commercial fishers' organisation. Fishserve has a contract as a service delivery agency with the New Zealand Government (Ministry of Fisheries) to perform many functions previously undertaken by the government.

Fishserve came about as an industry initiative, following negotiations with government, to outsource a range of quota and licensing functions to achieve significant cost savings for the industry. Government costs of \$8.65 million and 82 staff in 1999 have now been reduced by 40 per cent to \$4.98 million and 55 staff in Fishserve. The source of funding has changed, with 30 per cent of the budget coming from industry fees and charges for services while the remainder comes from government via cost recovery.

Although this is a good example of industry cost savings via government delegation of particular fisheries management functions, care is needed when making comparisons to the Australian situation. Nevertheless, the Fishserve case provides an effective example of significant cost savings achieved by industry when confronted with the probability of service cost and levy increases. In this case, these increases related to the impending introduction of a proposed new computer-based quota trading system. It is also worth noting that an unexpected but significant cultural change in industry occurred with its introduction. There was an "overnight" decrease in complaints and aggravation, as industry were now dealing with their own company staff and not government officers.

More information about the New Zealand example is at appendix A on page 29.

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Fishers' involvement  
should deliver better  
management, more  
cost-effectively ■ ■

# 5

## Fisheries management functions

The act of achieving sustainable fisheries management involves not a single task but a range of activities, services or functions which — if undertaken appropriately — contribute towards achievement of that goal. Therefore, in discussing the development of fisheries co-management it is necessary to break the collective term “fisheries management” into its component parts and to decide whether each function is appropriate for delegated co-management — and if so, in what form that may occur. Issues such as the species to be covered, the geographic area, the fisheries ecosystem approach and the broader economic and social issues related to co-management must also be considered. Importantly, these strategic factors need to be debated and resolved before proceeding with a co-management approach.

There are many ways of breaking down the full range of functions, activities and services that make up fisheries management. The working group used six broad headings for these functions, shown in **table 2**, to illustrate the nature of the negotiations that could be undertaken:

- administration
- compliance
- research and development
- monitoring and assessment
- management planning and policy
- communication and extension.

Note that the working group does not consider that government and fishers would be equally interested in pursuing all the activities listed under these headings. Rather they are included for completeness and to facilitate debate about the extent to which co-management could occur under the right set of conditions.

Table 2 also postulates the activities that might be delivered by industry or fishers under a co-management model, under ideal circumstances. They reflect the “art of the possible” under co-management if all necessary pre-conditions (discussed on pages 19 and 20) are satisfied. The listing shows each activity under the continuum of management types, moving in columns from a centralised model, through consultative and collaborative models, to a delegated model.

The table and analysis show that:

- under ideal conditions a very high percentage of tasks could be delegated to fishers
- a range of functions must always remain with government.

Table 2: Change in performance of functions through management types

Functions	Continuum of fisheries management arrangements							
	Centralised		Consultative		Collaborative		Delegated	
	Gov't	Fishers	Gov't	Fishers	Gov't	Fishers	Gov't	Fishers
<b>ADMINISTRATION</b>								
Initial granting of fishing rights	✓	×	✓	×	✓	×	✓	×
Issue, renewal and transfer of authorities	✓	×	✓	×	×	✓	×	✓
Database of operators in industry (marketers, licence holders)	✓	×	✓	×	×	✓	×	✓
Committee support	✓	✓	✓	✓	×	✓	×	✓
Logbook collection, data input, follow up letters	✓	×	✓	×	×	✓	×	✓
Setting legislative fees	✓	×	✓	×	✓	×	✓	×
Service fee collection	✓	×	✓	×	×	✓	×	✓
Auditing financial and administrative performance	✓	×	✓	×	×	✓	×	✓
Annual and other reports	✓	×	✓	×	✓	✓	×	✓
Budget compilation, tracking and reporting	✓	×	✓	×	✓	×	×	✓
Government policy making	✓	×	✓	×	✓	×	✓	✓
<b>COMPLIANCE</b>								
Risk analysis	✓	×	✓	×	✓	✓	✓	✓
Surveillance and monitoring	✓	×	✓	×	✓	✓	✓	✓
Enforcement, intelligence, analysis	✓	×	✓	×	✓	×	✓	×
Information gathering	✓	✓	✓	✓	✓	✓	✓	✓
Prosecution of offences, "on the spot" fines	✓	×	✓	×	✓	×	✓	×
Legislative changes	✓	×	✓	×	✓	×	✓	×
Administrative penalties	✓	×	✓	×	✓	✓	×	✓
<b>RESEARCH AND DEVELOPMENT</b>								
Establishing ecosystem benchmarks	✓	×	✓	×	✓	×	✓	×
Fishing related ESD research projects	✓	×	✓	×	✓	✓	✓	✓
Non-fishery related ESD research projects	✓	×	✓	×	✓	×	✓	×
Industry development	✓	✓	✓	✓	✓	✓	×	✓
Write or commission project proposal	✓	✓	✓	✓	✓	✓	✓	✓
Project management	✓	×	✓	×	✓	✓	✓	✓
Research activities; delivery	✓	×	✓	✓	✓	✓	✓	✓
Assisting researchers	✓	✓	✓	✓	✓	✓	✓	✓
Provision of information, data	✓	✓	✓	✓	✓	✓	✓	✓
Report writing	✓	×	✓	×	✓	✓	✓	✓
Extension of information	✓	×	✓	×	✓	✓	✓	✓
Research logbooks	✓	×	✓	×	✓	✓	✓	✓
<b>MONITORING AND ASSESSMENT</b>								
Stock assessment	✓	×	✓	×	✓	×	✓	✓
Ecosystem assessment	✓	×	✓	×	✓	×	✓	×
Stock assessment audit	✓	×	✓	×	✓	×	✓	×
Data collection and analysis	✓	×	✓	×	✓	✓	✓	✓
Catch and effort log books	✓	✓	✓	✓	✓	×	×	✓
Threatened, endangered or protected species reporting	✓	×	✓	×	✓	×	×	✓
Observer program	✓	×	✓	×	✓	×	×	✓
<b>MANAGEMENT PLANNING</b>								
Sustainability performance limits (e.g., targets, total mortality)	✓	×	✓	×	✓	×	✓	×
Defining harvest strategies, (e.g., decision rules, economic performance catch targets)	✓	×	✓	×	×	✓	×	✓
Legislation drafting, regulation changes	✓	×	✓	×	✓	×	✓	×
Codes of practice	✓	✓	✓	✓	×	✓	×	✓
Environmental management systems	✓	×	✓	×	✓	✓	✓	✓
Community / access / interactions	✓	×	✓	×	✓	×	✓	×
Community / access issues and responses	✓	✓	✓	✓	✓	✓	✓	✓
<b>COMMUNICATION AND EXTENSION</b>								
ESD framework	✓	×	✓	×	✓	×	✓	×
Communication among fishers	×	✓	×	✓	×	✓	×	✓
Community education and awareness	✓	×	✓	×	✓	✓	✓	✓

The functions that would always remain with government are essentially:

- government policy development
- enactment of legislation
- initial creation of fishing rights and authority to fish
- fisheries access and allocation issues among all fishers and other stakeholders
- establishment of sustainability performance indicators and controls
- enforcement and prosecution
- legislated fee setting
- audit and compliance with contractual arrangements
- foreign and international fisheries matters
- regional planning and development matters.

Of the significant range of functions which could be delegated, it is important to note that:

- the necessary pre-conditions (pages 19 and 20) must exist
- any delegation of functions would necessarily involve a legally binding instrument covering aspects including specification of functions, decision rules, performance standards and resourcing and reporting requirements, so that performance is measurable and capable of being audited transparently.

Throughout Australia's fisheries, many fishers are already undertaking some of these delegated functions through negotiated agreement with the fisheries management agency or government. Some examples are as follows:

- In the Spencer Gulf commercial prawn fishery an industry group has been delegated authority to decide harvesting arrangements for the fishery (described on page 3).
- Fishers (both recreational and commercial) regularly undertake R&D activities including fish tagging, collecting catch-and-effort data, and using vessels and equipment for these purposes.
- All fishers undertake monitoring and assessment activities in selected areas and monitor the effects of fishing closures.
- Recreational fishers undertake fish stocking activities.
- Recreational fishers arrange cooperation among commercial fishers when certain fishing tournaments occur.
- Recreational fishers tag snapper in Shark Bay for management purposes.
- Commercial fishers conduct sample fishing of the Tasmanian scallop fishery to determine optimal harvest strategies.
- Commercial, recreational and indigenous fishers develop codes of practice to minimise interactions with protected species or protecting certain areas.

Although these activities have not been driven by a desire to implement a broad-scale co-management culture across fisheries, they demonstrate that practical achievement is possible when trusting relationships exist. They also show that co-management can give effect to the types of advantages discussed in chapter 2 (page 5).

These examples and the analysis in table 2 demonstrate that co-management should encompass the broader ecosystem approach to fisheries management, rather than only concentrate on management of the species itself.

A practical example of this approach is Seafood Services Australia's EMS — *Seafood Environmental Management System* (<http://www.seafood.net.au/>). This widely acclaimed system, now adopted by 25 fisheries, is designed to help the seafood industry to continually improve its environmental performance. It has been instrumental in assisting fishers across Australia to systematically address environmental sustainability issues in their fisheries to complement existing regulations.

Governments are also considering the role that EMS can play in increasing the effectiveness of existing fisheries laws. EMS, which comes with a mentoring facility to strengthen its adoption, can be a more flexible tool for driving change in fishing practices. To date it has manifested itself in both Codes of Best Practice and Third Party Certification systems and is being expanded across fisheries throughout Australia.

Co-management  
should encompass  
the broader ecosystem  
approach to fisheries  
management ■ ■



# 6

## Putting co-management into practice

Despite the potential benefits to resource users and governments from co-management and the interest in its expansion, very few examples of its successful introduction and application exist in Australia. In cases where it has been successful, it only deals with a few particular functions of fisheries management. It does not deal substantively with the broader possibilities across fisheries management. To understand why this is so, co-management experiences of other countries and industries are considered later in this chapter.

Before that, to more fully understand the complexities of introducing co-management, the working group has compiled a list of essential pre-conditions on which any co-management model should be based.

### Essential pre-conditions

Drawing on the discussions of the working group, the recent research of Dr Daryl McPhee<sup>5</sup> and the lessons from some international experiences, the working group has developed a list of pre-conditions that need to be satisfied for co-management to be implemented on a mutually satisfactory basis. The pre-conditions enhance the chances of successful adoption of a co-management model and guide fishers through the steps towards co-management.

The essential pre-conditions are:

- a willingness by governments to consider alternative management models involving greater shared responsibility
- fishers groups with a significant proportion of members wanting to move to co-management
- identified “champion/s” who can negotiate effectively with governments and build organisational ownership
- an effective fisher organisation structure with good governance and an ability to communicate with all fishers and other stakeholders
- a fisher organisation with sufficient resources and skills to implement and deliver services, or an ability to negotiate and attract such resources
- existence of a legislative basis to delegate powers
- ability to generate, and commit to, legally binding undertakings through an MOU, contract or other form of agreement between the parties
- ability for the fishers’ organisation to legally enforce agreements through civil, contractual or company law
- existence of conflict resolution mechanisms.

<sup>5</sup> FRDC project 2006/026, conducted by Dr Daryl McPhee: ‘Development of Co-Management Arrangements for Queensland Fisheries – Stage 1, Picking the Winners’. The working group performed the role of steering group for this project.

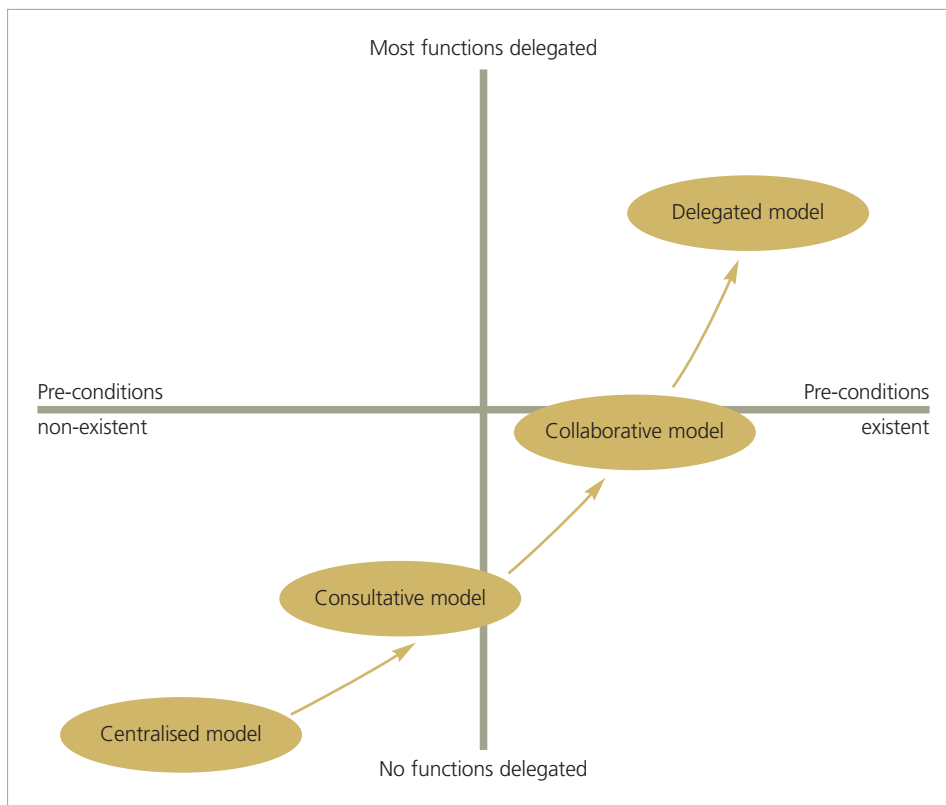
In addition, some characteristics will influence the degree of difficulty or ease of introduction of co-management. These are:

- clearly specified and legally recognised access or property rights in terms of species, quantity, time and place
- a fishery with clear geographic boundaries and low bycatch or environmental interactions
- a well documented and researched fishery, including its ecosystem impacts and dependencies
- fishers with a common interest in the fishery or similar economic interests in the fishery
- a sound working relationship between the resource user group and government, often demonstrated by the adoption of EMS, codes of practice, or some prior service delivery arrangements.

These factors and the foregoing pre-conditions do not all have to be solved for some functions to be delegated to fishers, as experience has shown. Many examples of delegated functions have been referred to previously in this report. However, attainment of the pre-conditions will influence the difficulty or ease of introduction of co-management, its timeframe and how substantive the delegated functions are likely to be.

The relationship between the achievement of the pre-conditions in a fishery and the related ability to achieve enhanced delegated functions is shown in **figure 2**.

**Figure 2: Relationship between pre-conditions and delegation of fisheries functions in co-management of fisheries**



The figure shows that the more the pre-conditions can be satisfied, the easier it will be to move from a centralised model towards a fisheries management system that incorporates significant delegation of fisheries management functions. Further, it shows that more functions are likely to be delegated as government and fishers increase their interactions with each other and greater trust is generated as management moves from a centralised to a delegated model.

## Co-management experiences overseas

The working group was able to draw on elements of the recent FRDC project conducted by Dr Daryl McPhee, mentioned on page 19, to which it added its own research into New Zealand examples, to assist in its considerations of issues that could arise in developing co-management arrangements.

Key lessons from these overseas experiences were as follows:

- “Co-management” in overseas literature was generally defined more broadly to cover all of the consultative, collaborative and delegated management systems along the continuum shown in figure 1. A typical definition is “a partnership between government and user groups where management responsibility for fisheries resources is shared”. This leaves open the matter of delegation of functions.
- The search for “greater co-management” has generally been driven by a frustration that centralised approaches, or approaches only offering token consultation, have failed fisheries management through over-exploitation, failing stocks, depletion and on-going conflict between resource user groups and government.
- The progress made towards greater co-management has often been seen as an institutional process, creating groups and committees to achieve greater participation by resource user groups — but most often only in an advisory capacity — or as a means of implementing government policies and decisions. The construction and nature of these groups varies greatly depending on the political culture, the nature of relationships with industry, existing institutions, and the fishery situation.
- In addition, however, there are examples of co-management as defined in this report, where both the decision-making and the implementation of management decisions are the delegated responsibility of fishers. They are discussed in Dr McPhee’s report and include:
  - the Dutch Biesheuvel system dealing with industry based quota management groups
  - the Canadian Atlantic Sea Scallop Fishery dealing with industry groups being responsible for harvest strategies and their enforcement
  - the Maine Lobster fishery dealing with local area harvest rules and dispute resolution processes
  - the New Zealand Rock Lobster Fishery dealing with quota management arrangements.
- Examples also exist in Japan, where many management decisions are delegated to local communities where regional fisheries cooperatives determine harvesting strategies for their members via compulsory membership of fisher organisations.
- Other co-management examples include artisanal fisheries in several countries where, through failure of central government arrangements or lack of support from central government, local communities have instituted and undertaken their own local management arrangements.
- Driven principally by concerns about stock depletion and failing fisheries or businesses, co-management approaches grew through a desire for more participation by fishers in management decision-making and policy direction. The essential hope was that greater participation would bring better relationships, better communication, improved data and information flows and more “legitimacy” to rules, leading to better compliance by fishers.

Nevertheless, although improvements and movement along the management continuum have certainly occurred, governments have still been generally reluctant to genuinely empower user groups and transfer significant responsibility. Where there have been exceptions to this, it has involved only particular fisheries management functions, usually related to harvest strategies. Moreover, the exception has generally arisen through a crisis or a collapsing fishery (e.g., New Zealand’s southern scallop fishery, where government was forced to respond and put significant resources into helping the industry to re-structure itself and the organisation within the industry).

Thus, the drivers of change overseas have been different from what is now considered to be a logical development for Australia: namely, change resulting from a fundamental belief in the potential advantages offered by co-management and a resultant cultural change in relationships.

Finally, also evident from international experiences are difficulties that closely mirror the challenges facing Australia's fisheries:

- There is often little unity of purpose from fishers to take on additional tasks and responsibility.
- The voluntary nature of fishers organisations means it is impossible to impose common approaches on all fishers. Fisher organisations also find it difficult to resolve internal conflicts.
- There is often a lack of skills, resources and experience in fisher groups to take over many tasks.
- It is often difficult to clearly delineate individual fisheries from overlapping fisheries or overlapping regional boundaries. Fisheries with multi-user groups significantly complicate co-management negotiations.
- It can be difficult to gain consensus from a wider group of stakeholders that need to be involved in co-management than just the fishers themselves.
- Transaction costs may need to be significantly high before there is sufficient will for negotiations towards co-management to occur.

Change in Australia will come from a fundamental belief in the advantages of co-management and a resultant cultural change in relationships ■ ■

### Good co-management in the New Zealand Southern Scallop Fishery

The New Zealand Southern Scallop Fishery in the Nelson–Marlborough Sound area is often cited as a successful example of co-management involving significant functions for management of the fishery delegated from government. The functions have been delegated to the Challenger Scallop Enhancement Company Limited, an unlisted public company under NZ Corporations Law — referred to here as “ the Challenger Company”.

Under the arrangement, statutory responsibility for management of the fishery has stayed with government, which also provides the legislative base for the quota management system, total allowable catch (TAC) and individual transferable quotas (ITQs). A legislative base exists for collection of levies, approval of management plans, conduct of a broad-scale compliance and enforcement program, and auditing of the arrangements for management agreed under a MOU.

The Challenger Company itself manages the fishery by developing and implementing management plans to meet the government and industry needs. This involves scallop enhancement and research functions, budgeting and collection of both government levies and company revenues. The company operates through a board of directors and reports to its shareholders. It enforces annual contracts with fishers based on their ITQ and conducts industry compliance and enforcement against these contracts and management plans. It also operates an internal conflict resolution mechanism to resolve disputes.

The co-management arrangements have worked well since their establishment in 1997 and it is useful to understand the lessons from this fishery, as no other similar examples have been implemented as successfully in New Zealand. The co-management arrangements were based on a number of preconditions coming together over a period of years. However, a major driver was the collapse of stocks during the 1980s, necessitating urgent action from government and fishers to rebuild the industry.

The pre-conditions were as follows:

- As an aquaculture or scallop enhancement program this fishery does not have many of the complexities of a wild-harvest fishery and has a limited number of operators. It is in a limited, well-defined area, hence it is more easily enforceable and communication among all operators is relatively easy.

- Strong leadership emerged from industry and a commitment of skilled staff from government being “lent” to the Challenger Company.
- A significant reserve of levy funds existed within government to fund the restructure of the industry and the R&D needed for scallop enhancement.
- Strong property rights were implemented in the form of ITQs under the legislation and a legislated power of general levy collection diminished the “free rider” problem and “leakage” of benefits.
- The ability under the company and legal structure to include indigenous fishers and recreational fishers in the enhancement program and the TAC/ITQ system encouraged community acceptance of the arrangements. Indigenous and recreational fishers participate in Board decisions and are allocated a scallop quota.

These co-management arrangements were developed over 10 years and the fishery, although operating very successfully for many years, still faces the challenges of being internationally competitive and meeting environmental and community access expectations.

There is no doubt, however, that the co-management arrangements place the industry in a better position to respond more quickly and effectively to its changing environment and have allowed it to solve many of the problems still challenging most wild-harvest fisheries.

Examples of co-management exist in some areas of natural resource management in Australia, such as:

- Aboriginal companies managing national parks
- Aboriginal groups managing traditional fishing via indigenous land-use agreements
- non-government organisations operating companies to buy land, rehabilitate it, protect it with covenants and sell it or lease it back into the community
- irrigators establishing companies to manage irrigation access under government arrangements
- government and industry agreeing on regional forest agreements to manage certain areas of forestry.

In most of these cases, the collective view was that by “privatising” — or developing similar arrangements for management — efficiencies and greater flexibility in management could be achieved. It was also considered that by placing more authority in the hands of those who would feel the effects of decisions, more collective responsibility for, and compliance with, management arrangements would be encouraged.

These co-management examples generally have the common feature of a company or cooperative structure acting as an intermediary in dealings with government. Thus legally binding contractual arrangements are able to be negotiated with members or shareholders to satisfy government requirements and can be subject to independent government audits of the arrangements. The contractual arrangements are enforced under civil or company law by the company while the government maintains an overall capacity to enforce its broader resource management and environmental requirements under relevant legislation.

Finally, it is necessary that governance arrangements, MOUs and contracts deal with both environmental behaviours and business activities.



# 7

## Moving co-management forward

From the preceding chapters, it can be seen that a desire to move further into co-management can be driven by individuals, groups, sections of a fishery, or government itself.

Motivation may occur when a fishery has collapsed (the New Zealand Scallop Fishery); when a fishery is stable and profitable (the Spencer Gulf Prawn Fishery); when a fishery is undergoing significant restructuring (various overseas examples); or indeed from a proposal to develop a new fishery starting with a co-management model.

Not all of the pre-conditions have to be satisfied before the start of dialogue with government, fishers and other stakeholders. However, the more pre-conditions that have to be met, the longer the process will take and the more complex will be the negotiations.

### Steps in implementing co-management

The working group proposes the following five implementation steps.

#### **Step 1: Birth of an idea**

##### **Start talking**

*Fishers or government decide to start a dialogue on co-management.*

Action by: fishers, government, fisheries agency.

##### **Form group**

*Core group of like-minded people formed and mutually acceptable spokesperson or "champion" selected.*

Action by: fishers, government, fisheries agency.

##### **Identify resources**

*Resources identified to enable preparation of a detailed proposal.*

Action by: fishers, government, fisheries agency.

## Step 2: Business case

### Plan

*Draft a business case showing desired outcomes, funding responsibilities and advantages of a co-management model and its form.*

Action by: fishers, government, fisheries agency; with expert assistance.

### Gain support

*Negotiate acceptable level of support among fishers to proceed.*

Action by: fishers (with expert assistance), fisheries agency.

### Cover everything

*Refine the business case to ensure coverage of all issues.*

Action by: fishers (with expert assistance), fisheries agency.

## Step 3: Acceptance and commitment

### Seek government acceptance

*Approach government formally for in-principle acceptance of the business case.*

Action by: government; fishers (with expert assistance).

### Refine

*Refine business case through due-diligence study of proposed content and requirements.*

Action by: fishers (with expert assistance), fisheries agency.

### Achieve wider acceptance

*Negotiate wider acceptance and commitment by fishers, other stakeholders and community.*

Action by: fishers (with expert assistance), fisheries agency.

## Step 4: Legal structure

### Set up the structure

*Develop an accountable legal structure for a fishers' organisation or company.*

Action by: fishers (with expert assistance).

### Amend legislation

*Amend fisheries legislation, if necessary.*

Action by: government.

### Develop governance

*Develop memorandum of understanding and contractual arrangements incorporating functions to be delegated, performance standards, accountability processes (auditing, reporting etc.) and funding responsibilities.*

Action by: fishers (with expert assistance), government, fisheries agency.



## Step 5: Implementation

### Delegate functions

*Government delegates functions to fishers' organisation with a legally binding instrument containing agreed conditions.*

Action by: government, fishers' organisation, fisheries agency.

### Deliver

*Fishers' organisation ensures delivery of functions among members.*

Action by: fishers.

### Report

*Reporting against standards commences, auditing protocols commence; on-going reviews occur as necessary.*

Action by: fishers, fisheries agency.

## The two most important steps

### Develop the business case

Among the five steps, which can be commenced by fishers or government, development of the business case is crucial to success.

The documented business case should be designed to promote "win-win" outcomes. It should include an audit of the current system against the various elements of management to determine the opportunities for improvement. It should also describe changes in service delivery, proposed changes in functional responsibilities, and associated financial and governance agreements to implement change.

Essentially, this is the "due diligence" documentation surrounding the proposal to ensure all of the aspects of the proposed changes are clearly documented and their ramifications understood. It critically involves working through the resourcing issues to be addressed in implementing the change. This may involve a transfer of funds and/or secondment of staff from government to fishers; in-kind support; and re-allocation of any savings or efficiencies, or indeed new funds raised from levies or charges, either by government or fisher organisation. Factors such as training needs and staff development can be critical in deciding whether the business case is viable.

The business case is importantly about developing a culture of joint responsibility and mutual respect leading to the benefits of co-management, as discussed previously, and not simply an accounting exercise.

Achievement of this cultural change involves addressing the pre-conditions discussed in this report so that the political process can be relatively smooth, as can be the negotiation process with the management agency over the transfer of agreed functions or delegation of agreed responsibilities.

Experience has shown that this can be a lengthy process which requires initial agreement by government that the potential benefits are significant.

## Develop the fisher organisation

The second key issue is the development, or refinement, of the organisational body representing fishers that will be held accountable for delivery of the delegated functions.

The organisational requirements needed to deliver outcomes will depend on the nature of the functions being devolved under a formal agreement. This could be:

- a voluntary group formed to deliver a particular function (e.g., a research, monitoring or extension group)
- a formal industry organisation or representative body (e.g., where the function to be delivered involves all fishers), or
- a legally constituted cooperative organisation or company.

All such arrangements would exist under a detailed MOU or a legally binding instrument. It would establish those responsibilities remaining with government and those being delegated to the organisation, plus the governance arrangements for this to occur. Clearly there is no “one size fits all” solution to the particular arrangement that should be established, as the choice will depend on the circumstances within the fisher organisation as to how binding an agreement could be on its members and how it could be resourced and enforced. However, experience has shown that it is possible to effectively establish, for example, unlisted public companies with membership by all fishers in a particular sector, with the company being responsible for enforcement of agreed arrangements under contract or company law.

In all cases, some form of legal entity is required to be a party to the contract and MOU, which would be the over-riding instrument. In addition, further contracts may be required between the individual operators and the established legal entity or company to ensure compliance with the arrangements. Such compliance would also have regard to any existing management plan for the fishery.

In moving towards co-management, there may be a temptation for fishers to begin incrementally adopting greater responsibility, or functional delivery, without addressing the strategic policy covering the co-management approach itself. Factors related to the change in culture required and the concept of joint responsibility for fisheries management need first to be agreed (at least in principle); otherwise co-management can descend into arguments about cost shifting, which are unlikely to bring the type of changes that would be of greatest benefit.

Assuming the philosophy can be turned around from “them versus us” to one of genuine joint responsibility, then it is possible to plan implementation through — if necessary — many small steps appropriate to the fishery, the necessary timing, and the resources and skills available in the fisher organisation for implementation.

As discussed previously, some of the ways in which this incremental approach to co-management has been achieved include delegating to groups of fishers the task of building codes of practice or environmental management systems for the fishery as it relates to their sector. It is also possible to delegate to MACs the authority to decide certain management policies and outcomes or to undertake certain functions such as monitoring or research. It may also be possible to delegate non-critical but facilitative management functions to enhance management through using industry knowledge and decision-making (e.g., harvesting times or areas on a rotational basis).

This stepwise approach recognises that limited financial and human resources could be a factor in many fisheries, but this should not limit the opportunity to work towards achieving the real benefits of co-management — the cultural change towards genuine partnership, mutual trust and shared responsibility for fisheries management.



## Appendix A: The large cost savings achieved in New Zealand

The following is an example of cost savings achieved in New Zealand by Commercial Fisheries Services Ltd (“FishServe”).

Fishserve is a company owned by the New Zealand Seafood Industry Council Ltd (an industry-owned company). It has a contract as a service delivery agency with the Ministry of Fisheries that includes performance reporting and audit requirements.

### Services with a statutory basis

FishServe manages:

- issuing of fishing permits
- issuing of vessel registrations
- transfers of annual catch entitlements
- permits
- quota share transfers
- fishing effort return and harvest returns from fishers (statutory returns) and transfer to the Ministry
- allocation of species into the quota management system
- a register of the above and publishes extracts from this database.

### Services with a non-statutory basis

These services are conducted by Fishserve Innovations NZ Ltd (“FIN NZ”), which:

- provides financial services through banks
- operates a New Zealand seafood industry training organisation.

FIN NZ is a separate company owned by FishServe to generate additional revenue to offset FishServe’s statutory services. The company is funded partly by the Ministry of Fisheries for its contracted services (funds initially come from the industry via levies by government); and partly by fees and charges set by the industry members (shareholders) of FishServe for the services used by industry, such as quota transfers.

Co-managed activities are handled as follows:

- **Quota:** The government sets a quota allocation. FishServe then develops the register of individual quota holders and administratively issues the allocations and does the transfers.
- **Permits:** The government issues fishing permits, special approvals, high seas fishing permits and foreign licensed access. Fish Serve operates the register and issues the “authorities” on behalf of the government, including licensing of the vessels for the Marine Board.

## The cost savings

Most of the services contracted to FishServe were originally undertaken by the New Zealand Government. When the seafood industry believed they could provide the services more cheaply, the New Zealand Government agreed to transfer all the staff and funds to FishServe to deliver the services. Government costs of \$8.65 million and 82 staff in 1999 have now been reduced by 40 per cent to \$4.98 million and 55 staff in Fishserve. The source of funding has changed, with 30 per cent of the budget coming from industry fees and charges for services while the remainder comes from government via cost recovery.

# Key

## Co-management in a nutshell: key points from this report

The following four pages contain abbreviated key points from the report and references to pages on which the subjects are discussed.

<p>Fisheries managers cannot manage wild fish — only the behaviour of fishers and, to a severely limited extent, some aspects of the ecosystems on which they depend. Advances in knowledge have shown that it is essential to move the level of management from “local” to “total ecosystem”. As this has occurred, the weaknesses of historic “command and control” approaches to fisheries management have become all too apparent.</p>	vii
<p>During the past decade or so, the nature of natural resource management, on land and in the sea, has undergone profound change. In the interests of environmental sustainability especially, efforts have been increasing in government and industry to achieve more inclusive approaches. As the need for managing on an ecosystem scale has increased, fisheries managers have moved away from simply a focus on the biology and behaviour of particular species towards interactions among different species and between fish and their habitats. This “ecosystem approach” to fisheries management has led to other entities having legitimate roles in managing the harvesting of fish and the associated human impacts on their habitats. The release of Australia’s Oceans Policy, introduction of regional marine plans, enactment of the Commonwealth’s <i>Environmental Protection and Biodiversity Conservation Act</i> and changes in state fisheries legislation have also prompted change.</p>	vii
<p>To obtain the best economic, environmental and social outcomes from fisheries, it is now well recognised that managers must interact well with commercial, recreational and indigenous fishers and with other people in the community who seek to use fisheries natural resources. Genuine interaction and partnerships are at the heart of co-management, which the working group has defined as:</p> <p style="padding-left: 40px;">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.</p> <p>However, practical ways of achieving it have proved exasperatingly difficult. Responding to interest from government, industry and researchers, the board of the Fisheries Research and Development Corporation commissioned this report to aid understanding of the drivers behind co-management, the potential benefits and the conditions necessary for successful implementation.</p>	vii

<p>Fisheries management is too complex for a “one size fits all” approach. Therefore, wide consultation is needed at the specific fishery level to assess the best approach to gain the benefits of co-management, including lower costs, more responsive management and better compliance.</p>	viii
<p>The report now enables everyone to have a common understanding of the continuum of fisheries management activities that could be encompassed by co-management. Among other things the co-management framework proposed by the working group will underpin efforts to measure and improve the performance of fisheries and their management.</p>	viii
<p>The continuum of fisheries management models — incorporating successively increasing levels of engagement in decision-making by fishers and other stakeholders and culminating in fully delegated co-management — is as follows:</p> <ul style="list-style-type: none"> <li>■ Most fisheries commence under a <b>centralised</b> “command and control” framework in which government takes full responsibility for almost all management decisions, with little or no consultation with fishers and other stakeholders.</li> <li>■ The progression towards co-management starts with the establishment of a <b>consultative model</b> in which management decisions are discussed and debated. However, the majority of management decisions are still made by the government or management agency.</li> <li>■ The consultative arrangement may mature into a <b>collaborative model</b>, in which decision-making is negotiated and shared between government and fishers, fisher organisations and other stakeholders with some decisions, such as fishing times or area closures, assigned to fishers or fisher organisations.</li> <li>■ Under a <b>delegated model</b>, agreed, negotiated management decisions are made by governments, fishers, fisher organisations and other stakeholders within a broad framework and agreed functions are undertaken, or services delivered, by a fisher organisation under a formal agreement. Operating in this way within a broad regulatory framework is achievable when all pre-conditions for delegation to a fisher organisation have been met to the satisfaction of all parties.</li> </ul> <p>A diagram showing the levels of parties’ engagement in decision-making under the four types of fisheries management is at page 21.</p> <p>This report encompasses the transitions necessary to move to the delegated model. All fisheries management agencies in Australia have moved from a fully centralised system to the consultative model, and some have moved to the collaborative model. Consultative and collaborative models of fisheries management may contain elements of co-management, but true co-management can only be embodied by the delegated model.</p>	2 Diagram: 9
<p>Delegated co-management is about more than just increased consultation, better administrative efficiency and cost reduction. It is a fundamental shift in thinking about how the objectives of resource sustainability, long-term use and commercial viability can be achieved.</p>	2
<p>The report includes summaries of the characteristics of some fisheries management models:</p> <ul style="list-style-type: none"> <li>■ Spencer Gulf prawn fishery (collaborative)</li> <li>■ overseas models</li> <li>■ New Zealand Southern Scallop Fishery (highly delegated)</li> <li>■ New Zealand statutory and non-statutory services contracted nationally to an industry-owned company.</li> </ul>	3 21 22 5, 29

Delegated co-management does not involve government delegating all responsibility for core functions. It involves negotiating outcomes and then delivering services through particular organisations or groups.	3
A 1992 Industry Commission report recommended that the Commonwealth should enable fishers within a specific fishery to provide for themselves collective fishing industry management services, but very little progress has been made towards this approach.	9
Current management systems, while generally increasing consultation among all parties, still suffer from conflict and confrontation among fishers and other stakeholders. Often, the parties involved also lack an appropriate measure of trust, respect and responsibility among themselves.	5
Existing fisheries management regimes continue to demonstrate deficiencies in many areas. They are becoming increasingly costly to administer and many costs cannot be passed on to fishers. The costs and complexity of management have been significantly affected by moves to incorporate a fisheries ecosystem approach to management, develop a comprehensive ecologically sustainable development (ESD) framework for fisheries, and apply environmental legislation to fisheries management.	5
Other factors that have increased interest in co-management include: <ul style="list-style-type: none"> <li>■ increasing economic pressures on commercial (and to an extent recreational) fishing</li> <li>■ desire to strengthen access rights for commercial and recreational fishers</li> <li>■ growing recognition of the need to formally accommodate Aboriginal and Torres Strait Islander traditional fishing practices.</li> </ul>	7
The commercial sector is facing higher costs of operations, hence reduced profitability, and has significant concerns about security of future access as a result of restructuring and adjustment programs. Albeit to a lesser extent, the recreational sector has parallel concerns. All industry sectors are facing the related impacts arising from development of marine parks.	5
The following improvements could be achieved with a co-management model: <ul style="list-style-type: none"> <li>■ a fundamental change towards a partnership approach based on shared responsibilities for implementing sustainable management</li> <li>■ a more transparent and effective cost structure, and more efficient delivery of services and functions</li> <li>■ potentially, but not necessarily, lower costs of fisheries management</li> <li>■ improved trust and working relationships among parties</li> <li>■ more flexible and adaptive management processes</li> <li>■ reduced necessity for political decision-making</li> <li>■ greater scrutiny of legislative frameworks and regulatory controls</li> <li>■ opportunity to enhance the public perception of fishers</li> <li>■ opportunity for building capacity and skills of people involved in managing the fishery</li> <li>■ greater ability to innovate and respond to industry development needs.</li> </ul>	5–6
About 20 commonly occurring drivers towards co-management are listed. They are summarised into two categories: process-driven and cost-driven.	11–14

Details of cost savings of 40 per cent in New Zealand are given, although caution needs to be exercised in assuming direct parallels with Australian contexts.	14, 29–30
To facilitate debate about the extent to which co-management could occur under the right set of conditions, the report uses six broad headings for the full range of functions, activities and services that make up fisheries management, recognising that government and fishers would not be equally interested in pursuing all the activities listed under the headings. However, under ideal conditions a very high percentage of tasks could be delegated to fishers even though a range of functions are listed that must always remain with government.	15 Table: 16
Delegation of functions involves a legally binding instrument covering aspects including specification of functions, decision rules, performance standards and resourcing and reporting requirements, so that performance is measurable and capable of being audited transparently. Many fishers are already undertaking some of these delegated functions through negotiated agreement with the fisheries management agency or government. Although these activities have not been driven by a desire to implement a broad-scale co-management culture across fisheries, they demonstrate that practical achievement is possible when trusting relationships exist.	16
Essential pre-conditions to putting co-management into practice are listed. Their attainment will influence the difficulty or ease of introduction of co-management, its timeframe and how substantive the delegated functions are likely to be.	19–20 Diagram: 20
The report summarises co-management experiences overseas and the lessons that can be drawn from them. The drivers of change overseas have been different from what is now considered to be a logical development for Australia: namely, change resulting from a fundamental belief in the potential advantages offered by co-management and a resultant cultural change in relationships.	21–22
A desire to move further into co-management can be driven by individuals, groups, sections of a fishery, or government itself. Motivation may occur when a fishery has collapsed, is stable and profitable, is undergoing significant restructuring, or indeed from a proposal to develop a new fishery starting with a co-management model.	25
Based on its researches, the working group proposes five steps for implementing co-management.	25–28





Photo Jiri Lochman, Lochman Transparencies.

Fisheries co-management is 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

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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.

