

REPORT TO THE MINISTER
FOR AGRICULTURE, FORESTRY AND FISHERIES
BY THE INTEGRATED FISHERIES MANAGEMENT
REVIEW COMMITTEE

FISHERIES MANAGEMENT PAPER NO. 165

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Report to the Minister
For Agriculture, Forestry and Fisheries
By the Integrated Fisheries Management
Review Committee

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Department of
Fisheries

Foreword

The WA Government has embraced the notion of sustainable development and its guiding principles. It is actively working to ensure that the philosophy of sustainability underpins government policies, activities and decision-making. The recent release of the draft 'Western Australian State Sustainability Strategy'¹ is testimony to the Government's commitment in this area.

This commitment extends to developing a new management approach for fisheries that incorporate economic, social and environmental issues. The recently released Ecologically Sustainable Development (ESD) policy for Western Australian fisheries² represents a major achievement for the Department of Fisheries and the State, as it is one of the first policies of this kind to be completed in the world in any resource sector.

Within this broad context of ESD, the issue of how fish resources can be best shared between competing users requires consideration.

The Integrated Fisheries Management Review Committee was established to develop a strategy to integrate the management and sustainable use of fish resources. The Committee's report proposes an alternative management framework and a set of guiding principles for allocating fish stocks to ensure optimal benefits are realised for the WA community. The report does not, and was not intended to, address specific allocation issues in particular fisheries – this will be a function of the framework and processes put in place following this review.

I would like to thank Justice Toohey, Dr Phillips, Ms Allan and Mr Morton for their efforts in putting together this report. I believe the Committee's report provides a solid first step in this State's path towards integrated management.

I am in agreement with the general thrust of the Committee's Report and in the following table I have indicated my initial response to each of the Committee's recommendations. I am interested to hear a wider range views on these issues, which is one of the main reasons why I have released the Report, along with an indication of my initial position, for public comment. This will provide an opportunity for interested persons to make submissions outlining their views on the way forward before I finalise my position on these issues.

Integrated management is about achieving a long-term shift in the management of fisheries. I expect my final determinations, based upon outcomes from this report, will set the direction for management for the next 10-20 years.

A more integrated management framework that builds upon existing management and planning processes is essential to meet the growing pressures on our fish resources. This framework must incorporate a regional approach to management based on the

¹ Focus on the Future. The Western Australian State Sustainability Strategy - consultation draft.

² Policy for the Implementation of Ecologically Sustainable Development for Fisheries and Aquaculture within Western Australia. Fisheries Management Paper No. 157

distribution of fish stocks, the determination of sustainable levels of fishing and the allocation of catch shares to the various user groups.

Clearly 2003 will be a milestone year for fisheries management in WA with a number of major reviews and initiatives reaching their conclusion. In addition to the integrated fisheries review, these include the regional recreational fishing reviews, aboriginal fishing management strategy, and introduction of management arrangements for the commercial mackerel fishery. A review of the commercial finfish (wetline) fishery has also commenced. Its outcomes will form an important component of finfish management, and will complement the regional recreational fishing plans derived from the reviews.

Some major decisions will be required around long-term management direction setting. These are necessary to address the challenges facing the sustainable development of our fisheries. I look forward to working with the Department and key interest groups in furthering WA's reputation as a leader in fisheries management.



Kim Chance MLC

MINISTER FOR AGRICULTURE, FORESTRY AND FISHERIES

Making a submission

The release of this report along with an indication of the Minister's views provides an opportunity to contribute your ideas and views on how WA's fisheries should be managed. Submissions are welcome until 28 February 2003 and should be addressed to:

Integrated Fisheries Review
Locked Bag 39
Cloisters Square Post Office
PERTH WA 6850

Submissions can also be made electronically on the Department's website at: www.fish.wa.gov.au, or by e-mailing them to: integratedreport@fish.wa.gov.au. When making a submission, please reference the particular recommendation or section of the report you wish to comment on. If you disagree with a position, please suggest alternate ways to resolve or overcome the issues identified in the report. Clear reasons should be included in your response so your views can be properly considered.

Further copies of the report are available from the Department of Fisheries or on its website. If you require any further information please contact the Department of Fisheries on (08) 9482 7333.

Minister's initial response to each recommendation of the IFMRC

IFMRC Recommendation	Minister's proposed position
1. The Western Australian Government introduce an integrated management system for the sustainable management of Western Australia's fisheries.	Agree.
2. The development and funding of a comprehensive research and monitoring program encompassing all user groups is essential to provide the necessary information for sustainability and allocation issues to be addressed under an integrated framework.	Agree.
3. The Department of Fisheries investigate standardising catch information at five nautical mile grids to provide comparative information across all user groups.	I agree to a review aimed at standardising catch information between sectors, however it is important that the scale for data collection and reporting is appropriate for each particular fishery.
4. The integrated management system must be open and transparent, accessible and inclusive, flexible, effective and efficient.	I agree with the general thrust of this recommendation, however because of the complex and time-consuming nature of fisheries management processes and likely disagreement between parties over allocations, it may be difficult to satisfy 'effective and efficient' criteria.
5. The following nine principles be recognised as the basis for integrated management decisions and, where appropriate, incorporated into fisheries legislation. More specific principles to provide further guidance around allocation decisions may also be established for individual fisheries.	<p>I am in general agreement with the nine principles. A number of minor changes may however provide greater clarity around some principles.</p> <p>A review of the recommendations against the current legislation is required to determine if they are already embraced in the head powers contained in the <i>Fish Resources Management Act 1994</i> (FRMA). In particular, Part 6 of the FRMA requires review to ensure it adequately embraces the principles of integrated management and its application across all sectors.</p> <p>Some of these principles may be better incorporated into Ministerial Policy Guidelines rather than legislation because of the uncertainty and risks of enshrining what will be an 'evolving process' into legislation.</p>

IFMRC Recommendation	Minister's proposed position
(i) Fish resources are a common property resource managed by the Government for the benefit of present and future generations.	Agree.
(ii) Sustainability is paramount and ecological requirements must be accounted for prior to any allocation to user groups.	Agree. There may be benefit in amending the objects of the FRMA to make the application of ESD principles clear.
(iii) Decisions must be made on best available information and where this information is uncertain, unreliable, inadequate or not available, a precautionary approach adopted to minimise risk to fish stocks. The absence of, or any uncertainty in, information should not be used as a reason for delaying or failing to make a decision.	Agree, however I believe the required approach to management may be better defined as a cautionary or low risk approach, i.e. ".... a cautious approach adopted to minimise risk to fish stocks".
(iv) A sustainable target catch level must be set for all fisheries and explicit allocations designated to each user group.	While a target catch level should be set against a backdrop of sustainability objectives, it may also be set against a number of other management objectives. This may be compounded because of factors such as definition around measurement, determination of imputed catch levels in some fisheries, stock recovery, etc. Therefore I suggest this principle should be amended to read "A target catch level must be set where practical ..." I see merit in including an additional principle as follows: "In setting allocations for commercial and recreational sectors, recognition must be given to existing customary and passive use of the resource and possible aquaculture requirements".
(v) Allocations to user groups should account for the total mortality on fish resources resulting from the activities of each group, including bycatch and mortality of released fish.	Agree.

IFMRC Recommendation	Minister's proposed position
(vi) The total catch across all user groups should not exceed the sustainable target catch level. If this occurs, immediate steps should be taken to reduce the take within prescribed levels. Management arrangements for each user group should aim to contain their catch within the level set for that group.	Agree. (delete 'sustainable' as per (iv)).
(vii) Allocation decisions should aim to maximise the overall benefit to the Western Australian community from the use of fish stocks and take account of economic, social, cultural and environmental factors.	Agree, however the words "maximise the overall" should be replaced by "achieve the optimal" to make it consistent with the FRMA.
(viii) Allocations to user groups should generally be made on a proportional basis to account for natural variations in fish populations. This general principle should not however preclude alternative arrangements in a fishery where priority access for a particular user group(s) may be determined.	Agree.
(ix) Allocations are notional – they are not "owned" by a group – however management arrangements must provide users with the opportunity to access their allocation.	Agree, however I suggest an additional sentence should be added: "There should be limited capacity for transferring un-utilised shares into future years, as such a process may not be sustainable." This is to confirm that, in general, un-utilised shares should not be able to be carried over from a given year because of sustainability reasons, while making allowance that there may be the potential for some limited transfer of capacity in effort-managed fisheries.
6. A working group comprised of representatives from the Department of Fisheries and relevant interest groups be established for each fishery, to undertake widespread consultation and develop a draft sustainability report for each fishery.	Disagree. The existing ESD policy framework meets this requirement. While ESD processes are currently focussed on commercial components of fisheries in order to meet export requirements, the future application of ESD will incorporate wider information across all users. The ESD reports with adjustments will meet reporting requirements.

IFMRC Recommendation	Minister's proposed position
7. The Executive Director, Department of Fisheries, approve a Sustainability Report for each fishery, which includes a clear statement on the sustainable target catch level.	As resources allow, this will occur over time. To date applications for six fisheries have been submitted to Environment Australia and a further nine are under ESD assessment. There are still some 30 fisheries requiring assessment in the future.
<p>8. An Integrated Fisheries Allocation Council be established by statute and be responsible for investigating resource allocation issues and making recommendations on optimal resource use to the Minister for Fisheries including:</p> <ul style="list-style-type: none"> (i) broad allocations between groups within the sustainable catch limits determined for each fishery; (ii) strategies to overcome temporal and spatial competition at a local/regional level; (iii) allocation issues within a sector as referred by the Minister for Fisheries; (iv) more specific principles to provide further guidance around allocation decisions for individual fisheries; and (v) other matters concerning the integrated management of fisheries as referred by the Minister for Fisheries. 	<p>I agree with the general thrust of this recommendation. I recognise that the system must be flexible due to the differing aspirations of users.</p> <p>I suggest a Ministerial Advisory Committee, with clear terms of reference, be established under s42 of the FRMA which incorporates points (i) – (v) in the recommendation.</p> <p>In the longer term, the FRMA can be amended and the committee established as a formal body under Part 4 of the FRMA. A review of Part 4 of the FRMA may be required to examine the role and relationship of various committees to reflect a more flexible committee structure and changing processes under integrated management.</p> <p>A number of minor amendments are suggested: R8(i) - Delete word “broad”. R8(ii) after “... overcome” insert “allocation and access issues arising from”</p> <p>An additional principle should be added “(vi) Allocation principles and processes will be developed in the context of Ministerial Guidelines under s246 of the FRMA. These Guidelines will need to cover process of allocation, mediated outcomes and recommendations on allocations based on catch history, or reallocations utilising methodologies incorporating net economic worth calculations with supporting socio-economic data.</p>
9. The Integrated Fisheries Allocation Council comprise a chairperson and four members, not representing sectoral interests in any fishery.	Agree in part. An expertise-based committee of three members should be appointed, who bring legal, economic/social, fishery science or management knowledge and experience

IFMRC Recommendation	Minister's proposed position
10. The Minister for Fisheries be required to explain publicly any departure from the Integrated Fisheries Allocation Council's recommendations or advice. This obligation should extend to any matter referred to it by the Minister.	Disagree. This process should occur in a similar manner to that of other committees in which the Minister advises stakeholders of his decision following consideration of the committee's advice. There should be no constraint on the Minister's discretionary powers.
11. The Integrated Fisheries Allocation Council be responsible for determining the process and timeframes for resolving allocation issues in each fishery.	Disagree. The terms of reference and timeframes for fishery reviews should be determined by the Minister.
12. The Integrated Fisheries Allocation Council's recommendations or advice to the Minister for Fisheries should become public at the time it is submitted to the Minister.	Disagree. The committee should report directly to the Minister and the appropriate release of information determined on a case-by-case basis.
13. Where a reallocation of resources from one user group to another results in demonstrable financial loss to an individual, in principle there should be an entitlement to compensation. Compensation may take various forms and does not necessarily involve the payment of money. No compensation should be payable where allocations are reduced for sustainability reasons.	Agree. Cases for compensation should be assessed on their merits on a case-by-case basis. I believe priority needs to be given to investigating the potential development of market-based systems to achieve reallocations, along with due consideration of social equity considerations, as soon as practical.
14. Appropriate management structures should be introduced for each user group which will allow for the catch of each group to be contained within its prescribed allocation.	Agree. This is a Ministerial/ Departmental responsibility to administer. I suggest the words "and processes" should be inserted after "structures".
15. Management arrangements for each user group should incorporate pre-determined actions which are invoked if that group's catch increases above its allocation.	Agree in principle.

IFMRC Recommendation	Minister's proposed position
<p>16. In recognition of the need for more effective management of finfish fisheries:</p> <ul style="list-style-type: none"> (i) Regional recreational plans for the West Coast and Gascoyne regions be implemented as soon as possible, and planning commence for the North and South Coast regions, to provide a more effective framework within which to control the recreational catch; and (ii) Specific management arrangements be introduced for the commercial wetline fishery, based on the four regions adopted for recreational fisheries, which provide a framework in which the commercial catch can be contained. One of the key access criteria for the wetline fishery should be fishing history prior to the benchmark date of 3 November 1997. 	<p>Agree. It should be noted these plans will need review in the future to include target catch levels.</p> <p>Agree, noting that the Department is seeking clarification on legal issues around benchmark dates given possible National Competition Policy considerations.</p>
<p>17. Each user group within a fishery should continue to be managed within existing catch ranges until a formal assessment under the new allocation process is undertaken.</p>	<p>Disagree. I believe we need to be more timely in dealing with allocation issues. I am considering the merits of establishing a benchmark date to formalise existing allocations, possibly consistent with the announcement of this Review in March 2000.</p>
<p>18. A baseline of existing catches should be determined for each fishery by the Department of Fisheries based upon the best information available.</p>	<p>Agree. However the lack of data should not be used as basis for not achieving the resolution of resource sharing issues.</p>
<p>19. For integrated management to proceed, the State Government must ensure that sufficient additional funding is made available to:</p> <ul style="list-style-type: none"> (i) Provide the necessary levels of research, management and compliance for the sustainable management of fisheries; and (ii) Ensure the effective operation of an integrated management system 	<p>Agree. Clearly this will affect timeframes for implementation, however this is a matter for State Government and availability of funds.</p>

IFMRC Recommendation	Minister's proposed position
<p>20. To embrace the principles of integrated management, the required funding package should take a multi-tiered and multi-user approach and be equitable across user groups and include:</p> <ul style="list-style-type: none"> (i) Increased contributions from commercial users, including an increase in the level of contribution to the Development and Better Interest Fund; (ii) Increased contributions from recreational users, including the introduction of a general recreational fishing licence; and (iii) Additional State Government contribution from the Consolidated Fund to ensure required funding levels are met, in acknowledgement of the significant social and economic values associated with sustainable fisheries. 	<p>The issue of greater contributions from users is a matter for Government policy. In this regard it should be noted the Government's current policy is:</p> <ul style="list-style-type: none"> • It will not increase the level of fees paid by industry to the Development and Better Interest Fund (DBIF) above the level in the Cole/House agreement unless the industry support an increase. • It will not seek to introduce a licence for recreational line fishing in salt water.
<p>21. The State Government establish a separate review to determine the basis for the introduction of a general recreational fishing licensing system. This review should include an analysis of social equity considerations (such as applicability, cost, concessions and exemptions) and applicability of the system to provide information on recreational effort, and possibly catch.</p>	<p>Existing bodies and consultative processes are already in place to undertake such a review if required.</p>



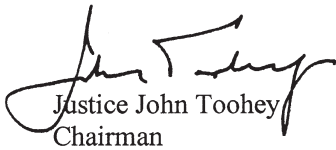
INTEGRATED FISHERIES
Management Review Committee

The Hon Kim Chance
Minister for Agriculture, Forestry and Fisheries
11th Floor
Dumas House
2 Havelock Street
WEST PERTH WA 6005

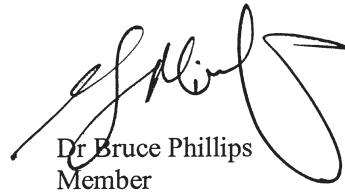
Dear Minister

The Committee has pleasure in forwarding you its final report on the integrated fisheries management review.

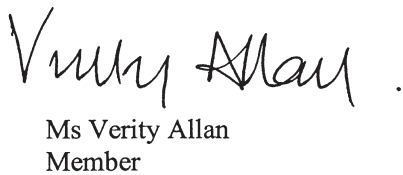
Yours sincerely



Justice John Toohey
Chairman



Dr Bruce Phillips
Member



Ms Verity Allan
Member



Mr Greg Morton
Member

Chairperson: Justice Toohey

Locked Bag 39 Cloisters Square Post Office. Perth, Western Australia 6850

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SECTION 1 RECOMMENDATIONS OF THE COMMITTEE

1. The Western Australian Government introduce an integrated management system for the sustainable management of Western Australia's fisheries.
2. The development and funding of a comprehensive research and monitoring program encompassing all user groups is essential to provide the necessary information for sustainability and allocation issues to be addressed under an integrated framework.
3. The Department of Fisheries investigate standardising catch information at five nautical mile grids to provide comparative information across all user groups.
4. The integrated management system must be open and transparent, accessible and inclusive, flexible, effective and efficient.
5. The following nine principles be recognised as the basis for integrated management decisions and, where appropriate, incorporated into fisheries legislation. More specific principles to provide further guidance around allocation decisions may also be established for individual fisheries.
 - (i) Fish resources are a common property resource managed by the Government for the benefit of present and future generations.
 - (ii) Sustainability is paramount and ecological requirements must be accounted for prior to any allocation to user groups.
 - (iii) Decisions must be made on best available information and where this information is uncertain, unreliable, inadequate or not available, a precautionary approach adopted to minimise risk to fish stocks. The absence of, or any uncertainty in, information should not be used as a reason for delaying or failing to make a decision.
 - (iv) A sustainable target catch level must be set for all fisheries and explicit allocations designated to each user group.
 - (v) Allocations to user groups should account for the total mortality on fish resources resulting from the activities of each group, including bycatch and mortality of released fish.
 - (vi) The total catch across all user groups should not exceed the sustainable target catch level. If this occurs immediate steps should be taken to reduce the take within prescribed levels. Management arrangements for each user group should aim to contain their catch within the level set for that group.
 - (vii) Allocation decisions should aim to maximise the overall benefit to the Western Australian community from the use of fish stocks and take account of economic, social, cultural and environmental factors.

- (viii) Allocations to user groups should generally be made on a proportional basis to account for natural variations in fish populations. This general principle should not however preclude alternative arrangements in a fishery where priority access for a particular user group(s) may be determined.
 - (ix) Allocations are notional – they are not “owned” by a group – however management arrangements must provide users with the opportunity to access their allocation.
6. A working group comprised of representatives from the Department of Fisheries and relevant interest groups be established for each fishery, to undertake widespread consultation and develop a draft sustainability report for each fishery.
 7. The Executive Director, Department of Fisheries, approve a Sustainability Report for each fishery, which includes a clear statement on the sustainable target catch level.
 8. An Integrated Fisheries Allocation Council be established by statute and be responsible for investigating resource allocation issues and making recommendations on optimal resource use to the Minister for Fisheries including:
 - (i) Broad allocations between groups within the sustainable catch limits determined for each fishery;
 - (ii) Strategies to overcome temporal and spatial competition at a local/regional level;
 - (iii) Allocation issues within a sector as referred by the Minister for Fisheries;
 - (iv) More specific principles to provide further guidance around allocation decisions for individual fisheries; and
 - (v) Other matters concerning the integrated management of fisheries as referred by the Minister for Fisheries.
 9. The Integrated Fisheries Allocation Council comprise a chairperson and four members, not representing sectoral interests in any fishery.
 10. The Minister for Fisheries be required to explain publicly any departure from the Integrated Fisheries Allocation Council’s recommendations or advice. This obligation should extend to any matter referred to it by the Minister.
 11. The Integrated Fisheries Allocation Council be responsible for determining the process and timeframes for resolving allocation issues in each fishery.
 12. The Integrated Fisheries Allocation Council’s recommendations or advice to the Minister for Fisheries should become public at the time it is submitted to the Minister.
 13. Where a reallocation of resources from one user group to another results in demonstrable financial loss to an individual, in principle there should be an entitlement to compensation. Compensation may take various forms and does

not necessarily involve the payment of money. No compensation should be payable where allocations are reduced for sustainability reasons.

14. Appropriate management structures should be introduced for each user group which will allow for the catch of each group to be contained within its prescribed allocation.
15. Management arrangements for each user group should incorporate pre-determined actions which are invoked if that group's catch increases above its allocation.
16. In recognition of the need for more effective management of finfish fisheries:
 - (i) Regional recreational plans for the West Coast and Gascoyne regions be implemented as soon as possible, and planning commence for the North and South Coast regions, to provide a more effective framework within which to control the recreational catch; and
 - (ii) Specific management arrangements be introduced for the commercial wetline fishery, based on the four regions adopted for recreational fisheries, which provide a framework in which the commercial catch can be contained. One of the key access criteria for the wetline fishery should be fishing history prior to the benchmark date of 3 November 1997.
17. Each user group within a fishery should continue to be managed within existing catch ranges until a formal assessment under the new allocation process is undertaken.
18. A baseline of existing catches should be determined for each fishery by the Department of Fisheries based upon the best information available.
19. For integrated management to proceed, the State Government must ensure that sufficient additional funding is made available to:
 - (i) Provide the necessary levels of research, management and compliance for the sustainable management of fisheries; and
 - (ii) Ensure the effective operation of an integrated management system.
20. To embrace the principles of integrated management, the required funding package should take a multi-tiered and multi-user approach and be equitable across user groups and include:
 - (i) Increased contributions from commercial users, including an increase in the level of contribution to the Development and Better Interest Fund;
 - (ii) Increased contributions from recreational users, including the introduction of a general recreational fishing licence; and
 - (iii) Additional State Government contribution from the Consolidated Fund to ensure required funding levels are met, in acknowledgement of the significant social and economic values associated with sustainable fisheries.

21. The State Government establish a separate review to determine the basis for the introduction of a general recreational fishing licensing system. This review should include an analysis of social equity considerations (such as applicability, cost, concessions and exemptions) and applicability of the system to provide information on recreational effort, and possibly catch.

SECTION 2 INTRODUCTION

2.1 Background

Western Australia's fish stocks are distributed across a vast 12,000 km coastline. This coastline supports a diverse range of species and habitats covering tropical and sub tropical waters to the north, temperate waters of the west coast and cooler waters of the Southern Ocean.

There are also important freshwater fisheries, mostly recreational, in the north (barramundi) and south-west (marron, trout, redfin) areas of the state. In recognition of this diversity in habitat and fish species, and differences in the level of fishing pressure between these areas, the Department of Fisheries has identified four broad marine bioregions as a basis for future management (Figure 1).

While Western Australian fisheries are characterised as low in productivity they are extremely valuable – both in economic and social terms.

The commercial fishing industry plays a key role in the economic development of WA. The annual landed catch is valued at \$650 million and provides valuable export earnings as well as supplying restaurants and domestic markets. The highest value fisheries are western rock lobster, Shark Bay prawn and scallop, Exmouth Gulf prawn, abalone and pearls.

Similarly, recreational fishing is a highly valued activity for many West Australians and generates significant expenditure. Recreational activity has increased significantly over the past 10-15 years. It is estimated about 640,000 people go fishing at least once a year, exerting a combined effort of some ten million fishing days.

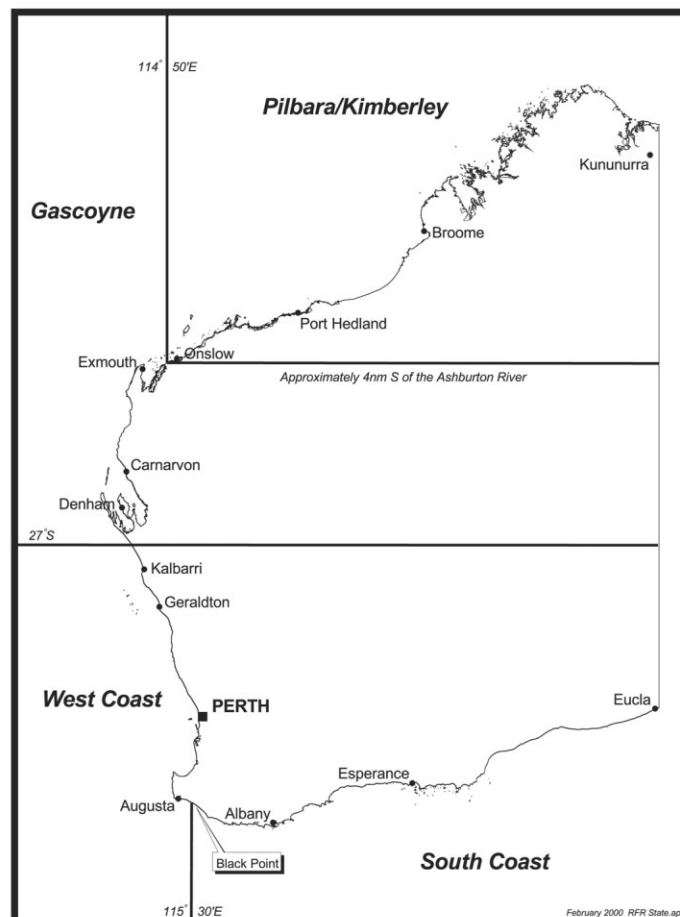
Fishing-based tourism provides an important contributor to local economies in many regions and supports a fishing and aquatic ecotour ("charter") industry of some 200 boats. A 1995/96 survey estimated direct expenditure associated with recreational fishing at \$299 million, with an aggregate impact of \$569 million and an employment impact of 7,000 jobs (Fisheries WA 2000).

While these two groups are often characterised as the major users of the resource, WA's fish resources are also important to a wide range of other users.

In some areas, fishing provides an important part of the diet of Aboriginal people. The Aboriginal and Torres Strait Islander Commission Environmental Policy (1994:5) noted that: "Hunting, fishing and gathering are fundamental to our people's contemporary and traditional cultures, help to define our identity, and are at the root of our relationship to the land ... As cultural activities hunting, gathering and fishing are important vehicles for education, and help demonstrate to our succeeding generations our understandings of our place in the world."

Fish resources may also give Aboriginal people a means to provide economic and employment opportunities through eco-tourism, commercial fishing and aquaculture.

Figure 1: *Regional management areas adopted for fisheries management by the Department of Fisheries.*



The aquaculture and pearling industry in WA is worth some \$300 million. While the pearling industry is highly dependent on wild stock pearl oyster shell, the aquaculture sector's requirements for access to wildstock fisheries are generally minimal. The pearling and aquaculture industry does however compete spatially with other user groups for access to quality-protected waters.

In addition, there is also a range of other users who value fish resources. They include fish consumers, people who enjoy viewing fish, and businesses directly and indirectly dependent upon fishing activities (such as restaurants, manufacturers and retailers of fishing products, accommodation and other businesses dependent upon fishing and fish habitat related tourism).

Environmental issues continue to receive wider recognition within the community, with an increasing expectation and demand that our fisheries are well managed. This has seen a shift in focus from the sustainability of particular fish stocks to incorporate the wider demands across the ecosystem. This is reflected in the WA Government's

commitment to develop an ecologically sustainable development approach to management (Fletcher 2002).

The Department of Fisheries (2000) believes most of WA's marine fisheries are fully exploited. However pressures on these stocks continue to increase from the impacts of a growing population, and greater coastal development which is expanding access to our coastline.

WA is one of Australia's fastest growing states, and at a predicted population growth rate of 1.5 percent a year it is estimated the population will grow to more than 2.7 million people by 2030. Most of this growth will be based along the west coast and will continue to have a wide ranging and considerable impact on fishing and fisheries; an impact that must be managed or there will be a deterioration in the quality of WA's fisheries.

These changes, coupled with advancements in fishing technology in both effectiveness and affordability, result in increased fishing pressure. Recreational fishing participation continues to increase and changing eating habits increase demand for seafood consumption. A detailed description of these factors is contained in Fisheries Management Paper No. 135 (Department of Fisheries 2000).

To date, fisheries management in WA appears to have generally met these challenges successfully. However, competition between sectors is intensifying, as is the debate around resource sharing and the best use of our fish resources.

This has led to increasing resistance by both commercial and recreational fishing sectors to accept changes to sectoral management without strong supporting scientific data on the relative catch 'shares' and the impact of management on catch shares. They see reductions in their catch being taken up by the competing user groups, with no net benefits accruing to the stocks.

An annual community attitude survey undertaken by the Department of Fisheries indicates a broad level of satisfaction for the Department's management of commercial fishing (81 per cent) and recreational fishing (87 per cent). However, the satisfaction rating for the allocation of resources was significantly lower (66 per cent), (based on 2001 data).

The impetus for an enhanced, more integrated fisheries management system is therefore emerging due to:

- Changing requirements within a wider Government framework of sustainability reporting which is occurring at both national and state levels (this is discussed in greater detail in section 3.3).
- Increasing recognition that the current sectoral management approach is limited in its ability to counter inevitable pressure on fish stocks from the impact of a growing population, increasing coastal development and the demands of various key user groups.
- A growing recognition of the need to accommodate the fishing interests of Aboriginal communities and the wider community interests in management processes.

If the overall quality of WA's fisheries is to be maintained or improved, it is essential that an effective basis for management be implemented to counter the growing pressures on fish stocks. This will require containment of the total catch and clearly catches from each user group must also be constrained within predetermined levels or 'allocations'.

Therefore a future fisheries management framework must not only manage the level of exploitation by commercial and recreational fisheries, but also provide an acceptable basis and process for future changes in the way fish and aquatic resources are used and shared across the community.

The purpose of the integrated fisheries management review is to develop a better fisheries management system, in which the needs of all user groups can be properly considered within an ecologically sustainable framework.

Simplistically, an integrated allocation model demands the:

- Estimation of a sustainable level of fishing or take;
- Identification of all user groups (which may vary between fisheries but include indigenous, commercial, recreational, aquaculture and other groups);
- Allocation of a component of this sustainable catch to a particular user group; and
- Management of the activities of these groups within these allocations.

It is important to recognise at the outset that the designation of explicit allocations will not in itself resolve all allocation issues. Resource sharing issues commonly involve competition in space and time between user groups, particularly in near shore areas that may be highly utilised by recreational and other users. Therefore effective solutions are likely to require spatial and temporal allocations in addition to overall allocations to achieve a balanced result that is acceptable to most parties.

The role of the Integrated Fisheries Management Review Committee is to examine the scope for a more integrated management approach and to recommend a process in which allocation (or "resource sharing") decisions can be reached and how future variations can be achieved. Fundamentally these processes should be aimed towards maximising the overall benefits to the community from the use of fish stocks.

The history of fisheries management around the world has shown that a process to resolve allocation issues, which has widespread acceptance by user groups, is fundamental if WA's fisheries are to be sustainably managed in the future.

2.2 Membership of Committee

The Committee was appointed in May 2000 by the then Minister for Fisheries, the Hon. Monty House MLA. The committee was appointed to provide independent advice on the development of a new management framework for Western Australia's fish resources. The Committee members were selected to provide a wide range of professional skills and experience.

Chair

Justice John Toohey

Former High Court Judge

Members

Dr Bruce Phillips

Adjunct Professor, Aquatic Science Research Unit, Muresk Institute of Agriculture, Curtin University of Technology

Ms Verity Allan

Assistant Director, Planning and Environment Housing Industry Association

Mr Greg Morton

Farmer, President Gingin Shire

Executive Officer

Mr Ian Curnow

Department of Fisheries

2.3 Terms of reference

1. To identify the key issues for each user group related to sharing the available sustainable catch from WA's coastal fish stocks, with a specific emphasis on finfish.
2. To develop a strategy to integrate the management and sustainable use of Western Australia's coastal fish resource by all sectors.
3. To develop transparent decision-making processes for the allocation of fish resources between user groups within a sustainable framework.
4. To identify funding requirements and possible funding strategies for the implementation of an integrated fisheries resource management and allocation framework in Western Australia.
5. To review public submissions and consult with key stakeholders and the community on proposed strategies for integrated management and allocation of coastal fish resources.

6. To make recommendations to the Minister for Fisheries on an integrated management framework for coastal fish resources and longer term arrangements for the resolution of resource sharing issues.

2.4 Overview of process and submissions

The review process commenced in March 2000 with the Department of Fisheries releasing a series of discussion papers to provide information on longer term management directions for the State's commercial coastal and estuarine finfish fisheries south of Shark Bay, and the State's recreational fisheries.

These were:

- A study into WA's open access and wetline fisheries (Crowe, F. 1999). Fisheries Research Report No. 118.
- A 12-month survey of coastal recreational boat-fishing between Augusta and Kalbarri on the west coast of WA during 1996/97 (Sumner, N. et al 1999). Fisheries Research Report No. 117.
- Management directions for WA's coastal open access commercial finfish fisheries (Fisheries WA, 2000). Fisheries Management Paper No. 134.
- Management directions for WA's estuarine and embayment fisheries (Fisheries WA, 1999). Fisheries Management Paper No. 131.
- Management directions for WA's recreational fisheries (Fisheries WA, 1999). Fisheries Management Paper No. 136.

In providing an outline of the historical development of fisheries management in WA, these documents emphasised the need to build upon the current sectoral management arrangements and ensure a more integrated approach to counter increasing pressure being placed on fish stocks.

The Department of Fisheries convened numerous public meetings at regional centres around the State to promote the documents. A summary of issues raised at these meetings, along with the public submissions received in response to the documents, was provided to the Integrated Fisheries Management Review Committee.

The majority of submissions indicated broad support for a shift to a more integrated management model. However, most tended to focus on specific management issues within a particular fishery (Appendix D). The Committee had some difficulty in shifting emphasis to a more generic framework level, as outlined in the terms of reference.

The Department of Fisheries also established a Reference Group, comprised of representatives of key user groups (Appendix B), to provide a panel with whom the Committee could discuss ideas. The Committee met separately with representatives from the commercial, recreational, Aboriginal, aquaculture, conservation groups, and the Department of Fisheries to gain a detailed understanding of issues, perspectives and concerns of each user group, and then held meetings at which representatives from all these interests were present and were urged to exchange ideas.

The WA Fishing Industry Council (WAFIC), Recfishwest, Recreational Fishing Advisory Committee (RFAC), Conservation Council of WA, Aquaculture Council of WA (ACWA), and the Department of Fisheries all provided additional, more focused submissions on broader management and allocation/reallocation issues to the Committee. The Committee has been assisted by these submissions in preparing this Report.

The Committee noted the lack of established integrated models elsewhere, either in Australia or the rest of the world, although issues are being examined in a number of jurisdictions. In this regard, the Committee also visited New Zealand and Canada to examine approaches to resource sharing in other jurisdictions. These were selected as countries with similar issues and legislative systems.

Members of the Committee also held discussions with the coordinator of recreational fishing at the National Marine Fisheries Service in Florida and with Australian Fisheries Management Authority (AFMA) Board member, Dr Bob Kearney (Appendix C).

The Committee also reviewed an extensive range of literature on these issues and a selected bibliography is provided at Appendix A.

The Committee provided a draft copy of this report to the Reference Group and has considered its draft in light of responses received. In seeking comment from this group, the Committee made clear its intention not to reconsider the general thrust of the Report, but rather for the Reference Group to draw attention to any errors or omissions.

SECTION 3 CURRENT MANAGEMENT FRAMEWORK

Western Australia's fish resources are managed under five primary pieces of legislation:

- *Fish Resources Management Act 1994*;
- *Pearling Act 1990*;
- *Fisheries Adjustment Schemes Act 1987*;
- *Fishing and Related Industries Compensation (Marine Reserves) Act 1997*; and
- *Fishing Industry Promotion Training and Management Levy Act 1994*

These deal with a wide range of fisheries ranging from single species fisheries utilised solely or predominantly by a single user group through to multi-species finfish fisheries used by multiple user groups.

3.1 Fish Resources Management Act 1994 – objectives and framework

The principal objective of the *Fish Resources Management Act 1994* (FRMA) is to “conserve, develop and share the fish resources of the State for the benefit of present and future generations”.

Specifically, the Act has the following objectives:

- (a) To conserve fish and to protect their environment.
- (b) To ensure that the exploitation of fish resources is carried out in a sustainable manner.
- (c) To enable the management of fishing, aquaculture and associated industries and aquatic eco-tourism and other tourism reliant on fishing.
- (d) To foster the development of commercial and recreational fishing and aquaculture.
- (e) To achieve the optimum economic, social and other benefits from the use of fish resources.
- (f) To enable the allocation of fish resources between users of those resources.
- (g) To provide for the control of foreign interests in fishing; aquaculture and associated industries.
- (h) To enable the management of fish habitat protection areas and the Abrolhos Islands reserve.

These objectives are achieved through the Department of Fisheries' programs and reported to Parliament annually by the Minister for Fisheries.

The FRMA clearly provides the necessary powers to make decisions on the allocation of fish resources. However from a resource sharing perspective the various objectives of the Act may be conflicting, particularly in fisheries utilised by a range of user groups.

No clear guidance is provided for users or managers as to any priority in the use of these resources other than “to achieve optimum economic, social and other benefits from the use of fish resources ...”. Furthermore, there is no widespread agreement on how this can be assessed or determined.

Under the broad framework of the FRMA, the Department of Fisheries utilises a range of tools to govern fishing activity, including management plans, regulations, orders, notices and exemptions.

The legislation defines the types of rules for the fishery, covering aspects such as access criteria, grants of licences, controls around setting of catches; access entitlements, licensing rules on transferability, rules around gear usage, and fishing seasons and closures. These are supported by a series of regulations covering protected fish and undersize fish, along with other biologically-based controls.

The Department of Fisheries currently manages the State’s fisheries on a sectoral basis, with separate management arrangements put in place to regulate fishing activity by the various user groups as required. For example, most of the major commercial fisheries have management plans.

However these are, in effect, a compilation of the rules governing commercial fishing (for example authorisations, fishing capacity, entitlements, closures and gear restrictions). The plans do not include management objectives, strategies and performance indicators, which are fundamental for effective management.

Similarly, while the Department of Fisheries has broad objectives for the management of recreational fishing (Fisheries Management Paper No. 136), these do not relate explicitly to the management of specific recreational fisheries. These are governed by regulations or orders.

Currently, there are no separate objectives for Aboriginal fishing although it is hoped the development of an Aboriginal Fishing Strategy by the Department of Fisheries will address these concerns.

Aquaculture applications are assessed on a case-by-case basis in accordance with consultation and assessment guidelines (Department of Fisheries, Ministerial Policy Guidelines No. 8).

The existing legislation also provides for the establishment of Fish Habitat Protection Areas, which can be put in place for a wide range of uses, including areas for the viewing of fish.

Within Western Australia there have been few explicit decisions to allocate the available catch to various user groups in a systematic manner. The current ‘share’ of access to these resources has evolved implicitly through the historical patterns of exploitation exerted by each group of users and Government decisions on the management of particular sectors from time to time.

The balances reached are the result of a combination of factors including value of the resource, the effectiveness of fishing gear, extent of and ease of access to the resource,

differential levels of controls placed on each group and the numbers of individuals participating (Department of Fisheries 2002).

Changes to any one of these factors, most of which are currently not subject to effective management controls, can substantially alter these 'shares'. Moreover, the other sectors, such as the "non-take" sectors, have been effectively excluded from this process except where the creation of protected areas has coincided with areas of interest to those.

Within WA, public policy prescriptions have rarely attempted to explicitly manage the relative level of access of each of the user groups. Instead, they have simply dealt with public perception and made adjustments to the rules as combined fishing pressure (or lobbying pressure) of all groups has continued to grow. Consequently, these decisions have tended to be politically influenced, but generally not based on any ideological platform.

Where this has occurred, it has usually been done on a spatial basis, by allocating an area to one sector or the other, or in a small number of instances by introducing differential size limits between sectors (for example the Perth metropolitan abalone fishery). To date, these adjustments have been undertaken to account for increases in fishing pressure, as the combined pressure of all groups continues to grow, or to deal with public perceptions.

Where commercial fisheries take place alongside recreational fishing, there has generally been minimal recognition of the other sector within their respective management arrangements. The Voluntary Resource Sharing Guidelines process has been used in a number of fisheries in Western Australia to address issues between commercial and recreational user groups (Fisheries WA 2000).

However as issues intensify, so does the propensity for political influence over decision-making on fish resource use.

In order to maintain both sustainability and community values around the use of our fisheries resources, there is a strong case for historical practices to be discontinued and for a move to a more explicit framework. This requires the explicit allocation of the sustainable catch to user groups.

3.2 Inter-jurisdictional arrangements

In addition to the issues related to allocating resources to user groups within WA, in some circumstances resources are shared with other jurisdictions.

The Offshore Constitutional Settlement is a legal arrangement between the Commonwealth and State Governments and defines control over the fisheries that operate off each State of Australia. In general, Commonwealth or joint control is applied to migratory fish, deep-water species, fisheries involving overseas interests and fisheries operating in waters of more than one state.

Following the Offshore Constitutional Settlement arrangements that were developed over the past 10 years (Fisheries WA, 1998, 1995), most commercial fisheries in Western Australia are now fully managed under the FRMA or the *Pearling Act 1990*. For these fisheries, the jurisdiction of WA management extends beyond the normal three-mile limit out to the edge of the Australian Fishing Zone.

However, there are some fisheries where management both inside and outside of the three-mile limit has been passed to the Commonwealth. Similarly, some are managed as a joint authority between WA and the Commonwealth. In these situations, difficulties may arise, such as the West Coast Tuna fishery, which is managed by the Commonwealth, but the species captured overlap with the recreational gamefish fishery and the commercial Gillnet and Longline Fishery.

In the north of the State, other types of jurisdictional issues occur. For example, there are a number of shared stocks (e.g. Spanish mackerel) between WA and the Northern Territory, and also with Indonesia (many demersal finfish stocks). Joint arrangements with the Northern Territory are being developed to minimise difficulties in sharing stocks, while the problem of sharing demersal finfish stocks with Indonesia is likely to become more significant through time.

In its response to the Commonwealth Fisheries Policy Review (Issues Paper 16, January 2001), the Department of Fisheries, noted it “does not consider that the Commonwealth policy and fisheries management framework is sufficient to meet the requirements of ecologically sustainable development or efficient fisheries management. Neither is it positioned to meet current inter-sectoral issues nor many of the emerging issues that will face fisheries agencies over the next 10-30 years”.

Inter-jurisdictional issues are of themselves beyond the scope of this review. However the principles and processes suggested in this report may prove useful for resolving issues which arise where Commonwealth fisheries interface with WA fisheries.

3.3 Ecologically Sustainable Development – a new framework

The term ‘Ecologically Sustainable Development’ (ESD) was adopted in Australia to emphasise the importance of the environment to long-term survival and to ensure there was a balanced approach in dealing with biological, environmental, social and economic issues. ESD, or ‘sustainable development’ as it more widely known, is the concept that seeks to integrate short and long-term biological, economic, social and environmental effects in all decision making (Fletcher 2002).

The definition agreed by Australian Governments and included in the National Strategy on ESD (1992) is: ‘*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*’.

State governments have begun to develop frameworks and policies for the implementation and reporting on ESD for fisheries. These initiatives recognise and examine all elements of sustainable fisheries resource management. They go beyond the requirements of sustainability of the target stocks and the fishery itself, to examine the direct and indirect impact on the environment including the broader ecosystem.

In addition to meeting these Commonwealth requirements, the framework developed by the Standing Committee for Fisheries and Aquaculture also extends the evaluation of acceptable performance of the social and economic impacts of the industry sectors along with the governance of all the parties involved in its management.

With the introduction of the *Environmental Protection and Biodiversity Conservation Act 1999* and changes to schedule 4 of the *Wildlife Protection (Regulation of Exports and Imports) Act 1982* by the Commonwealth, exports will not be permitted from the State's commercial fisheries unless those fisheries can be accredited in terms of Environment Australia's (EA) requirements. The EA requirements are based on sustainability and on the impact of fisheries on the broader environment.

Within Western Australia, that trend has further shifted with the State Government putting in place a Sustainability Policy Unit within the Department of the Premier and Cabinet to develop a State Sustainability Strategy. It is expected a draft strategy will be released for comment later this year (2002).

The ESD framework that has been adopted for WA's fisheries (Fletcher 2002) outlines a number of reporting requirements that go beyond those of the environment and the ecosystem, extending into the economic and social impacts as well as governance issues. This direction recognises the international push to develop a common framework for reporting based upon the major elements of sustainability – economic, environmental and social – or 'triple bottom line reporting'.

The State Government is currently examining the case for triple bottom line reporting for all Departments. Triple bottom line reporting means that you must report not only on financial management in terms of running your business, but also on the impact on the environment and the contribution you are making towards the social and economic development within your community.

This is likely to change the nature of reporting, not in terms of the fish caught by the commercial fisheries but increasingly the interaction with recreational and other users and, more importantly, around the impact of the fishery on the environment and the ecosystem generally.

The implementation of ESD for fisheries will therefore involve a comprehensive assessment of fisheries. This includes an assessment of the governance arrangements of each fishery, within which effective allocation is a major component.

It is likely that many of WA's fisheries that share resources would not pass an objective test on this aspect because there is no explicit specification of access shares amongst the sectors. Such a deficiency may also have long-term implications for the overall performance of these fisheries.

SECTION 4 THE NEEDS/REQUIREMENTS FOR EACH STAKEHOLDER GROUP AS THEY RELATE TO RESOURCE SHARING - THE ARGUMENTS PRESENTED

4.1 General

In the past, stakeholders in fisheries management have commonly been seen to be commercial and recreational fishers. In reality there is a wider range of stakeholders interested in the sustainability of fish stocks and resource allocation.

These stakeholders can be broadly defined as major user groups including commercial, recreational, Aboriginal, aquaculture, pearling, conservation (including ecotourism and preservation interests) - and other beneficiaries including consumers, the tourist industry in some areas, regional authorities, local communities and the general WA community who wish to know fisheries are well managed.

This section outlines the range of issues that were highlighted by user groups in their submissions to the Committee.

4.2 Commercial

The main requirements identified by the commercial sector were:

4.2.1 *Security of access*

Commercial fishing is a business and requires certainty to plan ahead and make business decisions based on future security of access. The commercial sector seeks an explicit mechanism to give certainty over continued access to the fish resource, particularly where competition with other user groups exists. The commercial industry sees this as essential to allow individuals and industry to manage their business activities.

4.2.2 *Business flexibility*

The commercial sector requires greater flexibility in management arrangements to allow businesses to make business decisions and the Department to make stewardship decisions on the management of the State's fish resources. There is an increasing commercial sector shift towards tradeable input or output-based units.

The introduction of this divisibility (via units) and greater transferability has increased the business flexibility of operators. This has also provided a mechanism for the Department of Fisheries to accommodate shifts in the community's use of fish

resources over time through the voluntary adjustment scheme. This is seen as providing industry with more business flexibility and certainty over access, and the community with an understandable reference point for resource sharing debates. Commercial fishers would like to see this flexibility expanded across all commercial fisheries to enable market-based systems to operate.

4.2.3 Compensation

Commercial fishers may make substantial investments in licences and capital in pursuit of this activity. They believe that if Government intentionally shifts access to resources from the commercial sector for the benefit of other user groups (i.e. reallocates existing usage), compensation should apply.

Compensation, or alternatively the use of market-based mechanisms, will ensure increased stewardship of resources due to a desire to maintain or enhance the value of those investments, which may be substantial.

4.3 Recreational

The key requirements identified by recreational users were:

4.3.1 Opportunity

Recreational fishers have an expectation of being able to go fishing with a good chance of catching a fish. As most recreational fishing activity is focused in inshore areas, particularly near key cities and regional centres, the relative importance of respective catch shares in key recreational areas may be of greater importance than the total catch shares.

4.3.2 Diversity of experience

Recreational fishing encompasses a wide range of values, including the opportunity to catch a family meal, to catch a large or trophy fish, or to enjoy a pristine environment. Some of these values do not readily sit with fishing at maximum sustainable levels, and spatial or temporal parameters may be as important as total allocations.

It was also suggested in some submissions that recreational groups need allocations for species such as bait fish, which they do not catch but believe are fundamental to maintain high population levels of predatory species that are targeted.

Similarly, while the recreational take of gamefish species may be small (as most are released), fishers still require access to an adequate density of fish for high strike rates that form the basis of a satisfaction measure in many recreational fisheries.

4.3.3 Access

Recreational fishers require access through land and to freshwater rivers, dams and coastal areas. Recreational fishers note that they are increasingly being affected by restricted access to pastoral leases, coastal developments (which may restrict or improve access) or zoning in marine parks.

4.3.4 Intergenerational equity

Future generations would seek to have access to recreational fisheries of at least the same quality as they enjoy today. This means not only that the species are not threatened but also the range of size classes and genetic diversity is maintained.

The Committee also noted that the distribution of both effort and catch is highly skewed in the recreational sector, with about 30 per cent of the fishers responsible for 80 per cent of the fishing effort and a similar high proportion of the catch (Department of Fisheries, unpublished).

4.4 Aboriginal

Some of the key issues identified by Aboriginal people relating to resource sharing are:

- Fish are valued highly by Aboriginal people as a food source and constitute a significant part of diet in some areas. Access to fish by Aboriginal people is important for health reasons.
- Fish and fishing are an important component of many cultural and social events.
- Aboriginal people have indicated an interest in gaining access to, or being allocated, commercial fishing access.
- They have also shown a strong interest in aquaculture opportunities and tourism ventures based on fishing.

Currently, the needs of the Aboriginal community with regard to customary and subsistence fishing have not been explicitly recognised by Government. However, section 6 of the FRMA does provide that an “Aboriginal person is not required to hold a recreational fishing licence to the extent that the person takes fish from any waters in accordance with continuing Aboriginal tradition if the fish are taken for the purposes of the person or his or her family and not for a commercial purpose”.

The Department of Fisheries is currently attempting to better identify Aboriginal requirements through its Aboriginal Fishing Strategy.

4.5 Conservation

A major concern of conservation groups was that fisheries managers tended to view sustainability as the relationship between fish stocks and fishing activity. Little or no consideration appeared to be given to wider ecological requirements of other fish or animal species (eg birds, animals) or importance of healthy fish stocks to the wider ecosystem.

The development of an ESD framework and reporting will identify these deficiencies, although it will be some time before this information is available.

The conservation sector argued that wider ecological requirements must be incorporated into the calculation of the sustainable catch (which is then used as a basis for allocations to consumptive user groups) or a specific allocation set aside (once the theoretical allowable catch is determined) to meet these requirements.

Spatial allocations may also be required in the form of no-take areas to meet other requirements, such as preservation of representative habitats, establishment of scientific reference areas, viewing purposes for which fishing may negatively impact (for example diving ecotourism) or for fishery management reasons (closures to protect breeding fish or nursery areas).

4.6 Pearling and aquaculture

The pearling and aquaculture sector requires access to wildstock fisheries as a source of broodstock. Potentially, they may also require access to juvenile stock for farming purposes. More commonly, aquaculture and other user groups compete for space arising from this sector's requirement of access to quality-protected waters.

The aquaculture groups raised a range of other management concerns, including tenure of leases and the number of approval processes required under a range of portfolios. While these issues are of key importance to the aquaculture industry, the Committee does not believe they fall within the terms of this review.

4.7 Other stakeholders

Various management papers by the Department of Fisheries (for example Fisheries Management Paper No. 135 and Fisheries Management Report No. 7) have noted that regional economies benefit from sustainable fish stocks and a well-managed aquatic environment. Fishing and related activity may provide significant employment in regional centres.

The quality of fishing in an area or marine resources are a regional tourist drawcard. There is also a wide range of service industries covering bait supplies, tackle shops,

boat builders, gear manufactures, hoteliers, restaurants and retail fish shops which depend on sustainable fish stocks.

With the health benefits in eating fish now widely recognised, consumers wish to be able to buy good quality fish at a reasonable price.

Increasingly there is a growing environmental awareness in the general community, who like to know that fish stocks are sustainable and being well managed

It is important that for a truly integrated management model the full range of these considerations are taken into account in decision-making.

SECTION 5 KEY MANAGEMENT ISSUES

A wide range of issues was identified in the submissions presented to the Committee and discussions with the user groups during the process. Many of these related to specific fishery management matters, which will need to be considered during future reviews under an integrated framework.

However, arising from these, the Committee has identified a number of key issues relating to the introduction of an integrated management system and the resolution of resource allocation issues. These are summarised in this section.

5.1 Property rights

Commercial fishing interests in Australia and elsewhere have pressed the notion of property rights in fisheries. This is reflected in submissions made to the Committee.

The Committee is faced with a two-fold difficulty in this regard. The first lies in giving a satisfactory meaning to the expression 'property rights' in the context of a resource, which is unowned while it is in the sea. The second difficulty is to determine just how far any such rights have a place in an integrated management structure such as the Committee has recommended.

Much of the controversy surrounding this subject is semantic in nature, arising from the use of the term 'property rights' as if it had some clear meaning in the present context and from a tendency to draw analogies from rights in much different contexts. We shall explain what we mean.

At common law fisheries resources, at least those in oceans, are common property and while in the sea are not capable of ownership as that term is usually understood.

While that is still the position at common law, legislation has placed many controls on the taking of these resources, whether for commercial or recreational purposes. Those controls which may arise through bag and size limits, fishing seasons, closed areas and licensing regimes have, paradoxically, been seen by some as giving rise to property rights because the resource may then be taken in conformity with the law.

Understandably commercial fishers have pressed this approach, particularly in response to pressure from recreational fishers and from wider community interests.

The next step is to contend that what statute law and regulations permit is a property right, at any rate it should be recognised as such, carrying with it the security that accompanies title to land. Of course title to land, even freehold title, may be burdened with a variety of constraints through legislation, regulations and by-laws.

The argument for property rights in fisheries resources has gained support from the introduction of such devices as individual transferable quotas (ITQs) in some

jurisdictions, especially where they are accompanied by an expectation of licence renewal. The FRMA creates a system of licences within managed fisheries and a licence registry whereby security interests may be registered against fishing authorisations.

For their part, those who fish for recreational purposes may see themselves as having a “right” to take their share of fish stocks. In truth, however, the resource is common property but it is for Government to determine who has access to the resource and on what conditions.

In *Commonwealth of Australia v Yarmirr* [(2001) 184 Australian Law Reports 113 at 114-115], the Croker Island Case, the High Court of Australia held that native title rights and interests over marine waters, relating to fishing and general access, are not exclusive. In the course of its judgement the majority explained how the common law use of the word “property” has its difficulties, commenting:

“As was pointed out in *Yanner v Eaton* [(1999) 201 CLR 351 at 366], property can be used as a description of a legal relationship with a thing, referring ‘to a degree of power that is recognised in law as power permissibly exercised over the thing.’ But as was also pointed out in *Yanner*, there are limits to the use of “property” as an analytical tool.”

This was confirmed by the High Court in *Western Australia v Ward* (judgement delivered 8 August 2002 at 159).

While a licence may be seen as having characteristics of a proprietary nature, it is the creation of government, is controlled by government and may be revoked by government. Whether revocation gives rise to an entitlement to compensation is another question that is discussed later in the report. The critical consideration in the construction of an integrated management system is that there is no property vested in anyone in the resources of the sea.

It is apparent that where a stock is fully exploited the allocation of a specified portion of the allowable take to a particular group may have an impact upon the level of resource available to another user group. This may also occur in under exploited fisheries where competition occurs in high-use areas. Where an allocation derives from a “right” to some portion of fish resources, the impact is likely to be much greater.

It must also be understood that the allocation of resources is not simply a competition between commercial and recreational fishers. The interests of other users are likely to be involved; Aboriginal people, conservation groups, aquatic tour operators and those engaged in aquaculture for instance. This is against a wider background of environmental and ecological considerations.

In addition, a wide range of other groups may have interests in an allocation process, including local businesses, tourist industry and local government authorities.

The Committee has been asked to recommend an integrated management structure. It follows that the structure must deal with the allocation of resources on an integrated

footing, not subject to pre-determined, unalterable property rights. So much about fisheries resources is unpredictable in the long term; any integrated management structure must be able to accommodate changes in the various interests to be catered for.

This approach is not intended to weaken the position of any interest. Rather, it seeks to give integrated management the place it properly demands and which government is anxious to achieve. It is the allocation of resources with which we are concerned and, so far as is possible, the approach to be taken in determining the allocation that each user group may reasonably expect. To go beyond this, is in the view of the Committee, to go beyond its terms of reference.

The Committee does not suggest that the machinery provisions presently in use should not continue. However undue emphasis on rights in the case of any user will lead to the loss of the flexibility needed for an integrated approach.

Whether changes in the allocation of resources may give rise to claims of compensation and, if so, how such claims should be dealt with are important questions and are discussed later in the report. They are not however critical to the form an integrated structure should take.

The expression 'catch shares' is used widely and with varying connotations by user groups and to some may imply some form of ownership or right. The Committee therefore believes it is preferable to use the term 'allocation' when referring to an explicit designation of the resource for use by a particular user group. Where the term 'catch shares' or 'shares' is used in this Report, it reflects the historic or existing use of the resource which may not have been made in an explicit manner.

5.2 Information to support management decisions

Data is required on two levels: biological and stock assessment information for sustainable management, and wider economic and social information to assist with allocation decisions.

5.2.1 Sustainable management

A crucial element in the management of fishing is the availability of good quality time-series data on fishing activity, catches, and fish populations. This needs to be supported by effective fishery assessment, and where possible, the development of predictive sampling programs that can serve as indicators of the future abundance of fish populations and hence sustainable catches.

In effect, these two research strategies in combination can provide data on fishery performance which allows changes in fish abundance and fishing pressure to be tracked from year to year, and for an analysis of the health and sustainability of the fish population to be made.

Good time series data is available on the major commercial fisheries. Licensed recreational fisheries, including abalone, marron and rock lobster, have annual monitoring programs that provide a picture of catch and effort trends and the condition of the stock around which management changes can be based.

The major gaps are in the finfish fisheries, which attracts the largest recreational participation and effort. A number of regional recreational catch surveys have been undertaken which provide valuable information on the recreational catch.

These include:

West Coast	1997/98 (boat-based only)
Gascoyne	1998/99 (boat and shore)
Pilbara	1999/00 (boat and shore)

Surveys of the Kimberley and South Coast regions have not been undertaken nor is there complete recreational data on major estuarine systems.

A national recreational survey conducted in 2000/01 provides the only period in which estimates of the recreational catch are available across all WA recreational fisheries. This information is not yet available, however, the Committee is aware there are some concerns over the usefulness of this data for allocation purposes, particularly at a local level. It may, however, provide additional data which may be useful for estimating catch at a broad regional level, in order to determine existing baseline catches.

Commercial fishers are required to complete and submit catch return information on a monthly basis, which is recorded by the Department of Fisheries. Concerns were raised with the Committee about under-reporting and 'cash sales', particularly in the wetline fisheries. It is important that adequate validation and monitoring of these returns is undertaken to ensure the integrity of this data.

The commercial catch data is recorded in 60 nautical mile grids, which is significantly larger than the five nautical mile grids used for recording recreational surveys and charter logbook information. The standardisation of this information at the five nautical mile grid size would appear to offer significant advantages for allocation discussions.

The relationship between participation and effort and actual catch is also important, particularly in the rapidly expanding recreational sector, to determine whether these increases result in a commensurate increase in catch.

The Committee is not aware of any information on levels of Aboriginal catch or requirements of fish resources.

Information on wider ecological requirements or impacts of fishing is limited. While these knowledge 'gaps' regarding wider ecological needs are being identified through the ESD process, it will be some time before this information is available.

The development and funding of a comprehensive research and monitoring program encompassing all user groups is essential to provide the necessary information for allocation issues to be addressed.

5.2.2 Socio-economic factors

Increasingly, communities are demanding that the impacts of fishery management policies on social structures and economies of towns be considered and that these matters are important in the sustainable management of fisheries.

If one of the aims of management is to maximise community benefits from the use of fish stocks, it is important to be able to identify and measure a more complete range of relevant economic, social and environmental factors.

This information is essential to address perceptions and ensure decisions are made objectively. Decisions around the appropriate allocations to each user group may then incorporate wider criteria than mere historical rates of participation or a comparison of past catch values and expenditure levels.

Instead, where practical and necessary, full assessments of the economic and social costs and benefits to each sector may be undertaken along with the environmental implications of any decision. While such comprehensive analyses are not currently available, they will form major components of the ESD assessments to be completed for each of the sectors and hence will be available for this purpose over the coming years.

The collection of detailed social and economic data should be given high priority for fisheries where it will be used for comparisons among sectors. However the collection of this range of information represents new business for fisheries and will impose further resourcing demands.

Recommendations

1. *The Western Australian Government introduce an integrated management system for the sustainable management of Western Australia's fisheries.*
2. *The development and funding of a comprehensive research and monitoring program encompassing all user groups is essential to provide the necessary information for sustainability and allocation issues to be addressed under an integrated framework.*
3. *The Department of Fisheries examine the costs/benefits of standardising catch information at five nautical mile grids to provide comparative information across all user groups.*

5.3 Management objectives for each fishery

A key concern of all stakeholders was that there is no clear statement of management objectives for each fishery. This issue has probably only become more critical as fisheries have approached full exploitation and competition between user groups has intensified, particularly in high-use areas.

The lack of explicit direction for management invariably leads to mixed messages and different expectations among various user groups about where priorities in the use of particular fish stocks should lie. This leads to groups raising arguments that are based upon their view of management priorities. These arguments are often not supported by any data or fact and are largely based on perceptions.

The absence of any clear management direction leads to decisions being made, or at least perceived to being made, subjectively. If these decisions are made more intuitively, this is not apparent to stakeholders because the rationale is seldom explained or made available.

The WA Auditor-General in his 1999 report recommended: “Fisheries WA should augment management plans with statements of aims and objectives, performance indicators and consultative arrangements”. The Committee also noted that these requirements are also now specified in the Department of Fisheries’ policy for the implementation for Ecologically Sustainable Development.

5.4 Basis for determining allocations of shares

A key concern of user groups was the need to develop a clear understanding of the basis on which allocation decisions will be made. The current management framework offers a number of options for implicit allocation of fish resources to various user groups, many of which are currently in use.

However, the major gap in current policy at a government and fishery management level is a lack of explicit definition of what the resource shares for each user group might comprise, both in form and in quantity, and a lack of any explicit assurance of security of access.

Under the present system, there are real concerns that political considerations at a local level may exert significant pressure on the decision-making process and impede objective decision-making.

Within the framework of integrated management, a set of guiding principles is required to provide a broad set of ‘business rules’ as the basis for ongoing management decisions.

5.5 Consideration of wider interests in management

Input from key user groups and the wider public is essential if fisheries are to be managed in the best interests of the Western Australian community.

While commercial and recreational groups currently play a key role in management processes for their particular sectors, the role of other users, such as Aboriginal and conservation groups, is less obvious.

Allocation decisions will also need to take into account wider interests than those proffered by competing user groups. These decisions are likely to have significant implications for regional communities through employment and tourism concerns, and wider community representation in these processes is important to ensure the full range of issues is presented for consideration.

Sectoral representation, such as the existing Management Advisory Committees and representative organisations of various user groups, will still be important in the development of management arrangements for that sector. However the efficiency and effectiveness of the current representative structure may need to be reviewed to ensure adequate representation under an integrated management framework.

5.6 Coastal and marine planning

One of the difficulties facing the fisheries sector generally in the marine environment is the common property nature of marine resources and poorly defined user rights.

There is increasing pressure on the marine environment from a variety of users, such as those in the fishing, aquaculture and tourism sectors, and coastal development, together with a growing community desire for unfettered access to the marine environment and for conservation of important areas, habitats and species.

Increasingly, competition in high-use areas has seen groups seeking to exclude other activities from these zones. Reducing access to fishing interests may intensify allocation issues in other areas. Planning processes undertaken outside of fisheries therefore have the potential to undermine any arrangements determined under an integrated fisheries management system.

For example, for certain types of aquaculture there is a shortage of high-quality marine sites. Suitable sites tend to be in high-use areas and close to major townsites. This often results in a high level of conflict between aquaculturalists and other users and the general community.

Currently, a number of State Government agencies undertake planning work in the marine environment:

- The Department of Conservation and Land Management prepares plans for marine nature reserves, marine parks and marine management areas.

- The Department of Fisheries prepares fish habitat protection areas plans, aquaculture plans, commercial fisheries management plans, recreational fisheries management plans, and fisheries environmental management plans.
- The Water and Rivers Commission prepares waterway management programmes for estuaries and inlets.
- The Department of Planning and Infrastructure plans for port and harbour development and marine safety.
- The Department of Mineral and Petroleum Development plans for resource development in State waters.

There is also a degree of uncertainty with respect to native title in the marine environment although this has been mitigated to some extent by the recent *Croker Island* High Court decision.

Because of the vast area of WA coastal waters, these activities have been able to occur in the past with limited interaction but as the development and use of coastal waters increases greater competition will occur, as will conflict in the absence of any integrative framework.

While agencies and interest groups may work together to integrate their activities, there is no legislative framework for planning in the marine environment. In addition, existing land use planning processes for coastal lands often do not integrate the use of coastal land and the use of the adjoining marine environment.

Since expectations for the use of the coastal and marine environment are diverse, this shortcoming will lead to increasing conflict between users as the development of the State intensifies.

A move away from the current ad-hoc approach to planning in the marine sector is required. While these issues lie outside this Committee's terms of reference, consideration of a wider integrated marine planning strategy is a matter that invites attention by the State Government.

5.7 Comparisons between user groups

The Department of Fisheries' submission to the Committee pointed out that there is substantial disagreement about how to make comparisons of the relative benefits of resources allocation among sectors. Protagonists in resource sharing debates have in the past cited the dollars spent by recreational fishers or the dollars generated by the commercial sector as justification for shifting allocation from one group to the other.

However fishery resource valuation must incorporate not just monetised measures of immediate use but also a complex package of social, environmental and cultural factors.

More appropriate economic analytical techniques are now available which generate values of sufficient equivalence to compare the net economic benefits of the sectors directly (for example Hundloe 2001). A study is currently underway in WA (Fisheries Research and Development Corporation 2001/065), to examine the usefulness of these techniques in estimating the value for both commercial and recreational use across three distinct fisheries, and to help establish whether a non-optimal allocation exists in a particular fishery.

However in most fisheries good data is not available and there may be ongoing arguments about the assumptions used in making these calculations. It must also be considered whether these techniques can satisfactorily incorporate environmental and other interests.

Alternatively, the Department of Fisheries' submission notes it may be possible to examine the relative impacts of any potential shift in the existing allocation among groups across various ESD components and model the relative costs and benefits. Because these assessments are mostly completed within a sector, there may be fewer assumptions to generate conflict.

It does not appear that current techniques can provide an answer to allocation issues in any quantitative sense, but they may provide valuable information and comparisons to assist decision-making and help reduce the level of disagreement around optimal allocations.

Determination of the most appropriate level of allocation to the various user groups will require an objective assessment of a range of criteria based upon the costs and benefits of a wide range of social, economic and environmental components. These assessments must be made on a fishery-by-fishery basis.

In general, as the difference between the current catch 'shares' and the proposed optimal allocation levels increases, so does the requirement to quantify the justification for this change.

The need for information across a full range of criteria is likely to be most pressing in fisheries where the catch is distributed evenly and there is high competition between users. In such instances some analytical comparison of uses may be beneficial.

The most appropriate techniques applied in a fishery will depend upon the costs and timeframes for these techniques and the value of the fishery. This is a matter that is addressed under the framework recommended later in this Report.

5.8 Market-based systems

Where access rights have been issued to the commercial fishing industry in WA, together with transferability of entitlements, markets have become established. These arrangements have allowed adjustments to occur within the private sector by facilitating a market price for the entry and exit of licence holders.

However, under an integrated system, even transfers within the commercial sector may require scrutiny to ensure the pattern of fishing activity does not alter significantly and impact on other users.

Submissions from the WA Fishing Industry Council have pressed the notion for market transfers to also apply across sectors, noting that “market-based systems ensures that use of or access to marine resources are directed to where the community values them the most. That is, the market is determinative of use of marine resources”.

As discussed previously, WA does not currently have a rights-based regime which would be necessary to enable the trading of fishing entitlements between sectors. The Department of Fisheries submission (Fisheries Management Report No. 7) contends it is theoretically possible to establish a market-driven reallocation mechanism to facilitate adjustments across sectors by creating rights within the recreational fishery, and perhaps other sectors, that are tradeable.

However for a market to operate effectively, fishery resource valuation would have to also incorporate a complex package of socio economic and cultural factors that lie outside the market system. This presents difficulties as there does not appear to be any commonly accepted method of estimating the value of these factors and incorporating them into market-based mechanisms.

Transfers in allocation between sectors may also change the level of environmental impacts in a fishery. For example, an increase in allocation to the commercial sector, or indeed a transfer between different types of commercial fishing may, in some fisheries, increase the level of bycatch or habitat damage. Alternatively a shift in allocation to the recreational sector may generate other impacts, such as additional mortality through catch and release.

It is difficult to see how such a wide range of factors could be properly accounted for in a market-based approach while meeting the wider requirements of both ESD and integrated management.

As fish resources are common property, the Government has the authority, on behalf of the community, to determine the preferred use of that resource. If an increase in allocation to a particular sector is deemed to be in the ‘best interest’ of the community, the Government is able to facilitate this adjustment.

5.9 Effective management of finfish catch

A key concern shared by all user groups is the vulnerable status of finfish stocks. These stocks appear to be fully exploited, are targeted by most recreational fishers, are generally available to any commercial fisher, and are not effectively managed.

In particular, there is concern over the status of a number of key species, including dhufish, red emperor, pink snapper and Spanish mackerel. Concern over the status of Spanish mackerel stocks has led the Department of Fisheries to propose that specific

management arrangements be developed for this species ahead of the recently announced 'wetline' review.

Progressing the management of finfish appears to have been hampered by lack of information on status of finfish stocks and concerns by both the commercial and recreational sectors about how the other will be constrained. As competition between user groups has intensified, it has prompted calls to deal with all user groups simultaneously.

The recent development of more concise management arrangements for recreational fishing on the West Coast and Gascoyne regions has raised the question of why recreational bag limits should be reduced when the commercial fishery remains essentially 'open access' (whereby any licensed fishing boat may go wetlining).

In this regard the Committee noted that in July this year, the Minister for Fisheries announced a review of the wetline fishery to develop a more effective management framework. Arrangements need to be introduced that are able to constrain the commercial finfish catch within an allocation.

The regional management approach being adopted for recreational and charter management appears to provide a spatial scale of management, which if adopted by the commercial finfish sector, would provide a level of comparability in which to examine allocation issues for finfish.

Specific concerns over the precise placement of regional boundaries were raised in a number of public submissions (Appendix D). These should be resolved by the Department of Fisheries in consultation with stakeholders as part of the 'wetline' review.

Similarly the commercial industry argues that recreational effort is unconstrained (as there is no constraint on the number of participants) and has expanded significantly over the past decade.

Clearly, complementary management of all user groups is essential to protect the viability and health of fish stocks and a move to a higher level of management is required, particularly for both the commercial wetline sector and the recreational sector, which includes the fishing charter sector.

SECTION 6 REQUIREMENTS OF A NEW FRAMEWORK

The primary aim of fisheries management must be to ensure ecological sustainability while allowing the optimal use of that component of fish resources available for use by the community. Each user group has, and will continue to have, differing ideas and expectations on the ‘best use’ of the resource. The aim of an integrated process should be to achieve the mix of uses, which achieves the greatest overall community benefits.

By its very nature, the mix that represents ‘best use’ of the resource will change as community demands and expectations change over time. There will never be any one ‘right’ answer and it is therefore essential that whatever structure is ultimately adopted, and whatever the roles of the Minister, Department, stakeholders or some other established body, the processes are open and transparent so that decisions may be scrutinised and their basis understood by all.

In order to address the deficiencies that have hampered the existing management structure from making resource sharing decisions or effectively managing sectoral catches, a new management framework must endeavour to be all of the following:

Open and transparent

- Clearly run independently of any dominant stakeholder group.
- Encourages information sharing and promote cooperative solutions by user groups.
- Demonstrates that all views have been considered.
- Reduces the capacity of external influences to impact on decision-making.

Accessible and inclusive

- Provides the opportunity for broad public participation in decisions that may have significant impacts on individuals and regional/local communities.
- All relevant information should be made available to interested persons in a manner readily understood across the community and within timeframes, which provide opportunity for comment.

Flexible

- The framework must allow for most appropriate methods to be utilised and modified as circumstances change.

Effective and efficient

- To ensure the timely resolution of issues.
- To recognise that limitations on funding may prohibit elaborate framework/processes.

Accountable

- The ultimate decision maker must be accountable to user groups and the wider community.

Recommendation

4. *The integrated management system must be open and transparent, accessible and inclusive, flexible, effective and efficient.*

6.1 Guiding principles for allocation

One of the key issues raised by major user groups was the need to have a clear understanding of the basis upon which decisions will be made. The adoption of a clear set of principles that provide a basis for decision-making appear to be a key requirement.

Given the diversity across fisheries, both in the mix of species, the types of user groups, and the extent to which they utilise them, this presents some difficulties. For principles to be consistent and applicable across all fisheries, they must necessarily be quite broad.

However this should not be seen to preclude establishing a more specific set of principles at an individual fishery level in the future. In such instances, these additional principles must be clearly stated to ensure transparency in the decision making process.

On this basis, the Committee proposes that the following set of principles be adopted to provide broad guidance for allocation decisions.

- (i) Fish resources are a common property resource managed by the Government for the benefit of present and future generations.
- (ii) Sustainability is paramount and ecological requirements must be accounted for prior to any allocation to user groups.
- (iii) Decisions must be made on best available information and where this information is uncertain, unreliable, inadequate or not available, a precautionary approach adopted to minimise risk to fish stocks. The absence of, or any uncertainty in, information should not be used as a reason for delaying or failing to make a decision.
- (iv) A sustainable target catch level must be set for all fisheries and explicit allocations designated to each user group.
- (v) Allocations to user groups should account for the total mortality on fish resources resulting from the activities of each group, including bycatch and mortality of released fish.

- (vi) The total catch across all user groups should not exceed the sustainable target catch level. If this occurs, immediate steps should be taken to reduce the take within prescribed levels. Management arrangements for each user group should aim to contain their catch within the level set for that group.
- (vii) Allocation decisions should aim to maximise the overall benefit to the Western Australian community from the use of fish stocks and take account of economic, social, cultural and environmental factors.
- (viii) Allocations to user groups should generally be made on a proportional basis to account for natural variations in fish populations. This general principle should not however preclude alternative arrangements in a fishery where priority access for a particular user group(s) may be determined.
- (ix) Allocations are notional – they are not “owned” by a group – however management arrangements must provide users with the opportunity to access their allocation.

Recommendation

5. *These nine principles be recognised as the basis for integrated management decisions and, where appropriate, incorporated into fisheries legislation. More specific principles to provide further guidance around allocation decisions may also be established for a particular fishery.*

SECTION 7 PROPOSED NEW FRAMEWORK FOR THE INTEGRATED MANAGEMENT OF FISHERIES

This section examines the structures and processes that the Committee considers are necessary for the determination and allocation of the resource to user groups.

The recommendations in this section are aimed at facilitating a fundamental shift in the management of fisheries. It is not practical to expect an ‘overnight change’ in management processes.

The Department of Fisheries submission suggests it may take five to ten years to implement any new framework across all fisheries. In the interim, fish stocks and pressures upon them will not remain static, and management will continue to require amendment during this transitional phase. This raises a number of potential implications that are discussed in section 7.4.

The introduction of a new management system, along with the requirements of ESD reporting, will have major implications for the level and type of information collected on fisheries. It will be some time before the necessary information is available. Methods of data collection and assessment techniques will also continue to develop, particularly across economic, social and ecological factors.

The introduction of a new framework must therefore be seen as evolutionary, and the structure adopted must contain inherent flexibility to allow it to be modified and improved over time.

There are a number of broad stages in an allocation-based model:

- The determination of sustainable catch levels;
- The allocation, and adjustment, of resource use between user groups; and
- Management of each group within a determined allocation.

While the Committee’s terms of reference predominately focus upon allocation processes, it is important to provide some general comment around the processes used to establish sustainable target catch levels and management of groups within the allocations.

7.1 Determination of sustainable catch levels

The setting of target catch limits is fundamental to ensure sustainable management.

The estimation of sustainable levels of total catch requires a detailed knowledge of fish stocks and their interaction with fishing effort over time, along with an assessment of wider ecological requirements. The level of information available will vary between fisheries, as will the confidence in these estimates. Clearly, it will be

some time before quality information is available for many fisheries, particularly for many finfish stocks.

However this must not be seen as an excuse to delay management. Rather the limitations of data should be recognised and, where necessary, a more precautionary approach to management adopted.

As these estimates will form the basis for allocation decisions, it is essential that the information used is seen to be of integrity by user groups and accepted as the basis for decision-making. Otherwise user groups may feel aggrieved by the allocation process. The involvement of stakeholders in this process and ability to scrutinise science is therefore essential to ensure common understanding.

Stakeholders may have valuable information, which should be considered as part of this assessment process, and in the initial design of research projects (for example, changes in fishing techniques or behaviour, environmental changes and environmental impacts). This may particularly be the case in smaller fisheries where only limited research information may be available.

There appears to be considerable advantages in ensuring this information is readily available and all interested groups and individuals have opportunity to participate in this process. The system adopted in New Zealand (see Appendix E), which appears to be well accepted by stakeholder groups, provides a good example of how this may be done.

Given the importance of ensuring understanding and acceptance of sustainable catch targets, this process must ensure consultation and provide the opportunity for participation by interested parties. The Committee suggests the following process as a basis for establishing sustainable catch levels in a fishery.

The Department of Fisheries compile all known information on each fishery. These reports will develop greater detail as required over time, however they may include:

- Profile of the fishery, including description of area, distribution of species and stock, user groups, no-take areas, fishing methods;
- Catch information, including incidental take;
- Biology and stock assessment information, such as biological data, status of fishery, level of exploitation (both total and by user group);
- Ecological impacts, such as impacts on non-target species (fish, birds, habitat);
- Biological indicators/reference points;
- Economic information, including value, employment, regional development; and
- Social impacts, including participation, cultural issues, lifestyle factors, and availability of fish to consumers.

A fishery-working group, comprised of representatives from key stakeholder groups (which may include fishery managers, researchers, commercial, recreational, Aboriginal, conservation interests) should be established to develop a draft sustainability report, which is released for public comment.

As part of the process of compiling a draft sustainability report, there may be considerable benefit in convening a public forum at a location(s) relevant to that fishery, which will provide an opportunity for any group or person with an interest in the fishery, or effects of the fishery, to contribute data and raise issues. A record should be kept of issues raised and provided to the fishery-working group for review.

The fishery-working group should review submissions received and issues raised at the forum and provide its final report to the Department of Fisheries, including a recommended level of sustainable catch.

The Executive Director, Department of Fisheries, should approve a sustainability report, which includes a sustainable catch limit for the fishery. Copies of the report should be made available to the public, such as being posted on the Department of Fisheries website and published in the Department's annual State of Fisheries report.

The ESD framework (Fisheries 2002) includes these requirements. However due to the priority in meeting the environmental assessment requirements of Environment Australia (see section 3.3), currently only the environmental and governance aspects of ESD for those commercial fisheries with an export component are being examined in WA.

These are predominantly commercial fisheries and consequently consultation processes to date have been based around the relevant commercial Management Advisory Committee, although other relevant stakeholders are invited. Therefore it is not clear to the Committee that current ESD processes have involved full consideration of all users and interest groups. This is necessary to ensure full scrutiny of catch estimates and other research information.

The Department of Fisheries has advised it is likely to take five or more years to complete full ESD reports encompassing all user groups within each fishery. The ESD reports are likely to be extremely comprehensive and the information collected can be used as a basis for both sustainability and allocation processes.

Provided the ESD processes satisfy the information and consultative requirements outlined above, there is no need to duplicate this process. It may however be preferable to recast this information and present only the information required to focus these discussions.

It was noted that ESD will impact on the technical requirements around setting the sustainable catches and reporting. For example, the incorporation of societal goals and values under an ESD approach may influence the acceptable levels of exploitation well above any biologically-based limit.

Recommendations

6. *A working group comprised of representatives from the Department of Fisheries and relevant interest groups be established for each fishery, to undertake widespread consultation and develop a draft sustainability report for each fishery.*
7. *The Executive Director, Department of Fisheries, approve a Sustainability Report for each fishery, which includes a clear statement on the sustainable target catch level.*

7.2 Allocation of the resource

Allocation issues arise at different levels, including:

- The allocation of the overall sustainable target catch across a fishery between various user groups; and
- Competition in space and time between user groups in defined areas.

These levels are inextricably linked. The designation of explicit allocations to user groups (such as in the form of a quota) will not address competition issues at a local level. Similarly, the use of zoning as a tool on its own (as adopted in marine park planning) cannot address overall allocation and sustainability issues.

An integrated management framework must therefore allow for the development of solutions that can more effectively address both broad-scale allocation issues as well as local competition issues.

A variety of methods, involving quantity, space, time, or a combination of these, can be used to define allocations. The method chosen must be appropriate to the fishery and to each sector. Generally, net profit is the most important element for the commercial industry whereas enjoyment of experience and food is the priority for the recreational sector.

For Aboriginal communities, food, tradition and cultural reasons are significant, while non-consumptive users may have different values again. Accordingly, the method of allocation may not be exactly the same for each sector provided that in combination, they achieve the appropriate outcome, reflecting the diversity of interests referred to above.

Given the wide range of tools and combinations possible, stakeholder groups should play an integral role in the development of these management arrangements. The definition of explicit catch allocations may provide an opportunity for inefficient controls to be removed, provided alternate measures are available which effectively constrain catch within prescribed limits.

The Committee recognises this will be an evolving process, and management will need to be adapted over time to tailor arrangements for each fishery.

Community expectations and demands over the use of fish resources will change over time so an integrated framework must allow for adjustments in allocations to occur, both within and between sectors.

Resource shifts from one sector to another (or within the commercial sector) has already been undertaken in WA through commercial licence buy-back schemes. These have been used to reduce actual and potential commercial fishing effort for industry restructuring programs or to achieve resource share shifts.

The major criticism of these programs has been that the objectives have been unclear. They may not have achieved the outcomes desired by user groups and the outcomes may not represent the optimal use of the resource.

The challenge then is to develop a system in which allocation decisions can be made objectively and clear outcomes achieved. For a truly integrated system of management, it is important that the views of all stakeholders and the wider community are taken into account and the basis for decisions made transparent.

Given the wide range of considerations involved and the limited nature of fisheries resources, these decisions will remain value judgements. Additional tools and methods to assist these deliberations will evolve over time, however it is unlikely these will provide a quantitative answer in the foreseeable future.

The unique range of biological and environmental characteristics of each fishery, along with differing community expectations, precludes the Committee from being able to develop more specific principles to guide allocation decisions. These issues will need to be carefully considered on a case-by-case basis for each fishery under the new framework.

7.2.1 Integrated Fisheries Allocation Council

Given the highly contentious nature of decisions regarding the allocation of fish resources and their propensity to become political issues, there are good reasons for the establishment of an independent body responsible for assessing the most appropriate allocation of the sustainable catch as part of the process of ensuring an acceptable system of integrated management.

A key focus of the Committee's discussion centred on whether this body should be advisory to the Minister or determinative in its own right (that is, be delegated the power to make binding decisions).

The Committee was initially attracted to the concept of a statutory body with power to make decisions binding on government and all concerned in the allocation of the sustainable catch. Those decisions would be made by an independent body and present a picture of transparency and accountability.

However, there are drawbacks in conferring decision-making power in this new and untried area. Those drawbacks were among the considerations that led the Committee to the conclusions it has reached.

We shall explain the reasons that have led us to recommend an advisory body, but we should make it clear that, in any event, such a body must have those qualities of independence, transparency and accountability.

Independence requires that neither the Council nor its Chairperson be subject to the direction of the Minister in the advice it provides. Section 8 of the *Environmental Protection Act 1986* provides a guide to how this may be done. Transparency speaks for itself; how the Council operates and the advice it gives must be available to all concerned.

Accountability requires that the Minister answers for all decisions made on the advice of the Council. These are qualities that can be ensured whether the body gives advice or makes decisions. Again whether such a body is advisory or determinative, it needs statutory recognition to spell out clearly its composition, its functions and the powers it possesses.

The objective of this review is to find the most satisfactory system of integrated management. Management embraces every aspect of fishing, not just the activities of individuals or groups but the wider issues of ecology, the environment and the demands of the community at large. The purpose is not to resolve disputes, though groups will have legitimate interests to bring before the Council.

The process of allocating the sustainable catch between various interests involves to a large degree making value judgements and, to that end, the freedom to adapt flexible procedures in relation to regions, fisheries and species, and to monitor what will necessarily be an ongoing process.

Whether decisions reached by a statutory tribunal in this regard would be susceptible to challenge in the courts as the law now stands - or as it may stand if an administrative appeals tribunal is introduced in Western Australia - is not a matter on which the Committee can or should express a view. There are too many imponderables.

Although the allocation process does not bear directly on the interests of particular individuals, experience in Australia and in New Zealand, Canada and the United States suggests that a decision-making power could involve the Council in legal challenges from the outset which could impede the innovative work the Council is called upon to carry out.

In saying that, the Committee does not suggest that if anyone suffers particular financial loss through the allocation process, there should be no remedy. We discuss the issue of compensation later in this Report.

It is important that the allocation process be as flexible a possible, consistent with the requirements of transparency. For the reasons we have just outlined, the Committee was led to conclude that a body with power to advise and make recommendations to

the Minister would be more likely to achieve the objects for which the allocation process was designed.

The overriding consideration is the process of integrated management and the allocation it entails must be transparent. As mentioned earlier, transparency cannot be guaranteed unless the activities of the Council, the advice it gives and the recommendations it makes are made public.

However transparency cannot be achieved satisfactorily unless the Minister accepts a responsibility to explain publicly any departure from the Council's advice and recommendations. Furthermore, that is the only way to ensure accountability.

What form the explanation takes may be better left to the political process, but a ministerial statement to the Parliament may be the most appropriate way of dealing with the matter. What is important is that the Minister's obligations in this regard are statutory. The Committee considers that these obligations should be extended to any direction given to the Council by the Minister.

The Committee has not found any comparable model for what it proposes in this regard. Perhaps the closest is to be found in the *Fisheries Management Act 1991* (Commonwealth). Section 18 prescribes a procedure whereby the Australian Fisheries Management Authority (AFMA), in determining a plan of management for a fishery, must submit the plan to the Minister.

The Minister must accept the plan if it appears AFMA gave due consideration to any representations it received and conducted adequate consultations before determining the plan and further that the plan is consistent with AFMA corporate plan and current operational plan.

If the Minister does not accept the plan, the Minister must refer it to AFMA, informing AFMA why it was not accepted. AFMA must then take steps to ensure acceptance of the plan and again submit it to the Minister. This process continues until the Minister accepts the Plan or AFMA withdraws it.

In the Committee's view this is not an appropriate model for the system of integrated management it proposes. The Council we propose has a broad charter that does not lend itself to the process of referral and resubmission.

Such a process may detract, or be seen as detracting, from the independence of the Council. As well, the process lacks the complete transparency which the Committee sees as an essential requirement. That transparency is best achieved by attaching publicity to the Council's advice and to any departure by the Minister from that advice.

It may be asked: why should the Minister have to explain in a formal way his unwillingness to accept what are advice and recommendations? The short answer is that the conditions which led to this Committee being constituted to propose a system of integrated management with the characteristics to which we have referred, requires either a decision-making body or an alternative process that leaves the ultimate power

to the Minister, but only if the reasons for not accepting the advice and recommendation of an advisory body are fully explained.

Indeed if the choice were between an advisory body where the Minister was not required to explain departure from its advice, on the one hand, and a decision making body on the other, the Committee would opt for the latter.

7.2.1.1 Role

The Council should be responsible for investigating resource allocation issues and making recommendations on optimal resource use to the Minister for Fisheries including:

- Broad allocations between groups within the sustainable catch limits determined for each fishery;
- Strategies to overcome temporal and spatial competition at a local/regional level;
- Allocation issues within a sector as referred by the Minister; and
- Other matters involving the integrated management of fisheries as referred by the Minister for Fisheries.

Within its prescribed powers, the Council should have wide ranging scope to seek information from any available sources or request the Department of Fisheries to obtain such information. Clearly, the Council must give due consideration to the costs/benefits in obtaining this information.

In carrying out its functions, the Council should be required to:

- Consult widely with user groups and interested parties; and
- Identify information required to assist in making allocation decisions, bearing in mind the cost of collection balanced against the fishery value.

7.2.1.2 Composition

The Committee recommends the Council comprise a Chairperson and four members.

It is important that members of the independent body be seen to operate outside of any sectoral interests. Therefore the Committee does not support a representative or stakeholder-based membership, as it may be difficult for members to take an objective long-term view.

In any event, as appears from the next heading ‘Advisory Bodies’, the Council will be assisted by other advisory bodies in which sectoral interests will be represented.

The body should be expert based, collectively bringing a range of relevant skills to the Council. It is perhaps important not to be overly prescriptive on the skills/experience of each individual member, but collectively they should provide the Council with the range of required skills.

The Committee suggests these may include legal, adjudicative/mediation skills, administrative, financial/business, strategic planning, analytical skills, and knowledge of fishing or fisheries management.

Appropriate levels of remuneration must be offered to ensure persons with the appropriate skills/expertise are attracted. This is clearly a role for Government to determine in accordance with public sector standards for similar high-level bodies.

7.2.1.3 *Advisory bodies*

The Committee discussed a range of consultative options involving the establishment of advisory groups, such as joint stakeholder reference panels or technical advisory groups to provide specific advice to the Council.

The establishment of such bodies was seen to be overly bureaucratic and unnecessarily adding to costs. There are already a number of management advisory committees and representative bodies that fill this role. That said, there will be a role under the new structure for the Council to establish consultative groups on an ‘as needs’ basis.

This should be a matter for the Council to consider on a fishery-by-fishery basis. The composition of any group established must clearly include representation from all parties likely to be affected.

For example, for a regional finfish fishery, there may be merit in establishing a regional advisory body, which in addition to the obvious fishing user groups also includes representation from bodies such as local government bodies, business associations and regional development commissions. This would ensure broad advice across all relevant issues.

Recommendations

8. *An Integrated Fisheries Allocation Council be established by statute and be responsible for investigating resource allocation issues and making recommendations on optimal resource use to the Minister for Fisheries including:*
 - (i) *broad allocations between groups within the sustainable catch limits determined for each fishery;*
 - (ii) *strategies to overcome temporal and spatial competition at a local/regional level;*
 - (iii) *allocation issues within a sector as referred by the Minister for Fisheries;*
 - (iv) *more specific principles to provide further guidance around allocation decisions for individual fisheries; and*
 - (v) *other matters involving the integrated management of fisheries as referred by the Minister.*
9. *The Integrated Fisheries Allocation Council comprise a chairperson and four members, not representing sectoral interests in any fishery.*

10. *The Minister for Fisheries be required to explain publicly any departure from the Integrated Fisheries Advisory Council's recommendations or advice. This obligation should extend to any matter referred to it by the Minister.*

7.2.2 Council process for determining allocations

Ideally, allocation decisions should come from processes that facilitate solutions accepted by user groups, the broader community and Government. However given the diversity in fisheries and types of allocation issues, there appears to be no single process which will be appropriate in all circumstances.

For some of the major commercial fisheries, where the take is predominately taken by a single user group (for example, prawn and scallop fisheries), the need for an allocation process is not likely to be an issue or it will be one of low priority. For the finfish fisheries where interaction between commercial and recreational fishers is high, the need for an allocation process is likely to be more urgent.

The Council must firstly determine in which fisheries there is an allocation issue. This may not be apparent until the Council has had the opportunity to review all available information on each fishery, considered the views of various user groups and determined the priorities it will apply.

The Council should invite submissions based on information contained in the fishery sustainability report, around the appropriateness of existing 'shares' between user groups or allocations from time to time.

Following an evaluation of this information, the Council should determine if a review is required. If the Council does not support a review, it should prepare an allocation paper based on existing shares for consideration by the Minister. This should clearly document the reasons why change is not required.

If the Council determines there is an allocation issue of substance, it should institute the most appropriate process for resolving the issue.

This process may involve the Council inviting submissions, holding hearings, or perhaps establishing a mediation process between relevant parties, however it is important not to be overly prescriptive. The framework should provide the Council with the flexibility to ascertain the most appropriate process for facilitating an outcome depending upon the type and magnitude of issue and the range of interests involved.

Management processes driven co-operatively by stakeholder groups may provide greater opportunities for resolving some resource sharing issues, particularly those largely driven by perception or localised issues involving competition for access in specific areas. In such circumstances, the Council may well see mediation between parties as the preferred approach.

This could be in the form of a formal mediation process as used in the Cockburn Sound Crab Managed Fishery, or smaller less formal processes such as was undertaken in the barramundi fishery. A discussion on the use of mediation processes in WA fisheries is contained in a fisheries publication (Wright 2000).

The outcomes of any mediation processes must be made publicly available and comment sought prior to consideration and recommendation by the Council. However it must be stressed that the tasks of the Council are not met, simply because of agreement between the user groups.

The Council's obligations, as the report stresses, are also to protecting the environment and the interests of the wider community.

The demand for more innovative management solutions will increasingly be required as pressure on fish stocks and competition increases. Such solutions require a detailed understanding of the fishing industry and should therefore be developed cooperatively with industry.

Whichever evaluation model is chosen, the Council must determine the principal parties for inclusion in any processes. It is also important that the Council sets a clear timeframe for completion. This may be difficult with groups such as the recreational and indigenous sectors where it will always be difficult for a single body to claim to be representative.

Who represents each of the relevant parties in any established process will be a key issue. Public acceptance of any negotiations or determined decisions is strongly dependent upon the "fairness" of representation around the negotiation.

The range of affected or interested parties will vary depending on the nature and location of the fishery. Those from the affected fisheries should be present, which may include commercial, recreational, charter and Aboriginal interests.

Other groups such as local government authorities, regional development commissions or business associations may also have a key role to play, particularly in regional areas to represent the interests of local communities, small business, and tourism. The process should enable all interested persons, including the Department of Fisheries, to provide opinion on issues they believe to be important.

In determining the process for resolving an issue, the Council should establish information requirements and techniques for assessing and comparing competing uses. The most appropriate method of comparison may well vary between fisheries; a multi-species/multi-user fishery may require a range of complex assessments while in other single species fisheries this assessment may be more straightforward.

The Council should be able to seek any information required. It is likely a wide range of information may be relevant, particularly in regional finfish fisheries, which are multi-species/multi-sector.

A knowledge of current fisheries management practices, historical levels of catch taken by each sector, information on the fishery itself, the species biology, yield status

and as much localised/regional catch and other data as relevant is required – including important regional employment, economic and social/lifestyle issues. Future trend information on population, coastal development and data on social and economic issues around the cases for any shift in future resource use patterns are also necessary.

The provision of this information will be the responsibility of the Department of Fisheries and each of the relevant sectors (especially for the social and economic information). In the future, much of this will be compiled or collected as part of the requirement to complete ESD reports on each of the fisheries.

Some of the required data may be available through other government agencies, such as the Australian Bureau of Statistics.

The Department of Fisheries would have a major advisory role in providing technical information and advice around the possible alternatives. This should include the potential flow on impacts of any change in allocation, particularly those related to ecosystem impacts because these will vary among the different methods that are often used by the sectors and interactions with other fisheries.

In some fisheries, the development of a socio-economic database may provide important information to corroborate whether intended socio-economic outcomes are being achieved.

Clearly much of the data requirements for effective decision-making will take time to evolve and become more sophisticated as more becomes known and the issues become more complex.

Methodologies to assist in comparative assessments will also evolve over time and it is important not to be prescriptive on their application. Rather it is a role for the new Council to ensure that the most appropriate tools and techniques are selected.

There is no merit in implementing process which is unlikely to have information available. While more timely data should be aimed for, normal one-sector fishery stock assessment processes generally take about 12 months from the end of the fishing period, due to the delays in receiving catch and effort data, standardisation processes (for effort) and formal stock assessment. With a two-sector fishery, such as recreational and commercial, this is likely to take about 18 months.

Changes in catches are likely to occur through environmental conditions and natural fluctuations in populations. The Department of Fisheries has advised that a likely period of three to five years of unaltered management will be required to confirm any affect on allocations.

Whichever process is adopted, it is important that transparency is retained. Once an initial position has been reached, this should be documented, along with supporting rationale, and released as a draft allocation paper. This publicity is important to ensure persons not involved in the process have an opportunity for input prior to the Council preparing an allocation paper for the Minister to consider.

Following its review of submissions, the Council should prepare a fishery allocation report for consideration by the Minister. To ensure transparency, this report should also become a public document at this time.

The Minister should be responsible for approving a final Allocation Paper. As previously recommended (Recommendation 10) the Minister should explain publicly any departure from the Council's advice.

It would not be prudent for this Committee to recommend or restrict options available to the Council. The Council should retain the ability to determine the most appropriate method of assessing the optimal allocation from both a cost and accuracy view.

Recommendations

11. *The Integrated Fisheries Allocation Council be responsible for determining the process and timeframes for resolving allocation issues in each fishery.*
12. *The Integrated Fisheries Allocation Council's recommendations or advice to the Minister for Fisheries should become public at the time it is submitted to the Minister.*

7.2.3 Transferring allocations between groups and compensation

When reallocating shares between sectors using an administrative approach, one of the key issues is likely to be compensation. The commercial industry maintain that if its allocation is reduced for purpose of reallocating it to recreational or other users, compensation should be payable.

The alternative viewpoint presented to the Committee is that if fish are a community resource and not 'owned' by any group, why should compensation be payable for readjustments that are in the community's best interest?

The Committee accepts that administrative changes in allocations may have a profound impact on the commercial fishing industry, both in terms of investment confidence and as an incentive for commercial licence holders to 'look after' the resource in order to protect their investment.

Where commercial licences are transferable, this has facilitated a market price for entry into the fishery. There is an expectation that this licence will continue to have market value when that person decides to sell, subject to market influences and the health of the fishery.

The Committee notes that, in the past, the State Government has chosen to remove commercial fishing effort via licence buy-back schemes. This has engendered an expectation that this policy will continue.

The legislative basis for such schemes is already in place and in WA there is no restriction on the source of funds that can be applied to a buy-back scheme. Potentially it can come from a range of sources: the Consolidated Fund, licensing revenue (including recreational licence funds), local government, the tourist industry, corporations, coastal developers or other sources.

The issue of compensation becomes more blurred if reduction cannot be achieved by purchases of licences. For example, if whole licences cannot be removed by, for example, a buy-back program, and a proportional reduction in allocation to the commercial sector is made, how is it determined whether compensation is appropriate and at what level?

Earlier in the Report the Committee looked at the question of property rights, stressing the need for flexibility in any system of integrated management. At the same time we recognised that issues of compensation may arise where changes take place in the allocation of resources.

It is beyond the scope of this Report to deal in any detail with the legal aspects of compensation. To the extent that those aspects have been before the Australian courts it has generally been where commercial fishers have argued that there has been an acquisition of their property for which they were entitled to compensation under the Commonwealth Constitution.

Western Australia does not have a constitutional guarantee in comparable terms, however many State statutes provide compensation where there has been an acquisition of property. Directly in point is the *Fisheries and Related Industries Compensation (Marine Reserves) Act 1997* which provides for compensation to holders of leases, licences and permits under the FRMA and the *Pearling Act 1990* because of the effect of marine reserves and marine parks constituted under the *Conservation and Land Management Act 1984*.

Certainly there are decisions of Australian courts which have treated licences to fish as akin to or comparable to a proprietary interest, but those decisions have to be read in their particular context.

The question most likely to arise in a system of integrated management is whether if fishery entitlements are modified or extinguished there is an entitlement to compensation.

In so far as the Commonwealth constitutional guarantee of the acquisition of property “on just terms” is concerned, *Minister for Primary Industry and Energy v Davey* (1993) 47 Federal Courts Report 171 held that a compulsory reduction of units in the Northern Prawn Fishery with adverse consequences to certain fishers did not constitute an acquisition of property by the Commonwealth.

Furthermore the Court held that the rights to units conferred only a defeasible interest, subject to valid amendments to the plan under which they were issued. A similar view was taken by the Federal Court in *Bienke v Minister for Primary Industries* (1995) 63 Federal Courts Reports 567.

Compensation does not need to be in monetary form. Commercial fishing is a business and ultimately the level of profit generated by fishermen is the key issue. Profit does not necessarily equate to total catch.

Compensation for shifts in allocations could, for example, be in the form of changing access arrangements to the fishery, such as fishing when or where the catchability is greatest (which would lower business input costs) in return for closed seasons at other times of the year (when perhaps recreational and other user demands are higher).

Alternatively market prices may peak at certain times of the year or demand certain sized product. Such mechanisms would have the effect of maintaining the economic value of the catch to industry, while allowing a reallocation of the resource at times of peak use by other users.

Where a re-allocation of resources from one user group to another results in demonstrable financial loss to an individual, there should in principle be an entitlement to compensation. However, as indicated in the preceding paragraph, compensation may take forms other than the payment of money.

Clearly much will depend on the circumstances of the case. Questions of law may arise for determination, if necessary by the courts. For these reasons the Committee does not think it appropriate to explore this issue further. However lest there be any doubt on one matter, we make it clear that the issue of compensation should not arise where allocations are reduced for reasons of sustainability. It is confined to the reallocation of resources between user groups.

Recommendation

13. *Where a reallocation from one user group to another results in demonstrable financial loss to an individual, in principle there should be an entitlement to compensation. Compensation may take various forms and does not necessarily involve the payment of money. No compensation should be payable where allocations are reduced for sustainability reasons.*

7.3 Management of each sector within determined allocations

Once allocations have been determined, they must be formally recognised as management objectives to be achieved by the Department for each sector.

It should become a statutory requirement for appropriate controls to be implemented for each sector, which could be reasonably expected to contain their catch within determined allocations. The management options for containing catches will be determined by the Department of Fisheries in consultation with each user group.

The specific targets should focus on outcomes to be effected over the term of the allocations, within the management parameters established in the process of allocation determination. Targets are likely to be given as a catch range due to natural variations in abundance and environmental factors. These factors may also affect the distribution of a stock and hence the relative catch distribution between user groups in a particular year.

The Department's submission discusses a range of options for management arrangements within each user group. The mechanics of how this is best done must be examined on a case-by-case basis and is not a role for this Committee.

It is therefore important that effective sectoral management frameworks are first put in place that will provide the mechanisms to control the catch of each group prior to allocations being determined under a new integrated management framework.

Priority must be given to the introduction of appropriate management frameworks for both the commercial and recreational user groups (as major users of the finfish resource) that will provide a basis for controlling the catch by each sector.

For the majority of finfish stocks, such as those on the West Coast which are subject to significant exploitation by the commercial and recreational sectors, a great deal of work is required to place these fisheries within a sustainable management framework.

Much more information is required to assess the status of stocks, determine a sustainable yield and bring all user groups within an adequate management framework. For some areas of the State there is neither effective commercial management nor recreational control around total exploitation.

Planning and development of regional recreational fisheries plans has been underway for a number of years. Plans for the Gascoyne and West Coast regions have been developed however they have not yet been implemented.

There appears to be considerable benefit in implementing regional plans so necessary frameworks are in place to allow for more effective management and for the allocation process to be effected. A regional framework is already in place for the management of the fishing and aquatic ecotour or 'charter' industry which services the recreational sector.

The development of more definitive management arrangements for the commercial finfish sector is also essential to complement the recreational changes. In 1997 the then Minister for Fisheries set a benchmark date of 3 November 1997 for fishing history within the wetline fishery (Appendix F). The media release noted: "No wetline fishing history after this date would be considered in the development of any new arrangements for the fishery".

However the WA Fishing Industry Council has raised concern that such advice conflicted with a letter from the Department of Fisheries sent to all fishing boat licence holders at the time which noted "...fishing history after 3 November 1997 may not be taken into account".

Despite the time lag since the initial announcement, the Committee believes the November 1997 benchmark should remain one of the primary criteria for access to the wetline fishery.

The Committee understands the Department has continued to provide advice on the benchmark date to fishermen and also noted that the WA Fishing Industry Council provided similar advice to its members in its industry magazine, stating “inevitably the criteria for access will be based on historical participation in the fishery prior to the benchmark date of November 3, 1997” (*Prowest*, Jan/Feb 2002 issue).

Recommendations

14. *Appropriate management structures should be introduced for each user group which will allow for the catch of each group to be contained within its prescribed allocation.*
15. *Management arrangements for each user group should incorporate pre-determined actions which are invoked if that group's catch increases above its allocation.*
16. *In recognition of the need for more effective management of finfish fisheries:*
 - (i) *Regional recreational plans for the West Coast and Gascoyne regions be implemented as soon as possible, and planning commence for the North and South Coast regions to provide a more effective framework within which to control the recreational catch.*
 - (ii) *Specific management arrangements be introduced for the commercial wetline fishery, based on the four regions adopted for recreational fisheries, that provide a framework in which the commercial catch can be contained. One of the key access criteria for the wetline fishery should be fishing history prior to the benchmark date of 3 November 1997.*

7.4 Transitional Arrangements

There are a range of fisheries management initiatives under development, including integrated management, Ecologically Sustainable Development (ESD) reporting, and an Aboriginal fishing strategy, but it will be some time before these frameworks are in place. In addition, the level of information in many finfish fisheries is limited and it may take some time before the necessary information is available for a formal allocation assessment to be undertaken in some fisheries.

There will however continue to be calls for management change during this period as is currently the case. A major concern is that management changes, or indeed the failure to take action, may create a shift in existing catches between groups.

For example, recreational participation and effort continues to grow, technological advancements have benefited both recreational and commercial uses, and there is considerable latent effort in some commercial fisheries, some of which, anecdotally at least, has been activated with the prospect of impending management arrangements for the mackerel and wetline fisheries. The Aboriginal sector and passive users of the resource may have grounds to argue that their requirements have been impacted upon over many years with little consideration by management authorities.

It appears to be these factors which have led to calls from some sectors for an immediate 'initial' allocation' to be made to each group. It was suggested in some submissions to the Committee that agreement around the initial allocation is the most contentious step in the shift to an allocation model.

Each user group has a different view as to the preferred method for making an initial allocation. For example, the WA Fishing Industry Council maintains that allocations have already been made and current catch shares should form the basis for initial allocations.

Recfishwest argues that past management decisions have affected the current usage by user groups and in the majority of cases this has not necessarily been done in an explicit manner, therefore the resulting shifts may be inappropriate and not reflect the best use of the resource. The conservation sector appears to support a 'start again' approach, ensuring ecological requirements are fully met and then an objective evaluation undertaken to determine 'best use' of the resource.

The Committee does not believe that management history can be ignored. Existing catch share ranges have evolved as a consequence of Government policy, whether rightly or wrongly is not the point.

The current catch shares are 'real' and decisions by various user groups and associated industries have been made on the basis of these developments and expectations. To arbitrarily change current catch shares by some form of 'initial' allocation prior to a more formal assessment under the new framework would represent an arbitrary decision of the very nature which has led to calls for the development of a more integrated framework.

With the majority of WA fisheries fully exploited, it is important that each fishery continues to be managed within existing catch share ranges prior to it undergoing a formal allocation review under the new framework. This should by no means be seen to imply that sectoral management arrangements should remain static.

Appropriate management frameworks must be developed and put into place that are able to contain catches within a prescribed allocation. Management may also require adjustment to reflect increasing fishing pressure for a range of other reasons. Every effort should be made to ensure that any necessary amendments to management during this period, does not increase the catch of a sector to the detriment of another.

Recommendation

17. *Each user group within each fishery should continue to be managed within existing catch ranges until a formal assessment under the new allocation process.*

7.4.1 Establishing baselines of existing catch ranges

Resource sharing issues already occur, even in fisheries where the existing catch ‘shares’ between competing sectors are unknown. There is a propensity for perception, rather than fact, to drive many resource debates and it is therefore fundamental that a baseline, which describes and quantifies the current resource use in each fishery, is established.

By no means is the Committee suggesting that the current baselines are ‘right’ or represent the optimal use of the resource. They should clearly be seen as a ‘line in the sand’ from which future change may occur.

This process of establishing baselines will not be as straightforward as it perhaps sounds. Fish stocks are subject to changes in abundance between years, and levels of user participation and effort may also vary. Information on the catch of recreational, Aboriginal and other users in many fisheries is limited. With only spot points of data, it will be difficult to describe existing catches by these groups with any certainty in many fisheries.

Given the variability in species abundance and fishing pressure between years, the baseline may need to be in the form of a catch range rather than a single target, however this will need to be determined on a fishery by fishery basis

There will clearly be problems with data in some fisheries, however the alternative is to do nothing until better information is available. This may be acceptable in some fisheries which are not heavily exploited or the subject of resource sharing issues however in other fisheries any delay may further exacerbate problems, whether biological or social.

Where there is uncertainty in data, a precautionary approach must be adopted in determining any management settings.

Given the potential for wide variations in fish populations between years, and limited information in many fisheries, the process for setting acceptable benchmarks should allow for debate between user groups within each fishery in order to deal with information that may not be representative. The fishery working group process outlined in section 7.1 may provide an appropriate forum for this discussion.

Recommendation

18. *A baseline of existing catches should be determined for each fishery by the Department of Fisheries based upon the best information available.*

SECTION 8 RESOURCING REQUIREMENTS FOR AN INTEGRATED MANAGEMENT SYSTEM

8.1 Current funding

In recent years, funding for fisheries management has moved away from its traditional main base of Consolidated Revenue and an increasing proportion of total revenue is raised from commercial fishers via licence fees and charges. The major commercial fisheries are funded on cost recovery principles and the monies raised are dedicated to the management of these fisheries.

In 2002/03, total expenditure by the Department of Fisheries is estimated at \$47.232 million. Of this \$26 million is contributed by users, of which effectively \$17 million is cost recovered monies from commercial fishers; and \$2 million is contributed from recreational and charter licensing. The Consolidated Fund provides the additional \$21 million.

The level of contribution from the Consolidated Fund has remained fairly constant over the past five years however with increasing operational costs, particularly in regional areas of the state, this represents a decline in 'real' funding. This has major implications for finfish fisheries as the majority of services in these fisheries are funded by Consolidated Funds.

It is these fisheries, which have the highest recreational participation and have only limited information available, that are the focus of resource sharing debates and at the most risk of overexploitation.

The shift to cost recovery and comparative decline in Consolidated Fund funding has reduced the flexibility of the Department of Fisheries in being able to deal with pressing issues, which increasingly are in the finfish fisheries.

8.2 Funding issues

The limitations of the current fisheries budget were recognised in a report by the State Auditor General (1999). The report noted that the increasing efficiency of commercial fishing and growing popularity of recreational fishing will have to be countered by additional controls on catches and effort in both user groups. It also noted that effective fisheries management in the future will be more expensive.

A number of the submissions received by the Committee also identified existing deficiencies in funding to enable better management, including:

- Little stock assessment information for the majority of marine finfish stocks to assess sustainability;
- Limited information on the level of recreational catch; and
- Inadequate levels of compliance for monitoring and enforcement in recreational fisheries.

These issues were also key findings in both the Gascoyne and West Coast region recreational fishing reviews (Department of Fisheries 2001).

The need for more intensive management of finfish stocks is a matter of urgent and growing importance, and was one of the primary drivers for a shift to integrated management. Initially, demands will need to focus on obtaining baseline data to gain a better understanding of the current levels of exploitation by user groups, the status of stocks and determining sustainable catch levels. This information is an essential basis for integrated management.

The introduction of a fully integrated management system will also create some additional resourcing requirements. Once explicit allocations are designated to user groups, there will be additional monitoring requirements (both in terms of research and compliance) to ascertain whether the management controls are effectively containing catch with these allocations and overall sustainable catch limits.

There will also be some additional costs in terms of the operation of the Integrated Fisheries Allocation Council and allocation processes. Funding is also likely to be required to facilitate shifts in allocation between sectors.

While research funding may be sought from time to time through research programs such as the Fisheries Research and Development Corporation, this will not solve ongoing core funding issues.

The Committee strongly believes it is essential that funding issues be addressed for an integrated management system to operate and fish stocks to be managed sustainably. The Committee sees the force of the argument that this cannot be achieved within the existing funding structure for fisheries management in WA.

8.3 Funding requirements

The Department of Fisheries submission (Fisheries Management Report No. 7) estimated that an appropriate framework for integrated management, and the necessary research and management programs to support the sustainable management of fish stocks in WA, is likely to cost in the order of \$4.4 million a year over and above the current levels of expenditure. This estimate was comprised of:

- Research \$1,600,000
- Monitoring, enforcement and education \$2,500,000
- Operating costs of Integrated Fisheries Allocation Council \$310,000

The estimate does not however include possible costs for specific adjustment processes to facilitate reallocation between user groups. The State Government currently provides \$500,000 per annum for adjustment purposes.

Clearly this sum would not be adequate if major restructuring is required. This point was highlighted in submissions from some recreational representatives.

As the major service provider in these areas, the Department of Fisheries is the natural source of information around estimated funding requirements.

As WA will be one of the first to introduce a fully integrated management system, it has not been possible for the Committee to draw comparisons with expenditures in other jurisdictions. In addition, it must be recognised the physical dimension of the WA coastline is a significant factor in the cost of management, particularly in terms of research, consultation, monitoring and enforcement.

Clearly, the major demands for funding emanate from information and monitoring requirements and will be ongoing. The costs of an integrated management system and allocation processes are comparatively smaller, although it is difficult to estimate possible future requirements for allocation adjustment programs.

It is clear however that these significant gaps in resourcing must be addressed if an integrated system is to be implemented. These include:

8.3.1 Critical information on status and performance of fisheries

To establish an effective management system, it is essential to have a proper scientific understanding of the dynamic nature of fish stocks and how they respond to changes in exploitation.

The Committee notes the paucity of information on many finfish stocks. Better information is essential if fisheries are to be managed sustainably within an integrated framework. It is also essential to have a research program that can evaluate the effectiveness of changes to management. This would include:

- Baseline data on finfish catch across all regions at an appropriate spatial scale;
- Recurrent monitoring of catch including ongoing recreational catch surveys – survey of one bioregion every 18 months (to provide information across all region over a 5 year period);
- Improved reporting, monitoring and validation of commercial catch data;
- Development of stock assessment models for key fisheries;
- Compliance assessment – to evaluate the effectiveness of management programs;
- Development of methodology to determine the catch and value of fisheries to Aboriginal groups;
- Evaluation of alternate management strategies such as spatial closures, including marine reserves; and
- Collection and evaluation of socio- economic indicators to assist in allocation processes.

8.3.2 Monitoring and enforcement

There is currently a deficiency in existing monitoring and enforcement levels, particularly in finfish fisheries and recreational fishing in general.

Adequate levels of monitoring and enforcement will become even more essential under an allocation model to provide the necessary levels of confidence that each user group is operating within the management constraints established. An adequate interception rate against the level of fishing effort in a fishery is required to ensure confidence around compliance levels in accordance with community standards and regulations.

Recreational fishers exert an estimated 10 million fishing days (Department of Fisheries 2001) and significant additional resources are required for monitoring and enforcement. The Department of Fisheries has indicated that a meaningful contact rate of around 10 per cent is needed in order to assess compliance risks.

In addition to their beachfront education and enforcement roles, Fisheries Officers now have a key role to play in the collection of management data in recreational fisheries.

A major tool of recreational management will continue to be education. The Department of Fisheries advises that these programs must be regionally based to effectively generate the required levels of community support and have proposed that at a minimum, a specific community education officer be appointed within each of the four bioregions, or possibly districts, depending on population and fishing levels, to coordinate volunteer and education programs.

Managing the commercial finfish fishery within an allocation will also place additional demands on compliance in terms of inspections and validation of catch returns.

The introduction of tighter regulation around finfish catch, coupled with the increasing prices around many finfish species, will increasingly require that issues around illegal or 'shamateur' fishing be addressed.

8.3.3 Council operating costs

The costs of the processes proposed in this report will depend somewhat on the priority given to the various fisheries to be examined by the Council, and the availability of information to enable the Council to undertake its task. These include:

- Costs of operating Integrated Fisheries Allocation Council and allocation processes;
- Remuneration for committee members;
- Executive support;
- Mediation processes, allocation meetings;
- Consultation and travel; and
- Circulation and comment on draft allocation report.

8.3.4 Allocation adjustment

Possible funding requirements for adjustment will depend on the value of the fishery and the level of adjustment required. Government will need to consider recurrent funding based on recommendations from the Integrated Fisheries Allocation Council, as this will depend on the prioritisation/timetable for review established by the Council.

In this regard the Committee noted that the Government provides an existing annual contribution of \$500,000 for buy-back programs (earmarked until 2005/06). Clearly this will not be sufficient if any major adjustments in allocation are required. It is likely that after a period of any initial restructuring, this demand will stabilise, although it may peak every 5-10 years.

8.3.5 Representation

Allocation processes will also place additional demands on stakeholder groups and assistance may be needed to ensure adequate representation across all relevant users. A truly integrated system demands inclusiveness of interested parties in management processes, and given the size of WA, the cost and time demands of travel could be prohibitive in some cases.

A criticism of the New Zealand process stemmed from the inability of some stakeholder groups to attend meetings because of a lack of financial resources.

8.4 Sources of funding

The Committee's terms of reference asked it to identify potential sources of required funding. Fundamentally any new funding will have to come either from Government or aquatic resource user groups and ultimately the source of future funding is a political decision.

The demands for additional resources for fisheries management are increasing against a Government and political backdrop of reducing general taxation and increased competition for the limited pool of public funds. Direct sectoral accountability resulting from cost recovery in commercial fisheries, has also reduced the scope for flexibility in the application of resources across fisheries.

A range of options, many of which were suggested in submissions, were canvassed by the Committee including:

- Greater Government contribution from the Consolidated Fund;
- Hypothecation of GST revenue - collections on recreational fishing related goods and services being returned as contributions for management of recreational fishing;

- New State-based taxes - levy on the community generally (eg an 'environmental levy' for natural resource management) or a levy on specific bodies who benefit directly from fish and coastal resources (eg levy on new coastal developments);
- Use of, or additional, recreational boat registration/boat ramp fees for recreational fisheries management;
- Federal taxes – introduction of national levy on fishing and boating products similar to that used in the United States (Wallop Braux index);
- Fisheries royalties, including resource rents for access to natural resources; and
- Increased contributions through cost recovery from user groups including licensing.

Foremost it must be recognised that the needs of fisheries' will always compete for Consolidated Fund appropriations against the full range of Government services.

The Commonwealth has determined the basis of the return of GST revenue to the States and segregation of fishing expenditure would diminish the flexibility for the State Government to allocate funding to the highest priorities for Government services. The Committee envisages that Government will always seek to retain the flexibility to use funding as it deems necessary and it is not realistic to expect Government to hypothecate any new or existing revenue sources (from GST, levies or taxes) to fisheries management.

The possible amalgamation of Government services across marine areas, which was flagged in the WA Machinery of Government Report, could provide savings which Government could choose to hypothecate as an additional contribution towards integrated fisheries management.

The concept of seeking additional funding through a direct Commonwealth contribution or a levy on fishing tackle and bait sales was taken to the Commonwealth Government in 1993 by a national recreational fisheries working group with members from all States. This approach for funding support was rejected out of hand and in recent years the Commonwealth Government has gradually handed over the management of all recreational and charter fishing and most commercial fisheries to the State governments.

In some primary industries throughout the world, some form of royalty or rent is levied as a return to the public for their loss of access to common property resources. The introduction of a royalty may have the potential to raise considerably more revenue than currently achieved via cost recovery. This would however require a fundamental shift in Government policy away from the current cost recovery philosophy.

To embrace the principles of integrated management and ensure the necessary funds are dedicated, the Committee believes the required funding package should take a multi-tiered and multi-user approach. The focus should be on finfish that have the greatest requirements for research, management and compliance, and are also of most significance to the recreational sector.

The Committee therefore sees the most realistic options involving increased user contributions with an additional Government contribution to cover any additional costs and meet community service obligations.

As a broad principle, the introduction of any further user contributions should be equitable across user groups. However it is important that any increase is not tied to specific fishery service delivery, as flexibility is required across fisheries to direct resources where they are required most.

A report by the Auditor General (1999) noted that: “An alternative funding regime for fisheries management might be that commercial fishers compete for the allocation of funds rather than seek to minimise the ring-fenced charges presently raised from them. Accountability need not suffer. Activity and spending could still be reported for individual fisheries, but the Department of Fisheries would be less restricted in deciding how resources could be most effectively deployed for the good of fisheries as a whole”.

The Committee sees considerable force in the Auditor-General’s comments. However this is clearly a matter for Government to consider in light of its policies and existing agreement around cost recovery.

8.4.1 Commercial cost recovery

Government already has an agreement in place with the WA Fishing Industry Council (known as the Cole/House agreement) about cost recovery from the commercial sector. This includes a Development and Better Interest (DBI) fee that is defined as a return from commercial fishers to the Government, as representatives of the community, for application by the Minister for Fisheries to those items that are in the better interest of fisheries, and fish and fish habitat management.

The DBI fee is based 0.65 per cent of the Gross Value of Production (GVP), or \$3.5 million, whichever is the higher figure. The Committee considers there is scope for Government to consider reviewing the level of DBI contribution, noting that a minimal increase in the GVP percentage could generate significant revenue.

There may be further opportunities for increased cost recovery contributions when the wetline fishery is brought under effective management. However it must be recognised that given the comparatively low economic value of the minor commercial fisheries, it is unlikely that cost recovery will be able to meet full funding requirements.

8.4.2 Recreational cost recovery

Recreational fishers currently provide a funding contribution to fisheries management through licensing requirement for rock lobster, abalone, marron, southwest freshwater fishing and net fishing. Approximately 60,000 licences are issued annually, generating about \$1.7 million, which is about 15 per cent of the current cost of managing recreational fishing.

Licence revenue is placed in a Recreational Fishing Trust Fund and dedicated for recreational fisheries management. Administrative processes are in place (through the Recreational Fishing Advisory Committee and Recfishwest) to provide advice on funding priorities and scrutiny of recreational expenditure.

The introduction of a general recreational fishing licence, which applies across fisheries not covered by existing licences, has the capacity to provide a valuable contribution towards the cost of managing recreational fisheries. There is a wide scope in the possible applicability of a licence, including which areas or persons it may apply to.

Funding for recreational fisheries management and research will need to grow in tandem with increasing numbers of fishers and fishing effort – especially as recreational fishers seek, and receive, a larger share of the overall resource. A significant attraction of a recreational fishing licence is that revenue tracks increasing participation.

Significantly, the Committee also notes that the introduction of a licence would offer considerable benefits for the cost effective collection of information on recreational participation, effort and catch.

Licences could also be used as an important tool to contain the catch of certain species within a specified target. A requirement for endorsements additional to a basic licence, may also provide a means to generate funding for specific research projects. For example, an additional dhufish endorsement could be introduced to fund a specific study on dhufish and apply for the term of the research project.

It would be beyond the scope of this report to provide a detailed assessment of licensing options and applicability, however social equity considerations must clearly be taken into account.

Accordingly the Committee considers that a separate review should be established to examine these issues. As part of this review, consideration should be given to the following matters.

- Firm business rules are required around the use of recreational licence revenue and the process for accountability must be robust and transparent.
- Government must make a binding commitment to maintain or increase the level of consolidated fund contribution against user contributions.
- Licensing is an essential tool for effective fisheries research and management - not just a revenue-raising device.
- The flow of benefits from good recreational fisheries and integrated management to other user and industry groups, and the general community should be recognised and taken into account.

With the introduction of management arrangements for the aquatic charter industry, licensees are required to pay a \$500 application fee for each region in which they operate. There may be scope in the future for Government to also examine extending the scope of cost recovery for charter management.

8.4.3 Increased government contribution from the Consolidated Fund

In recognition of the significant economic and social values associated with well-managed wildstock fisheries (and potential losses if the status of fisheries was to diminish or decline), the Committee suggests there is considerable incentive for Government to provide an additional contribution (above existing (2002/03) funding levels).

User groups to whom benefits flow include:

- Recreational fishers, who derive significant personal benefits from the use of WA's fish resources;
- Commercial fishers, whose resource security depends on effective fisheries management;
- Consumers, if quality produce is available on local markets at reasonable prices;
- Developers of coastal resorts and tourism facilities, who base their developments around the demand generated by a healthy fish resource and quality recreational fishing experiences;
- Tourism and charter operators, who base their businesses around the quality of the fishing experience and the abundance of fish;
- Industries and businesses whose operations depend upon viable commercial or recreational fisheries;
- Conservationists, recognising that effective fisheries management is an intrinsic part of marine conservation.
- The general community, who wish to know that fish stocks are sustainable and well-managed.

Recommendations

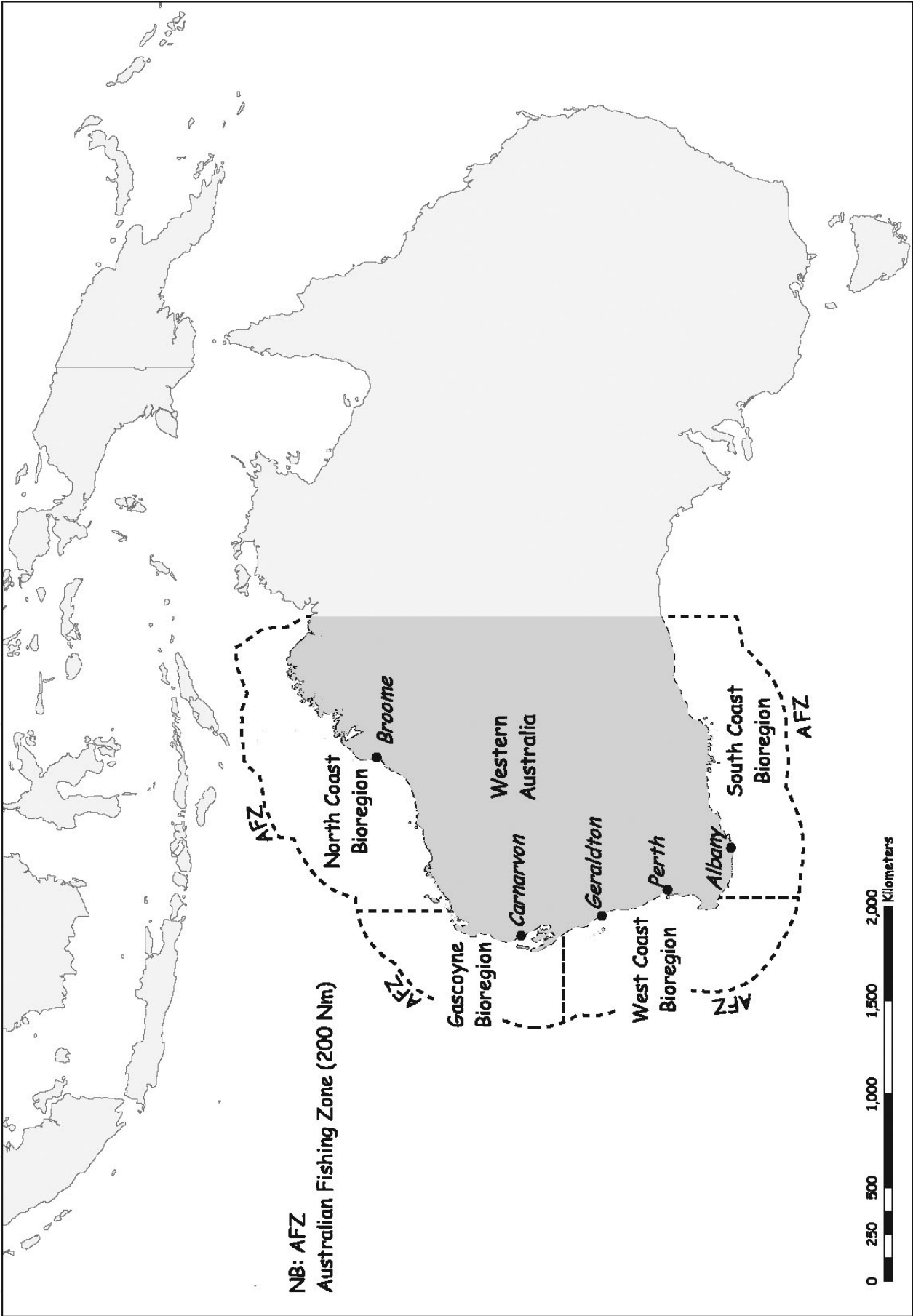
19. *For integrated management to proceed the State Government must ensure that sufficient additional funding is made available to:*
 - (i) *provide the necessary levels of research, management and compliance for the sustainable management of fisheries; and*
 - (ii) *ensure the effective operation of an integrated management system.*

20. *To embrace the principles of integrated management, the required funding package should take a multi-tiered and multi-user approach and be equitable across user groups and include:*
 - (i) *increased contributions from commercial users, including an increase in the level of contribution to the Development and Better Interest Fund;*
 - (ii) *increased contributions from recreational users, including the introduction of a general recreational fishing licence; and*
 - (iii) *additional State Government contribution from the Consolidated Fund to ensure required funding levels are met, in acknowledgement of the significant social and economic values associated with sustainable fisheries.*
21. *The State Government establish a separate review to determine the basis for the introduction of a general recreational fishing licensing system. This review should include an analysis of social equity considerations (such as applicability, cost, concessions and exemptions) and applicability of the system to provide information on recreational effort, and possibly catch.*

8.4.4 Acknowledgement

The Committee gladly acknowledges the very great help it has received from its Executive Officer, Ian Curnow. His assistance in organising the meetings of our Committee and of the Reference Group, in the collation of extensive material and in the preparation of this report has been of a very high order and has eased the task of the Committee in the work it has been called upon to do under its terms of reference.

Figure 2: Bioregions and borders of the Australian Fishing Zone in Western Australia



APPENDICES

Appendix A Selected bibliography

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Toy S Recommendations for policy changes Implementing Several Recommendations of Dr A W May's report "Altering Course" on Intersectoral Allocations of Salmon in British Columbia.

Appendix B Membership of Reference Group

Pearling and Aquaculture

Mr Brett McCallum	Pearl Producers Association
Mr Simon Bennison	Aquaculture Council of WA
Mr David Jackson	Maxima Pearls
Mr Andrew Kikeros	Fish Unlimited
Mr Greg Jenkins	Fremantle Maritime Centre

Conservation Groups

Dr Nic Dunlop	Conservation Council of WA
Ms Rachael Siewart	Conservation Council WA
Dr Glenn Hyndes	Edith Cowan University

Aboriginal

Mr Brian Wyatt	WA Aboriginal Native Title Working Group
Mr Charla Clements	Chairperson, Kimberley Aboriginal Aquaculture Corporation
Mr Ian Trust	Aboriginal and Torres Strait Islander Committee

Commercial

Mr Kerry Rowe	Abalone fishery, WAFIC Board
Mr Guy Leyland	WAFIC
Mr Graeme Stewart	Trawl fisheries, longline
Mr Theo Kailis	Commercial retail
Mr Keith Pearce	Rock lobster fisherman

Recreational

Mr Norman Halse (replaced Mr Les Rochester)	Recfishwest
Mr Frank Prokop	Recfishwest
Mr Doug Bathgate	Recreational Fishing Advisory Committee
Mr Pino Monaco	Metropolitan Regional RFAC
Mr Craig Shankland	Denham Regional RFAC

Department of Fisheries

Mr Peter Rogers	Executive Director
Mr Jim Penn	Director, Research

Appendix C Summary of persons contacted in overseas jurisdictions

New Zealand

Ministry of Fisheries - Mr J Peacey, Chief Policy Analyst, Policy and Treaty Strategy; Mr D James, Recreational Fishing; Mr T Lynch, Customary Fishing

NZ Seafood Industry Council – Ms N Gibbs, Policy Manager; Mr B Scott, Partner, Chapman Tripp Barristers and Solicitors; Mr D Sykes, Executive Officer, NZ Rock Lobster Industry Council

NZ Recreational Fishing Council - Mr M Hetherington

Canada

Department Fisheries and Oceans – Mr Don Radford, Director, Resource Management; Mary Hobbs, A/g Head, Policy Development

Pacific Halibut Management Association – Mr Chris Sporer, Executive Director

Sport Fishing Institute of British Columbia - Mr Tom Bird, Executive Director

United States

National Marine Fisheries Service – C. Michael Bailey, Gulf Coast Coordinator for Marine Recreational Fisheries

Appendix D Summary of comments by submission received in response to Fisheries Management Paper No. 135 ‘Protecting and Sharing WA’s Coastal Fish Resources: The Path to Integrated Management’

<ul style="list-style-type: none"> • Wetline activity undertaken part-time between charter fishing – and generates important supplementary income for some fishers. • Unfair to give access to wetline resources to Shark Bay snapper fishermen.
<ul style="list-style-type: none"> • Access to recreational catches by commercial fishers (eg lobster by non lobster fishermen). • Impacts of pollution – potential of sewerage outfalls to extend to shelf and promote nutrient upwellings.
<ul style="list-style-type: none"> • Need to expand on recreational surveys to minimise bias (incorporate night catch, beach catch). • Concern on finfish take by rock lobster boats – while they may take only seven per cent of total finfish take they have disproportionably large impact on key target species. • Unreported catch of dhufish – cash market. • Confirm Minister’s assurance of November 1997 benchmark date.
<ul style="list-style-type: none"> • Systematic approach proposed makes sense. • Believe use of ‘market forces’ only works in ideal world” - which is unrealistic and far from ideal. • Problem in attributing rights at one point in time in that you substantially limit redistribution at later time. • Obviously suits current holders but is it in wider best interests – can system cope with radical changes in community expectations in future? • Need to deal with sectoral allocations on a fishery-by-fishery basis rather than one overarching framework.
<ul style="list-style-type: none"> • Congratulate Department of Fisheries on initiative. • Unrealistic for recreational interests to be properly represented – group is too diverse and fragmented. One to two appointees can’t represent this group. This is a Department of Fisheries role - see proposal as an abrogation of responsibility. • Use gear exclusion in sensitive/threatened areas – banning gear types may improve quality of commercial product and improve value for smaller catches. • Concern on unrestricted netting in Geographe Bay – both shore for herring and demersal for reef fish. • Ban trawling in Geographe Bay • Ban on shark netting. • No beach seining within 800m of shoreline.
<ul style="list-style-type: none"> • Rather than treat symptoms, need to use Ecologically Sustainable Development principles to address problem. • WA waters – nutrient poor – natural systems have developed to be

<p>effective at recycling – recent evidence shows they respond poorly to nutrient doses.</p> <ul style="list-style-type: none"> • Fish resources not capable of sustaining increased usage. • Committee asked to focus on how to incorporate increasing recreational demands into over exploited/maximum yields already calculated for commercial fishing. • Challenge is how to cut growth in recreational fishing – halt population growth, i.e. stabilise demand rather than try to satisfy supply. • Role of aquaculture to meet future world needs. • Believe Committee should support need for development of an Ecologically Sustainable Population Policy. • Impact of global warming on sustainability of fisheries – eg weaker Leeuwin currents and impacts on rock lobster recruitment. • Need paradigm shift away from economic growth.
<ul style="list-style-type: none"> • Papers do not consider ecosystem or marine food chain requirements for resource allocation – needs to be part of public debate.
<ul style="list-style-type: none"> • Need to cap recreational catch - fix recreational lobster catch at five per cent.
<ul style="list-style-type: none"> • Need to contain rapidly escalating recreational catch. • Commercial sector will not support removal of wetfish component of licence without commitment by recreational fishers for reduction.
<ul style="list-style-type: none"> • Need more than five people on Fisheries Resource Council to represent all parties – suggest 10. • Non-government representatives needed. • Reduction in recreational bag limits needed. • Use of minimum sizes and closures. • Mortality issues with returned fish. • Oppose licences – why not dedicate GST on fishing goods to management? • Special limits needed for charter boats.
<ul style="list-style-type: none"> • Recreational bag limits apply to lobster boats. • Time-sharing not option on West Coast – weather unpredictable. • Quota better option for commercial fishers. • Snapper managed fishery should be closed finfish fishery – time spent snapper fishing would restrict take of other species. • Recreational bag limits too high – meaningless as unattainable by fishers.
<ul style="list-style-type: none"> • Recognise rights of aquaculture industry. • Access to brood stock – primary legislation needs amendment. • Need aquaculture represented on proposed Fisheries Resource Council. • Recognition that aquaculture can coexist with recreational fishing, e.g. Cockburn Sound.
<ul style="list-style-type: none"> • Congratulations on visionary approach. • Need to address natural range of fish – including Commonwealth waters. • Seasonal closures needed.
<ul style="list-style-type: none"> • Local depletion caused by recreational and commercial both chasing fish in same inshore areas.

<ul style="list-style-type: none"> • Finfish should not automatically be available for commercial fishers. • Reduce recreational bag limits. • Closed seasons used more widely. • Support three nautical mile closure.
<ul style="list-style-type: none"> • Combination of effort needs to be addressed. • Licence – to monitor recreational numbers, provide research funds, education. • Mortality of released fish. • Restocking programs possible? • Option of GST revenue being made available for management.
<ul style="list-style-type: none"> • Limited access available for aquaculture. • Access to brood stock, e.g. lobster.
<ul style="list-style-type: none"> • 40 per cent of WA's fresh fish from Pilbara. • Recreational fishing important for quality of life in North-West. • Need for Ningaloo-style possession limits – freezer fillers. • Impacts of charter groups on island groups. • Support management of Spanish mackerel. • Concern over trawling – damage to habitats – how is this a permitted use when it affects other users by reducing habitats and viability of stocks? • Believe red emperor and Rankin cod healthy in non-trawl areas – endangered in trawl areas. • More \$\$ required for management/research – recreational licensing is option. • Remove trawlers from east Pilbara (only moved in as catches in western Pilbara declined).
<ul style="list-style-type: none"> • Document is political due to timing and proposes recreational licences. • Representation of recreational fishers is role of RFACs'. • Lack of fisheries officers for recreational policing. • Seeking funds from outside Government (e.g. Corporate) – dangers in favouritism. • Use of productivity measures questionable – Department is not just another business. • User pays – means all beneficiaries from recreational fishing should contribute, e.g. fuel suppliers, supermarkets, not just fishers. • GST on fishing gear should be attributed to recreational management.
<ul style="list-style-type: none"> • Commercial catches of pink snapper declined around Kalbarri in 10 years – management plan is vital. • Don't support shift in Shark Bay snapper boundary below 27° S. • Support limited entry finfish fishery. • Trawled fish of poor quality which lowers value of price of line caught product. • Support buy-back scheme to reduce boat numbers. • Closures may protect spawning fish but will cause effort to shift to Kalbarri grounds. • Benefits in closure during snapper spawning in SB fishery.
<ul style="list-style-type: none"> • In winter, Kalbarri wetliners fish between 26 ° 30' and 27° along cliffs forms important component of catch– changing this boundary would

<ul style="list-style-type: none"> • have huge impact on Kalbarri boats. • Mackerel run in winter in this area. • Opening up this area would shift Kalbarri boats to Abrolhos. • Benchmark date of November '97 should be adhered to. • Lobster boats should be limited to recreational limits – unless wetline history. • Recreational limits too generous – dhufish, Spanish mackerel, red emperor are large expensive fish. • Four 'prize' fish day still generous. • Shark Bay fishery targeting spawning fish is wrong – fish are in poor condition pre-spawning – more profitable if fish taken when in better condition. • May need annual quota on wetline boats. • Believe wetline study misleading – some boat makes \$200,000 wetlining. • Latent effort must be removed from commercial wetline fishery.
<ul style="list-style-type: none"> • Transferring 'rights' to other sectors affect fishermen's livelihoods. • Consolidate revenue is for all community – recreational fishers should pay licence – perhaps Consolidated Fund match \$ for \$. • Commercial fishermen contribute to buy-back fund. • Wider finfish stocks should be managed within framework of snapper fishery.
<ul style="list-style-type: none"> • Commercial industry serve wider WA community – 70 per cent of people buy their fish. • Require security of access to make financial commitments. • Support regional basis – enable different access criteria between zones, catch composition and amounts, appropriate closures etc to avoid conflicts. • Lack of research information – have to 'guesstimate' Total Allowable Catches. • Commercial catch important to satisfy requirements of WA consumers. • Recreational and charter - catch a fresh feed for family. • GST on fishing gear dedicated to management.
<ul style="list-style-type: none"> • Ban trawling in Geographe Bay. • Ban netting within 800m of shoreline.
<ul style="list-style-type: none"> • Support management need for mackerel fishery – prevent new boats entering. • Support benchmark date of November 1997.
<ul style="list-style-type: none"> • Support integration. • Remove latent capacity in wetline fleet. • GST revenue to fund – not licences on recreational fishers which is another tax.
<ul style="list-style-type: none"> • Support integrated approach. • Historically, 100 per cent catch managed for commercial – rest incidental. • Fish are community resource – recreational fishers opt to utilise "their" share themselves while others choose to buy fish. • Others in community don't eat fish, buy imported fish, or believe

- environmental needs take precedence.
- Commercial fishers should pay premium to community for right to harvest on their behalf – particularly for export where benefit confined to commercial industry.
- Management must recognise community needs and historical allocations may not reflect this.
- Recreational fishers have ‘right’ to share in community resource.
- Outdoors activities such as fishing is desirable and valuable – offers widespread social benefits.
- Management must be sustainable and provide intergenerational equity.
- Need substantial funds for research and monitoring.
- Any attempts to quantify community needs for fresh fish must consider alternative product, e.g. fish from other states, imported fish.
- Charter boats are recreational fishers – however their higher efficiency needs special rules.
- Need to ensure proposed total catch is sustainable.
- Need to monitor sectoral catches to ensure stocks not overexploited.
- Recognise insufficient information available for many finfish species.
- Believe environmental share should be allocated – ensures biodiversity and strengthens robustness of stock.
- Believe all users have equal rights.
- Need to accommodate increasing recreational demand without significantly affecting value of commercial fishery.
- Resource partitioning and excluding commercial fishers from areas of highest community benefit.
- In some fisheries, almost all product is exported – only access by local community is via recreational fishing.
- Believe buy-backs not necessarily appropriate as rights don’t rest in commercial fishery (despite historical usage).
- Indigenous rights may exist.
- Integrated funding strategy required which stipulates recovery rationale, collection, administration and use of funds.
- Propose a coastal development levy - meet increasing costs created by developments (used across all environmental management – fish, parks, water.
- Integrated funding could involve – recreational licences, resource rents.
- Resource rents by commercial fisher (e.g. seven per cent)
- Activities of wetline fishing subsidised by community, i.e. Consolidated Fund.
- Aquaculture should also contribute due to loss of resource or habitat.
- Tag system for high value species to raise revenue – e.g. lobster, dhufish and mackerel .
- Concern on lobster fishers accessing finfish – cash sales not reported – out-compete both recreational fishers and dedicated wetline boats.
- Historical allocation of wetline entitlements did not account for future community needs.
- As a minimum, only those boats with significant history should have access.

<ul style="list-style-type: none"> • Integrated Fisheries Management Review Committee should confirm benchmark date. • Future reviews of stocks need to incorporate all uses. • Possession limit essential for recreational fishing. • Protection of spawning aggregations where possible. • Value adding of commercial catch – handling, icing, etc. – to achieve maximum economic use. May be just as profitable with lower catches. • Believe ecological impacts of commercial fishing methods should be considered in allocation priorities (line over trap over trawl) as well as bycatch issues. • Local depletion issues important to recreational fishers (tourism) even if not global depletion. • Use of biological reference points. • Research must be focused on management needs. • Review Catch and Effort Statistical System (CAESS) database required to ensure commercial catch information is more useful for resource sharing information (e.g. smaller spatial scale). • Need for independent valuation of catch returns. • Concern over cash sales of non-reported catch. • Concern over diminishing access by aquaculture or other developments. • Environmental impacts on fisheries need greater attention. • Restructure of the Department of Fisheries and MACs to reflect integrated management – possibly state managed (export fisheries) and community benefit fisheries. • Concerns on regional planning – only used where differences are significant enough to justify specific measures. • Support establishing peak Fisheries Resources Council – membership composition is crucial. • Need to review regional plans in context of integrated management. Need to develop principles first before proceeding with sectoral management. • Expectations – maintenance of high quality recreational fishing, continuation of a small profitable wetline fishery, management and advisory groups based on fisheries, a process/structure that can cope with future change, shared funding approach to meet research and management program. 	
<ul style="list-style-type: none"> • Loss of access major concern. • How to calculate TACs' with large environmental variability. • Need transparency of current catch levels available for both sectors. • Changes in allocations must reflect community wishes – not those of vocal sector or minority groups. • Concern on creating Gascoyne fishery – should not open up Ningaloo waters to commercial fishing. • Composition of an independent body must reflect fair decision making, recognising all users have valid rights. • The Department of Fisheries are probably in a better position to represent recreational views – they should be required and accountable 	

<p>for doing so.</p> <ul style="list-style-type: none"> • Recreational licensing essential – however need to ensure affordability, not “for the rich”. • User pays should entitle recreational fishers to a greater say than community representatives’. • Concern on market forces – again sport for rich only – licensing costs must be contained. • Importance of fishing for poorer people to subsidise food supply – this is a valid community use. • Recognise recreational fishing as valid use and industry which for some fish generates more \$\$ than commercial fishing.
<ul style="list-style-type: none"> • Small group of fishers make living wetlining only. • Support ban on demersal gillnets – target finfish instead of sharks, poor fish quality. • 3 nautical mile closures in popular recreational areas – not right around coast. • Buy-back scheme for those unable to meet finfish entry criteria. • Reduced bag limits for recreational. • Seasonal closures, particularly for spawning fish. • Ban rock lobster boats from finfish take – some fishers leasing pots and gaining ‘history’ in wetfish. • Lobster boats restricted to recreational bag limits. • Believe catch history of 10 tonne/year over three to five years prior to November 1997 benchmark as access criteria. • TAEs’ can’t work until we have data on stocks - need to get boat numbers down first, then implement quotas or TAEs. • Economics dictates small vessels, weather therefore dictates fishing times. • Size limits need review, e.g. red throat emperor. • Suggest trial of Abrolhos closure – monitor transfer of effort which may be to detriment of other areas – suggest do not proceed until limited entry fishery established.
<ul style="list-style-type: none"> • Support small managed finfish fishery. • No demersal gillnetting. • 20 nautical mile exclusion for commercial fishing from major centres. • 10 nautical mile exclusion for charter boats from major centres. • More closures, e.g. Fish Habitat Protection Areas. • Reduced recreational bag limits.
<ul style="list-style-type: none"> • Target levels achieved in Swan - resource sharing working well.
<ul style="list-style-type: none"> • Expect outcomes of framework, which allows user groups to manage their own activities. • Based on principles, which are enduring and offer certainty – not ongoing intervention. • Managed fisheries have encouraged market-based systems to reallocate effort. • Tradeable rights-based fisheries offer sustainable and profitable fisheries.

<ul style="list-style-type: none"> • Greater stewardship by right holders. • Incentives for cooperative behaviour between right holders. • Freedom for holders to determine their level of participation. • Higher revenue for Government (tax system). • Full cost recovery. • Where rights are poorly defined, there is conflict, interference by Government, poor product and low value, limited investment, inefficient management practices. • New framework must deal with reallocation. • 'Free' allocations have undermined achieving best results for community – commonly with no real research on costs/benefits. • Need market-based compensatory mechanisms – make explicit society's values and choices on resource use. • Without compensation, security of rights are threatened and stewardship is threatened. • Encourages political involvement to assist claims. • Inhibits capital investments through fear of reallocations. • Current rights-based approach for managed fisheries needs to be expanded for other user groups.
<ul style="list-style-type: none"> • Abrolhos closure would cause undue financial hardships and shift effort to areas that can't sustain it. • Suggest smaller closures as proposed by Geraldton Wetline Association. • Oppose moving snapper line south – create more pressure on Abrolhos. • Abrolhos should be limited entry fishery.
<ul style="list-style-type: none"> • Support integration. • Support regions, believe Abrolhos should be separate zone. • Don't support south shift in snapper boundary. • Support closure to commercial finfishing within 3nm gazetted towns. • Believe Abrolhos closure promote goldrush mentality. • Prevent lobster boats wetlining – suggest pot replacement. • Wetline access - includes earning 10 per cent income from wetfishing. • Mackerel catch south of Gascoyne not included due to erratic migration and sporadic catches.
<ul style="list-style-type: none"> • Fishing effort and total catch difficult to manage in informal recreational fisheries. • Must bring recreational and commercials into framework which looks at ecological sustainability. • Support bioregions – however different approaches may be needed for demersal, pelagic and estuarine species. • Socio-economic value of recreational and subsistence fishing may significantly outweigh commercial interests in estuaries. Gill netting likely to be unsustainable in these closed waters. • Concern over ability of notional TACs' as a tool – particularly as little information known and icon species may not reflect status of other demersal species. • Believe spatial management better option – closed areas, recreational areas, commercial areas. Effort, gear and other catch restrictions could

	also apply in certain areas.
•	Importance of bait fish to ecosystems – higher order fish, mammals and birds – need to be allowed for in setting TACs’.
•	Supports key principles and strategies listed.
•	Supports regional approach – boundaries may need minor amendment if practical difficulties arise.
•	Regional management offers potential to address local issues in a timely manner and promote community stewardship.
•	Supports licensing as component of funding structure.
•	Charter may require specific management.
•	Integrated management must account for diversity of recreational fishers - no single body can claim to represent recreational interests. Proposed Fisheries Council requires careful selection of members to reflect diverse views of both members.

Appendix E Approaches to management and resource sharing in overseas jurisdictions

New Zealand

A quota management system for commercial fisheries was introduced in New Zealand in 1986. Initial Total Allowable Catches (TACs) were based upon historic commercial catch levels, as no detailed stock assessment or recreational catch information was available.

When these initial TACs' are varied, the Minister must now take into account customary, recreational and other sources of fishing mortality. However it is perhaps important to note that explicit allocations are still only made to the commercial sector (TACC), and while the impacts of other groups (such as customary and recreational uses) are considered, these groups are not strictly controlled within a defined allocation.

The NZ legislation makes explicit provision for specific management arrangements to be implemented for customary food gathering by Maori.

Management processes in New Zealand have evolved to provide a clear separation of sustainability (in terms of setting total allowable catches) and allocation issues. Both processes provide an opportunity for stakeholder participation.

The sustainability process includes the establishment of Stock Assessment Working groups (comprised of researchers, managers, commercial, recreational, customary interests) and a plenary session (detailed 'peer' review of all working group reports by a forum of researchers and stakeholder representatives), which culminate in the release of a Sustainability Report:

The allocation process commences with the Ministry of Fisheries releasing an Initial Position Paper for public comment, which indicates possible TAC and TACC settings. Following consideration of public comments, a Final Advice Paper is prepared for the Minister who determines the TAC and TACC settings.

The NZ legislation also makes provision for the establishment of a Joint Consultative Committee (comprised of stakeholder representatives) to cooperatively develop a Fishery Plan as an alternative means to resolve allocation issues between sectors.

Following the release of a discussion document ('Soundings') by the Ministry of Fisheries (2000), there is currently considerable debate occurring in New Zealand over the respective 'rights' of user groups and the definition of catch allocations for other sectors

Canada

Marine fisheries (including anadromous species, such as salmon) are managed by the Federal Government while freshwater fisheries are managed by the Provincial Governments.

Much of the focus of resource sharing issues in Canada over the past decade has been on Atlantic salmon. Following a number of consultation process and release of several reports, a set of guiding principles have been developed for use of salmon stocks by competing user groups.

Once sustainability requirements have been satisfied, these principles recognise a priority use by First Nations communities. The recreational sector has priority access to Chinook and Coho while the commercial sector has 95 per cent of the Total Allowable Catch for sockeye, chum and pink salmon.

The Canadian Government is currently establishing an independent allocation panel to provide advice to the Minister for Fisheries and Oceans on the Pacific salmon fisheries. It is not currently proposed to extend this model to other Canadian fisheries.

Recreational fishers require a Federal fishing licence and must also purchase a conservation stamp if they wish to keep certain key species. The Province Governments also administer a similar licence and conservation stamps for freshwater fishing. The recreational catch is predominantly monitored by daily and monthly catch sheets supplied by fishing lodge operators and validated by independent surveys.

United States (adapted from Pepperell 2001)

Commercial fisheries typically have quotas, while the recreational catch is generally controlled by bag and size limits although if there is significant recreational activity a 'quota' may also be applied to that sector. The recreational catch is monitored by a national survey.

Commercial fishers maintain there is little monitoring of recreational catch (except for key species under extreme pressure, such as west coast halibut and east coast mackerel) and believe recreational catch is steadily increasing between surveys. However in some instances (west coast salmon and east coast striped bass), there is a recreational quota and punch cards are used to track the recreational catch (anglers must punch a card on the date they catch a legal fish).

There are no federal recreational licences although many States administer saltwater licences.

Appendix F Media release announcing benchmark for wetline fishery

3 November 1997

New study of fishing boat licence

The Fisheries Department has announced a study of fishing activity undertaken with Western Australia's fishing boat licence [FBL].

Fisheries Department Executive Director Peter Rogers said there had been community concern that what was commonly known as the 'wetline' fishery, had unrestricted access to a wide range of species.

Mr Rogers said that sustainability of species, such as dhufish, had been a concern.

The 'benchmark' date of 3 November, 1997 had been set – no 'wetline' fishing history after this date would be considered in the development of any new management arrangements for the fishery.

Fishermen with an FBL have been individually informed by mail today of the benchmark date.

"We will analyse all available information on this fishery, including catch data provided by commercial fishermen," Mr Rogers said.

"The analysis will also involve consulting stakeholder groups over issues affecting the fishery."

Most of the Western Australian commercial fishing fleet, about 1600 vessels, are holders of an FBL. Three-quarters of the commercial fishing fleet predominantly fish in the State's 29 managed fisheries while about 250 fishing boat licence holders rely on the 'wetline' fishery for their livelihood.

The fishery includes the use of hand lines, drop lines and hand-hauled netting.

Mr Rogers said the department would consult stakeholder groups on management options which would best address any sustainability or resource sharing issues.

He said the study and its benchmark date would not alter the arrangements for the review of line fishing off the Pilbara coast, nor did it affect fishing under a Managed or Interim Managed Fishery authorisation.

Mr Rogers said that he expected the study to be completed by early next year. The Minister for Fisheries, the Hon. Monty House, would then decide whether a formal review of the fishery would be undertaken.

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- No. 1** The Report of the Southern Western Australian Shark Working Group. Chairman P. Millington (1986).
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- No. 3** Management Measures for the Shark Bay Snapper 1987 Season. P. Millington (1986).
- No. 4** The Esperance Rock Lobster Working Group. Chairman A. Pallot (1986).
- No. 5** The Windy Harbour - Augusta Rock Lobster Working Group. Interim Report by the Chairman A. Pallot (1986).
- No. 6** The King George Sound Purse Seine Fishery Working Group. Chairman R. Brown (1986).
- No. 7** Management Measures for the Cockburn Sound Mussel Fishery. H. Brayford (1986).
- No. 8** Report of the Rock Lobster Industry Advisory meeting of 27 January 1987 . Chairman B. Bowen (1987).
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- No. 14** Draft Management Plan for the Perth Metropolitan Purse Seine Fishery. P. Millington (1987).
- No. 15** Draft management plan, Control of barramundi gillnet fishing in the Kimberley. R. S. Brown (1988).
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- No. 19** Sport Fishing for Marron in Western Australia - Management for the Future. (1988)
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- No. 29** Distribution and marketing of Western Australian rock lobster. P. Monaghan (1989).
- No. 30** Foreign investment in the rock lobster industry. (1989)
- No. 31** Rock Lobster Industry Advisory Committee report to the Hon Minister for Fisheries September 1989. (1989)
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- No. 33** Guidelines for by-laws for those Abrolhos Islands set aside for fisheries purposes. N. Moore (1989).
- No. 34** The future for recreational fishing - issues for community discussion. Recreational Fishing Advisory Committee (1990).
- No. 35** Future policy for charter fishing operations in Western Australia. P. Millington (1990).
- No. 36** Long term management measures for the Cockburn Sound restricted entry fishery. P. Millington (1990).
- No. 37** Western rock lobster industry marketing report 1989/90 season. MAREC Pty Ltd (1990).
- No. 38** The economic impact of recreational fishing in Western Australia. R.K. Lindner, P.B. McLeod (1991).
- No. 39** Establishment of a registry to record charges against fishing licences when used as security for loans. P. Rogers. (1991)
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- No. 44** A study into the feasibility of establishing a system for the buy-back of salmon fishing authorisations and related endorsements. (1991)
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- No. 54** Rock Lobster Industry Advisory Committee, Management proposals for 1993/94 and 1994/95 western rock lobster season (July 1993).

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- No. 130** Developing New Fisheries in Western Australia. A guide to applicants for developing fisheries Compiled by Lucy Halmarick (November 1999)
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- No. 132** Summary of Submissions to Fisheries Management Paper No. 126 - The South Coast Estuarine Fishery - A Discussion Paper. Compiled by Rod Pearn (November 1999)
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- No. 141** Fish Protection Measures in Western Australia (June 2001)

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- No. 143** Western Rock Lobster. Discussion paper for seasons 2001/2002 and 2002/2003 (July 2000)
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- No. 150** Draft Plan of Management for the Cottesloe Reef Proposed Fish Habitat Protection Area (April 2001)
- No. 151** Inventory of the Land Conservation Values of the Houtman Abrolhos Islands (*in press*)
- No. 152** Guidelines for the Establishment of Fish Habitat Protection Areas (June 2001)
- No. 153** A Five-Year Management Strategy for Recreational Fishing on the West Coast of Western Australia. Final Report of the West Coast Recreational Fishing Working Group (August 2001).
- No. 154** A Five-Year Management Strategy for Recreational Fishing in the Gascoyne. Final Report of the Gascoyne Recreational Fishing Working Group (September 2001)
- No. 155** Plan of Management for the Cottesloe Reef Fish Habitat Protection Area (September 2001)
- No. 156** The Translocation of Brown Trout (*Salmo Trutta*) and Rainbow Trout (*Oncorhynchus mykiss*) into and within Western Australia (June 2002)
- No. 157** Policy for the Implementation of Ecologically Sustainable Development for Fisheries and Aquaculture within Western Australia. By W.J. Fletcher (May 2002)
- No. 158** Draft Plan of Management for the Miaboolya Beach Fish Habitat Protection Area (March 2002)
- No. 159** The Translocation of Barramundi (*Lates calcarifer*) for Aquaculture and Recreational Fishery Enhancement in Western Australia. By Tina Thorne.
- No. 160** The Introduction and Aquaculture of Non-endemic Species in Western Australia: the 'Rotund' Yabby *Cherax rotundus* and the All-male Hybrid Yabby. A Discussion Paper. (June 2002)
- No. 161** Plan of Management for the Miaboolya Beach Fish Habitat Protection Area (September 2002)
- No. 162** Reseeding of grazing gastropods and bivalves into the marine environment in Western Australia – a discussion paper. By Jane Borg.
- No. 163** Review of recreational take of coral in Western Australia – a discussion paper October 2002.
- No. 164** Report of the Mackerel Independent Advisory Panel to the Executive Director, Department of Fisheries, on criteria for access to, and management arrangements for, the proposed Mackerel Fishery (Interim) Management Plan. November 2002 (*in press*)

- No. 165** Report to the Minister for Agriculture, Forestry and Fisheries by the Integrated Fisheries Management Review Committee