

**PROPOSED MANAGEMENT
ARRANGEMENTS FOR THE
WEST COAST COMMERCIAL
'WETLINE' FISHERY**

A discussion paper prepared by the
West Coast and Gascoyne
Management Planning Panel

FISHERIES MANAGEMENT PAPER NO. 190

Department of Fisheries
168 St. Georges Terrace
Perth WA 6000

January 2005

ISSN 0819-4327



Proposed Management
Arrangements for the
West Coast Commercial
'Wetline' Fishery

January 2005

Fisheries Management Paper No. 190
ISSN 0819-4327



Wetline Review

West Coast & Gascoyne Management Planning Panel

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

Dear Minister

On behalf of the West Coast & Gascoyne Management Planning Panel, I have pleasure in forwarding you the Panel's reports: *Proposed Management Arrangements for the West Coast Commercial "Wetline" Fishery* and *Proposed Management Arrangements for the Gascoyne Commercial "Wetline" Fishery*.

Yours sincerely



David Smith
Chairman
West Coast & Gascoyne Management Planning Panel

CONTENTS

SECTION 1	FOREWORD.....	1
SECTION 2	SUMMARY OF PROPOSALS.....	3
SECTION 3	REVIEW PROCESS	7
3.1	MAKING A SUBMISSION.....	7
3.2	MANAGEMENT PLANNING PANEL - TERMS OF REFERENCE	7
3.3	MANAGEMENT PLANNING PANEL MEMBERSHIP.....	8
SECTION 4	BACKGROUND	9
4.1	WHAT IS ‘WETLINING’?.....	10
4.2	TYPES OF ‘WETLINING’	11
4.3	PROFILE OF DEMERSAL LINE FISHING ACTIVITY IN THE WEST COAST BIOREGION	12
4.4	KEY ISSUES FOR MANAGEMENT	13
4.4.1	<i>Status of West Coast Demersal Scalefish Stocks</i>	<i>13</i>
4.4.2	<i>Highly variable levels of wetlining activity</i>	<i>13</i>
4.4.3	<i>High latent effort.....</i>	<i>15</i>
4.4.4	<i>Potential mobility of commercial fleet.....</i>	<i>15</i>
4.4.5	<i>Accuracy of catch returns</i>	<i>15</i>
4.4.6	<i>Cost of management.....</i>	<i>16</i>
SECTION 5	WEST COAST DEMERSAL SCALEFISH FISHERY	19
5.1	OBJECTIVES FOR MANAGEMENT.....	19
5.2	MANAGEMENT OPTIONS	19
5.2.1	<i>Limited entry</i>	<i>19</i>
5.2.2	<i>Individual Transferable Quota (ITQ) system.....</i>	<i>20</i>
5.2.3	<i>Individual Transferable Effort system</i>	<i>21</i>
5.3	FISHERY BOUNDARIES.....	23
5.4	MANAGEMENT SUB ZONES	24
5.5	SETTING THE TARGET COMMERCIAL CATCH.....	28
5.5.1	<i>Determining an appropriate CPUE.....</i>	<i>30</i>
5.5.2	<i>Initial calculation of effort days.....</i>	<i>31</i>
5.5.3	<i>Ongoing review of effort units</i>	<i>32</i>
5.6	NOMINATION TO FISH.....	33
5.7	MINIMUM UNIT HOLDINGS	33
5.8	RESEARCH REQUIREMENTS FOR WEST COAST DEMERSAL SCALEFISH STOCKS.....	34
5.9	VESSEL MONITORING SYSTEM.....	35
5.10	PERMITTED FISHING METHODS	36
5.11	PROCESSING AT SEA.....	38
5.12	TAKE OF SHARK.....	39
SECTION 6	WEST COAST INSHORE NET FISHERY	41
6.1	PROFILE OF WEST COAST INSHORE NET FISHERY.....	41
6.2	MANAGEMENT OPTIONS	42
6.3	PROPOSED MANAGEMENT FRAMEWORK.....	43
SECTION 7	SCALEFISH TAKE BY COMMERCIAL FISHERS WHO DO NOT GAIN ACCESS TO THE MANAGED WEST COAST DEMERSAL SCALEFISH FISHERY	45
7.1	SETTING AN INDIVIDUAL LIMIT FOR THE NON-COMMERCIAL CATCH	46

7.1.1	Considerations	48
7.2	SETTING A TARGET CATCH FOR NON-COMMERCIAL USE	49
7.3	CATCH REPORTING	52
7.4	FIN CLIPPING OF RECREATIONALLY CAUGHT FISH	53
7.5	EXISTING PROHIBITION ON COMMERCIAL FISHERS HOLDING RECREATIONAL LICENCES	53
SECTION 8 APPENDICES.....		55
8.1	GLOSSARY	55
8.2	CONSULTATION PROCESS	56
8.3	INITIAL SUBMISSIONS	58
8.3.1	Initial submissions received.....	58
8.3.2	Issues raised in initial submissions.....	59
FISHERIES MANAGEMENT PAPERS		71

TABLE OF FIGURES

Figure 1	Integrated Fisheries Management and ESD.....	1
Table 1	Demersal wetline scalefish catch and the number of boats reporting wetline catch in the West Coast bioregion from 1990/91 to 2002/03.....	12
Table 2.	The number of boats that reported demersal wetline catch in the West Coast bioregion from 1990/91 to 2002/03 in categories.	14
Table 3	The number of the boats that reported less than one tonne of demersal wetline catch in the West Coast bioregion from 1990/91 to 2002/03 in categories.	14
Figure 2	Proposed management zones for the West Coast Demersal Scalefish Fishery.	27
Table 4	Total demersal wetline catch (tonnes) by zone by year in the West Coast bioregion.	30
Table 5	Catch Per Unit Effort (CPUE) of the 5, 10 and 20 wetline boats with the highest catch in the West Coast bioregion between 1999/00 and 2000/01.....	31
Table 6	The Total Allowable Effort (TAE) for each sub-zone based on the Target Commercial Catch (TCC) and Catch Per Unit Effort (CPUE) of each sub-zone.	32
Table 7	Wetline Catch by Method for 1990/91 to 2002/03.....	37
Table 8	Inshore wetline catch and the number of boats reporting inshore catch in the West Coast bioregion from 1990/91 to 2002/03.....	41
Table 9	Number of boats that reported less than 100 kg; between 100 kg and 200 kg; 200 kg and 300 kg; 300 kg and 400 kg; 400 kg and 500 kg; 500 kg and 600 kg; 600 kg and 700 kg; 700 kg and 800 kg; 800 kg and 900 kg; 900 kg and 1000 kg and greater than 1 tonne in the West Coast inshore fishery from 1990/91 to 2002/03.....	42
Figure 3	Catch Per Unit Effort (CPUE) by CAESS blocks of dhufish; pink snapper; and all scalefish of the ten highest catching wetline boats; and the number of boats operating in each CAESS block.	69

SECTION 1 FOREWORD

Western Australia’s scalefish stocks, while low in productivity by world standards, provide an important resource for both commercial and recreational fisheries. The level of fishing activity by both of these sectors has increased in recent years and represents a potential threat to the long-term sustainability of demersal/reef species such as dhufish and pink snapper in the West Coast.

If scalefish stocks are to be managed sustainably in the future it is important that a more integrated approach encompassing all user groups is adopted. The recently announced Integrated Fisheries Management (IFM) initiative involves the setting of a total harvest level in each fishery that allows for an ecologically sustainable level of fishing, and the allocation of explicit catch shares for use by each of the principal user groups (Figure 1).

The new integrated approach will therefore demand more effective management arrangements to contain the take of each user group within their specified catch allocations. This is an essential first step in the introduction of a new integrated management system within which allocation issues can be addressed.

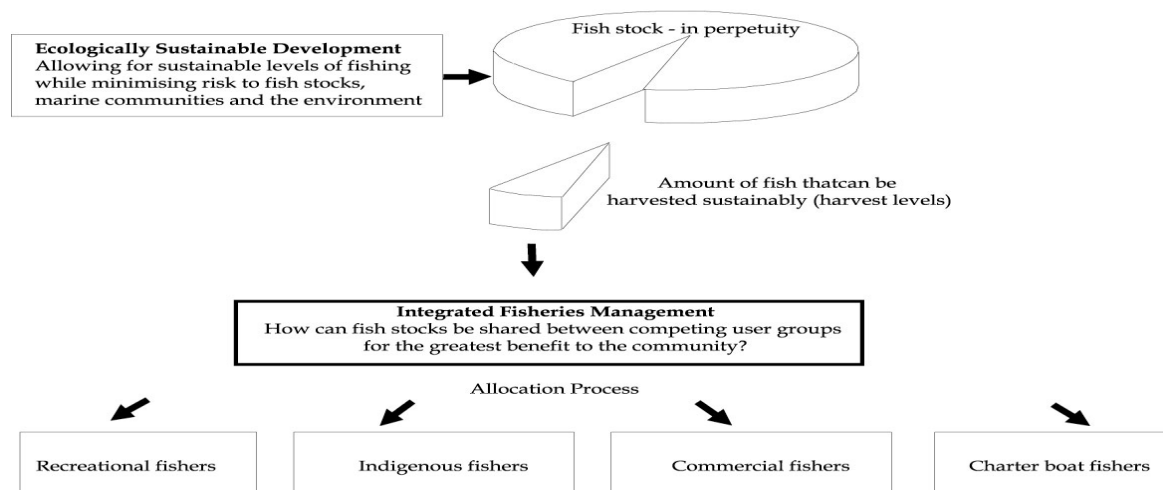


Figure 1. Integrated Fisheries Management and ESD.

The development of such arrangements has already commenced in the recreational sector with the introduction of a limited entry management framework for fishing tour operators (charter boat sector) and the implementation of new recreational management arrangements for the West Coast and Gascoyne bioregions. These initiatives have seen a reduction in recreational bag limits for vulnerable species and the introduction of a state-wide possession limit applying to recreational fishers.

The ‘Wetline Review’ was established to implement an effective management framework for the commercial sector to complement the recreational initiatives. It must be stressed at the

outset that this review is focussed on the take of scalefish by the commercial sector. The levels of use between the various user groups in the West Coast region will be examined under the new integrated fisheries initiative following the implementation of new management arrangements for scalefish taken by the commercial sector.

SECTION 2 SUMMARY OF PROPOSALS

- 1) Separate management arrangements be introduced which establish two distinct fisheries in the West Coast bioregion:
 - a. A line fishery targeting demersal/reef scalefish species called the West Coast Demersal Scalefish Fishery; and
 - b. An inshore beach net fishery in coastal waters north of Moore River.
- 2) The following management objectives apply for the West Coast Demersal Scalefish Fishery:
 - a. The exploitation of fish stocks is conducted in a manner consistent with the principles of ecologically sustainable development;
 - b. The management framework provides mechanisms that can contain the commercial scalefish catch within a prescribed allocation under an integrated fisheries management framework;
 - c. The management arrangements should be compatible with encouraging the supply of a high quality scalefish product to markets and the maximisation of returns through processes such as value adding;
 - d. The management arrangements must be effective and as simple as possible to minimise the cost of management, including research and compliance.
- 3) Management of the West Coast Demersal Scalefish Fishery be based on an Individual Transferable Effort (ITE) system, with units of 'boat fishing days' as well as gear restrictions and zoning as appropriate. The framework should also provide for the option of spatial and temporal closures, or sub zones, as required to address management issues (such as preventing localised depletion of key species).
- 4) That the West Coast Demersal Scalefish Fishery encompass the waters south of 26°30'S and west of the point where 115°30' E intersects the southern coast of WA (near Black Point).
- 5) That a line of best fit based on the 250m isobath be implemented as an outer boundary of the West Coast Demersal Scalefish Fishery. Waters outside of the 250m outer boundary be closed to wetline fishing.
- 6) Access to deepwater areas outside of the 250m boundary in the West Coast bioregion should be potentially open to any FBL holder through the Developing New Fisheries (DNF) process.
- 7) A review of the Developing New Fisheries (DNF) process be undertaken with a view to simplifying it.
- 8) That four principal management zones be initially established in the West Coast bioregion:
 - a. Kalbarri (26°30'S to 28°S);
 - b. Mid-West (28°S to 31°S);
 - c. Metropolitan (31°S to 33°S); and
 - d. South-West (33°S to 115°30'E).

- 9) The West Coast Demersal Scalefish Fishery management framework should incorporate a capacity to create or amend zones as required to better meet management requirements.
- 10) The Department of Fisheries take steps toward ensuring consistent and accurate reporting of scalefish catches at the Abrolhos Islands by enforcing the use of the specific Abrolhos CAESS blocks.
- 11) The target commercial catch (TCC) be determined on the average commercial catch taken in each of the four management zones during the period 1996/97 - 2000/01. On this basis, Fisheries Research Division advice is that the TCC for the West Coast Demersal Scalefish Fishery would be 757 tonnes, which based on historic distribution of catch during this period, should be allocated between zones as follows:
 - i. Kalbarri 193 tonnes
 - ii. Mid-west 350 tonnes
 - iii. Metropolitan 116 tonnes
 - iv. South-west 98 tonnes
- 12) The catch per unit effort (CPUE) in kg/day for determining the capacity of the West Coast Demersal Scalefish Fishery be estimated on the basis of the annual average (over the three most recent years) of the top five fishers (by total wetline catch) in each management zone. These calculations should be based on the three most recent years of data to ensure the current level of efficiency is accounted for.
- 13) The initial calculation of effort (boat fishing days) be determined by dividing the target commercial catch (TCC) in each management zone by the average catch per unit of effort (CPUE) in each zone.
- 14) The total allowable effort (boat fishing days) for each zone should be reviewed annually and adjusted to ensure the target commercial catch (TCC) is able to be met.
- 15) No minimum unit holding be required initially to be eligible to operate in the West Coast Demersal Scalefish Fishery.
- 16) The West Coast Demersal Scalefish Fishery should be managed under a Vessel Monitoring System (VMS) with all authorized boats required to have an Automatic Location Communicator (ALC) fitted.
- 17) Boats operating in the deepwater or outer zone under approval from the Developing New Fisheries process also be required to operate under a vessel monitoring system (VMS) to ensure compliance issues can be addressed around the outer boundary. Boats operating under this arrangement should be prohibited from landing demersal species targeted in the West Coast Demersal Scalefish Fishery.
- 18) The only permitted gear for use in the fishery be handlines and droplines.
- 19) A maximum of 5 handlines and 5 droplines be on board, or in operation from, a boat at any one time.
- 20) A maximum number of 30 hooks (or gangs of hooks) be permitted on any handline or dropline.
- 21) Legal definitions describing handlines and droplines be developed that contain the following elements:
 - a. 'Handline' means a fishing line which is weighted at one end, is attached to the boat and has not more than the prescribed number of hooks attached.

- b. 'Dropline' means a fishing line with no more than the prescribed number of hooks attached and when used for fishing is anchored by a weight at one end, buoyed at the surface and deployed vertically through the water. A minimum of one buoy, with a minimum diameter of 200mm, must be attached to the line. The buoy should be marked with the vessel's LFB number, in lettering at least 6cm high and 1cm wide.
- 22) Operators in the West Coast Demersal Scalefish Fishery be permitted to land whole fish only (fish may be gilled and gutted). Exceptions to this should be made by way of application for at-sea processing licences and assessed carefully on their merits.
 - 23) Metal traces should not be permitted to be used on any gear in the West Coast Demersal Scalefish Fishery.
 - 24) The West Coast Inshore Net Fishery be managed predominately by limited entry, supplemented by gear restrictions and provisions for future spatial and temporal closures if required.
 - 25) Fishing methods in the West Coast Inshore Net Fishery be limited to the use of hand haul net, gillnet and seine net. Further definitions around permitted gear should be developed in consultation with those fishers who gain access to the inshore fishery.
 - 26) The Panel recommends that access criteria established for entry to the West Coast Inshore Net Fishery should recognise fishers with relatively low levels of catch history.
 - 27) Catch levels from the West Coast Inshore Net Fishery should be monitored and specific effort constraints be implemented should catch levels begin to increase beyond historical levels. Consideration should be given to formalising these levels as 'trigger points' for future management action.
 - 28) Commercial fishers without any access to the West Coast Demersal Scalefish Fishery should be able to land a 'non-commercial' limit of fish for personal use. These fish may only be taken using an approved recreational fishing method (e.g. use of a handline or rod and line with no more than 3 hooks, or gangs of hooks, attached) and should not be able to be sold.
 - 29) The non-commercial limit in the West Coast bioregion should initially be set at the same limits that currently apply to recreational fishers in the West Coast bioregion but should be monitored separately, and when necessary, adjusted separately.
 - 30) A possession limit for non-commercial catch in the West Coast bioregion should also apply to commercial fishers who are not authorised to operate in the scalefish fishery and this should initially be set at the same limits that currently apply to recreational fishers in the West Coast region but should be monitored separately, and when necessary, adjusted separately.
 - 31) The non-commercial component of catch should be managed within the overall target commercial catch established for the fishery while sufficient data is collected to determine an explicit allocation. This figure must be separately identified from the target commercial catch set for the West Coast Demersal Scalefish Fishery.
 - 32) If the target catch for non-commercial use is exceeded, management arrangements should be amended to reduce the catch to the prescribed level.
 - 33) The West Coast Demersal Scalefish Managed Fishery and the 'non-commercial' scalefish sector be required to report the catch of scalefish on a 'trip by trip' basis prior to landing.

- 34) The West Coast Demersal Scalefish Managed Fishery and the 'non-commercial' scalefish sector be required to report the take of scalefish on a 10 nm by 10 nm scale.
- 35) Validation surveys be carried out on catch returns of all scalefish including both the West Coast Demersal Scalefish Managed Fishery and the 'non-commercial' scalefish sector to ensure the data is robust for decision making.
- 36) All scalefish taken as non-commercial catch that are of the species listed as category 1 recreational fish, must have both pectoral fins removed immediately upon capture.
- 37) Fisheries legislation be amended to permit holders of Commercial Fishing Licences to apply for a Recreational Fishing Licence for abalone and rock lobster provided they do not operate in the respective managed commercial fishery. Fishing activity requiring a recreational licence should not be permitted to be undertaken from a commercial fishing boat.

SECTION 3 REVIEW PROCESS

3.1 Making a submission

Members of the fishing industry and the public are invited to make written submissions on this discussion paper.

Respondents are encouraged to reference the particular proposal or section of the report they wish to comment on. If you disagree with a particular proposal or section, try to suggest alternative ways to address or resolve the issues identified in the Report. Clear reasons should be included in your response so that your views can be properly considered.

Submissions should be made prior to 15 April 2004 and sent to:

**‘Wetline’ Review Panels
Locked Bag 39
Cloisters Square Post Office
Perth WA 6850.**

Fax: 08 9482 7224

Submissions can also be sent electronically via the Department of Fisheries website: www.fish.wa.gov.au.

Following consideration of the matters raised in submissions on the discussion papers, the Minister for Fisheries will make his final determinations. Legislative changes will then be required to implement the new plans.

3.2 Management Planning Panel - Terms of reference

The Minister for Fisheries established two Panels to conduct a review of ‘wetline’ fishing in the West Coast and Gascoyne bioregions:

- A Management Planning Panel (the Panel) appointed to develop the specific management arrangements for the fishery; and
- A Commercial Access Panel (CAP) appointed to devise a fair and equitable method of determining who will have access to the fishery and their level of allocation.

This is the first time a two-Panel system has been used in a review in WA. This approach, which was suggested by the WA Fishing Industry Council (WAFIC), was taken to separate the task of determining the management arrangements for the fishery (which requires extensive input from commercial fishers) from access and allocation (which may benefit from a more independent analysis of fairness and equity issues).

The Panel's terms of reference were:

'To provide advice and recommendations to the Minister for Fisheries on matters related to the future management of the 'wetline' commercial fisheries in the West Coast and Gascoyne bioregions of Western Australia by:

- incorporating the decision by the Minister for Fisheries on access criteria for the West Coast and Gascoyne into the management planning process;
- providing recommendations on the most appropriate management arrangements for the 'wetline' commercial fisheries in the West Coast and Gascoyne Regions, including whether there should be sub-zones within either of the Regions;
- reviewing relevant data on 'wetline' fishing in Western Australia provided by the Executive Director of Fisheries, including biological parameters of key target species;
- reviewing models for the management of the West Coast and Gascoyne 'wetline' commercial fisheries put forward by the Executive Director of Fisheries and others;
- ensuring the management arrangements for the commercial sector are compatible with those of the recreational and charter sectors and capable of supporting the Integrated Fisheries Management process;
- considering the proposed objectives of the fishery in the development of management arrangements and providing recommendations on objectives for management; and
- providing advice on resourcing requirements for the management of the fishery and potential fee charging arrangements for licence holders.

3.3 Management Planning Panel membership

The Panel was established by the Minister for Fisheries and comprised an independent chairman and six members.

Chairman

Mr David Smith

Members

Mr Doug Rogers	Commercial Fisher
Mr Steve Lodge	Commercial Processor
Mr Neil Dorrington	Commercial Fisher
Mr Gary Finlay	Commercial Fisher
Mr Norman Halse	Recreational Fisher
Dr Lindsay Joll	Department of Fisheries

Observers¹

Dr Nic Dunlop	Conservation Council of WA
Mr Guy Leyland	Western Australian Fishing Industry Council
Mr Frank Prokop	Recfishwest
Mr John Looby	Department of Fisheries

¹ Observers were able to contribute to discussions at the invitation of the Chair, however were not able to participate in the determination of Panel decisions.

SECTION 4 BACKGROUND

Before September 1983, there was no constraint on the issue of commercial Fishing Boat Licences (FBLs) in Western Australia. Any person submitting a competent application was granted a new FBL. It gave the holder an authorisation to use a boat for commercial fishing. Provided that person also held a Commercial Fishing Licence (CFL) or a Professional Fishing Licence (PFL) as it was then called, the licensed boat could be used in fishing operations to take any fish² for commercial sale, unless there was an existing constraint under fisheries legislation preventing the licence holder from operating within a managed fishery, operating in a specific area or taking a specific fish species.

On 5 September 1983 the then Minister for Fisheries announced an immediate freeze on all new applications to enter the fishing industry via an FBL, noting that ‘the government and industry are increasingly being faced with the consequences of excess fishing capacity in areas such as ... the inshore fisheries on shark, dhufish and other reef fish species ...’.

Ultimately this led to the *Ministerial Policy Guidelines for Entry into the Western Australian Fishing Fleet* being adopted in 1984. The main thrust of the guidelines was a permanent cap on the total number of registered fishing boats in the WA fishing industry. Thus from 1984 onwards, people wishing to enter into the commercial fishing industry could only do so by purchasing an existing FBL. At this time there were only five managed fisheries but progressively the majority of WA’s fisheries have been brought under management and now there are over 30 managed fisheries and a variety of fishing prohibitions. This has reduced the range of activities available to the holder of an unrestricted FBL, to the extent that ‘wetlining’ is the last major commercial activity available to an FBL holder who does not hold an MFL.

The concept of managing the wetline fishery is not new. A discussion paper released by the Department of Fisheries in 1985 *Arrangements for entry to all fisheries off and along the West Coast* proposed the establishment of a managed handline fishery and a managed dropline fishery on the West Coast.

On 3 November 1997 Fisheries WA announced that a study would be undertaken into the activities associated with the ‘unrestricted’ WA FBL (i.e. an FBL with no restrictive conditions in addition to the standard conditions), commonly known as ‘wetline’ or ‘open access’ fishing and its associated wetline fishery. The then Minister for Fisheries set a benchmark date of 3 November 1997 for fishing history within the wetline fishery.

This benchmark date was announced following concerns that large numbers of operators who did not normally participate in the wetline fishery were gearing up to gain history following the commencement of negotiations between Fisheries and WAFIC over future management of wetline fishing. The media release noted: ‘No wetline fishing history after this date would be considered in the development of any new arrangements for the fishery’. At the same time it was announced that 3 November 1997 would be a benchmark date for all open access fisheries where benchmark dates had not previously been announced. At the time, a letter was also sent to all FBL holders which noted that ‘.... fishing history after 3 November may not be taken into account’.

² ‘fish’ mean an aquatic organism of any species (excluding aquatic mammals, aquatic reptiles, aquatic birds, and amphibians). It therefore includes all species taken commercially by fishers including crustaceans, molluscs, squid and octopus as well as scalefish.

In March 2000, the Department of Fisheries released Fisheries Management Paper No. 134 *Management Directions for WA's Coastal Commercial Finfish Resources* that proposed:

- That scalefish stocks no longer automatically be available for take by all commercial fishing boat licence holders.
- A dedicated small-scale commercial fishery for scalefish should be established, with clear entry criteria, and an appropriate limit on the number of operators in each bioregion.
- The basis for managing the scalefish fishery should be the allocation of Total Allowable Effort for commercial fishers, complemented by appropriate controls on recreational catches³.

In July 2002, the current Minister for Fisheries announced that a review of wetline fishing would be undertaken. As outlined in section 3.2, two panels, a Management Planning Panel and a Commercial Access Panel, were appointed to undertake the review.

4.1 What is 'Wetlining'?

In terms of fisheries legislation, there is currently no such activity as 'wetline' fishing. The term 'wetlining' is generally applied to fishing activities undertaken under the authority of a CFL used in conjunction with an FBL. Permitted fishing activities are any activity (which may include fishing for certain species, using certain gear, or operating in certain areas), which is not otherwise prohibited by other legislation (such as a management plan, regulations, or Section 43 Order). Typically, wetlining involves the catching of scalefish using handline or dropline, but may also involve the use of nets in inshore areas to target species such as mullet or whiting.

The nature of wetlining, in terms of the species targeted and gear that can be used, can therefore vary between regions depending upon the existing managed fisheries in that region. For example in the Gascoyne, a wetliner may target reef and demersal scalefish species by handline or drop line but cannot take pink snapper in most areas of the Gascoyne due to the operation of the Shark Bay Snapper Managed Fishery (SBSMF) which restricts the take of snapper within the bounds of the fishery to persons who hold a Shark Bay Snapper MFL.

An FBL is sometimes referred to by commercial fishers as an 'open west coast licence' or 'wetline licence' which has promoted a perception that wetline fishing is a separately managed (and licensed) activity. It is likely boat brokers initially coined these terms, however they are now widely used. Indeed some fishers believe that an FBL carries some form of endorsement, or confers some form of right, to take scalefish rather than just being the residual permissible activities arising from holding an FBL.

As noted in the previous section, an FBL is a licence granted under the *Fish Resource Management Regulations 1995* that authorises a person to use a boat for commercial fishing. While it is the CFL that actually authorises a person to engage in commercial fishing (that is, to take fish for sale), any holder of a CFL who uses a boat as part of their fishing operation is required to also hold an FBL. For example, a commercial fisher who uses a hand-hauled net

³ New recreational limits were introduced for the West Coast and Gascoyne bioregions on 1 October 2003, which included revised bag limits and a 20kg possession limit.

from shore does not require an FBL. If however he uses a dinghy as part of that operation, an FBL is required (that is, the dinghy must be licensed).

In practice, the majority of commercial fishing operations require the use of a boat and consequently the holding of an FBL. Therefore, even in the event that a commercial fisherman did not gain access to the future managed wetline fishery, fisheries legislation still requires an FBL to be held in order to use a boat in his other managed fishing operations.

This is an important point to note, as a number of fishers have indicated they believe they may 'lose' their FBL if they do not gain access to a future 'wetline' fishery. This is not the case and FBL holders who may not initially gain access to the 'wetline' fishery will retain the ability to lease/buy 'wetline' access off other fishers in the future so that catching scalefish (within the framework of the management arrangements) becomes part of their fishing 'package'.

4.2 Types of 'wetlining'

While the majority of wetline activity along the West Coast is based around dropline and handline fishing for demersal scalefish species, the use of gillnet, haul net and beach seine fishing (for mullet, herring, whiting etc) is also still carried out by some fishermen. Although some operators engage in both types of fishing, they are two distinctly different fishing operations. In effect the State's wetline fishery can be separated into these two distinct fisheries:

- A line fishery targeting demersal/reef scalefish species such as dhufish and pink snapper.⁴
- An inshore net fishery targeting species such as mullet, herring and whiting (in the 'open access' area north of Moore River).⁵

A few residual fishing activities will remain available to CFL holders however, other activities that remain unmanaged (e.g. drop netting for crabs) may be the subject of other management reviews and will not be discussed in this paper.

Proposal

- 1) **Separate management arrangements be introduced which establish two distinct fisheries in the West Coast bioregion:**
 - a. **A line fishery targeting demersal/reef scalefish species called the *West Coast Demersal Scalefish Fishery*; and**
 - b. **An inshore beach net fishery in coastal waters north of Moore River.**

⁴ The demersal line fishery will not permit the take of species already managed separately such as mackerel and shark (please note data represented in this paper are generally exclusive of mackerel and shark catch).

⁵ Inshore netting south of Moore River is already managed under the *West Coast Beach Bait and Fish Net Fishery*.

4.3 Profile of demersal line fishing activity in the West Coast bioregion

In recent years on the West Coast, some 220-260 boats have reported wetlining in any given year. A total of 506 FBLs reported a wetline catch⁶ of demersal species in the West Coast region over the period 1991-2003 (Table 1).

Year	Catch (tonnes)	No. of Boats
1990-91	569	192
1991-92	567	174
1992-93	515	156
1993-94	565	147
1994-95	656	165
1995-96	735	178
1996-97	678	194
1997-98	783	237
1998-99	722	237
1999-00	717	227
2000-01	834	219
2001-02	942	256
2002-03	1002	261

Table 1. Demersal wetline scalefish catch and the number of boats reporting wetline catch in the West Coast bioregion from 1990/91 to 2002/03.

Over the past decade there have been increased rates of exploitation of scalefish stocks, particularly dhufish, through increased fishing efficiency (technology) and increased effort in both numbers of boats and days fished. Recent changes on some boats to using hydraulic and electric winches with automated triggers for reeling-in has enabled them to increase the number of lines and hooks used on their boats.

Similarly, technology and increasing participation have also led to an increase in recreational effort on the same stocks. A catch survey undertaken in 1996/97 estimated that recreational fishers caught about 132 tonnes of dhufish (46% of total catch), 27 tonnes of pink snapper (10.5% of total catch) and 23 tonnes of baldchin groper (44% of total catch) on the West Coast. A national survey undertaken in 2000/01 indicates these catches may be significantly greater proportions of the overall scalefish catch. These catch estimates are currently being reviewed because of concerns over the methodology used, however it is expected that the revised figures will still indicate an increased recreational catch since the 1996/97 estimates.

The Gascoyne and West Coast regional recreational reviews have resulted in changes to recreational fisheries management (including reduced bag limits and the introduction of a scalefish possession limit). The wetline review is focussed toward implementing a more

⁶ this figure includes any boat that reported any level of catch by a wetline method, ie, if a boat recorded a single catch of 40 kg during the ten year period, it is included in the total number of boats.

effective management framework for the commercial sector and to prevent further growth in this sector. This will complement the objectives of the regional recreational reviews.

On this basis, a number of other major fishery reviews have been undertaken in recent years including the implementation of management for the aquatic charter sector, a review of the commercial mackerel fishery, reviews of the South Coast and West Coast commercial estuarine fisheries and the development of an Aboriginal fishing management strategy. Each of these reviews is aimed toward putting sectoral management on a similar footing and to put in place the appropriate frameworks and controls in which inter-sectoral and intra-sectoral allocation issues can proceed.

4.4 Key Issues for Management

4.4.1 *Status of West Coast Demersal Scalefish Stocks*

Stocks of key demersal scalefish species, according to State of the Fisheries 2002/03, are already fully exploited in the west coast bioregion. In recent years there has been an 18% increase in the number of boats wetlining and a 30% increase in effort.

Current effort levels are considered unsustainable in the long term and most stakeholders now agree that intensive management of scalefish stocks is a matter of urgent and growing importance. Anecdotal reports suggest localised depletion is also becoming an increasing concern for key scalefish species such as dhufish and pink snapper, particularly in areas highly utilised by both the recreational and commercial fishing sectors.

The Department of Fisheries Research Division has estimated an acceptable (i.e. a sustainable) catch range for the commercial sector of 558-798 tonnes (based on the mean from catches for the period 1990/91 to 1999/2000 using 80% confidence limits). The Panel took the view that the management arrangements developed for scalefish should be capable of managing catch outcomes to meet this target.

A detailed analysis of the status of demersal scalefish stocks is summarised in the Department of Fisheries *State of the Fisheries Report 2002/03*.

4.4.2 *Highly variable levels of wetlining activity*

Around half of the FBLs that reported wetlining in the West Coast bioregion from 1990 to 2001 reported less than one tonne of demersal wetline catch (Table 2) and around half of these FBLs in fact took less than 300 kg of demersal wetline catch (Table 3). 376 of the 443 FBLs (or 85% of the FBLs) represented in the '<1 tonne' category (between 1990 and 2001) were packaged with at least one Managed Fishery Licence (MFL) or exemption (to participate in a developing new fishery) in May 2003.

The majority of FBLs that recorded greater than 20 tonnes of demersal wetline catch in the West Coast bioregion in any one year caught between 20 and 30 tonnes. Very few operators took more than 30 tonnes. In 2001, catch returns indicate that 5 of the 13 operators who took more than 20 tonnes were fishing near Kalbarri.

Year	< 1 tonne	1-5 tonnes	5-10 tonnes	10-20 tonnes	> 20 tonnes	Total No. of Boats
1990-91	87	66	16	18	5	192
1991-92	81	53	22	13	5	174
1992-93	72	50	19	10	5	156
1993-94	68	43	17	13	6	147
1994-95	72	58	13	13	9	165
1995-96	82	56	19	8	13	178
1996-97	99	56	16	14	9	194
1997-98	103	85	22	17	10	237
1998-99	120	76	16	14	11	237
1999-00	118	62	22	16	9	227
2000-01	102	64	24	16	13	219
2001-02	122	80	18	24	12	256
2002-03	121	85	23	18	14	261

Table 2. The number of boats that reported demersal wetline catch in the West Coast bioregion from 1990/91 to 2002/03 in categories.

Year	< 100kg	100-200kg	200-300kg	300-400kg	400-500kg	500-600kg	600-700kg	700-800kg	800-900kg	900-1000kg	Total
1990-91	21	14	19	6	6	4	5	5	3	4	87
1991-92	20	12	10	13	7	6	1	5	3	4	81
1992-93	16	13	15	4	5	2	3	4	7	3	72
1993-94	15	14	12	5	6	3	5	4	2	2	68
1994-95	16	11	15	9	3	7	3	3	2	3	72
1995-96	16	13	8	7	9	9	7	4	3	6	82
1996-97	18	17	14	5	5	14	6	7	8	5	99
1997-98	19	26	13	5	9	7	11	1	7	5	103
1998-99	16	18	18	12	11	14	11	8	10	2	120
1999-00	21	20	24	13	9	10	8	5	6	2	118
2000-01	22	20	12	5	15	6	7	8	5	2	102
2001-02	31	16	22	12	8	10	7	2	6	8	122
2002-03	18	22	16	18	12	13	6	4	4	8	121

Table 3. The number of the boats that reported less than one tonne of demersal wetline catch in the West Coast bioregion from 1990/91 to 2002/03 in categories.

4.4.3 High latent effort

The Panel noted that many boats with the potential to wetline currently do not do so or only catch very small amounts. As indicated in section 4.3.1 demersal scalefish stocks are fully utilised and there has been a mobilisation of effort in the past two years that has resulted in an increase in catch. This high latent effort therefore represents a key potential threat to the sustainability of fishery.

There are currently about 1350 unrestricted FBLs in WA (not including registered dinghies) that have the ability to go wetlining. Of these FBLs, only 156 do not have access to a managed fishery in some part of the State (i.e. they are wetline only boats)⁷.

Although about 250 boats go wetlining on the West Coast each year, potentially any one of 1350 FBLs in WA could choose to go wetlining in this region. An immediate concern is the 700 or 800 FBLs based on the West Coast. While only about a quarter of these boats wetline in any given year, if even an extra 100 boats decided to wetline and caught 1 tonne each, this represents a significant increase in the overall commercial catch.

Initial submissions indicated concern that a reduced beach price for rock lobster would lead to an increased number of boats wetlining on the West Coast. There are concerns that wetlining may increase further should the expected large catches of rock lobster (in 2003/04 and 2004/05) not counter the reduced beach price. Dhufish in particular, given their large size and relatively high landed value, make an attractive proposition to supplement other fishing activities (particularly where operating costs are already being met through the other fishing activity).

Clearly, any change in either the catch or price in a managed fishery has the potential to create additional effort on scalefish stocks as operators seek to maintain income levels. A key outcome of this review must therefore be the introduction of a management framework that can effectively cap the level of commercial catch of scalefish stocks.

4.4.4 Potential mobility of commercial fleet

The potential for effort to be focussed on specific areas also requires consideration in this review. A number of initial submissions raised concerns over 'transient' boats, particularly larger vessels in recent years, moving into localised areas, fishing intensively for a few weeks and then moving on when catch rates decline. This has the potential to become a bigger issue once management arrangements are put into place for the wetline fishery. Fishers will seek to maximise returns which may involve boats seeking to fish areas with best catch rates. If excessive effort can be focussed in these areas it may result in localised depletion, and possibly the serial depletion, of stocks.

4.4.5 Accuracy of catch returns

A total of 506 boats reported a wetline catch at least once over the period 1991 to 2001. A number of anecdotal comments suggest that many small catches of scalefish are not recorded. In particular it was noted this might have been the case prior to the announcement of the 1997

⁷ Figure current as at 20 May 2003

benchmark date. While some operators have started recording these catches since 1997, concerns were also raised that some operators may now be 'over recording' catches in an attempt to compensate for not recording catches earlier.

The Panel was therefore concerned that there was a likelihood that there were inaccuracies in the existing catch data set. This is a key issue that must be addressed as accurate information on catch and effort is essential for fisheries research purposes (see section 5.8).

4.4.6 Cost of management

Funding for commercial fisheries management comes from a mixture of sources. The primary source prior to the commencement of cost recovery arrangements for commercial fisheries was the Government Consolidated Fund (CF). However, a significant proportion of the cost of management is now raised from commercial fishers via licence fees and charges.

The major commercial fisheries are funded on full cost recovery principles and the revenue raised is dedicated to the management (administration, management, compliance and research) of those fisheries. The fee paid by minor commercial fisheries however, is comprised of a cost recovery component and a Development and Better Interest Fund (DBIF) contribution. The DBIF contribution is 0.65% of the fishery's GVP and the cost recovery component of the fee is an agreed percentage (in consultation with WAFIC) of the fishery's GVP used to subsidise the cost of managing the fishery (currently 2.825%). The contribution of minor commercial fisheries does not cover the cost of management for these fisheries.

The level of contribution from the CF 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 scalefish fisheries because they are relatively low in value and the majority of services in these fisheries are funded by CF. It is these fisheries, which have the highest recreational participation and for which there is only limited information available, that are the focus of resource sharing debates and at the most risk of overexploitation.

Both the IFM Report (FMP No. 165) and the draft report of the Fisheries Statutory Management Authority Advisory Committee (November 2003) identified that the shift to cost recovery and comparative decline in CF funding has reduced the flexibility of the Department of Fisheries in being able to deal with pressing issues, which increasingly are in the scalefish fisheries.

The IFM report recognized that while there may be further opportunities for some increased cost recovery contributions when the wetline fishery is brought under effective management, given the comparatively low economic value of the minor commercial fisheries, it is very unlikely that cost recovery will be able to meet full funding requirements.

It is suggested that MFL fees for the *West Coast Demersal Scalefish Fishery* be determined on the basis of a small percentage of the fishery's gross value of product (GVP) as with all minor commercial fisheries. For this reason, it is important that management arrangements for the wetline fishery are kept as simple as possible to minimise management costs (while still providing an effective control on commercial catch).

The Panel considered it was unable to address issues around the future costs of management at this time. Management costs will depend on the number of boats that are in the fishery which will be a consequence of both the Minister's determinations around the findings of the Commercial Access Panel and a likely period of economic restructure once management arrangements are introduced.

The Panel also noted that the introduction of management for wetline fishing would also generate costs around ensuring compliance by boats that are not part of the managed fishery.

SECTION 5 WEST COAST DEMERSAL SCALEFISH FISHERY

5.1 Objectives for management

The Panel considered it important that a set of clear objectives is adopted as the basis for developing management arrangements for a demersal scalefish fishery.

Proposal

- 2) **The following management objectives apply for the *West Coast Demersal Scalefish Fishery*:**
- a. The exploitation of fish stocks is conducted in a manner consistent with the principles of ecologically sustainable development;**
 - b. The management framework provides mechanisms that can contain the commercial scalefish catch within a prescribed allocation under an integrated fisheries management framework;**
 - c. The management arrangements should be compatible with encouraging the supply of a high quality scalefish product to markets and the maximisation of returns through processes such as value adding;**
 - d. The management arrangements must be effective and as simple as possible to minimise the cost of management, including research and compliance.**

5.2 Management Options

The Panel considered three broad management options for the wetline fishery: limited entry, an individual transferable quota (ITQ) system or an individual transferable effort (ITE) system.

5.2.1 *Limited entry*

The simplest form of input control would be a limited entry fishery. Overall, the State's commercial fisheries are limited entry fisheries given the Government policy freeze on the issue of unrestricted FBLs. That is, the only way for a person to use a boat to go commercial wetlining is to purchase an existing FBL.

If limited entry were chosen as the primary management method for managing the demersal scalefish fishery the number of boats with access to the fishery would need to be substantially reduced. Technological advancements in boats, electronics and fishing gear over past 10-15 years have all had an impact on the efficiency of the wetline fleet. To ensure that sustainable catch levels set for commercial fishing would not be exceeded, the number of boats in the fishery would have to be set at a level which assumes all boats would be operating at or near full capacity.

This would require a dedicated fishery of a small number of boats. Given a sustainable commercial catch of 7-800 tonnes for the West Coast region and assuming a maximum catch for a dedicated wetliner of some 30 tonnes, this would equate to full-time access for only about 25 boats.

On some parts of the coast wetlining may be an important component of a multi-faceted fishing operation. For some operators, wetlining may not be viable in its own right but combined with other managed fishing activities (e.g. demersal gillnetting, rock lobster fishing) it may be. A key concern for management is if this licence is transferred in the future, the new operator may focus on wetlining only and increase the catch on the licence two- or three-fold.

In order to grant access to a greater number of boats (so that not all boats have to be operating at maximum capacity), other management tools would be required to constrain the catch or effort of each boat to ensure the total catch was not exceeded.

On this basis the Panel does not consider a scheme based solely around limited entry provides an appropriate tool for managing the West Coast wetline fisheries.

5.2.2 Individual Transferable Quota (ITQ) system

The use of ITQs involves estimating the total allowable catch (TAC) that is sustainable from the fishery. The TAC for a fishery must incorporate not just the commercial catch but also any catch taken by other sectors including recreational, charter and indigenous groups.

However in terms of examining a quota system as a management option for the wetline fishery, it is the commercial component of the overall catch (or the Total Allowable Commercial Catch (TACC)) that is most relevant. It is the TACC that must be allocated between the various participants in the commercial fishery.

An ITQ may be a percentage share of the TACC, or an absolute quantity of fish. In WA, quotas are used in the abalone, Shark Bay snapper and South Coast purse seine fisheries.

Even with such an output-based management system, it is likely that supporting input controls would be required such as limitations on licence numbers, area controls, seasonal closures and restrictions on gear types, to name a few.

ITQs are best suited to single species fisheries with well-defined market outlets and/or a small number of landing ports. Quota can be set for individual species within multi-species fisheries, however, it is complex and can lead to many allocation issues, as occurred in the Commonwealth Southeast Trawl Fishery. Issues around dumping of fish can also occur because fishers chasing unfinished quota can catch species whose quota limit has been reached.

The Panel felt there would be many difficulties in implementing a quota management system for the multi-species wetline fisheries including:

- The ‘ground-truthing’ of catch and disposal records becomes increasingly complex in remote areas. This would inevitably lead to a requirement for dedicated ‘landing ports’ and increased compliance costs.
- Setting TACCs is extremely difficult with a multi-species fishery particularly when limited information is available for key target species and for this reason these systems often result in over-exploitation.

- ITQs are expensive in terms of management and administration costs. In addition to compliance and research costs there are ongoing requirements to closely monitor catch and disposal records in real time.

The wetline fisheries are multi-species fisheries of relatively low yield and economic value, with limited scope for cost recovery. On this basis the Panel does not think that an output or ITQ management system is an appropriate management method for the West Coast demersal wetline fishery because it is likely to have high management, compliance and research costs.

5.2.3 Individual Transferable Effort system

In Western Australia, the primary management tools used to manage fisheries have been input controls. An Individual Transferable Effort (ITE) system involves setting a target commercial catch (TCC), but instead of catch units, the entitlement is expressed in units of time and/or gear that could be expected to take that level of catch. This is called a total allowable effort limit (TAE).

As with ITQs, this catch limit is shared among eligible fisherman. The limit may be set in a number of ways such as:

- total number of days that can be fished;
- maximum quantity of gear (nets, lines, traps, etc) allowed in the fishery; or
- a combination of units, such as line/trap days (maximum number of gear units that can be used on any day and an allocation of number of days to be fished in total) as in the Northern Demersal Scalefish Fishery.

The Panel considers that ITE systems offer greater flexibility for the management of multi-species fisheries such as demersal scalefish. The system allows catch rates to be monitored and management arrangements can be adjusted easily as required, particularly as operators become more efficient.

Setting target catches is extremely difficult with a multi-species fishery in circumstances where limited information is available for key target species. The Panel felt that ITE systems can provide greater insurance for key stocks as they can 'adapt' to changes in stock levels and catch rates. Catches decrease when fish abundance (and CPUE) decreases, and vice versa, so the system can 'track' natural fluctuations in fish stocks. If the target commercial catch is inadvertently set too high and the fishery is overexploited, the CPUE will decline and the target catch will not be achieved. If such instances occur, the target catch can be reset and the time access reduced.

Although research costs will still exist and stock assessment of key species will remain a high priority, the level of 'ground-truthing' and real time management of catch and disposal records that is required under ITQ management systems is less imperative under an ITE system. Compliance costs can also be reduced because time measuring tools (such as VMS) do not require a high level of regional services presence.

The Panel also noted that ITEs may be less expensive than ITQs in terms of management and administration costs for multi species fisheries. The data demands can be reduced by focussing the system on identified 'at risk' species. Monitoring of fishing effort (both time

and area closures) can be effectively addressed through use of Vessel Monitoring Systems (VMS), obviating the need for significant at-sea regional compliance.

The Panel considers an ITE system with units of ‘boat fishing days’ to be the most appropriate model for managing the *West Coast Demersal Scalefish Fishery*. This is based upon the multi-species nature of the fishery, the lack of detailed biological and stock assessment information on scalefish stocks, the variation in the levels of fishing activity between participants (which includes both full-time and part-time operators) and the large number of landing points utilised along the West Coast. It must also be recognised that the scalefish fishery is a comparatively low value commercial fishery with only a limited capacity for operators to contribute towards the cost of management.

The Panel also considered it is important that the management framework has the capacity to control the distribution of fishing effort within the region to avoid the concentration of commercial fishing activity, which may lead to resource sharing conflicts and potentially to localised depletion or serial depletion of fish stocks. The framework must also contain an ability to implement closed areas or seasons to protect breeding stocks. This is likely to become an important management tool in the future, particularly as more information on key target species such as dhufish and pink snapper becomes known.

The aim of an effort based system is to allocate an appropriate number of boat fishing days that will allow the target commercial catch (TCC) to be caught each year. The number of ‘boat fishing day’ units can be adjusted annually, either upward (if the catch is low) or downward (if the catch is high), as required.

In order to estimate the total number of boat fishing days that should be permitted in each zone of the wetline fishery it is necessary to know both a TCC for the wetline fishery and a catch per unit of effort (CPUE).

As discussed in section 5.8, a research project to develop a quantitative stock assessment of key demersal species on the West Coast is underway, however the results of this project will not be available until 2005/06. Any TCC set in the meantime must therefore be based on the best available information.

The total allowable effort measured in fishing days is determined by dividing the TCC in each management zone by the average CPUE in each zone.

$$\text{Effort units (boat fishing days)} = \frac{\text{TCC}}{\text{Average CPUE}}$$

The Panel was therefore faced with proposing:

- How to determine a TCC; and
- A method to estimate a CPUE rate

Proposal

- 3) Management of the *West Coast Demersal Scalefish Fishery* be based on an Individual Transferable Effort (ITE) system, with units of ‘boat fishing days’ as well as gear restrictions and zoning as appropriate. The framework should also**

provide for the option of spatial and temporal closures, or sub zones, as required to address management issues (such as preventing localised depletion of key species).

5.3 Fishery boundaries

The Panel noted that the Department of Fisheries has shifted to a regional approach for scalefish management to allow for more effective, targeted management based on the distribution and abundance of scalefish stocks and different human usage patterns. The use of regions will also provide a spatial scale of management that will provide a level of comparability with the recreational fishing sector in which to examine the allocation of scalefish resources.

The Panel noted the regional boundaries that have been adopted for recreational fishing, however felt it necessary to amend these slightly to take into account existing commercial fishing practices.

The Panel recommends that the northern boundary for the West Coast region be set at 26°30'S to coincide with the existing southern boundary of the Shark Bay Snapper Managed Fishery. This boundary already largely delineates commercial fishing activity in this area.

The Panel supports the adoption of the southern boundary at Black Point (115°30' E). This boundary was chosen as a recreational boundary because it is remote (which is important for compliance purposes) and it also appears to provide a good delineation between the natural distributions of common species in the area.

A major area of discussion by the Panel was whether an outer boundary should also be defined for the wetline fishery. If an outer boundary was not defined, the fishery would extend out to the 200nm boundary of the AFZ (by virtue of the Offshore Constitutional Settlement - OCS). Under this scenario, only fishers with access to the wetline fishery would be able access deepwater areas to explore possible fishing opportunities.

The Panel recognised that the major aim of the wetline review is to control the take of demersal/reef scalefish species that are the primary target of the wetline fishery (and also the recreational boat fishery). Therefore, if an outer boundary is to be determined, it must clearly encompass the biological distribution of these stocks. This is particularly important from a compliance perspective because it would be undesirable to have people landing demersal scalefish species within the boundary of a managed fishery and being able to claim they caught them outside the boundary.

The outer distribution of these stocks is thought to approximate the 250 metre depth isobath (noting that the Department's catch data provides little information on the stocks' outer distribution due to the large (60nm) spatial scale of CAES blocks).

There is concern over the exploitation of deepwater stocks on the West Coast, as there is in the Gascoyne and other regions, so it is important to ensure that any future growth in commercial fishing activity on deepwater stocks is developed in a controlled manner to avoid continued open access resulting in future management problems.

The Panel did not believe it was appropriate to limit potential access to any future deepwater fisheries to only those with wetline access. Fundamentally they considered this opportunity should be available to any FBL holder. Establishing an outer boundary will provide an opportunity for all FBL holders to submit proposals for fishing operations to explore this outer deepwater 'development' zone.

The Department of Fisheries implemented a Developing New Fisheries (DNF) process to deal with the development of unexploited fisheries. It allows for the monitoring and control of fishing expansion in a sustainable manner. Some members of the Panel considered that this process can be quite time consuming and costly to a degree that it may deter applicants. Conversely it was noted the process does serve to ensure fishers investigate such opportunities fully and make informed decisions before embarking on a venture that may not be commercially viable or may impact undesirably on deep water stocks.

Since the Panel considers that potential access to the deepwater zone should be available to all FBL holders it is important that the DNF process does not impede this opportunity. The Panel therefore suggests that the DNF process be reviewed with the aim of simplifying it so as not to unnecessarily deter potential applicants.

The only effective way to manage an at-sea boundary is by the use of a Vessel Monitoring System (VMS). This means that operators accessing the deepwater 'Outer-Shelf Zone' will also need VMS if the compliance program is to have integrity. This is particularly important given that operators accessing the Outer-Shelf Zone would have to traverse the wetline managed fishery in order to reach their fishing grounds. Given the likely cost in undertaking exploratory fishing offshore, the Panel does not believe imposing a VMS requirement would represent a significant imposition (see 5.9 for VMS cost estimates).

Proposals

- 4) That the *West Coast Demersal Scalefish Fishery* encompass the waters south of 26°30'S and west of the point where 115°30' E intersects the southern coast of WA (near Black Point).**
- 5) That a line of best fit based on the 250m isobath be implemented as an outer boundary of the *West Coast Demersal Scalefish Fishery*. Waters outside of the 250m outer boundary be closed to wetline fishing.**
- 6) Access to deepwater areas outside of the 250m boundary in the West Coast bioregion should be potentially open to any FBL holder through the Developing New Fisheries (DNF) process.**
- 7) A review of the Developing New Fisheries (DNF) process be undertaken with a view to simplifying it.**

5.4 Management sub zones

The Panel noted research advice that there is likely to be a number of distinct sub-stocks of dhufish along the West Coast. This is likely to also be the case for other demersal species and a single management framework is unlikely to provide the necessary level of protection to fish stocks from localised overfishing.

The Panel noted there are major differences within the West Coast region in both species composition of catches as well as average catch rates (Appendix 8.4). For example the catch per unit effort rate for top wetline boats in the area around Kalbarri is about 340kg per fishing day, comprised of pink snapper (39%) and lethrinids (NW snapper) (35%) and dhufish (8%). The best wetline boats in the metropolitan area average about 150 kg per day, comprising dhufish (29%), samson fish (25%) and pink snapper (19%). In the South West, the top few wetline boats averaged 125kg/fishing day, comprised of dhufish (26%), bight redfish (23%), samson fish (17%), skipjack trevally (16%) and pink snapper (14%).

Because of these variations, the Panel does not believe it appropriate to adopt a standard catch rate across the region. If an average rate was applied to the Metropolitan blocks, it would result in a much lower number of days available for allocation – and would result in the target commercial catch level not being reached. Conversely, if an average rate was applied to the northern blocks, a significant amount of additional effort would be created in these blocks which may create unsustainable levels of fishing.

The Panel therefore believes it is necessary to create a number of management zones within the West Coast Demersal Scalefish Fishery. Zoning is also necessary to address the potential issue of fishers seeking to optimise their allocation of ‘days’ by operating in the high catch rate areas. The transfer of fishing effort to key ‘hot spots’ may lead to localised stock depletion or create resource sharing concerns, both within the commercial sector and with the recreational sector.

It was noted that zones will also assist in providing a better framework in which resource sharing issues can be addressed in the future.

In examining the best location for sub-regional boundaries the Panel therefore considered:

- catch rates by CAES block (Appendix 8.4);
- species composition by block;
- levels of fishing pressure including recreational pressure; and
- the best framework for addressing future resource sharing concerns.

Potential zones examined by the Panel were:

1. Kalbarri - (28°S to 26°30'S)

The 27° latitude blocks or ‘Kalbarri blocks’ have a distinctly high catch rate of pink snapper which raises the total catch rate of this area to well above any other area within the west coast bioregion (Table 6). The catch composition in this zone is predominantly pink snapper and lethrinids and catches and catch rates of these species are much higher in this area compared to any other area within the West Coast bioregion.

Traditionally the majority of scalefish in this area has been taken by locally based wetline boats however in recent years there has been number of larger vessels travelling into the area, undertaking 4-5 day trips. Locally based fishers have major concerns over the long-term impact of this level of fishing on the sustainability of scalefish stocks.

2. Mid-West - 28°S to 31°S (and the Abrolhos Islands)

Geraldton, Dongara and Jurien have relatively similar catch per unit of effort (CPUE) figures for dhufish, pink snapper and total catches across all species. The total CPUE for this sub-

region is higher than the southern blocks and lower than the 'Kalbarri blocks'. The catch composition in this sub-region is primarily pink snapper, dhufish and baldchin groper.

The Panel found it difficult to assess catch rates, composition and fishing pressure at the Abrolhos Islands because of discrepancies in catch reporting. Some wetline catch is reported against the traditional 60 nm CAES blocks (2713, 2813, 2913, 2714, 2814, 2914), which overlap the islands, while some is reported against the 'Abrolhos blocks' (97011, 97012, 97013, 97014, 97015) that are designated for the rock lobster zone A licensees.

Given the size of the traditional CAES blocks and the location of the islands within those blocks, it is currently impossible to ascertain whether the scalefish catch reported against these blocks comes from the islands. On this basis, the Panel felt it preferable, at this stage, not to separate the Abrolhos as an individual sub-region.

While the Abrolhos should remain part of the Mid-west region, the Panel felt it is important that the Department of Fisheries address this reporting issue so the level of catch and the need for zoning in the Abrolhos can be reviewed in the future.

3. Metro - 31°S to 33°S

The metro sub-region has a relatively consistent pink snapper CPUE across the Lancelin, Perth and Mandurah CAES blocks. As a subregion the CPUE is lower than both the northern and southern bounding blocks. The catch composition in this sub-region is primarily pink snapper, dhufish and samson fish.

These blocks are also the focus of high recreational fishing pressure. The establishment of a separate sub-region here will enable the management of localised depletion of popular line-caught fish and would be beneficial in providing a separate management zone given the likely focus of resource sharing discussions in this area.

4. South West - 33°S to 115°30'E

The CPUE of all species from Bunbury through to Augusta is higher than the adjacent metro sub-region. This sub-region also has high commercial catches of skipjack trevally, hapuka and bight redfish in addition to the pink snapper, dhufish and samson fish also found in the metro sub-region. Skippy, hapuka and bight redfish dominate two blocks in this area and have shown a rapid increase in recent years.

The Panel considered it was important that future management arrangements provide the necessary flexibility for amending zones including the scope to establish new zones, if required in the future. Possible examples of future zones may include the Abrolhos Islands and a further division within the proposed Metropolitan area.

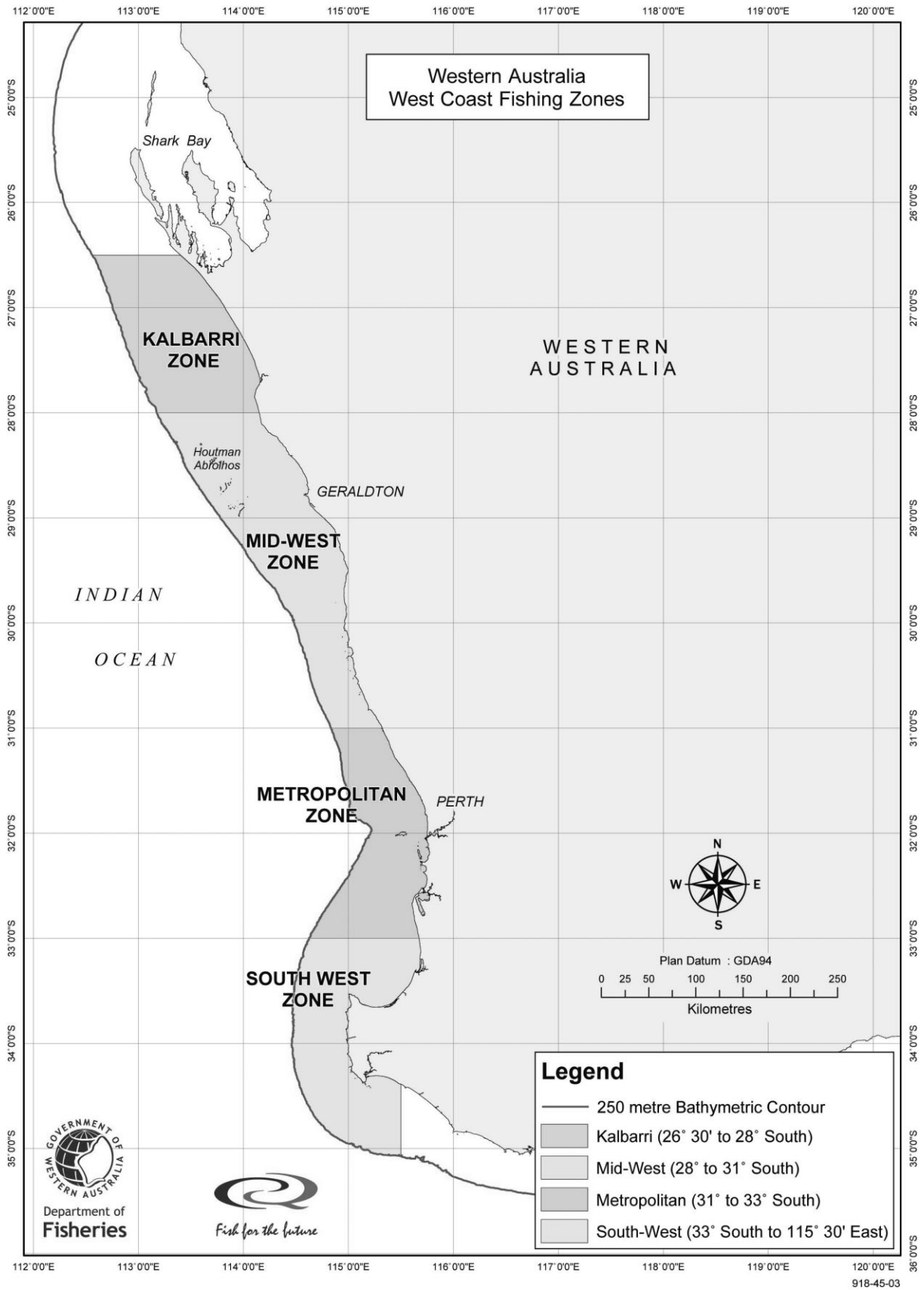


Figure 2. Proposed management zones for the West Coast Demersal Scalefish Fishery.

Proposals

- 8) **That four principal management zones be initially established in the West Coast bioregion:**
 - a. **Kalbarri (26°30'S to 28°S);**
 - b. **Mid-West (28°S to 31°S);**
 - c. **Metropolitan (31°S to 33°S); and**
 - d. **South-West (33°S to 115°30'E).**
- 9) **The West Coast Demersal Scalefish Fishery management framework should incorporate a capacity to create or amend zones as required to better meet management requirements.**
- 10) **The Department of Fisheries take steps toward ensuring consistent and accurate reporting of scalefish catches at the Abrolhos Islands by enforcing the use of the specific Abrolhos CAESS blocks.**

5.5 Setting the target commercial catch

Given that fishing activity and fish abundance can vary between years for a variety of reasons, the Panel considered that average catches over a number of years should be used in determining a target catch for the commercial fishery.

The Department of Fisheries Research Division presented the Panel with three options for consideration:

1. Setting TCC based upon commercial catch data from 1993/94 to 1997/98

Under this option, the average commercial wetline catch of all species over the five-year period was used. Under this option, it is estimated this would result in a total TCC for demersal wetline catch on the West Coast of about 706 tonnes (or 196 for Kalbarri; 348 for Mid-West, 90.5 for Metro and 71.5 for South West).

The Panel considered this was the 'lowest risk option' because it was based on relatively low catch years. However the Panel was concerned that a TCC based on this period may be too conservative and it would result in an insufficient number of boat fishing days being made available for the initial allocation process.

2. Setting TCC based upon commercial catch data from 1996/97 to 2000/01

Under this option, the average commercial wetline catch of all species over the five-year period from 1996/97 – 2000/01 was used. It is estimated this would result in a TCC for demersal wetline catch of about 757 tonnes (or 193 for Kalbarri, 350 for Mid-West, 116 for Metro and 98 for South West).

The Panel favoured this option as it excludes the most recent data (2002/03) where catches have increased markedly (to unsustainable levels), however it considered that including some more recent data may mean that a higher proportion of 'real' catch is included (on the basis of

more fishers reporting the small catches that were not recorded prior to the announcement of the benchmark date).

While this would ensure sustainable level of fishing for 'traditional' species (snapper, dhufish) the Panel considered the fact that it does not account for the emergence of new species in recent years. This is particularly the case in the South West zone where catches of bight redfish and hapuku have recently risen. The average catch of bight redfish between 1996/97 and 2000/01 was 12 tonnes however, the catch rose to 49.7 and 47.7 tonnes in 2001/02 and 2002/03, respectively.

In considering these catches however, the Panel acknowledges that very little is known on the biology of these species and as such no extra allowance should be given for the recent increases in catches at the implementation of the plan. Should the fishery for these species continue to be productive then the proposed management framework allows for effort levels to be adjusted accordingly.

3. Setting TCC based upon most recent commercial catch data (from 1998/99 to 2002/03)

As noted in *State of the Fisheries Report 2002/03*, there has been an upward trend in catches over this period. Commercial catches escalated in 2001 and 2002 (significantly above the ten year average catch), particularly for dhufish and pink snapper. Using average commercial wetline catch from the five year period from 1998 to 2002 would result in a TCC of wetline catch of about 845 tonnes (or 232 for Kalbarri; 131 for Metro, 368 for Mid-West and 114 for South West).

The Panel considered this as the 'highest risk option' and in particular noted that current research indicates that this level of catch may not be sustainable in the long term.

It is important to note however that no matter which option is adopted, the target catch will continue to be reviewed against stock sustainability. In particular, further information on the status of scalefish stocks will become available following completion of the research project currently underway to develop a stock assessment model for the West Coast demersal scalefish stocks. If the overall catch was considered to be at an unsustainable level, the Panel noted that the relative impacts of the recreational sector and any other commercial fishers accessing these stocks (e.g. Demersal Gillnet and Longline Fishery) would also need to be reviewed.

Under an effort based system it must be assumed that all fishers will seek to maximise their efficiency to optimise their catch within their allocated number of fishing days. For this reason the Panel considered that only catch and effort data for ‘efficient’ operators should be used to calculate CPUE figures. In many instances these boats are ‘wetline only’ boats but may also include other managed fishery boats that concentrate on wetlining at certain times of the year when the managed fishery is not operating.

In terms of calculating CPUE, the Panel felt it is important to use the most recent information as this best represents current fishing technology and practices.

The Panel looked at options of using the top five, ten or twenty boats in each management zone (Table 7). As more operators are included in the calculation, the number of less efficient operators included increases and therefore, the calculated average CPUE will decrease.

Subzone	Vessels	1999-00	2000-01	2001-02
Kalbarri	5	302.6	385.1	383
	10	263.5	348.1	336
	20	212.5	289.9	285
Mid West	5	186.8	176.9	234
	10	175	177.9	217
	20	159.9	179.8	183
Metro	5	171.2	141.6	134
	10	113.2	110.1	106
	20	93.5	104	99
Southwest	5	140.6	130.3	103
	10	104.1	125.9	99
	20	81.8	91.8	80

Table 5. Catch Per Unit Effort (CPUE) of the 5, 10 and 20 wetline boats with the highest catch in the West Coast bioregion between 1999/00 and 2000/01.

Proposal

- 12) The catch per unit effort (CPUE) in kg/day for determining the capacity of the West Coast Demersal Scalefish Fishery be estimated on the basis of the annual average (over the three most recent years) of the top five fishers (by total wetline catch) in each management zone. These calculations should be based on the three most recent years of data to ensure the current level of efficiency is accounted for.

5.5.2 Initial calculation of effort days

The total allowable effort measured in fishing days is determined by dividing the target commercial catch in each management zone by the average CPUE (of the top 5 boats) in each zone.

$$\text{Effort units(boat fishing days)} = \frac{\text{Target Commercial Catch}}{\text{Average CPUE}}$$

An important component of an effort system must be the integrity of the defined fishing units, in this case boat fishing days. In this regard any level of fishing must be regarded as a ‘fishing day’ and there should be no provision for persons to appeal that a day was lost due to bad weather, mechanical problems etc. Therefore, while the overall calculation of effort days must make sufficient allowance for such factors as bad weather, the primary focus of the scheme must remain on achieving the TCC, irrespective of whether it takes a larger or smaller pool of days to achieve this.

Over time, it would be expected that the pool of days will decrease as efficiency within the fishery is increased (driven by technological advances, experience etc).

Zone	5-year Average total catch (t) 1996/97-00/01 *	CPUE (kg/day) based on 3-year average of 1999/00 to 2001/02 *	Total allowable effort (boat days)
Kalbarri	193	357	541
Mid West	350	199	1758
Metro	115	150	766
South west	98	125	784
Total	756	208	3850

*Excludes mackerel and shark catches because they are under separate management arrangements.

Table 6. The Total Allowable Effort (TAE) for each sub-zone based on the Target Commercial Catch (TCC) and Catch Per Unit Effort (CPUE) of each sub-zone.

5.5.3 Ongoing review of effort units

It is important to recognise that the total number of fishing days can be adjusted in the future to ensure the target commercial catch is met. In practice, this means that if the target commercial catch is not being met the number of days would be increased in the following year while if the target catch was exceeded, the total number of days available would be reduced (provided the variations in catch were not thought to be due to changes in abundance or status of stocks, in which case the target catch level may need to be amended).

It should be noted however, that in both these circumstances the issue of the appropriateness (and sustainability) of the TCC is also considered especially if the underlying reason for the failure to achieve the TCC is a decline in stock level.

The review process will entail:

1. Biological assessment of stocks
2. Determine target catch for the commercial fishery (TCC)
3. Review catch per unit of effort (CPUE) for following year
4. Calculate the total number of boat fishing days to be made available

This process must be undertaken in full consultation with stakeholders and detailed in a paper prior to a final position being considered by the Executive Director for his determination on

the target catch and approval of necessary amendments to management arrangements. The Panel suggests that this review should occur at least every two years.

Proposals

- 13) The initial calculation of effort (boat fishing days) be determined by dividing the target commercial catch (TCC) in each management zone by the average catch per unit of effort (CPUE) in each zone.**
- 14) The total allowable effort (boat fishing days) for each zone should be reviewed annually and adjusted to ensure the target commercial catch (TCC) is able to be met.**

5.6 Nomination to fish

Some fishers who gain access to the West Coast demersal wetline fishery will also be managed fishery licence (MFL) holders in other fisheries. It is therefore necessary that wetline MFL holders 'nominate' which fishery they are operating in before they leave port. A nomination system is used in other fisheries throughout the State and can be carried out by phone, fax or Vessel Monitoring System (VMS).

This is particularly important in an ITE fishery because effort days need to be accounted for. The Panel does not believe that this should be a significant imposition on operators because a scalefish fishing trip requires planning anyway, including provisions of ice sufficient to ensure a quality product.

5.7 Minimum unit holdings

The Panel discussed whether a minimum level of 'fishing days' should be implemented as a requirement to operate in the managed fishery. After some discussion most members of the Panel believed it was not necessary at this stage to stipulate any minimum unit holding in the management arrangements. The Panel did not believe it was its role to determine how many days fishers needed to run a viable fishing operation. It was considered that fishers would make their own decisions in this regard.

The Panel also considered the costs of applications (particularly for transfer) and was conscious that the outcomes of the Commercial Access Panel has implications for the cost of applications on operators. Schedule 1 of the *Fish Resources Management Regulations 1995* sets out the fees payable for various applications made to the Department of Fisheries. These may include applications to grant an FBL, MFL or CFL as well as applications to transfer whole authorisations or units of entitlement. All application forms are now available through, and can be printed from, the Department's website www.fish.wa.gov.au. There are several major issues that need to be addressed before applications can be received electronically including the execution of electronic documents.

The Panel noted that application fees collected by the Department not only pay for licensing services but also for any policy, legal, regional or financial services input required for processing the application as well as maintenance of the register and Departmental records. The Panel considers the costs associated with applications are reasonable in terms of covering

the Department's costs however, should the resulting criteria for access to, and allocation of units in, the fishery be overly onerous on operators in terms of transfer fees (i.e. if a minimum catch criteria is not set) then the Department should review its licensing policy.

Proposal

- 15) No minimum unit holding be required initially to be eligible to operate in the West Coast Demersal Scalefish Fishery.**

5.8 Research Requirements for West Coast Demersal Scalefish Stocks

An FRDC-funded research project commenced in July 2003 to study the stock structure of populations of the two major species, dhufish and pink snapper, along the west coast to determine the appropriate geographical scale for management. As well as investigating intermixing of these regional populations, regional variation in age structure and timing of reproduction will be examined in both species and information on the biological parameters for lower west coast pink snapper will be collected. The research project includes funding for a PhD student (Murdoch University) studying reproductive biology, age and growth of pink snapper on the lower west coast.

A research project is currently underway to provide information and develop a quantitative stock assessment for dhufish and pink snapper on the West Coast. This project will incorporate catch data from all user groups and provide a sustainable target catch level for the scalefish fishery. A review of existing catches taken by recreational and commercial groups may be required in light of existing catches levels or through an integrated management process.

Research into regional populations will provide age-based stock assessments for dhufish and pink snapper in late 2006. Preliminary assessments of other major demersal species in the west coast bioregion will continue to be refined as the commercial data set is improved and additional biological information becomes available. In the interim, the fishery will continue to be monitored annually using CAES data.

Further examination into the size of sexual maturity of WA dhufish by the Department of Fisheries is underway and the gonads of 302 female WA dhufish (ranging in size from 325 - 975 mm TL) collected between December and March in the summers of 2002/2003 and 2003/2004 have been staged macroscopically. These samples are currently being examined histologically and are presenting some unusual reproductive features. This work leads into a new FRDC-funded project on spawning aggregations of several west coast species including WA dhufish, pink snapper and the samson fish, that will begin in July 2004. Also, a recreational creel survey of the West Coast Bioregion is scheduled to commence in March 2005 and will provide important information for the catch share debate.

A research project on mortality rate of returned fish is also currently underway and preliminary results indicate that the mortality of demersal species such as pink snapper and dhufish increases with depth. These findings will be assessed against a tagging study that is in progress. The FRDC-funded project on post-release mortality of demersal fish species has been extended to December 2006. The collaborative tagging programme with Australian National Sportsfishing Association –WA will determine the effect of three release methods

(simple, vented and shotline) on the longer-term mortality of released under-size dhufish, snapper, baldchin groper and breaksea cod.

The Government has committed additional funds for scalefish management and a further 12 month catch survey of recreational boat-based activity along the West Coast will commence in March 2005. This will provide valuable information on the level of recreational catch for incorporation in stock assessment models and resource sharing discussions.

5.9 Vessel Monitoring System

The Panel considers the best way to manage the boundaries and monitor the level of fishing activity (effort days) is through the use of a vessel monitoring system (VMS).

VMS provides the Department with real-time monitoring of vessels by using a combined global positioning system (GPS) and satellite communication unit (called an automatic location communicator [ALC]) that is fitted to each vessel. Data on the vessel's position, speed and course are regularly reported to a land station in Perth. Because this data also comes with time and date information it can also be used as a clock to measure the amount of time a boat spends in an area.

In order to be able to ensure compliance with regional and fishery boundaries and to underpin the 'days fished' management tool, the Panel believes a satellite based electronic vessel monitoring system (VMS) provides the most cost effective option. This would be particularly important for deepwater operators under the DNF program given that accessing the deepwater zone (beyond 250m) would mean traversing the wetline managed fishery in order to reach their fishing grounds. Given the likely cost in undertaking exploratory fishing offshore, the Panel does not believe additional VMS requirements would represent a significant imposition.

A vessel operating under the VMS requires both an ALC which provides automated position reports and computer capacity to input and receive messages from the Fisheries Monitoring Station. The cost of this hardware varies depending on the type of equipment, the supplier and the installer.

Generally though, a transceiver will cost in the vicinity of \$5000 (although there are different models that may cost slightly more or less). A data terminal (or computer) can vary greatly in cost depending on the user's requirements but a basic model to conduct basic transmission will cost from \$600. A Windows user interface for the computer called Easymail is available free of charge. Installation costs will range depending on the supplier and the supplier's location as well as the condition of power supply on the boat. The Department estimates the installation cost to range between \$500 and \$1000. Although this is a significant one-off payment the Panel believes that the VMS is the only way to ensure the integrity of scalefish management in the West Coast.

Currently the costs involved in sending position reports to the Fisheries Monitoring Station and receiving messages are borne by the Department of Fisheries. The costs incurred by any communications to other parties are the responsibility of the vessel operator. The current cost of sending a message via the VMS is \$0.72 per 256 bits (approximately \$0.01 per character). There is also an initial activation fee of \$55.00. Any costs involved with technical repairs to the unit are the responsibility of the vessel operator.

VMS is currently used in the Northern Demersal Scale Fish Fishery, Pilbara Trap Fishery, Pilbara Trawl Fishery, Shark Bay Prawn Fishery, Shark Bay Scallop Fishery, Exmouth Gulf Prawn Fishery, Kimberley Prawn Fishery, and the Abrolhos Islands and Mid-West Trawl Fishery. Although there was initially some resistance among fishers, the response to VMS has been positive in all these fisheries.

In particular, fishers have identified improved safety and communication as a benefit of having VMS as well as a confidence that all fishers are obeying the rules. It is also considered an important business management tool by those fishers who are required to use it.

Proposals

16) The *West Coast Demersal Scalefish Fishery* should be managed under a Vessel Monitoring System (VMS) with all authorized boats required to have an Automatic Location Communicator (ALC) fitted.

17) Boats operating in the deepwater or outer zone under approval from the Developing New Fisheries process also be required to operate under a vessel monitoring system (VMS) to ensure compliance issues can be addressed around the outer boundary. Boats operating under this arrangement should be prohibited from landing demersal species targeted in the *West Coast Demersal Scalefish Fishery*.

5.10 Permitted fishing methods

In order to manage a fishery effectively using input controls, it is important to regulate the catching capacity of the fleet. This is because fishers will still act to maximise the value of their allocation of effort units which, coupled with technological advancements, will result in an increase in, and more effective, effort.

Effective effort (and therefore catching capacity) is a product of nominal fishing effort and:

- efficiency of gear (e.g. type of gear);
- amount of gear;
- efficiency of boat (e.g. loading capacity, engine power, range, technology); and
- efficiency of crew (e.g. knowledge and ability of skipper).

Each of these factors can be regulated to control effective effort and catching capacity. However the Panel considered it is impractical to control the efficiency of a boat, the number of crew or the use of power assisted gear because it is difficult to police (increases compliance costs) and raises occupational health and safety considerations. For these reasons the Panel felt only some general limits should be placed on the type and amount of fishing gear permitted under the management arrangements. There are currently no gear restrictions explicitly in place for wetline fishing.

The methods currently available to wetline fishing (where they are not prohibited by virtue of other management arrangements) include handline, dropline, trolling, squid jigging, wading, lift net, polling, gillnet, beach seine, and haul net. In general there are no controls on the quantities of these gears which may be used or their characteristics (except nets). Thus currently, any quantity of droplines, handlines, and number of hooks may be used.

The majority of catch is taken by handline and dropline (Table 7). In 2002/03, 79% of wetline catch was taken by handline, 20% by dropline, and 1% by longline (noting that longline has not been a permitted method for use by general ‘wetliners’ on the West Coast since 1998 and anecdotal information suggests the term ‘longline’ is sometimes used by fishers to describe droplines).

Year	Catch by Dropline	Catch by Handline	Catch by Longline	Total
1990-91	154	361	54	569
1991-92	123	413	31	567
1992-93	97	343	76	515
1993-94	106	371	87	565
1994-95	124	451	81	656
1995-96	193	473	69	735
1996-97	142	476	60	678
1997-98	226	517	40	783
1998-99	193	484	46	722
1999-00	213	470	34	717
2000-01	198	613	23	834
2001-02	175	757	10	942
2002-03	202	796	4	1002

Table 7. Wetline Catch by Method for 1990/91 to 2002/03

The Panel considered that the gear permitted in the demersal fishery should be limited to handlines and droplines. The Panel also considered there needs to be a cap on the maximum number of lines on a boat to help ‘standardise’ to some degree a unit of fishing effort. It was also suggested that in the interests of economic viability, a minimum of three handlines/three droplines would be needed, however an allowance for additional spare gear to cover breakage/loss should also be taken into account. It was suggested that allowing for 5 handlines and 5 droplines would cover these contingencies.

It was discussed that there be a maximum number of hooks, or sets of hooks⁸, permitted to be used on each line. In practice however, the Panel recognised that a large number of hooks is generally only used in deep water where target species could be at different heights in the water column. In shallower water, only the bottom few hooks were effective and consequently fishers commonly use much fewer hooks (i.e. 3-5).

The Panel also noted that in some conditions (e.g. strong drift or surge) droplines may be the only effective fishing method as it may not be possible to ‘hold bottom’ using handlines. It was felt that a restriction on the use of large numbers of droplines will however prevent the opportunistic ‘bombing’ of sites.

⁸ Provision for the use of ganged hooks was also deemed necessary, as these were important depending upon type of bait used.

Proposals

- 18) The only permitted gear for use in the fishery be handlines and droplines.
- 19) A maximum of 5 handlines and 5 droplines be on board, or in operation from, a boat at any one time.
- 20) A maximum number of 30 hooks (or gangs of hooks) be permitted on any handline or dropline.
- 21) Legal definitions describing handlines and droplines be developed that contain the following elements:
 - a. 'Handline' means a fishing line which is weighted at one end, is attached to the boat and has not more than the prescribed number of hooks attached.
 - b. 'Dropline' means a fishing line with no more than the prescribed number of hooks attached and when used for fishing is anchored by a weight at one end, buoyed at the surface and deployed vertically through the water. A minimum of one buoy, with a minimum diameter of 200mm, must be attached to the line. The buoy should be marked with the vessel's LFB number, in lettering at least 6cm high and 1cm wide.

5.11 Processing at sea

The Panel noted that the general practice among wetline fishers is to land whole fish to optimise the quality of the product. This practice also has the benefit of ensuring that compliance with size limits can be monitored.

The Panel felt this practice should be encouraged and the new management arrangements should generally allow for landing of whole fish only. Exceptions to this should be made by way of application and assessed individually on their merits.

The Department of Fisheries Seafood Quality Management Initiative (SQMI), in association with industry and WAFIC produced the WA Quality Scalefish Guide. The Guide is an excellent tool for fishermen to use in ensuring best practice in handling, storage, labelling and transportation of their product. The Guide contains detailed guidelines on all aspects of on-board handling of catch, a temperature template and a checklist. Adherence to these guidelines should result in the best quality fish. Furthermore, completion of the check list and temperature template may provide evidence of attention to food safety and food quality issues for buyers.

Proposal:

- 22) Operators in the *West Coast Demersal Scalefish Fishery* be permitted to land whole fish only (fish may be gilled and gutted). Exceptions to this should be made by way of application for at-sea processing licences and assessed carefully on their merits.

5.12 Take of Shark

The Panel noted that there is immediate concern over the sustainability of some shark stocks and that separate management processes are underway to reduce fishing effort on these stocks. While up to 70 tonnes of sharks in a given year have been recorded by wetline methods (handline and dropline) during the 1991-2001 period, the Panel noted that the majority of this catch (over 90%) was taken by fishers who also have an authorisation in the West Coast or Southern Demersal Gillnet and Demersal Longline Fisheries.

It was noted that a prohibition on the use of pot hooks has been introduced and the Minister is considering a prohibition on the use of metal trace. These prohibitions are intended primarily to protect adult dusky and whiskery sharks which are considered over exploited. There has been a recent shift in the fishery from taking neo-nates to adult stock which has created serious sustainability concerns. This Research indicates that a 4% mortality rate of dusky sharks *Carcharhinus obscurus*, (also known as 'bronzies'), will result in a decline in their population.

The Department is considering additional management measures to conserve threatened shark species and further prohibitions, including size limits and fishing closures, cannot be ruled out.

While these issues will be addressed through specific shark fishery management processes, given these sustainability concerns, the Panel does not believe it appropriate to allow the targeting of shark in the wetline fishery. This can be easily addressed by not allowing the use of metal trace on lines in the fishery.

Proposal

- 23) **Metal traces should not be permitted to be used on any gear in the West Coast Demersal Scalefish Fishery.**

SECTION 6 WEST COAST INSHORE NET FISHERY

6.1 Profile of West Coast Inshore Net Fishery

A number of commercial fishers in WA use haul nets, gillnets and beach seine nets to target inshore species such as Australian herring, mullet, whiting and garfish outside of existing managed fisheries.

Currently there is a prohibition on all beach seine activity between Black Point (115°30' E) south of Augusta through to Cape Bouvard and the inshore netting activity that does exist in this area is currently under a management review. In addition, the waters between Tim's Thicket north to Moore River are regulated under the *West Coast (Beach Bait Fish Net) Limited Entry Fishery*.

Therefore, all inshore net fishing activity in the West Coast bioregion north of Moore River is currently considered 'wetline' fishing because it is not under formal management arrangements and therefore falls within the terms of reference for this review.

The number of net fishers operating each year and total catch levels in this open access fishery has not changed significantly since 1990/91. The annual catches taken by these fishers range from a few kilograms to over 15 tonnes (Table 8). (Please note that the same boats are not always represented each year, e.g. 25 boats in total fished in the years 1999-2000 to 2001-2002.)

Year	Catch (tonnes)	No. of Boats
1990-91	10	13
1991-92	10	11
1992-93	11	18
1993-94	11	12
1994-95	19	11
1995-96	12	11
1996-97	15	11
1997-98	14	12
1998-99	16	16
1999-00	23	14
2000-01	23	14
2001-02	21	17
2002-03	30	14

Table 8. Inshore wetline catch and the number of boats reporting inshore catch in the West Coast bioregion from 1990/91 to 2002/03.

Year	< 100 kg	100 - 200kg	200 - 300kg	300- 400kg	400- 500kg	500- 1000kg	> 1tonne	Total
1990-91	2	2	2	0	1	3	3	13
1991-92	2	2	1	0	1	2	3	11
1992-93	8	2	1	1	2	2	2	18
1993-94	4	0	0	1	1	3	3	12
1994-95	0	1	0	1	2	1	6	11
1995-96	2	1	1	2	0	2	3	11
1996-97	2	1	0	1	2	3	2	11
1997-98	2	2	0	2	0	1	5	12
1998-99	3	1	4	2	0	1	5	16
1999-00	3	0	0	2	1	3	5	14
2000-01	0	0	2	2	0	5	5	14
2001-02	3	2	3	0	0	3	6	17
2002-03	0	0	1	1	1	4	7	14

Table 9. Number of boats that reported less than 100 kg; between 100 kg and 200 kg; 200 kg and 300 kg; 300 kg and 400 kg; 400 kg and 500 kg; 500 kg and 600 kg; 600 kg and 700 kg; 700 kg and 800 kg; 800 kg and 900 kg; 900 kg and 1000 kg and greater than 1 tonne in the West Coast inshore fishery from 1990/91 to 2002/03.

Inshore fishing operations potentially take place in areas of high interaction with the general recreational fishers and other coastal users because of their requirement for beach access. Although the level of interaction appears to be minimal at present in the area north of Moore River, as WA's population and access to coastal locations increases, the level of interaction will also grow. An increase in inshore commercial fishing effort may also lead to increased levels of interaction and possible conflict.

If this fishery was left unmanaged it is likely that the introduction of management for demersal stocks would result in some operators transferring effort to inshore stocks. It is therefore important that the inshore fishery is also put under a formal management framework.

6.2 Management Options

The major concern is that, following the introduction of management for the demersal wetline fishery, those not gaining access may move inshore and significantly increase catch and effort in the inshore net fishery.

Clearly, management of the inshore net fishery is essential. However given the character of the fishery, the introduction of complex or overly restrictive management arrangements would be difficult to justify on financial, environmental or social grounds.

The Panel recommends simple, cost effective management arrangements. Furthermore, the Panel has recommended the Commercial Access Panel (CAP) consider generous access

criteria for entry to the inshore net fishery recognising that the participation and catch rates have been historically low.

The Panel considered a number of different management options for the West Coast inshore net fishery. It ruled out more sophisticated systems such as ITEs and ITQs because it did not consider them necessary for this fishery, which is of low value, has relatively low production and not considered over-exploited.

The Panel considers the most simple and cost effective management arrangements for the inshore fishery to be a limited entry system with gear controls. Given that the number of licence holders participating in this fishery has been fairly low and constant over a number of years, the Panel considers that access criteria for entry to the fishery should recognise all significant past usage.

By capping the number of operators and having defined permitted fishing gear the Panel believes there is currently no need to have any further restrictions on time fished, the amount of catch or the species taken.

6.3 Proposed management framework

The Panel considered an outer boundary for the inshore net fishery but did not deem it necessary because defining the fishery as a gear-based fishery will automatically distinguish it from the demersal wetline fishery and other fisheries. Furthermore, an outer boundary is an unnecessary addition to compliance requirements and costs.

Predominantly, inshore catch is taken using dinghies. The Panel considered the need for a restriction on boat size in the inshore fishery but came to the conclusion that this too would be an unnecessary restriction, at this stage, if there were to be gear restrictions. It suggests that the use of large vessels in the inshore fishery would not be commonplace because it would be economically inefficient for operators.

In the future it may be necessary to determine an appropriate catch level for the inshore fishery to ensure sustainability and develop more sophisticated management arrangements to achieve this. Furthermore, it may be useful to establish 'trigger' points of total catch for further management action. These catch targets should be developed in consultation with those licence holders that gain access to the fishery.

Proposals:

- 24) The *West Coast Inshore Net Fishery* be managed predominately by limited entry, supplemented by gear restrictions and provisions for future spatial and temporal closures if required.**
- 25) Fishing methods in the *West Coast Inshore Net Fishery* be limited to the use of hand haul net, gillnet and seine net. Further definitions around permitted gear should be developed in consultation with those fishers who gain access to the inshore fishery.**

26) The Panel recommends that access criteria established for entry to the *West Coast Inshore Net Fishery* should recognise fishers with relatively low levels of catch history.

27) Catch levels from the *West Coast Inshore Net Fishery* should be monitored and specific effort constraints be implemented should catch levels begin to increase beyond historical levels. Consideration should be given to formalising these levels as ‘trigger points’ for future management action.

SECTION 7 SCALEFISH TAKE BY COMMERCIAL FISHERS WHO DO NOT GAIN ACCESS TO THE MANAGED WEST COAST DEMERSAL SCALEFISH FISHERY

One of the most contentious issues surrounding the development of a management plan for the wetline fishery is the continued take of scalefish by fishermen who do not have access to the fishery. The Panel gave this matter detailed consideration and a range of matters was discussed including:

- impact on overall take and sustainability;
- social issues (personal/family diet, availability of scalefish for purchase by locals, tourists, restaurants, takeaways, etc in local communities);
- incentives for black market and ‘shamateur’ activity;
- compliance costs; and
- equity in management arrangements across all commercial fisheries

The Panel examined this issue particularly with respect to both:

- the take of fish for sale (ie commercial activities); and
- the take of fish for family/friends (ie supply for personal use).

The first issue relates to whether fish taken by persons ‘outside’ a managed wetline fishery should be able to be sold in the context of sustainability, equity and compliance costs. Traditionally, both nationally and in Western Australia, the establishment of a limited entry fishery entitles only those commercial fishers who gain access to that fishery to catch and sell that fish to which the fishery relates.

As more WA fisheries have moved under management over time, the ability of commercial fishers to take a particular species (e.g. rock lobster, abalone, pink snapper in most parts of the Gascoyne), or operate in certain areas, or use a specific type of gear has been reduced.

Restricting the take of fish to only those persons authorised to operate in a particular fishery is fundamental to ensuring the catch in the managed fishery can be contained to a sustainable level. It also allows for management arrangements to be devised that can take into account a range of other factors such as quality of product and market considerations.

The impact of ‘opportunistic’ wetline activity was raised in a number of submissions. This was a particular concern in the West Coast region where it was claimed that ‘opportunistic’ wetline activity resulted in periodic ‘flooding’ of markets of prime scalefish species such as dhufish, which resulted in a drop in landed price and sometimes the supply of a lesser-quality product.

This type of activity was also sometimes concentrated in localised reef areas and the removal of large numbers of fish (particularly residential species) effectively denuded this area of fish for some time. Many full-time wetline fishermen suggested that they tend to ‘farm’ these spots and opportunistic ‘bombing’ of sites by operators in

managed fisheries made it difficult for full-time wetliners to maintain steady catches and a regular income.

The Panel noted that if the sale of scalefish by operators outside the managed fishery were permitted, it would provide a strong incentive for some fishers to take this catch every day (even if a low daily limit was set). This would particularly be the case if the fish could be taken in the course of normal fishing activity where operating costs were already being incurred. Given the relatively high value of some species such as dhufish, it may also provide an incentive for some operators to exceed any limits imposed, particularly if they felt the risk of detection was low.

The Panel was of the view that any measures that may provide either an opportunity or an incentive to maximise these catches would present a risk to compliance, and more importantly to the overall commercial take and sustainability of stocks. Given the relatively low abundance of key demersal scalefish species and the large number of fishing boats in the State, the potential catch from persons 'outside' the fishery could easily become a significant proportion of the overall catch.

On this basis the Panel considered that the sale of fish by operators who were not part of the wetline fishery should not be permitted as it would be inconsistent with arrangements in other managed fisheries, jeopardise compliance and make it difficult to place any effective constraint on the overall catch.

The second issue considered by the Panel was the take of scalefish for personal use. This personal take was seen to be akin to a 'recreational' use – however it was recognised that this catch is not strictly recreational as it is taken from a licensed commercial boat.

The Panel considered a distinct term should be used to describe this catch. 'Commercial catch' relates to fish taken for sale, 'recreational catch' refers to fish taken by recreational fishers, and 'charter catch' is used to refer to fish taken by recreational fishers on charter boat trips. The Panel has adopted the term 'non-commercial' catch to describe any take of fish for personal use by commercial fishers operating outside the managed *West Coast Demersal Scalefish Fishery*.

The Panel recognised that such a 'non-commercial' catch is currently being taken by the commercial sector (be it for personal use or for small-scale sale). This presented two challenges for the Panel:

- setting an appropriate individual limit for non-commercial use; and
- setting an overall catch target for the non-commercial catch.

7.1 Setting an individual limit for the non-commercial catch

The Panel discussed a number of options to allow for a 'non-commercial' take of scalefish including:

No take of scalefish by operators without a managed fishery licence.

This would be the simplest and most cost effective option from a management and compliance perspective. While some inspections would be required to ensure no scalefish were taken by persons who were not operating under the authority of a licence, these inspections would be quick (because there would be no requirement to monitor number/size of fish taken) and any infringement would be clear. From a compliance perspective, this option was the lowest risk in terms of minimising possibility for illegal activity – as soon as fish can be legitimately landed there is an increased potential for black market activity.

While noting this approach is consistent with the arrangements in other managed fisheries, the majority of the Panel did not consider this option was appropriate (or at least acceptable to industry generally) and believed a limited take of scalefish should be permitted for personal/family consumption.

Allow the take of a recreational daily bag limit per CFL holder

The Panel discussed allowing the take of a recreational daily bag limit. It was noted that the new recreational limits (in place as of 1 October 2003) are still quite generous, particular since commercial fishers operate most days of the week. Under this option, the sale of fish could not be permitted because of the quantity of fish involved.

Even if sale was prohibited, the increasing prices for key species such as dhufish may still create a strong incentive for illegal 'black market' sales (e.g. a recreational limit of seven prize fish per day for three crew equals a potential 21 prize fish per day, plus the catch limits in other categories, that could be legally landed). This option would also create additional compliance costs as there would be a requirement to check numbers and size limits of individual species to ensure the regulations were being adhered to.

The current recreational limits for scalefish are based on three categories of fish, classed as being of high risk (most demersal species, and large pelagic species such as mackerel and tuna), medium risk (pelagic species such as tailor) or low risk (herring, whiting etc). In the West Coast region, recreational fishers are currently permitted to take:

- Category 1 a total of 7 fish within which species limits also apply (e.g. max. of 2 dhufish, 4 pink snapper, 4 baldchin groper)
- Category 2 a total of 16 fish (limit of 8 for most species)
- Category 3 a total of 40 fish (no individual species limits)

Under this option there is the potential for widely varying but significant quantities of scalefish to be taken non-commercially. For example should every boat operating in the Western Rock Lobster Fishery (around 550), with two deckies and a skipper, take three full recreational bag limits of prize fish every week then 11,550 fish (or 46 tonnes if you assume a weight of 4 kgs per fish) could be taken every week. Clearly, if these limits were taken at this rate by all commercial fishers it would represent a significant portion of the total catch on the West Coast.

However, industry members have indicated that they believe this level of catch is unlikely particularly if operators are not able to sell the fish. Furthermore, it can be argued that this extrapolation of catch is as spurious as the arguments around recreational catch estimates based on 600,000 recreational fishers taking a full recreational bag limit every day.

Allow a take of reduced recreational limit

The Panel noted that because commercial fishers may be on the water every day for extended periods, they would have the opportunity to take this 'non-commercial' limit every day. Potentially, if fishers were to operate in this manner, this would represent a considerable quantity of fish. On this basis, it was argued that a limit less than the recreational limit should be applied, such as a recreational bag limit per boat or a limit of one or two fish per person.

This option would allow for a limited personal take but would reduce any incentive for some operators to accumulate commercial quantities (and a potential for illegal sale). It was noted however that this option would limit their ability to provide fish beyond their immediate family and, on any one day, would be significantly less than the personal supply that can be taken by recreational fishers.

The Panel considered that as it has proposed that these fish cannot be sold, there would be little incentive to take this catch frequently. The Panel were of the view that in all likelihood, these fish would only be taken occasionally to meet personal needs.

Issue 'tags' for scalefish take

Another option discussed by the Panel involved the use of tags, whereby fishers could be allocated a set number of tags (one tag per fish) and all retained fish must have a tag affixed. This method would permit the Department's Research Division to set an acceptable catch range for sustainability purposes and release a set number of tags based on this figure.

The Panel noted there would be administration costs around this system, to ensure it was operating effectively. While this was not the preferred option, the Panel noted that a tag system might have merit in the future, particularly for key species such as dhufish that may require a higher level of management.

7.1.1 Considerations

After considerable discussion, the Panel has proposed that the non-commercial limit should be initially set at an equivalent level to the current recreational limits. This non-commercial limit would apply to each CFL holder on the boat. As this non-commercial take is for personal use and cannot be sold, the Panel does not believe that fishers will 'abuse' the intent of the system and take this catch frequently. That said, this option was supported by the majority of the Panel on the clear understanding that

a reporting system is introduced so that the size of this non-commercial catch can be monitored (see section 7.3).

The Panel noted that the quantity of fish landed by each vessel might vary depending upon the type of commercial fishing activity. The Panel therefore propose that in addition to setting an individual non-commercial limit, a possession limit, as applied to recreational fishers, should also be introduced. Under recreational arrangements, fishers on boats trips of more than 24 hours duration would be restricted by a possession limit of two days bag limit of whole fish.

This possession limit will provide an additional deterrent for illegal sales (as it now does for 'shamateur' activity) while allowing fishers returning from trips of greater than 24 hours (such as stays at the Abrolhos Islands) with a reasonable quantity of fish for personal use.

Proposals:

- 28) Commercial fishers without any access to the *West Coast Demersal Scalefish Fishery* should be able to land a 'non-commercial' limit of fish for personal use. These fish may only be taken using an approved recreational fishing method (e.g. use of a handline or rod and line with no more than 3 hooks, or gangs of hooks, attached) and should not be able to be sold.**
- 29) The non-commercial limit in the West Coast bioregion should initially be set at the same limits that currently apply to recreational fishers in the West Coast bioregion but should be monitored separately, and when necessary, adjusted separately.**
- 30) A possession limit for non-commercial catch in the West Coast bioregion should also apply to commercial fishers who are not authorised to operate in the scalefish fishery and this should initially be set at the same limits that currently apply to recreational fishers in the West Coast region but should be monitored separately, and when necessary, adjusted separately.**

7.2 Setting a target catch for non-commercial use

From a management perspective, it is important that a sustainable harvest level for scalefish is set and target catch levels allocated for each group, including the 'non-commercial' component (Figure 3). The independent Integrated Fisheries Management (IFM) Allocation Advisory Committee will conduct these allocations through the IFM process.

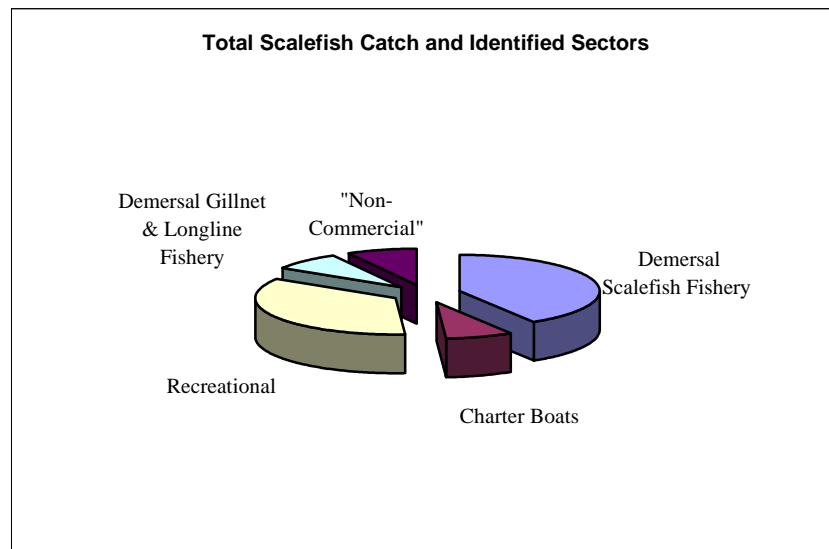


Figure 3: Illustrative model of various sectors that take demersal scalefish

The wetline catch figures presented in this paper include all reported commercial scalefish catch taken by handline or dropline. These figures do not include scalefish taken by demersal gillnet or demersal longline as part of the managed fishery. It should also be stressed that the figures do not include recreational scalefish catches taken by either the charter sector (who also submit catch returns) or recreational fishers (whose catch is estimated through survey programs).

Despite the IFM process to allocate catch shares between sectors the Panel felt it was necessary to isolate a target catch level to be explicitly set for the management of the 'non-commercial' component as the current wetline catch figures are believed to include both fish taken for sale (commercial catch) as well as some fish taken for personal use (non-commercial catch).

The challenge is how to isolate this 'non-commercial' component from the current wetline catch data. This is important to ensure that the target catch used as the basis for calculating total allowable effort in the managed commercial fishery does not incorporate this non-commercial component (and hence result in an unsustainable level of fishing).

However determining the level at which to set this 'non-commercial' catch target is problematic as the Panel noted a number of limitations around the existing data. For example, it is not clear how much of this 'non-commercial' catch is reported on catch returns. While it is a legal requirement for all fish to be recorded on catch records, it was suggested that not all fishers report small amounts of scalefish catch (be they for personal use or sale). Catch returns indicate some fishers do record small catches, and CAES data includes sporadic monthly returns of scalefish as little as 30kg.

It was also suggested to the Panel that the non-reporting of small catches may have been more widespread prior to the announcement of the 1997 benchmark and since then most fishers now report these catches whether for personal use or sale. There were also claims that some fishers may have been 'over reporting' or falsifying catch

returns in recent years order to ‘make up’ for previously unrecorded catches or in an attempt to gain some ‘late history’ in wetline fishing.

It is difficult to assess the validity of any of these claims and such matters will require careful consideration by the CAP in determining access and allocation criteria. A key issue under the new arrangements will be to ensure greater certainty around catch data for use in both stock assessments and future allocation discussions (see section 7.3).

This uncertainty around the data makes the task of quantifying a notional allocation for this component of scalefish catch difficult. The Panel examined a range of options to set a non-commercial target, based on existing recorded data and by attempting to quantify possible personal-use requirements. Ultimately however the Panel felt these methods were too subjective and may not provide a target anything close to the ‘real’ level.

The Panel therefore decided that rather than set this catch target now, it would be more prudent to establish a reporting and validation system to gain accurate information on the non-commercial take (see section 7.3). The Panel felt that this catch could be accommodated in the proposed management arrangements because the total allowable effort allocation to the managed fishery would be based on the CPUE of the ‘top five’ wetliners.

The majority of the industry is unlikely to reach this level of efficiency in the first two years following implementation of the management arrangements and the ‘slack’ will adequately accommodate the non-commercial catch. Furthermore, anecdotal evidence suggests that most of the existing non-commercial take has gone unreported until now. This level of catch is not expected to change under the new arrangements. The availability of new stock assessment information from the Department’s Research Division (as described in section 5.9), and sufficient validated information on both the managed scalefish fishery catch and non-commercial catch during that time means that separate catch targets could be set with a higher degree of confidence.

Just as the target catch for the managed *West Coast Demersal Scalefish Fishery* will act as a ‘trigger point’ for management change, the target catch for non-commercial use will similarly provide a ‘trigger point’ for management action. That is, if the initial controls put in place do not provide an adequate constraint on the non-commercial catch in a particular management zone, further management action will be required such as changing the individual limit for non commercial catch, imposing a bag limit or shifting to a tag system if more stringent control was required.

Proposals:

- 31) The non-commercial component of catch should be managed within the overall target commercial catch established for the fishery while sufficient data is collected to determine an explicit allocation. This figure must be separately identified from the target commercial catch set for the *West Coast Demersal Scalefish Fishery*.**

- 32) If the target catch for non-commercial use is exceeded, management arrangements should be amended to reduce the catch to the prescribed level.**

7.3 Catch Reporting

Fundamentally, it is important that all fish taken, by all sectors, are accounted for and accurate in terms of being able to assess the status of stocks and set a sustainable level of catch. It is therefore essential that the catches of all users be monitored.

In the context of this review, it is important that both commercial and non-commercial catches are monitored. The Panel suggests that the Department of Fisheries provide separate catch return forms for reporting catch on a 'trip by trip' basis rather than the current monthly reporting system. This will provide more timely data and improve the accuracy of the data provided for monitoring and stock assessment purposes. Given the occasional nature and size of non-commercial catches, the Panel believes it is reasonable for a requirement to be introduced for skippers to complete these non-commercial returns prior to landing.

In addition, the current 60 nm by 60 nm catch reporting blocks are of inadequate resolution to provide meaningful information to study the spatial distribution of catch and effort on any significant scale. The Panel recommends that the Department adopt 10 nm by 10 nm blocks for reporting purposes. Currently, recreational and charter boat catch and effort data is reported on a 5 nm by 5 nm basis. This resolution has proven to be extremely useful, without placing too much burden on tour operators or recreational fishers.

Furthermore, the Panel considered that the validation of current catch records is inadequate and considers it essential that a survey be undertaken to validate both the non-commercial returns as well as the managed fishery returns.

Proposals

- 33) The *West Coast Demersal Scalefish Managed Fishery* and the 'non-commercial' scalefish sector be required to report the catch of scalefish on a 'trip by trip' basis prior to landing.**
- 34) The *West Coast Demersal Scalefish Managed Fishery* and the 'non-commercial' scalefish sector be required to report the take of scalefish on a 10 nm by 10 nm scale.**
- 35) Validation surveys be carried out on catch returns of all scalefish including both the *West Coast Demersal Scalefish Managed Fishery* and the 'non-commercial' scalefish sector to ensure the data is robust for decision making.**

7.4 Fin clipping of recreationally caught fish

The Panel also discussed possible measures to help ensure that non-commercially caught fish could not be sold. In this regard the Panel considered that ‘marking’ these fish in some way could assist compliance measures.

Introducing a requirement to clip the fins of all non-commercially caught fish was one suggestion made as a means of deterring the illegal sale of scalefish (along the same lines as tail clipping of recreationally caught rock lobster). Clearly this measure would only be effective while the fish remained whole. However given the requirement to land whole fish, it may provide some level of deterrent to illegal activity.

A requirement to remove the pectoral fin of scalefish has recently been introduced in Queensland. The Panel believes the introduction of such a condition may help address illegal sale issues and should be introduced in WA on a trial basis. It is therefore suggested that both pectoral fins should be removed from all fish taken as non-commercial catch. Initially, this provision should only apply to those species that are listed as ‘Category 1 fish’ for recreational fishers in the West Coast.

The Panel also believes there would be merit in extending this fin-clipping requirement to also apply to the recreational sector. This matter falls outside this Panel’s terms of reference however the Panel would like to suggest that the Minister refer this suggestion to recreational groups for their consideration. The Panel believes if this provision applied to all fish taken outside of managed commercial fisheries, it may provide a more widespread deterrent to illegal and ‘shamateur’ activity.

Proposal:

- 36) All scalefish taken as non-commercial catch that are of the species listed as category 1 recreational fish, must have both pectoral fins removed immediately upon capture.**

7.5 Existing prohibition on commercial fishers holding recreational licences

In the course of this review, the issue of CFL holders being prohibited from applying for recreational licences was also raised. Whilst outside the formal terms of reference the matter was clearly of concern to industry members of the Panel.

Currently, a CFL holder can catch recreational limits of species that do not require a recreational licence (e.g. crabs or mackerel) if fishing from a private recreational vessel (i.e. not a commercial fishing boat). However fisheries legislation prohibits the holders of CFLs from being able to hold a Recreational Fishing Licence (RFL). This effectively excludes all commercial fishers who do not have access to the commercial abalone or rock lobster managed fisheries from being able to catch these species recreationally.

The Panel felt this was inequitable and proposed that fisheries legislation should be amended to permit holders of CFLs to obtain RFLs for fisheries in which they are not authorised to operate commercially. For example a commercial rock lobster fisherman should be permitted to hold a recreational abalone licence but not a recreational rock lobster licence.

Such a change however, would require that the fishery in which a CFL holder was able to operate was shown on the CFL. The proposal to allow CFL holders to obtain RFLs was reached on the clear understanding that catch taken under a recreational licence can not be sold and must be taken in accordance with recreational fishing rules.

A further issue was whether these RFLs should be able to be used from a commercial fishing boat. The Panel considered that because of the efficiencies of a commercial fishing boat and the fact these recreational licences could be used everyday, this may create a significant increase in recreational fishing effort. For example if every commercial boat (outside of the commercial rock lobster fishery) pulled 4 rock lobster pots (recreational boat limit) each day, this could equate to a significant increase in rock lobster effort.

The Panel was of the opinion however that scalefish should be treated differently and should be allowed to be taken from a commercial fishing boat (in accordance with the proposals outlined in this chapter).

Proposal:

- 37) Fisheries legislation be amended to permit holders of Commercial Fishing Licences to apply for a Recreational Fishing Licence for abalone and rock lobster provided they do not operate in the respective managed commercial fishery. Fishing activity requiring a recreational licence should not be permitted to be undertaken from a commercial fishing boat.**

SECTION 8 APPENDICES

8.1 Glossary

Term	Meaning
AFZ	Australian Fishing Zone
ALC	Automatic Location Communicator
CAESS	Catch and Effort Statistics System
CAP	Commercial Access Panel
CF	Government's Consolidated Fund
CFL	Commercial Fishing Licence
CPUE	Catch per Unit Effort
DBI(F)	Development and Better Interest (Fund)
DNF	Developing New Fisheries – Departmental process by which people can apply to be exempted from existing fisheries legislation in order to develop a new fishery
Dropline	A fishing line used for targeting scalefish, anchored by a weight, buoyed at the surface and deployed vertically through the water
FAS	Fisheries Adjustment Scheme
FBL	Fishing Boat Licence
FRMA	Fish Resources Management Act 1994
FRMR	Fish Resources Management Regulations 1995
FWA	Fisheries Western Australia (now Department of Fisheries)
GPS	Global Positioning System
GVP	Gross Value Of Product
Handline	A fishing line which is attached to a boat, weighted at one end, and used to take scalefish species
IFM	Integrated Fisheries Management
ITE	Individual Transferable Effort
ITQ	Individual Transferable Quota
LEF	Limited Entry Fishery (now Managed Fishery)
LFB	Licensed Fishing Boat
LFR	Licensed Fish Receiver
MF	Managed Fishery (formerly Limited Entry Fishery)
MFL	Managed Fishery Licence
MPP	Management Planning Panel
OCS	Offshore Constitutional Settlement
SQMI	Seafood Quality Management Initiative
TAC	Total Allowable Catch
TACC	Total Allowable Commercial Catch
TCC	Target Commercial Catch
TAE	Total Allowable Effort
VMS	Vessel Monitoring System
WAFIC	WA Fishing Industry Council
Wetline	A term generally applied to any fishing activity undertaken under the authority of a Commercial Fishing Licence (CFL) or Fishing Boat Licence (FBL) which is not otherwise prohibited by other legislation (such as a management plan, regulations, or Section 43 Order).

8.2 Consultation process

The consultation process to date has included:

- A letter of 3 November 1997 to all FBL holders, advising that the (then) Minister had asked that the Department undertake an assessment of fishing activity against FBLs (that is, in the 'wetline' fishery). In addition, it advised that a benchmark date of 3 November 1997 had been set by the Minister in relation to the recognition of history within the fishery.
- The Minister's address at the WAFIC AGM in September 2001 raised the issue of wetline management, and sought WAFIC's view on the rate at which this should be progressed.
- An article by Guy Leyland in the *ProWest* January/February 2002 edition on WAFIC's view on progressing the matter of wetline management.
- A Ministerial media statement on 11 July 2002 formally announced plans to review the management of the 'wetline' sector of WA's commercial fishing industry.
- An article in the *ProWest* January/February 2003 edition about the Minister having formally agreed to the process for the wetline review, including information about the roles of the two Panels which the Minister would be establishing.
- A Ministerial media statement on 11 April 2003 announced the creation of two Panels to provide advice on proposed access and management arrangements for WA's commercial wetline fisheries.
- An article in the first edition of *Western Fisheries* in 2003 about the start of the review of commercial 'wetlining', commencing in the West Coast and Gascoyne regions, including information about the composition and role of each of the two Panels.
- A letter of 23 June 2003 to all FBL holders re validation of catch records, which advised about the establishment of two Panels to undertake a review of WA's commercial wetline fishery. A copy of the Minister's media statement of 11 April 2003 was included with the letter.
- In September 2003, advertisements explaining the review and extending an invitation for any interested persons to make initial written submissions on matters the Panels should consider as part of the review were placed in *The West Australian* (on the 12th and 13th), the *Geraldton Guardian*, *Northern Guardian* and the *Augusta-Margaret River Mail* (on the 17th), and the *Bunbury/South West Times* (on the 18th).

- In mid-September 2003, information about the review was placed on the Department of Fisheries' website, including an invitation to make an initial written submission. There is also provision to send a submission direct from the site.
- September 2003, information about the invitation to make an initial submission was placed on the *Citizenscape and Consultation Catalogue* section of the Department of Premier and Cabinet's website, with a direct link to the Department of Fisheries' website.
- 19 September 2003, presentation to all WA boat brokers.
- A letter of 26 September 2003 to all peak industry bodies, including professional fishermen's associations, explaining the review and extending an invitation to make initial written submissions on matters they believe the Panel should consider as part of the review.
- Early October 2003, posters about the review, with the same text as in the newspaper advertisements, were displayed in all regional and district offices of the Department, as well as at major wetfish processing establishments. Also, the same posters will be displayed at meetings of the annual rock lobster coastal tour in the week beginning 13 October.
- An article in the September/October 2003 edition of *ProWest*.
- 8 October 2003, the same letter as per the 26 September letter to industry bodies was sent to all FBL holders.
- The advertisement repeated in *The West Australian* of 25 October 2003.
- February 2004, the Commercial Access Panel provided an opportunity for interested associations and individuals to provide their views to the Panel on issues such as access and allocation. Meetings were held in Dongara, Geraldton, Kalbarri and Carnarvon.
- May 2004, the Commercial Access Panel held similar meetings in Bunbury, Busselton and Fremantle.

8.3 Initial submissions

8.3.1 *Initial submissions received*

R L & M A Alexander
Brent Avery
David Barton (Sabrina Fishing Co)
Todd Bennett (AMB Holdings Pty Ltd)
Ken Bentley
Mark Billings
Sam Binder
Eric Buehrig
R E Carr
Barry Carter
Terry Cockman (Tebco Fishing Co)
Merv Collinson
John Craike
Tom Donaldson
M Dove, L Lambeth & R Mitchell
Geoff Dowsett & Sharon McAuliffe (Shazbut Fishing Co)
Ray Dunstan
W H & D J Dyson
J R Farrell
A G Fiocco
Daniel Fisher
Morrie Fisher
Neil Flynn
Ian Fowler
Peter Glass
John Godenzi
Phil de Grauw (Sabea Fishing Co)
J & D Groesslinger
Mark Grove
David Harrington
Philip Harrington
Ron Heberle
Glenn Hill
J Horwood
Tony Jurinovich (Kajuree Fishing Co.)
Indre Kirsten
Sam Koncurat
A D Kongras
Kybret Pty Ltd (Jan & Stephen Hughes)
David Lake
S A Macdonald
S C McCaskie
Ken McClements
Dave Miller
P J Moore & Son, Phillip Moore, Paul Moore

Garry Peters
Alex Petrelis
Denis Ritchie
Rob (recreational fisher)
John M Robertson
Craig Scott
A Sharp
Pat Shinnick
Ian Stagles
E J Toomey
David Wells
Simon Wells
Andrew Woodley-Page
G Woodley-Page
Peter Shaw & Melissa Zerbe (Ningaloo Experience)
Australian Anglers Association (WA Division) Inc
Central West Coast Professional Fishermen's Ass.
Geraldton Abrolhos Wetliners Association
Geraldton Professional Fishermen's Association Inc.
Kalbarri Snapper Fishermen's Association
Myalup Beach Caravan Park & Indian Ocean Retreat
Offshore Angling Club of WA Beach Branch (Inc)
Onslow Professional Fishermans Association Inc.
Recfishwest
Surf Casting and Angling Club of WA (Inc.)
Western Australian Fishing Industry Council
Western Australian Professional Shell Fishermen's Association

8.3.2 *Issues raised in initial submissions*

A total of 67 initial submissions on matters the writers believed the Panels should consider as part of the review of the commercial wetline fishery were received. Attached is a summary of the key issues raised relevant to the West Coast & Gascoyne Management Planning Panel. Also attached for your information are the key issues raised relevant to the Commercial Access Panel (i.e. access and allocation issues).

Some of the submissions concentrated on issues outside the terms of reference of the wetline review. Those issues have not been included here.

Process issues

- Panel should start on one fishery first (rather than both)
- Delineation of CAP/Panel responsibilities – suggest final number of participants is critical issue for Panel (CAP decides how to get there)
- Seek DoF advice on new Pilbara/Kimberley regions and problems

General Management issues

- Should be a TAC, with ITQ, by zones.
- TAC best system of management. Allows for a consistent supply for the market, and maximises the value of the fish. Reduces pressure to fish unsafe hours.
- Quota system should cover all species collectively, not separate quota for specific species.
- Quota system allows greater flexibility, particularly for weather conditions or breakdowns.
- Quota system is not practicable from a compliance perspective because of the variety of species.
- Quota system would result in high grading.
- Introduce quota for boats left in the fishery, based on catch records.
- Allocating "days" to all who have some wetline history would be a compliance nightmare.
- Allocating "days" would mean desperate dedicated wetliners would need to buy up "days" to continue operating as they have always done.
- How can "days" be determined when there are so many variables?
- Safety would be an issue with the pressure of "days".
- Days fished, with VMS, is the only way to regulate fishing.
- Days fished means there is no incentive to high grade.
- 200 kg of recorded catch should equal one day of access.
- Although quota allocation is more precise than allocation of days system, in a multi-species fishery it is impossible to prevent overfishing through high grading, and consequent release mortality.
- Time units lead to sleep deprivation and unsafe work practices.
- Time units lead to more pressure on fish stocks.
- Time units give no control over quantity of fish taken.
- All those who qualify for access should be allocated an equal number of days. This would be more advantageous for the better fishers, but would not disenfranchise anyone, and would be fairer than using historical catch data. Operators can then purchase days from those leaving the industry to build up their access.
- Use precautionary approach to set commercial TAC.
- Too difficult to apply a realistic TAC from the beginning of the managed fishery because research data is too limited to determine the sustainable TAC. A generous allocation of units should be granted which are then reduced over 2-3 year period as the data becomes more reliable.
- For first two years of management, units can only be traded by operators - no speculators.
- For first 12 months of management, quota units should only be able to be purchased by actual wetline operators, not speculators or other outside interests.
- The number of commercial participants should be restricted such that the total fishing capacity falls below the level recommended by Research to ensure long term sustainability.
- Should be a high minimum holding to limit the number of participants.

- Export of WA wetfish should be prohibited.
- Marine based aquaculture licences should be endorsed to source their own broodstock from their own vessel.

West Coast Management Issues

Spatial Issues

- Gascoyne/West Coast boundary should be at Shark Bay Snapper Managed Fishery at 26° 30' (rather than recreational/charter boundary at 27°).
- Need different zones within the fishery.
- Access to each zone should be determined by fishing history.
- Different zones will more evenly spread fishing effort.
- Different zones will allow for more specific spatial management.
- Need for separate management zone for the Abrolhos.
- Possible need for additional zones within West Coast
- Distinction between inshore and offshore history (both areas and species).
- VMS should be compulsory if zoning applies.
- Access to zones should be on the basis of fishing history as per catch returns.
- Spatial closures would direct fishing pressure to other areas.
- Closures to commercial fishing, eg, 25 nm from coast; 10 nm from Abrolhos Islands.
- There should be a minimum distance from the Abrolhos Islands from which fish can be caught.
- Management measures may need to vary from zone to zone.

Size of fishery

- Removal of latent effort and excess fishing capacity.
- Impact/relationship with other fisheries in West Coast and potential for shifts in effort e.g. Rock Lobster .
- Small number of participants has the following benefits:
 - * Compliance costs will be reduced, and effectiveness will increase.
 - * As total market value of wetfish is relatively low, small number of operators would be financially viable.
 - * The fewer the participants, the greater the value of their licences. This results in increased financial security, and more likely to result in increased compliance.

Management tools

- Must be closed areas in the fishery - based on areas of high fishing pressure, spawning areas etc.
- Restrict targeting of spawning fish and nursery areas.
- Closures when spawning e.g. Dhufish for both sectors

- Seasonal closure for each target species' spawning period to protect the breeding stock.
- Minimum size of targeted species needs to be reassessed to increase the breeding stock.
- Mortality issues - effectiveness of size limits
- Gear restrictions needed - prevent excessive numbers of droplines being used.
- Gear restrictions needed e.g. 2 power winches boat
- Gear restrictions have limited value as a management tool, and impossible to police.
- Ban droplines - 100% mortality of fish caught by this method, thus undersize etc are lost to the breeding stock.
- Handlines only, not droplines, on rock lobster boats.
- Input controls on crew e.g. limit to skipper plus one deckie
- Crew restrictions not needed initially, but would need to be monitored if a number of larger boats enter the fishery.
- Crew restrictions would not be necessary under a quota system.
- Effort controls e.g. Days per month
- Use of VMS as a tool for effort control, integrity control for quota or spatial management
- If operators wish to fish different areas, should have VMS and have to purchase or lease quota for the other zone/s.
- VMS will be a cost effective method to assist with management of this fishery.
- Minimum holdings be required to be able to operate. Quotas which fall below the limit to operate to be transferred to existing operational wetliners. Owner operators who receive 80% or more of their income from wetlining should not have to go into debt to be able to continue fishing.
- Some weighting of dhufish is required to allow for lower catch volume but high value.
- Finfish caught at the Abrolhos be transported back to the mainland whole by the vessel which caught it.

Equity

- Ability for commercial fishers without access to take recreational limits.
- A recreational bag limit should apply to FBLs which are not part of the wetline managed fishery - one bag limit per boat, not for sale.
- All wetliners should be able to obtain a recreational licence for other species.
- Spatial separation from recreational fishing needed.
- 'New' fishing opportunities – fishing deeper water than current operators in area
- Management arrangements must account for marketing needs.
- Rock lobster fishers to only fish for wetfish outside of rock lobster season.
- Allowing rock lobster fishers to catch the recreational bag limit would allow them to retain fish caught in lobster pots.
- Only allow holders of other MFLs to wetline during their managed fishing season.

- Commonwealth trawlers need monitoring - should not be operating inside 200m.
- Get rid of Commonwealth trawlers - is a clear conflict of interest, and they are not dependent on the areas as a main source of income.

Efficiency

- Cost of compliance and management
- Affordability of management – limited cost recovery capacity of wetline fishery, declining Consolidated Fund base.
- Public demand for fresh seafood – assess (allocation issue)

Gascoyne Management Issues

Spatial Issues

- Location of northern boundary
- Incompatibility of recreational regional boundary (approx 4nm south of Ashburton River (114°50' east) with existing Pilbara trap and trawl fisheries at 114° 9'36" East. Distinction between inshore and offshore history (both areas and species).
- Commonwealth trawlers should have to operate well outside 200m to avoid the major pink snapper stocks.
- Commonwealth trawlers should be in deeper water - at least 300m to protect fish stocks
- In some places, Commonwealth trawlers operate in less than 200m, which may have a deleterious effect on pink snapper stocks - there needs to be liaison with the Commonwealth on this issue.

Size of Fishery

- Removal of latent effort and excess fishing capacity.
- Impact/relationship with other fisheries in Gascoyne and potential for shifts in effort e.g. SB snapper, goldband.

Management Tools

- Establish Gascoyne demersal fishery
- Distinction between inshore and offshore history (both areas and species).
- Snapper spawning closure - No fishing 20 June - 31 July
- Boats without snapper concessions can't fish
- Boats targeting gold band should require snapper quota – ration 1 tonne goldband to every 300kg snapper
- Snapper quota holders catch 1 tonne snapper to 1 tonne mixed scalefish – when snapper quota expired all fishing must cease.

- VMS fitted to all vessels
- Use of VMS as a tool for effort control, integrity control for quota or spatial management
- Minimum holdings be required to be able to operate. Quotas which fall below the limit to operate to be transferred to existing operational wetliners. Owner operators who receive 80% or more of their income from wetlining should not have to go into debt to be able to continue fishing.
- Seasonal closure for each target species' spawning period to protect the breeding stock.
- Comments made specific to Shark Bay snapper:
 - * Seasonal closure during breeding period.
 - * No minimum size limit for pink snapper - all snapper caught to be retained as part of quota, as would not survive on release.
 - * Snapper quota should be required to be eligible to fish in the Gascoyne wetline fishery.

Equity

- Issue of C'wth trawl licences
- Get rid of Commonwealth trawlers - is a clear conflict of interest, and they are not dependent on the areas as a main source of income.
- A recreational bag limit should apply to FBLs which are not part of the wetline managed fishery - one bag limit per boat, not for sale.
- All wetliners should be able to obtain a recreational licence for other species.

Efficiency

- Cost of compliance and management
- Affordability of management – limited cost recovery capacity of wetline fishery, declining Consolidated Fund base.
- Public demand for fresh seafood – assess (allocation issue)
- Cost recovery – full/partial/non?

Access & allocation issues

- Validity of November '97 benchmark date and 'pioneer rights' policy
- Wetlining may be an important part of total fishing package
- Rock lobster boats and other high value fisheries don't 'need' to wetline
- Explore alternatives to catch history e.g. financial dependence on wetlining (ie as a proportion of income)
- Compensation issues for loss of 'wetline' access
- Regional management – pre-benchmark history of licence may be in different area to that fished presently.
- Cray fishers no access unless meet criteria
- Preference to fish in an area must be given to those who have history there.

- It is not possible to please everybody - this is about protection of fish stocks. Wetline MFLs are imperative.
- 1997 benchmark date should stand.
- Anyone buying an FBL after the benchmark date should have been aware of the Minister's warning about gearing up. This was well known at the time, and prices of wetline licences reflected that.
- Review benchmark date to cater for those who have made more recent investment decisions.
- Should be automatic access to those boats whose sole source of income prior to benchmark date was from wetlining.
- The benchmark date should be the day the Minister accepts the recommendations from the CAP. From that day, active fishers would be allocated a wetfish allocation which would be enshrined within their licence. Inactive licences could not be activated after that date.
- Access must be granted to boats whose sole source of income is wetline fishing prior to the benchmark date. If the benchmark date is not taken into account, catch history must be proven by other information, in addition to CAES returns.
- Unclear if new FBL holders have been given clear and consistent advice since the benchmark date.
- There might be a case for those who bought an FBL pre-1997 and have shown since then that they have wetlined exclusively and are reliant on it for their livelihood.
- The period 1990-1997 only gives a very limited period of history. The period of catch history should be extended to 1980-2000 to allow the true wetline fisher a fuller period to justify access.
- Catch allocation should be based on the 10 year history prior to the benchmark date.
- FBLs which are held in conjunction with MFLs should only be granted access if they have a catch history prior to the benchmark date.
- If no wetline catch recorded by an FBL which is held in conjunction with an MFL, access to wetline fishery should only be granted during the managed fishery season.
- If wetline catch recorded at sometime during the last five years or in all of the fisher's catch history prior to last five years, should be a full participant in wetline fishery.
- Catch history should be used to determine level of access.
- Common knowledge that many operators who had previously not caught or not reported catch are now reporting.
- Catch history should be from 1991-1997.
- Access to the fishery should be based on consistency of catch over a period of time prior to the benchmark date, rather than on quantity of catch. This caters for small sustainable operators in a multi species fishing operation.
- Use of historical catch data may adversely impact on the smaller operator.
- Important to ensure that the fishers who have built the industry are not disadvantaged.
- Now six years since the benchmark date was announced. Suggest taking all catch history from 1990-2002, and grant access to the 45 boats with the highest annual tonnage. The tonnage should include all species (even though some are

no longer able to be taken by wetliners). Monthly returns following the benchmark date should be validated by market returns, dockets etc.

- Further validation, eg, bank statements, dockets, tax records, should be required.
- Days fished as well as tonnage should be taken into consideration in determining access.
- Access should not be granted to those catching less than 5 tonnes. This catch is 'incidental' and generates only a small amount of income.
- Catches of < 5 tonnes are not viable for a wetline only operation.
- Do not grant access to boats with annual average catch of less than 6 or 7 tonnes.
- If those catching <5 tonnes are not granted access, approximately one third of the catch remains for the recreational sector and for the purposes of stock rebuilding, and the other two thirds of the current catch will be caught by the dedicated wetline fleet, as at present.
- The interests of full-time wetliners should take priority over part-timers.
- May need different access criteria between zones.
- Boats which have been mobile have spread effort, but may not have sufficient history in any one zone.
- Catch history in Cockburn Sound before CS fisheries became managed should be included.
- Should be "knife edge" access criteria resulting in the smallest number of commercial operators who would be financially viable.
- All those who own only an FBL should receive equal allocation, along with those in minor managed fisheries who can prove they will be disadvantaged by not having access to wetlining.
- There are currently some dedicated wetliners who have consistently caught small but significant tonnages, but rely on fishing as their livelihood. Some weighting should be given to key species, eg, dhufish. This would compensate "quality" fishers compared to others who have large catches of lower value, more easily caught fish. With dhufish, a multiple of two would reflect the commercial difference in value.
- If tonnage is used, will mackerel catches be used? Some operators have spent time catching mackerel, but have not gained access to that fishery, so must be able to use that catch history for wetline fishery.
- Although all fishers need an FBL to operate, there are three main groups of fisheries in WA:
 - * major (cost recovered) fisheries: economic viability is not dependent on wetline fishing and should not be considered in the access process;
 - * minor managed: some dependent on demersal finfishing to make their operation viable; and
 - * current non-managed wetline fishery: largest number that depend on wetline fishery for their viability.

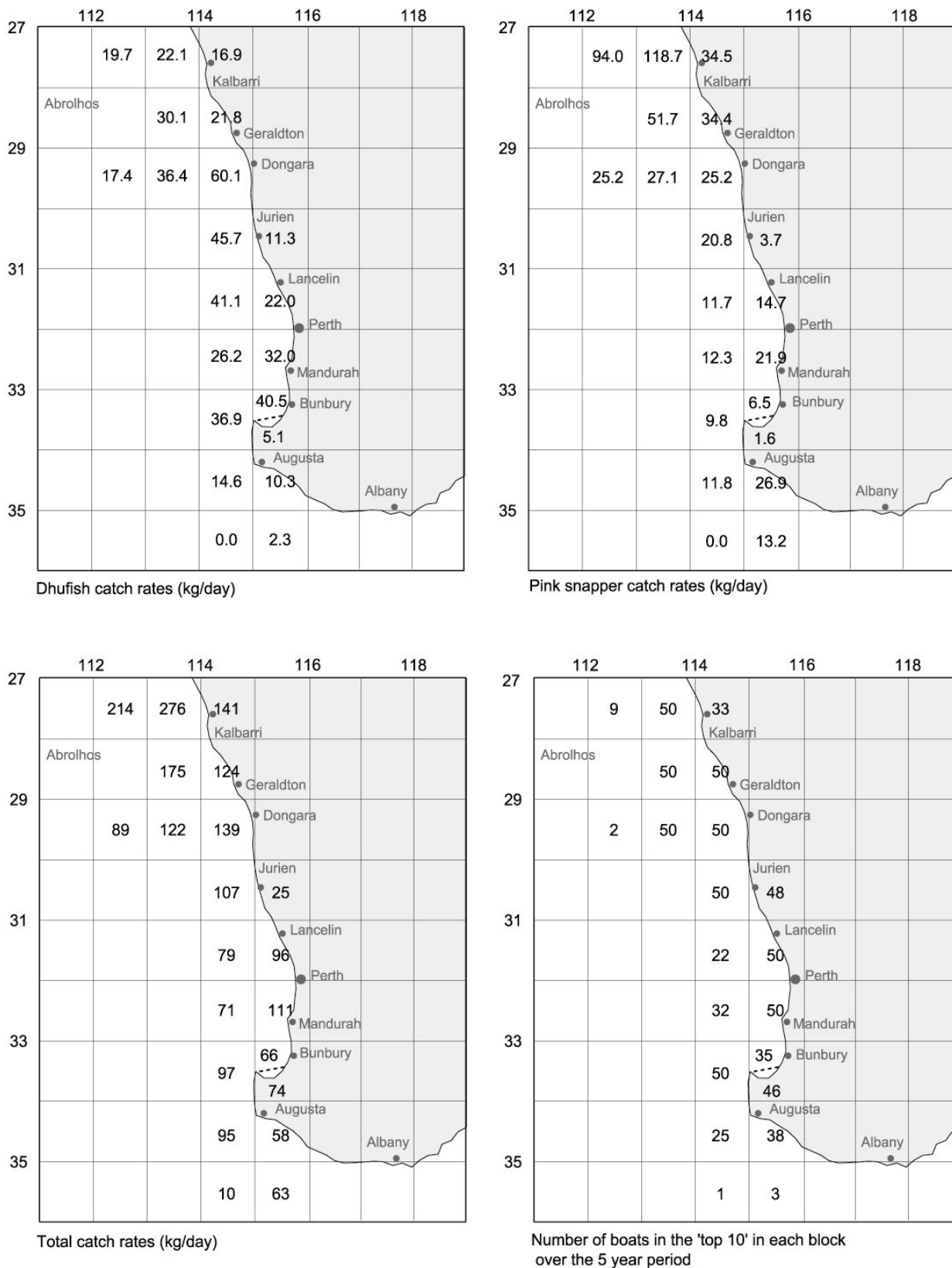
If criteria set too high, it will disenfranchise majority of the third group and many of the second group.

- Those with limited history of catching mackerel are not to be given access to the mackerel fishery. If this is a fair strategy for mackerel, it should apply to all fisheries.

- Although many will claim they paid a lot of money for their FBL, most were not bought to go wetlining but to be able to operate an MFL.
- Should be some compensation for boats which will be forced out of the industry.
- Lessors should be encouraged to be divested of their FBL through buyback scheme or other incentive.
- Those who have reported some wetline catch to lose the FBL, by way of a buyback, at current value of the FBL based on the earnings recorded.
- All FBLs not being used for wetlining be redeemed and compensated at a fair rate.
- To take away wetline access is a diminishing of rights. Any change from the current position would require some form of compensation.
- The argument is not about using the FBLs, it is about the right that was paid for in the first place.
- Should be no consideration given to licence buy-back.
- There are legal precedents which may impact on the right to continued access to wetline fishery. An understanding of implications of recent court decisions is fundamental to deliberations on fair and equitable allocation.
- There are expectations in industry that right of access cannot be terminated without due process and/or compensation.
- Many in commercial fishing industry believe that by contributing to the costs of a buy-back of licences the industry preserved its right of access to the wetline fishery.
- LFBs should not be able to take wetfish without a wetline MFL. All other managed fisheries have a monopoly on their target species, area or method of fishing.
- The wetline managed fishery should be protected from other operators, as are other managed fisheries.
- Wetline access should be separated into inshore and offshore zones.
- If history gained in inshore area, that history cannot be used for access to offshore fishery.
- Unclear what purpose will be served by restricting FBLs from open-access fisheries. Other management tools, eg, bag and size limits, spatial and temporal closures, methods and gear restrictions, species limitations, could achieve same result.
- Need to remove latent effort.
- Section 143 of the *Fish Resources Management Act 1994* should be used to remove the latent licences.
- Following removal of latent effort, have a knife-edge cut-off to preclude operators with a low catch history.
- Fishing history, and resultant access granted, should relate to individual fisher, not the FBL.
- Allowing rock lobster licence holders to opportunistically wetline does not promote sustainability.
- Many MFL holders, in particular rock lobster fishers, do not need the extra income.
- There are times such as poor seasons and low prices when rock lobster fishers need to use their FBL.

- Many rock lobster fishers do not use their FBL to catch wetfish, or only catch for themselves and crew.
- The number of rock lobster boats that have submitted returns has escalated since 2001. All boats with history before 2001 should retain access to wetlining.
- 50% of the wetline access granted to the rock lobster fleet should be distributed evenly between the whole fleet, with the remaining 50% weighted to those with a history.
- Small rock lobster fisher relies heavily on wetfishing - deserves consideration over others with no history.
- Offer rock lobster MFLs an additional lobster pot to forfeit the right to sell wetfish, then allow recreational bag limits.
- Those rock lobster MFLs who wish to be involved in wetfish fishery to forfeit one rock lobster pot.
- Rock lobster fishers who have not reported wetline catch to lose the FBL, by way of a buyback at minimum price because they have no history of earnings from that source.
- Need to consider the importance of the local fishing industry to supply of local and tourist markets. Some small operations in small local communities are part of the tourist industry. Special consideration should be given to accommodate small-scale commercial fishery operating from a homeport supplying a demand from visitors for fresh local seafood.
- If number who can wetline is restricted, price of fish for buying public may increase.
- Any reduction in supply of wetfish will result in more imported product.
- Wider community needs access to commercially caught fish.
- Any access criteria should have a flexible appeals process, with an "exceptional circumstances" clause.
- Species of large importance to recreational fishing and of limited value commercially should be declared "recreational only", with provision for retention of small quantity of bycatch.

Figure 3. Catch Per Unit Effort (CPUE) by CAESS blocks of dhufish; pink snapper; and all scalefish of the ten highest catching wetline boats; and the number of boats operating in each CAESS block.



Catch rates for main species and total catch over the 1997-98 to 2001-02 seasons for the top 10 vessels.

FISHERIES MANAGEMENT PAPERS

- No. 1** The Report of the Southern Western Australian Shark Working Group. Chairman P. Millington (1986)
- No. 2** The Report of the Fish Farming Legislative Review Committee. Chairman P. Rogers (1986)
- 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)
- No. 9** Western Rock Lobster Industry Compensation Study. Arthur Young Services (1987)
- No. 10** Further Options for Management of the Shark Bay Snapper Fishery. P. Millington (1987)
- No. 11** The Shark Bay Scallop Fishery. L. Joll (1987)
- No. 12** Report of the Rock Lobster Industry Advisory Committee to the Hon Minister for Fisheries 24 September 1987. (1987)
- No. 13** A Development Plan for the South Coast Inshore Trawl Fishery. (1987)
- 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)
- No. 16** The South West Trawl Fishery Draft Management Plan. P. Millington (1988).
- No. 17** The final report of the pearling industry review committee . F.J. Malone, D.A. Hancock, B. Jeffriess (1988)
- No. 18** Policy for Freshwater Aquaculture in Western Australia. (1988)
- No. 19** Sport Fishing for Marron in Western Australia - Management for the Future. (1988)
- No. 20** The Offshore Constitutional Settlement, Western Australia 1988.
- No. 21** Commercial fishing licensing in Western Australia. (1989)
- No. 22** Economics and marketing of Western Australian pilchards. SCP Fisheries Consultants Pty Ltd (1988)
- No. 23** Management of the south-west inshore trawl fishery. N. Moore (1989)
- No. 24** Management of the Perth metropolitan purse-seine fishery. N. Moore (1989)
- No. 25** Rock Lobster Industry Advisory Committee report to the Minister for Fisheries November 1988. (1989)

- No. 26** A report on marron fishing in Western Australia. Chairman Doug Wenn MLC (1989)
- No. 27** A review of the Shark Bay pearling industry. Dr D.A.Hancock, (1989)
- No. 28** Southern demersal gillnet and longline fishery. (1989)
- 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)
- No. 32** Fishing Licences as security for loans. P. Rogers (1989)
- 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)
- No. 40** The future for Recreational Fishing - Forum Proceedings. Recreational Fishing Advisory Committee (1991)
- No. 41** The future for Recreational Fishing - The Final Report of the Recreational Fishing Advisory Committee. Recreational Fishing Advisory Committee (1991)
- No. 42** Appendix to the final report of the Recreational Fishing Advisory Committee. (1991)
- No. 43** A discussion of options for effort reduction. Southern Gillnet and Demersal Longline Fishery Management Advisory Committee (1991)
- No. 44** A study into the feasibility of establishing a system for the buy-back of salmon fishing authorisations and related endorsements. (1991)
- No. 45** Draft Management Plan, Kimberley Prawn Fishery. (1991)
- No. 46** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister (1992)
- No. 47** Long term management measures for the Cockburn Sound restricted entry fishery. Summary of submissions and final recommendations for management. P. Millington (1992)
- No. 48** Pearl oyster fishery policy guidelines (Western Australian Pearling Act 1990) Western Australian Fisheries Joint Authority (1992)
- No. 49** Management plan, Kimberley prawn fishery. (1992)
- No. 50** Draft management plan, South West beach seine fishery. D.A. Hall (1993)

- No. 51** The west coast shark fishery, draft management plan. D.A. Hall (1993)
- No. 52** Review of bag and size limit proposals for Western Australian recreational fishers. F.B. Prokop (May 1993)
- No. 53** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister for Fisheries. (May 1993)
- No. 54** Rock Lobster Industry Advisory Committee, Management proposals for 1993/94 and 1994/95 western rock lobster season (July 1993)
- No. 55** Rock Lobster Industry Advisory Committee, Chairman's report to the Minister for Fisheries on management proposals for 1993/94 and 1994/95 western rock lobster seasons (September 1993)
- No. 56** Review of recreational gill, haul and cast netting in Western Australia. F. B. Prokop (October 1993)
- No. 57** Management arrangements for the southern demersal gillnet and demersal longline fishery 1994/95 season. (October 1993)
- No. 58** The introduction and translocation of fish, crustaceans and molluscs in Western Australia. C. Lawrence (October 1993)
- No. 59** Proceedings of the charter boat management workshop (held as part of the 1st National Fisheries Manager Conference). A. E. Magee & F. B. Prokop (November 1993)
- No. 60** Bag and size limit information from around Australia (Regulations as at September 1993) F. B. Prokop (January 1993)
- No. 61** Economic impact study. Commercial fishing in Western Australia Dr P McLeod & C McGinley (October 1994)
- No. 62** Management arrangements for specimen shell collection in Western Australia. J. Barrington, G. Stewart (June 1994)
- No. 63** Management of the marine aquarium fish fishery. J. Barrington (June 1994)
- No. 64** The Warnbro Sound crab fishery draft management plan. F. Crowe (June 1994)
- No. 65** Not issued
- No. 66** Future management of recreational gill, haul and cast netting in Western Australia and summary of submissions to the netting review. F.B. Prokop, L.M. Adams (September 1994)
- No. 67** Long term management strategies for the Western Rock Lobster Fishery. (4 volumes) Evaluation of management options Volume 1. B. K. Bowen (September 1994)
- No. 68** Long term management strategies for the Western Rock Lobster Fishery. (4 volumes) Economic efficiency of alternative input and output based management systems in the western rock lobster fishery, Volume 2. R.K. Lindner (September 1994)
- No. 69** Long term management strategies for the Western Rock Lobster Fishery. (4 volumes) A market-based economic assessment for the western rock lobster industry, Volume 3. Marec Pty Ltd (September 1994)
- No. 70** Long term management strategies for the Western Rock Lobster Fishery. (4 volumes) Law enforcement considerations, Volume 4. N. McLaughlan (September 1994)

- No. 71** The Rock Lobster Industry Advisory Committee Chairman's Report, October 1994, The Western Rock Lobster Fishery - Management proposals for the 1994/95 and 1995/96 seasons (November 1994)
- No. 72** Shark Bay World Heritage Area draft management plan for fish resources. D. Clayton (November 1994)
- No. 73** The bag and size limit review: new regulations and summary of submissions. F. Prokop (May 1995)
- No. 74** Report on future management options for the South West trawl limited entry fishery. South West trawl limited entry fishery working group (June 1995)
- No. 75** Implications of Native Title legislation for fisheries management and the fishing industry in Western Australia. P. Summerfield (February 1995)
- No. 76** Draft report of the South Coast estuarine fishery working group. South Coast estuarine fishery working group. (February 1995)
- No. 77** The Offshore Constitutional Settlement, Western Australia. H. Brayford & G. Lyon (May 1995)
- No. 78** The Best Available Information - Its Implications for Recreational Fisheries Management. Workshop at Second National Fisheries Managers Conference, Bribie Island Queensland. F. Prokop (May 1995)
- No. 79** Management of the Northern Demersal Scalefish Fishery. J. Fowler (June 1995)
- No. 80** Management arrangements for specimen shell collection in Western Australia, 1995. J. Barrington & C. Campbell (March 1996)
- No. 81** Management Options (Discussion Paper) for the Shark Bay Snapper Limited Entry Fishery. Shark Bay Snapper Limited Entry Fishery Working Group, Chaired by Doug Bathgate (June 1995)
- No. 82** The Impact of the New Management Package on Smaller Operators in the Western Rock Lobster Fishery R. Gould (September 1995)
- No. 83** Translocation Issues in Western Australia. Proceedings of a Seminar and Workshop held on 26 and 27 September 1994. F. Prokop (July 1995)
- No. 84** Bag and Size Limit Regulations From Around Australia. Current Information as at 1 July 1995. Third Australasian Fisheries Managers Conference, Rottnest Island. F. Prokop (July 1995)
- No. 85** West Coast Rock Lobster Fishery Management Plan 1995 - Draft for Public Comment. Edited by M. Moran (August 1995)
- No. 86** A Review of Ministerial Policy Guidelines for Rock Lobster Processing in Western Australia from the Working Group appointed by the Minister for Fisheries and chaired by Peter Rich (December 1995)
- No. 87** Same Fish - Different Rules. Proceedings of the National Fisheries Management Network Workshop held as part of the Third Australasian Fisheries Managers Conference. F. Prokop
- No. 88** Balancing the Scales - Access and Equity in Fisheries Management - Proceedings of the Third Australasian Fisheries Managers Conference, Rottnest Island, Western Australia 2 - 4 August 1995. Edited by P. Summerfield (February 1996)

- No. 89** Fishermen's views on the future management of the rock lobster fishery. A report. Prepared on behalf of the Rock Lobster Industry Advisory Committee by The Marketing Centre. (August 1995)
- No. 90** A report on the issues effecting the use of the Dampier Archipelago. Peter Driscoll, Landvision Pty Ltd (March 1996)
- No. 91** Shark Bay World Heritage Property - Management Paper for Fish Resources. Kevin A Francesconi (September 1996)
- No. 92** Pearling and Aquaculture in the Dampier Archipelago - Existing and Proposed Operations. A report for public comment. Compiled by Ben Fraser (September 1996)
- No. 93** Shark Bay World Heritage Property - Summary of Public Submissions to the Draft Management Plan for Fish Resources. Kevin A Francesconi (September 1996)
- No. 94** Rock Lobster Industry Advisory Committee Report - Management arrangements for the Western Rock Lobster Fishery for the 1997/98 season. Frank Prokop (May 1997)
- No. 95** Australian Salmon and Herring Resource Allocation Committee. P McLeod & F Prokop (*in press*)
- No. 96** Summary Report of the Freshwater Aquaculture Taskforce (FAT) by Chris Wells (*in press*)
- No. 97** (*in press*)
- No. 98** A Pricing Policy for Fisheries Agencies - Standing Committee on Fisheries and Aquaculture Management Committee. P Millington (March 1997)
- No. 99** Management of the South Coast Purse Seine Fishery. J Fowler, R Lenanton, Kevin Donohue, M Moran & D Gaughan. (n.d.)
- No. 100** The Aquaculture of non-endemic species in Western Australia - Redclaw crayfish (*Cherax quadricarinatus*). Tina Thorne (June 1997)
- No. 101** Optimising the worth of the catch - Options and Issues. Marec Pty Ltd (September 1997)
- No. 102** Marine farm planning and consultation processes in Western Australia. Dave Everall (August 1997)
- No. 103** Future management of the aquatic charter industry in Western Australia by the Tour Operators Fishing Working Group (September 1997).
- No. 104** Management of the Houtman Abrolhos System (draft). Prepared by the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries Western Australia (October 1997)
- No. 105** Plan for the Management of the Houtman Abrolhos Fish Habitat Protection Area (draft). Prepared by the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries Western Australia (October 1997)
- No. 106** The impact of Occupational Safety and Health on the management of Western Australian Fisheries. Cameron Wilson (*in press*)
- No. 107** The Aquaculture of non-endemic species in Western Australia - Silver Perch (*Bidyanus bidyanus*). Tina Thorne (June 1997)
- No. 108** Issues affecting Western Australia's inshore crab fishery - Blue swimmer crab (*Portunus pelagicus*), Sand crab (*Ovalipes australiensis*). Cathy Campbell (September 1997)

- No. 109** Abalone Aquaculture in Western Australia. Cameron Westaway & Jeff Norriss (October 1997)
- No. 110** Proposed Voluntary Fishery Adjustment Scheme - South Coast Purse Seine Managed Fishery Report by Committee of Management (October 1997)
- No. 111** Management Options for Pilbara Demersal Line Fishing. Gaye Looby (December 1997)
- No. 112** Summary of Submissions to Fisheries Management Paper No. 108 - issues affecting Western Australia's inshore crab fishery. Compiled by Cathy Campbell (April 1998)
- No. 113** Western Rock Lobster Management - Options and Issues. Prepared by Kevin Donohue on behalf of the Rock Lobster Industry Advisory Committee. (June 1998)
- No. 114** A Strategy for the Future Management of the Joint Authority Northern Shark Fishery. Prepared by Tim Bray and Jo Kennedy. (June 1998)
- No. 115** Guidelines for granting Aquaculture Leases. Prepared by Fisheries WA, the Aquaculture Development Council & the Aquaculture Council of WA. (July 1998)
- No. 116** Future Management of the Aquatic Charter Industry in Western Australia - Final Report. By the Tour Operators Fishing Working Group (September 1998)
- No.117** Management of the Houtman Abrolhos System. Prepared by the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries Western Australia. (December 1998)
- No. 118** Plan for the Management of the Houtman Abrolhos Islands Fish Habitat Protection Area (Schedule 1)
- No. 119** Access to Wildstock for Aquaculture Purposes (not published)
- No. 120** Draft Management Plan for Sustainable Tourism at the Houtman Abrolhos Islands. Prepared by LeProvost, Dames and Moore for the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries WA. (December 1998)
- No. 121** Future Directions for Tourism at the Houtman Abrolhos Islands - Draft for Public Comment. Prepared by LeProvost, Dames and Moore for the Abrolhos Islands Management Advisory Committee in conjunction with Fisheries WA. (December 1998)
- No. 122** Opportunities for the Holding/Fattening/Processing and Aquaculture of Western Rock Lobster (*Panulirus cygnus*). A discussion paper compiled by Fisheries WA. (November 1998)
- No. 123** Future directions for the Rock Lobster Industry Advisory Committee and the Western Rock Lobster Managed Fishery. A discussion paper prepared by Kevin Donohue on behalf of the Rock Lobster Industry Advisory Committee. (December 1998)
- No. 124** A Quality Future for Recreational Fishing in the Gascoyne. Proposals for Community Discussion. A five-year management strategy prepared by the Gascoyne Recreational Fishing Working Group (May 1999).
- No. 125** Changes to Offshore Constitutional Settlement Arrangements; North West Slope Trawl Fishery and Western Deepwater Trawl Fishery. A discussion paper by Fiona Crowe and Jane Borg (May 1999)[not published]

- No. 126** The South Coast Estuarine Fishery. A discussion paper by Rod Pearn and Tony Cappelluti. (May 1999)
- No. 127** The Translocation of Barramundi. A discussion paper by Makaira Pty Ltd.[July 1999]
- No. 128** Shark Bay Pink Snapper Managed Fisheries in WA
- No. 129** Review of the Western Australian Pilchard Fishery 12 - 16 April 1999. Prepared by K.L. Cochrane, Fisheries Resource Division, Food and Agriculture Division of the United Nations (November 1999)
- No. 130** Developing New Fisheries in Western Australia. A guide to applicants for developing fisheries Compiled by Lucy Halmarick (November 1999)
- No. 131** Management Directions for Western Australia's Estuarine and Marine Embayment Fisheries. A strategic approach to management (November 1999)
- 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)
- No. 133** Abalone Aquaculture in Western Australia, A Policy Guideline (December 1999)
- No. 134** Management Directions for WA's Coastal Commercial Finfish Fisheries. Issues and proposals for community discussion (March 2000)
- No. 135** Protecting and Sharing Western Australia's Coastal Fish Resources. The path to integrated management. Issues and proposals for community discussion (March 2000)
- No. 136** Management Directions for WA's Recreational Fisheries (March 2000)
- No. 137** Aquaculture Plan for the Houtman Abrolhos Islands (April 2000)
- No. 138** Information on Quota Management of Rock Lobster Fisheries in South Australia, Tasmania and New Zealand. By Kevin Donohue and Eric Barker (May 2000)
- No. 139** A Quality Future for Recreational Fishing on the West Coast. Proposals for Community Discussion. A five-year management strategy prepared by the West Coast Recreational Fishing Working Group (June 1999)
- No. 140** Aquaculture Plan for the Recherche Archipelago, Western Australia. (June 2000)
- No. 141** Fish Protection Measures in Western Australia (June 2001)
- No. 142** Fisheries Environmental Management Plan for the Gascoyne Region (June 2002)
- No. 143** Western Rock Lobster. Discussion paper for seasons 2001/2002 and 2002/2003 (July 2000)
- No. 144** The Translocation of Brown Trout (*Salmo trutta*) and Rainbow Trout (*Oncorhynchus mykiss*) into and within Western Australia. Prepared by Jaqueline Chappell, contributions from Simon Hambleton, Dr Howard Gill, Dr David Morgan and Dr Noel Morrissy. (*not published, superseded by MP 156*)
- No. 145** The Aquaculture of non-endemic species in Western Australia - Silver Perch (*Bidyanus bidyanus*). As amended October 2000. Tina Thorne. This replaces Fisheries Management Paper No. 107.

- No. 146** Sustainable Tourism Plan for the Houtman Abrolhos Islands (February 2001)
- No. 147** Draft Bycatch Action Plan for the Shark Bay Prawn Managed Fishery (Full Report) (April 2002)
- No. 148** Draft Bycatch Action Plan for the Shark Bay Prawn Managed Fishery (Summary Report) (April 2002)
- No. 149** Final Plan of Management for the Lancelin Island Lagoon Fish Habitat Protection Area (March 2001)
- 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 (July 2003)
- 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)
- No. 165** Report to the Minister for Agriculture, Forestry and Fisheries by the Integrated Fisheries Management Review Committee (November 2002)

- No. 166** Fisheries Statutory Management Authority Inquiry. A background paper (February 2003)
- No. 167** Draft Fisheries Environmental Management Plan for the Northern Region (*in press*)
- No. 168** Aboriginal Fishing Strategy: Report to the Minister for Agriculture, Forestry and Fisheries by the Hon E. M. Franklyn QC, Chairman of the Aboriginal Fishing Strategy Working Group (May 2003)
- No. 169** Hardy Inlet discussion paper (February 2004)
- No. 170** Management of the proposed Geographe Bay Blue Swimmer and Sand Crab Managed Fishery. By Jane Borg and Cathy Campbell (August 2003)
- No. 171** Draft Aquaculture Plan for Shark Bay (April 2004)
- No. 172** Draft Aquaculture Plan for Exmouth Gulf (April 2004)
- No. 173** Draft Plan of Management for the proposed Point Quobba Fish Habitat Protection Area (August 2003)
- No. 174** Translocation of Golden Perch, Murray Cod and Australian Bass into and within Western Australia for the Purposes of Recreational Stocking, Domestic Stocking and Commercial and Non-commercial Aquaculture (December 2003)
- No. 175** Fish Stock and Fishery Enhancement in Western Australia - a discussion paper. By Jane Borg (February 2004)
- No. 176** Fish Stock and Fishery Enhancement in Western Australia - a summary report. By Jane Borg (February 2004)
- No. 177** Fisheries Environmental Management Plan for the Gascoyne Region (*in press*)
- No. 178** Draft Plan of Management for the Kalbarri Blue Holes Fish Habitat Protection Area (March 2004)
- No. 179** A Draft Policy for the Translocation of Brown Trout (*Salmo trutta*) and Rainbow Trout (*Oncorhynchus mykiss*) into and within Western Australia for the Purposes of Recreational Stocking, Domestic Stocking and Commercial and Non-Commercial Aquaculture (August 2004)
- No. 180** The Sustainable Management of Western Australia's Temperate Shark Fisheries (July 2004).
- No. 181** A Quality Future for Recreational Fishing in the Pilbara/Kimberley. Proposals for Community Discussion. A five-year strategy for managing the recreational component of the catch, prepared by the Pilbara/Kimberley Recreational Fishing Working Group (July 2004)
- No. 182** A Quality Future for Recreational Fishing in the Southern Region of WA. Proposals for Community Discussion. A five-year strategy for managing the recreational component of the catch, prepared by the Southern Recreational Fishing Working Group (July 2004)
- No. 183** Final Report of the Fisheries Statutory Management Authority Advisory Committee. Published by the Department of Fisheries (*in press*)
- No. 184** South West Beach Seine Management Discussion Paper (*in press*)
- No. 185** Plan of Management for the Point Quobba Fish Habitat Protection Area (July 2004)

- No. 186** Management of the West Coast Rock Lobster Fishery - Advice to Stakeholders on Resource Sustainability Matters. (*in press*)
- No. 187** Proposals for community discussion on the future management of pink snapper fishing in Cockburn Sound and surrounding waters. (October 2004).
- No. 188** Plan of Management for the Kalbarri Blue Holes Fish Habitat Protection (*in press*).
- No. 189** Proposed Management Arrangements for the Gascoyne Commercial 'Wetline' Fishery. A Discussion Paper Prepared By The West Coast And Gascoyne Wetline Review Management Planning Panel (January 2005).
- No. 190** Management Arrangements for the West Coast Commercial 'Wetline' Fishery. A Discussion Paper Prepared By The West Coast And Gascoyne Management Planning Panel (January 2005).
- No. 191** Access And Allocation Arrangements For The Commercial 'Wetline' Fisheries, Proposals For Discussion. A Report To The Minister For Fisheries Prepared By The Commercial Access Panel. (January 2005).