

**A QUALITY FUTURE  
FOR RECREATIONAL FISHING  
ON THE WEST COAST**

---

Fisheries Management Paper No. 139

JUNE 2000



A quality future for  
recreational fishing on the West Coast.

Final version: June 2000

Compiled by Nathan Harrison on advice from the  
West Coast Recreational Fishing Working Group

Fisheries Management Paper No. 139

ISSN 0819-4327

Photo credits thanks to  
Nathan Harrison, Fisheries WA



## FOREWORD

---

The West Coast Region between Kalbarri and Augusta offers a wide range of recreational fishing opportunities. Sheltered estuary systems, surf beaches and an offshore environment which host both demersal species and gamefish make the region different from any other in WA.

The West Coast Region also receives more fishing pressure than any other, with an estimated 380 000 anglers fishing each year.

With a growing population and advances in technology, fishing pressure will continue to increase and anglers will become more efficient at targeting fish, particularly offshore demersal species such as dhufish and baldchin groper.

Already, the signs of a fishery under pressure are showing. Catch rates of dhufish around inshore reef systems such as the Three-mile are a far cry from the 1950s and 60s when people beach-launched wooden dinghies to fish the inshore waters for these highly prized fish.

Increasing pressure on stocks has led to growing community concerns that the future quality of recreational fishing is under threat.

The West Coast Working Group visited regional centres and met directly with recreational fishers to gain a better understanding of community views and issues surrounding the management of recreational fishing.

These discussions provided valuable information, particularly on specific regional issues, which assisted in the development of the draft strategy.

I would particularly like to thank all community members who attended the public meetings and provided input to the working group.

The future of WA's recreational fisheries will largely be determined by recreational fishers themselves. I would encourage anyone who has an interest in the future of recreational fishing in the West Coast Region to carefully consider these proposals which are aimed at maintaining or improving the quality and diversity of the area's recreational fisheries.

The working group throughout its deliberations maintained the principal that the fishing experience must be pleasurable, considerate of all participants and above all sustainable for the future.

Your comments, ideas and support for this essential step forward in improving the management of recreational fisheries on the west coast is needed – the future depends on you.

*K. E. Pech A.M. J.P.*

**KEN PECH**  
**CHAIRMAN**



# Table of Contents

<b>FOREWORD</b> .....	<b>i</b>
<b>SUMMARY OF PROPOSALS</b> .....	<b>1</b>
<b>1. PLANNING FOR THE FUTURE</b> .....	<b>12</b>
1.1 MANAGING FOR THE FUTURE – WHY HAVE A REGIONAL MANAGEMENT STRATEGY .....	12
1.2 THE REGIONAL MANAGEMENT APPROACH .....	12
1.3 MARINE ENVIRONMENTAL FEATURES AND INFLUENCES ON THE WEST COAST .....	15
1.4 WEST COAST WORKING GROUP MEMBERSHIP AND TERMS OF REFERENCE .....	16
1.4.1 <i>Membership of the working group</i> .....	16
1.4.2 <i>Background on working group members</i> .....	16
1.4.3 <i>Terms of reference of the review</i> .....	18
1.5 PROCESS TO GET TO HERE .....	18
1.6 HOW TO HAVE YOUR SAY .....	18
1.6.1 <i>Points to consider for submissions</i> .....	18
1.6.2 <i>How to make a submission</i> .....	19
1.6.3 <i>Where and when to send your submission</i> .....	19
1.6.4 <i>What happens to your submission</i> .....	19
<b>2. FISHING ON THE WEST COAST</b> .....	<b>20</b>
2.1 PROFILE OF FISHING ON THE WEST COAST .....	20
2.2 PARTICIPATION AND EFFORT – HOW MANY PEOPLE FISHED WHERE .....	20
2.3 THE RECREATIONAL CATCH .....	23
2.4 IMPACT OF FISHING ON STOCKS .....	30
2.5 CURRENT MANAGEMENT .....	31
2.6 FISHERY MANAGEMENT STRATEGIES – WHAT WORKS AND HOW .....	32
2.6.1 <i>Daily bag limits</i> .....	32
2.6.2 <i>Boat limits</i> .....	32
2.6.3 <i>Possession and trip limits</i> .....	33
2.6.4 <i>Legal sizes – minimum and slot limits</i> .....	33
2.6.5 <i>Closed seasons and closed areas</i> .....	34
2.6.6 <i>Gear and method restrictions</i> .....	34
2.6.7 <i>Licensing</i> .....	35
2.6.8 <i>Education</i> .....	35
<b>3. THE PROPOSED RECREATIONAL FISHING STRATEGY</b> .....	<b>37</b>
3.1 GUIDING PRINCIPLES FOR MANAGEMENT .....	37
3.2 INFORMATION FOR MANAGEMENT – CATCH AND FISHERY PERFORMANCE .....	39
3.3 PROTECTING VULNERABLE FISH AND MANAGING THE RECREATIONAL CATCH .....	43
3.3.1 <i>Bag limits</i> .....	44
3.3.2 <i>Size limits</i> .....	52
3.3.3 <i>Filleting at sea</i> .....	53
3.3.4 <i>Accumulation of fish at sea</i> .....	54
3.3.5 <i>Boat limits</i> .....	54
3.3.6 <i>Charter boat fishing</i> .....	55
3.3.7 <i>Possession limits</i> .....	56
3.3.8 <i>Closures to fishing</i> .....	57
3.3.9 <i>Net fishing</i> .....	59
3.3.10 <i>Hand trawl nets for prawns</i> .....	59
3.3.11 <i>Fishing gear</i> .....	60
3.3.12 <i>Fishing competitions</i> .....	61
3.3.13 <i>Recreational fishing by indigenous people</i> .....	63
3.4 PROTECTING RECREATIONAL FISHING QUALITY .....	64
3.5 RESOURCE SHARING .....	66
3.6 PROTECTION OF FISH HABITATS .....	75
3.7 IMPROVING COMMUNITY STEWARDSHIP – EDUCATION AND COMPLIANCE .....	76

3.7.1	<i>Education strategies</i> .....	78
3.7.2	<i>Field management and compliance</i> .....	80
3.7.3	<i>Implementing management and education strategies</i> .....	84
3.7.4	<i>Community consultation and involvement in management</i> .....	85
3.8	PROVIDING ADEQUATE RESOURCES FOR MANAGEMENT AND ENHANCEMENT.....	86
<b>APPENDIX A</b> .....		<b>88</b>
Distribution of recreational boats fishing on the West Coast		
<b>APPENDIX B</b> .....		<b>89</b>
Current recreational fishing management arrangements in the West Coast Region		
<b>APPENDIX C</b> .....		<b>91</b>
Published information on recreationally important finfish species in the West Coast Region		
<b>APPENDIX D</b> .....		<b>100</b>
Fisheries Management Papers		
<b>REFERENCES</b> .....		<b>106</b>

## Figures & Tables

FIGURE 1.2-1 REGIONAL MAP .....	14
FIGURE 2.2-1 NUMBER OF NETTING LICENCES ISSUED BY FISHERIES WA 1987-1999 .....	21
FIGURE 2.2-2 FUTURE PROJECTION OF RECREATIONAL FISHING EFFORT .....	22
FIGURE 2.2-3 RECREATIONAL FISHING EFFORT (DAYS) BY REGION.....	22
FIGURE 2.3-1 COMPOSITION OF THE RECREATIONAL BOAT-BASED CATCH ON THE WEST COAST REGION IN 1996/97 .....	23
FIGURE 2.3-2 SUCCESSFUL (AT LEAST ONE FISH CAUGHT) VERSUS UNSUCCESSFUL FISHING TRIPS.....	24
TABLE 2.3-1 AVERAGE CATCH PER PERSON, THE NUMBER MOST OFTEN CAUGHT (MEDIUM) AND % OF ANGLERS ACHIEVING THEIR BAG LIMIT FOR THAT SPECIES .....	24
FIGURE 2.3-3 BOAT-BASED CATCH – WEST COAST .....	25
FIGURE 2.3-4 BOAT-BASED CATCH BY REGION BY SPECIES (NOTE DOES NOT INCLUDE ESTUARIES) .....	26
FIGURE 2.3-5 BOAT BASED CATCH OF WHITING .....	27
FIGURE 2.3-6 BOAT-BASED CATCH OF GARFISH.....	27
FIGURE 2.3-11 BOAT-BASED CATCH OF TAILOR.....	29
FIGURE 2.3-12 BOAT-BASED CATCH OF PINK SNAPPER .....	29
TABLE 2.3-2 ESTIMATED TOTAL CATCH OF CRABS FROM PEEL/HARVEY ESTUARY 1998-99 .....	30
TABLE 2.3-3 ESTIMATED CATCH OF BLUE CRABS FROM SWAN RIVER 1998/99 .....	30
TABLE 2.3-4 ESTIMATED CATCH OF BLUE CRABS FROM LESCHENAULT ESTUARY 1998 .....	30
TABLE 2.3-5 ESTIMATED CATCH OF BLUE CRABS FROM COCKBURN SOUND 1996-97 .....	30
FIGURE 3.3-1 FREQUENCY OF DHUFISH CAUGHT BY BOAT FISHERS.....	44
FIGURE 3.3-2 FREQUENCY OF SNAPPER CAUGHT BY BOAT FISHERS.....	45
FIGURE 3.3-3 FREQUENCY OF WHITING (OTHER THAN KING GEORGE) CAUGHT BY BOAT FISHERS.....	45
FIGURE 3.3-4 FREQUENCY OF HERRING CAUGHT BY BOAT FISHERS .....	45
FIGURE 3.3-5 CATCH OF BLUE MANNA CRABS IN THE PEEL/HARVEY ESTUARY.....	50
FIGURE 3.3-6 ABROLHOS ISLANDS – FISH HABITAT PROTECTION AREA .....	58
FIGURE 3.3-7 NATURE RESERVES ON THE SWAN RIVER .....	60
FIGURE 3.5-1 STATEMENT BY THE WA FISHING INDUSTRY COUNCIL .....	74





## SUMMARY OF PROPOSALS

---

### Guiding principles for management

#### Proposal 1 – Key principles for management

- Government should ensure that adequate funding is available for comprehensive research and effective management of recreational fishing.
- A key aim should be to ensure that the biodiversity of fish communities and their habitats, and sustainability of fish stocks, are preserved.
- Fisheries management should incorporate controls and measures that anticipate and cover increasing numbers of recreational fishers and their impact on fish stocks.
- Management should be based on the best available information and, where critical information is unavailable, a precautionary approach should be adopted to minimise risk to fish stocks.
- Fishing rules should acknowledge the importance of equitable access to fishing opportunities across recreational user groups.
- The value of recreational fishing should be clearly recognised and given proper weight in all government and community planning processes; for example, with regard to marine parks and industrial developments.
- Fishing rules should be kept simple and, where possible and practical, made uniform across the region.
- Recreational fishing rules should be designed to protect the sustainability of stocks and manage the total recreational catch, as well as protect fish at vulnerable stages in their life cycle – for example, during spawning aggregations.
- Benefits from management of the total recreational catch should flow back to the recreational sector and be reflected in maintaining or improving fishing quality and sustainability.
- Clear processes should exist to resolve resource sharing issues which support the integrated management of fish stocks.

#### Information for management – Biology, catch and fishery performance

##### Proposal 2 – Major catch survey

A major recreational catch survey should be undertaken every year for a minimum of three years to establish a baseline data set for recreational fishing in the west coast.

The major catch survey should then be repeated every three years at a minimum to provide detailed information about the spatial and temporal distribution of recreational activity and catches on which to base management decisions.

As a subset, information should be collected annually on indicator species and areas to monitor recreational fishing quality.

### **Proposal 3 – Volunteer angler logbook program**

Fisheries WA should introduce a comprehensive volunteer angler logbook program to all key recreational fishing centres in the West Coast Region to provide additional monitoring of trends among regular fishers.

### **Proposal 4 – Priority species for research**

Research be undertaken on key recreational species in the west coast – in order of priority – to provide information on species biology and stock structure. Predictive fisheries stock assessment models and, where practical, indices of recruitment, should then be developed for the following important species:

#### **Offshore**

1. dhufish
2. pink snapper
3. king george whiting
4. baldchin groper
5. breaksea cod

#### **Inshore/beach**

1. tailor
2. herring
3. skipjack
4. whiting
5. mulloway

#### **Estuarine**

1. black bream
2. flathead/flounder
3. crabs
4. whiting (all species)

### **Proposal 5 – Fishing quality indicators**

A range of ‘fishing quality indicators’ based on angler surveys be developed to identify trends in fishing quality in the region and assist in the review of the effectiveness of this strategy.

These indicators should cover fishing quality, diversity and the value associated with the fishing experience.

It is proposed that these species be used as key indicators:

#### **Offshore**

Dhufish  
Pink snapper  
Baldchin groper

#### **Inshore/beach**

Tailor  
Sand whiting  
King george whiting

#### **Estuarine**

Black bream  
Blue manna crabs

## Protecting vulnerable fish and managing the recreational catch

### Proposal 6 – Bag limits

#### 6(a) Trophy fish

<b>Trophy fish</b>	
Mixed bag limit of 4	
<i>These fish are highly sought after for catching or eating qualities and are vulnerable to overfishing</i>	
<i>Species</i>	<i>Slot limit</i>
Dhufish	
Groper and Tuskfish	
Breaksea cod	
Blue groper	(Species bag limit 1)
Coral trout	
Red emperor	
Cods – rankin, estuary..... max size 1.2m	Nil over 1.2m
Queen snapper	
Red snapper/nannygai	
Mackerel, spanish, wahoo	
Mackerel, shark and school	
Mulloway	Only 1 over 70cm
Spangled emperor/north-west snapper	
Pink snapper	Only 2 over 70cm
Samson fish	
Cobia	
Sharks..... max size 2m	Nil ovr 1.2m
Tuna – southern bluefin, yellowfin, bigeye, dogtooth, bonito	
Marlin, blue, black and striped	
All billfish (e.g. sailfish, swordfish)	
Barracuda	
Mahi mahi	
Salmon	
Yellowtail kingfish	

#### 6(b) Prize fish

<b>Prize fish</b>	
Mixed bag limit of 16	
Eight of any one species	
<i>These fish are prized by recreational fishers or of relatively low abundance and require protection to minimise local depletion.</i>	
<i>Species</i>	<i>Slot limit</i>
Tailor	Only two over 50cm
Flathead	
Flounder	
Bream, black	Only four over 40cm
Bream, silver (tarwhine)	
Cobbler and catfish	
Pike/snook	
Skipjack trevally	
Leatherjacket	

**6(c) Table fish**

Baitfish of the sardine and anchovy families (Clupeidae and Engraulididae – mulies, whitebait, scaly mackerel, anchovies) are not included in this category. For these species it is proposed to retain the bag limit of 9lts.

**Option A Table fish**

<b>Table fish</b>
Mixed daily bag limit of 40
Not more than 30 of any one species
<i>These fish are of higher abundance and highly sought after</i>
<i>Species</i>
Herring Garfish Whiting – western sand, school and yellowfin King george whiting .....only four over 35cm Mullet – sea and yelloweye Blue mackerel All species other than baitfish or those listed in other categories

**Option B Table fish**

<b>Table fish</b>
Mixed daily bag limit of 30
Not more than 20 of any one species
<i>These fish are of higher abundance and highly sought after</i>
<i>Species</i>
Herring Garfish Whiting – western sand, school and yellowfin King george whiting.....only four over 35cm Mullet – sea and yelloweye Blue mackerel All species other than baitfish or those listed in other categories

**6(d) Crustaceans**

<i>Species</i>	<i>current management</i>	<i>Proposed changes</i>
Prawns, king & school Rock lobster	bag limit 9 litres bag limit 8, boat limit 16,	no change <b>Option A.</b> Introduce possession limit of 32 <b>Option B.</b> No change
Crab, blue manna	bag limit 24, boat limit 48	<i>proposal</i> bag limit 20, boat limit 40

**6(e) Cephalopods**

<i>Species</i>	<i>current management</i>	<i>Proposed changes</i>
Squid, octopus, cuttlefish	combine bag limit 15 per fisher, boat limit 30	no change

**6(f) Shellfish**

The current bag limit for abalone (possession limit of 20 Roe's abalone) and mussels (9 litres) should continue to apply. For the following species it is proposed that a daily bag limit of two litres should apply. The collection of all other shellfish and live corals should be prohibited.

- cockles
- razorfish
- scallops
- pipis
- sea urchins

**Proposal 7 - Proposed changes to current minimum recreational legal size limits**

Species	Old size (cm)	New size (cm)	Size when 50% of the stock reach maturity (cm)
*baldchin groper .....	40	45	40
barracuda .....		60	not known
*blue groper .....	40	60	not known
*breaksea cod.....		30	not known
*cod, other.....		30	not known
king george whiting.....	25	28	36
herring .....		20	22
mahi mahi (dolphinfish).....		60	not known
mulloway .....	45	50	75
pike .....	28	30	not known
pink snapper .....	41	45	45
red snapper .....	23	25	not known
skipjack trevally .....	20	25	28
snook .....	33	30	not known
tailor .....	25	30	34
whiting, school and yellowfin.....		20	22
yellowtail kingfish.....		50	not known

\* Indicates fish which change sex (baldchin groper change from female to male at about 40cm)

The working group recommends that proposed changes to minimum legal sizes be negotiated with the commercial fishing sector and made consistent where possible.

**Proposal 8 - Filleting at sea**

Filleting of fish at sea should not be permitted. If a fishing trip involves an overnight stay on an island, fish caught can be filleted and then transported back to the mainland.

**Proposal 9 - Accumulation of fish at sea**

Recreational fishers should not be allowed to accumulate daily bag limits when living on board a boat.

**Proposal 10 – Recreational boat limit**

A boat limit of twice the daily bag limit should apply to all species, when there are two or more people in a boat.

### **Proposal 11 – Charter boat limits**

- 11(a) That the boat limit proposed for recreational fishers apply. However, if there are more than four paying customers on board a licensed fishing tour, an additional two Trophy fish per person over and above the boat limit be permitted for the fifth and additional paying customers.
- 11(b) The same logic should apply to dive charters taking rock lobster, where a boat limit of 16 applies. It proposes that if there are more than eight licensed paying clients on a dive charter, the ninth and additional licensed paying customers should be allowed two lobsters each.

### **Proposal 12 – Possession limits for the West Coast Region**

20kg of fillets, or  
10kg of fillet plus one day's bag limit of whole fish, or  
two days' bag limit of whole fish

### **Proposal 13 – Closures to fishing**

- 13(a) Fishing for baldchin groper at the Abrolhos Islands should be prohibited within the Fish Habitat Protection Area during December, January, February and March.
- 13(b) Fishing for pink snapper should be prohibited from 15 September to 31 October between Cape Bouvard and Ocean Reef Marina.

Both these proposals should be developed through negotiation with the commercial fishing industry.

### **Proposal 14 – Set and haul net fishing**

- 14(a) Set and haul nets be prohibited for recreational fishers in the west coast except for attended set nets in the Peel/Harvey Estuary and the Hardy Inlet.
- 14(b) Within the Peel/Harvey Estuary and Hardy Inlet outside existing closures, attended set nets be permitted. Set nets should have a maximum drop of 25 meshes and float from the surface. All attended nets must be lifted and cleaned every hour.
- 14(c) Throw nets be permitted in marine waters throughout the region (except for any estuarine and river systems and 'no fishing' zones such as sanctuary zones and fish protection areas).

### **Proposals 15 – Prawn drag nets**

- 15(a) Hand trawl nets be prohibited for recreational fishers in the Peel/Harvey and Leschenault estuaries.
- 15(b) Hand trawl nets be prohibited for recreational fishers in the waters adjoining nature reserves on the Swan River.

### **Proposal 16 – Changes to legal fishing gear**

Unattended set lines to be prohibited; one attended bait trap per person (salt water only) – bait trap to be defined.

### **Proposal 17 - Fishing competitions**

- 17 (a) All fishing competitions with more than 100 participants must formally register in advance with Fisheries WA.
- 17 (b) Competition organisers must keep an accurate record of participation, catch and effort and forward catch returns to Fisheries WA for inclusion in the recreational fisheries database.
- 17 (c) Fisheries WA should develop a formal code of conduct for fishing competitions in consultation with fishing clubs and organising bodies. Competitions must be conducted in line with recreational fishing ethics and meet requirements under the Animal Welfare Bill.

### **Proposal 18 – Position statement on recreational fishing by indigenous people**

It is recognised that in the past members of the Aboriginal community have collected fish to provide food for their community, and there should be provision to allow this custom to continue in the future. In certain circumstances – such as Aboriginal ceremonies – members of the Aboriginal community should be allowed to collect fish for the whole community. Where these activities involve the possibility of exceeding the daily bag limit, such fishing should be carried out only with prior written approval from Fisheries WA. In the interest of preserving fish stocks, no-one should be allowed to keep undersize fish, use illegal fishing gear or fish outside approved times or in areas closed to fishing.

## **Protecting recreational fishing quality**

### **Proposal 19 – Code for recreational fishing at Rottnest Island**

- When visiting the island catch only enough fish to eat fresh for yourself and family.
- Take the time to release all undersize or unwanted fish.
- When keeping fish for the table, dispatch them quickly and ensure they are kept in cool place in the shade.
- Clean your catch as soon as possible. Fillets should be placed in waterproof plastic bags to keep the flavour in and the water out.
- Regardless of the length of your stay on Rottnest, do not take more than one day's bag limit of fish away from the island.
- Take a camera not a speargun.
- Respect the sanctuary areas around Thomson Bay and Parker Point and stay on marked trails to protect the fragile environment.
- Aim to always fish safely around the island and treat the ocean with respect.
- Though commercial fishing around Rottnest is already restricted, the working group recommends that no commercial fishing (purse seine, wetline, demersal gill net and long line) be allowed within two nautical miles of the island. As with all resource sharing proposals, the group urges that any changes should be negotiated with the commercial sector.

### **Proposal 20 – Position statement on restocking as a stock enhancement strategy**

Management of wild fish stocks should always be the primary focus for recreational fisheries management, and restocking should only be considered as a strategy to assist with the recovery of a stock where it can be identified that the stock has been significantly depleted.

## Resource sharing

### Proposal 21 – Resource sharing

Sustainable catch shares for key recreational species should be determined by negotiations with the commercial sector through a resource sharing process.

Public comment is sought on the following possible outcomes for the recreational fishing community. These should be achieved through a proper resource sharing process and the commercial sector should be involved in negotiations.

- 21(a)** Commercial fishing which has a significant impact on the quality of the recreational fishery should be restricted within three nautical miles of the coast. This includes the west coast demersal long line and gill net fishery, trawl fisheries and commercial wetline fishing. The working group believe there is a case for extending this closure in areas of high recreational use – for example, five nautical miles around Kalbarri. Community views are sought on this proposal.
- 21(b)** Herring and tailor have a high recreational value and low commercial value. Priority for their management should be recreational and the recreational catch share should reflect their importance to this sector.

Further, the total herring catch should be managed within a total allowable catch for both sectors. Resource sharing should be achieved through creating a purely recreational fishery on the west coast and a reduction in commercial catch on the south coast. The aim should be to adjust the current 80% commercial / 20% recreational catch shares to 50% for each sector.
- 21(c)** The commercial take of tailor south of Shark Bay should be phased out in recognition of their high value as a recreational species and low commercial value.
- 21(d)** Commercial salmon fishing should not be allowed on beaches in the west coast zone over Easter and the Anzac Day holiday periods.
- 21(e)** The ban on recreational netting upstream of Fisher Road on the Blackwood River, near Augusta, should apply to commercial netting to protect black bream stocks.
- 21(f)** A minimum level of commercial fishing should be retained in the major estuary systems on the west coast to provide a source of fresh fish for consumers. A ceiling on commercial effort and catch should be established, which is essential to maintain fish stocks and values in these areas.
- 21(g)** Management should be implemented for the wetline fleet and the benchmark date of November, 1997, for continued access to the wetline fishery should apply. The fleet pay for the cost of its fishery management.
- 21(h)** No commercial finfish fishing (purse seine, wetline, demersal gill net and long line) should be allowed within two nautical miles of Rottnest Island.
- 21(i)** No commercial finfish fishing should be allowed in the proposed closed area to fishing around the Abrolhos Islands.



## **Protection of fish habitats**

### **Proposal 22 – Low impact wilderness fishing experiences**

That the area north of Kalbarri to the Zuytdorp Cliffs be managed on a trial basis as a remote wilderness fishing area. The trial should determine the level of community support and potential for retaining wilderness fishing values in the area.

The working group defines a wilderness area as:

An area previously protected by a high level of remoteness which provided a unique fishing experience unavailable in other areas, and characterised by getting there under your own steam.

The working group agrees on the following guiding principles for the management of wilderness areas:

- Low take
- Low environmental impact

[These principles should apply to finfish, lobster, abalone and other popular marine organisms.]

Code of practice should apply to tour operators

Manage vehicle and assisted access to limit environmental impact.

### **Proposal 23 – Protection of sensitive habitat areas and fish stocks around new marina developments**

**23(a)** Developers should contribute funds for the management of fish resources and the marine environment when there is an increase in recreational fishing as a result of building new marinas and boat ramps.

**23(b)** If there are unique or important fish habitats close to a new facility, these should be set aside as a no-go area. What areas should be set aside should be decided during the development of each site.

## **Improving community stewardship – education and compliance**

### **Proposal 24 – West Coast Region community education plan**

#### **24(a) Regional fishing guide**

A comprehensive regional guide to recreational fishing in the West Coast Region should be produced to inform and educate fishers about recreational fishing management, fishing ethics, research, conservation issues and promoting stewardship for fish stocks and the environment.

#### **24(b) Educational resource materials**

Adequate quantities of practical educational tools such as measuring gauges, fish rulers, adhesive bag limit guides and boat ramp and fishing venue signs should be produced to support the regional fishing guide.

**24(c) Annual media campaign**

An annual media campaign be implemented to promote recreational fishing and fishing ethics in the west coast.

**Proposal 25 – Additional patrol capacity**

That to achieve a ten per cent contact-to-trip ratio with recreational fishers by Fisheries officers and VFLO's an additional eight patrols (16 Fisheries Officers) be dedicated to recreational field compliance and education activities during peak fishing seasons in the West Coast Region.

These resources should be allocated to:

- *Kalbarri-Port Gregory*. One additional patrol crew to be based in Kalbarri. At present, effective compliance presence is sporadic at best.
- *Abrolhos Islands*. One additional patrol crew to service peak season fishing at sea and in the Geraldton area.
- *Jurien Bay-Lancelin*. One additional patrol crew to be based in Jurien Bay.
- *Perth north Metro: Hillarys-Yanchep*. One additional patrol crew. to be based at Hillarys to cover the northern suburbs from Hillarys up to Two Rocks.
- *Perth south Metro*. Two additional patrol crews based in Fremantle to provide additional compliance for the Swan River, Cockburn Sound and Warnbro Sound.
- *Mandurah/Bunbury*. One additional patrol crew during the summer crab and tailor fishing seasons.
- *Busselton*. One additional patrol crew for Geographe Bay and the Capes region

**Proposal 26(a) VFLO Program**

The VFLO program must be adequately resourced with educational materials and support from Fisheries WA staff. The focus of VFLO activities should be redirected towards beach front contacts with recreational fishers, to achieve a target contact rate of 10% of all fishing trips.

**Proposal 26(b) Junior VFLO Program**

A junior VFLO Program be established in the West Coast Region as a trial and then expanded across the state. The program will need to operate in conjunction with the existing VFLO Program and work through schools.

**Proposal 27 – Recreational Fishing Management Officer**

A specific person be appointed within Fisheries WA to implement the West Coast Regional Review, coordinate community consultation and education activities, and provide executive support for community advisory committees.

### **Proposal 28 – Regional Recreational Fisheries Council**

A Regional Recreational Fisheries Council be established to oversee the implementation and operation of the West Coast Recreational Fishing Management Strategy.

The council should replace the existing Regional Recreational Fishing Advisory Committees in the West Coast Region. The Council should be established under the Fisheries Resources Management Act and report to the Minister for Fisheries as part of the State Recreational Fishing Advisory Committee network.

Representation on the new council should be both regional and expertise-based and Fisheries WA should be formally included as a committee member, rather than simply providing executive support.

## **Providing adequate resources for management and enhancement**

### **Proposal 29 – Funding for recreational fisheries management**

**29(a)** The State Government should increase the level of funding for recreational fisheries management to \$10 million for the next three financial years. In following years the government contribution should be on the basis of 5% of the direct economic impact of recreational fishing on the economy.

**29(b)** If the State Government does not increase funding in this manner, it should introduce a general recreational fishing licence to provide essential funds. However, even if a licence is introduced it is essential that government funding should continue at the present level, so that a licence does not merely replace current funding.

**29(c)** If a general angling licence is introduced it should be on the following basis:

- Apply only to people above the age of 16.
- Sales could be through tackle shops and shire offices.
- Normal discount for seniors and pensioners.
- Licence revenue must go into a trust account for recreational fisheries management.
- Also introduce temporary licences – for example, two days or two weeks.
- Identify and publicise how the money will be used.

## 1. PLANNING FOR THE FUTURE

---

### 1.1 Managing for the future – why have a regional management strategy

Before 1989 there was only a limited set of management measures for recreational fishing. With an increase in fishing participation, greater ownership of boats, 4WD vehicles and increased leisure time, it was time to reassess management to ensure that the quality of WA's fisheries could be maintained and that fish stocks remain sustainable.

It was for these reasons that the first comprehensive management framework was developed by the inaugural Recreational Fishing Advisory Committee (RFAC) during a two-year review between 1989 and 1991.

The result of the review was a framework for the management of recreational fishing which had community consensus.

Major outcomes from this review were:

- a statewide set of daily bag and size limits for all fish species.
- establishment of a Recreational Fishing Trust Fund into which revenue from species-based recreational fishing licences flowed.
- establishment of management, research and community education programs for recreational fishing.
- creation of a network of state and regional recreational fishing advisory committees.

This review was the first of its kind in Australia and established a new benchmark in recreational fisheries management.

Ten years on, we have seen significant change occur in WA's recreational fisheries. More than 600 000 people are now fishing in WA compared with 284 000 in 1987. There have also been advances in angler efficiency through improved technology and more pressure on limited fish resources from competing users.

With extra pressure on fish resources, various fisheries issues have arisen in different parts of WA which have required modified management for specific areas and species.

Between 1992 and 1995 this led to fisheries management becoming increasingly reactive with resources focused on dealing with problems as they arose.

The choice for recreational fisheries management was either to continue with the same approach – and see a gradual decline in fishing quality – or to manage pro-actively for the future.

### 1.2 The regional management approach

A solution to protecting the future quality of recreational fishing was developed by the Recreational Fishing Advisory Committee and Fisheries WA. It revolves around the development of four regional management strategies for the state, incorporating a detailed planning process capable of developing more flexible responses to key management issues.

The basis for a more regional approach was an acknowledgment of the natural complexity and diversity of WA's marine life and environments, and a clear need to better link management to the biology and distribution of both fish stocks and fishing activity. In other words, building effective

management upwards from the biological characteristics of the resource, rather than simply imposing human social values on fish.

Key issues for this strategy include: localised stock depletion; scientific research; managing the recreational catch; community stewardship; and resource sharing.

Licensed recreational fisheries such as abalone and rock lobster already have substantial management arrangements in place to protect stocks. The area of greatest need for management is our marine finfish stocks, and consequently this is the focus of the recreational strategy.

The strategy for the west coast covers the area from Black Point near Augusta up to the Zuytdorp Cliffs, north of Kalbarri, and includes all marine and estuarine areas. Freshwater environments are not included.

A key aim is to simplify legislation where possible and provide a more uniform set of rules across each region. However, this does not preclude establishing smaller management zones. For example, 'recreational fishing priority areas' (e.g. Rottnest Island) or areas such as the Swan River where local fish populations may require specific management arrangements.

The recreational fishing management regions (Figure 1.2-1) are:

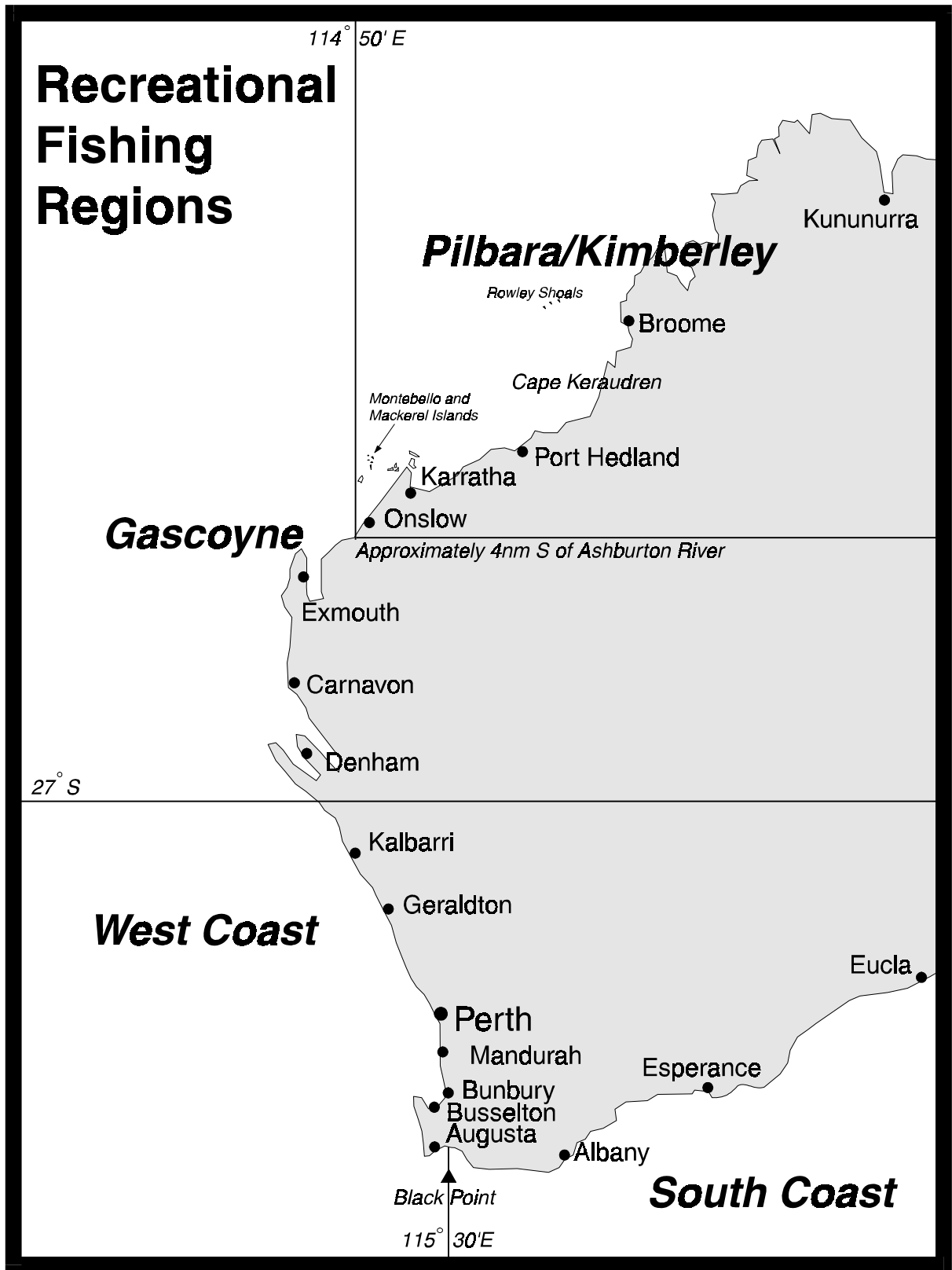
- Zone 1: Pilbara/Kimberley** – waters east and north of the point where 114°50'E intersects the North-West coast of Western Australia (about 4nm south of the mouth of the Ashburton River) to the NT/WA border.
- Zone 2: Gascoyne** – waters west of the point where Longitude 114°50'E intersects the North-West coast of Western Australia (about 4nm south of the mouth of the Ashburton River) south to 27°S (Zuytdorp Cliffs, between Kalbarri and Steep Point).
- Zone 3: West Coast** – waters south of 27°S (Zuytdorp Cliffs) to west of the point where 115°30'E intersects the southern West Australian coastline (Black Point).
- Zone 4: South Coast** – waters east of the point where 115°30'E intersects the southern West Australian coastline (Black Point) east to the WA/SA border.

From a biological perspective, the boundaries of these regions are largely consistent with, or represent sub-sections of, the major biogeographic regions, coastal and climatic zones of Western Australia, and consequently the distribution of many fish species. This will improve effectiveness of fishing controls based on species biology such as size limits and closed seasons, and enable bag limits to be tailored according to species and fishing pressures in each region.

These zones also coincide with discrete tourism regions of the state, and visitor fishing activity tends to focus on these areas during identifiable seasons. This will reduce perceptions of inequity when setting differential fishing management arrangements, and provide clear demarcation lines.

The rationale behind the development of a bio-regional management approach is provided in more detail in Fisheries Management Paper 136.

Figure 1.2-1 Regional Map



### 1.3 Marine environmental features and influences on the West Coast

The marine environment of the West Coast Region between Kalbarri and Augusta is a mixing zone for temperate and sub-tropical species. The region is characterised by a coastal dune system, with limestone outcrops and a limestone inshore reef which generally occurs within five nautical miles of the coast and runs almost continuously from Trigg Island to Dongara.

South of Perth, cold water species such as herring, skippy and king george whiting become more prevalent and the limestone reef system gives way to sheltered embayments which extend to Geographe Bay. Beyond Cape Naturaliste the coastline changes from limestone to predominantly granite and becomes more exposed to the influences of the Southern Ocean.

Along the west coast the Continental Shelf extends to about 50km. The shelf represents the original shoreline of the coast and was inundated between 10,000 and 7,000 years ago. Before this, islands such as Rottneest, Garden and the Abrolhos were joined to the mainland.

The Abrolhos, 60km west of Geraldton, is the most significant island system in the region and contains the most southerly coral reef systems in the Indian Ocean.

The productivity of WA's waters on the west coast is considered low by world standards. The natural productivity of marine ecosystems is largely driven by the availability of nutrients. The conditions that provide highly productive marine fisheries through massive nutrient flows into the system from oceanic upwellings, land runoff or major current systems simply don't exist in the WA marine environment.

One of the greatest impacts on the health of the inshore environment is human land use practices. Increased nutrification, especially from fertilisers, is putting increasing pressure on the ecology of systems such as the Swan/Canning and Peel/Harvey estuaries, Cockburn Sound and Geographe Bay.

Algal blooms in the Swan River in early 2000 which resulted in the closure of the river to all fishing for several weeks provide a clear example of the threat posed by eutrophication

Along the West Coast Region the major estuarine systems are the Swan/Canning, Peel/Harvey and Blackwood/Hardy. The lower reaches of these systems are tidal and form an extension of the marine environment.

Smaller west coast river systems include the Moore, Greenough and Murchison north of Perth and the Wonnerup near Busselton.

Geographe Bay and Cockburn Sound are the two most significant marine embayments on the west coast. Characterised by sheltered water and seagrass beds, they are important nursery areas for many species of fish.

Environmental influences appear to have a significant effect on the seasonal abundance of most fish species, and are a key factor in the survival of fish larvae and juveniles.

Major environmental influences on the west coast include the warm, low-nutrient Leeuwin Current which flows southward from the Indonesian Archipelago between April and July, influencing water conditions and the reproductive and migratory activity of marine life as far south as the Great Australian Bight. The Leeuwin Current is highly variable from year to year, running as fast as four knots in some years and varying markedly in its proximity to the coastline.

The cooler Capes Current, which flows inshore from Cape Leeuwin northward up the west coast as far as Shark Bay during the summer months, is also thought to influence the survival and distribution of larvae and juveniles from fish species such as tailor which spawn in spring and summer.

#### 1.4 West Coast Working Group membership and terms of reference

The Minister for Fisheries appointed a working group to develop recommendations for a recreational fisheries management strategy for the West Coast Region. The working group is comprised of members representing a range of interests covering tourism, conservation, commercial fishing and recreational fishers – including representatives of the four Regional Recreational Fishing Advisory Committees (RRFACs) in the West Coast Region, Recfishwest, and general community interests.

The group was selected following a call for expressions of interest for membership, which involved placing advertisements in *The West Australian* newspaper and promotion through local and regional media.

All working group members accepted their appointment on a voluntary basis and with the exception of the Chairman do not receive any sitting fees.

In developing this discussion paper the working group held 11 planning meetings and also six regional public meetings in Busselton, Bunbury, Mandurah, Perth, Geraldton and Kalbarri.

##### 1.4.1 Membership of the working group

<b>Chairman</b>	Mr Ken Pech	Community
<b>Executive Officer</b>	Mr Nathan Harrison	Fisheries WA
<b>Committee Members</b>	<b>Representing</b>	
Mr Andrew Cribb	Fisheries WA	
Mr Pino Monaco	Metro RRFAC	
Mr Geoff Bury	Peel RRFAC	
Mr Barry Dawes	South-West RRFAC	
Mrs Anne Franks	Mid-West RRFAC	
Mr Russel McCarthy	Community representative	
Mr Robert McCarthy	Community representative	
Mr Martin Holtz	Commercial fishing industry	
Mr Les Rochester	Recfishwest representative	
Mr Wendy Payne	Conservation interests	
Mr Jamie Waite	Tourism interests	
Mr Graeme Maunder	Recreational Fishing Advisory Committee	

##### 1.4.2 Background on working group members

###### **Ken Pech AM, JP**

Ken is a farmer in the Great Southern Region and was appointed by the Minister for Fisheries because of his facilitation skills and independence from any sector of the fishing community. Ken is a past President of the Shire of Gnowangerup and past President of the Western Australian Municipal Association. He has extensive experience chairing both community and industry-based committees and advisory groups.



**Andrew Cribb**

Fisheries WA's Recreational Fishing Program Manager. Andrew is responsible for developing the strategic policy direction for recreational fisheries and managing the recreational fishing program team. He is an experienced angler who enjoys fishing from the beach and exploring inshore waters in his 4m boat.

**Jamie Waite**

Is a keen recreational fisher with extensive fishing experience for offshore demersal species such as dhufish and pink snapper. Jamie has considerable knowledge of boat and beach fishing in the Kalbarri area, and is a joint owner operator of Kalbarri Seafront Villas.

**Les Rochester**

Is the Chairman of Recfishwest, the independent organisation established to represent the interests of recreational fishers. Les is a keen diver and boat fisher and enjoys fishing for tailor and mulloway in the Kalbarri area.

**Robert McCarthy JP, NM**

Bob is a first generation farmer near the Great Southern town of Williams and has served on many community-based committees. Besides fly fishing for trout on his well-stocked dam, Bob is a keen game fisherman and enjoys fishing for a range of pelagic species including marlin, sailfish, tuna and mackerel.

**Russell McCarthy**

Russell is the owner operator of a fishing and camping store in Mandurah. He is a keen club angler who particularly enjoys fishing the beaches and rivers of the South-West.

**Graham Maunder**

As the manager of a Geraldton tackle shop, Graham has extensive knowledge of inshore and offshore fishing around the Mid-West including the Abrolhos Islands. He particularly enjoys shore fishing for tailor and mulloway and sport fishing for pelagic species such as tuna and mackerel.

**Wendy Payne**

As member of the Australian Marine Conservation Society Wendy has a strong desire to see appropriate safeguards established to protect the marine environment. She also enjoys land-based fishing for a range of popular angling species.

**Barry Dawes**

Is a retired engineer living close to the Blackwood River. Barry enjoys net and line fishing in the Hardy Inlet and fishing for king george whiting inshore around Augusta. He is also an active member of the Volunteer Fisheries Liaison Officer (VFLO) Program.

**Martin Holtz**

As a member of the Western Australian Fishing Industry Council, Martin is well placed to represent the interests of the commercial fishing industry. He has worked for WAFIC for 11 years and has extensive experience in the pilchard, shark and abalone fisheries as well as other inshore commercial fisheries.

**Pino Monaco**

Pino is the managing partner of a city law firm and keen sportsman who lives in Perth. He enjoys shore-based and river fishing in the metropolitan area.

### **Anne Franks**

Anne is a joint owner operator of the Greenough River Caravan Park and has been involved in the tourism industry for over ten years. She is also a member of the Abrolhos Islands Management Advisory Committee.

### **Geoff Bury**

Geoff is a keen diver and inshore fisher around the Mandurah area and also enjoys freshwater fishing in the South-West. He has worked for Alcoa as a fitter for over 20 years and has also been involved in the VFLO program since its inception in Mandurah in 1995.

#### **1.4.3 Terms of reference of the review**

- To identify the key issues and development opportunities facing recreational fishing in the West Coast Region.
- To prepare a draft five-year recreational fishery management strategy for the region, consistent with the strategic directions identified in the Coalition Fisheries Policy and Recreational Fisheries Program business plan.
- To identify management and resourcing needs, and possible funding strategies, for implementation of the plan.
- To conduct extensive public consultation, including key stakeholders.
- To make final recommendations to the Minister for Fisheries for the management of recreational fisheries over five years within the West Coast Region.

#### **1.5 Process to get to here**

The development of the discussion paper was made possible through the expertise of the working group members and input from the Recreational Fishing Advisory Committee (RFAC), Regional RFACs, Recfishwest and Volunteer Fisheries Liaison Officers (VFLOs) and Fisheries WA scientists and fisheries management staff.

Public meetings held in six key regional centres provided an opportunity for the community to raise issues to be considered in future planning for recreational fishing. Briefing sessions were also held on request for fishing clubs which wanted to understand the regional review process.

The issues and suggestions raised at the public meetings have been outlined in section three of the discussion paper. In this section the working group identifies specific management objectives and proposals to deal with the issues raised.

#### **1.6 How to have your say**

Release of this discussion paper for public comment provides an opportunity for you to express an opinion on how recreational fisheries should be managed in the West Coast Region. It is equally important to respond whether you agree or disagree with the various proposals, because the working group will review each of these proposals in light of the comments received.

##### **1.6.1 Points to consider for submissions**

To ensure your comments are as effective as possible, please:

- clearly and briefly describe each separate subject you wish to address
- refer to the different section numbers/proposals/page numbers in the paper

- tell us whether you agree/disagree with any or all of the proposals or issues identified in each section
- suggest alternative ways to resolve the issues raised in the paper or identified by you

### ***1.6.2 How to make a submission***

#### **Written**

- clearly and briefly describe each separate subject you wish to address
- refer to the section number/proposals/page numbers in the paper

#### **Questionnaire**

- responses can also be made by completing the enclosed questionnaire in a 'tick the box' format
- additional copies of the questionnaire are available from Fisheries WA or on Fisheries WA's website, <http://www.wa.gov.au/westfish>

For further information contact Fisheries WA

**Phone : 9482 7333**

**e-mail: [nharrison@fish.wa.gov.au](mailto:nharrison@fish.wa.gov.au)**

### ***1.6.3 Where and when to send your submission***

The closing date for submissions is 13 October 2000. Please send your submission along with your full name, address and association details (if applicable) to:

Executive Officer  
West Coast Working Group  
c/- Recreational Fisheries Program  
Fisheries WA  
Locked Bag 39  
Cloisters Square Post Office  
PERTH WA 6850

**Fax: 9482 7218**

**e-mail: [nharrison@fish.wa.gov.au](mailto:nharrison@fish.wa.gov.au)**

### ***1.6.4 What happens to your submission***

All submissions are confidential and will be reviewed only by members of the working group. All submissions will be summarised and the working group will review the proposals outlined in this paper in light of these submissions.

The group will then prepare a final report for the Minister for Fisheries containing recommendations on future management.

The recommendations approved by the Minister for Fisheries will form the basis of a new management package for recreational fishing in the West Coast Region.

## 2. FISHING ON THE WEST COAST

---

### 2.1 Profile of fishing on the West Coast

Recreational fishing on the west coast between Kalbarri and Augusta can be divided into four main zones within the region: estuaries; shore-based fishing; fishing in waters generally within the inshore reef system or 5km off the coast; and an offshore fishery for demersal fish such as dhufish and pink snapper. Around the edge of the Continental Shelf which runs about 50km off the west coast the popularity of offshore game and sport fishing is increasing with a focus on surface pelagic fish such as marlin and tuna.

Estuary and river fishing occurs in five key systems: the Hardy/Blackwood; Peel/Harvey; Leschenault Estuary; the Swan/Canning Estuary; and the Moore River.

Fishing activity in the Peel/Harvey and Leschenault Estuary is mainly directed towards blue manna crabs, while the Hardy Inlet/Blackwood River and the Moore River are primarily finfish fisheries. The Swan/Canning is a prime fishing area for both blue manna crabs and finfish.

Shore fishing occurs throughout the region for a range of key species including herring, whiting, tailor and mullet.

Inshore fishing is mainly from boats smaller than five metres with anglers seeking a variety of temperate species. The greatest amount of fishing pressure is concentrated near major population centres, marinas and launch facilities.

Near-shore islands such as Rottnest and the Abrolhos are also focal points for recreational fishing on the west coast.

Offshore fishing for demersal bottom species occurs mainly within a 20km radius of launching facilities, which concentrates most fishing pressure within the 50m depth contour line. Key demersal species include dhufish, pink snapper and baldchin groper.

### **Economic impact of fishing**

In 1991 Economic Research Associates (Lindner, R. and McLeod, P. 1991) undertook a survey of participation and expenditure patterns of recreational fishers in WA. This survey estimated that recreational fishing activity involved a direct expenditure of \$205m in 1989-90, and indirect impact of \$184m, giving an aggregate impact of \$389m and an employment impact of 5,700 full-time jobs.

The state economic impact was updated by a repeat survey in 1998, based on a state population of 1.755m and a participation rate of 36%. Direct expenditure associated with recreational fishing was estimated at of \$299m in 1995-96, giving an aggregate impact of \$569m and an employment impact of 7,000 full-time jobs.

### 2.2 Participation and effort – how many people fished where

The west coast between Kalbarri and Augusta attracts the highest level of recreational fishing activity in the state, with around 380,000 anglers fishing an estimated four million fishing days a year (Baharthah and Sumner in prep). The total effort for the boating sector was estimated at 453,000 angler fishing days in 1996-97 (Sumner and Williamson 1999).

Within this region the Perth Metropolitan coastal waters between Yanchep and Mandurah attract about 227,000 fishers, generating an estimated 2.4 million fishing days.

Population growth poses two major challenges for fisheries management: to manage the impact of increasing levels of fishing activity; and to limit the threats to fish habitats posed by the development of infrastructure to support this growth.

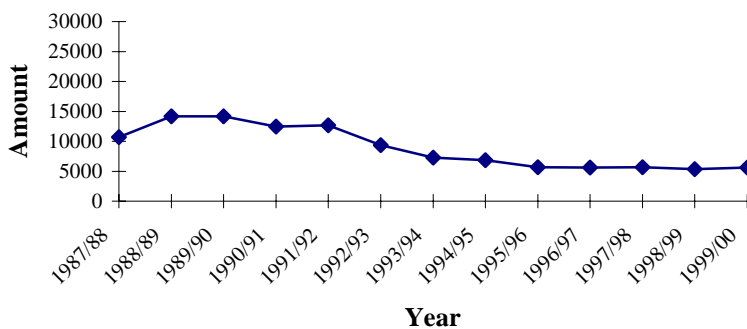
Participation in recreational fishing and the number of angler fishing days have exceeded the rate of population growth in the last decade – from 27% of the population and three million angler days in 1987, to 34% of the population and ten million angler days in 1999. Recreational boat registrations with the Department of Transport also reflect these trends, with a 33% increase over the past ten years.

New roads, marinas, industry, and domestic water supply sources – although all desirable as improvements to community services – also represent a threat to fish habitats and fish stocks.

Consequently, population growth is the primary driver for most of the other issues that threaten not just recreational fishing quality, but also the sustainability of wild fish populations.

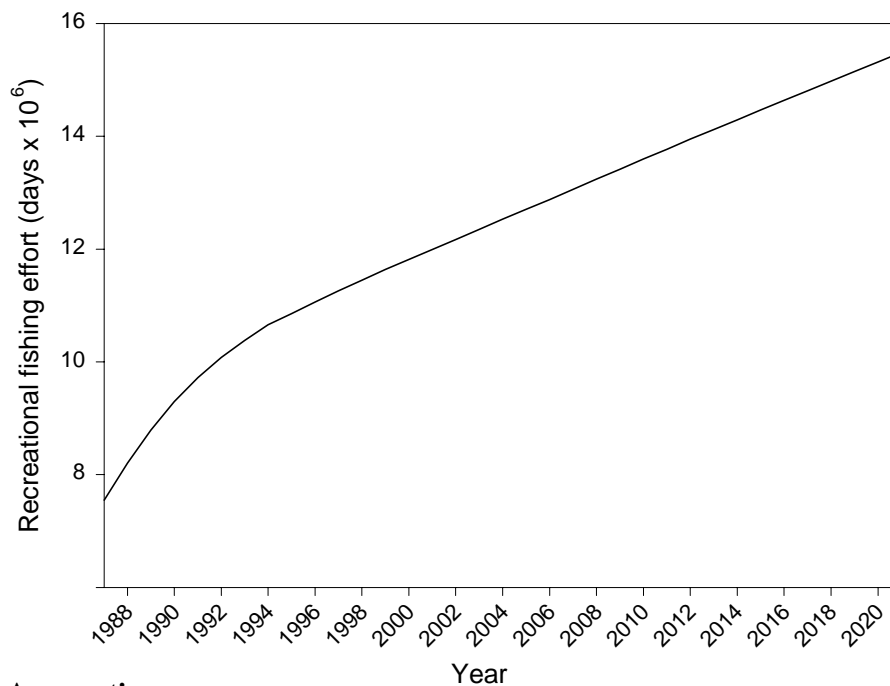
In Western Australia recreational fishing licences are required for abalone, rock lobster, marron, fishing in South-West freshwater and net fishing. Participation in all licensed fisheries has increased over the last five years, with the exception of netting which has seen a decrease in the number of licences issued each year over the last ten years.

**Figure 2.2-1 Number of netting licences issued by Fisheries WA 1987-1999**



With an increase in recreational fishing participation from 287,000 people in 1987 (ABS 1987) to over 600,000 people in 1999 (Reark 1999), future population growth could lead to significant increases in recreational fishing pressure. Based on projected population growth, projected increases in recreational fishing effort are represented in Figure 2.2-2.

**Figure 2.2-2 Future projection of recreational fishing effort**

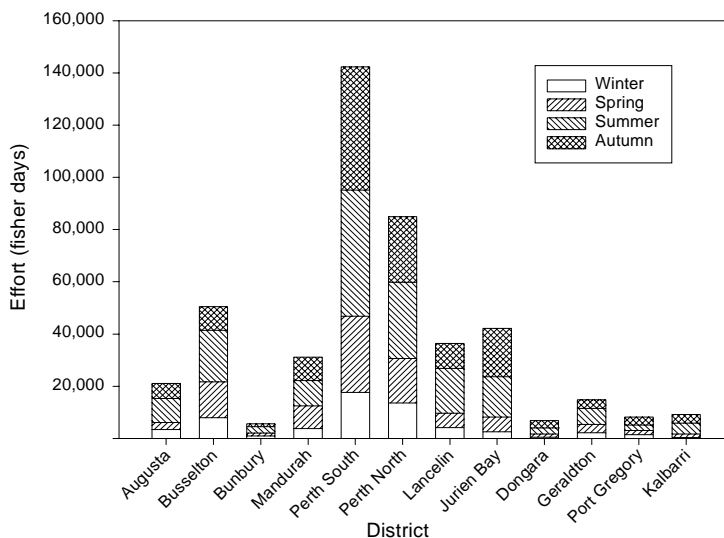


**Assumptions**

The mean number of days fished per recreational fisher is 18 per year (Baharthah and Sumner 1999). For years 1987 to 1999 the participation rate was estimated by fitting a curve to the participation rates for 1987, 1994, 1997 and 1999. After 1999 the participation rate was assumed to be constant and was set to the rate of 0.34 estimated by Baharthah and Sumner 1999. The population projections were based on Australian Bureau of Statistics (1998).

Recreational boat fishing pressure on the west coast occurs throughout the year with a peak in fishing activity over summer when conditions are most ideal. Boat-based fishing pressure for the 12-month period from July 1996-August 1997 (Sumner and Williamson 1999) is represented in Figure 2.2-3.

**Figure 2.2-3 Recreational boat fishing effort (days) by region**



Maximum recreational fishing effort in the West Coast Region is concentrated around the key population centres and areas where boat ramps and marinas provide access to inshore and offshore locations. In areas where fishing pressure is high, such as around the Hillarys marina, in excess of 15,000 boats are estimated to be fishing within five nautical miles of the boat ramp each year. (See Appendix A, number of recreational boats fishing on the West Coast)

### 2.3 The recreational catch

A 12-month survey of coastal recreational boat fishing between Augusta and Kalbarri was conducted during 1996-97 (Sumner and Williamson 1999). This indicated that the major species in the shore and inshore boat catch include Australian herring, whiting, skipjack trevally, blue swimmer crabs, king george whiting, tailor, garfish and squid, while dhufish, pink snapper and baldchin groper are the dominant species sought by boat fishers.

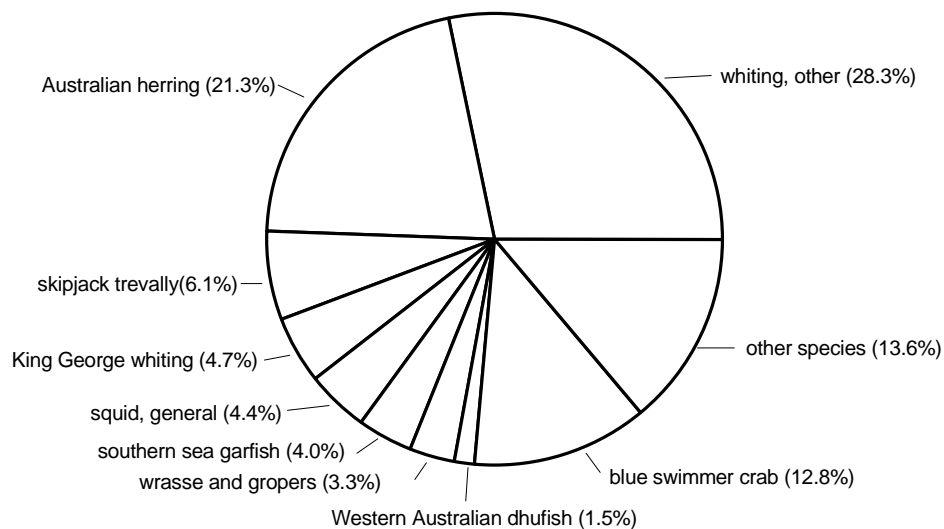
According to an Australian Bureau of Statistics survey in 1987, the key target species on the west coast were Australian herring, whiting, crabs, pink snapper, dhufish, Australian salmon and marron.

Data from the Volunteer Fisheries Liaison Officer (VFLO) monitoring program in 1997 reaffirmed that crabs are the the most popular recreational crustacean species. Separate surveys of the Peel/Harvey, Swan/Canning and Leschenault estuaries indicate that the recreational catch of blue manna crabs in the West Coast Region is around 1.6 million a year, which equates to about 360 tonnes. (Malseed, Sumner and Williamson in prep)

By contrast, data from the marine boat catch survey conducted by Fisheries WA in 1996-97 indicates that the main species sought by boat anglers were, in order, dhufish (17%), rock lobster (14%), herring (11%), king george whiting (8%), other whiting (9%), pink snapper (6%), blue manna crabs (6%), skipjack trevally (5%), squid (4%) and tailor (3%).

However, the most numerous species in the recreational boat catch were, in order, whiting, Australian herring, skipjack trevally, king george whiting, squid, garfish, wrasse, dhufish, snook, tailor, blue mackerel and pink snapper (Sumner and Williamson 1999). The composition of the recreational boat-based catch on the west coast in 1996/97 is represented below in Figure 2.3-1

**Figure 2.3-1 Composition of the recreational boat-based catch on the West Coast Region in 1996/97**



Data collected through the 1996-97 boat creel survey indicates that the majority of the recreational boat-based catch is taken through a minority number of successful fishing trips.

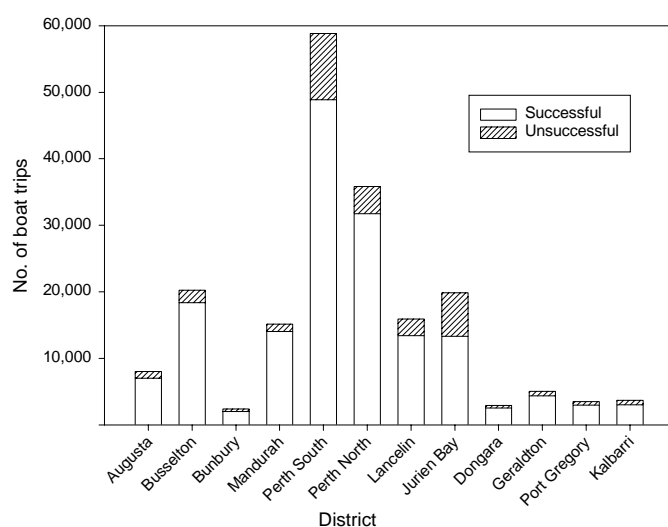
The 1996-97 creel survey also indicated that anglers seeking specific species were more successful. When considered with the overall success rate, this indicates that the majority of the recreational catch is taken by a minority of anglers. The creel survey also indicated that the vast majority of fishing trips revolved around line fishing, with less than 8% of fishing trips recorded as dive trips.

Even with a higher success rate among anglers fishing for specific species, there still exists a major difference between the bag limit for individual species and the average recreational catch per trip. This has significant implications for the effectiveness of bag limits on individual species as a means of managing the total recreational catch.

The frequency of successful (at least one fish caught) versus unsuccessful trips is represented below in Figure 2.3-2. (Sumner and Williamson 1999)

**Figure 2.3-2 Successful (at least one fish caught) versus unsuccessful boat fishing trips.**

*Note: The total of the unsuccessful trips is only the shaded portion of the graph.*



While the majority of fishing trips are successful in catching at least one fish, the success rate varies significantly from species to species. For example the majority of people fishing for herring are successful in catching at least one fish, but more than 50% of people seeking dhufish are unsuccessful. The average and median catch (number most often caught) for boat-based anglers and the percentage of fishers achieving their bag limit for eight of the most highly sought after boat species is represented in Table 2.3-1.

**Table 2.3-1 Average catch per person, the number most often caught (medium) and % of anglers achieving their bag limit for that species**

Species targeted	Average catch (fish per person per trip)	Median catch (fish per person per trip)	% Anglers achieving bag limit
West. Aust. dhufish	0.42	0	0.44%
Australian herring	5.96	3	1.44%
King george whiting	2.34	1	0.72%
Other whiting	8.65	5	2.85%
Pink snapper	0.27	0	0%
Skipjack trevally	2.49	1	0%
Squid	3.29	1.5	3.45%
Tailor	1.73	0.3	8.16%



There is a significant variation in the catch composition from one regional centre to another. While relatively common species such as whiting and herring dominate catches across the entire region, various species are more prominent in different areas. For example, the catch of skipjack trevally around Busselton is higher than any other regional centre, and almost twice as many pink snapper are taken from Mandurah waters than any other centre. This points to varying abundances of certain species within the overall region.

The following graphs and pie charts represent the total boat-based catch of all species by regional centre within the West Coast Region and the boat-based catch by species by regional centre (Sumner and Williamson 1999).

**Figure 2.3-3 Boat-based catch – west coast**

*Note: The total number of fish released is only the shaded portion of the graph.*

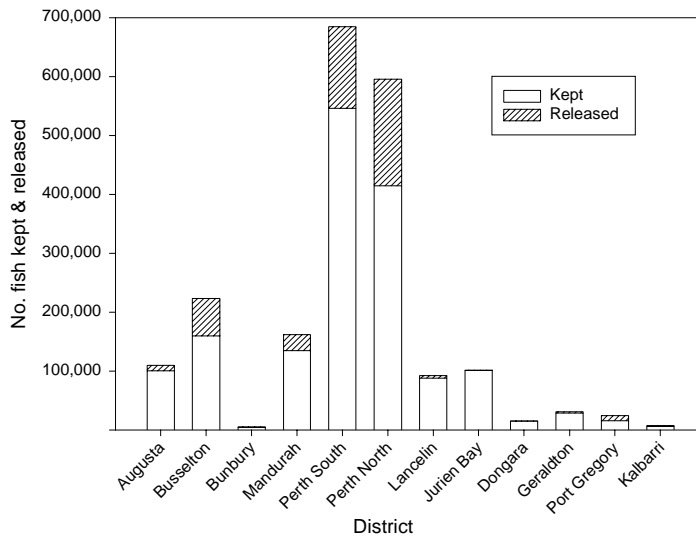
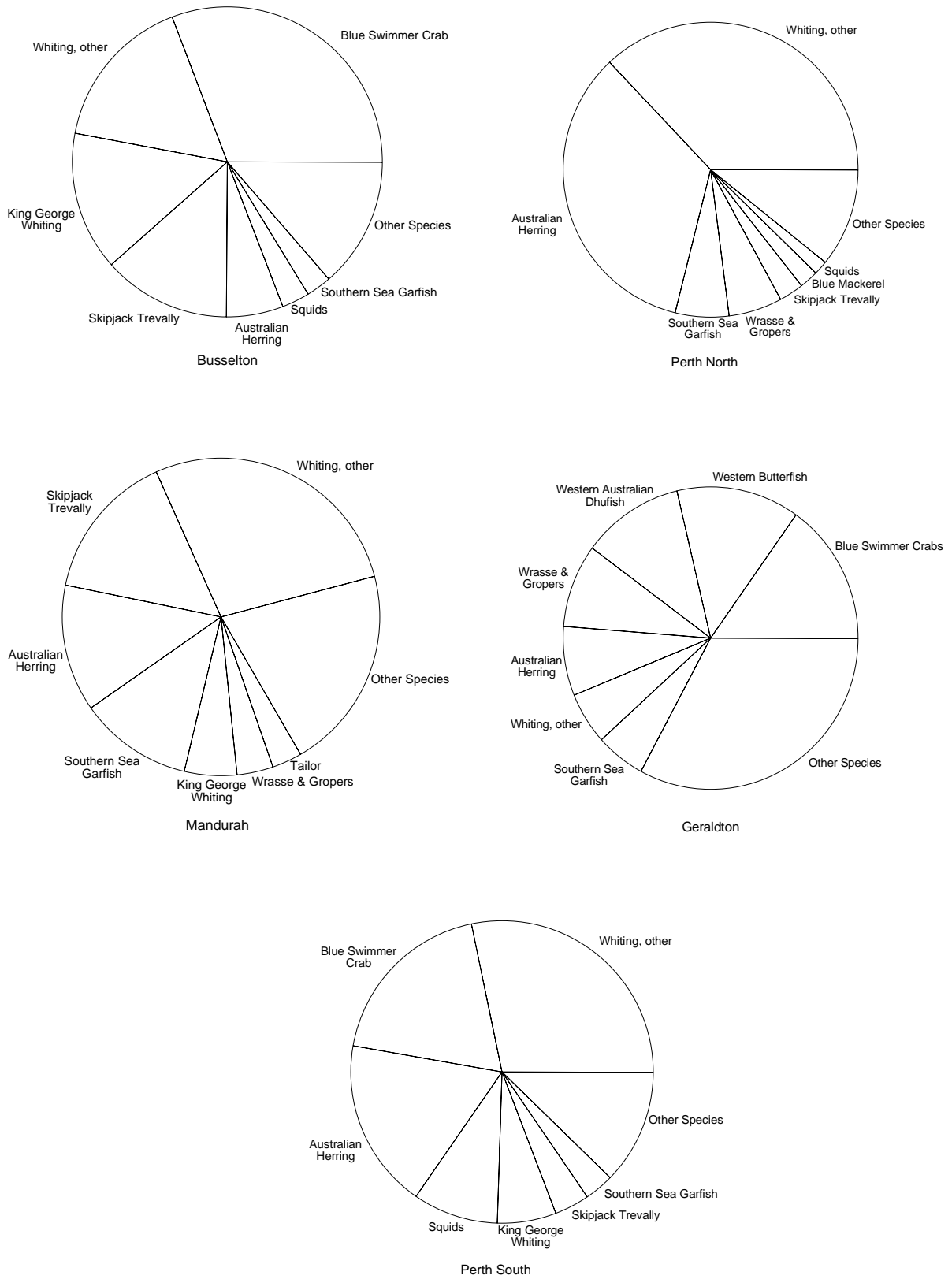
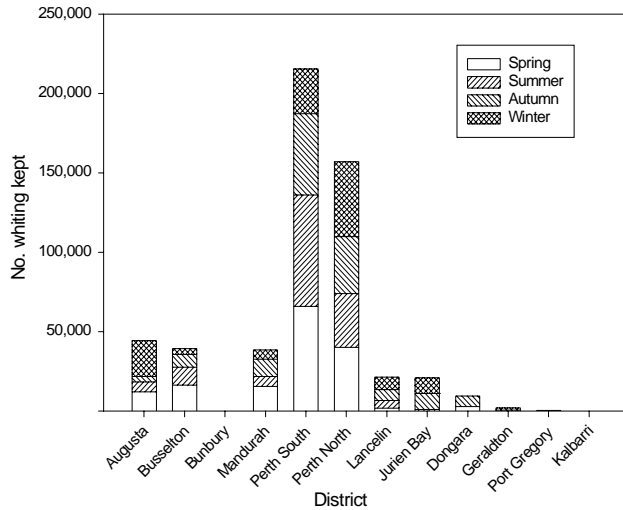


Figure 2.3-4 Boat-based catch by region by species (note does not include estuaries)

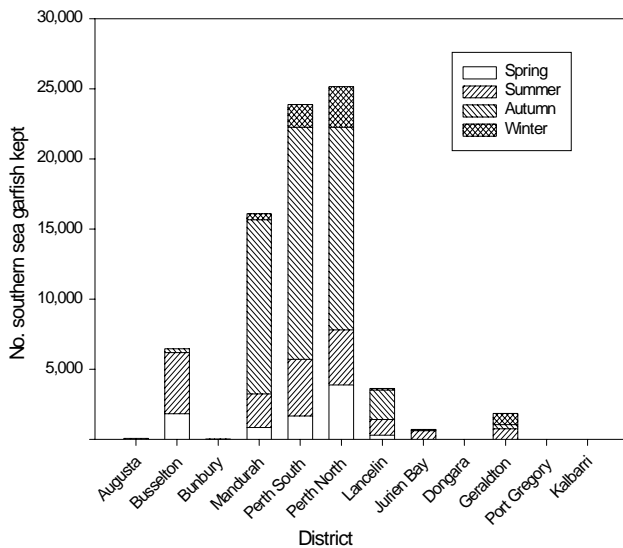


The following Figures (Figure 2.3-5 - Figure 2.3-12) provide an estimate of the boat-based catch of whiting, garfish, Australian herring, skipjack trevally, king george whiting, WA dhufish, tailor and pink snapper, by different regional centre (Sumner and Williamson 1999). Note: Different scales are used on the left-hand axis of each graph.

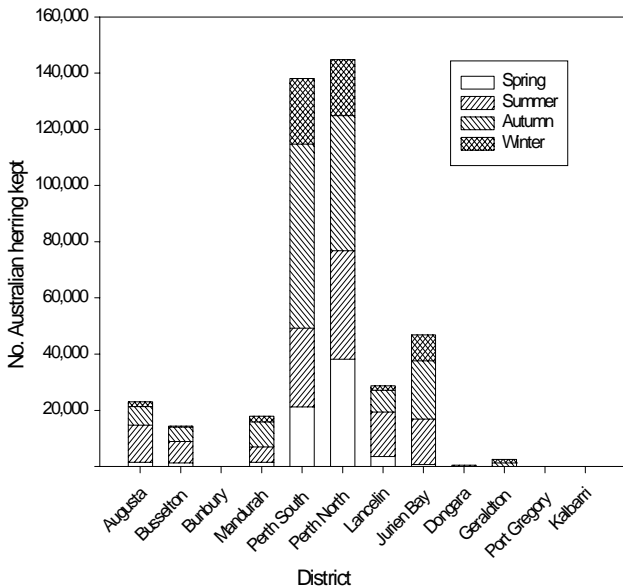
**Figure 2.3-5 Boat based catch of whiting**



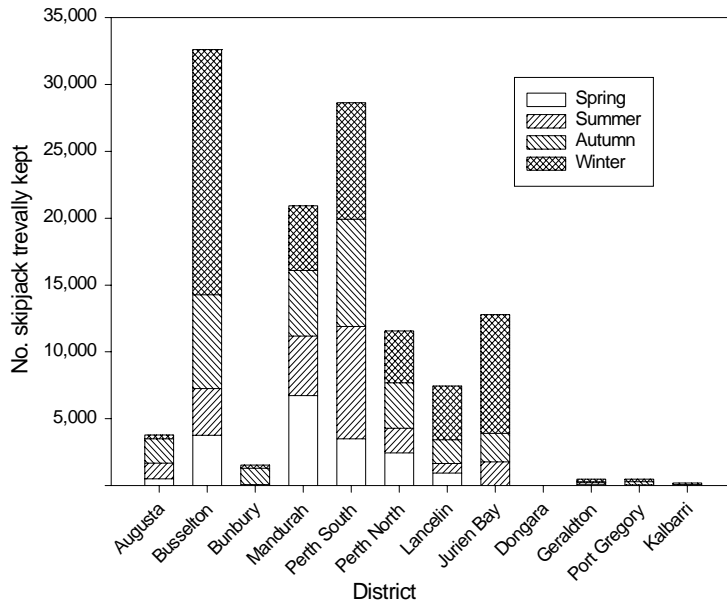
**Figure 2.3-6 Boat-based catch of garfish**



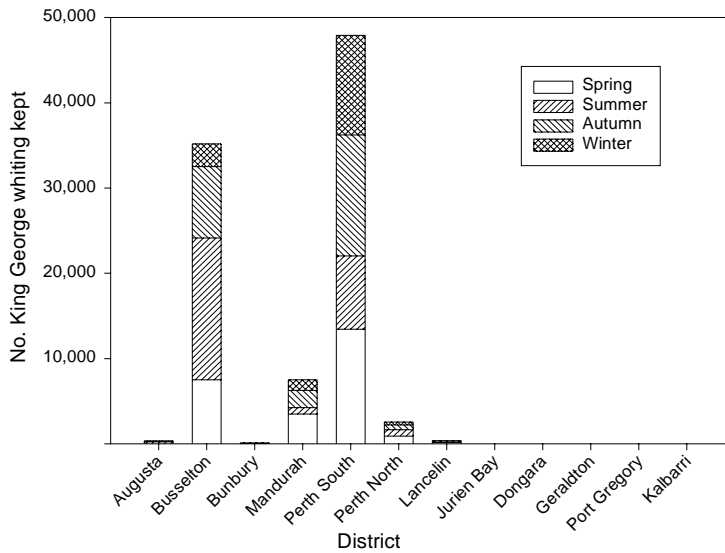
**Figure 2.3-7 Boat-based catch of Australian herring**



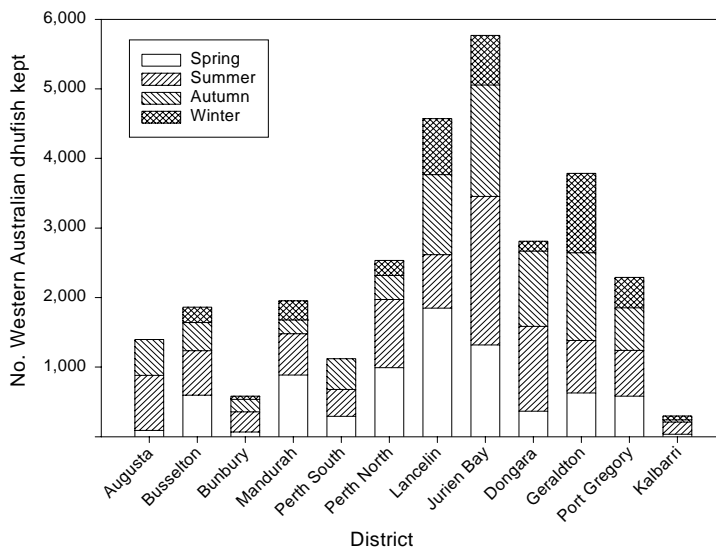
**Figure 2.3-8 Boat-based catch of skipjack trevally**



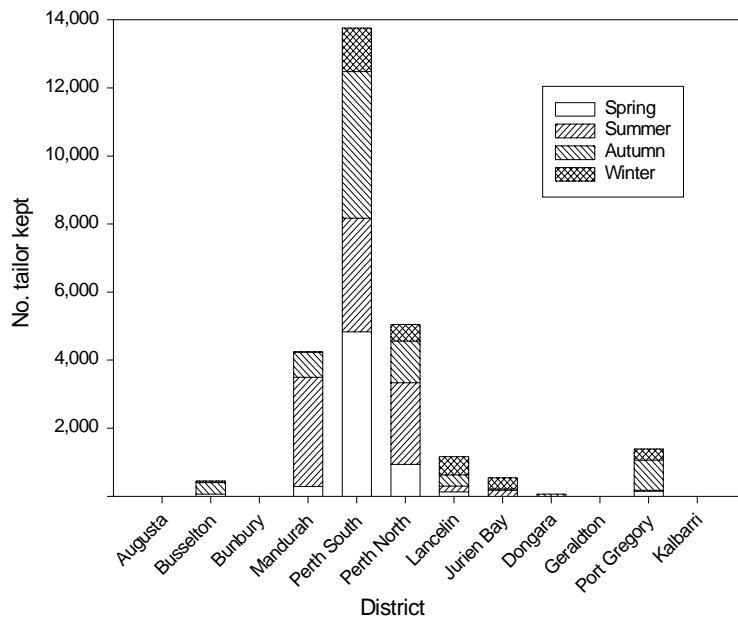
**Figure 2.3-9 Boat-based catch of king george whiting**



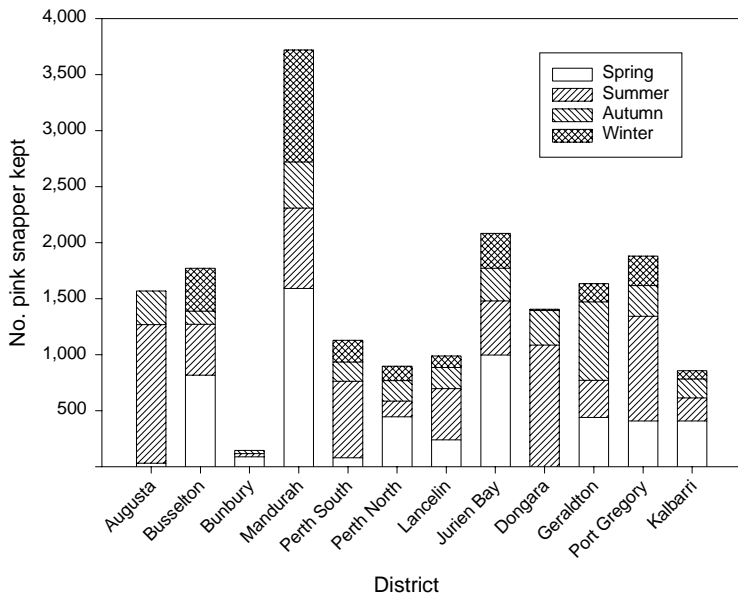
**Figure 2.3-10 Boat-based catch of WA dhufish**



**Figure 2.3-11 Boat-based catch of tailor**



**Figure 2.3-12 Boat-based catch of pink snapper**



**Recreational Crabbing**

The 12-month creel survey of recreational boat fishers (Sumner and Williamson 1999) did not capture recreational catch information from estuarine areas such as the Peel/Harvey and Swan River. However, separate surveys on crab catches were conducted on the Peel/Harvey Estuary and Swan River over 1998-99 and the Leschenault Estuary in 1988. These surveys indicate that blue swimmer crabs constitute one of the most significant recreational fisheries on the west coast.

The results from these surveys on crabbing are summarised below:

**Table 2.3-2 Estimated catch of crabs from Peel/Harvey Estuary 1998-99**

How caught	Number kept (tonnes)	Total number of crabs
Boat	181.7	
Scoopers	89.9	
Jetties	17.0	
Total	289	1 360 000

**Table 2.3-3 Estimated catch of blue crabs from Swan River 1998/99**

How caught	Number kept (tonnes)	Total number of crabs
All techniques	7.4	
Total	7.4	20 900

**Table 2.3-4 Estimated catch of blue crabs from Leschenault Estuary 1998**

How caught	Number kept (tonnes)	Total number of crabs
All techniques	45.7	
Total	45.7	219 000

**Table 2.3-5 Estimated catch of blue crabs from Cockburn Sound 1996-97**

How caught	Number kept (tonnes)	Total number of crabs
All techniques	18.8	
Total	18.8	91 800

## 2.4 Impact of fishing on stocks

WA anglers have acknowledged that the quality of some fisheries has declined over time. One example is the inner gulf pink snapper fishery in Shark Bay where it can be demonstrated that recreational fishing pressure has reduced numbers to a point where the stock in WA's Gascoyne Region is threatened.

This is not to say that all fish stocks in WA are in decline; on the contrary, we are fortunate to have a healthy population of fish compared with other states which have more people and far more fishing pressure.

To protect future fish stocks it is important to understand the effects of fishing pressure over time.

When pressure is exerted on a 'virgin' or unfished stock, initially the catches include a number of older or larger fish, which are highly sought after by fishers. At this time catches are high for a relatively small number of fishers. In the Perth Metropolitan area this situation would have existed back in the 1950s. Photos of anglers with large dhufish and blue groper caught from small clinker-hulled boats off Hillarys and Whitford provide a clear insight into the past quality of inshore fishing in the metropolitan area. Nowadays anglers must travel offshore to find such quality.

Faster-growing young fish replace older fish which are removed from the population. In this situation the overall catch can actually increase with more medium-size fish, but there will be fewer bigger fish available.

As competition between fishers increases, individual catches decline, although the overall catch tends to level off. This can be the start of what is referred to as ‘growth overfishing’. Put simply, this means there are still adequate mature fish in the population to produce enough juveniles, but the number of older mature fish has been depleted significantly.

As competition among user groups increases, individual catches begin to crash as fish are taken from the stock more rapidly than they can be replaced. This situation is called ‘recruitment overfishing’ in which both mature fish and juveniles are being fished down below sustainable levels.

With growing pressure from increased participation, competition from different user groups and advances in technology, our existing bag and size limits are not enough to prevent overfishing. Action must be taken now to conserve stocks for future generations.

## 2.5 Current management

A statewide approach to management was developed after the major review of recreational fishing in the early 1990s. That review resulted in the implementation of a set of bag and size limits aimed at setting clear social standards for recreational fishing, based on what the community considered was a fair and reasonable daily catch. It is important to note that the bag limits implemented at the time were not intended to restrain the total recreational catch in any significant way. Current management arrangements are detailed in Appendix B.

Seasonal closures are used as a key control in licensed recreational fisheries such as rock lobster, abalone, marron and South-West freshwater, but generally have not been applied to finfish.

Minimum size limits have been set for many species. These aim to protect fish until they mature and spawn at least once, and can be set to help enhance fishing quality.

However, many of the current minimum sizes were imposed when the biology of individual fish was not known, and as a result the minimum was often set at the smallest commercial size at which the fish could be sold.

Maximum size limits are used only for a small number of species (e.g. cod). These may provide valuable protection for larger specimens, which are the most prolific breeders for many species. The ability to determine appropriate size limits – and hence their applicability as a management tool – is limited by the biological information available for many species.

Since the implementation of statewide bag and size limits, recreational management packages have been developed in the West Coast Region for the Swan River and Cockburn Sound.

Management there includes a reduced daily bag limit for some species, slot limits and boat limits. These measures were introduced to provide more protection for some species following community concerns over exploitation rates.

Besides bag and size limits, the *Fish Resources Management Act 1994* contains a number of other general provisions which control the take by recreational fishers and may override the general bag limit provisions. For example, Section 50(3) of the Act states that:

*“A person must not take, or bring onto land or into WA waters, on any one day more fish than the daily bag limit of those fish”*

This provision restricts all fishers to landing a single daily bag limit, irrespective of how many days they may have been fishing from a boat or island.

However, this situation is not absolutely clear, as the *Fish Resources Management Act* regulations also provide a defence to this general rule for people who live on board a boat. This highlights the need to implement a simple set of rules that are uniform across the region, which is discussed in greater detail in Section 3.3.4.

## **2.6 Fishery management strategies – what works and how**

There are a limited number of management strategies that can be applied to recreational fisheries. Ultimately these strategies have one fundamental goal – to ensure that WA continues to offer a quality recreational fishing experience by managing the community’s share of the total catch within the limits a fish stock can sustain.

This section provides a brief outline of the major recreational fishery management tools used in WA, their strengths and their limitations. It is important to note that these tools are used in combination, and that often there is no single effective solution to any one issue.

Clearly these strategies also need to be part of an integrated management framework which manages the impact of all users – commercial, recreational, charter, and conservation – on the fish resources and their habitats.

### **2.6.1 Daily bag limits**

Bag limits set a social standard for a “fair day’s catch” for an individual angler. The limits on the west coast reflect social values when they were set in the late 1980s, but these values change over time in line with community views and expectations.

Bag limits have the capacity to reduce the rate at which an aggregation of fish or an area is depleted by fishing, and also help to share the available catch.

However, to be effective bag limits should be set at a level readily attainable for an angler of reasonable skill and knowledge.

Under current WA fishing regulations, bag limits can be accumulated over an unlimited number of days, and therefore do not constrain the total recreational catch.

Their limitations include the unknown mortality factors involved in catch and release fishing – especially for fish caught in deep water or played for a long time on light line. They also tend to be seen as unfair by anglers aiming to catch a maximum number of fish on any one occasion.

Depending on the level at which they are set, bag limits may assist in the sustainable management of our fisheries. However, the greater the number of people fishing, or the number of days spent fishing, the less effective bag limits are in managing either individual or total catches. In this context they serve mainly to set a social standard and highlight the need for conservation.

An additional weakness is the concern that, if used in isolation, they may simply make more fish available to the commercial sector by reducing the total recreational catch.

### **2.6.2 Boat limits**

Boat limits can be used to protect recreational species by restricting the total number of fish which caught during a fishing trip.



These limits have the capacity to reduce the rate at which an aggregation of fish or an area is depleted by fishing, given that the mobility of boat anglers and the advantages of modern fish-finding technology set the scene for potentially large catches.

Boat limits can also help to share the available catch.

The greater the number of people on a boat the more effective a boat limit becomes in restraining the recreational catch. However, this can also be seen as placing an unfair restriction on recreational fishers.

### **2.6.3 Possession and trip limits**

Possession and trip limits are a strategy to manage the total take of an individual angler on any one fishing trip. Put simply, a possession limit refers to a maximum limit an angler can have at any time in a defined area. A possession limit can be expressed either in total weight or in numbers of fish, or a combination of both.

Places of permanent residence and commercial premises may be excluded from possession limits.

Possession limits were originally introduced in areas such as the Ningaloo Marine Park to reduce the ability of anglers to accumulate commercial quantities of fish. Their major application was to eliminate “shamateur” quasi-commercial fishing and the storing and freezing of large quantities of fish in remote locations.

However, they have also been used in limited single-species fisheries elsewhere in the world effectively to establish a total recreational “quota”, usually in combination with a limit on the total number of participants.

Their weaknesses include the ability of anglers to transport fish unaccompanied without any effective constraint, and the evidentiary and legal issues inherent in proving possession.

Like bag limits they set a firm social standard for a recreational catch, but become less effective in managing the total catch as numbers of fishers or angler/fishing days increase.

### **2.6.4 Legal sizes – minimum and slot limits**

Minimum size limits are usually based on the breeding biology of a species, and are set to protect fish until they reach maturity and have been able to spawn at least once. They can also be set to help enhance recreational fishing quality by increasing the average size of fish available.

Size limits generally apply equally to the recreational and commercial sectors, but their effectiveness as a management tool is reduced in fishing gear such as set nets where there is a very high mortality. Their effectiveness also depends on voluntary compliance – particularly where filleting is allowed at sea and compliance checks are not possible.

However, some existing size limits are not set at the size at maturity and reflect the size at which some species are available for capture during a stage in their life cycle. This is particularly true in WA for species such as king george whiting and tailor, which tend to use estuaries and near-shore areas as nurseries, and migrate farther offshore as they mature.

There is increasing concern over the mortality of fish, particularly demersal species, taken from deep water and the appropriateness of size limits as a management tool for these species is being questioned.

Maximum size or slot limits are theoretically useful for protecting large breeding fish, or reducing the take of highly prized, and often rare, large specimens.

In a purely recreational fishery they have considerable merit, but in a mixed commercial/recreational fishing area or fishery they are unlikely to achieve the desired effect unless applied to both sectors.

Like minimum sizes and bag limits, the issue of mortality of fish returned to the water is of great importance.

### **2.6.5 *Closed seasons and closed areas***

Closed seasons have been widely used in licensed recreational fisheries and commercial fisheries as a means of containing total effort outside the peak fishing season, or to protect fish at important stages in their life cycle.

Their advantages are that they affect all fishers equally and effectively limit the opportunity to fish to a given number of days. Closed seasons have been widely accepted in the marron, rock lobster, trout and prawn fisheries.

However, it may be difficult to gain their acceptance in multi-species fisheries such as dhufish, and they may be ineffective if peak fishing seasons and spawning times are not clearly defined or consistent from year to year.

Closed areas may also be used to protect fish at crucial times such as during spawning; to protect populations of sedentary species; or to protect important fish habitats from the impact of human use. They have also been proposed as an alternative means of rebuilding depleted fish stocks.

However, their success depends on either widespread community support or effective compliance.

Both closed areas and closed seasons may limit all fishing, or limit only some types of fishing. Consequently they can also be used as a means of resource sharing and reducing community conflict.

### **2.6.6 *Gear and method restrictions***

Gear restrictions may limit the type of fishing gear that can be used, or limit the area and time in which defined types of gear may be used.

In recreational fisheries, gear restrictions aim to prevent the use of highly destructive fishing methods such as poisoning reefs and explosives, and highly efficient commercial-type fishing gear; and also to reduce conflict in some areas between incompatible fishing activities such as set netting and angling.

Fishing gear may also be designed to assist in the release of undersize fish and reduce the likelihood of injury. Examples include drop net bases for marron, defined wire scoops for crabs and marron, and the banning of treble hooks in some interstate fisheries.

Gear restrictions in line fisheries are harder to regulate. However, angler education in catch and release methods – including substituting plain limerick hooks for jag or treble hooks – and flattening barbs all helps to improve the survival rate of released fish.

Limitations on the quantity of gear an individual fisher can use are also a means of resource sharing and spreading catch opportunity.

Gear controls are an issue in spearfishing. In areas which have a high conservation value, such as marine parks, restrictions have been put on spearfishermen by prohibiting the use of compressed air or a complete ban. These measures are designed to protect vulnerable residential reef fish.

Spatial closures to limit or prohibit the use of commercial fishing methods in important recreational fishing areas are also a means of managing social conflict and resource sharing.

### **2.6.7 Licensing**

Licensing individual fishers is used worldwide as a key strategy in the management of many recreational fisheries, including five in WA.

Licences provide a readymade and accurate database for research and education. A database of recreational fishers can enable catch and effort information to be easily obtained as well as provide a direct mail list for advisory information. Licensing can also ensure that the level of funds for the management of recreational fisheries tracks the participation rate and consequently management demands in developing fisheries.

An additional use is licence cancellations and suspensions as a penalty for serious fisheries misdemeanors, and as a relevant means of reinforcing the need for ethical fishing behaviour.

Licences track participation rates accurately, and provide a basis for estimates of fishing effort, individual and average fishing success and total catches from a given fishery.

In the absence of a licensing system, random boat ramp and beachfront catch surveys and phone surveys provide similar data. However, these are subject to the availability of funds, and are rarely carried out regularly enough to maintain a long-term and accurate fishery monitoring program.

A licensing system for recreational fishers requires funds for implementation, continuing compliance and administration.

### **2.6.8 Education**

Community support for the sustainability of fish resources is a crucial factor in successful recreational fisheries management. Community education is the key process for the development of effective community stewardship.

Community stewardship can be evaluated against four criteria:

- The level of individual knowledge of what is required to ensure healthy fisheries.
- The attitudes and values which individuals hold in relation to fishing.
- The behaviour that people adopt when fishing.
- The level of community support for necessary changes to management.

In promoting a sense of stewardship for fish stocks it is essential that the fishing community needs to be properly informed of management decisions, and given a clear lead on the values and attitudes which will assist in sustaining fish stocks.

A wide range of education and awareness strategies can be used to promote a strong fishing conservation ethic and set social standards within the recreational fishing community. These strategies include community-based education programs such as the Volunteer Fisheries Liaison Officer (VFLO) program, school education programs, TV and radio advertising and information publications.

Any recreational fishing education program needs to recognise the crucial role that peer education plays in setting the social standards for fishing behaviour, and must be aimed at adults, not just children, with clearly identified key strategies and relevant messages.

An important element of these programs is that they are designed to deliver messages or reminders to recreational fishers at the time and place where these messages have the most relevance.

A prime example of this process at work has been the success of the VFLO program, which was established by Fisheries WA in 1993.

This program is a structured process of peer education that involves recreational fishers themselves encouraging a change in the knowledge, values and attitudes of individuals which, in combination, influence fishing behaviour. A crucial element in its success has been VFLOs speaking to anglers at beaches and boat ramps – that is, in areas where they are most receptive to messages on fishing.

### 3. THE PROPOSED RECREATIONAL FISHING STRATEGY

---

The working group decided that Fisheries WA's Recreational Fisheries Program business plan would provide an appropriate framework for a regional strategy.

The group canvassed a wide range of issues through the review process and identified the goals it believed the management strategy should set out to achieve. Many of these issues had been identified at a statewide level in other forums, including the RFAC planning days.

In developing management objectives the working group was conscious of the need to take a long-term view in planning for the future of recreational fishing on the west coast. To assist in this planning, the group developed a vision statement for the West Coast Recreational fishing Management strategy:

*To protect quality recreational fishing experiences on the west coast for all fishers now and in the future.*

#### 3.1 Guiding principles for management

##### Proposal 1 – Key principles for management

The working group believes it is important that recreational fisheries management in the region be based on the following key principles:

- *Government should ensure that adequate funding is available for comprehensive research and effective management of recreational fishing.*

The working group emphasises that WA's recreational fishing resources are a highly valued community asset. To protect their future quality the group believes it is essential that the government ensure adequate funding for effective management. There is a range of strategies to achieve this and these are discussed under Section 3.8.

- *A key aim should be to ensure that the biodiversity of fish communities and their habitats, and sustainability of fish stocks, are preserved.*

Management arrangements should take into account the biological characteristics of different species, their abundance, and the level of fishing pressure on them. Fishing should be encouraged across a range of species, permitting a higher take of robust species and limiting the take of vulnerable species. Management must pay heed to increasing recreational fishing pressure.

- *Fisheries management should incorporate controls and measures that anticipate and cover increasing numbers of recreational fishers and their impact on fish stocks.*

In the past, management has tended to react to problems as they arise. Now it must recognise projected increases in fishing pressure as well as impacts of planned developments in the region which may increase the number of visitors or focus fishing pressure in certain areas. The working group believes management strategies should be based on the impacts projected for the final year of each five-year plan.

As new information from research becomes available on biology or stock status, management should be modified accordingly.

- ***Management should be based on the best available information and, where critical information is unavailable, a precautionary approach should be adopted to minimise risk to fish stocks.***

The working group believes management must firmly encapsulate the precautionary principle.

In the recent debate over management of pink snapper stocks in the eastern gulf of Shark Bay it was argued that insufficient research was available to prove conclusively that stocks were in danger of collapse, and existing management should continue until “definitive” evidence existed.

The concept of precaution requires management authorities to take pre-emptive action where there is a risk of severe and irreversible damage to fish resources and the environment. In a situation of high potential risk and a lack or inadequacy of information, the concept of precaution requires the onus of scientific proof to be on those who intend to draw benefits from the resource and contend that there is no risk. This contrasts with the existing situation where management authorities may be subject to intense scrutiny to justify conservative management decisions without extensive research to support this need.

- ***Fishing rules should acknowledge the importance of equitable access to fishing opportunities across recreational user groups.***

The working group recognises that there is a wide range of recreational user groups who may have different values/requirements. These include local residents, visitors, boat fishers, shore-based fishers, charter boat clients, spearfishers, netters, gamefishers seeking “trophy” fish, or fishers seeking a wilderness-type experience to which a pristine environment may be as important as fishing quality.

A growing number of recreational fishers focus on quality and enjoyment of fishing and retaining a fish or two as a fresh feed, rather than accumulating large quantities of fish. The values of non-consumptive users of this resource, such as recreational divers, and passive users should also be recognised.

Fishing rules must address the relative impacts of users equitably, based on principles of ensuring “fair and reasonable” access to the resource.

- ***The value of recreational fishing should be clearly recognised and given proper weight in all government and community planning processes; for example, with regard to marine parks and industrial developments.***

The community must recognise the value of recreational fisheries in terms of both social and economic benefits. It is important that recreational fishing is documented as a legitimate use of fish resources and given due consideration in marine planning processes. Any development must be considered with regard to its potential impact on the aquatic environment and the quality of recreational fishing. Recent industrial developments in Cockburn Sound are one example where more consideration should have been given to the concerns of recreational fishers and the impact on recreational fisheries and fish populations.

- ***Fishing rules should be kept simple and, where possible and practical, made uniform across the region.***

Management strategies must be simple enough to be understood by the large numbers of occasional fishers and visitors to the region, while providing for effective conservation of the resource. Where possible, management should be consistent throughout the region.

The working group recognises that a wide range of compliance issues may arise from changing rules too frequently. However, it also noted that technology and fishing effort could change rapidly and there could be a need to react quickly to prevent over-exploitation. The group believes that a five-year review cycle for the plan would be appropriate, provided that there is flexibility to modify management as required if sustainability problems arise.

With recreational fishers comprising 36 per cent of the population, any new proposal for management will invariably attract some criticism and members agreed that it is important to manage the resource for the majority of community (including passive users of the resource). It is essential that management adopt least-risk options to protect sustainability of stocks, rather than focusing on preserving fishing rights of one or more user groups or sectors.

- ***Recreational fishing rules should be designed to protect the sustainability of stocks and manage the total recreational catch, as well as protect fish at vulnerable stages in their life cycle – for example, during spawning aggregations.***

There is no ceiling on the total recreational catch under existing management. In the face of increasing recreational effort, it will become necessary to manage the total catch to ensure stock sustainability and preserve fishing quality. It is essential that there is a spirit of co-operation with the community – new management must take into account community attitudes and values. This should also be reflected in commercial fisheries management.

- ***Benefits from management of the total recreational catch should flow back to the recreational sector and be reflected in maintaining or improving fishing quality and sustainability.***

Benefits in recreational fishing quality accruing from controls on the recreational take must not simply flow across to the commercial sector.

Situations have occurred in the past in which the recreational catch has been restricted, only to see a greater share of the available catch taken by the commercial sector. The Cockburn Sound crab fishery and the metropolitan abalone fishery are two examples where this has occurred. Developing resource sharing arrangements is covered in detail in Section 3.5.

- ***Clear processes should exist to resolve resource sharing issues which support the integrated management of fish stocks.***

The working group is aware that it was outside the scope of this review to adequately resolve resource sharing and allocation issues, and that a clear process should be developed by government as a priority to resolve such issues. The group believes that this will help to protect the future quality of recreational fishing and ensure equity in catch as determined by government policy.

## **3.2 Information for management – catch and fishery performance**

### **Goal**

To achieve an adequate level of information for management and an effective review process.

**Key issues and comments raised in public meetings**

**COMMENTS**

- localised depletion of fish stocks, e.g. snapper in Kalbarri
- fishing club records point to a decline in catches of certain species
- most people do not achieve their bag limits
- need for definition of trip limit, possession limit – what does it mean; when, where and how
- current rules are complex
- data on catches available from local fishing clubs
- need for more enforcement officers for finfish fisheries
- need for research to justify changes to management
- need to monitor catch levels
- rules should be kept simple where possible
- need for people to coordinate community-based research programs
- widespread log book program for recreational fishers
- involve fishing clubs in research programs
- structure research program into key recreational species
- management should be clear and easy to understand
- fishers and community groups should be involved in research programs
- development of a research priority plan which involves all stakeholders

**Key issues and proposals**

The working group believes it is critical that good quality time-series data on fishing activity, catches, and fish population structure is developed for all recreational fisheries. The need for this information was highlighted at every public meeting.

This type of information is essential for understanding what is being caught by the recreational sector and assisting with the resolution of fishery management and resource sharing issues.

Fisheries WA completed a 12-month creel survey of boat-based recreational catches between Kalbarri and Augusta in 1996-97. Though this survey provided valuable baseline information, data on recreational fishing impacts on the west coast is far from complete. Comprehensive creel surveys of shore and boat anglers should be repeated regularly to assist in monitoring fisheries and evaluating management.

Detailed 12-month catch surveys for such a large region as the west coast cost about \$250,000 each and involve using a significant proportion of the resources of Fisheries WA research and compliance officers. However, despite the substantial cost the working group believes that such surveys should be conducted at least every three years, given that the region has to absorb the greatest fishing pressure along the WA coast.

The working group noted that with over 400 000 people fishing recreationally throughout the west coast each year, the risk of overall fishery depletion around the state is highest in this region. Such risk is compounded by the rate of coastal development and resulting pressures on fish stocks. As an example, the planned expansion of the Perth metropolitan area includes a new satellite city to be built around Two Rocks and Yanchep.

Based on existing participation rates, an additional 150 000 residents up there could mean a further 50 000 fishers in the Two Rocks area.



The group believes it is important to monitor fishing effort and catch within the three-year surveys to detect any changes in fishing patterns or stock status. Continuous monitoring would help detect potential management problems before a crisis emerged. During the public meetings, anglers and fishing clubs alike expressed a strong desire to assist with the collection of catch and effort data.

It is proposed that VFLOs participate in research programs to gather information on fisheries. One example where this has occurred is in the Cockburn Sound snapper fishery. The volunteer angler logbook program could be expanded to all key recreational fishing centres across the West Coast Region and a comprehensive data collection system established for fishing clubs.

A national recreational catch survey is being developed, but the working group doubts whether this will provide enough detailed information to assist in regional management of WA fisheries. It believes that the regional catch surveys being undertaken by Fisheries WA will provide more detail.

The group notes the final report of the *Future Management Arrangements for the Aquatic Charter Industry* and supports the recommendation that all aquatic charter operators submit a periodic and detailed logbook to Fisheries WA. The logbook would include the number of people fishing, numbers of fish kept and released, and length/frequency information.

### **Proposal 2 – Major catch survey**

*A major recreational catch survey should be undertaken every year for a minimum of three years to establish a baseline data set for recreational fishing in the west coast.*

*The major catch survey should then be repeated every three years at a minimum to provide detailed information about the spatial and temporal distribution of recreational activity and catches on which to base management decisions.*

As a subset, information should be collected annually on indicator species and areas to monitor recreational fishing quality.

### **Proposal 3 – Volunteer angler logbook program**

*Fisheries WA should introduce a comprehensive volunteer angler logbook program to all key recreational fishing centres in the West Coast Region to provide additional monitoring of trends among regular fishers.*

### **Species Biology**

The working group is concerned that only a limited amount of biological information is available for many of the species sought by recreational anglers in the west coast.

A considerable amount is known about the biology of some key species, including tailor, herring and salmon. However, little stock assessment information is available for most species. A summary of known biological parameters for key recreational species in the west coast is provided in Appendix C.

The group believes that research programs must be designed to meet management objectives agreed to by user groups. To provide a focus, the group has identified a list of priority species for research.

It acknowledges the difficulty of obtaining the necessary funding from within the existing recreational fishing program budget, particularly at a regional level, and notes the need for alternative funding sources to allow research in the near future.

#### **Proposal 4 – Priority species for research**

*Research be undertaken on key recreational species in the west coast – in order of priority – to provide information on species biology and stock structure. Predictive fisheries stock assessment models and, where practical, indices of recruitment, should then be developed for the following important species:*

##### **Offshore**

1. dhufish
2. pink snapper
3. king george whiting
4. baldchin groper
5. breaksea cod

##### **Inshore/beach**

1. tailor
2. herring
3. skipjack
4. whiting
5. mulloway

##### **Estuarine**

1. black bream
2. flathead/flounder
3. crabs
4. whiting (all species)

#### **Quality Indicators for Recreational Fisheries**

Management has tended to be reactive in the absence of detailed information on the biology of species or status of many stocks. The working group believes ‘fishing quality indicators’ should be developed to monitor recreational fishing in the west coast and measure effectiveness of management strategies.

It is proposed that information be collected on a group of important estuarine, inshore and offshore ‘signature’ species. The group suggests the following mix: tailor, herring, sand whiting, black bream, dhufish, blue manna crabs, pink snapper and baldchin groper.

Quality and diversity indicators should encompass the level of fishing activity, fishing success of anglers, the relationship of catches to bag limits, the range and number of species caught each trip, and the range of sizes for each key species caught.

Value indicators should encompass participation levels, including estimates of the number of recreational fishers who fish in the west coast each year, the number of days fished, and expenditure by fishers in the region.

#### **Proposal 5 – Fishing quality indicators**

*A range of ‘fishing quality indicators’ based on angler surveys be developed to identify trends in fishing quality in the region and assist in the review of the effectiveness of this strategy.*

*These indicators should cover fishing quality, diversity and the value associated with the fishing experience.*

It is proposed that these species be used as key indicators:

##### **Offshore**

Dhufish  
Pink snapper  
Baldchin groper

##### **Inshore/beach**

Tailor  
Herring  
Sand whiting  
King george whiting

##### **Estuarine**

Black bream  
Blue manna crabs

Besides providing quality indicators based on catch rates and fish sizes, the range of species selected will also provide good information on offshore, inshore and estuarine fishing. Data should be collected annually.

### 3.3 Protecting vulnerable fish and managing the recreational catch

#### Goal

To achieve management strategies which will protect vulnerable fish and manage the recreational catch.

#### Comments and key issues raised at public meetings

COMMENTS
<ul style="list-style-type: none"> <li>• tailor minimum size below biological size at maturity</li> <li>• look at the possibility of developing separate management zones within the west coast</li> <li>• recreational fishers should be allowed to accumulate rock lobsters because of the off season</li> <li>• boat limits are not appropriate when large numbers of people are on a boat</li> <li>• migrating fish such as salmon and herring are caught before they have a chance to spawn</li> <li>• bycatch of small fish in haul nets used in marine area</li> <li>• management needs to take into account of increases in technology</li> <li>• mortality of released fish</li> <li>• bycatch of crabs and juvenile fish in prawn drag nets</li> <li>• communication of research results to community</li> <li>• look at closing areas where spawning aggregations of fish occur</li> <li>• no-fishing zones appropriate in key conservation areas</li> <li>• “rest areas” – closed to fishing and then reopened</li> <li>• drop the size limit on dhufish and restrict to bag limit only</li> <li>• boat limits may be appropriate</li> <li>• ban all set netting and haul netting in Geographe Bay</li> <li>• ban drag nets in estuarine systems</li> <li>• reduce the bag limits</li> <li>• increase minimum legal size of mulloway and king george whiting, and establish minimum lengths for bread and butter fish</li> <li>• use boat limits to control excessive catch</li> <li>• possession limits – mixed levels of community support</li> <li>• landing whole fish restricts the quantity of fish which can be landed</li> <li>• closure to fishing in key nursery areas</li> <li>• slot limits to protect big fish</li> <li>• barbless hooks should be considered</li> <li>• spawning closures may be appropriate</li> <li>• development of code of conduct for anglers, incorporating catch care</li> <li>• impact of large-scale fishing competitions on fish stocks</li> <li>• impact of fishing competitions on seasonal availability of fish for other recreational fishers</li> <li>• catch handling and catch care and the dumping of fish targeted for prizes</li> <li>• the commercial nature of some competitions</li> <li>• poor public image of recreational fishing generated by poor practice during fishing competitions</li> </ul>

**Key issues and potential solutions**

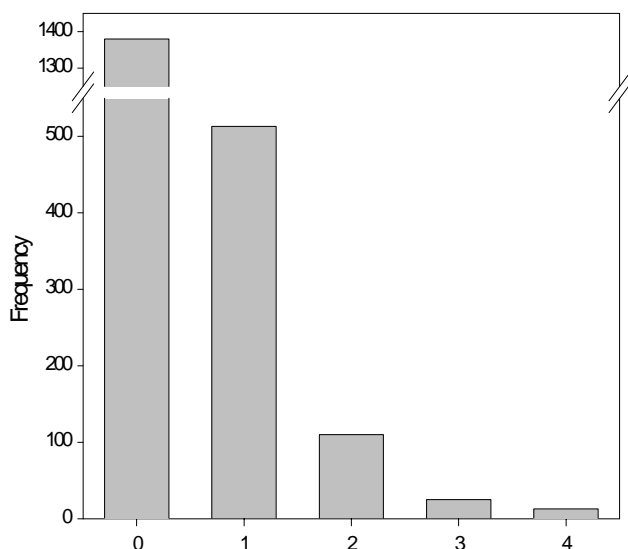
**3.3.1 Bag limits**

Application of bag limits as a strategy for managing the recreational catch of marine finfish largely came out of a major review of recreational fishing completed by the inaugural RFAC back in 1991.

The working group acknowledges that the current range of daily bag limits have widespread support, but also believes that they do not constrain the total recreational catch in any significant way.

This can be demonstrated in the disparity between the bag limits and what is actually taken by recreational fishers. Dhufish catch data from the 1996 west coast boat survey (Sumner and Williamson 1999) illustrates this point. Figure 3.3-1 illustrates the number of dhufish kept per boat per trip.

**Figure 3.3-1 Frequency of dhufish caught by boat fishers**



Based on these figures, there would be little effect on the total recreational catch if the bag limit was halved to two.

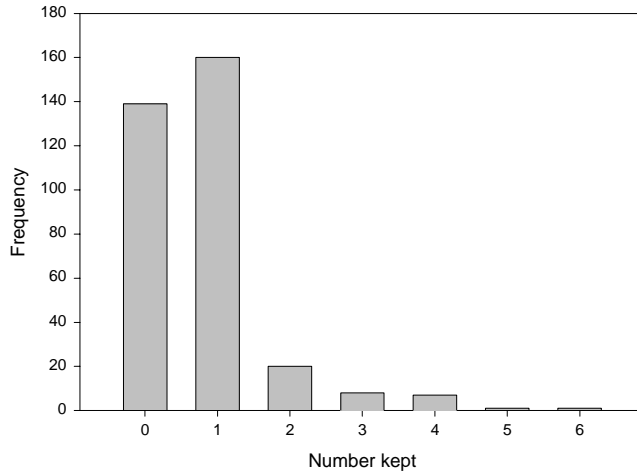
The creel survey provided the following information on the catch rates for dhufish

- 52% of boats targeting dhufish were unsuccessful
- 48% of boats targeting dhufish are responsible for 100% of the recreational boat catch
- 68% of anglers targeting dhufish are unsuccessful
- 32% of anglers targeting dhufish are successful at catching at least one dhufish.
- the average catch of dhufish for people targeting dhufish is 0.42 fish per person
- the average catch of dhufish per person on those boats having a successful trip was 0.87 fish per person

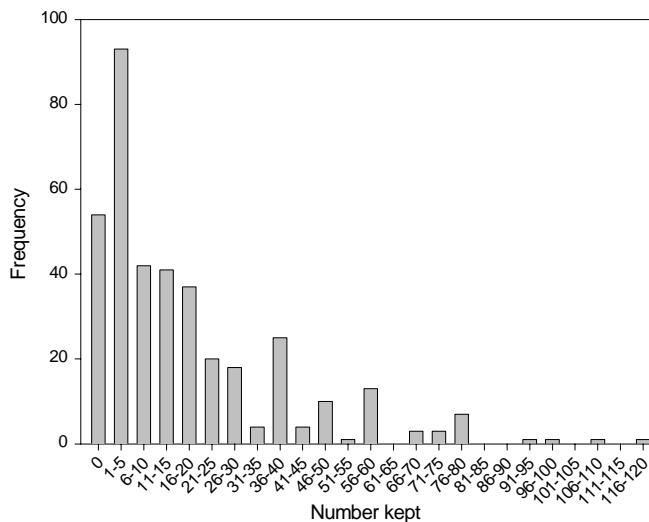
However, the working group believes strongly that if individual daily bag limits were reduced to a level which could impact on the total recreational catch – for example, one dhufish – there would be little support from the recreational community. This would be due to a perceived impact on the quality of the recreational fishing experience, and a risk that this forgone catch would simply be taken up by the commercial sector.

Catch rates for other highly prized species, such as pink snapper, are similar to dhufish. The more abundant the species, the greater the catch rate. However, in all situations the average catch rate is less than half the current bag limit. The boat-based catch of people targeting pink snapper, herring and whiting from the 1996 west coast boat survey (Sumner and Williamson 1999) is illustrated in Figure 3.3-2 - Figure 3.3-4

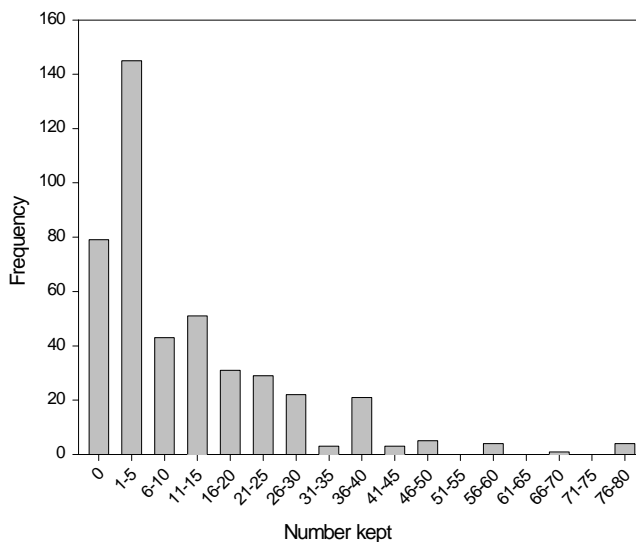
**Figure 3.3-2 frequency of snapper caught by boat fishers**



**Figure 3.3-3 Frequency of whiting (other than king george) caught by boat fishers**



**Figure 3.3-4 Frequency of herring caught by boat fishers**



The working group believes that bag limits should be seen as part of a total management approach. As recreational fishing pressure continues to grow there may need to be more emphasis on input controls – such as restricting the seasons people can fish – rather than further reductions in bag limits.

Another issue highlighted was the inability to contain offshore catches to specific species. For example, anglers seeking dhufish might catch a pink snapper, baldchin groper or breaksea cod. In deep water, possible mortality becomes an issue. Consequently it is the working group's opinion that mixed bag limits should apply where possible.

Further, existing bag limits could be simplified by reducing the number of categories.



The group proposes these principles to provide a framework for setting bag limits:

- Bag limits should be obtainable by reasonably skilled anglers
- Limits should be set at a level to ensure long term sustainability
- They should be set around what is a fair and reasonable feed for a family
- The recreational catch must have a meaningful relationship to bag limits
- Limits should reflect a precautionary approach to management

The proposed 'Trophy fish' and 'Prize fish' categories attempt to simplify the current bag limit structure. A move to mixed bag limits reflects community desires and also helps to simplify management.

Many of the species in the Trophy fish category are slow growing and highly sought after. Though the total stock structure for the different species is not known, there are concerns over the sustainability of important fish such as dhufish and spanish mackerel.

The mixed bag limit of four Trophy fish is set at more than eight times the average catch for dhufish of 0.42 fish per person (Sumner and Calligaro 1999), and at more than 12 times the average catch for snapper of 0.27 fish per person (Sumner and Williamson 1999).

Given the overall numbers fishing, the proposed bag limits are not likely to significantly restrain the total recreational catch, however they will assist in protecting fish while they are aggregating, sharing the catch among anglers, and extending the quality of the fishery.

**Proposal 6 – Bag limits****6(a) Trophy Fish**

<b>Trophy fish</b>	
Mixed bag limit of 4	
<i>These fish are highly sought after for catching or eating qualities and are vulnerable to overfishing</i>	
<i>Species</i>	<i>Slot limit</i>
Dhufish	
Groper and tuskfish	
Breaksea cod	
Blue groper (bag limit 1)	
Coral trout	
Red emperor	
Cods – rankin, estuary .....	max size 1.2m
Queen snapper	
Red snapper/nannygai	
Mackerel, spanish, wahoo	
Mackerel, shark and school	
Mulloway.....	only 1 over 70cm
Spangled emperor/north-west snapper	
Pink snapper .....	only 2 over 70cm
Samson fish	
Cobia	
Sharks .....	max size 2m
Tuna – southern bluefin, yellowfin, bigeye, dogtooth, bonito	
Marlin, blue, black and striped	
All billfish (e.g. sailfish, swordfish)	
Barracuda	
Mahi mahi	
Salmon	
Yellowtail kingfish	

**6(b) Prize fish**

<b>Prize fish</b>	
Mixed bag limit of 16 eight of any one species	
<i>These fish are prized by recreational fishers or of relatively low abundance and require protection to minimise local depletion.</i>	
<i>Species</i>	<i>Slot limit</i>
Tailor .....	only two over 50cm
Flathead	
Flounder	
Bream, black.....	only four over 40cm
Bream, silver (tarwhine)	
Cobbler and catfish	
Pike/snook	
Skipjack trevally	
Leatherjacket	

**TABLE FISH**

Under the revised Table fish category the working group has put forward two proposed structures and seeks community opinion on them.

There are no immediate concerns on stock sustainability in the Table fish category. However, it should be noted that stocks are finite and only a limited number of fish are available to be caught. The proposed mixed bag limit for Table fish under Option A (40 fish) is six times the average catch for common fish such as herring and sand whiting

The species in this category are primary targets for many of the 400 000 people fishing the west coast each year. It is estimated that the recreational catch of herring in the region is 500,000 fish a year. The proposed mixed bag limit of 40 would allow for 12 500 bag limits of herring a year.

The proposed mixed bag limit options reflect what members of the working group believe is a fair and reasonable feed for a family. For example, 16 herring will yield 1kg of fillets which will provide a family of five with 200g or just over six fillets each.



**6(c) Table fish**

- *Baitfish of the sardine and anchovy families (Clupeidae and Engraulididae -- mulies, whitebait, scaly mackerel, anchovies) are not included in this category. For these species it is proposed that the bag limit of 9 litres applies.*

***Option A table fish***

<b>Table fish</b>	
Mixed daily bag limit of 40	
Not more than 30 of any one species	
<i>These fish are of higher abundance and highly sought after</i>	
<b><i>Species</i></b>	<b><i>Slot limit</i></b>
Herring	
Garfish	
Whiting – western sand, school and yellowfin	
King george whiting .....	only four over 35cm
Mullet – sea and yelloweye	
Blue mackerel	
All species other than baitfish or those listed in other categories	



**Option B table fish**

<b>Table fish</b>	
Mixed daily bag limit of 30	
Not more than 20 of any one species	
<i>These fish are of higher abundance and highly sought after</i>	
<i>Species</i>	<i>Slot limit</i>
Herring	
Garfish	
Whiting – western sand, school and yellowfin	
King george whiting .....	only four over 35cm
Mullet – sea and yelloweye	
Blue mackerel	
All species other than baitfish or those listed in other categories	

**CRUSTACEA**

**Blue manna crabs**

The working group notes that the blue manna crab fishery is the west coast’s largest recreational fishery, with an estimated annual catch of over 1.6 million crabs or 360 tonnes. Based on creel survey work conducted in the Peel/Harvey and Leschenault estuaries and the Swan/Canning rivers, catch rates vary significantly between estuary systems. Boat fishers in the Peel/Harvey achieve an average catch of 19 legal size crabs a boat, but the average boat catch in the Swan/Canning rivers is 5.9 crabs a trip (Malseed, Sumner and Calligaro, unpublished).

A 12-month creel survey conducted in the Peel/Harvey Estuary in 1998-99 estimated that the retained recreational catch of blue manna crabs was 1.3 million, or 289 tonnes, a year.

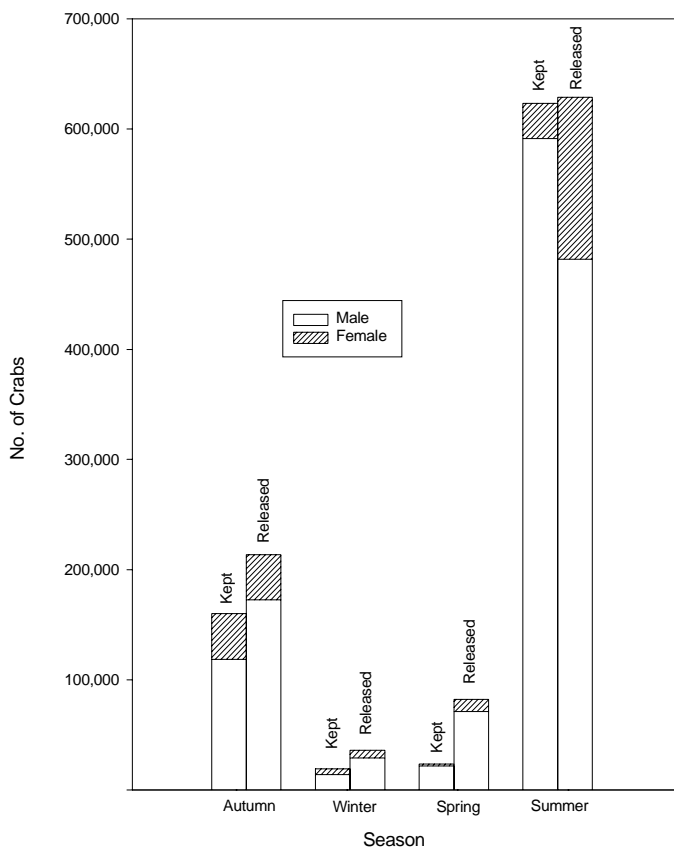
Results also indicated that throughout the year more crabs are released there than kept, so the numbers released exceed 1.3 million.

A creel survey conducted on the Leschenault crab fishery in 1998 estimated the retained catch at 219 000 crabs, or 45.7 tonnes. As with Peel/Harvey, more crabs are returned than kept.

The survey of the Peel/Harvey Estuary between August 1998 and July 1999 made the following findings:

- Few boats with two or more people on board (7%) achieved the current boat limit of 48 crabs. However, a greater proportion of boats with only one person on board (30%) achieved their limit of 24 crabs.
- The size limits are an effective catch control measure – substantial numbers of undersize blue swimmer crabs are released.
- Summer is the most popular time for recreational crabbing and angling in the Peel-Harvey Estuary.
- There was generally a high level of compliance among anglers and boat-based crabbers. However, 13% of shore-based crabbing parties kept undersize crabs. Very few fishers exceeded the bag limits.

**Figure 3.3-5 Catch of blue manna crabs in the Peel/Harvey Estuary**



There are no current concerns over the sustainability of crab stocks as they breed below the minimum legal size of 127mm in most estuaries. The working group considers the current individual daily bag limit of 24 blue manna crabs and boat limit of 48 to be excessive, and favours a reduction to a bag limit of 20 and a boat limit of 40. It believes these proposed limits still constitute a generous feed for a fisher and a family.

The group notes that the proposed boat limit is still twice the average boat-based catch in the Peel/Harvey Estuary.

**Rock lobster**

During meetings at Geraldton and Kalbarri, concern was expressed at the amount of rock lobster accumulated by some recreational fishers. In one reported incident, a recreational fisher had in excess of 800 frozen rock lobster stored at his residence.

The working group believes that large accumulations are not in keeping with recreational fishing ethics.

A Fisheries WA survey of recreational rock lobster fishers in 1999 indicated that the majority caught fewer than 20 rock lobster a season.

Results indicated that half of all divers catch fewer than 13 lobster a season, and half of all pot fishers fewer than 21 each season. Less than 10 per cent of all pot fishers were estimated to catch between 90-300 lobster a season.

The working group does not believe a reduction in the bag limit is warranted, given that the vast majority of fishers take only a small number of rock lobster each year. However, restricting the amount of lobster people can accumulate in their place of residence should be considered.

The group proposes a possession limit of 32 rock lobster. However, given that there are no immediate concerns over sustainability, and that the take is controlled by a closed season, boat limit and a minimum and maximum size, this proposal should be introduced only with strong community support. To help measure such support, the group proposes that recreational fishers be asked whether they favour a change to the current management of rock lobster.

### **Prawns**

Drag netting and scooping prawns is carried out by recreational fishers primarily in the Swan/Canning, Peel/Harvey and Leschenault estuaries. Recruitment and catches are variable in these estuaries.

The working group considers that the current bag limit of 9 litres for prawns provides a substantial meal for a family for many meals. Given that prawns are an annual crop, abalone is driven by environmental variables, there are no concerns about current breeding stock levels, and there is no data on the distribution of the recreational catch, it believes there is no need for any change to the current bag limit.

### **6(d) Crustaceans**

<i>Species</i>	<i>Current management</i>	<i>Proposed changes</i>
prawns, king & school rock lobster	bag limit 9 litres bag limit 8, boat limit 16,	no change <b>Option A.</b> Introduce possession limit of 32 <b>Option B.</b> No change
Crab, blue manna	bag limit 24, boat limit 48	<b>proposal</b> bag limit 20, boat limit 40

### **6(e) Cephalopods**

The working group believes the current bag limit for cephalopods is not excessive and should be retained. The average catch of squid per person is 3.29 (Sumner and Calligaro). There are no concerns over the sustainability of squid stocks. However squid are an annual crop which reach maturity and breed in their first year.

<i>Species</i>	<i>Current management</i>	<i>Proposed changes</i>
Squid, octopus, cuttlefish	combine bag limit 15 per fisher, boat limit 30	no change

## **SHELLFISH**

Recreational fishers seek a variety of shellfish such as abalone and mussels in the west coast region.

The working group acknowledges some community concern over the take of shellfish such as sea urchins from reef tops, particularly during the abalone season.

Due to the fact that shellfish are often slow growing and extremely vulnerable to over-picking from inshore reefs, it proposes that all non-edible shellfish be protected and not removed from the marine environment.

Current bag and size limits should apply for abalone and mussels, including the bag limit of two litres for edible shellfish.

### **6(f) Shellfish**

The current bag limit for abalone (possession limit of 20 Roe's abalone) and mussels (9 litres) should continue to apply. For the following species it is proposed that a daily bag limit of two litres should apply. The collection of all other shellfish and live corals should be prohibited.

- cockles
- razorfish
- scallops
- pipis
- sea urchins

### 3.3.2 *Size limits*

The working group examined whether existing minimum size limits are appropriate on the basis of available scientific information and their application to management.

As discussed in Section 2.6, size limits may be used in some situations as a tool to boost the average size of fish caught as well as to protect breeding stocks. This already occurs in the crab fishery.

It is proposed that the minimum size of baldchin groper be increased from 40 to 45cm due to this species being a protogynous hermaphrodite – that is, maturing as a female and then subsequently changing to a male around the minimum legal size of 40cm. Heavy fishing pressure has reduced the male population in locations such as the Abrolhos Islands, and an increase in the minimum size should provide extra protection for breeding males.

Proposed increases in the minimum size for species such as tailor and mulloway are still well below their size at maturity. However, they will provide additional protection for juveniles and are in line with views expressed at public meetings.

Introduction of a minimum legal size of 20cm for herring and sand whiting is designed to reduce the take of immature fish and help educate anglers about the importance of size limits.

The working group has considered carefully whether the minimum size limit for dhufish should be retained. Research conducted by Fremantle College of TAFE indicates that dhufish may have a low survival rate when released in water deeper than 20m. However, experiences from Underwater World and returns from the ANSA tagging program, where a number of dhufish have been released and recaptured from depths greater than 20m, indicate that release can be successful.

Research has indicated that dhufish first mature at around 35cm, and an estimated 50-60+ tonnes of undersize dhufish are released by recreational fishers each year. The working group is concerned that if a significant percentage of released fish are surviving, removing the legal size limit could impact on the sustainability of stocks.

Ultimately the group has decided that the minimum size for dhufish should be retained until a comprehensive mortality study is completed.

Size limits have been proposed for other fish which previously have not had any limits.

The working group believes that size limits on important recreational species such as mahi mahi (dolphinfish) and yellowtail kingfish will help protect immature fish and potentially boost the average size of fish caught. These size limits should be referred to other regional working groups for their consideration.



**Proposal 7 - Proposed changes to current minimum recreational legal size limits**

Species	Old size (cm)	New size (cm)	Size when 50% of the stock reach maturity (cm)
*baldchin groper .....	40	45	40
barracuda.....		60	not known
*blue groper .....	40	60	not known
*breaksea cod.....		30	not known
*cod, other.....		30	not known
king george whiting.....	25	28	36
herring .....		20	22
mahi mahi (dolphinfish).....		60	not known
mulloway.....	45	50	75
pike.....	28	30	not known
pink snapper .....	41	45	45
red snapper.....	23	25	not known
skipjack trevally .....	20	25	28
snook .....	33	30	not known
tailor .....	25	30	34
whiting, school and yellowfin.....		20	22
yellowtail kingfish.....		50	not known

\* Indicates fish which change sex (baldchin groper change from female to male at about 40cm)

The working group recommends that proposed changes to minimum legal sizes be negotiated with the commercial fishing sector and made consistent where possible.

**3.3.3 Filleting at sea**

During the public meetings concern was expressed over the landing of fish on islands such as the Abrolhos and Rottnest and then transporting them to the mainland.

This is the current situation under the *Fish Resources Management Regulations 1995*:

*Regulation 58(1) Subject to subregulation(2), a person must not have on board a boat, or bring ashore from a boat, any fish that have had the skin or scales removed.*

Under this regulation it is possible to process (fillet) fish at sea so long as the scales and skin are left on the fillet. It was raised with the working group that this is not always practical when staying for an extended period on an island and then transporting fish back to the mainland.

To protect juvenile fish, the group believes it is important that Fisheries officers can enforce minimum sizes at the boat ramp. To achieve this, filleting at sea should not be permitted. So that people may keep their fish in quality condition when staying on islands, enforcement of the minimum size should be at the point where the fish are first landed. Once landed, fish could be processed and transported from an island to the mainland.

Further to this the group believes that Regulation 58 is ineffective as a management measure and would serve no real benefit if filleting at sea was prohibited.

**Proposal 8 - Filleting at sea**

***Filleting of fish at sea should not be permitted. If a fishing trip involves an overnight stay on an island, fish caught can be filleted and then transported back to the mainland.***

### 3.3.4 *Accumulation of fish at sea*

How a daily bag limit applies to recreational fishers is covered under Section 50 of the *Fish Resources Management Act 1994*. With regard to fishing from a boat, subsection 50 (3) reads: *A person must not take, or bring onto land or into WA waters, on any one day more than the bag limit of those fish.*

Under Section 50 (3) fishers living on a boat cannot accumulate fish over an extended period and then land those fish. However, a defence to Section 50 (3) exists under Regulation 20 of the *Fish Resources Management Regulations 1995*. Under this regulation daily bag limits for the following species can be accumulated:

- |                     |                       |
|---------------------|-----------------------|
| 1. Coral trout      | 7. Australian salmon  |
| 2. Blue manna crabs | 8. Samson fish        |
| 3. Red emperor      | 9. North-West snapper |
| 4. Spangled emperor | 10. Pink snapper      |
| 5. Baldchin groper  | 11. Queen snapper     |
| 6. Blue groper      | 12. Tuskfish          |

The working group is concerned about accumulation of fish at sea, and the fact that this is largely unenforceable. It also creates a loophole – people could claim that they had been at sea for several days when arriving at a boat ramp with in excess of the daily bag limit. The group considers that bag limits should be enforceable, and that recreational fishers should not be allowed to accumulate fish at sea.

### **Proposal 9 - Accumulation of fish at sea**

***Recreational fishers should not be allowed to accumulate daily bag limits when living on board a boat.***

### 3.3.5 *Boat limits*

In the past decade there have been dramatic improvements in fishing technology which have had significant impact on the way people fish – particularly from boats.

The digital technology explosion of the late 1980s and 1990s has meant that small, inexpensive high-quality fish-finding and navigation equipment is readily available and widely used.

The 1996 west coast boat survey (Sumner and Williamson 1999) indicated that 36 per cent of all recreational fishing boats have echo-sounders on board, and that 12 per cent also carried Global Positioning Systems (satellite navigation).

Modern echo-sounders can scan sea floor features accurately at far greater speed than previously possible, and improved transducers and high-resolution LCD displays give greater accuracy for pinpointing reefs, dropoffs, or schools of fish. Interference from hull turbulence and waves has also been considerably reduced, and GPS position finders provide accurate locations on what was previously a trackless ocean.

Used in combination, GPS and modern echo-sounders considerably reduce the time taken to reach a given location, and more importantly the speed at which an area can be searched for either features or schools of fish.

This has resulted in a significant change in fishing practices. Instead of random drifts, boat anglers search actively and target reef habitats and aggregating fish.

Advances in technology have not only been limited to fish-finding equipment. The development of low-stretch gelspun and braided lines, chemically-sharpened hooks and sensitive carbon composite rods all improve the sensitivity of fishing gear and consequently hookup rates – particularly in waters deeper than 50m which were fished only infrequently by recreational fishers before the 1980s.

With technology likely to even further improve the accuracy with which anglers can pinpoint fish, the working group believes it is important to provide additional protection to vulnerable species – particularly demersals such as dhufish, baldchin groper and pink snapper. In the past, boat limits have been introduced on the basis of twice the daily bag limit for blue manna crabs, squid and rock lobster. The group suggests the same principle should be applied to finfish to assist in protecting fish stocks.

### **Proposal 10 – Recreational boat limit**

*A boat limit of twice the daily bag limit should apply to all species, when there are two or more people in a boat.*

#### **3.3.6 Charter boat fishing**

The charter boat industry is due to come under management from 1 July 2000. To date more than 500 individuals or businesses have expressed an interest in applying for a charter licence.

Bringing the charter industry under management will control the fleet size and limit charter operators to specific regional zones. All licensed operators will be required to complete catch and effort log books which will assist in the overall management of the fishery.

The working group recognises that the charter industry has an important role in providing recreational fishing opportunities for people who may not otherwise be able to experience offshore fishing.

The Charter Boat Owners Association expressed the view to the group that charter vessels are fishing platforms for recreational fishers, and therefore the charter industry should be managed as part of the recreational fishery.

Though accepting this philosophy, the group is concerned that the proposed boat limit could impact significantly on the ability of charter clients to catch quality fish, given the large carrying capacity of some charter boats.

Anecdotal evidence suggests that many charter clients make only one fishing trip a year and do not have access to large recreational fishing boats.

With charter boats on the west coast mainly targeting fish in the proposed Trophy fish category, the working group considers that when there are more than four paying charter clients on board a charter vessel, a mechanism should exist to allow limited take over and above the proposed boat limit.

### **Proposal 11 – Charter boat limits**

**11(a)** *That the boat limit proposed for recreational fishers apply. However, if there are more than four paying customers on board a licensed fishing tour, an additional two Trophy fish per person over and above the boat limit be permitted for the fifth and additional paying customers.*

*[Example: With six paying clients, the total allowable catch would be eight prize fish (boat limit) plus four additional fish, giving a total allowable catch of 12 fish.]*

**11(b)** *The same logic should apply to dive charters taking rock lobster, where a boat limit of 16 applies. It proposes that if there are more than eight licensed paying clients on a dive charter, the ninth and additional licensed paying customers should be allowed two lobsters each.*

**[Example:** Ten licensed paying clients, total allowable catch 16 (boat limit) plus four (two additional people) = total allowable catch of 20 rock lobster.]

### 3.3.7 Possession limits

While anecdotal evidence suggests that the vast majority of fishing outings conducted in the West Coast Region are just day trips, the working group is concerned about reports of large quantities of fish being accumulated during trips to the Abrolhos Islands and Kalbarri.

It says this practice is not sustainable and an effective method of controlling the recreational catch must be implemented to maintain stocks and protect fishing quality in the future.

Compliance management should be considered in any possession limit. A possession limit will not restrict take, and the accumulation of fish, if anglers transport fish out of the designated area and continue to amass a second or third possession limit.

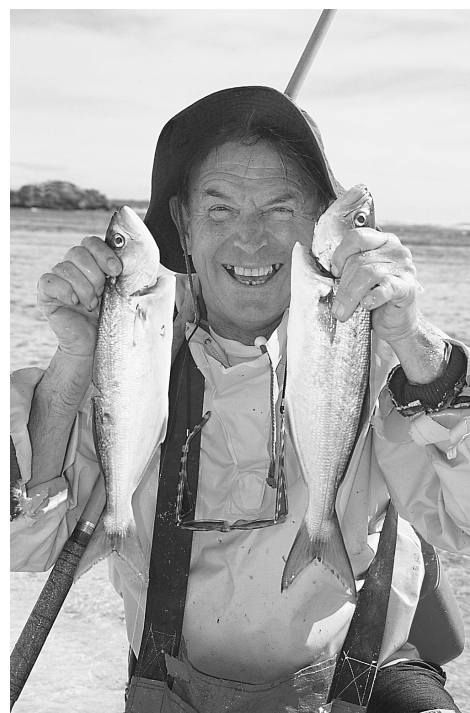
Possession limits specify the total number or weight of fish or fillets people may have in their possession at any given time. As such, these limits provide a more effective way of controlling the amount of fish that can be taken by each fisher. They also provide a valuable educational tool for sustainable management.

Possession limits were introduced at Ningaloo to recognise conservation values in the marine park and have been recommended for the Gascoyne Region. The working group believes that the majority of the community now accepts the need to restrict the total recreational take, and considers that there is widespread support for a possession limit as a key management tool.

Introduction of a possession limit would put a ceiling on the total amount of fish an angler could possess, which should help manage the exploitation rate from areas such as the Abrolhos Islands and Kalbarri.

In fact there is a strong case for ceilings on the total fish take, incorporating both the commercial and recreational sectors, to maintain sustainable stocks in face of increasing pressures on fish resources.

The working group believes that the existing Ningaloo limit of 17kg of fillets (or 10kg fillets plus seven fish) represents a significant quantity of fish for an individual to take home. A single possession limit of 17kg of fillets represents 85 meals of fish (assuming a 200g serve). For a family of four, this would provide one fish meal a week for five months. If two people from a family accumulated these limits, it would provide almost a 12-month supply; or more than three family meals a week for three months (three months is the recognised freezer life of fish before its quality diminishes).





The group notes that it would not be practical to establish a possession limit solely for Kalbarri and the Abrolhos Islands. It is important to recognise that these quantities represent the amount of fish each recreational fisher may take home at the end of a fishing trip; they do not include the amount of fish that may have been consumed while on holiday.

### **Proposal 12 – Possession limits for the West Coast Region**

- *20kg of fillets, or*
- *10kg of fillet plus one day's bag limit of whole fish, or*
- *two days' bag limit of whole fish*

Due to compliance management issues the working group recommends that the possession limit apply across the state, and that this recommendation be referred to other working groups for consideration. This possession limit is consistent with what has been proposed by the Gascoyne Working Group.

#### *Possession and trip limits: what's the difference?*

A possession limit refers to a defined quantity of fish, or parts of fish, which someone may have in their possession. The working group believes that this should apply to all recreational fishers in places other than a person's residence.

A trip limit refers to the maximum quantity of fish which a person may possess during a specific fishing trip.

Due to the difficulty of defining when a trip starts and finishes, the group has decided that a possession limit is the most appropriate management tool for the West Coast Region.

### **3.3.8 Closures to fishing**

In developing management strategies for the west coast, the working group has been concerned that changes to the minimum legal size and reduced bag limits alone cannot adequately manage the total recreational catch of species particularly vulnerable to overfishing.

On the basis of available information, the group is convinced that in two situations a closure to fishing would be appropriate to protect stocks.

Due to fishing pressure on male baldchin groper in some areas of the Abrolhos Islands the working group believes that, in addition to an increased size limit (see **Size limits, Proposal 7**), there should be a trial closure for four months covering December, January, February and March in the Fish Habitat Protection Area around the Abrolhos (Figure 3.3-6).

The closure period has been chosen to coincide with the spawning season for baldchin from December-February. In addition to protecting stock during spawning, the closure could assist with boosting baldchin numbers around the Abrolhos.

The working group also notes that some commercial rock lobster fishermen and their families have been permitted to line-fish in specific reef observation areas where fishing is prohibited to all other people. It believes this is inequitable and needs to be resolved through negotiation with the commercial fishing industry.

Community concerns have also been expressed during public meetings over a perceived increase in fishing pressure on Cockburn Sound snapper stocks.

Snapper aggregate in spawning schools when water temperatures start to increase each spring. Due to variations in water temperature, these aggregations and spawnings occur at different times along the west coast.

Anecdotal evidence suggests that the amount of fishing pressure on snapper aggregations in Cockburn Sound is increasing. This is obviously due to more fishing in the metropolitan area, no doubt prompted by press promotion of the aggregations.

Observations by Perth VFLOs in 1999 indicated that during the snapper run more than 100 boats were fishing out in Cockburn Sound each night. Snapper caught there during the spawning season were large, mature fish with an average size of 75cm.

Though the status of snapper stocks on the west coast is unknown, the working group believes a precautionary approach is warranted due to fishing pressure in the metropolitan area. It suggests that a trial closure for a six-week period would protect snapper stocks during this crucial stage of their life cycle. Any trial closure should be evaluated for effectiveness.

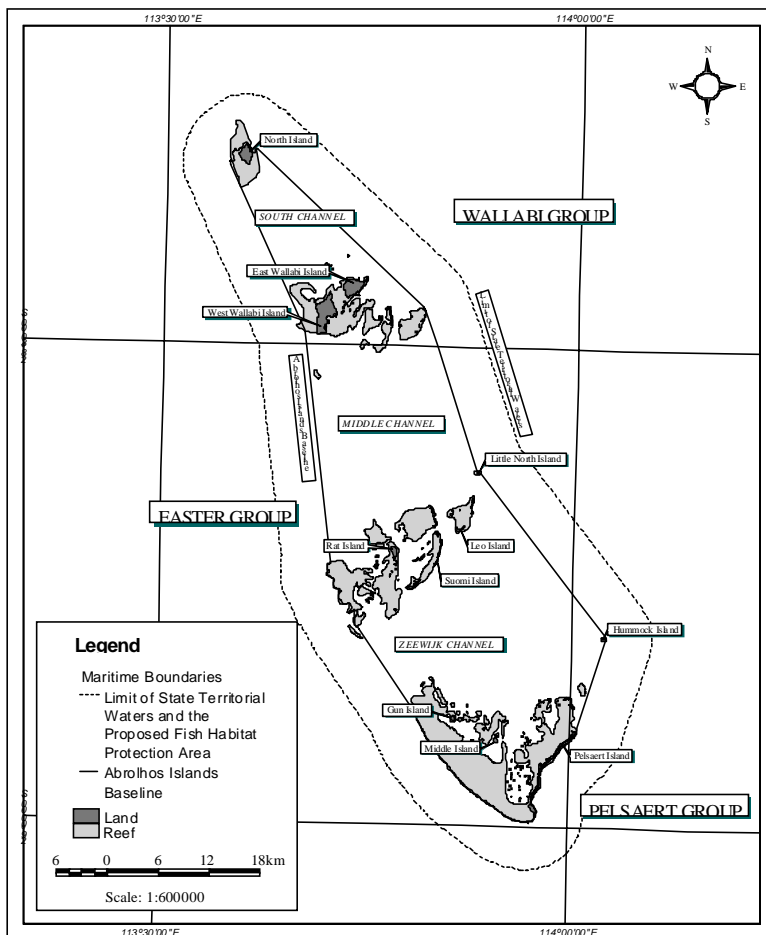
**Proposal 13 – Closures to fishing**

**13(a)** *Fishing for baldchin groper at the Abrolhos Islands should be prohibited within the Fish Habitat Protection Area during December, January, February and March.*

**13(b)** *Fishing for pink snapper should be prohibited from 15 September to 31 October between Cape Bouvard and Ocean Reef Marina.*

Both these proposals should be developed through negotiation with the commercial fishing industry.

**Figure 3.3-6 Abrolhos Islands – Fish habitat protection area**



### 3.3.9 *Net fishing*

The working group recognises that set netting for species such as mullet is popular in some estuarine and inshore areas. During the public meetings some community members expressed concern about the potential impact of netting in the West Coast Region, particularly in light of Fisheries WA research which indicated that there are significant bycatch issues with unattended netting in estuaries.

A netting review undertaken by Fisheries in 1994 recommended the phasing out of recreational net fishing in WA except where it could be shown that the target species could not be caught by rod or line. It also recommended that estuarine and beach areas dominated by prime angling species be given priority in the phase-out process. The working group has endorsed these principles and believes they should be implemented in the west coast.

Haul and set netting should be prohibited throughout the region except in two areas where nets could be modified specifically to catch mullet. These areas are:

- The Peel/Harvey Estuary.
- The Hardy Inlet and Blackwood River

Given that mullet are sought elsewhere along the west coast, the group seeks community opinion on whether other areas should be set aside for netting mullet.

#### **Proposal 14 –Set and haul net fishing**

Set and haul nets be prohibited for recreational fishers in the west coast except for attended set nets in the Peel/Harvey Estuary and the Hardy Inlet.

*Within the Peel/Harvey Estuary and Hardy Inlet outside existing closures, attended set nets be permitted. Set nets should have a maximum drop of 25 meshes and float from the surface. All attended nets must be lifted and cleaned every hour.*

Throw nets be permitted in marine waters throughout the region (except for any estuarine and river systems and ‘no fishing’ zones such as sanctuary zones and fish protection areas).

### 3.3.10 *Hand trawl nets for prawns*

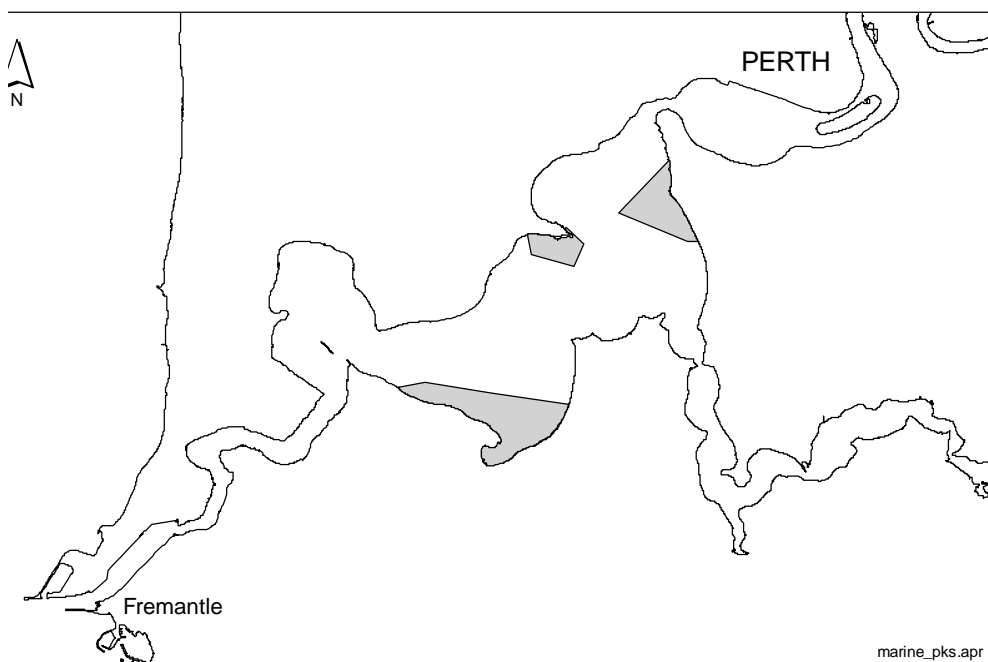
The Peel/Harvey and Leschenault estuaries are focal areas for many of the 80 000 people estimated to go crabbing between Perth and Geographe Bay.

In addition, these important waters are popular with fishers seeking prawns with hand trawl nets – commonly known as prawn drag nets. However, during summer there is a significant bycatch of undersize and size crabs in hand trawl nets. Crabs are easily tangled and damaged by the soft mesh of the nets.

The Peel RFAC wants drag netting for prawns prohibited in the Peel/Harvey Estuary, and community members also expressed concerns about the crab bycatch in the Leschenault Estuary.

As a result, the working group urges that drag netting for prawns be prohibited in both these major estuaries. It also believes that drag netting should not be allowed in sensitive habitat areas around nature reserves on the Swan River.

**Figure 3.3-7 Nature reserves on the Swan River**



**Proposals 15 – Prawn drag nets**

*Hand trawl nets be prohibited for recreational fishers in the Peel/Harvey and Leschenault estuaries.*

*Hand trawl nets be prohibited for recreational fishers in the waters adjoining nature reserves on the Swan River.*

**3.3.11 Fishing gear**

The working group considers there is general support for the current allowable gear and supports in principle the different forms of gear used.

It proposes two changes: to prohibit the use of unattended lines secured to boats, which it believes is not within acceptable recreational fishing ethics; and to allow recreational fishers to use one attended bait trap per person. These traps are used mainly to catch prawns and small fish for bait in salt water.

Illegal fishing gear	Legal fishing gear	Proposed changes
<ul style="list-style-type: none"> <li>• unattended lines or nets</li> <li>• explosives, firearms, fish poisons, or jaggings</li> <li>• crab and cobbler pots</li> <li>• fish traps and dredges</li> <li>• commercial fishing gear, such as purse-seine nets or trawls</li> </ul>	<ul style="list-style-type: none"> <li>• no more than three hooks or gangs per line.</li> <li>• a maximum of one set, drop line attached to each boat.</li> <li>• from shore a maximum of two lines per person</li> </ul>	<ul style="list-style-type: none"> <li>• no unattended set lines should be allowed</li> <li>• one attended bait trap per person (salt water only)</li> </ul>

## Proposal 16 – Changes to legal fishing gear

*Unattended set lines to be prohibited; one attended bait trap per person (salt water only) – bait trap to be defined.*

### 3.3.12 Fishing competitions

A number of concerns have been raised about fishing competitions.

Key issues identified include:

- The potential impact of large-scale fishing competitions on stocks, and the risk of localised, serial or seasonal depletion of key species.
- Impact of fishing competitions on the seasonal availability of fish for other recreational fishers.
- Catch handling and catch care and the dumping of fish targeted for prizes.
- The continuation by some clubs of “heaviest bag” or quantity-based competitions, in which points or prizes are awarded for the take of large numbers or weights of key recreational species.
- The commercial nature of some competitions, with revenue raised from entry fees and sponsorships used to benefit clubs.
- The effect of these issues on the general community’s view of recreational fishing.
- A growing interest in commercial-scale competitions which attract thousands of entrants, offer significant prizes, and attract major sponsors.

The working group accepts that competitions have an intrinsic place in the activities of fishing clubs, and that there is considerable variation in the nature and scale of competitions.

It also notes that there has been a significant change in competition practices over the last ten years. Many clubs have adopted codes of practice and rules that generally specify lower bag limits and higher minimum sizes than those required by current regulations.

Clubs have also voluntarily contributed data on catch and effort from field days and competitions to Fisheries WA’s recreational fisheries database.

The working group has identified a number of distinctly different types of fishing competitions run in the West Coast Region. These include:

1. Fishing club monthly competitions (field days) with only club members taking part.
2. Inter-club competitions – for example, Whitfords v Marmion – also involving only club members.
3. State fishing titles including members from a number of clubs affiliated with a state or national association for a particular type or code of fishing. Examples are the Australian Anglers Association (AAA), Australian National Sportfishing Association (ANSA) or the International Game Fishing Association (IGFA).
4. Competitions open to the public, often attracting large numbers of people and based on a particular area or range of species. There are usually entry or registration fees, and commercial sponsorship in cash or kind is sought. Some of these big competitions are organised by fishing clubs, and others by commercial promoters, local tourism interests or local government. Quite often there are significant prizes such as boats, vehicles or fully-paid holidays.

There is considerable concern over public competitions which attract big numbers of people, raise funds and encourage contestants to catch fish primarily for prizes, rather than for human consumption.

Competitions mentioned specifically include the Mandurah Crab Fest, the Marmion Bluewater Classic, Swan Fish, and the Mandurah offshore boat fishing competition.

These attract significant numbers and appear to be commercial fund-raising or promotional ventures, with revenue or sponsorship benefits channeled back to cover organisation costs and profits used to fund club facilities or activities.

The working group is also concerned about a number of reports of fish being dumped at the end of competitions, and of fish not being in an edible condition after weigh-in.

Dumping fish and poor catch care are clearly outside recreational fishing ethics, not in keeping with general community values, and should not be condoned under any circumstances. The onus of ensuring appropriate competition practices clearly rests with competition organisers and individuals involved.

Specific concerns have also been expressed to the working group over the AAA State Boat Fishing Titles held at Jurien Bay in March 2000, and issues associated with catch handling and fish dumping. Fish thrown on to a local tip after this competition and the negative reaction of the Jurien community was reported on 15 March 2000 on the front page of *The Central Midlands Advocate*.

The group also notes that draft animal welfare legislation is before State Parliament which may require the development of a formal code of humane practice for the handling of fish under Fisheries Regulations. Non-compliance with such a code may attract significant penalties.

The working group sees a need for a formal data collection and registration system to gauge the relative impact of competitions on fish stocks. Such a system would also allow Fisheries WA to manage the frequency and impact of large public competitions, should this be needed.

There is a clear distinction in potential impact and the need for a discrete fisheries management strategy between big and small competitions.

Club competitions, which involve only club and association members, are generally well managed within standards and rules, and given the comparatively low participation rates can be viewed as just a component of normal recreational fishing effort.

However, if participation in a competition exceeds 100 anglers there should be close monitoring of catch and effort.

When a number of competitions of this scale are held in a confined area or over consecutive weekends, there are also issues of localised stock depletion and catch sharing. These matters may require management action.

Repeated large-scale crab fishing competitions involving several hundred fishers in an area such as the Peel-Harvey Estuary over successive weekends illustrate this issue.

Fishers at the first competition are likely to enjoy high catch rates of legal crabs, but may effectively remove a substantial proportion of the legal-size crop of crabs available in the estuary. Subsequent competitions are likely to encounter a declining catch rate of size crabs, and an increased proportion of undersize, creating an instant demand for Fisheries compliance.

In addition, such concentrated fishing during the competition would probably take a disproportionate share of the available catch, raising catch sharing and equity issues with other resource users.

Further, if large-scale fishing competitions are based on spawning aggregations of key species such as pink snapper they may have a significant impact on stock sustainability.

A management plan introduced for the fishing tour and charter industry has defined the maximum capacity per licence as 20 passengers. Consequently, a fishing competition involving 100 anglers over two days is comparable with five additional fishing charter boats operating in a given area over a short period of time.

Due to the number of boats involved, competitors would cover a big area in their search for fish, with their effectiveness aided by efficient radio communication and GPS plots.

In view of this the working group believes there is a strong case for compulsory registration of large-scale fishing competitions with Fisheries WA, and for the establishment of a formal competition catch-and-effort monitoring system.

The working group urges that all fishing competitions be conducted in line with recreational fishing ethics and values.

There should be a standard code of conduct developed with angling clubs. This code, together with the national recreational fishing code of practice, could meet whatever standards are required under animal welfare legislation.

### **Proposal 17 - Fishing competitions**

- 17 (a) *All fishing competitions with more than 100 participants must formally register in advance with Fisheries WA.***
- 17 (b) *Competition organisers must keep an accurate record of participation, catch and effort and forward catch returns to Fisheries WA for inclusion in the recreational fisheries database.***
- 17 (c) *Fisheries WA should develop a formal code of conduct for fishing competitions in consultation with fishing clubs and organising bodies. Competitions must be conducted in line with recreational fishing ethics and meet requirements under the Animal Welfare Bill.***

#### **3.3.13 *Recreational fishing by indigenous people***

The working group recognises that in the past there has been some anxiety expressed in the general community over what Aboriginal people can and cannot do as traditional users of fish resources.

The group considers that a position statement on this issue should be put forward for community discussion.

It should be noted that the following position statement was developed after an address to the working group by a member of the Aboriginal community. It is seen as a basis for discussion with the Aboriginal community.

### Proposal 18 – Position statement on recreational fishing by indigenous people

*It is recognised that in the past members of the Aboriginal community have collected fish to provide food for their community, and there should be provision to allow this custom to continue in the future. In certain circumstances – such as Aboriginal ceremonies – members of the Aboriginal community should be allowed to collect fish for the whole community. Where these activities involve the possibility of exceeding the daily bag limit, such fishing should be carried out only with prior written approval from Fisheries WA. In the interest of preserving fish stocks, no-one should be allowed to keep undersize fish, use illegal fishing gear or fish outside approved times or in areas closed to fishing.*

#### 3.4 Protecting recreational fishing quality

##### Goal

To maintain or improve the quality of recreational fishing in the West Coast Region.

##### Key issues and comments raised in public meetings

COMMENTS
<ul style="list-style-type: none"> <li>• population centres are focal areas for recreational fishing – should be managed for the priority use of recreational fishers; zones for recreational fishing only</li> <li>• access to recreational fishing locations is decreasing in some locations</li> <li>• need for enforcement to act against people doing the wrong thing</li> <li>• don't deny spearfishermen an opportunity to take fish</li> <li>• numbers of recreational fishers increasing</li> <li>• spend money on restocking key recreational species.</li> <li>• manage specific locations such as Geographe Bay for the priority use of recreational fishers</li> <li>• restock marine areas</li> <li>• build more fishing platforms for young/old/disabled people</li> <li>• build more artificial reefs.</li> </ul>

##### Key issues and proposals

Recreational fishers associate a range of values with fishing. These define the quality of the fishing experience and collectively become the motivation for continuing involvement in fishing.

For most people, quality does not equal just quantity – that is, numbers of fish caught. Rather it is the experience of seeing fish, being confident that they are available for capture, and catching some fish. These are core values which separate fishing from other outdoor recreation.

Community surveys (FWA 1996 on) support the view that many recreational fishers view “fishing quality” as a blend of experiences related to personal involvement in the process of seeking, capturing, and sometimes consuming fish.

However, equally important are values that include the enjoyment of being in a “wild” and unpolluted marine environment, and the social dimensions of fishing which include gearing up, planning fishing trips, reading and discussion about all things fishy, travel, and the preparation and consumption of the day's catch with people who have this interest in common.

If heavy fishing occurs on fish populations, the proportion of large fish available tends to diminish, along with stock density. Under fishing pressure which approaches the maximum sustainable yield, the stock may be sustainable but its structure changes. Larger, older individuals are quickly removed from the population and fishers focus on recruits as they reach legal size.



While this may not always represent a threat to sustainability of the stock as a whole, it does threaten the quality of the fishing experience. This situation is exacerbated when recreational and commercial fishers target the same species, particularly near major tourism centres.

The tradeoff for a high level of fishing quality in the face of growing fishing activity is a reduction in total exploitation of the resource.

Concern has been expressed at public meetings that benefits obtained from managing the recreational fishery may merely “spill over” as increased catches to the commercial sector. Therefore it is vital to properly manage conflict and competition for resources, especially between key user sectors.

## **PRIORITY AREA FOR RECREATIONAL FISHING**

Rottnest Island, 18km off the WA coast, offers a diverse range of fishing for land-based and boat anglers.

With its sheltered, pristine bays and tabletop reefs the island has a unique environment which is highly valued by recreational fishers.

However, fishing pressure is increasing. The island attracts more than 400 000 visitors annually, and a code of conduct has been developed in the form of voluntary guidelines for responsible fishing.

To help protect fishing quality around the island, the working group recommends that Rottnest be managed as a low-take recreational fishery with restricted commercial fishing access.

### **Proposal 19 – Code for recreational fishing at Rottnest Island**

#### *Fishing code*

- *When visiting the island catch only enough fish to eat fresh for yourself and family.*
- *Take the time to release all undersize or unwanted fish.*
- *When keeping fish for the table, dispatch them quickly and ensure they are kept in cool place in the shade.*
- *Clean your catch as soon as possible. Fillets should be placed in waterproof plastic bags to keep the flavour in and the water out.*
- *Regardless of the length of your stay on Rottnest, do not take more than one day’s bag limit of fish away from the island.*
- *Take a camera not a speargun.*
- *Respect the sanctuary areas around Thomson Bay and Parker Point and stay on marked trails to protect the fragile environment.*
- *Aim to always fish safely around the island and treat the ocean with respect.*

Though commercial fishing around Rottnest is already restricted, the working group recommends that no commercial fishing (purse seine, wetline, demersal gill net and long line) be allowed within two nautical miles of the island. As with all resource sharing proposals, the group urges that any changes should be negotiated with the commercial sector.

## TRANSLOCATION AND RESTOCKING

During the public meetings a number of people urged the “restocking” of marine fisheries with hatchery-reared juveniles to boost stocks. The working group supports stock enhancement projects in principle, but is concerned that in the U.S. and Canada large-scale restocking has caused the collapse of some wild fisheries.

To protect wild fish stocks the group recommends that any stocking project should have properly evaluated trials before significant resources are committed.

Key issues relate to the factors that determine the abundance of fish populations in any given year, the survival rate of juveniles, and the genetic risks posed to wild populations by selectively-bred hatchery stock.

These issues include knowledge of the status of the wild stock; survival rates of hatchery juveniles; interaction between hatchery-reared fish and wild populations; and risks posed by hatchery-borne diseases.

The group has not formed proposals on stock enhancement, but believes it is important to develop a position statement on restocking as a stock enhancement strategy.

### **Proposal 20 – Position statement on restocking as a stock enhancement strategy**

*Management of wild fish stocks should always be the primary focus for recreational fisheries management, and restocking should only be considered as a strategy to assist with the recovery of a stock where it can be identified that the stock has been significantly depleted.*

## **3.5 Resource sharing**

### **Goals**

To ensure that an adequate share of fish resources is allocated to the recreational sector to protect the quality of recreational fishing.

To provide for equitable reallocation of fish resources between user groups.

**Issues and suggestions from public meetings****COMMENTS**

- commercial rock lobster fishers target finfish during the off season
- impact of commercial fishing and resource sharing need to be considered in the review
- shark netting close to shore – high catch of dhufish; net fishermen move into inshore areas at specific times during the year
- commercial fishers target important recreational species such as tailor for bait
- salmon have a high value to the recreational community but are a low value commercial species
- conflict with salmon fishers at Geographe Bay and Canal Rocks areas during holiday periods
- number of commercial crab pots in Cockburn Sound
- commercial long-lining of snapper in Cockburn Sound – conflict issue
- any reduction to catches must be across the board
- need to look at total management of the resource
- high take of baitfish (pilchards) and impact on food chain
- bycatch from commercial gear
- finfish catch by rock lobster fleet
- finfish stocks unmanaged
- commercial salmon fishing operations during holiday periods
- loss of access through creation of “no-take” areas
- usefulness of “no-take” areas for improving or managing fishing
- make herring and salmon food fish only
- no commercial netting of salmon and herring before spawning
- lift and clean rule for all commercial set nets
- use spatial separation zones
- any restriction on the total recreational catch should see reductions in commercial fishing effort to avoid shifting catch shares to the commercial sector

**Key issues and proposals**

Resource sharing between the commercial and recreational fishing sectors has proved to be a matter of great community concern in every centre of the West Coast Region.

Other issues are loss of traditional fishing access through the creation of no-take zones within marine reserves and fish habitat protection areas, and through coastal developments.

The working group notes that many recreational fishers believe the activities of the commercial fishing sector are having a significant impact on the quality of the recreational fishery.

Of particular concern are perceptions that the commercial catch of finfish from inshore waters is directly affecting the abundance of fish available for recreational take, particularly near major population centres and key holiday destinations.

The working group supports a State Government initiative in 1996 to allocate \$8 million over four years to a Voluntary Reallocation and Buyout Scheme.

The scheme aims to reduce commercial fishing effort where there is a high level of conflict or competition for the available catch – particularly with the recreational sector.

The group says this initiative has been highly successful in reducing the number of commercial fishing licences in the key estuarine fisheries of the Swan/Canning, Peel/Harvey, Leschenault and Hardy Inlet (Blackwood), and in removing some licences from the herring and salmon fisheries on the South Coast.

The group also notes and supports the benchmark date of 3 November, 1997, announced by the Minister for Fisheries, after which no wetline fishing activity would be considered in the development of any new management arrangements for the finfish fishery.

Commercial fishery adjustment is often an essential element in successful fisheries management and the group believes that the State Government should continue to fund voluntary buyback schemes for commercial operators who want to surrender their licences.

However, the group notes that voluntary schemes which often tend to remove latent or unused fishing capacity may not necessarily have a significant effect in shifting resource shares between sectors, and suggests that there is an urgent need for development of other processes to resolve resource sharing issues.

Further, the group recognises that resource sharing is not just related to “catch shares” but includes competition in space and time for access to specific areas or stocks.

Resource sharing may also include setting aside areas for other purposes, such as conservation or eco-tourism, or traditional use by Aboriginal communities.

Consequently the working group is convinced that the simple assignment of catch “quotas” to each sector is unlikely to resolve resource sharing issues, even if a fishery has a comprehensive monitoring program for both sectors, reliable stock assessment, and is managed through a quota system.

Resource sharing should be based on a clear set of principles and processes, and an understanding and recognition of the relative social and economic values for each fish species, fishery or area in question.

It is also critical that it be carried out clearly within the context of sustainable fisheries.

The group is concerned that though there are separate management arrangements for different sectors of the commercial fishery, these arrangements do not necessarily allow for the cumulative impact on the finfish resource.

Similarly, current management of the recreational sector does not constrain the total recreational catch or effort.

Clearly, without management of the total catch from any fish stock, sustainability becomes a key issue.

The group accepts that commercial fishing plays an important part in WA’s economy, and also provides an essential community service in supplying local markets with fresh local seafood.

However, it also notes that some commercial fisheries heavily exploit key recreational species, generate low levels of income for operators (with low economic and social returns), and demand high management effort due to issues of conflict.

Suggestions put to the group include phasing out, or significantly reducing, commercial fishing on species which are important to the recreational sector and which, for the most part, have a low commercial value and low market appeal.

This would allow full development of the fishing tourism potential and recreational value associated with these species.

The group also notes that recreational fishing is generally very tightly regulated for species of high commercial value such as rock lobster and abalone. Recreational catches effectively comprise only a small proportion of the total take in such fisheries.

### **Key resource sharing issues raised by recreational fishers**

#### ***Wetlining for finfish***

- *Take of dhufish by licensed rock lobster vessels; expansion in commercial fishing effort; and targeting of key recreational fishing areas by commercial operators.*
- *Escalating wetline take by both “shark” boats and “wetline” boats of highly sought after species such as dhufish, pink snapper and spanish mackerel creating localised depletion to the detriment of the recreational fishery.*
- *Lack of definitive control of the total commercial effort or catch in key recreational fishing areas.*

The working group notes an increasing commercial catch of key species important to the recreational sector.

For example, in 1996-97 the estimated recreational catch of dhufish was 132 tonnes for the area between Kalbarri-Augusta (Crowe, Lehre and Lenanton 1999). In the same year the reported commercial catch for that region was 191.2 tonnes or 59.2% of the total.

Increased wetline catches were also recorded for the Abrolhos Islands. In 1996-97 the total reported commercial wetline catch was 208.7 tonnes, and in 1997-98 this rose to 216.4 tonnes.

Catch estimates for the years after 1996-97 are not available for the recreational sector, but there was increased commercial fishing for dhufish in the following year.

In 1997-98 the west coast rock lobster fleet reported a landed catch of finfish of 158.1 tonnes, up from 90.5 tonnes in 1996-97. Of this increase of 67.6 tonnes, 29 tonnes was reported to be dhufish (State of the Fisheries 1997/98).

Reports have come from Kalbarri of reduced pink snapper catches and conflict between wetline operators, charter operators and recreational boat fishers.

#### ***Demersal gillnetting and longlining***

- *Demersal gill (“shark”) netting in inshore waters; setting of nets near inshore reefs, particularly in Geographe Bay; in the Perth-Mandurah area including Five Fathom bank and Direction Bank; around Geraldton and near popular holiday centres such as Port Denison, Horrocks and Kalbarri.*

Comments at the public meetings reveal that the demersal gill net and long line fishery gives rise to the greatest perceived conflict with the recreational sector.

This fishery, often referred to as the “shark fishery”, is gear-based rather than species-based, and the commercial fishers involved are not restricted to the species they can catch or target.

Conflict stems from commercial fishers operating inshore around popular recreational fishing areas. Such netting prompts a perception of reduced quantities of finfish.

In 1997-98 the reported catch from the west coast demersal gill net and long line fishery, which runs from Latitude 33 degrees south to North-West Cape, was 452.1 tonnes of shark and 122.5 tonnes of scalefish, for a total catch of 574.6 tonnes (State of the Fisheries 1997/98).

### ***Herring, salmon and tailor***

- *The commercial take and use of herring, tailor and salmon, and concerns over the impact on recreational fishing and the low community returns from the commercial exploitation of these species.*

The working group has learnt that the total catch of herring on the west coast was an estimated 200 tonnes in 1994-95, of which an estimated 100 tonnes went to the commercial sector. A significant proportion of the commercial catch (40 tonnes) was taken from Perth Metropolitan waters.

Interaction between the west and south coast herring populations is not as sustained as previously thought, and it is likely that the west coast herring stock is only periodically “topped up” by migration from the south coast.

The vast majority of herring caught commercially are sold for low value uses, such as bait, whereas the species is regarded as one of WA’s largest and most important recreational fisheries (Sumner and Williamson 1999).

Therefore the working group proposes that the commercial take of herring on the west coast be phased out through negotiation or compensation.

As the level of interaction between south and west coast stocks is unknown, the group proposes that the commercial take on the south coast be limited to a maximum of 600 tonnes, out of a notional total allowable catch of 1200 tonnes for the state, thus creating a 50-50 resource share split between the commercial and recreational sectors.

Management priority for the west coast should be on recreational use. [This proposal should also be referred to the South Coast Working Group for consideration due to stock interaction and migratory behaviour of herring.]

Concerns have been expressed about commercial salmon netting on beaches around Geographe Bay during the last Easter and Anzac Day holiday period, and conflict between recreational and commercial fishers. Recreational fishers are also critical of commercially-caught salmon being used for bait, and point to perceived low social and economic returns to the community from this fishery.

Similarly, there has been criticism of some commercial fishing for tailor around inshore reefs, and the use of these highly valued recreational fish as bait for the rock lobster fishery.

Given the obvious contrasting values of this species, the working group recommends that the commercial sale of tailor south of Shark Bay be phased out.

### ***Blue manna crabs***

- *The recent increase in commercial crab catches in Cockburn Sound, and the risks posed to the recreational fishery by further commercial crabbing in key holiday locations.*

Increased commercial crab catches in Cockburn Sound are an issue following the introduction of commercial crab traps. In 1996-97 the commercial catch of blue swimmer crabs in the Sound was 347 tonnes (State of the Fisheries 1997/98), compared with an estimated recreational catch of 15 tonnes (Sumner and Williamson 1999).

The working group supports mediation to resolve resource sharing issues in Cockburn Sound. This has led to an agreement to reduce the number of commercial crab pots in the fishery from 1600 to 800, and to increase the minimum commercial legal size from 127mm to 130mm.

### ***Estuary fisheries and beach netting***

- *Commercial netting in Leschenault Estuary and its impact on black bream and king george whiting in particular.*
- *Commercial netting for black bream in the Hardy Inlet upstream of Fisher Road, its potential impact on the limited stock of mature bream, and conflict with recreational line fishing.*

The working group has learnt that some commercial netting in inshore estuarine areas, where all recreational netting is prohibited, is resulting in conflict between user groups.

Commercial netting upstream of Fisher Road on the Blackwood River – where recreational netting is prohibited – is perceived to have had an impact on the quality of the recreational black bream fishery.

There is a similar perception in the Leschenault Estuary stemming from commercial netting for king george whiting.

### ***Pilchard fishing***

- *Pilchard fishing in general and potential impacts on the food chain .*

There are worries over the pilchard catch on the west coast.

The west coast purse seine managed fishery, which operates from 31<sup>0</sup> south latitude (near Lancelin) and 33<sup>0</sup> south latitude (near Cape Bouvard), targets pilchards and has declined from 3,989 tonnes in 1996 to 1,585 tonnes in 1998 (State of the Fisheries 1998/99).

The recreational angling bait market has been the main focus for this fishery, which was devastated by a herpes-type virus in 1995 and again in 1998-99.

As a result a total catch quota of 260 tonnes is proposed for the west coast purse seine managed fishery.

### ***Rottnest Island***

- *Opportunistic commercial fishing for finfish, including pilchards, in the vicinity of Rottnest has an impact on aggregations of baitfish associated with the billfish fishery, and causes localised depletion of key recreational species in this important holiday, fishing and conservation area.*

Anglers seek wahoo, yellowfin tuna and yellowtail kingfish in the waters off Rottnest's West End.

Farther west, around the edge of the Continental Shelf, gamefishers catch billfish, tuna and dolphinfish (mahi mahi).

Environmental factors such as the Leeuwin Current mainly determine the abundance of these species, but aggregations of baitfish also have an important role in attracting fish to the area. To help protect fishing quality around the island the working group recommends that Rottnest be managed as a low-take recreational fishery with restricted commercial fishing access.

## RESOURCE SHARING PROCESSES

The working group favours a more integrated approach to the management finfish, and suggests a separate process for resolving resource sharing issues.

It notes that the State Government has announced a public consultation process to develop integrated management, and that some of the proposals for discussion involve establishing clear guidelines for resolving resource sharing and allocation issues.

The group supports most strongly the need for key principles and a process for resource sharing, and urges the allocation of sufficient resources for the long-term management of WA's finfish stocks.

It is clear, too, that both the commercial and recreational catches must be managed to ensure sustainability, and that it will be necessary to allocate total allowable catch shares to each sector.

The ultimate aim should be to reduce social conflict, maximise social benefits from the use of key fish stocks, and ensure continuing fishing quality.

### Proposal 21 – Resource sharing

*Sustainable catch shares for key recreational species should be determined by negotiations with the commercial sector through a resource sharing process .*

The following table represents the estimated total catch for key species by each sector on the west coast. The working group seeks community opinion on what the relative catch shares should be in these fisheries.

Species	Est commercial catch (tonnes)	Est recreational catch (tonnes)	Recreational catch as % of total catch on west coast
Herring	1200 (total fishery) 100 (west coast only)	100 (west coast)	50% (west coast only) 15% (total fishery)
King george whiting	24 (incl estuaries)	21 (boat only).	
Tailor	6 (incl estuaries)	10 (boat only).	
Skipjack trevally	1.7	43	96.2%
Pink snapper	273	27	9.0%
Baldchin groper	37	23	38%
Dhufish	191	132	40.8%

*Source: REF (Sumner et al, Crowe, F) (State of the Fisheries Report 1996/97).*



Public comment is sought on the following possible outcomes for the recreational fishing community. These should be achieved through proper resource sharing and the commercial sector should be involved in negotiations.

**21(a)** Commercial fishing which has a significant impact on the quality of the recreational fishery should be restricted within three nautical miles of the coast. This includes the west coast demersal long line and gill net fishery, trawl fisheries and commercial wetline fishing. The working group believe there is a case for extending this closure in areas of high recreational use – for example, five nautical miles around Kalbarri. Community views are sought on this proposal.

**21(b)** Herring and tailor have a high recreational value and low commercial value. Priority for their management should be recreational and the recreational catch share should reflect their importance this sector.

Further, the total herring catch should be managed within a total allowable catch for both sectors. Resource sharing should be achieved through creating a purely recreational fishery on the west coast and a reduction in commercial catch on the south coast. The aim should be to adjust the current 80% commercial / 20% recreational catch shares to 50% for each sector.

**21(c)** The commercial take of tailor south of Shark Bay should be phased out in recognition of their high value as a recreational species and low commercial value.

**21(d)** Commercial salmon fishing should not be allowed on beaches in the west coast zone over Easter and the Anzac Day holiday periods.

**21(e)** The ban on recreational netting upstream of Fisher Road on the Blackwood River, near Augusta, should apply to commercial netting to protect black bream stocks.

**21(f)** A minimum level of commercial fishing should be retained in the major estuary systems on the west coast to provide a source of fresh fish for consumers. A ceiling on commercial effort and catch should be established, which is essential to maintain fish stocks and values in these areas.

**21(g)** Management should be implemented for the wetline fleet and the benchmark date of November, 1997, for continued access to the wetline fishery should apply. The fleet pay for the cost of its fishery management.

**21(h)** No commercial finfish fishing (purse seine, wetline, demersal gill net and long line) should be allowed within two nautical miles of Rottnest Island.

**21(i)** No commercial finfish fishing should be allowed in the proposed closed area to fishing around the Abrolhos Islands.

**Figure 3.5-1 Statement by the WA Fishing Industry Council**

The invitation for WA Fishing Industry Council representation on the West Coast Recreational Fishing Working Group was accepted with a view to providing the working group with an understanding of commercial fisheries management in WA, and to assist in the development of fishing management proposals which aim to provide sustainable use of marine resources by the recreational fishing sector.

The key terms of reference and task of the working group were to draft a five-year recreational fishery management strategy and to make recommendations to the Minister for Fisheries for the management of recreational fisheries. However, WAFIC was concerned that the debate and working group considerations may in part focus on proposing additional commercial fishing restrictions that may be “promoted” to provide a benefit to all West Australians.

WAFIC does not believe that this working group is an appropriate forum to formulate commercial fishing management proposals.

This paper does contain proposals or suggested outcomes which impact on commercial fishing management arrangements and which are advanced as steps towards fair resource sharing allocations.

This paper is seeking public comment in respect to these resource sharing proposals and outcomes. To assist in promoting considered comment there is a need to understand the issue of resource sharing.

One definition of resource sharing is:

*Resource sharing is a non-biological issue. It is not a matter of preserving biological sustainability, but of achieving an allocation of the resource across user groups that is in the best interests of society and maximises the value of the sustainable harvest to society.*

Thus it is the best interests of society or public good which need to be determined in any review. A substantial reallocation of fish resources to the recreational fishing sector for their benefit needs to be carefully assessed against the needs and desires of the community to purchase local fresh seafood for their everyday needs.

It is asserted that the majority of the community, and even avid recreational fishers, wish to purchase fresh local seafood for their family meals or at restaurants. This seafood is provided by the commercial fishing sector.

Clearly the utilisation and allocation of fish resources is a matter of interest which impacts on all West Australians.

WAFIC urges that the interest of the WA community as a whole needs to be carefully weighed up when any comment is being prepared in response to this review.

### 3.6 Protection of fish habitats

#### Goal

To protect and restore fish habitats

#### Key issues and suggestions raised in public meetings

Comments
<ul style="list-style-type: none"> <li>• fish habitat protection zones at the Abrolhos Islands appear to be working</li> <li>• distance of Abrolhos Islands from mainland prevents small boats from fishing the area</li> <li>• lack of evidence to suggest that sanctuary zones work: for example, Ningaloo Marine Park</li> <li>• need to monitor closed areas to fishing to ensure they are achieving their objectives</li> <li>• fish trawling in Geographe Bay – community view that trawling has a negative impact</li> <li>• fish kills in Wonerup Estuary – need for better management of the release gates</li> <li>• environmental degradation making Leschenault Estuary less suitable for fish</li> <li>• industrial chemical spills continue to have an impact on fish habitats</li> <li>• major impacts come from the land – farming and industry</li> <li>• structured access points to reduce damage in sensitive environments</li> <li>• better coordination between agencies for environmental management of sensitive areas</li> </ul>

#### Key issues and proposals

Recreational fishing in WA tends to focus around coastal towns and marinas, with very high levels of fishing in the vicinity of boat ramps and near areas which provide accommodation facilities.

In the past the small population of many coastal communities, the distance between towns, poor or no access roads and lack of launching facilities have effectively protected many areas of coastal water and inshore reef from of fishing pressure.

Land use practices have been, and remain, one of the greatest influences on the productivity of our estuary systems and inshore waters. The clearing of river catchments, farming methods, use of fertilisers on suburban gardens, and industrial developments have all had an impact on the coastal environment. Algal blooms in the Swan and Canning rivers and the loss of seagrass in Cockburn Sound through shell sand dredging are two examples in which land use practices have had a negative impact on important fish nursery areas.

The working group believes there has been insufficient protection for these areas, which are subject to increasing fishing pressure.

The State Government introduced the Acts Amendment (Marine Reserves) Act 1997 to amend six Acts of Parliament – including the Fish Resources Management Act 1994 – to allow for the establishment of a representative system of multiple use marine conservation reserves along the WA coastline. However, the working group does not believe this process necessarily ensures that habitats important to fish stocks, such as breeding grounds or nursery areas, are identified or protected. It urges priority for this issue, and believes Fisheries WA should take steps to establish a database on important fish habitats in the region.

It is also important that recreational fishers are recognised as important stakeholders in planning and assessment of development proposals. Potential impacts on important habitat or nursery areas must be assessed carefully, including the effects of focusing fishing pressure into particular areas created from infrastructure developments (for example, new roads, boat ramps, marinas, tourist resorts).

In the past, offshore aggregation areas for demersal fish have had some protection from fishing pressure due to their distance from boat ramps and difficulty in locating or returning to them without sophisticated navigation equipment. This is no longer the case.

As new coastal roads and marinas are developed, opening up wider access to waters previously protected by their isolation, species which use these areas as a key part of their life history become increasingly at risk of over-exploitation.

The working group has concerns about the impact of easier access on key recreational fish stocks, particularly dhufish, and even tailor which take up residence around inshore reef systems, or aggregate to spawn.

### **Proposal 22 – Low impact wilderness fishing experiences**

*That the area north of Kalbarri to the Zuytdorp Cliffs be managed on a trial basis as a remote wilderness fishing area. The trial should determine the level of community support and potential for retaining wilderness fishing values in the area.*

The working group defines a wilderness area as:

*An area previously protected by a high level of remoteness which provided a unique fishing experience unavailable in other areas, and characterised by getting there under your own steam.*

The working group agrees on the following guiding principles for the management of wilderness areas:

- Low take
- Low environmental impact

[These principles should apply to finfish, lobster, abalone and other popular marine organisms.]

- Code of practice should apply to tour operators
- Manage vehicle and assisted access to limit environmental impact.

### **Proposal 23 – Protection of sensitive habitat areas and fish stocks around new marina developments**

**23(a)** *Developers should contribute funds for the management of fish resources and the marine environment when there is an increase in recreational fishing as a result of building new marinas and boat ramps.*

**23(b)** *If there are unique or important fish habitats close to a new facility, these should be set aside as a no-go area. What areas should be set aside should be decided during the development of each site.*

## **3.7 Improving community stewardship – education and compliance**

### **Goal**

To increase the level of community stewardship for sustainable fish stocks and their habitat.

**Comments and issues raised at public meetings**

COMMENTS
<ul style="list-style-type: none"> <li>• personal interaction with educators on the beachfront is important</li> <li>• problem with minority group taking large quantities of fish.</li> <li>• education of fishers is essential</li> <li>• stewardship is ownership – this message must be linked to resource management</li> <li>• dumping of fish during fishing competitions is unacceptable</li> <li>• more education of recreational fishers and young people</li> <li>• introduce junior VFLO program</li> <li>• more focused school education program</li> <li>• focus of educational campaigns should be directed towards anglers on the beachfront</li> <li>• FISHWATCH illegal fishing report service ineffective</li> <li>• lack of Fisheries officer field presence in many fisheries</li> </ul>

**Key issues and proposals**

The level of community stewardship – or community support – for the sustainability of fish stocks and fishing rules is crucial in successful recreational fisheries management.

Community stewardship can be evaluated against four criteria:

- The level of individual knowledge of what is required to ensure healthy fisheries.
- The attitudes and values which individuals hold in relation to fishing.
- The behaviour that people adopt when fishing.
- The level of community support for necessary changes to management.

Both Fisheries WA and the Recreational Fishing Advisory Committee have taken a strong position since 1992 that prosecution and court action should be a last resort to ensure compliance with necessary management, rather than a primary response in what is essentially a recreational activity.

The final report of the Recreational Fishing Advisory Committee in 1991 stated:

*“...the management of our recreational fish resources is largely dependent on the majority of the public abiding by fishing rules voluntarily.*

*“The fishing community needs to be properly informed of the reasons for management decisions, and given a clear lead on the values and attitudes which assist in sustaining fish stocks.*

*“The use of properly coordinated and trained volunteers represents a massive, and highly cost effective, opportunity for increasing fisheries management profile at the beachfront, and providing direct access to the recreational fishing community, and to specific ethnic and user groups within that community.”*

A major objective is to establish and maintain a clear standard of community fishing behaviour, which aims to ensure that non-compliance is reduced to a minimum and, where detected, appropriate sanctions applied.

These priorities were reflected in the Recreational Fisheries Program business plan (Fisheries WA 1996) with the creation of a separate community stewardship sub-program, focused on angler contact and involvement of the community in both management planning and education activities, and an extended higher profile compliance program.

Current recreational fisheries management relies on an effective and broadly-based set of compliance and education strategies, structured around activities designed to encourage peer education.

Key issues identified by the working group in relation to community education and compliance in the West Coast Region include:

- A significant increase in the number of anglers and activity in most recreational fisheries, including the charter fishery.
- A greater demand for a high profile fisheries management presence during peak seasons.
- A gradual reduction in real terms in the resources and funding available for recreational fisheries compliance and education.
- Increasing demands for a specific fisheries management presence driven by the establishment of marine parks, and increasing coastal development.
- Significant peak season demands due to fisheries operating in parallel – for example, marron, rock lobster and tailor – coupled with an increase in demand for Fisheries WA involvement in fishing competitions and public events based around the marine environment.
- Insufficient resources within Fisheries WA to provide a rapid response to the FISHWATCH illegal fishing report service.
- A reported decrease in the effectiveness of community awareness and education programs and key messages, with many important fishing groups not receiving any regular contact or information from Fisheries WA.
- A perceived change in emphasis by Fisheries WA from beachfront and angler peer education strategies to broad media, schools and community events participation, with a corresponding softening of fishing community attitudes and behaviour in relation to ethical fishing.
- The high cost and time involved in investigations and prosecutions aimed at illegal fishing activity and fish sales.
- An increasing incidence of reports of gear theft and illegal pot pulling in the rock lobster fishery.
- A decrease in availability of educational resources including brochures on fishing rules and measuring gauges for crabs and finfish.
- A low level of use of the Fisheries WA internet website by WA recreational fishers compared with other sources of information.

### **3.7.1 Education strategies**

Current education strategies for recreational fisheries include interviews with anglers at beachfront and boat ramp locations by Fisheries Officers and Volunteer Fisheries Liaison Officers; distribution of educational resource and reference materials; campaigns through the print and electronic media; media releases; fishing season launches; and school and community-based educational activities.

These are supported by investigations into incident reports, and high penalties under the Fish Resources Management Act and Regulations for many offences. Fisheries Officers are empowered to issue warnings, infringement notices or initiate prosecution as compliance responses to detected breaches of fisheries legislation.

The working group believes that a communications and community education plan should be developed that focuses on issues and species pertinent to recreational fishing in the West Coast Region.

The recreational fishing community should be properly informed of management decisions, and given a clear lead on the values and attitudes which will assist in sustaining fish stocks.

The plan should also help develop broad community recognition of the value of recreational fishing, as well as promote support for responsible fishing behaviour and management initiatives.

It should identify key groups, the strategies by which these will be kept informed, and performance indicators to assess effectiveness.

The working group believes a focus of the plan must be to deliver educational messages to recreational fishers when they are actually fishing. This is the time they are most receptive.

The group sees significant educational benefits in directly involving fishing organisations and recreational fishers in planning and implementing education programs.

A comprehensive regional fishing guide to replace the wide range of brochures and leaflets produced by Fisheries WA should be a key element in the communications plan for the west coast.

Such a regional guide – which should be widely available through tackle shops and tourist outlets – would offer significant opportunities for promoting key educational messages, as well attracting commercial sponsors and advertisers. Revenue should be retained by the Recreational Fishing Fund and used to cover the cost of publication, or provide additional funds for other educational activities.

The guide should be supported by a comprehensive internet website, effective advertising and media communication strategies aimed at regional as well as statewide media, and include an annual media campaign with changes in theme from year to year.

Educational tools such as measuring gauges, fish rulers, adhesive bag limit guides and boat ramp and fishing venue signs are also seen as practical and essential in getting the message across to anglers where and when it is most relevant.

### **Proposal 24 – West Coast Region community education plan**

A recreational fisheries community education plan should be developed for the West Coast Region which focuses on the issues and species most important in the region. Such a plan should seek to keep the recreational fishing community informed of management decisions, give a clear lead on the values and attitudes which will assist in sustaining fish stocks and develop broad community recognition of the value of recreational fishing.

The plan should, at minimum, contain the following elements:

#### **24(a) Regional fishing guide**

A comprehensive regional guide to recreational fishing in the West Coast Region should be produced to inform and educate fishers about recreational fishing management, fishing ethics, research, conservation issues and promoting stewardship for fish stocks and the environment.

#### **24(b) Educational resource materials**

Adequate quantities of practical educational tools such as measuring gauges, fish rulers, adhesive bag limit guides and boat ramp and fishing venue signs should be produced to support the regional fishing guide.

**24(c) Annual media campaign**

An annual media campaign be implemented to promote recreational fishing and fishing ethics in the west coast.

**3.7.2 Field management and compliance**

A number of surveys indicate that there has been a significant positive change in community attitudes and behaviour since the last major review of recreational fishing in 1992. Nowadays the vast majority of fishers abide by fish conservation controls much of the time.

Very high levels of compliance – better than 80 per cent in most fisheries – were reported through creel surveys and VFLO observations. Further, creel survey interviewers reported a very high rate of return to the water of undersize fish (Sumner and Williamson, 1999).

However, the working group is concerned about reports during the public meetings of a small number of anglers who continue to fish irresponsibly and take excessive quantities.

Major areas of concern are the crab fishery – particularly in the Peel-Harvey Estuary and Leschenault Inlet, where the take of undersize continues to be an issue – and the pink snapper aggregations in Cockburn Sound, where VFLOs reported a number of anglers evading inspection, and some landings of catches well in excess of the bag limit.

The take of undersize tailor in the Swan River, Peel-Harvey Estuary and Cockburn Sound, particularly early in the summer, is also an issue. So is pot theft and illegal pulling in the rock lobster fishery, and a perceived decline in compliance with legal minimum sizes for rock lobster.

Illegal netting in the Swan and Canning rivers – using fine “mist” nets set just below the surface with floats made out of small pieces of rubber – is also reported to be continuing.

The working group notes, too, that out-of-season fishing in the marron fishery remains a concern.

According to Fisheries Officers, deliberate and repeated non-compliance is difficult to observe without detailed surveillance and investigation.

It has also been suggested that high compliance levels may in part result from lack of opportunity for serious breaches of fishing rules due to low abundances of fish and high bag limits.

The working group is particularly concerned about any situation in which regular breaches of fishing regulations go unpunished. What impact might this have on the social standard, or “norm” for fishing behaviour, in a given fishery?

Comment at public meetings and survey data from boat ramp and phone interviews indicate clearly that the strength of community support for stock conservation is linked to the frequency of a visible Fisheries management presence during peak fishing times. An effective beachfront and boat ramp education program, backed by freely available educational material such as brochures, is also crucial.

The working group believes there is widespread community support for increased Fisheries action to deter illegal and irresponsible fishing behaviour.

This was also identified during public meetings held in the initial public consultation process.



## VFLO PROGRAM

In the summer of 1993-94, Fisheries WA began a beachfront and boat ramp education program in the Perth Metropolitan area using volunteers. Twenty-five volunteers worked closely with Fisheries Officers to promote ethical recreational fishing – and so began what has become known as the Volunteer Fisheries Liaison Officer (VFLO) program.

Its central philosophy has been to use peer education as a key long-term management strategy for recreational fisheries.

Recreational fishers have promoted awareness of management and conservation issues among their fellows on site, thus encouraging a change in the values and attitudes which, in combination, influence fishing behaviour.

The highly-successful VFLO program has been largely responsible for WA becoming a national leader in fisheries community education. Since its inception the number of volunteers has grown from 25 to 230, and regional units have been established in major centres across the state.

In its early stages the main thrust of the program was educating anglers at fishing venues, collecting management information on fishing behaviour, and assisting with major research projects.

One such project – in which VFLOs donated about 6,000 man hours – involved tagging more than 5,000 tailor.

Over the last five years there has been a progressive shift in focus to activities such as school-based education programs, fishing clinics, and public events such as the Perth Boat Show, the Royal Show, the Mandurah Crab Fest and SEAWEEK.

In 1998-99 VFLOs across the state contributed 8,000 hours and made contact with a reported 50,000 people (Fisheries WA 1999). However, in contrast with the early years of the program, less than 10 per cent of contacts were made in the field at fishing or launching venues.

By its nature, the size and effectiveness of the program is linked closely to the availability of resources and support. Certainly this has been forthcoming from Fisheries WA – in 1999-2000 it provided an estimated 5,000 hours of staff time in support of the VFLO program. It should be noted that an estimated 80% of this time involved activities in the West Coast Region between Augusta and Kalbarri, particularly near the major population centres of Geraldton, Perth, Mandurah and Bunbury.

Phone surveys conducted by Fisheries WA in 1997, 1998 and 1999 indicated steadily increasing general community awareness of the VFLO program – from 23 per cent in 1998 to 30 per cent in 1999 (Bahartah and Sumner 1999). Possibly this is due to the increased public profile of the program associated with winning of the Premier's Award in 1999.

The reported direct contact rate of the general community with Fisheries WA was about 10 per cent, with 4.3 per cent of respondents citing contact with VFLOs.

VFLO contact rates varied considerably between fisheries and areas, and tended to be highest near major population centres for licensed fisheries which operated during daylight hours, or for fisheries with highly restricted fishing times and areas such as abalone.

Contact rates reported through a mail survey of rock lobster fishers were relatively high – 25 per cent with VFLOs during the season and 53 per cent with Fisheries Officers (Stewart and McKinlay, *in prep*).

## *WEST COAST REGIONAL REVIEW*

However, these “contacts” should be considered in the context of both the total participation in the fishery and the number of fishing trips or days (fishing effort) undertaken.

The total recreational fishing effort on the west coast is estimated at four million fishing days a year, which include 453,000 boat fishing days or trips (Sumner and Bahartah 1999).

Patrol reports from 1999-2000 indicate that VFLOs in the west coast, while contributing significantly to education programs, had reduced field patrols to 350 a year and made fewer than 9,000 contacts with anglers at fishing or launching sites.

Consequently the VFLO program is now achieving a field contact rate on only 0.2 per cent of fishing trips (0.17 per cent of shore trips and 0.7 per cent of boat trips).

The working group supports the VFLO program strongly and credits the volunteers with playing a major role in helping to change community attitudes and values about recreational fishing.

However, the group believes that a major feature of the program’s effectiveness was its initial strong emphasis on peer education through beachfront and boat ramp contacts.

The group considers that this emphasis should be re-established. It believes that dedicated leadership and direction from Fisheries WA, and close co-operation in planning and operating patrols with Fisheries Officers, is critical for the program’s continuing success.

Target contact levels should be set for key fisheries for both Fisheries Officers and VFLOs, taking into account the total fishing effort exerted in each fishery.

### **COMPLIANCE PROGRAM**

The recreational fisheries compliance program in the West Coast Region is supported through Fisheries WA district offices in Busselton, Bunbury, Mandurah, Fremantle, Hillarys, Lancelin, Jurien Bay, Dongara and Geraldton, with seasonal boat patrols in the Abrolhos Islands.

Fisheries Officers are responsible for monitoring and compliance for commercial fisheries, aquaculture and fish habitat protection as well as recreational fishing.

The equivalent in hours of an estimated 15 full-time Fisheries Officers and one VFLO support officer are dedicated to recreational fisheries compliance across the region. More than half the available time is focused on the key licensed fisheries of rock lobster and marron, or around the major population and holiday centres of Mandurah, Fremantle, Busselton and Bunbury.

The working group notes Fisheries WA’s advice that the direct cost of putting Fisheries Officers in the field in the region is about \$90,000 a year for each officer, taking salaries and operating costs into account.

The group also notes that the introduction of cost recovery for major commercial fisheries, and service level agreements to meet cost recovery obligations, has reduced the flexibility of fisheries regional managers in deploying staff in response to recreational fishing activity or incidents.

It is clear that the high-profile licensed recreational fisheries for abalone, marron and rock lobster attract the majority of compliance attention, while in Fremantle the demand for immediate responses to FISHWATCH reports creates a significant draw on resources for patrol and compliance work.

In recent years cost increases have also resulted in a reduced operating budget in real terms for recreational fisheries compliance, with a corresponding reduction in staff in the Fremantle district in particular.

The working group sees significant gaps in the geographic spread of Fisheries WA's recreational fishing compliance capacity, and considers that compliance resources are not keeping pace with either the growth in recreational fishing activity or the spread of urban and coastal development along the west coast.

A number of key areas have emerged in the last ten years, or are likely to emerge in the immediate future, which require a significantly greater Fisheries field presence.

These include increased tourism between Augusta and Dunsborough; the urbanisation and growth of Mandurah; growth in the southern corridor of Perth and its hinterland from Rockingham to Kwinana; and the property development boom which has extended Perth's northern corridor between Hillarys and Quinns Rock, resulting in greater recreational fishing activity in the Yanchep to Lancelin area.

The working group notes that new coastal roads are planned between Lancelin and Jurien Bay, and Kalbarri and Shark Bay, and that a sealed coastal highway has been completed between Port Gregory and Kalbarri.

The planned Jurien Bay and Capes (Geographe Bay) marine parks, and increased tourism and charter activity in the Abrolhos Islands Fish Habitat Protection Area, are all contributing to the demand for an increased Fisheries field presence, particularly during peak holiday seasons.

Consequently, there must be dedicated resources for recreational fishing compliance in the region. Their level should be linked to the scale and urgency of management demands generated by the fishery, and keep pace with predicted increases in population and fishing activity.

The working group considers that, initially, a baseline field contact rate of between five and ten per cent of all fishing trips should be set for recreational fisheries – applying to both compliance staff and VFLOs.

Peer education and communications theory indicates that a direct contact rate of ten per cent should have a flow-on educational benefit to at least a further 40 per cent of participants, and significantly improve community confidence in management as well as increasing the detection rate of illegal activity.

With a population of about 400,000 recreational fishers on the west coast – contributing in varying degrees to an estimated four million angler fishing days – the working group believes that the overall contact rate for all recreational fisheries should be about 100,000 a year or ten per cent of the fishing effort (number of fishing days) in each fishery.

However, the abalone fishery may require even more supervision, given the vulnerability of abalone as sedentary creatures.

The working group recognises that even with adjustments to current operational priorities, the existing resources of the Fisheries WA Recreational Fisheries Program and the VFLO program would not achieve anything near a ten per cent contact-to-trip ratio for most recreational fisheries.

This issue requires serious government and community consideration – how will we provide for adequate recurrent funding to ensure effective recreational fisheries management?

The following proposals represent the minimum additional resources needed to ensure that fisheries compliance capacity keeps pace with the growth and spread of population in the next five to ten years.

### **Proposal 25 – Additional patrol capacity**

**That to achieve a ten percent contact-to-trip ratio with recreational fishers by Fisheries Officers and VFLOs an additional eight patrols (16 Fisheries Officers) be dedicated to recreational field compliance and education activities during peak fishing seasons in the West Coast Region.**

These resources should be allocated to:

- *Kalbarri-Port Gregory*. One additional patrol crew to be based in Kalbarri. At present, effective compliance presence is sporadic at best.
- *Abrolhos Islands*. One additional patrol crew to service peak season fishing at sea and in the Geraldton area.
- *Jurien Bay-Lancelin*. One additional patrol crew to be based in Jurien Bay.
- *Perth north Metro: Hillarys-Yanchep*. One additional patrol crew. to be based at Hillarys to cover the northern suburbs from Hillarys up to Two Rocks.
- *Perth south Metro*. Two additional patrol crews based in Fremantle to provide additional compliance for the Swan River, Cockburn Sound and Warnbro Sound.
- *Mandurah/Bunbury*. One additional patrol crew during the summer crab and tailor fishing seasons.
- *Busselton*. One additional patrol crew for Geographe Bay and the Capes region

### **Proposal 26(a) VFLO Program**

*The VFLO program must be adequately resourced with educational materials and support from Fisheries WA staff. The focus of VFLO activities should be redirected towards beach front contacts with recreational fishers, to achieve a target contact rate of 10% of all fishing trips.*

### **Proposal 26(b) Junior VFLO Program**

*A junior VFLO Program be established in the West Coast Region as a trial and then expanded across the state. The program will need to operate in conjunction with the existing VFLO Program and work through schools.*

#### **3.7.3 Implementing management and education strategies**

The working group considers that there must be dedicated resources within Fisheries WA to implement the West Coast Regional Review and ensure that fisheries management and educational outcomes envisaged in the plan are achieved.

It strongly recommends the appointment of a Recreational Fisheries Manager for the West Coast Region, with ultimate responsibility for planning, coordination and implementation of key management, research, education, and compliance strategies for the region.

An additional role would be to provide executive support for the regional advisory committee proposed in this discussion paper, releasing Fisheries Officers for field duties.

This appointee would be also be responsible for overseeing implementation of the west coast recreational fishing communication and education strategy, including production and circulation

of the regional fishing guide; planning and coordinating community education activities; providing leadership and support to the VFLO program; and fostering community support for these initiatives, including the identification of sponsorship opportunities.

### **Proposal 27 – Recreational Fishing Management Officer**

*A specific person be appointed within Fisheries WA to implement the West Coast Regional Review, coordinate community consultation and education activities, and provide executive support for community advisory committees.*

#### **3.7.4 Community consultation and involvement in management**

Community consultation on recreational fishing issues in the West Coast Region is predominantly focused through the Recreational Fishing Advisory Committee (RFAC), Recfishwest, and Regional RFACs representing the Mid-West, Metropolitan area, Mandurah, Bunbury, and the South-West.

The working group strongly supports the need to maintain and improve consultation with the recreational fishing community. However, with the move to regional management the existing system needs modifying, and the west coast group agrees with the Gascoyne Working Group that a regionally-based council to provide advice on management priorities would be more effective.

A regional council would be better placed to assess competing priorities on a range of issues, including fisheries research, compliance capacity, promotion of public awareness and development of new facilities for recreational fishing.

Such a council should include representatives from the key centres in the West Coast Region, the commercial fishing industry and Fisheries WA, and would continue to operate as a part of the network of statutory Ministerial Advisory Committees which report to the Minister for Fisheries.

A regional council should be able to establish strong links with local government and planning and development authorities, and ensure that recreational fishing interests are strongly represented.

The roles of the regional council should be to:

- Oversee implementation of the West Coast Recreational Fishing Management Strategy.
- Conduct five-yearly reviews of this plan.
- Provide advice on community education.
- Develop sponsorship opportunities for regional projects.
- Provide advice on funding priorities.
- Provide advice to the Minister for Fisheries and Fisheries WA on recreational fisheries management.

### **Proposal 28 – Regional Recreational Fisheries Council**

*A Regional Recreational Fisheries Council be established to oversee the implementation and operation of the West Coast Recreational Fishing Management Strategy.*

The council should replace the existing Regional Recreational Fishing Advisory Committees in the West Coast Region. The Council should be established under the Fisheries Resources Management Act but should continue to report to the Minister for Fisheries as part of the State Recreational Fishing Advisory Committee network.

Representation on the new council should be both regional and expertise-based and Fisheries WA should be formally included as a committee member, rather than simply providing executive support.

### **3.8 Providing adequate resources for management and enhancement**

The working group believes that adequate funding for recreational fishing management will be a critical factor in whether or not WA can meet the challenges in managing a growing recreational fishery in the coming decade.

Funds are needed for management, consultation, research, education and compliance – but none of these areas is currently funded to a level that will meet the increased demands associated with a growing population and high participation rate.

If additional resources are not applied now, and the exploitation rate increases, many opportunities will be lost – such as the development of fishing-based tourism.

In the face of depleted or collapsed fish stocks there is no alternative but management which aims at stock recovery through closure of fisheries.

The community expressed a range of views to the working group on funding for recreational fisheries management. Some fishers are in favour of recreational licensing; some are opposed to it; and others believe the government should provide additional funds for management.

In the past there have been attempts to secure a levy through the general sales tax system to help fund recreational fisheries management, but the Commonwealth Government has rejected this on administrative grounds. State taxation powers do not allow for the introduction of such a levy at state level.

If the State Government consolidated fund contribution remains constant in the foreseeable future, the service levels to recreational fisheries management will diminish in the face of increasing business costs.

The approved Recreational Fisheries Program budget for 1999-2000 management is \$7 million, of which an estimated \$1.5 million is contributed by recreational fishers through licence fees.

At current funding levels the growth of knowledge and management is likely to be slower than the rate of decline in fisheries. Without extra funding, and without a major crisis which diverts funds, regional creel surveys which will provide a full recreational baseline data on catches will not be collected until 2004, with repeat surveys each seven years.

The working group notes that recreational fishing generates an estimated \$299 million directly through the economy. Given projected growth in participation, the group believes that funding for management should be linked directly to participation rates and fishing activity levels.

It has identified seven possible funding sources:

- Increase level of government funding.
- Resource rent on the commercial sector.
- Recover percentage of GST money spent on fishing gear.
- License recreational fishers.
- License recreational fishers, in tandem with resource rent contribution from the commercial sector.

- Levy on use of public boat ramps and a contribution from those associated with the development of marinas and industrial projects which have an impact on recreational fishing.
- No change – and decreasing servicing and management.

To properly fund proposals in the strategy, and secure a funding stream which will track participation rates, the working group believes that the most realistic options are a greater contribution from government or introduction of a recreational angling licence.

The group recognises that there are varying levels of community support for a general licence, and political reluctance to introduce it.

It notes that such a licence offers the best option for a secure funding source to track participation and provide an accurate recreational fishing data base.

However, the working group's preferred option is for government to increase funding for recreational fisheries management to \$10 million for the next three financial years. From this point in time the government contribution to management should be on the basis of 5% of the direct economic impact of recreational fishing on the economy (as mentioned earlier, it generates \$299 million through the economy).

In the event of no government funding increase in line with the above proposal, the working group favours introduction of a general recreational fishing licence.

The working group sees equity as an issue: if a general recreational licence is introduced – creating a situation in which recreational fishers will be directly funding management – the commercial fishing industry should pay for the cost of management of its components of the fishery, in proportion to their use.

### **Proposal 29 – Funding for recreational fisheries management**

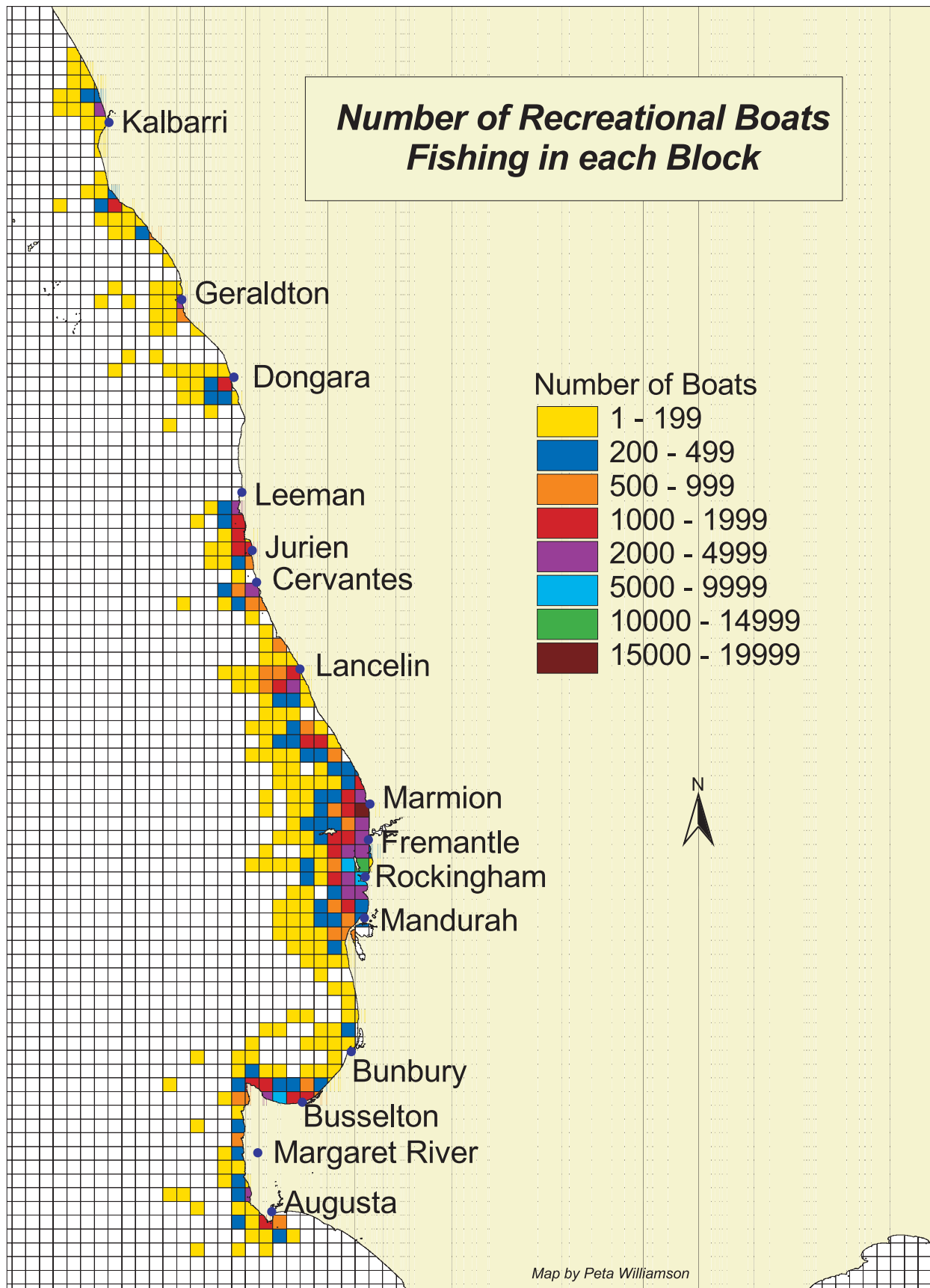
**29(a)** *The State Government should increase the level of funding for recreational fisheries management to \$10 million for the next three financial years. In following years the government contribution should be on the basis of 5% of the direct economic impact of recreational fishing on the economy.*

**29(b)** *If the State Government does not increase funding in this manner, it should introduce a general recreational fishing licence to provide essential funds. However, even if a licence is introduced it is essential that government funding should continue at the present level, so that a licence does not merely replace current funding.*

**29(c)** *If a general angling licence is introduced it should be on the following basis:*

- *Apply only to people above the age of 16.*
- *Sales could be through tackle shops and shire offices.*
- *Normal discount for seniors and pensioners.*
- *Licence revenue must go into a trust account for recreational fisheries management.*
- *Also introduce temporary licences – for example, two days or two weeks.*
- *Identify and publicise how the money will be used.*

APPENDIX A





## APPENDIX B

## STATE BAG AND SIZE LIMITS

**Prize fish - 4 of each species, total mixed bag 8**

Prize fish are highly sought after for catching or eating qualities and some are vulnerable to overfishing.

Billfish such as marlin, sailfish and swordfish (*Xiphiidae* and *Istiophoridae* spp) mixed bag of 4

Cobia (*Rachycentron canadus*)

Cods (*Serranidae* family) mixed bag of 4 (inc. Harlequin fish and Breaksea cod) Fish over 1200mm or 30kg are protected

Coral Trout (*Plectropomus* spp) [450mm]

Dhufish,WA (*Glaucosoma hebraicum*) [500mm]

Mackerel, wahoo (*Acanthocybium solandri*) and Spanish, broad-barred [750mm] Spanish narrow-barred (*Scomberomorus* spp) [900mm]

Mackerel, shark (*Grammatocynus bicarinatus*) Spotted and Qld school (*Scomberomorus* spp) [500mm]

Mahi mahi (dolphinfish - *Coryphaena hippurus*)

Mulloway (*Argyrosomus hololepidotus*) & Northern mulloway (*Protonibea diacanthus*) combined bag of 4 [450mm]

Queenfish (*Scomberoides commersonianus*)

Salmon, Australian (*Arripis truttaceus*) [300mm]

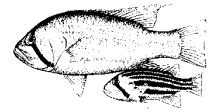
Samson fish (*Seriola hippos*) [600mm]

Sharks (all species except whale sharks) mixed bag of 4

\*Trout, brown & rainbow combined (*Salmo trutta* and *Oncorhynchus mykiss*) Closed season most areas 1 May - 31 August [300mm]

Tuna, Southern bluefin (*Thunnus maccoyii*)

Yellowtail kingfish (*Seriola lalandi*)

**Reef fish - mixed bag 8**

Reef fish are usually resident species and are highly vulnerable to overfishing.

Emperor, red (*Lutjanus sebae*)

[410mm]

Groper & tuskfish excluding western blue groper (baldchin *C. rubescens*, blue tuskfish *C. cyanodus* & black spot tuskfish *C. shoeneleini*) [400mm]

Snapper, pink (*Pagrus auratus*) Special rules apply in Shark Bay and Perth metro area – contact Fisheries WA [410mm]

Snapper, North-west (*Lethrinus* spp) and all other *Lethrinus* species [280mm]

Snapper, queen (blue morwong *Nemadactylus valenciennesi*) [410mm]

Spangled emperor *Lethrinus nebulosus* [410mm] Snapper, north-west (*Lethrinus* spp) and all other *Lethrinus* species [280mm]

**Key angling & sport fish - 8 per fisher**

An important protection category - cobbler and tailor stocks have both declined in recent years, with fish often caught before spawning.

Black bream (in Swan/Canning River) (*A.butcheri*)

[250mm total length]

Bonito (*Sarda orientalis*, *Cybiosarda elegans*)

Cobbler (*Cnidoglanis macrocephalus*)

[430mm total length]

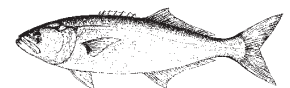
Tailor (*Pomatomus saltatrix*)

[250mm]

Mangrove jack (*Lutjanus argentimaculatus*)

Fingermark bream (*Lutjanus russelli*)

Giant threadfin salmon (*Eleutheronema tetradactylum*)

**Table fish - 20 per fisher**

This group contains many of WA's most popular angling species and bag limits are crucial for maintaining future stocks.

Bream, black, (outside Swan/Canning River) (Northwest black and yellowfin (*A.butcheri*, *A. palmaris*, *A. latus*) [250mm]

Flathead (*Platycephalus* spp) [300mm] and flounder (*Pseudorhombus* spp) (combined) [250mm]

Leatherjackets (*Monacanthidae* family) [250mm]

Pike (*Dinolestes lewini*) [280mm] and snook (*Sphyrnaena novaehollandiae*) (combined) [330mm]



## WEST COAST REGIONAL REVIEW

Skipjack trevally ( <i>Pseudocaranx spp</i> )	[200mm]
Snapper, red ( <i>Centroberyx spp</i> )	[230mm]
Tarwhine (silver bream)( <i>Rhabdosargus sarba</i> )	[230mm]
Threadfin (bluenose salmon) Northern, Gunther's and black-finned salmon ( <i>Polydactylus spp</i> )	
Whiting, King George ( <i>Sillaginodes punctata</i> ) [250mm]	[ South coast east of Pt D'Entrecasteaux - 280mm]

### Bread & butter fish - 40 per fisher - no legal size

Baitfish of the sardine and anchovy families (*Clupeidae* and *Engraulididae* - mulies, whitebait, scaly mackerel, anchovies), redfin perch, goldfish, carp and tilapia are NOT in this category. Popular 'bread and butter' species are all fish not listed in other categories including: garfish (*Hyporhamphus spp*), Australian herring, (*Arripis georgianus*), blue mackerel, (*Scomber australasicus*), sea and yellow eye mullet (*Mugil cephalus*, *Aldrichetta forsteri*) and western sand, school and yellowfin whiting, (*Sillago spp*).

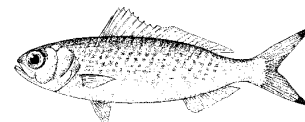
Garfish (*Hyporhamphus spp*)

Herring, Australian (*Arripis georgianus*)

Mackerel, blue (*Scomber australasicus*)

Mullet, sea & yelloweye (*Mugil cephalus*, *Aldrichetta forsteri*)

Whiting, western sand, school and yellowfin (*Sillago spp*)



### Shellfish - 2 litres

WA's delicious shellfish are often slow-growing and extremely vulnerable to overpicking from inshore reefs. A mixed bag of 2 litres of whole edible shellfish applies unless a separate bag limit is specified.



*Abalone, Greenlip and brownlip	bag & possession limit 10, boat limit 30	combined	[140mm]
*Abalone, Roe's	bag & possession limit 20		[60mm]
Mussels	bag limit 9 litres		

### Cephalopods and Echinoderms

Squid, octopus, cuttlefish combined bag limit 15 per fisher, boat limit 30

Sea Urchins daily bag limit 40 closed season applies



### Crustacea

WA's crustaceans make fine dining during open seasons but a licence is needed for marron and lobster.

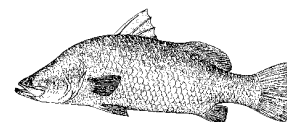


Crab, mud	bag limit 10 combined	green [150mm] brown [120mm]
Crab, blue manna	bag limit 24, boat limit 48	(min. 2 people) [127mm]
Cherabin	bag limit 9 litres	gear restrictions apply
*Marron	bag limit 10	closed season applies, day=midday-midday [carapace 76mm]
Prawns, King and school	bag limit 9 litres	closed season Swan River & Mandurah
*Western and Southern Rock lobster	combined bag limit 8, boat limit 16	closed season
Maximum size limits also apply to females.	Western [77mm(15 Nov. - 31 Jan.) 76mm (1 Feb. - 30 Jun.)] Southern [98.5mm] tropical [76mm]	
Special rules apply Nigaloo and Dampier - contact Fisheries WA, see rock lobster brochure.		

### Special bag limits

Individual bag limits may be set as a conservation strategy for species considered rare or vulnerable to overfishing.

Barramundi ( <i>Lates calcarifer</i> ) - possession limit 5 (only one rod to be used at any one time)	[550mm]
in lower Ord River possession limit 1, none over 800mm	
Groper, Western blue ( <i>Achoerodus gouldi</i> ) - daily bag limit 1	[400mm]



### Protected species These species are totally protected and may not be taken

Potato cod (*Epinephelus tukula*)

Leafy seadragon (*Phycodurus eques*)

Whale shark (*Rhiodon typus*)

Great white shark (*Caracharodon carcharias*)

Hump head maotri wrasse (*Cheilinus undulatus*)

Grey nurse shark (*Cheilinus undulatus*)



## APPENDIX C

	PINK SNAPPER	SPANGLED EMPEROR	BLUE-LINED EMPEROR (BLACK SNAPPER)
<i>Parameters</i>	<i>Pagrus auratus</i>	<i>Lethrinus nebulosus</i>	<i>Lethrinus laticaudis</i>
<b>Maximum length (mm)</b>	Aust. 1300	NW Cape and NW shelf5:Linf=56.8 cm FL.86 cm TL1	Nth Territory7:>50 cm FL80 cm TL1
<b>Size at maturity (mm) majority and TL unless otherwise stated</b>	Shark Bay Ocean 400- 410 * Shark Bay Inner Gulfs 450- 500 * Spencer Gulf 280 FL	WA5: 38 cm FL.	Nth Territory7:50 % of females about 30 cm FL.(Note: change sex, from emale to male)
<b>Maximum age (years)</b>	Shark Bay 25- 30 (?) S.A. waters 30	Mid West region5: 27 yrs.	Nth Territory7:
<b>Age at maturity (years) majority unless otherwise stated</b>	Shark Bay 4- 5 Spencer Gulf, S.A. 2- 3		
<b>Maximum weight (kg)</b>	* Research currently underway	6.6 kg1	
<b>Habitat juveniles/subadults (immature)</b>	Shark Bay 0+ and 1+ deeper waters (7- 12 m) in inner gulfs (?) * Aust. & N.Z. bays and inlets	Great Barrier Reef: Significant positive correlation between depth and length at capture for fish taken by line.	
<b>Habitat adults (mature)</b>	Shark Bay Adults associated with rocky reefs, coral, mud banks Aust. & N.Z. Offshore rocky reefs to 35m, 1-200m depth.	Great Barrier Reef6: Significant correlation between depth and length at capture for fish taken by line. Adults only in waters deeper than 20 m.	
<b>Sex change behaviour</b>	Hauraki Gulf, N.Z. Functional gonochorists/ juvenile sex inversion	Throughout WA5: no sex change behaviour	Nth Territory7: Protogyn. Herm.100% female: <32 cm FL 50:50 at 38 cm FL100% male >44 cm FL
<b>Sex ratio (f to m)</b>	Shark Bay 0.49- 0.68		
<b>Spawning times</b>	Shark Bay May- Sept./ Oct. *	Mid-West region5: Oct-Mar.NW Cape and NW shelf5 1 or 2 months earlier.	
<b>Fecundity (number of eggs)</b>	Shark Bay serial spawner batch event range- 114500- 182500		
<b>Stock assessment</b>	Shark Bay Daily egg production method (preliminary use in 1997)		
<b>Stock structure</b>	Shark Bay 3 discrete populations in Shark Bay.Vic. Two populations.		

WEST COAST REGIONAL REVIEW

	RED EMPEROR	SPANISH MACKEREL	BALDCHIN GROPER
Parameters	<i>Lutjanus sebae</i>	<i>Scomberomorus commerson</i>	<i>Choerodon rubescens</i>
Maximum length (mm)	Great Barrier Reef9: Males: Linf 102.3 cm FL, Females: Linf= 87.5 cm FL. 100 cm TL1	235 cm TL1	90 cm TL
Size at maturity (mm) majority and TL unless otherwise stated	Great Barrier Reef8: Minimum: 48.5 cm FL50%: 54.8 cm FL	Queensland10: minimum 79 cm FL	
Maximum age (years)	> 10 yrs.	Queensland10:>14 yrs (females live longest)	
Age at maturity (years) majority unless otherwise stated			
Maximum weight (kg)	16 kg TL1	Queensland11:40 kg 42.2 kg TL1	7 kg
Habitat juveniles/subadults (immature)	Great Barrier Reef9: Significant positive correlation between depth and length at capture for fish taken by line and trawl Juveniles from shallow waters to 50m depth.	Queensland11: Creeks, estuaries, sheltered mudflats and shallow waters (including up to 12 m).	Abrolhos12: Protogynous hermaphrodites
Habitat adults (mature)			90 cm TL1
Sex change behaviour	Great Barrier Reef8:No		
Sex ratio (f to m)			
Spawning times	Great Barrier Reef9:Oct-Dec	Queensland north10: Aug to Dec/ Mar. Queensland south10: Oct to Dec	
Fecundity (number of eggs)			
Stock assessment			
Stock structure			

	CORAL TROUT	ESTUARY COD	RANKIN COD
<i>Parameters</i>	<i>Plectropomus maculatus</i>	<i>Epinephelus coioides</i>	<i>Epinephelus multinotatu</i>
<b>Maximum length (mm)</b>	70 cm TL		100 cm
<b>Size at maturity (mm) majority and TL unless otherwise stated</b>	Great Barrier Reef 15:12 yrs		
<b>Maximum age (years)</b>	Great Barrier Reef 14: 30.0 cm SL (50%) 35.0 cm SL (100%)	Northeast Queensland 16>50 cm FL:156 fish sampled between 12.0 and 50.0 cm FL were all immature. All in estuaries.	
<b>Age at maturity (years) majority unless otherwise stated</b>	Great Barrier Reef4:2 yrs (50%):3 yrs (100%)	Northeast Queensland16: >5yrs. (spend about first five years as juveniles in estuaries).	
<b>Maximum weight (kg)</b>	6 kg		9 kg
<b>Habitat juveniles/subadults (immature)</b>	Great Barrier Reef4:Change sex from female to male. Mean over-lap at 35.38 cm SL and 4.42 yrs	Northeast Queensland16: Juveniles (12.0 to 50.0 cm FL) only in estuaries.	
<b>Habitat adults (mature)</b>			
<b>Sex change behaviour</b>		Northeast Queensland16:change sex from female to male at an unknown size greater than 50 cm FL.	
<b>Sex ratio (f to m)</b>			
<b>Spawning times</b>			
<b>Fecundity (number of eggs)</b>			
<b>Stock assessment</b>			
<b>Stock structure</b>			

WEST COAST REGIONAL REVIEW

	MULLOWAY	GARFISH	DHUFISH
<i>Parameters</i>	<i>Argyrosomus hololepidotus/ japonicus</i>	<i>Hyporhamphus melanochir</i>	<i>Glaucosoma hebraicum</i>
<b>Maximum length (mm)</b>		Aust. 520	W.A. 1200
<b>Size at maturity (mm) majority and TL unless otherwise stated</b>		SW Aust. 250 FL	SW Aust. F=250-300 M=350-400
<b>Maximum age (years)</b>	Sth Africa 7:50%: 92 cm TL (male) 107 cm TL (female) 100%: 110 cm TL (m) 120 cm TL (f)	S.A. 10	SW Aust. F=29 M= 35
<b>Age at maturity (years) majority unless otherwise stated</b>	42.5 kg 2	S.A. 3	SW Aust. F=5 M=8
<b>Maximum weight (kg)</b>	Sth Africa 7:50%: 5 yrs (male) 6 yrs (female) 100%: 7 yrs (m) 8 yrs (f)	Research currently underway - SARDI (FRDC funded project)	
<b>Habitat juveniles/subadults (immature)</b>		Aust. Sheltered embayments and estuaries. Shown to occur over seagrass beds during the day.	
<b>Habitat adults (mature)</b>	167.4 cm <sup>2</sup>	Aust. Sheltered embayments and estuaries. Shown to occur over seagrass beds during the day.	SW Aust. Inshore-offshore marine.
<b>Sex change behaviour</b>			
<b>Sex ratio (f to m)</b>			SW Aust. 46:54
<b>Spawning times</b>		S.A. October - November.	SW Aust. December- April
<b>Fecundity (number of eggs)</b>		Aust. Up to 10000.	
<b>Stock assessment</b>			
<b>Stock structure</b>			

	WESTERN AUSTRALIAN SALMON	AUSTRALIAN HERRING	SKIPJACK TREVALLY
<i>Parameters</i>	<i>Arripis truttaceus</i>	<i>Arripis georgianus</i>	<i>Pseudocaranx dentex</i>
<b>Maximum length (mm)</b>	Aust. 800	SW Aust. F=411 M=281 S.A. F=281 M=259	Aust. 760 N.Z. 700
<b>Size at maturity (mm) majority and TL unless otherwise stated</b>	Aust. 540	SW Aust. L(50) F=215 M=196	N.S.W. 280
<b>Maximum age (years)</b>	Aust. 9	SW Aust. F=12+ M=9+ S.A. F=7+ M=5+	N.Z. 46
<b>Age at maturity (years) majority unless otherwise stated</b>	Aust. 3-6	SW Aust. F=2- 3 M=2- 3	
<b>Maximum weight (kg)</b>			Research currently underway - N.S.W. Fisheries (FRDC funded project)
<b>Habitat juveniles/subadults (immature)</b>	Aust. Nearshore waters adjacent to beaches,reefs or headlands.	SW Aust. Nearshore waters in embayments and estuaries. Associated with detached macrophytes.	Tas. Estuaries, bays and shallow continental shelf.
<b>Habitat adults (mature)</b>	Aust. Moves to more exposed coasts.	SW Aust. Inshore marine environments, around offshore islands.	Tas. Large bays and inlets and inshore reefs and over open grounds on continental shelf.
<b>Sex ratio (f to m)</b>	Aust.1:1	W.A. Commercial catches-1:1 Recreational catches- 72:28	
<b>Spawning times</b>	Aust. April- May S.A. March- April.	SW Aust. April- June. S.A. None.	N.Z. Summer
<b>Fecundity (number of eggs)</b>	Aust. Range= 876300- 358900	SW Aust. Multiple spawner mean=98800	
<b>Stock assessment</b>			
<b>Stock structure</b>		Aust. One stock	

	SOUTHERN BLUE-SPOTTED FLATHEAD	ESTUARINE CATFISH	KING GEORGE WHITING
Parameters	<i>Platycephalus speculator</i>	<i>Cnidogobius macrocephalus</i>	<i>Sillaginodes punctata</i>
Maximum length (mm)	Aust. 900 Wilson Inlet F=696 M=545	Aust. 910 Swan Estuary 683 Wilson Inlet >700	Aust. 720
Size at maturity (mm) majority and TL unless otherwise stated	Wilson Inlet F=250-400 M=190-310	Wilson Inlet 425	SW Aust. L(50) F=413 M=400 S.A. L(50) F=370 M=350
Maximum age (years)	Wilson Inlet F=12 M- 10	Swan Estuary 6 Wilson inlet 9+	SW Aust. F=14 M=13
Age at maturity (years) majority unless otherwise stated	Wilson Inlet F- 2 M- 1	Swan Estuary 2 Wilson Inlet 4	SW Aust. F=4 M=4 SE Aust. As above.
Maximum weight (kg)			
Habitat juveniles/subadults (immature)	Wilson Inlet Sparse vegetation and clear sandy substrata	Perth Associated with detached macrophytes in the surf zone of sandy beaches	SW Aust. Unvegetated sheltered nearshore waters in estuaries and marine embayments. SE Aust. as above, but also occur in vegetated areas.
Habitat adults (mature)	Wilson Inlet Unvegetated & vegetated substrata	Wilson Inlet Males brood eggs and larvae in burrows	SW Aust. Deeper and more offshore waters around reefs. SE Aust. Deeper offshore waters.
Sex change behaviour			
Sex ratio (f to m)	Wilson Inlet 2.8:1 (between Sept. & March)		0.52:1 to 0.64:1 (unstated sex)
Spawning times	Wilson Inlet December- March	Swan Estuary Oct.- Dec. Wilson Inlet Oct.- Jan.	SW Aust. June- September SE Aust. March - July
Fecundity (number of eggs)	Wilson Inlet batch range= 83176-485618. Multiple spawner	Swan Estuary mean= 2078 range= 533- 3551	SW Aust. multiple spawner
Stock assessment		Wilson Inlet Closed waters provide refuge for spawning fish. Gill mesh size increase from 76-89 mm and ML size raised from 318 to ≤425 mm.	Peel-Harvey Estuary Bunting closure to protect spawning stock between Oct. & Dec.
Stock structure		SW Aust. Isolated populations	Two populations between W.A. and Vic.



	YELLOW FIN WHITING	SOUTHERN SCHOOL WHITING	BANDED WHITING
<i>Parameters</i>	<i>Sillago schomburgkii</i>	<i>Sillago bassensis</i>	<i>Sillago vittata</i>
<b>Maximum length (mm)</b>	Aust. 420	Aust. 360 SW Aust. F=328 M=307.	SW Aust. F=310 M=325
<b>Size at maturity (mm) majority and TL unless otherwise stated</b>	SW Aust. F=200 M=180	SW Aust. L(50) F&M=200	SW Aust. F=140 M=130
<b>Maximum age (years)</b>	SW Aust. F=7 M=7	SW Aust. F=7 M=9	SW Aust. F= 7 M=6
<b>Age at maturity (years) majority unless otherwise stated</b>	SW Aust. F=2 M=2	SW Aust. F=3 M=3	SW Aust. F=1 M=1
<b>Maximum weight (kg)</b>			
<b>Habitat juveniles/subadults (immature)</b>	W.A. Unvegetated areas in sheltered to moderately sheltered nearshore waters in marine embayments.	SW Aust. Exposed nearshore marine waters.	SW Aust. Sheltered nearshore marine waters in embayments.
<b>Habitat adults (mature)</b>	W.A. As above	SW Aust. Deep offshore marine waters.	SW Aust. Shallow offshore marine waters.
<b>Sex change behaviour</b>			
<b>Sex ratio (f to m)</b>			
<b>Spawning times</b>	SW Aust. December - February. Shark Bay September - January.	SW Aust. December- March	SW Aust. December- February
<b>Fecundity (number of eggs)</b>	SW Aust. multiple spawner	SW Aust. multiple spawner	SW Aust. multiple spawer
<b>Stock assessment</b>			
<b>Stock structure</b>			

WEST COAST REGIONAL REVIEW

	BLACK BREAM	TAILOR	SEA MULLET
<i>Parameters</i>	<i>Acanthopagrus butcheri</i>	<i>Pomatomus saltatrix</i>	<i>Mugil cephalus</i>
<b>Maximum length (mm)</b>	Swan Estuary F=480 M=475	Aust.1200	Swan Estuary 390 Aust. 790
<b>Size at maturity (mm) majority and TL unless otherwise stated</b>	Swan Estuary L(50) F- 218 M=212	Carnarvon to Wilson Inlet L(50) 351 Byron Bay to Fraser Island F-280 FL M-260 FL	
<b>Maximum age (years)</b>	Swan Estuary F=21+ M=15+	Carnarvon to Wilson Inlet 11#	Swan Estuary 4+ Aust 9
<b>Age at maturity (years) majority unless otherwise stated</b>	Swan Estuary 2 Moore River 4	Carnarvon to Wilson Inlet 2+ Byron Bay to Fraser Island 1+ or 2+ (?)	
<b>Maximum weight (kg)</b>		#Preliminary data	
<b>Habitat juveniles/subadults (immature)</b>	Aust. Estuarine.	Carnarvon to Wilson Inlet Inshore marine embayments and estuaries. Byron Bay to Fraser Island Estuarine.	Aust. Migrate into upper reaches of estuaries.
<b>Habitat adults (mature)</b>	Aust. Estuarine.	Carnarvon to Wilson Inlet Offshore reefs and islands Byron Bay to Fraser Island rocky headlands	SW Aust. Nearshore marine waters and estuaries. Spawn in marine waters.
<b>Sex change behaviour</b>		Carnarvon to Wilson Inlet no sex change behaviour; gonochoristic.	
<b>Sex ratio (f to m)</b>		Carnarvon to Wilson Inlet 1:1 Byron Bay to Fraser Island 1:1	
<b>Spawning times</b>	SW Aust. October- December.	Carnarvon to Geraldton Spring Perth to Wilson Inlet Spring and Autumn Byron Bay to Fraser Island June- November	SW Aust. March- September. East Aust. March-July
<b>Fecundity (number of eggs)</b>	SW Aust. Multiple spawner. Batch range = 13000-612000.	Byron Bay to Fraser Island range= 370000- 1240000	
<b>Stock assessment</b>			
<b>Stock structure</b>	SW Aust. limited gene exchange among spatially isolated local populations	Aust. Single genetic stock on east coast. Stocks on east and west coasts are separate	

	YELLOW EYE MULLET		
<i>Parameters</i>	<i>Aldrichetta forsteri</i>		
<b>Maximum length (mm)</b>	Swan Estuary 353 Aust. 500		
<b>Size at maturity (mm) majority and TL unless otherwise stated</b>			
<b>Maximum age (years)</b>	Swan Estuary 2+		
<b>Age at maturity (years) majority unless otherwise stated</b>	Aust. 2-3		
<b>Maximum weight (kg)</b>			
<b>Habitat juveniles/subadults (immature)</b>	Aust. Nearshore marine embayment waters and estuaries.		
<b>Habitat adults (mature)</b>	Aust. Coastal marine waters and estuaries. Spawn in marine waters.		
<b>Sex change behaviour</b>			
<b>Sex ratio (f to m)</b>			
<b>Spawning times</b>	West. Aust. March–August. East. Aust. January to April		
<b>Fecundity (number of eggs)</b>	S.A. 125000–630000		
<b>Stock assessment</b>			
<b>Stock structure</b>			



## APPENDIX D

---

### 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, Rottneest 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, Rottneest 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.



- 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) in press
- 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) in press

## REFERENCES

- Australian Bureau of Statistics (1987) Recreational Fishing Western Australia.
- Australian Bureau of Statistics (1998a) Western Australian Year Book.
- Australian Bureau of Statistics (1998b) Population Projections 1997 - 2051.
- Baharthah, T and Sumner, N. (in prep) Fisheries WA Community Survey 1999. Fisheries WA Research Report.
- Conservation and Land Management (1998): New Horizons in marine Management.
- Fisheries WA (1989). A report on marron fishing in Western Australia. Marron Fishing Advisory Committee. *Fisheries Management Paper No. 26.*
- Fisheries WA (1990) Future policy for charter fishing operations in Western Australia. *Fisheries Management paper No.35.*
- Crowe F, Lehre W, Lenanton R, (1999) A study into Western Australia's open access and wetline fisheries. Fisheries Research Report No 118.
- Fisheries Department of Western Australia (1991): The Future for Recreational Fishing – Forum Proceedings. Recreational Fishing Advisory Committee. *Fisheries Management Paper No. 40.*
- Fisheries Department of Western Australia (1991): The Future for Recreational Fishing - Final report of the Recreational Fishing Advisory Committee. *Fisheries Management Paper No. 41.*
- Fisheries Department of Western Australia (1991): Appendix to the final report of the Recreational Fishing Advisory Committee. *Fisheries Management Paper No. 42.*
- Fisheries Department of Western Australia (1994): Future management of recreational gill, haul and cast netting in Western Australia. *Fisheries Management Paper No. 66.*
- Fisheries Department of Western Australia (1995): The bag and size limit review: new regulations and summary of submissions. *Fisheries Management Paper No. 73.*
- Fisheries WA (1997): Strategic Plan 1997-2002.
- Fisheries WA (1997): Programs Business Plan 1997-2002.
- Fisheries WA (1998): Future management of the aquatic charter industry in Western Australia, Final report of the Tour Operators Fishing Working Group. *Fisheries Management Paper No. 116.*
- Fisheries WA (1999): A quality future for recreational fishing in the Gascoyne. Proposals for community discussion by the Gascoyne Recreational Fishing Working Group. *Fisheries Management Paper No.124.*
- Fisheries WA (unpubl): Volunteer Fisheries Liaison Officers Survey Database.
- Fisheries WA (1998): State of the Fisheries Report 1996/1997.
- Fisheries WA (1999): State of the Fisheries Report 1997/1998.
- Fisheries WA (2000): State of the Fisheries Report 1998/1999.
- Kailola, P., Williams, M., Stewart, P., Reichelt, R., McNee, A., Grieve, C., (1993) Australian Fisheries Resources.
- Lenanton (1984). The commercial fisheries of temperate Western Australian estuaries: early settlement to 1975. Department of Fisheries and Wildlife Report No. 62.
- Malseed, B., Sumner N, and Williamson, P. (1999) A 12-month survey of recreational fishing in the Leschenault Estuary of Western Australia during 1998. Fisheries WA Research Report.
- Malseed, B., Sumner N, and Williamson, P. (in prep). 12-month survey of recreational fishing in the Peel-Harvey Estuary of Western Australia during 1998/99. Fisheries WA Research Report.
- National Recreational Fisheries Working Group (1994). Recreational Fishing in Australia – A national policy. Department of Primary Industries and Energy, Commonwealth of Australia..

- Patterson Market Research (unpubl. 1994): Report on recreational fishing to the Fisheries Department of WA.
- Reark Research (unpubl, 1996): Final Report - Community Attitudes Survey. Report to Fisheries WA.
- Reark Research (unpubl, 1997): Final Report - Community Attitudes Survey. Report to Fisheries WA.
- Right Marketing (1998) Fisheries WA Community Survey 1998. Consultants report for Fisheries WA.
- Sumner, N. and Williamson, P. (1999) A 12-month survey of coastal recreational boat-fishing between Augusta and Kalbarri on the west coast of WA during 1996/97. Fisheries Research Report No.117.

# 'A QUALITY FUTURE FOR RECREATIONAL FISHING ON THE WEST COAST.'

NAME: \_\_\_\_\_

RESIDENTIAL ADDRESS: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_ POST CODE: \_\_\_\_\_

AGE GROUP:  10-19  20-29  30-39  40-49  50-59  60+

Please indicate your response by marking one box with a tick (✓)

Any additional comments you may care to make can be made  
in the space provided. Please feel free to add additional  
pages of comments if insufficient space is available.

To be read in conjunction with  
Fisheries Management Paper No: 139

*A QUALITY FUTURE FOR  
RECREATIONAL FISHING ON THE  
WEST COAST.'*

See back page for order details



FISHERIES  
WESTERN AUSTRALIA

## HAVE YOUR SAY

This questionnaire provides an opportunity for you to express your opinion on how our recreational fisheries in the West Coast Region should be managed. This questionnaire must be read in conjunction with the discussion paper ‘A *Quality Future for Recreational Fishing on the West Coast.*’ You may use this proforma response or complete a written submission when considering the proposals contained in the discussion paper. It is equally important to respond whether you agree or disagree with the various management proposals. Within the proforma space is provided for written comments on the proposals.

### Guiding principles for management

#### Proposal 1 - Key Principles for Management

The Working Group felt it was important that recreational fisheries management in the West Coast Region should be based on a number of key principles.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Government should ensure that adequate funding is available for comprehensive research and effective management of recreational fishing.					
A key aim should be to ensure that the biodiversity of fish communities and their habitats and sustainability of fish stocks are preserved.					
Fisheries management should incorporate controls and measures that anticipate and cover increasing numbers of recreational fishers and their impact on fish stocks.					
Management should be based on the best available information and where critical information is unavailable, a precautionary approach should be adopted to minimise risk to fish stocks.					
Fishing rules should acknowledge the importance of equitable access to fishing opportunities across recreational user groups.					
The value of recreational fishing should be clearly recognised and given proper weight in all government and community planning processes, eg: Marine Parks, industrial developments.					
Fishing rules be kept simple and, where possible and practical, made uniform across the region.					

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
Recreational fishing rules should be designed to protect the sustainability of stocks and manage the total recreational catch, as well as protect fish at vulnerable stages in their life cycle eg: spawning aggregations.					
Benefits from management of the total recreational catch should flow back to the recreational sector and be reflected in maintaining or improving fishing quality and sustainability.					
Clear processes should exist to resolve resource sharing issues which support the integrated management of fish stocks.					

**Comments:**

---



---



---

**Information for management - Biology, catch and fishery performance**

The working group believes it is critical that good quality time-series data on fishing activity, catches, and fish population structure is developed for all recreational fisheries. The need for this information was highlighted at every public meeting.

This type of information is essential for understanding what is being caught by the recreational sector and assisting with the resolution of fishery management and resource sharing issues.

**Proposal 2 – Major catch survey**

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
A major recreational catch survey should be undertaken every year for a minimum of three years to establish a baseline data set on recreational fishing in the west coast.					
The major catch survey should then be repeated every three years at a minimum to provide detailed information about the spatial and temporal distribution of recreational activity and catches on which to base management decisions.					

*Comments on proposals*

<b>Comments:</b>

**Proposal 3 – Volunteer angler logbook program**

During the public meetings, anglers and fishing clubs alike expressed a strong desire to assist with the collection of catch and effort data.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Fisheries WA should introduce a comprehensive volunteer angler logbook program to all key recreational fishing centres in the West Coast Region to provide additional monitoring of trends among regular fishers.					

<b>Comments:</b>

**Proposal 4 – Priority species for research**

The group believes that research programs must be designed to meet management objectives agreed to by user groups. To provide a focus, the group has identified a list of priority species for research.

Research be undertaken on the following key recreational species in the west coast - in order of priority - to provide information on species biology and stock structure. Predictive fisheries stock assessment models and, where practical, indices of recruitment, should then be developed for the following important species:

**Offshore**

1. Dhufish
2. Pink snapper
3. King george whiting
4. Baldchin groper
5. Breaksea cod

**Inshore/beach**

1. Tailor
2. Herring
3. Skipjack
4. Whiting
5. Mulloway

**Estuarine**

1. Black bream
2. Flathead/flounder
3. Crabs
4. Whiting (all species)

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Research be undertaken on the listed key recreational species in the west coast.					



<b>Comments:</b>

**Proposal 5 – Fishing quality indicators**

Management has tended to be reactive in the absence of detailed information on the biology of species or status of many stocks. The working group believes ‘fishing quality indicators’ should be developed to help monitor recreational fishing in the west coast and measure effectiveness of management strategies.

A range of ‘fishing quality indicators’ based on angler surveys be developed to identify trends in fishing quality in the region and assist in the review of the effectiveness of this strategy. These indicators should cover fishing quality, diversity and the value associated with the fishing experience.

It is proposed that the following species be used as indicator species:

**Offshore**

1. Dhufish
2. Pink snapper
3. Baldchin groper

**Inshore/beach**

1. Tailor
2. Herring
3. Sand whiting
4. King george whiting

**Estuarine**

1. Black bream
2. Blue manna crabs

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don’t Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
The listed species be used as indicator species.					

<b>Comments:</b>

**Protecting vulnerable fish and managing the recreational catch**

**Proposal 6 - Bag limits**

The proposed ‘Trophy fish’, ‘Prize fish’ and ‘Table fish’ categories attempt to simplify the current bag limit structure.

Many of the species in the Trophy fish category are slow growing and highly sought after. Though the total stock structure for the different species is not known, there are concerns over the sustainability of important fish such as dhufish and spanish mackerel.

The group proposes these principles to provide a framework for setting bag limits:

- Bag limits should be obtainable by reasonably skilled anglers
- Limits should be set at a level to ensure long term sustainability
- They should be set around what is a fair and reasonable feed for a family

**Comments on proposals**

- The recreational catch must have a meaningful relationship to bag limits
- Limits should reflect a precautionary approach to management

**6(a) Trophy fish**

<b>Trophy fish</b>	
Mixed bag limit of 4	
<i>These fish are highly sought after for catching or eating qualities and are vulnerable to overfishing</i>	
<i>Species</i>	<i>Slot limit</i>
Dhufish	
Groper and tuskfish	
Breaksea cod	
Blue groper (bag limit 1)	
Coral trout	
Red emperor	
Cods – rankin, estuary .....	Nil over 1.2m
Queen snapper	
Red snapper/nannygai	
Mackerel, spanish, wahoo	
Mackerel, shark and school	
Mulloway.....	Only 1 over 70cm
Spangled emperor/north-west snapper	
Pink snapper .....	Only 2 over 70cm
Samson fish	
Cobia	
Sharks .....	Nil over 2m
Tuna – southern bluefin, yellowfin, bigeye, dogtooth, bonito	
Marlin, blue, black and striped	
All billfish (e.g. sailfish, swordfish)	
Barracuda	
Mahi mahi	
Salmon	
Yellowtail kingfish	

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Do you agree with the mixed daily bag limit of 4 for trophy fish?					
Do you agree with the composition of species included in the trophy fish category?					

**Comments:**

---



---



---

6(b) Prize fish

<b>Prize fish</b>	
Mixed bag limit of 16 Eight of any one species	
<i>These fish are prized by recreational fishers or of relatively low abundance and require protection to minimise local depletion.</i>	
<i>Species</i>	<i>Slot limit</i>
tailor .....	Only two over 50cm
flathead	
flounder	
bream, black .....	Only two over 50cm
bream, silver (tarwhine)	
cobbler and catfish	
pike/snook	
skipjack trevally	
leatherjacket	

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Do you agree with the mixed bag limit of 16 with not more than 8 of any species for prize fish?					
Do you agree with the species listed in the prize fish category?					

<b>Comments:</b>

6(c) Table fish

Under the “table fish” category the Working Group have proposed two possible structures. Option A has a mixed daily bag limit of 40 with not more than 30 of one species, where Option B has a mixed daily bag limit of 30 with not more than 20 of each species.

Baitfish of the sardine and anchovy families (Clupeidae and Engraulidae - mulies, whitbait, scaly mackerel, anchovies) are not included in this category. For these species it is proposed that a bag limit of 9 litres applies.

**Option A Table fish**

<b>Table fish</b>
Mixed daily bag limit of 40
Not more than 30 of any one species
<i>These fish are of higher abundance and highly sought after</i>
<b>Species</b>
herring garfish whiting – western sand, school and yellowfin king george whiting.....only four over 35cm mullet – sea and yelloweye blue mackerel All species other than baitfish or those listed in other categories

**Option B Table fish**

<b>Table fish</b>
Mixed daily bag limit of 30
Not more than 20 of any one species
<i>These fish are of higher abundance and highly sought after</i>
<b>Species</b>
herring garfish whiting – western sand, school and yellowfin king george whiting.....only four over 35cm mullet – sea and yelloweye blue mackerel All species other than baitfish or those listed in other categories

With regard to the proposed ‘table fish’ category which option would you prefer to see adopted for the West Coast Region ?

Option A       Option B       Neither

(please provide reason in comment section)

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
Do you agree with the species listed in the table fish category?					

<b>Comments:</b>

**6(d) Crustaceans**

During meetings at Geraldton and Kalbarri, concern was expressed at the amount of rock lobster accumulated by some recreational fishers. In one reported incident, a recreational fisher had in excess of 800 frozen rock lobster stored at his residence.

The working group believes that large accumulations are not in keeping with recreational fishing ethics.

<i>Species</i>	<i>Proposed Changes</i>
Rock lobster	<i>Option A</i> Introduce possession limit of 32 <i>Option B</i> No change to management
Crab, blue manna	<i>proposal</i> bag limit 20, boat limit 40

With regard to Rock Lobster, which option would you prefer to see adopted for the West Coast Region?

Option A       Option B       Neither

(please provide reason in comment section)

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
A bag limit of 20 blue manna crabs and a boat limit of 40, should be adopted for the West Coast Region.					

**Comments:**

---



---



---

**6(e) Cephalopods**

No change proposed.

**6(f) Shellfish**

Due to the fact that shellfish are often slow growing and extremely vulnerable to over-picking from inshore reefs, it proposes that all non-edible shellfish be protected and not removed from the marine environment.

Current bag limit for abalone (possession limit of 20 Roe's abalone ) and mussels (9 litres) should continue to apply. For the following species it is proposed that the current daily bag limit of 2 litres should apply. The collection of all other shellfish and live corals should be prohibited.

- cockles
- razorfish
- scallops
- pipis
- sea urchins

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Do you agree with the daily bag limit of 2 litres for shellfish?					

*Comments on proposals*

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Do you agree with the species listed in the shell fish category?					

**Comments:**

---



---



---

**Proposal 7 - Proposed changes to the current minimum recreational legal size limits**

Please indicated your support for the size limit changes by placing a number between 1-5 in the spaces provided next to each species.

- 1 = Strongly Agree
- 2 = Agree
- 3 = Don't Know
- 4 = Disagree
- 5 = Strongly Disagree

<b>Species</b>	<b>Old Size</b>	<b>New Size</b>	<b>Size at Maturity</b>	<b>Your Support (1-5)</b>
Baldchin groper	40	45	40	
Barracuda		60	not known	
Blue groper	40	60	not known	
Breaksea cod		30	not known	
Cod, other		30	not known	
King George whiting	25	28	36	
Herring		20	22	
Mahi Mahi (dolphin fish)		60	not known	
Mulloway	45	50	75	
Pike	28	30	not known	
Pink snapper	41	45	45	
Red Snapper	23	25	not known	
Skippy	20	25	28	
Snook	33	30	not known	
Tailor	25	30	34	
Whiting, school & yellowfin		20	22	
Yellowtail kingfish		50	not known	

**Comments:**

---



---



---

**Proposal 8 - Filleting at sea**

To protect juvenile fish, the group believes it is important that Fisheries Officers can enforce minimum sizes at the boat ramp. To achieve this, filleting at sea should not be permitted. So that people may keep their fish in quality condition when staying on islands, enforcement of the minimum size should be at the point where the fish are first landed. Once landed, fish could be processed and transported from an island to the mainland.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
Filleting at sea should not be permitted. If a fishing trip involves an overnight stay on an island, fish caught can be filleted and then transported back to the mainland.					

**Comments:**

---



---



---

**Proposal 9 - Accumulation of fish at sea**

The working group is concerned about accumulation of fish at sea, and the fact that this is largely unenforceable. It also creates a loophole – people could claim that they had been at sea for several days when arriving at a boat ramp with in excess of the daily bag limit. The group considers that bag limits should be enforceable, and that recreational fishers should not be allowed to accumulate fish at sea.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
Recreational fishers should not be allowed to accumulate daily bag limits when living on a boat.					

**Comments:**

---



---



---

**Proposal 10 - Recreational boat limit**

With technology likely to even further improve the accuracy with which anglers can pinpoint fish, the working group believes it is important to provide additional protection to vulnerable species – particularly demersal fish such as dhufish, baldchin groper and pink snapper. In the past, boat limits have been introduced on the basis of twice the daily bag limit for blue manna crabs, squid and rock lobster. The group suggests the same principle should be applied to finfish to assist in protecting fish stocks.

*Comments on proposals*

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
A boat limit of two times the daily bag limit should apply to all species, where two or more people are present on the boat.					

**Comments:**

---



---



---

**Proposal 11 - Charter boat limits**

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>11(a)</b> That the boat limit proposed for recreational fishers apply. However, if there are more than four paying customers on board a licensed fishing tour, an additional two Trophy fish per person over and above the boat limit be permitted for the fifth and additional paying customers.					
<b>11(b)</b> The same logic should apply to dive charters taking rock lobster, where a boat limit of 16 applies. If there are more than eight licensed paying clients on a dive charter, the ninth and additional licensed paying customers should be allowed two lobsters each.					

**Comments:**

---



---



---

**Proposal 12 - Possession limits for the West Coast Region**

Possession limits specify the total number or weight of fish or fillets people may have in their possession at any given time. As such, these limits provide a more effective way of controlling the amount of fish that can be taken by each fisher. They also provide a valuable educational tool for sustainable management.

The working group believes that the majority of the community now accepts the need to restrict the total recreational take, and considers that there is widespread support for a possession limit as a key management tool.



	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
The proposed possession limit for the West Coast is that a person may have at any time no more than: <ul style="list-style-type: none"> <li>• 20kg of fillets; or</li> <li>• 10kg of fillet plus one days bag limit of whole fish; or</li> <li>• 2 days bag limit of whole fish.</li> </ul>					

**Comments:**

---



---



---

**Proposal 13 - Closures to fishing**

In developing management strategies for the west coast, the working group has been concerned that changes to the minimum legal size and reduced bag limits alone cannot adequately manage the total recreational catch of species particularly vulnerable to overfishing.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
<b>13(a)</b> Fishing for baldchin groper at the Abrolhos Islands be prohibited within the Fish Habitat Protection Area during December to March.					
<b>13(b)</b> Landing of pink snapper be prohibited from 15 September to 31 October between Cape Bouvard and Ocean Reef Marina.					

**Comments:**

---



---



---

**Proposal 14 - Set and haul net fishing**

The working group recognises that set netting for species such as mullet is popular in some estuarine and inshore areas. During the public meetings some community members expressed concern about the potential impact of netting in the West Coast Region, particularly in light of Fisheries WA research which indicated that there are significant bycatch issues with unattended netting in estuaries.

*Comments on proposals*

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>14(a)</b> Set and haul nets be prohibited for recreational fishers in the west coast except for attended set nets in the Peel/Harvey Estuary and the Hardy Inlet.					
<b>14(b)</b> Within the Peel/Harvey Estuary and Hardy Inlet outside existing closures, the use of attended set nets be permitted. Set nets should have a maximum drop of 25 meshes and float from the surface. All attended nets must be lifted and cleaned every hour.					
<b>14(c)</b> Throw nets be permitted in marine waters throughout the region (except for any estuarine and river system and 'no fishing' zones such as sanctuary zones and fish protection areas).					

**Comments/suggestions for other areas on the West Coast:**

---



---



---

**Proposals 15 - Prawn drag nets**

During summer in the Peel/Harvey, Leschenault and Swan Canning estuaries there is a significant bycatch of undersize and size crabs in prawn hand trawl nets. Crabs are easily tangled and damaged by the soft mesh of the nets.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>15(a)</b> Hand trawl nets by recreational fishers be prohibited in the waters of the Peel/Harvey and Leschenault estuaries.					
<b>15(b)</b> Hand trawl nets by recreational fishers be prohibited in the waters of Nature Reserves on the Swan River.					

**Comments:**

---



---



---

**Proposal 16 - Changes to legal fishing gear**

The working group believe the use of unattended lines secured to boats, is not within acceptable recreational fishing ethics. The working group also believe recreational fishers should be allowed to use one attended bait trap per person. These traps are used mainly to catch prawns and small fish for bait in salt water.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
Unattended set lines to be prohibited.					
One attended bait trap per person (salt water only).					

<b>Comments:</b>

**Proposal 17 - Fishing competitions**

The working group accepts that competitions have an intrinsic place in the activities of fishing clubs, and that there is considerable variation in the nature and scale of competitions.

There is considerable concern over public competitions which attract big numbers of people, raise funds and encourage contestants to catch fish primarily for prizes, rather than for human consumption.

The working group is also concerned about a number of reports of fish being dumped at the end of competitions, and of fish not being in an edible condition after weigh-in.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
<b>17(a)</b> All fishing competitions with more that 100 participants must formally register in advance with Fisheries WA.					
<b>17(b)</b> Competition organisers must keep an accurate record of participation, catch an effort and forward catch returns to Fisheries WA for inclusion in the recreational fisheries database.					
<b>17(c)</b> Fisheries WA should develop a formal code of conduct for fishing competitions in consultation with fishing clubs and organising bodies. Competitions must be conducted in line with recreational fishing ethics and meet requirements under the Animal Welfare Bill.					

<b>Comments:</b>

**Proposal 18 - Position statement on recreational fishing by indigenous people**

The working group recognises that in the past there has been some anxiety expressed in the general community over what Aboriginal people can and cannot do as traditional users of fish resources.

The group considers that a position statement on this issue should be put forward for community discussion.

It is recognised that in the past members of the aboriginal community have collected fish to provide food for their community and provision should be made to allow this custom to continue in the future. In certain circumstances such as aboriginal ceremonies, members of the aboriginal community should be allowed to collect fish for the whole community. Where these activities involve the possibility of exceeding the daily bag limit, the activities should only be carried out with prior written approval from Fisheries WA. In the interest of preserving fish stocks no one should be allowed to keep undersize fish, use illegal fishing gear or fish outside approved times or in areas which are closed to fishing.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Do you agree with the above position statement.					

<b>Comments:</b>

**Protecting recreational fishing quality**

**Proposal 19 - Fishing code for recreational fishing at Rottnest Island**

Rottnest Island, 18km off the WA coast, attracts more than 400 000 visitors annually, and to help protect fishing quality a code of conduct has been developed in the form of voluntary guidelines for responsible fishing.

- When visiting the island catch only enough fish to eat fresh for yourself and family.
- Take the time to release all undersize or unwanted fish.
- When keeping fish for the table, dispatch them quickly and ensure they are kept in a cool place in the shade.
- Clean your catch as soon as possible. Fillets should be placed in waterproof plastic bags to keep the flavour in and the water out.
- Regardless of the length of your stay on Rottnest, do not take more than one days bag limit of fish away from the island.
- Take a camera not a speargun

- Respect the sanctuary areas around Thompson Bay and Parker Point and please stay on marked trails to protect the fragile environment.
- Aim to always fish safely around the island and treat the ocean with respect.
- Though commercial fishing around Rottnest is already restricted, the working group recommends that no commercial fishing (purse seine, wetline, demersal gill net and longline) be allowed within two nautical miles of the island. As with all resource sharing proposals the working group urges that any changes should be negotiated with the commercial sector.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Do you agree with the proposed fishing code (above) for recreational fishing at Rottnest Island					

**Comments:**

---



---



---

**Proposal 20 - Position statement on restocking as stock enhancement strategy**

During the public meetings a number of people urged the “restocking” of marine fisheries with hatchery-reared juveniles to boost stocks. The working group supports stock enhancement projects in principle, but is concerned that in the U.S. and Canada large-scale restocking has caused the collapse of some wild fisheries.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
Management of the wild fish stocks should always be the primary focus for recreational fisheries management, and restocking should only be considered as a strategy to assist with the recovery of a stock where it can be identified that the stock has been significantly depleted.					

**Comments:**

---



---



---

**Resource sharing**

**Proposals 21 - Resource sharing**

Sustainable catch shares for key recreational species should be determined by negotiations with the commercial sector through a resource sharing process.

**Comments on proposals**

Public comment is sought on the following possible outcomes for the recreational fishing community. These should be achieved through a proper resource sharing process and the commercial sector should be involved in negotiations.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<p><b>21(a)</b></p> <ul style="list-style-type: none"> <li>Commercial fishing which has a significant impact on the quality of the recreational fishery should be restricted within three nautical miles of the coast. (This includes the West Coast Demersal Long Line and Gill Net Fishery, trawl fisheries and commercial wetline fishing.)</li> </ul>					
<ul style="list-style-type: none"> <li>The working group believe there is a case for extending this closure in areas of high recreational use for example - five nautical miles around Kalbarri. Community views are sought on this proposal.</li> </ul>					

**Comments:**

---



---



---



---

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<p><b>21(b)</b></p> <ul style="list-style-type: none"> <li>Herring and tailor have a high recreational value and low commercial value. Priority for their management should be recreational and the recreational catch share should reflect their importance to this sector.</li> </ul>					
<ul style="list-style-type: none"> <li>The total herring catch should be managed within a total allowable catch for both sectors.</li> </ul>					
<ul style="list-style-type: none"> <li>Resource sharing should be achieved through creating a purely recreational fishery on the west coast and a reduction in commercial catch on the south coast. The aim should be to adjust the current 80% commercial / 20% recreational catch shares to a 50% share for each sector.</li> </ul>					

**Comments:**

---



---



---

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>21(c)</b> The commercial take of tailor south of Shark Bay should be phased out in recognition their high value as a recreational species and low commercial value.					

**Comments:**

---



---



---

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>21(d)</b> Commercial salmon fishing should not be allowed on beaches in the west coast region over Easter and the ANZAC day holiday periods.					

**Comments:**

---



---



---

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>21(e)</b> The ban on recreational netting upstream of Fisher Road on the Blackwood River near Augusta should apply to commercial netting to protect black bream stocks, which are highly valued in the area.					

*Comments on proposals*

**Comments:**

---



---



---

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>21(f)</b> A minimum level of commercial fishing should be retained within the major estuary systems on the west coast to provide a source of fresh fish to consumers. A ceiling on commercial effort and catch should be established which is essential to maintain fish stocks and values in these areas.					

**Comments:**

---



---



---

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>21(g)</b> Management should be implemented for the wetline fleet and the benchmark date of November 1997, for continued access to the wetline fishery apply. The wetline fleet should pay for the cost of its fishery management.					

**Comments:**

---



---



---

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>21(h)</b> No commercial finfish fishing (purse seine, wetline, demersal gill net and longline) should be allowed within two nautical miles of Rottnest Island.					



**Comments:**

---



---



---

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>21(i)</b> No commercial finfish fishing should be allowed in the proposed closed area to fishing around the Abrolhos Islands.					

**Comments:**

---



---



---

The following table represents the estimated total catch for key species by each sector on the west coast. The working group seeks community opinion on what the relative catch shares should be in these fisheries

Species	Est commercial catch (tonnes)	Est recreational catch (tonnes)	Recreational catch as % of total catch on west coast	<b>What % of the catch should be taken by recreational fishers</b>
Herring	1200 (total fishery) 100 (west coast only)	100 (west coast)	50%(west coast only) 15% (total fishery)	
King george whiting	24 (incl estuaries)	21 (boat only).		
Tailor	6 (incl estuaries)	10 (boat only).		
Skipjack trevally	1.7	43	96.2%	
Pink snapper	273	27	9.0%	
Baldchin groper	37	23	38%	
Dhufish	191	132	40.8%	

**Comments:**

---



---



---

### Protecting fish habitats

#### Proposal 22 - Low impact wilderness fishing experiences

The working group has concerns about the impact of easier access on key recreational fish stocks, particularly dhufish, and even tailor which take up residence around inshore reef systems, or aggregate to spawn.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
That the area north of Kalbarri to the Zuytdorp Cliffs be managed on a trial basis as remote wilderness fishing areas. The trial should determine the level of community support and potential for retaining wilderness fishing values in the area.					

**Comments:**

---



---



---

#### Proposal 23 - Protection of sensitive habitat areas around new marina developments.

As new coastal roads and marinas are developed, opening up wider access to waters previously protected by their isolation, species which use these areas as a key part of their life history become increasingly at risk of over-exploitation.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
<b>23(a)</b> Developers should contribute funds for the management of fish resources and the marine environment when there is an increase in recreational fishing as a result of building new marinas and boat ramps.					
<b>23(b)</b> If there is unique or important fish habitat within close proximity to the new facility it should be set aside as a no go area. A determination on what areas should be set aside should be made during the development of each site.					

<b>Comments:</b>

**Improving community stewardship - education and compliance**

**Proposal 24 – West Coast Region community education plan**

The working group believes that a communications and community education plan should be developed that focuses on issues and species pertinent to recreational fishing in the West Coast Region.

The recreational fishing community should be properly informed of management decisions, and given a clear lead on the values and attitudes which will assist in sustaining fish stocks.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>24(a)</b> A comprehensive regional guide to recreational fishing in the West Coast Region should be produced to inform and educate fishers about recreational fishing management, fishing ethics, research, conservation issues and promoting stewardship for fish stocks and the environment.					
<b>24(b)</b> Adequate quantities of practical tools such as measuring gauges, fish rulers, adhesive bag limit guides and boat ramp and fishing venue signs should be produced to support the regional fishing guide.					
<b>24(c)</b> An annual media campaign be implemented to promote recreational fishing and fishing ethics in the west coast.					

<b>Comments:</b>

**Proposal 25 – Additional patrol capacity**

With a population of about 400,000 recreational fishers on the west coast – contributing in varying degrees to an estimated four million angler fishing days – the working group believes that the overall contact rate for all recreational fisheries for Fisheries Officers and VFLOs should be at least 10 percent of the total number of fishing trips.

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
That to achieve a ten percent contact-to-trip ratio with recreational fishers by Fisheries Offices and VFLO's, an additional eight patrols (16 Fisheries Officers) be dedicated to recreational field compliance and education activities during peak fishing seasons in the West Coast Region.					

**Comments:**

---



---



---

**Proposal 26 – Volunteer Fisheries Liaison Officer Program**

	<b>Strongly Agree</b>	<b>Agree</b>	<b>Don't Know</b>	<b>Disagree</b>	<b>Strongly Disagree</b>
<b>26(a)</b> The VFLO program must be adequately resourced with education materials and support from Fisheries WA staff. The focus of VFLO activities should be redirected towards beach front contact with recreational fishers with a target of contacting 10% of all fishing trips.					
<b>26(b)</b> A junior VFLO program be established on the West Coast Region as a trial and then expanded across the State. The program will need to operate in conjunction with the existing VFLO program and work through schools.					

**Comments:**

---



---



---

**Proposal 27 – Recreational Fishing Management Officer**

The working group considers that there must be dedicated resources within Fisheries WA to implement the West Coast Regional Review and ensure that fisheries management and educational outcomes envisaged in the plan are achieved.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
A specific person be appointed within FWA to implement the West Coast Regional Review, coordinate community consultation and education activities, and provide executive support for community advisory committees.					

**Comments:**

---



---



---

**Proposal 28 - Regional Recreational Fisheries Council**

The working group strongly supports the need to maintain and improve consultation with the recreational fishing community. However, with the move to regional management the existing system needs modifying, and the West Coast Working Group agrees with the Gascoyne Working Group that a regionally-based council to provide advice on management priorities would be more effective.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
A Regional Recreational Fisheries Council should replace the existing Regional Recreational Fishing Advisory Committees in the West Coast Region. The Council should be established under the <i>Fish Resources Management Act 1994</i> and report to the Minister for Fisheries as part of the State Recreational Fishing Advisory Committee network.					

**Comments:**

---



---



---

## Providing adequate resources for management and enhancement

### Proposal 29 - Funding for recreational fisheries management

To properly fund proposals in the strategy, and secure a funding stream which will track participation rates, the working group believes that the most realistic options are a greater contribution from government or introduction of a recreational fishing licence for the take of marine finfish.

It notes that such a licence offers the best option for a secure funding source to track participation and provide an accurate recreational fishing data base.

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
<p><b>29(a)</b> The State Government should increase the level of funding for recreational fisheries management to \$10 million for the next three financial years. In following years the government contribution should be on the basis of 5% of the direct economic impact of recreational fishing on the economy.</p>					

**Comments:**

---



---



---

<p><b>29(b)</b> If the State Government does not increase funding in this manner, it should introduce a general recreational fishing licence to provide essential funds. However, even if a licence is introduced it is essential that government funding should continue at the present level, so that a licence does not merely replace current funding.</p>					
--	--	--	--	--	--

**Comments:**

---



---



---

	Strongly Agree	Agree	Don't Know	Disagree	Strongly Disagree
<p><b>29(c)</b> If an angling licence is considered, it should be on the following basis:</p> <ul style="list-style-type: none"> <li>• Apply to over 16 yr olds.</li> <li>• Sales could be through tackle shops/shire offices.</li> <li>• Normal discount for seniors and pensioners.</li> <li>• Licence revenue must go into a trust account for recreational fisheries management.</li> <li>• Also introduce temporary licences - for example two days or 2 weeks.</li> <li>• Identify and publicise how the money will be used.</li> </ul>					

**Comments:**

---



---



---

**Where and when to send your submission**

The closing date for submission is 13 October 2000. Please send your submission along with your full name, address and association details (if applicable) to:

Executive Officer  
 West Coast Working Group  
 C/- Recreational Fisheries Program  
 Fisheries WA  
 Locked Bag 39  
 Cloisters Square Post Office  
 PERTH WA 6850

Copies of Fisheries Management Paper No. 139

# **‘A QUALITY FUTURE FOR RECREATIONAL FISHING ON THE WEST COAST’**

Are available from the following Fisheries WA Offices:

Mid West Regional Office  
Fishermens Wharf  
GERALDTON WA 6530  
Tel: 9921 6800

Mandurah District Office  
15 Leslie Street  
MANDURAH WA 6210  
Tel: 9535 1240

Head Office  
Level 3 SGIO Atrium  
168-170 St Georges Terrace  
PERTH WA 6000  
Tel: 9482 7333

Bunbury District Office  
96 Stirling Street  
BUNBURY WA 6230  
Tel: 9758 1266

Metropolitan Regional Office  
147 South Terrace  
FREMANTLE WA 6160  
Tel: 9335 6800

Busselton District Office  
48a Bussell Highway  
BUSSELTON WA 6280  
Tel: 9752 2152

Website: <http://www.wa.gov.au/westfish>