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## Long term management measures for the Cockburn Sound restricted entry fisheries.

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Management discussion paper

Long term management measures  
for the Cockburn Sound  
restricted entry fishery

Peter Millington

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Fisheries management paper No. 36

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Fisheries Department of Western Australia

December 1990



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## 1.0 Executive summary

*Cockburn Sound is one of the most popular recreational fishing areas in Western Australia. It is adjacent to the largest population centre of the state and offers generally calm and sheltered waters for boating and fishing. Cockburn Sound is also the site of a small professional fishery taking bait species, crabs, mussels and various larger finfish. There are 66 boats in the fishery for which entry has been restricted since 1985.*

*In the two years before 1985 professional fishing effort increased rapidly, especially for crabs and mussels. This increase was at the expense of potential catches in the recreational sector. The interim management rules in place since 1985 have sought to contain fishing effort by gradually reducing boat numbers through attrition. There has been little, if any, reduction in actual fishing effort.*

*The objective of this management plan is to introduce new rules which will ensure there is a real reduction in professional fishing units and fishing effort in the medium to long term. This reduction should enable a small professional fishery to co-exist with the recreational sector, supplying fresh fish to the metropolitan area, ensuring there is no proliferation of "shamateur fishing" and providing a supply of recreational angling bait.*

*The draft management plan in this discussion paper proposes that four separate limited entry fisheries should be created for crabs, mussels, bait fish and other larger finfish. Some arrangements are also proposed for those fishermen not qualifying for any unit fishery. The entry criteria for these fisheries will mean most existing fisherman should qualify for one or more fisheries.*

*The management area of the fisheries for crabs, larger finfish and mussels is proposed to be Cockburn Sound only. For bait species it is proposed that the area of the fishery extend from Tims Thicket near Mandurah to the mouth of the Moore River at Guilderton.*

*No licences will be transferable for the mussel, beach bait fish and other finfish fisheries. Some licence transfers, coupled with licence surrenders should be allowed in the crab fishery with the explicit aim of more rapidly reducing the number of fishermen.*

*To ensure that the rules on non-transferability of licences are not evaded, and to further contain effort expansion in all fisheries, strict owner operator rules are proposed. The types of gear which should be permitted in each fishery are also defined in some detail.*

*Submissions are invited on this discussion paper by 28 March 1991.*

## 2.0 Cockburn Sound fisheries

### 2.1 General introduction

Cockburn Sound is a site of considerable recreational fishing activity. In several sectors there is actual or potential overlap of competing interests with the professional (ie. commercial) fishery.

The professional fishery in Cockburn Sound has only loose management controls at present, and has the potential to further increase its level of fishing effort. It has had restricted entry status since 1985 after concern was expressed about the increasing level of activity in the Sound.

On 31 October 1985 the Minister for Fisheries, Hon. Dave Evans MLA, declared Cockburn Sound a restricted entry fishery for commercial fishing pending further discussions with fishermen over long-term restrictions. The Minister announced that only endorsed boats would be permitted to operate, restrictions would be placed on the types of gear permitted to be used and the species caught, and also outlined interim entry criteria.

This management plan proposes the introduction of further controls over the professional fisheries of Cockburn Sound in the medium and longer term. Also, because of concerns about levels of exploitation over a slightly wider area, specific management measures are proposed for the white bait fishery between Mandurah and Guilderton. The plan is designed to be the basis for further discussions with the fishing industry.

### 2.2 Description of fisheries

The area of the Cockburn Sound fishery is the area south of the South Mole at Fremantle (see Figure 1). In total there are 66 fishing boats, fishing as 56 separate fishing units.

The Cockburn Sound fishery in fact consists of about six different "unit" fisheries, with the fishermen themselves usually participating in more than one of these. In terms of management units these are:

- large boat purse seine fishing
- beach bait fish netting (primarily using beach seines)
- fish set (or gill) netting
- crab netting
- mussel diving
- line and pot fishing (including squid, octopus etc)

The 66 boats in the fishery hold a total of about 130 endorsements in these unit fisheries. There are eight full time boats and four supplementary access authorization holders in the large boat purse seine fishery, mostly fishing in the area directly off Fremantle. This fishery is already under limited entry fishery management rules.

The beach bait fish net fishermen do not confine their activities to Cockburn Sound, but fish from the beaches between Guilderton and Mandurah. Much of their activity is concentrated on white bait and blue sprat. The fish set net fishermen use set nets on banks and spits outside the

extensive shore line net closures in the Sound to take a range of fish species such as sea mullet, yelloweye mullet and bony (Perth) herring.

There are thirty four crab fishermen endorsed to take crabs. Those fishing use low, bottom set, gill nets to take blue manna crabs and some bottom fish such as flathead. The mussel fishery consists of seven units, of which four are full time. The future of this sector may be influenced in coming years by cultured mussels. The squid and octopus group include many of the older fishermen to whom this activity is essentially a retirement activity.

### 2.3 Status of fishery

As a typical Western Australian marine embayment fishery the abundance of fish in Cockburn Sound in any particular year depends to a large extent on recruitment from beyond the Sound (note that mussels do not). The graphs which appear as figures 2 - 4 illustrate catches in Cockburn Sound over the last 10 years. The total catch in the Sound is about 1000 tonnes per year.

Effort in the Sound increased rapidly from the mid seventies, especially in the two years prior to the introduction of restricted entry rules in 1985, but both catch and effort, and hence catch per unit effort (*cpue*), have been relatively consistent in recent years.

For some fisheries, such as beach bait fish netting, Cockburn Sound is one of a number of areas fished. These areas extend from Mandurah to Guilderton.

### 2.4 Current management controls

Entry to Cockburn Sound was restricted in late 1985 under interim criteria and as indicated there are currently 66 boats licensed to participate in the fishery. These boats are in turn restricted to operating in one or more of the unit fisheries identified above.

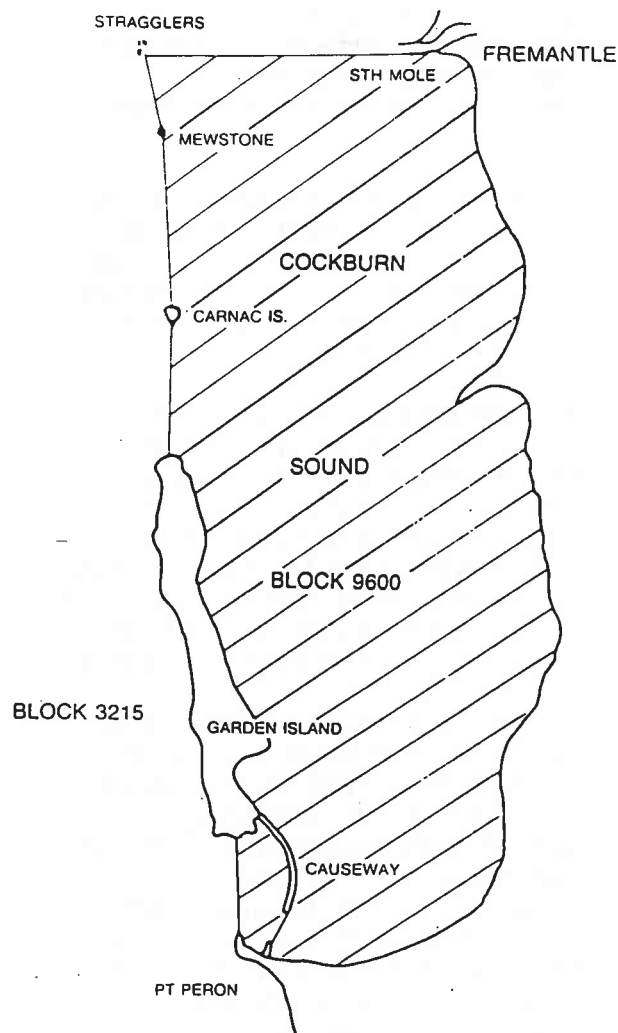


Figure 1: Boundaries of Cockburn Sound block 9600.



At present the fishing boat licence endorsements for this fishery are not transferable, with the result that there has been some slight reduction in boat numbers since 1985. However, since there is no requirement for licensees to operate their boats a number of long term lease arrangements or skippers operate in the fishery.

A large number of the boats in this fishery, although licensed as Western Australian Fishing Boats, are less than 6.5 m in length. These licences are therefore not transferable under the general policy for all Western Australian fishing boats.

Interim boat replacement rules were introduced for this fishery in September 1990. A fishing boat (ie. greater than 6.5 m) may now only be replaced by a boat less than or equal in length than the one it replaces. A dinghy (ie. less than 6.5 m) may be replaced under the Ministerial Guidelines which have been in place since 1983 (see references, Fisheries Management Paper 21).

The purse seine fishery is already subject to limited entry rules which came into effect in October 1989. The rules cover the take of species such as Perth herring, scaly mackerel, anchovies and pilchards, but not white bait or blue sprat. A draft management plan for the mussel fishery had been put on hold in the last two years pending development of the aquaculture venture. Three of the seven endorsed divers are involved in the aquaculture venture at present.

The fishermen who can fish for crabs are limited to using only 1200 metres of net. It may not be worked on weekends and public holidays during daylight hours. There is also a spring closure during the breeding season.

The fish net fishermen are also specifically identified by licence condition, but there are as yet no controls on mesh size or net length that they can use. The professionals who fish for squid and octopus in the Sound are not subject to any controls at present on the gear they can use.

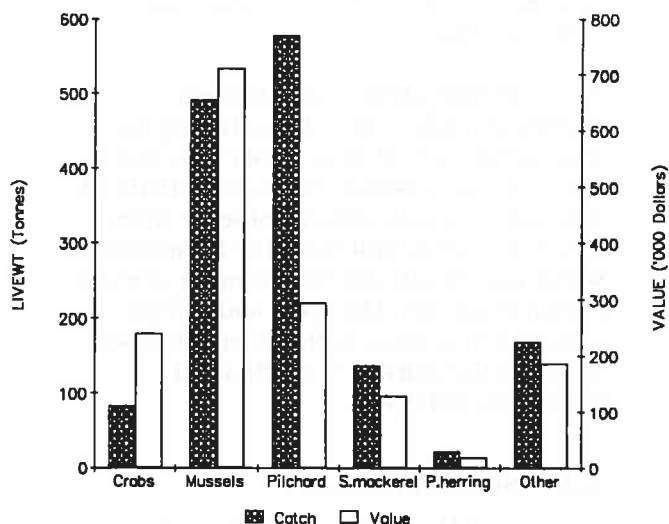


Figure 2: Cockburn Sound fish production by species 1987/88

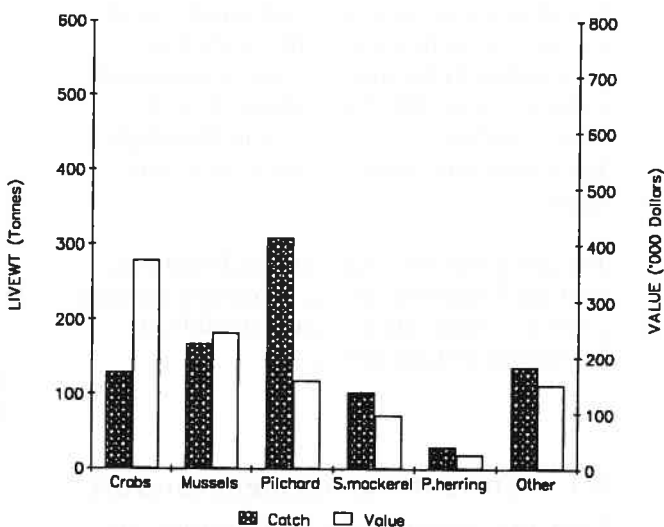


Figure 3: Cockburn Sound fish production by species 1988/89

## 2.5 Current management issues

There is a general expectation amongst Cockburn Sound fishermen that the rules governing their fishing activity will be strengthened and clarified over the next year. They expect this process will identify more precisely who will be able to participate in each unit fishery, the amount of gear they can use, the seasons, and most importantly to them, address the question of transferability.

These issues were discussed at a management meeting in December 1989 and various options for management were canvassed. However, no firm management recommendations were made. This document is a series of management plans for industry consideration.

Outlined below are a series of proposals for long term management of the Cockburn Sound unit fisheries, other than the large boat purse seine limited entry fishery. These are:

- beach bait fish netting
- fish set netting
- crab netting
- mussel diving
- line and pot fishing

Line fishing is essentially a peripheral activity to the other five major fishing activities. That is, any octopus/squid/handline fishermen endorsed to fish Cockburn Sound will almost certainly also be licensed to fish in one or more of the five other unit fisheries (ie including purse seine fishing).

## 2.6 The need for effort reduction

As indicated above, there was a marked increase in professional fishing effort in Cockburn Sound in the early 1980's. This increase was especially marked in the two

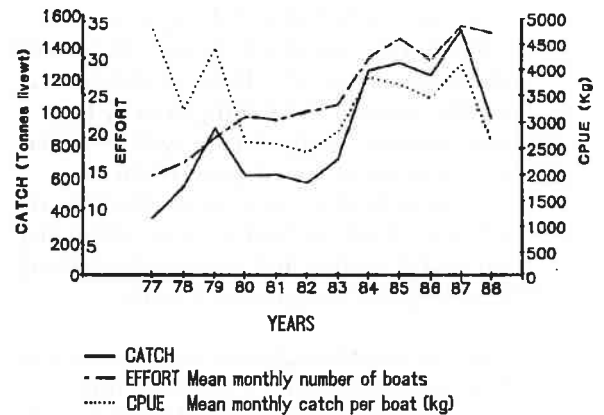


Figure 4: Cockburn Sound total fish catch and commercial fishing effort 1977-1988.

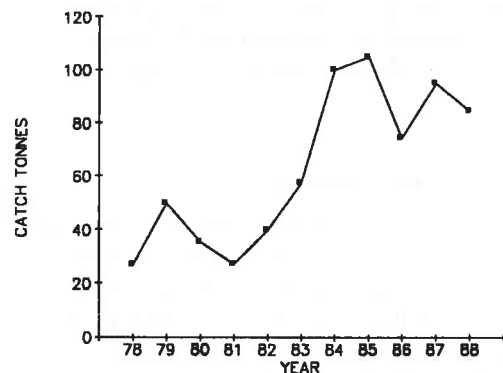


Figure 5: Cockburn Sound total sand crab catch 1978-1988.

major fisheries, mussels and crabs. In the crab fishery, the proportion of the crabs available in any one year taken by the professionals has been increasing.

Cockburn Sound is the second most important recreational fishing area of the State after the Swan River (see ABS Survey, references). It has also been identified as a priority recreational fishing area by the Recreational Fishing Advisory Committee (see references). As a typical Western Australian marine embayment the amount of fish available in Cockburn Sound in any one year is limited and recreational fishing must be given a degree of priority.

Fisheries scientists also have some concern about white bait stocks. Effort on this species has been increasing. In addition the areas further offshore and along the coast where these fish are being taken are expanding. That is, the stocks are starting to be exploited over their whole geographical range. Some curb on fishing effort is desirable.

Therefore any plan for the professional unit fisheries in Cockburn Sound must have mechanisms to constrain effort in the short term, rapidly reduce effort in key areas in the medium term and gradually reduce effort in all the unit fisheries in the longer term.

## 2.7 Submissions

Fishermen are urged to study the attached management proposals and put forward submissions in writing to the Executive Director of the Fisheries Department. Those who wish to make a verbal submission may telephone Mr Peter Millington on (09) 220 5349.

These submissions should be made by 28 March 1991.

Once preliminary submissions have been held a final meeting of Cockburn Sound fishermen will be held to finalize the management rules. This will probably occur in early 1991.

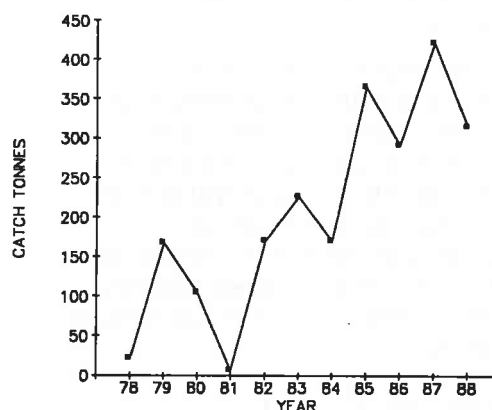


Figure 6: Cockburn Sound total mussel catch 1978-1988.

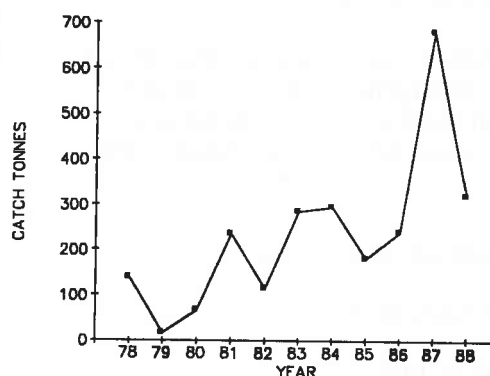


Figure 7: Cockburn Sound total pilchard catch 1978-1988.

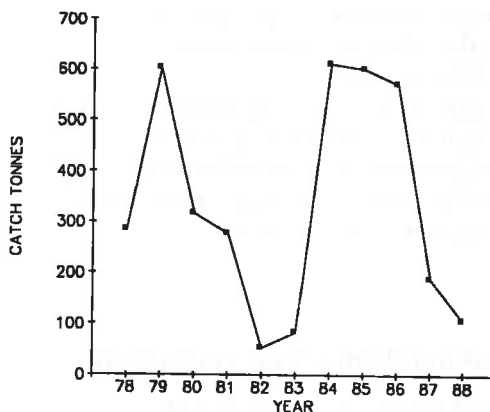


Figure 8: Cockburn Sound total scaly mackerel catch 1978-1988.

### 3.0 General management rules

In the following plans for each of the unit fisheries in Cockburn Sound, specific details are given for entry criteria, permitted gear etc. However, certain rules apply in common to all these fisheries and these are outlined below.

In general, all fishermen should qualify for entry to at least one unit fishery. This will also qualify them for access to the line fishing activities such as octopus fishing, squid jigging and hand lining. Note that no further shark gill net fishing using nets with a mesh size greater than 114 mm (4.5") will be permitted in Cockburn Sound upon the introduction of this plan.

#### 3.1 Boundaries of the fishery

The boundaries of the fish set net, crab net, mussel and line fisheries are that of Fisheries Department Statistical Block 9600 (see Figure 1). That is, an area bounded in the north by a line drawn between Fremantle South Mole and the Stragglers; on the west by a line joining the Stragglers, Mewstone Rock, Carnac Island, the northern extremity of Garden Island, the southern extremity of Garden Island to John Point; and on the south and east by mainland of Western Australia.

The boundaries of the beach bait fish net fishery are between the Moore River mouth at Guilderton and Tims Thicket, just south of Mandurah.

#### 3.2 Status of the fishery

The following Cockburn Sound unit fisheries should be declared limited entry fisheries:

- beach bait fish netting
- fish set netting
- crab netting

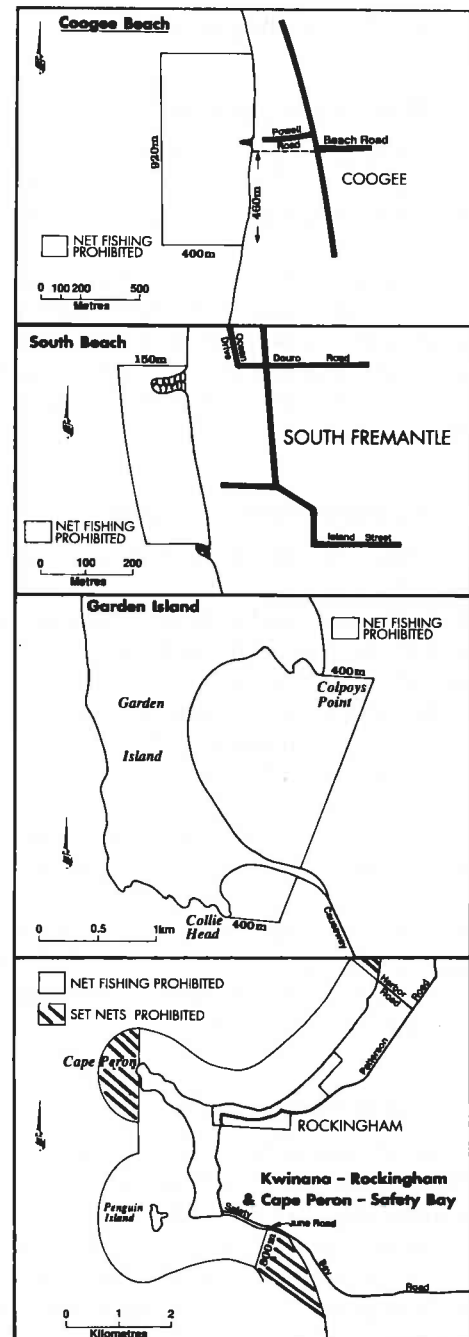


Figure 9: Areas closed to commercial netting in Cockburn Sound.

- mussel diving

Depending on the final arrangements for the above unit fisheries the following unit fishery will have either limited or restricted entry status:

- line fishing and pot fishing.

### **3.3 Boat replacement**

Only twenty four of the boats operating in Cockburn Sound are more than 6.5 m. Any fishing boat greater than 6.5 m in this fishery will only be permitted to be replaced with a boat no more than 0.5 m greater in length than the one it replaces.

The remaining 42 boats are less than 5.5 m in length and are classified as fishing dinghies. Nineteen are between 5.5 m and 6.5 m in length. The remainder (23) are less than 5.5 m. These dinghies will only be permitted to be replaced by another dinghy within the current Ministerial dinghy replacement guidelines. That is, a boat less than 5.5 m can only be replaced by one less than 5.5 m while one between 5.5 m and 6.5 m can only be replaced by another boat in that size range.

### **3.4 Licence transferability**

Although specific details on licence transferability are outlined in each section some general rules apply. The dinghy licences and/or fishing boat licences with which these limited entry licences are associated will be transferable under the current Ministerial licensing guidelines. In general terms, this means that licences for fishing boats (ie. dinghies) under 6.5 m in length are not transferable, or only transferable as dinghy licences to the licensee of a fishing boat which is greater than 6.5 m in length. Licenses for boats greater than 6.5 m in length with a full survey are mostly fully transferable. These guidelines are explained in more detail in Fisheries Management Paper 21 (see references).

This policy means that at most only 24 fishing boat licences are transferable as other than dinghies to another licensed fishing boat.

If any holder of a Western Australian fishing boat licence endorsed to operate in Cockburn Sound transferred his licence under the interim rules in place since 1985, the endorsement to fish in Cockburn Sound lapsed. Access under the criteria outlined in the following pages does *not* apply to these licences.

### **3.5 Owner operation**

The general constraints on licence transfers outlined above, and the specific controls proposed for each unit fishery will mean that there will be considerable incentive for fishermen to circumvent the rules through long term leasing etc. It is therefore proposed that every licensee must also be a natural person who is involved in the operations of a particular licensed boat at all times, unless specific permission in writing is given by the Executive Director of Fisheries for an exemption. Such an exemption will be subject to such terms and conditions as the Executive Director of Fisheries sees fit. In the case of a proprietary company, the Board of Directors of the Company would therefore have to decide which natural person is to be the licensee and the operator of the boat or equipment.

### **3.6 Area closures**

There are a range of area closures for Cockburn Sound and adjacent metropolitan beaches which are outlined in Figure 9. Access to many beaches is also controlled by adjacent City Councils. Specific controls may apply to white bait fishing in the Marine National Parks within the proposed area of the beach bait fish fishery.

### **3.7 Criteria for access and fishing returns**

In order to have been granted a Cockburn Sound restricted entry fishing boat licence endorsement in 1985, the applicant had to demonstrate a fishing history in the Fisheries Department statistical block 9600. From this process it became evident that there has always been some confusion about the appropriate statistical block fishermen nominate. This is because block 9600 is a special block designation lying within or adjacent to other statistical blocks covering the wider coast i.e. 3115 and 3215. These blocks cover the 60 nautical miles south and north respectively of the Fremantle South Mole. Therefore many fishermen legitimately fishing block 9600 nominated blocks 3115 or 3215 in their returns in error.

It is inevitable that upon preliminary allocation of any access to a unit fishery outlined in the following pages, this mis-reporting will again become an issue. Attempts will be made to resolve any problems administratively, but if these cannot be resolved then the appeals mechanism can be used by a fisherman (see 3.10).

Two other issues are likely to complicate the granting of access. The first involves separating out the catches of dinghies associated with a main fishing unit (eg. F100, F100A, F100B etc). Attempts will also be made to resolve these problems administratively before resorting to appeal.

The second involves under-reporting of catches. It is a requirement of the Fisheries Act to provide accurate catch figures and these figures have been used to determine access. Unless an administrative error can be identified any problems of access arising from under-reporting will only be resolved through appeal.

### **3.8 Access fees**

Fees for the limited entry licence will be set according to appropriate fee regulations.

### **3.9 Ministerial discretion**

The Minister has the authority to consider applications of a special nature on a case by case basis and can impose special conditions on boats granted licences.

### **3.10 Appeals**

An appeals body is to be established to consider and make recommendations to the Minister for Fisheries on appeals by fishermen who hold the view that their boat should have been granted a limited entry licence.



## 4.0 Cockburn Sound crab fishery

### 4.1 Introduction

There is a small professional crab net fishery in Cockburn Sound. At present it is managed under interim restricted entry fishery rules. Longer term management measures are needed to ensure a balance between recreational and professional users.

There is no real concern about the state of the stock as the fishery appears to exploit those animals which recruit as larvae from within and beyond Cockburn Sound. That is, the fishery depends upon the stock of crabs present in the Sound at any one time and fishing that stock may not affect the recruitment in subsequent years. Outlined below are the proposed long term management rules for the Cockburn Sound crab fishery.

### 4.2 Definition of the fishery

All types of fishing methods permitted to be used to take blue swimmer crabs, *Portunus pelagicus* in Cockburn Sound.

### 4.3 Criteria for continued access

#### 4.3.1 Existing interim criteria

The criteria for the issue of an interim endorsement for continued access to the Cockburn Sound restricted entry fishery were that the licensed boat had operated in the Sound in 1984 and was still operating during 1985 prior to 30 April 1985. In addition, the criteria for the issue of endorsements to take crabs were that the licensed boat had a history of catching crabs in the period 1 January 1984 to 30 April 1985 inclusive. Where there was a fishing boat and associated dinghy(ies) the same endorsement was given to all the vessels in the unit, regardless of whether the vessels in question had been used to take crabs. At present there are 34 boats with interim crab endorsements.

#### 4.3.2 Proposed criteria

The interim criteria did not adequately identify those fishermen who were genuinely targeting crabs. Crabs are sometimes taken by finfish set net or haul net fishermen. It is important to make sure the entry criteria for the crab fishery does not allow these fishermen into the proposed crab limited entry fishery. Therefore some measure of performance must be included in the entry criteria to ensure that incidental catches of crabs by finfish set net fishermen do not qualify them for entry to the crab fishery and only "genuine" crab fishermen qualify. The entry criteria proposed for the limited entry fishery are therefore:

*"that the licensed boat or its replacement operated in Cockburn Sound in 1984 and was still operating in the Sound during 1985 prior to 30 April 1985."*

and

*"the licensed boat or its replacement must have been used to take at least 1 000 kg of crabs and fished for at least two months during the period 1 January 1984 to 31 December 1984 and taken at least 1 000 kg of crabs from 1 January 1985 to 30 April 1985."*

In order to ensure the continued commitment of the licensee to the fishery an additional criterion is required:

*"The licensed boat or its replacement must have been used to take at least 1 000 kg of crabs each year in at least three of the four years from 1 May 1985 to 30 April 1989 inclusive".*

An assessment will also be made of which fishing boat and/or dinghy within a fishing unit has actually been engaged in that fishery. The Fisheries Department, upon issue of each new licence, will designate the boat from which it determines that the crab fishing has historically taken place. It will be up to the licensee concerned to convince the Department or the appeals body that one or more other boats in his fishing unit was used historically to take crabs and therefore is eligible for an appropriate endorsement.

Prior to issuing licences or considering applications for additional licensed boats, the Fisheries Department will be consulting the Cockburn Sound Professional Fishermen's Association. However, any final decision will be the responsibility of the Fisheries Department.

Any fisherman not meeting the above entry criteria, regardless of his current level of activity in the Sound will not be issued with a limited entry licence. Continued access will depend on the result of an appeal to the Minister for Fisheries.

Under the above criteria at least seven fishing boats or dinghies will be granted access. In addition, the history of another seven or so fishing boats or dinghies are likely to have been affected by incorrect designation of block number or the amalgamation of fishing units (see Section 3.7). This means that up to 20 fishermen currently holding interim crab endorsements may not have continued access. This latter group are made up of those who may have under-reported catches or whose commitment to this sector of the Cockburn Sound fishery is small.

#### **4.4 Licence transferability**

In historical terms the Cockburn Sound crab fishermen fall into two categories: those with a long term commitment to the fishery prior to 30 April 1985, and those with a history just sufficient to obtain an interim endorsement. The level of effort in the Cockburn Sound professional crab fishery has increased over the last decade, as a result of the number of professionals allowed into the restricted entry fishery.

Therefore the objective of the management programme is to contain and then ensure a real reduction in the level of effort in the professional fishery, while at the same time ensuring the continued supply of fresh crabs to metropolitan markets. To this end various gear controls and owner operator provisions have been introduced or proposed (see below).

However experience in other fisheries has shown that at best these measures will only restrict effort to current levels. If a real reduction in effort is to be achieved, in order to ensure a fairer spread of catch amongst user groups some adjustment mechanism is also required. This can be achieved through not permitting transferability, or requiring some surrender of licenses in order for a new entrant to be granted permission to obtain a licence. However, experience has also shown that increased effort also results when new fishermen enter a fishery. This makes an effort reduction mechanism doubly important.

There are 34 boats licensed to take crabs in Cockburn Sound. Of these about half have a long term history, while the remainder only commenced operations within two years of the restricted entry regime being introduced.



It should be possible to separate these fishermen into two groups and then ensure only those licences with a long term history of crab fishing are transferable, while those licences without this long term history are surrendered over time. The following licensed transferability rules are therefore proposed.

#### 4.4.1 *Classes of licence*

There should be two classes of licenses for the fishery for those fishermen who qualify for limited entry licences for the crab fishery as outlined in Section 3.2:

*"A" licences, which are those licences where the licensed boat or its replacement fulfilled the criteria for entry to the crab limited entry fishery and was used to take at least 3 000 kg of crabs in each year in the period 1 May 1982 to 30 April 1985.*

*"B" licences, which are those licences where the licensed boat or its replacement fulfilled the criteria for entry to the crab limited entry fishery but did not take at least 3 000 kg of crabs in each year in the period 1 May 1982 to 30 April 1985.*

On statistics available to the Fisheries Department there should be about five "A" fisheries arising from the adoption of these criteria. The number of "B" licences is less clear due to the overall rigorous entry criteria proposed. However, the number should be about ten (see Section 4.3).

#### 4.4.2 *Transfer mechanism*

Once licences have been classed as "A" or "B" new entrants will be able to enter the fishery. To do this a new entrant must acquire both an "A" and a "B" licence, and surrender the "B" licence to the Fisheries Department. The new entrant will then be permitted to transfer the "A" licence to his name.

"B" licensees will be able to acquire an "A" licence and have it transferred to them upon surrender of their "B" licences.

A two-for-one reduction scheme whereby any two crab licences can be acquired by a new entrant and one surrendered is not proposed as it would result in a higher number of transferable licences remaining in the fishery.

Under current Ministerial licensing guidelines all other Cockburn Sound licence endorsements associated with that surrendered licence would be cancelled. There should be some capacity reduction from the adoption of these criteria with numbers dropping to 10 or so in the longer term.

The dinghy licences and/or fishing boat licences with which these limited entry licences are associated will be transferable under the current Ministerial licensing guidelines. These are outlined in more detail in Section 2.

The policy outlined in Section 3.4 also applies to this unit fishery. That is, if any licence holder of a Western Australian Fishing Boat Licence endorsed to operate in Cockburn Sound transferred his licence under the interim rules in place since 1985, the endorsement to fish in Cockburn Sound lapsed. Access under the criteria outlined in the section above does not apply to these licences.

#### **4.5 Gear and seasons**

The current methods available to catch crabs in Cockburn Sound by professional fishermen are drop nets, baited traps and demersal gill nets. Currently no professionals use drop nets and baited traps are only used by a few. Recreational fishermen are only permitted to use drop nets, scoop nets or catch crabs by hand.

The current restrictions for the use of demersal gill nets are:

- Maximum length for any one net is 1200 metres.
- Maximum depth of 10 meshes.
- Minimum mesh size of 18.25cm (6 inches) diagonal stretched mesh.
- Maximum length denier (a) Monofilament size 0.48 mm diameter (8 line).  
(b) Monofilament size 210/9 ply.
- No more than 2400 metres of net may be used within the fishery at any one time.
- No more than 1200 metres of net may be pulled in any one day.
- Every fifth float must be branded with the fishing boat number a minimum of 10 mm high; or
- Every tenth weight on the leadline must be marked with the fishing boat number in letters at least 4 mm high;
- A tag must be attached to the headrope every 30 metres marked with the fishing boat number in letters at least 10 mm high;
- A closed season between 1 October and the following 30 November inclusive;
- A prohibition on the taking of crabs between 0600 hours and 1800 hours on any Saturday, Sunday or Public Holiday between 1 December and 30 April inclusive.

### **5.0 West coast beach bait fish net fishery**

#### **5.1 Introduction**

There is a small professional beach bait fish net fishery in Cockburn Sound. At present the Cockburn Sound fishery is managed under interim restricted entry fishery rules. The main target species are white bait, blue sprat and anchovy. However, most of the catch of these species is by beach seine. These species are caught by a range of nets, including beach seines, purse seines, and lampara nets. These species, while caught in Cockburn Sound are also found along the Western Australian coast between Lancelin and Cape Naturaliste.

Fisheries Department scientists have expressed some concern over the potential level of effort which could be expended on white bait in particular, not just in Cockburn Sound but on the whole lower south west coast. Although taken mostly by small boat beach fishing operations,

continuing restrictions on beach access by Local Councils could see the fishery being expanded further off shore through the introduction of more small purse seine or lampara net fishing boats. Fishing effort could be expanded through more full time effort being directed at bait species.

Also, the new Shoalwater Islands Marine Park has recently been declared. Therefore, although this plan is centred upon Cockburn Sound, new management rules will apply to beach bait fishing in an area of coast from Guilderton to Tims Thicket (south of Mandurah). The beach fishery south of Tims Thicket to Windy Harbour will be subject to separate management measures. These measures therefore compliment the existing rules for the West Coast Purse Seine Limited Entry Fishery, and the proposed measures for the beach fishery south of Tims Thicket.

It is important to distinguish this unit fishery from the existing West Coast Purse Seine Limited Entry Fishery. The latter controls fishing on a small pelagic fish group species (see 5.5.1) by the methods of purse seine and lampara net. If these species are caught by another method (like beach seines) then they do not fall within the scope of the Limited Entry Fishery Notice. The beach bait fish net fishery management rules are therefore designed to cover the "gap" of method and species targeted not covered in the existing West Coast Purse Seine Fishery Limited Entry Notice.

Species that are most often taken by this unit fishery are the small pelagic fish of the following species:

- white bait (*Hyperlophus vittatus*)
- blue sprat (*Spratelloides robustus*)

The species nominated above can be and are caught in a variety of manners. These include:

- The traditional beach launched small dinghy pulling a beach seine net from shore,
- A beach launched dinghy using a hand hauled or mechanically hauled purse seine or lampara net, or
- A larger boat working from off shore using a hand hauled or hydraulic capstan hauled purse seine or lampara net to take white bait or blue sprat.

No puritic power blocks are used traditionally and their use will not be permitted in the future.

The larger boats in this fishery can in general only take white bait or blue sprat using purse seine or lampara nets as most other species which can be taken with these methods can only be caught legally if the boat is also licensed for the West Coast Purse Seine Limited Entry Fishery.

## 5.2 Definition of the beach bait fish net fishery

All types of fishing using a beach seine net or a lampara net as defined in Section 5.5, whether hauled by hand or with mechanical assistance, and as used in Cockburn Sound and on the Western Australian coast from the mouth of the Moore River at Guilderton and Tims Thicket south of Mandurah are subject to this management plan.

The species which will be permitted to be taken by beach seine net are the small pelagic fish of the following species:-

- white bait (*Hyperlophus vitatus*)
- blue sprat (*Spratelloides robustus*)
- anchovy (*Engraulis australis*)
- pilchards (mulies) (*Sardinops neopilchardus*)
- scaly mackerel (*Sardinella lemuru*)
- Perth herring (*Nematelosa vlaminghi*)
- maray (*Etrumeus teres*)
- yellowtail scad (*Trachurus novaezelandiae*)

In reality, only the first two species are caught in any quantity, with some anchovy. Catches of the other species are much less common and the amount caught is insignificant in comparison with the take by large purse seine fishing boats in the West Coast Purse Seine Limited Entry Fishery.

The only species that will be permitted to be taken by lampara net are the small pelagic fish of the following species:

- white bait (*Hyperlophus vitatus*)
- blue sprat (*Spratelloides robustus*)

Any of the other target species is likely to be subject to the West Coast Purse Seine Limited Entry Fishery.

### 5.3 Criteria for continued access

#### 5.3.1 Existing interim criteria

When the restricted entry fishery was introduced the criteria for the issue of an interim endorsement for continued access to Cockburn Sound were that the licensed boat had operated in the Sound in 1984 and was still operating during 1985 prior to 30 April 1985.

In addition, the criterion for the issue of endorsements to use any type of net was that the licensed boat had a history of using that type of net in Cockburn Sound in the period 1 January 1984 to 30 April 1985 inclusive. Most boats with access to Cockburn Sound qualified for an endorsement to use nets.

Where there was a fishing boat and associated dinghy(ies) the same endorsement was given to all the boats in the unit, regardless of whether the boats in question had been used for netting. There was also no distinction made between the different types of netting being undertaken, unless there was an additional restriction on the species that could be caught (eg crabs). There is also some confusion in the catch statistics about the method actually being used by the fisherman (eg nominating purse seining when really beach seining). Therefore it is necessary to examine in some detail the catch history of a fishing unit to determine from the method nominated and the species taken whether that boat is a genuine beach seine fishing boat.

### 5.3.2 Proposed criteria for Cockburn Sound boats

To ensure that only genuine beach bait fish fishing operations obtain a license for this fishery it is necessary to introduce entry criteria which clearly identify those licensed boats with a substantial history of using beach seine, purse seine or lampara nets to take bait fish species. The proposed entry criteria for this particular fishery, for those boats with an existing interim endorsement for Cockburn Sound are therefore:

*"That the licensed boat or its replacement operated on Cockburn Sound in 1984 and was still operating in the Sound during 1985 prior to 30 April 1985."*

and

*Beach seine/haul net: "The licensed boat or its replacement must have been used to take at least 1 000 kg in total of white bait, blue sprat or anchovies by beach seine net in Cockburn Sound (block 9600) and statistical blocks 3115 and 3215 inclusive and fished in at least two months in the period 1 January 1984 and to 30 April 1985 inclusive."*

or

*Lampara net: "The licensed boat or its replacement must have been used to take at least 1 000 kg in total of white bait or blue sprat by purse seine or lampara net in Cockburn Sound (block 9600) and statistical blocks 3115 and 3215 and fished in at least two months in the period 1 January 1984 and 30 April 1985 inclusive."*

These criteria do not apply to any take of white bait, blue sprat or anchovies by any style of set net. In order to ensure the continued commitment of the licensee to the fishery the following criterion must also be met:

*"The licensed boat or its replacement must also have been used to take at least 2 000 kg of white bait, blue sprat or anchovy combined by beach seine, purse seine or lampara net in Cockburn Sound (block 9600) and statistical blocks 3115 and 3215 in each year in at least three of the four years from 1 May 1985 to 30 April 1989 inclusive."*

The Fisheries Department, upon issue of the new licences will designate the boats from which it determines that the beach fishing has historically taken place. It will be up to the licensee concerned to convince the Department or the appeals body that one or more other boats in his fishing unit was used historically for beach fishing for these species using the above methods and is therefore eligible for an appropriate licence.

Prior to issuing licences or considering applications for additional licensed boats, the Fisheries Department will be consulting the Cockburn Sound Professional Fishermen's Association for their advice on the historical fishing patterns of the licensed boat and operator. However, any final decision will be the responsibility of the Fisheries Department. Licensees of boats previously issued a Cockburn Sound netting endorsement which has since lapsed are not eligible for a limited entry licence for this fishery.

Any fisherman not meeting the above criteria, regardless of this current level of activity in the Sound, will not be issued with a limited entry licence. Continued access will depend on the result of an appeal to the Minister for Fisheries.



Under the above criteria at least four fishing boats or dinghies will be granted access. In addition, the history of another six or so fishing boats or dinghies are likely to have been affected by incorrect designation of block number or amalgamation of fishing units (see Section 3.7).

An additional complication in this fishery is that a number of fishermen were involved in a collective fishing enterprise whereby their returns were amalgamated together. This situation will probably have to be resolved through the appeal mechanism.

#### 5.3.3 *Proposed criteria for other boats*

The inclusion of areas outside Cockburn Sound within this fishery brings one or two additional fishing units within the scope of this fishery as meeting or almost meeting the above criteria. These boats are mostly based at Mandurah and some consideration will have to be given to these boats to take account of this expansion of management area.

It would not be equitable to use as entry criteria the historical commitment of these boats as far back as 1984 as these fishermen have not been formally advised to date that management is being considered in this fishery outside Cockburn Sound. However it would be fair to take into account the activities of these boats in the years since 30 April 1985. This latter date has been widely mooted as a bench-mark date by the Western Australian Fishing Industry Council and also, given the controls in place in Cockburn Sound since 1985 and other fisheries management initiatives around Western Australia including the large boat purse-seine limited entry fishery, it is reasonable to assume that many white bait fishermen would have expected some degree of management in the near future with this bench-mark date or one shortly after.

The proposed entry criteria for boats not currently endorsed for Cockburn Sound, but with a history of fishing for white bait and similar species are therefore as follows:

*The licensed boat or its replacement must have been used to take at least 2000 kg of white bait, blue sprat or anchovy combined, by beach seine, purse-seine or lampara net in statistical blocks 3115 and 3215 in each year in at least three of the four years from 1 July 1986 to 30 June 1990 inclusive.*

Those boats gaining access to the beach bait fishery, but not having an interim endorsement to fish Cockburn Sound will not be granted access to the Sound.

The policy regarding designating boats and appeals outlined in Section 5.3.2 will also apply to boats licensed under the above criterion.

There is a general understanding that Bunbury-based beach bait fishermen do not operate north of Tims Thicket. Therefore any Bunbury-based boats will not be considered for inclusion within this particular limited entry fishery.

## 5.4 **Licence transferability**

These limited entry fishery licences will not be transferable at this stage. The dinghy licences and/or fishing boat licences with which these limited entry licences are associated will be transferable under the current Ministerial licensing guidelines.

The policy outlined in Section 3.4 also applies to this unit fishery. That is, if any holder of a Western Australian Fishing Boat Licence endorsed to operate in Cockburn Sound transferred his licence under the interim rules in place since 1985, the endorsement to fish in Cockburn Sound lapsed. Access under the criteria outlined in the section above does not apply to these licences.

## 5.5 Gear

Licensees will have their licences endorsed to reflect the equipment with which they have historically used to take bait species. No changes of gear types will be permitted once appropriate gear endorsements are issued. As indicated in Section 5.3.2 the Fisheries Department will issue the appropriate endorsement after receiving advice from the Cockburn Sound Professional Fishermen's Association on the historical fishing patterns of the licensed boat and operator. However, any final decision will be the responsibility of the appropriate licensing officer from the Fisheries Department. Research scientists at the WA Marine Research Laboratories have expressed concern about the increasing efficiency of small boat purse seine operations. They are especially concerned about the potential effect on the white bait stocks. It is therefore proposed to limit small boats to lampara nets. That is, purse-seine boats will not be permitted.

There will be two classes of lampara gear to be licensed:

### 5.5.1 Hand hauled lampara net

A lampara net with a minimum mesh size of 10 mm (3/8"), not more than 100m in length. This net must only be used from a boat of not more than 3.5m in length, powered only by oars, and using no mechanical aids to haul the net. No maximum net depths will be set at this stage although the matter will be periodically reviewed.

### 5.5.2 Mechanically hauled lampara net

A lampara net with a minimum mesh size of 10 mm (3/8"), not more than 150m in length. The boat may use motorized propulsion, but may only use a hydraulic capstan as its mechanical net hauling equipment. No maximum net depths will be set at this stage although the matter will be periodically reviewed.

Unless appropriately licensed these lampara net boats must not be used to take the following species:

- pilchards (mulies) (*Sardinops neopilchardus*)
- scaly mackerel (*Sardinella lemuru*)
- Perth herring (*Nematelosa vlaminghi*)
- maray (*Etrumeus teres*)
- yellowtail scad (*Trachurus novaezelandiae*)
- anchovy (*Engraulis australis*)

with a lampara net. To do so would be in contravention of the West Coast Purse Seine Fishery Limited Entry Notice.

The efficiency of the small boat lampara net fleet has also increased rapidly recently through the use of SONAR. Once the limited entry fishery is introduced some consideration may have to be given to prohibit the use of such equipment.

### 5.5.3 Beach seine operations

A beach seine net is a net with a minimum mesh size of 10 mm (3/8"), a maximum mesh size of 38 mm (1 1/2") and a length of not more than 180m and a depth of not more than 5 m. This net must be hauled by hand or from a boat using oars; it must not be used as a set net. No mechanical aids for net hauling should be permitted.

Beach seine operations will be permitted to take as a by catch the following species:

- pilchards (mulies) (*Sardinops neopilchardus*)
- scaly mackerel (*Sardinella lemuru*)
- Perth herring (*Nematelosa vlaminghi*)
- maray (*Etrumeus teres*)
- yellowtail scad (*Trachurus novaezelandiae*)
- anchovy (*Engraulis australis*)

However, as these are the species which are also taken by the West Coast Purse Seine Limited Entry Fishery, catches by beach operations will be monitored to assess the impact on the stocks of these species.

## 6.0 Cockburn Sound fish net fishery

### 6.1 Introduction

There is a small professional net fishery based on Cockburn Sound. At present it is managed under restricted entry management rules. Longer term management measures are needed. This is because of the need to ensure a degree of priority for the recreational fishing sector. Also, given the narrow economic base of the fishery and the increasing competition from the recreational fishing sector, its long term economic viability must be in doubt. Some method to ensure a shift to the recreational sector while maintaining the viability of the professionals who will remain in the longer term is therefore needed.

The fishery takes a range of finfish which are present in the Sound at any particular time. There is no reason to feel that any of the species is under pressure from the fishing effort which is being expended in the Sound itself. Outlined below are the proposed long term management rules for the Cockburn Sound net fishery.

### 6.2 Definition of the fishery

All types of fishing using beach seine nets or set nets of a mesh size greater than 48 mm (1 7/8") but less than 114 mm (4.5").

### 6.3 Criteria for continued access

#### 6.3.1 Existing interim criteria

The criteria for the issue of an interim endorsement for continued access to the Cockburn Sound restricted entry fishery was that the licensed boat had operated in the Sound in 1984 and was still operating during 1985 prior to 30 April 1985. In addition, endorsements to use nets were only issued for those licensed boats which had a history of using nets in that period.



Where there was a fishing boat and associated dinghy(ies) the same endorsement was given to all the boats in the unit, regardless whether the boats in question had been used for netting. There was also no distinction made between the different types of netting being undertaken, unless there was an additional restriction on the species that could be caught (eg crabs). There is also some confusion in the catch statistics about the method actually being used by the fisherman (eg nominating beach seine fishing when really haul net or set net fishing).

Therefore it is necessary to examine in some detail the catch history of a fishing unit to determine from the method nominated and the species taken whether that boat is a genuine set net fishing boat, or possibly just engaged in beach seine fishing.

#### 6.3.2 Proposed criteria

The proposed entry criteria for this particular fishery are therefore:

*"That the licensed boat or its replacement operated in Cockburn Sound in 1984, and was still operating in the Sound during 1985, prior to 30 April 1985."*

and

*"The licensed boat or its replacement must have been used to take at least 1 000 kilograms of fish by beach haul net or set net with a mesh greater than 50 mm (2") but less than 114 mm (4.5") in Cockburn Sound and fished for at least two months in the period 1 January 1984 and 30 April 1985 inclusive."*

In order to ensure the continued commitment of the licensee to the fishery, the following additional criterion must also be met:

*The licensed boat or its replacement must also have been used to take at least 1 000 kilograms of fish by beach haul net or set net with a mesh greater than 50 mm but less than 114 mm in Cockburn Sound in each year in at least three of the four years from 1 May 1985 to 30 April 1989 inclusive.*

The Fisheries Department, upon issue of the new licences will designate the boats from which it determines that the set net or haul net fishing has historically taken place.

It will be up to the licensee concerned to convince the Department or the appeals body that one or more other boats in his fishing unit was used historically for set net or haul net fishing and is therefore eligible for an appropriate licence.

Prior to issuing licences or considering applications for additional licensed boats, the Fisheries Department will be consulting the Cockburn Sound Professional Fishermen's Association for their advice on the historical fishing patterns of the licensed boat and operator. However, any final decision will be the responsibility of the Fisheries Department. The licensees of a boats previously issued a Cockburn Sound netting endorsement which has since lapsed are not eligible for a limited entry licence or supplementary access endorsement for this fishery.

Any fisherman not meeting the above criteria, regardless of his current level of activity in the Sound, will not be issued with a limited entry licence. Continued access will depend on the result of an appeal to the Minister for Fisheries.

Under the above criteria at least four boats or dinghies will be granted access. In addition, the history of another four or so fishing boats or dinghies is likely to have been affected by incorrect designation of block numbers or amalgamations of fishing units (see Section 3.7).

A large number of other fishermen show a consistent fishing history but at such a low level that they can be more accurately classed as "lifestyle" fishermen, as many do not show annual catches exceeding 200-300 kg. They will not qualify for entry under the above criteria, although their needs may be met by the line and pot fishery (Section 8.2).

#### **6.4 Licence transferability**

These limited entry fishery licences will not be transferable. However, the dinghy licences and/or fishing boat licences with which these limited entry licences are associated will be transferable under the current Ministerial licensing guidelines.

The policy outlined in Section 3.4 also applies to this unit fishery. That is, if any holder of a Western Australian Fishing Boat Licence endorsed to operate in Cockburn Sound transferred his licence under the interim rules in place since 1985, the endorsement to fish in Cockburn Sound lapsed. Access under the criteria outlined in the section above does *not* apply to these licences.

#### **6.5 Gear**

The boats licensed to operate in this fishery will be able to use the following fishing gear:

##### **6.5.1 Beach haul nets**

Beach seine nets are defined as haul nets of a mesh size no smaller than 48 mm (1 7/8") and a mesh size no greater than 114 mm (4.5"). These nets cannot be of a length greater than 300 m a depth not greater than 5 m and must not have a bunt or pocket.

##### **6.5.2 Set net**

A set net is defined as a set net of a mesh size no smaller than 48 mm (1 7/8") and a mesh size no greater than 114 mm (4.5"). This net cannot be of a length greater than 1000 m, and must not have a bunt or a pocket. No licensed boat may have on board, use or set more than 1000 m of set net at any one time.

##### **6.5.3 Garfish net**

A garfish net is defined as a surface set net of a mesh size no smaller than 25 mm (1") and no more than 76 mm (3"). This net must not be greater than 15 m in depth. No licensed boat may have on board, use or set more than 230 m of garfish net at any one time.

## **7.0 Cockburn Sound mussel fishery**

### **7.1 Introduction**

The edible mussel (*Mytilus edulis*) is present naturally in the seagrass communities of Cockburn Sound. Mussel fishing in Cockburn Sound (Figure 1) is a small industry which has supported about two to three full time divers since the early 1970's.

The fishing operation associated with mussels is relatively simple with diving being the primary collecting method. Gear consists of hookah or scuba tanks together with collecting

gear and a tumbler. The local market for fresh mussels is orientated towards the restaurant trade. However, some are pickled or distributed as fresh meat through the retail sector.

Eight endorsements were initially approved for the collection of mussels in Cockburn Sound. Since the issue of interim endorsements one fisherman has transferred his licence and the mussel authorisation has been cancelled in accordance with the rules laid down for the Cockburn Sound Restricted Entry Fishery.

Numbers of mussels appeared to increase significantly in the late 1960's/early 1970's with increased nutrient levels in the Sound. These increased nutrient levels were caused by wastewaters from several industries located close to Cockburn Sound and from a sewerage treatment plant at Woodman Point discharging into the Sound.

The Woodman Point sewerage outfall was closed down in October 1984. A gradual decrease in nutrient levels in the Sound is expected to follow the cessation of wastewater discharge and the total productivity of the Sound (particularly naturally occurring mussels) may decline in the future.

In response to the increased fishing pressure and low abundance of mussels in 1985/86, three experienced mussel fishermen undertook a reconnaissance survey during 1986 to determine the availability of mussels within the south coast estuaries. However, there does not appear to be significant commercial quantities available at these other locations.

Thus, there is a need for a management plan which allows for the continued rational exploitation of mussel stocks in Cockburn Sound, which takes into account the uncertain future abundance of the resource given that the productivity of the Sound will probably decline in the future. The Sound's developing mussel farming operations will provide more competition and recreational fishing pressure will continue to increase.

The plan allows for the establishment of an economically viable industry for a small number of operators, but does not guarantee the fishery against the impact of recreational diving and mussel farming in Cockburn Sound. An initial proposal for management was released for discussion in 1986 (see references). The following rules are based upon these original recommendations and after consultation with industry.

## **7.2 Definition of the fishery**

The species subject to this management plan is the mussel (*Mytilus edulis*) taken by diving.

## **7.3 Criteria for continued access**

### **7.3.1 Existing interim criteria**

The criteria for the issue of an interim endorsement for continued access to the Cockburn Sound restricted entry fishery was that the licensed boat had operated in the Sound in 1984 and was still operating during 1985 prior to 30 April 1985.

Where there was a fishing boat and associated dinghy(ies) the same endorsement was given to all the boats in the unit, regardless whether the boats in question had been used for netting. In this case there was an additional restriction on the species that could be caught (eg. mussels).

### **7.3.2 Proposed criteria**

The entry criteria proposed for entry to the mussel limited entry fishery for Cockburn Sound are:

*"That the licensed boat or its replacement operated in Cockburn Sound in 1984, and was still operating in the Sound during 1985, prior to 30 April 1985."*

and

*"The licensed boat or its replacement has been used to take in excess of 5 000 kg of mussels in any one year in the three years 1 May 1982 to 30 April 1985 inclusive."*

In the 1986 draft management plan access to the fishery was based on time access allocated according to the months fished during the criterion period. As a result of this the part time fishermen had to nominate the months they wish to fish for mussels with nomination occurring at any time throughout the year.

The 1986 draft management plan also proposed there be two types of licences, based upon their historical catch levels, and that only those with a substantial catch history would be permitted to transfer their licences. However, it is not now proposed to make these licences transferable.

Industry regarded this as an unnecessary administrative complication. They also believed that as owner operators, leasing would not be possible. As a result time access as a management rule was dropped as a complicated and unnecessary impost on the divers.

#### **7.4 Licence transferability**

Neither the Limited Entry Licences nor the supplementary access authorization should be transferable. Of the seven fishermen who currently have authorisations to fish for mussels, only three are full time mussel fishermen. The remaining four have only taken small amounts of mussels over the past three years on a part time and irregular basis. In consideration of this and the uncertain future productivity of the mussel resource there is a need to contain fishing effort at existing levels.

With the decline in nutrient levels in the Sound, the future of this fishery cannot be guaranteed. It is advisable to ensure that the reduction in future effort at least matches the expected decline in the resource.

Non-transferability of licences is one method of maintaining fishing effort at the present level. It also allows divers who have historically been collecting mussels as part of their total fishing operation to continue this type of fishing by not allowing this activity to be transferred. Effort will gradually decline.

The policy outlined in Section 3.4 also applies to this unit fishery. That is, if any holder of a Western Australian Fishing Boat Licence endorsed to operate in Cockburn Sound transferred his licence under the interim rules in place since 1985, the endorsement to fish in Cockburn Sound lapsed. Access under the criteria outlined in the section above does *not* apply to these licences.

#### **7.5 Gear**

The following rules should apply to the methods of collecting mussels

#### 7.5.1 *Method of capture*

As the historical method of collecting mussels in Cockburn Sound has been through diving, this should be the only permitted method of capture. Diving should only be permitted by a licensed diver operating from a licensed fishing boat.

#### 7.5.2 *Operation of a mussel unit*

The following rules should apply to the operation of a mussel fishing unit:

- The taking of mussels in the fishery will only be permitted by a diver holding an appropriate licence.
- Only one licensed diver from each licensed fishing boat may operate in the water at any one time.
- Only two licensed divers may be on board a licensed fishing boat unless otherwise authorised by the Executive Director of Fisheries.
- The licensee must be on board whilst the mussel boat is operating unless prior approval is given by the Executive Director of Fisheries.
- A maximum of three licensed fishermen are allowed on board the licensed boat.
- Only one boat can be used in the fishing operation (unit). No dinghies are allowed.

To ensure that the potential for increased effort which could occur through use of dinghies and a greater number of diver assistants it is necessary to incorporate tight controls on crew and boat usage into the management plan.

The usual ratio is one crew helper per diver, for efficient and safe operation. As only one diver may be in the water at any time only one extra person in addition to the skipper and diver is allowed on board as a means of curbing effort.

The stipulation that the licensee be on board is a method of ensuring that the boat is not leased to another licensed professional diver. This is specifically important for the four units currently operating which will be granted a supplementary access endorsement. If these units were allowed to be leased this would be equivalent to a legal transfer system and which might maintain or possibly increase fishing effort on a mussel resource which may not be sustainable in the long term.

### 7.6 **Relationship with mussel farming**

There are six mussel farming leases licensed for Cockburn Sound by the Fremantle Port Authority. The production from these leases may have an impact on the marketing of mussels taken from the wild. It was in recognition of this impact from aquaculture as well as recreational fishing pressure, possible declining productivity in the Sound and recognition of the expertise of the existing divers in handling mussels that they were given preference in consideration in granting aquaculture leases for mussels. Three divers now hold such leases.

Fishermen eligible for a Limited Entry Mussel Licence should not assume that the licence guarantees them protection from the production impacts of the mussel farms.

In the early development phase of the mussel farms the sale or transfer of mussels from the wild to the leases has been required. The sale or transfer of mussels from the wild to the mussel farms is subject to approval of the Executive Director of Fisheries. This concept is based on the



variability of wild mussel stocks in the Sound and because lease holders have to be able to develop their mussel farms from natural spat fall on their lease sites.

## **8.0 Cockburn Sound line and pot fishery**

### **8.1 Introduction**

There is a small sector of the Cockburn Sound fishery which is not covered by the management plans proposed for any of the other unit fisheries.

This sector concentrates on hand line fishing for scale fish, jigging for squid and pot fishing for octopus. The latter two activities are currently permitted by special licence endorsement.

Although as indicated in Section 2.5, it is likely that most currently endorsed fishing boats will eventually qualify for at least one unit fishery, there may be some which qualify for none.

### **8.2 Management proposal**

For those boats not eligible for entry to any of the proposed limited entry fisheries described above, the proposed entry criteria for the line and pot fishery are as follows:

*"That the licensed boat or its replacement operated in Cockburn Sound in 1984, and was still operating in the Sound during 1985, prior to 30 April 1985."*

It is not proposed to stop these licensees for the other unit fisheries from handlining, squid jigging or octopus fishing. That is, the special fishing boat licence endorsement will be revoked.

However, a fishing boat licence endorsement with a licensee/operator provision will be introduced for all current licensees not qualifying for a limited entry licence in one of the unit fisheries described in previous pages.

These licensees will be permitted to continue their activities, fishing for fish by handline, octopus potting and jigging for squid.

## 9.0 References

- Australian Bureau of Statistics (1989). Recreational Fishing Western Australia July 1987.
- Brayford, H G (1986). Management Measures for the Cockburn Sound Mussel Fishery. Fisheries Management Paper 7.
- Fisheries Department (1989). Commercial fishing licensing in Western Australia. Fisheries Management Paper 21.
- Recreational Fishing Advisory Committee (1990). The future for recreational fishing. Fisheries Management Paper 34.

## 10.0 Acknowledgements

The considerable assistance of Heather Brayford, Andrew Cribb, Rod Lenanton, Lance Moss and Peter Willey in the preparation of this discussion paper is gratefully acknowledged.

## **Fisheries management papers**

- No.1** The Report of the Southern Western Australian Shark Working Group. (1986) (Chairman P. Millington)
- No.2** The report of the Fish Farming Legislative Review Committee. (1986) (Chairman P. Rogers)
- No.3** Management Measures for the Shark Bay Snapper 1987 Season. (1986) (P. Millington)
- No.4** The Esperance Rock Lobster Working Group. (1986) (Chairman A. Pallot)
- No.5** The Windy Harbour - Augusta Rock Lobster Working Group. (1986) (Interim Report by the Chairman A. Pallot)
- No.6** The King George Sound Purse Seine Fishery Working Group. (1986) (Chairman R. Brown)
- No.7** Management Measures for the Cockburn Sound Mussel Fishery. (1986) (H. Brayford)
- No.8** Report of the Rock Lobster Industry Advisory meeting of 27 January 1987 (1987). (Chairman B. Bowen)
- No.9** Western Rock Lobster Industry Compensation Study. (1987) (Arthur Young Services)
- No.10** Further Options for Management of the Shark Bay Snapper Fishery. (1987) (P. Millington)
- No.11** The Shark Bay Scallop Fishery. (1987) (L. Joll)
- 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. (1987) (P. Millington)
- No.15** Draft management plan, Control of barramundi gillnet fishing in the Kimberley. (1988) (R. S. Brown)
- No.16** The South West Trawl Fishery Draft Management Plan. (1988) (P. Millington)
- No.17** The final report of the pearling industry review committee. (1988) (F.J. Malone, D.A. Hancock, B. Jeffriess)
- 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. (1988) (SCP Fisheries Consultants Pty Ltd)
- No.23** Management of the south-west inshore trawl fishery. (1989) (N. Moore)



- No.24** Management of the Perth metropolitan purse-seine fishery. (1989). (Noel Moore)
- 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. (1989) (Chairman Doug Wenn MLC)
- No.27** A review of the Shark Bay pearling industry. (1989) (Dr. D.A.Hancock, Ph.D, D.Sc)
- 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. (Noel 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.