

**Annual Production****Main fishing method**

Otter trawl.

**Landings**

Prawns 18 tonnes.

Scallops 1.3 tonnes meat weight (or 6.5 tonnes whole weight).

**Fishing effort**

Not assessed.

**Catch rate**

Not available.

**Stock Assessment**

Not assessed.

**Breeding Stock Levels**

Not assessed.

**Catch Projection for Year 1999**

Not available.

**Product Value for Year 1998**

*Prawns:* Wholesale prices for prawns vary depending on the type of product and the market forces operating at any one time. Generally, prices for king prawns averaged \$14.50/kg.

*Scallops:* The estimated value of the catch has been based on the average wholesale price per kilogram obtained in the Shark Bay fishery, that is \$4.40/kg (whole weight) or \$22/kg (meat weight).

**General Comments**

The level of fishing activity and quantity of catch within the South-West Trawl Managed Fishery is variable. This variability has largely been driven by the level of scallop recruitment to these grounds and also the product price paid to fishers. Owing to a significant latent fishing effort, there is a need to continue to monitor catch and effort within this fishery. Effort levels can only be assessed, however, by the number of days fished, which is derived from the CAESS records. This catch and effort data cannot be used to assess the stock, but does provide a source of information from which management decisions for this fishery can be made.

**West Coast Blue Swimmer Crab Stocks****MANAGEMENT OVERVIEW**

Blue swimmer crabs, which comprise the major proportion of inshore crab catches in Western Australia, are found along the entire coast of the State. These crab stocks are managed under specific legislated arrangements in Cockburn and Warnbro Sounds, and in the south and lower west coast estuaries. Blue crabs are also taken by licensed fishing vessels in Exmouth Gulf and Shark Bay, off Mandurah, and in Geographe Bay, under a variety of management measures under the *Fish Resources Management Act 1994*.

Crabs are targeted by a variety of fishing gear. Predominantly, crabs taken by commercial fishers are captured by either crab traps or drop nets. In fisheries such as the Exmouth Gulf Prawn and the Shark Bay Prawn and Scallop Managed Fisheries, trawl-caught crabs account for a significant proportion of the crab catch. Recreational fishers may take blue swimmer crabs by hand, non-piercing wire hook, wire scoop net and drop net.

The total annual commercial catch of crabs is continually monitored through information provided on monthly catch and effort returns. Data on recreational crab catches are collected through creel surveys conducted in response to funding availability and relative priorities. During 1998/99, competition for access to blue swimmer crabs in south-west estuaries and south-west oceanic waters continued to be a source of contention both between and within the commercial and recreational sectors.

The Inshore Crab Review process, commenced in 1996, continued throughout 1998/99. Two further discussion papers were released during the year, one addressing (specifically) a proposal for the management of inshore crab fishing in Geographe Bay, and the other containing recommendations for the future management of inshore crab fishing across the State.

Comprehensive advice and recommendations relating to the three-year review will be submitted to the Minister in 1999/2000, addressing crab fishing issues in estuarine and ocean waters. In the meantime, the review has resulted in interim arrangements being introduced for Geographe Bay and Shark Bay.

*Geographe Bay:* As a result of the consultation process, interim management arrangements for commercial crab fishing in Geographe Bay (statistical fishing block no. 96010) were introduced in June 1999.

- The area is closed to commercial crabbing up to 400 m offshore between Dolphin Road and the Port Geographe marina, and within 800 m of the Busselton jetty.
- No commercial crabbing is permitted between one hour after sunrise and one hour before sunset; or on weekends and public holidays; or during the spring, summer and autumn school holidays.
- Crab traps or drop nets are permitted.
- The commercial size limit has been increased to 128 mm.

These interim arrangements, and other issues of concern regarding crab fishing in Geographe Bay, will be discussed through the Voluntary Guidelines for Resource Sharing process.

*Shark Bay:*

- Fishermen operating around Denham waters in lower Shark Bay have been advised that they are required to satisfy catch criteria for the period 1 November 1994 to 31 October 1997 if they wish to continue to use crab traps in these waters.
- Fishermen authorised to fish in the Experimental Carnarvon Crab Pot Fishery have been advised that they will be required to satisfy the criteria set out in the Developing Fisheries Policy if they wish to continue to trap crabs in these waters.

**RESEARCH OVERVIEW**

Research monitoring of the expanding fishing activity for blue swimmer crabs was initially based on monthly returns and interviews with commercial crab fishers. Owing to the rapid expansion of this fishery and the need for additional research information to ensure sustainability of catches, a number of new research projects were instigated during 1997/98. Research is now under way on the basic biology of crabs along the WA coast, gear-catchability relationships, recreational catch surveys, commercial catch monitoring, discard mortality estimation and stock assessment modelling. The following status report summarises the research findings for this fishery.

**Stock Status Report**

**Main Features**

**Stock assessment complete:**

*Not assessed*

**Exploitation status:**

*Not assessed*

**Breeding stock levels:**

*Not assessed*

*continued over*

**Previous catch projections(1997/98):**

*600-700 tonnes*

**Catch current season (1997/98):**

*740 tonnes*

**Estimated annual value (to fishers) for year 1997/98:**

*\$2.2 million*

**Catch projection next year (1998/99):**

*600-800 tonnes (based on catches of last two years)*

**Recreational component (1997/98):**

*Estimated 100-150 tonnes (based on survey data over last five years)*

**Boundaries and Access**

There are two managed commercial crab fisheries, namely the Cockburn Sound and Warnbro Sound (Crab) Managed Fisheries. The Cockburn Sound fishery includes all waters within a line drawn from the South Mole at Fremantle to Stragglers Rocks, then through Mewstone to Carnac Island and Garden Island, along the eastern shore of Garden Island and back to John Point on the mainland. The Warnbro Sound fishery includes Warnbro Sound itself and adjacent waters, extending generally from Becher Point to John Point. One licence holder has access to the Warnbro Sound managed fishery, while access to the Cockburn Sound managed fishery is by 16 licence holders.

Licence holders in the Exmouth Gulf Beach Seine Fishery, Shark Bay Beach Seine and Mesh Net Managed Fishery, and estuarine fisheries south of latitude 32° S, are permitted to take blue swimmer crab by drop net or set net.

The trial arrangement for two commercial fishers to take crabs by pots (80 pots each) in the waters of Comet Bay has been extended until 31 December 1999. The Carnarvon Experimental Crab Pot Fishery is also continuing, with three fishers permitted to take crabs using 200 pots each for a period of up to two years. Exemptions to fish in the Carnarvon Experimental Crab Pot Fishery are granted on an annual basis. One Shark Bay beach seine fisher and one Cockburn Sound fisher are permitted to take crabs using up to 200 pots in Shark Bay. These two fishers have a long-standing and continuing history of targeting crabs in these waters.

Recreational fishers also take significant quantities of crabs, particularly in the south-west of the State. Surveys to estimate the recreational take have been undertaken for some regions during the past five years. Currently, quantification of recreational catches is under way for the Swan-Canning and Peel-Harvey estuaries.

## Annual Production

### Main fishing method

Pots.

### Landings

A commercial catch of 740 tonnes of blue swimmer crab was taken in 1997/98, 15% up on the 641 tonnes caught in the 1996/97 season. Commercial catches in Cockburn Sound contributed 340 tonnes, while other areas which made a substantial contribution to total landings were the Peel-Harvey estuary (61 tonnes) and Shark Bay (151 tonnes) (see Blue Swimmer Crab Figure 1).

### Fishing effort

The commercial crab catch is made using a large variety of fishing methods (see Blue Swimmer Crab Figure 2). In the past year, over two-thirds (67.3%) of the commercial catch was taken by pots, while the balance of the catch was taken mostly by trawling (18.2%), gillnetting (9.4%) and drop netting (4.4%). Fishing effort overall has increased by 20% for pots, by 15% for drop nets and by 12% for trawling, while effort decreased by 25% for gillnets in the last year.

### Catch rate

Because of the variety of fishing methods in use and areas being fished, a single catch rate statistic has not been produced. Comparative rates are given here for the three areas contributing most of the blue swimmer crab catch for the past year. The catch rate using pots in Cockburn Sound fell by 7% compared to the previous season. In the Peel-Harvey estuary, catch rates for both gillnets and pots fell by 25% compared to the previous year. In Shark Bay, the potting catch rates increased by 20%, most likely as a result of the increased knowledge and experience of pot fishers.

## Recreational Catch

Estimates of recreational catches are available for some regions in Western Australia, based on surveys conducted over the past five years. These include Geographe Bay with an estimated recreational take of 17.5 tonnes, Cockburn Sound with 18.8 tonnes, Perth south (which includes Warnbro Sound, Shoalwater Bay, Cockburn Sound to Fremantle and west of Garden Island) with an estimate of 34.7 tonnes, and Leschenault Inlet with 45.7 tonnes. Sampling to estimate recreational catches in the Peel-Harvey estuary and Swan River is currently under way. Assuming that these two regions produce at least as much as is caught by recreational fishers in the Leschenault Inlet, the annual estimated recreational catch is between 100 and 150 tonnes.

## Stock Assessment

No report is available.

## Breeding Stock Levels

No specific data are available; however, the legal size at first capture is above the size at maturity, thus assuring some protection of the breeding stock.

## Catch Projection for Year 1998/99

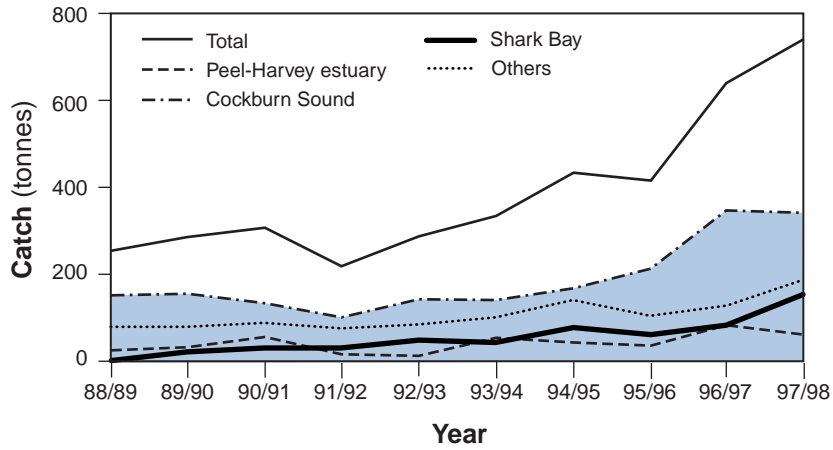
Commercial catches are expected to be in the range 600-800 tonnes, based on catches in the last two years.

## Product Value for Year 1997/98

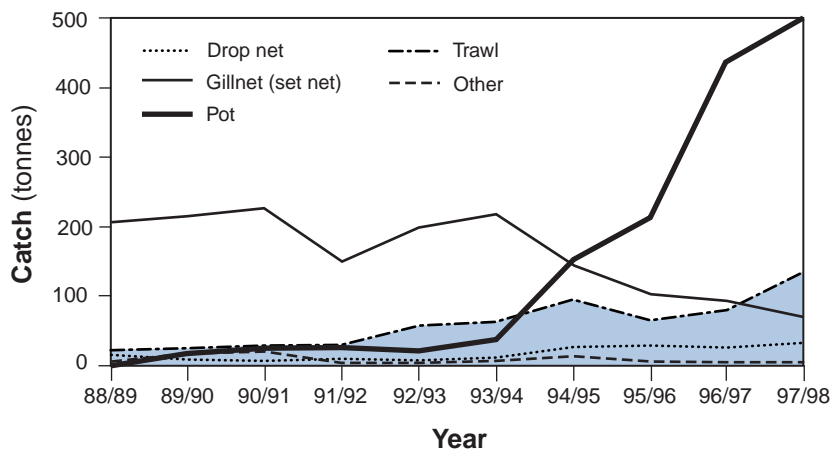
The catch was valued at approximately \$2.2 million in 1997/98, with most of the product going to local and interstate markets.

## General Comments

The commercial fishery has been expanding in the last few years as the main commercial sectors converted from set nets to dedicated crab pots, and there is still potential for future expansion in areas not currently exploited. However, recreational fishing pressure on the stocks is also expanding and will lead to increasing debate about resource sharing, particularly in the populated areas in the south-west of the State. Management of the fishery is currently under review and should be finalised during 1999/2000. Several research projects are under way to provide information for estimation of biological parameters to provide more detailed stock assessments in the future.



**Blue Swimmer Crab Figure 1** Commercial catch history for the blue swimmer crab (*Portunus pelagicus*) in Western Australia between 1988/89 and 1997/98, indicating main regions of commercial catches.



**Blue Swimmer Crab Figure 2** Blue swimmer crab catch taken by different gear types in Western Australia during the period 1988/89 to 1997/98.