

**Other Prawn Figure 5** Annual landings for the Broome Prawn Managed Fishery, 1990-1998.

## Kimberley Prawn Managed Fishery

### MANAGEMENT OVERVIEW

The management controls for the Kimberley Prawn Managed Fishery are based on limited entry, seasonal closures, gear controls and restrictions on boat replacements.

The Kimberley Prawn Managed Fishery is off the north of the State adjacent to the Northern Prawn Fishery. Opening and closing dates have been aligned with those of the Northern Prawn Fishery.

### COMPLIANCE AND COMMUNITY EDUCATION OVERVIEW

Compliance activities for this fishery are limited to inspections of fishing vessels entering the port of Broome en route to the fishing grounds, and opportunistic inspections during sea patrols targeting other fisheries.

The majority of vessels operating within this fishery are serviced from Darwin, and the distance between the ports of Darwin and Broome makes at-sea inspections of vessels operating on these grounds difficult and expensive. The increased presence of the joint

Fisheries WA and Department of Transport patrol vessel *Walcott* in the northern waters will increase the opportunities for at-sea inspections. However, compliance resources available for this fishery are limited, and these inspections will continue to be conducted on an ad hoc basis as part of patrols dedicated to other fisheries.

### RESEARCH OVERVIEW

Research data for monitoring this fishery, which is fished by both Western Australian and Commonwealth (Northern Prawn Fishery) licensed vessels, are provided by Western Australian fishers' monthly returns and research logbooks collected by the Australian Fisheries Management Authority (AFMA).

Research assessments are provided to annual meetings of vessel operators and provide the basis for recommending changes to management arrangements each year.

The following status report summarises the research findings for this fishery.

## Fishery Status Report

### Main Features

#### Stock assessment complete:

Not assessed

#### Exploitation status:

Not assessed

#### Breeding stock levels:

Not assessed

#### Previous catch projections for year 1998:

230-590 tonnes

#### Catch current season (1998):

Major penaeids 436 tonnes, comprising:

Tiger prawns	46 tonnes
Endeavour prawns	15 tonnes
Banana prawns	373 tonnes

#### Estimated annual value (to fishers) for year 1998:

\$4.8 million

#### Catch projection next year (1999):

Major penaeids 278-576 tonnes

Tiger prawns	15-46 tonnes
Endeavour prawns	13-80 tonnes
Banana prawns	250-450 tonnes*

(\*using rainfall-catch relationship; others based on five-year range)

#### Recreational component:

Not applicable

### Boundaries and Access

The boundaries of this fishery are 'all Western Australian waters of the Indian Ocean lying east of 123°45' east longitude and west of 126°58' east longitude'.

Seasonal dates for the Kimberley Prawn Managed Fishery are aligned with those of the adjacent Northern Prawn Fishery. Consequently, the 1998 season opened on 1 April and closed for the mid-season closure on 15 June. The fishery reopened on 1 August and ran until the final season closure on 30 November.

There are three classes of licence issued that cover all vessels allowed to fish the Kimberley Prawn Managed Fishery, as described in the Kimberley Prawn Managed Fishery Notice. Eighteen Western Australian licensed vessels and 26 Northern Prawn Fishery licensed vessels operated in the fishery during the 1998 season.

### Annual Production

#### Main fishing method

Otter trawl.

### Landings

The total landings for the 1998 season were 436 tonnes, including 373 tonnes of banana prawns, 46 tonnes of tiger prawns, and 15 tonnes of endeavour prawns (Other Prawn Figure 6). There was less than 1 tonne of squid landed.

The banana prawn catch was within the range expected for this species, particularly since the catch is highly variable due to environmental conditions (summer rainfall). The tiger and endeavour prawn catches were also within the expected range for these species (15-60 tonnes and 10-80 tonnes respectively).

#### Fishing effort

Not assessed.

#### Catch rate

Not assessed.

### Stock Assessment

Although there has been no formal stock assessment based on catches and fishing effort for the Kimberley prawn stocks, nevertheless the relationship recognised from other fisheries between rainfall and catches of banana prawns (the dominant species taken in this area) may provide a degree of forecasting.

Preliminary investigations have shown promising relationships between early season rainfall (December to March) and the subsequent catch of banana prawns. Rainfall during the period December 1998 to March 1999 was higher than average (689 mm at Derby and 1244 mm at Kalumburu), which would indicate that banana prawn catches for 1999 should be in the range 250-450 tonnes.

### Breeding Stock Levels

Not assessed.

### Catch Projection for Year 1999

Under current effort levels, the catch prediction for the banana prawn and tiger prawn stocks is 250-450 tonnes and 15-46 tonnes respectively. Similarly, the catch projection for endeavour prawns is 13-80 tonnes. Total catch projection is 278-576 tonnes, based on the banana prawn-rainfall relationship and the five-year average for other species.

### Product Value for Year 1998

Wholesale prices for prawns vary depending on the type of product and the market forces operating at any one time. Generally, average prices were as follows:

Tiger prawns	\$16.40/kg
Endeavour prawns	\$10.00/kg
Banana prawns	\$10.50/kg

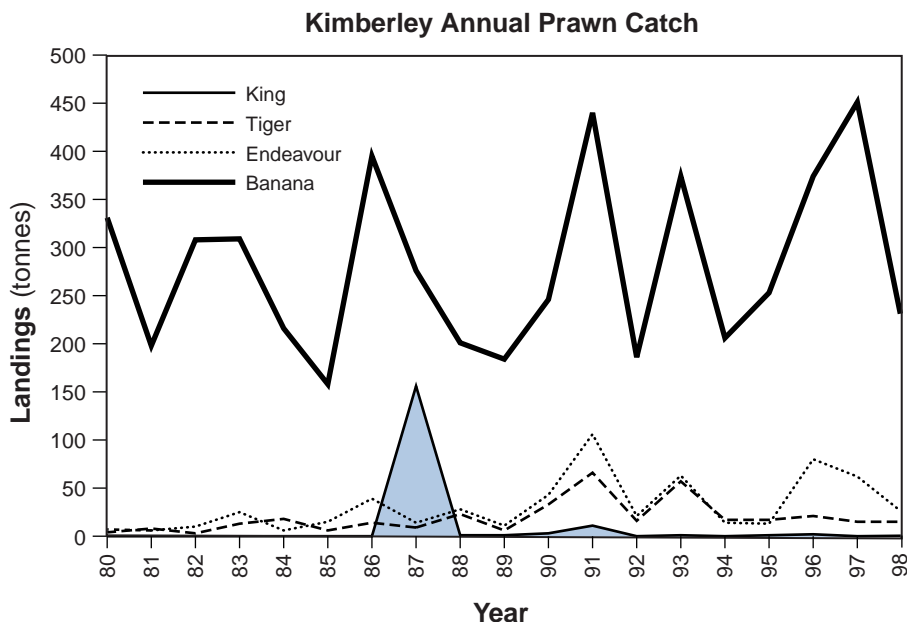
**General Comments**

Minimum catch monitoring is completed for this relatively minor fishery. Data for vessels operating in this fishery come from both Western Australia’s monthly returns and AFMA’s Northern Prawn Fishery logbook.

The relationship between summer rainfall (December to March) and the catch of banana prawns in the following season has been used to assist forecasting. As banana prawns usually comprise the majority of the prawn catch from this fishery, this correlation will assist fishers and managers to make the best use of this fishery.

Squid catches continue to be poor, with only about 400 kg reported. In contrast, in 1993 there were 430 tonnes of squid landed. It is not known whether this dramatic reduction is due solely to environmental change, or to the normal range of cyclical variation in abundance, or whether in part it reflects the effects of fishing.

This fishery is used by relatively few boats for the complete fishing season. Boats from Nickol Bay and elsewhere in Western Australia use it at some times of year to complement catches in their local fisheries. Vessels fishing in the Northern Prawn Fishery (NPF) in the Gulf of Carpentaria use this fishery for periods each year, and in fact the Kimberley fishing season is usually set to mirror dates used in the NPF, to prevent the small Kimberley fishery from attracting too much fishing effort from its large neighbour.



**Other Prawn Figure 6** Annual landings for the Kimberley Prawn Managed Fishery, 1980–1998.