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Australian Fisheries Management Authority

NORTHERN PRAWN FISHERY DATA SUMMARY 2004



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**Matthew Perdrau & John Garvey
Logbook Program
March 2005**

DATA SECTION

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Northern Prawn Fishery Data Summary 2004
March 2005

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Preface

Scope of the Report

The Logbook Program's data summaries provides a broad outline of the catch and effort for a fishery. They are an important mechanism for providing feedback to operators on the logbook data that they send to AFMA. In addition, the extraction and analysis of the data by the Logbook Program helps to identify data quality issues and provides valuable information on how data can be collected and managed better.

AFMA has produced data summary reports for the Northern Prawn Fishery on an annual basis since 1992. The following data summary reviews the 2004 season prawn catch and effort for the Northern Prawn Fishery (NPF).

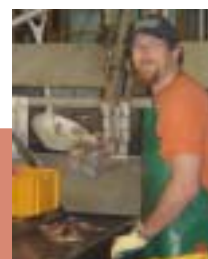
Acknowledgements

Production of this report was made possible through the efforts of the skippers and vessel owners of the NPF. Skippers supplied daily logbook information and vessel owners completed seasonal landing returns. The log sheets and landing returns were processed by D&S Datafix.

If you have any comments or queries on this, or any other data summaries, please do not hesitate to call:

Ryan Murphy, Manager - Data Programs, AFMA (Canberra) - Ph (02) 6272 5029

Also note that this Data Summary is available on AFMA's website: www.afma.gov.au

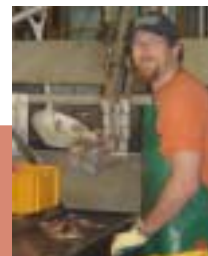


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Introduction

The Northern Prawn Fishery Data Summary 2004 contains catch and effort statistics by prawn species, area, time and fishery. Comprehensive bycatch information is also included for the information of owners and skippers and to meet AFMA's obligations under Offshore Constitutional Settlements with Queensland, the Northern Territory and Western Australia. Turtle and sea snake bycatch is also reported.

Description of the Northern Prawn Fishery

Area of Fishery

The Northern Prawn Fishery is located off Australia's northern coast, and extends from the low water mark to the outer edge of the Australian fishing zone (AFZ) in the area between Cape York in Queensland and Cape Londonderry in Western Australia (Figure 1).

Fishing Methods

Prawn trawling is an active fishing method that involves towing a conical-shaped net spread open by two steel or timber otter boards over the seabed, commonly called otter trawling. Groundchains are also used on the nets to stimulate prawns into the trawl mouth. Vessels in the NPF tow two nets simultaneously in a double rig configuration, from booms on either side of the vessel. In addition to the main nets a small net, or try-net, is used to test the catches for a given area. All trawl nets (other than try-nets) in the NPF are required to be fitted with approved Turtle Excluder Devices (TEDs) and Bycatch Reduction Devices (BRDs).



Figure 1. Northern Prawn Fishery Management Area



Most of the vessels in the NPF are purpose built from steel and range in length from 14 m to 32 m. All NPF boats have modern, sophisticated catch handling, packing and freezing capabilities as well as wet (brine) holding facilities. All use electronic aids such as colour echo sounders and Global Positioning Systems (GPS). Satellite phone and fax equipment is used by most vessels and many have introduced on-board computing facilities. All vessels are required to have a Vessel Monitoring System (VMS).

Management Information

The Fishery is managed through a combination of input controls (limited entry, seasonal closures, permanent area closures, gear restrictions and operational controls) which are implemented under the Northern Prawn Fishery Management Plan 1995 (the Management Plan).

The Management Plan provides for the granting of fully transferable Statutory Fishing Rights (SFRs) that determine the number of trawlers that may operate and the amount of gear used in the Fishery. In 2001 the management plan was amended to allow the total gear pool to be set by determination. The gear SFR is set as an amount of headrope length, which can be varied depending on the stock status and economic grounds.

In 2002 measures to reduce effort by 40% on tiger prawns were introduced. This was achieved by shortening the seasons and a further 25% reduction in the value of an SFR from 24 August 2002. This resulted in a reduction in Class B SFRs from 119 to 102.

Species

The Fishery targets nine commercial species of prawns including white banana (*Fenneropenaeus merguensis*), red-legged banana (*F. indicus*), brown tiger (*Penaeus esculentus*), grooved tiger (*P. semisulcatus*), blue endeavour (*Metapenaeus endeavouri*), and red endeavour (*M. ensis*). Scampi, squid, scallops and bugs are also taken as by product.

The fishery is split into two seasons. For 2004, the seasons were from 15 April to 27 May and from 1 September to 1 December respectively.

Data Collection Program

Northern Prawn Fishery operators were required to complete the 'Northern and Torres Strait Prawn Fisheries Daily Fishing Log' (NP14) on a daily basis. The NP14 logbook was introduced (replacing the NP13 logbook) at the start of the first season in 2004. Twenty one operators used electronic logbook reporting in 2004. These electronic logbook data are included in this data summary.



Methods Used For Preparing Data Summary

The data used to prepare the Northern Prawn Fishery Data Summary is comprised of the logbook information (NP14 and E-log) submitted by NPF skippers and the seasonal landing returns (SLR-T01) completed by NPF vessel owners. This information is stored at the Australian Fisheries Management Authority on the Northern Prawn, Kimberley Prawn and Torres Strait Prawn database.

The data used in this summary was extracted on 8th February 2005 after making every effort to reconcile the data provided by skippers with that obtained from vessel owners. This was to ensure that the logbook data and the landings figures approximated each other as closely as possible. Eighty three vessels from a total of 96 had catches from logbooks totalling within 10% of the catch recorded in the landing returns for banana and tiger prawns. At the time of extraction, 100% of logsheets and 98% of landing data had been received. No days were missing because of lost logsheets.

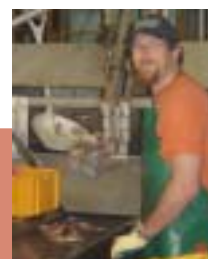
Over the entire fleet, the logbook figures for banana and tiger prawns were a little lower than the landings figures (by 1.3% and 0.1% respectively). For endeavour prawns, the logbook figures were a little higher than the landings (by 1.6%). The catch of king prawns accounted for on the logbooks was only 65% of the total landings figure.

The catch and effort estimates in Table 1, Figure 2 and Figure 6 were derived from a combination of logbook and landings figures. The remainder of the tables and figures in the summary represent logbook data only. This may cause discrepancies between totals. Discrepancies may also occur due to rounding.

Banana and Tiger Prawn Fishery Components

The fishery statistics have been split into banana and tiger prawn fishery components according to the composition of the catch in logbook records. If half or more of a vessel's daily catch was banana prawns or there was no prawn catch and the vessel was fishing, the vessel was defined as operating in the banana prawn fishery on that day; otherwise it was defined as operating in the tiger prawn fishery. Days fishing where vessels have been searching, but have not supplied details of the area searched, have not been included in the effort figures (16 days in the 2004 season).

Banana prawn fishery catch is the catch of all species (bananas + tigers + endeavours + kings) when a vessel is defined as fishing in the banana prawn fishery. Likewise, tiger prawn fishery catch is the catch of all species when a vessel is defined as operating in the tiger prawn fishery.



Catch and Effort Data For the Northern Prawn Fishery

Coverage

Statistics for the Northern Prawn Fishery (NPF) were collected from vessels that fished between Cape York (Queensland) and Cape Londonderry (Western Australia) (Figure 1).

The 2004 NPF seasons were from 15 April to 27 May and 1 September to 1 December. There were 43 days available to fish during the first season and 91 during the second season (a total of 134), which was the same as in 2003. Total effort in 2004 was 11,778 days compared to 12,617 in 2003.

The total NPF prawn catch for 2004 was 5,686 tonnes, compared with 5,898 tonnes in 2003 and 6,936 tonnes in 2002 (Table 1). The catch of banana prawns increased compared to the previous year by 9%. The catch of tiger prawns decreased by 20%, while endeavour prawns decreased by 9%. The catch of king prawns decreased to 3 tonnes. During the 2004 fishing year, 96 different vessels landed product (95 during the first season and 95 during the second season).

Catch

The catch in the banana prawn fishery increased by 236 tonnes (7%) in 2004 to 3,499 tonnes. The tiger prawn fishery catch decreased by 490 tonnes (19%) to 2,145 tonnes (Figure 2).

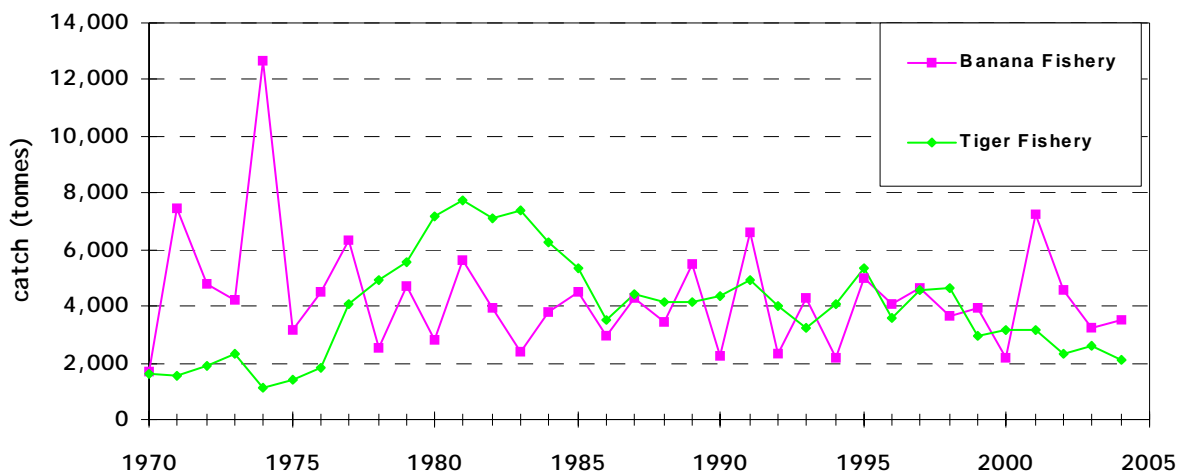


Figure 2. Catch in the banana and tiger prawn fisheries between 1970 and 2004

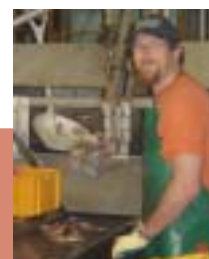
Source: AFMA logbook data adjusted to annual reconciled landing figures



Table 1. Annual reconciled landings, effort and vessel numbers from 1970 to 2004.

<i>year</i>	<i>banana prawns (tonnes)</i>	<i>tiger prawns (tonnes)</i>	<i>endeav. prawns (tonnes)</i>	<i>king prawns (tonnes)</i>	<i>total prawns (tonnes)</i>	<i>number of vessels</i>	<i>banana fishery effort (days)</i>	<i>tiger fishery effort (days)</i>
1970	1702	1138	417	0	3257	191	2041	5818
1971	7364	1183	400	0	8948	169	5571	6057
1972	4801	1380	472	0	6654	180	4327	7380
1973	4226	1672	594	0	6492	217	4917	7362
1974	12711	666	434	4	13815	196	7537	3439
1975	3160	973	444	6	4583	107	5361	6010
1976	4519	1118	675	5	6319	145	7238	6660
1977	6345	2900	1125	28	10398	193	7257	11673
1978	2535	3599	1240	82	7456	237	5569	18749
1979	4775	4218	1213	94	10300	240	7328	17791
<i>'70-'79 average</i>	<i>5214</i>	<i>1885</i>	<i>701</i>	<i>22</i>	<i>7822</i>	<i>188</i>	<i>5715</i>	<i>9094</i>
1980	2835	5124	1891	111	9964	269	8391	30594
1981	5672	5559	2073	95	13400	286	11524	31895
1982	3875	4891	2124	144	11036	271	8751	32956
1983	2382	5751	1488	207	9831	254	6856	34551
1984	3770	4525	1714	83	10095	252	5932	32447
1985	4469	3592	1671	77	9811	231	6946	26516
1986	2935	2682	748	85	6451	238	7132	26669
1987	4257	3617	772	65	8713	234	7954	22478
1988	3381	3458	669	81	7591	222	6655	26264
1989	5466	3173	909	85	9636	223	7439	27036
<i>'80-'89 average</i>	<i>3904</i>	<i>4237</i>	<i>1406</i>	<i>103</i>	<i>9653</i>	<i>248</i>	<i>7758</i>	<i>29141</i>
1990	2221	3550	735	128	6636	200	5044	25525
1991	6605	3987	879	81	11554	172	6515	20744
1992	2254	3084	880	47	6267	170	5132	21789
1993	4292	2515	733	35	7572	127	6299	16019
1994	2157	3162	872	72	6263	128	4955	18592
1995	4961	4125	1150	58	10294	125	4880	16834
1996	4078	2311	1235	41	7665	127	5525	16635
1997	4587	2694	1870	51	9202	129	5476	15385
1998	3569	3218	1322	20	8123	130	5301	18003
1999	3904	2136	885	21	6947	129	5639	12675
<i>'90-'99 average</i>	<i>3863</i>	<i>3078</i>	<i>1056</i>	<i>55</i>	<i>8052</i>	<i>144</i>	<i>5477</i>	<i>18220</i>
2000	2195	2190	958	13	5355	121	3697	12736
2001	7245	1983	1157	4	10389	118	6247	10440
2002	4577	1943	411	5	6936	114	4148	8718
2003	3238	2222	435	4	5898	97	4114	8503
2004	3520	1767	396	3	5686	96	3985	7793
<i>'00-'04 average</i>	<i>4155</i>	<i>2021</i>	<i>671</i>	<i>6</i>	<i>6849</i>	<i>109</i>	<i>4438</i>	<i>9638</i>
<i>'70-'04 average</i>	<i>4302</i>	<i>2917</i>	<i>1000</i>	<i>52</i>	<i>8272</i>	<i>181</i>	<i>6048</i>	<i>17507</i>

Source: Annual reconciled landings figures and AFMA Logbook data.



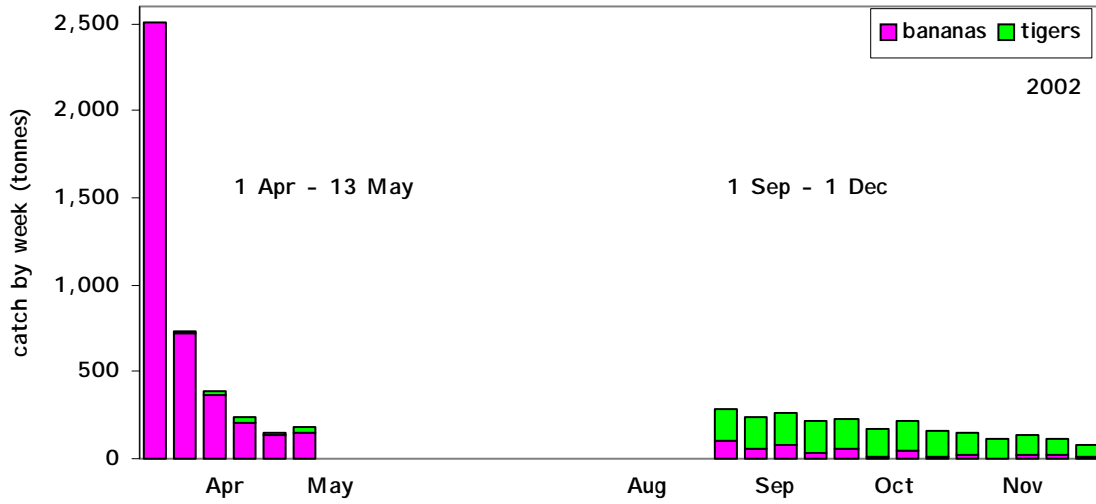


Figure 3a. Weekly catches of banana and tiger prawns (tonnes) in 2002

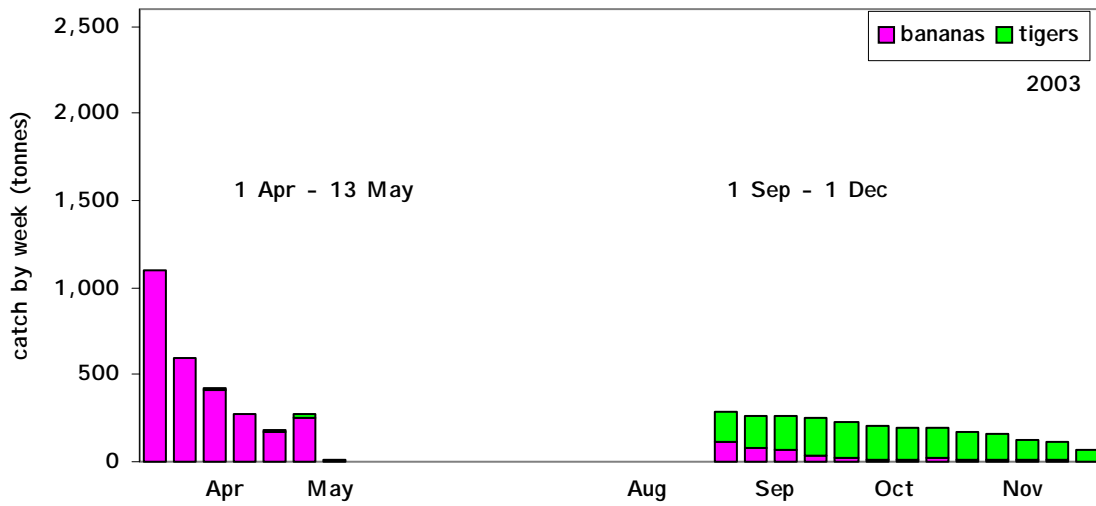


Figure 3b. Weekly catches of banana and tiger prawns (tonnes) in 2003

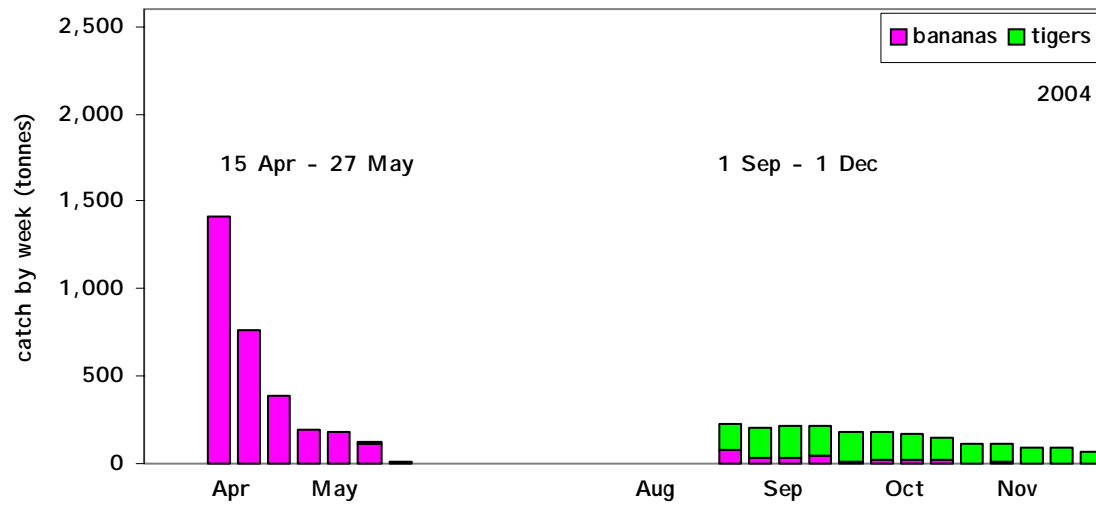


Figure 3c. Weekly catches of banana and tiger prawns (tonnes) in 2004

Source: AFMA Logbook data



Catch by Week

The highest catches were recorded in the first week of the banana season. Figures 3 (a), (b) and (c) show the catch of banana and tiger prawns by week during 2002, 2003 and 2004.

Effort

Nominal Effort and Effective Effort

Nominal effort is the number of days recorded by skippers in their logbooks. Effective effort applies only to the tiger prawn fishery based on the assumption that there has been an 'effort creep' (an increase in effectiveness of the gear utilised). A number of different approaches to effort creep are being used by NPRAG, including using an average 5% per year as well as variable effort creeps. As in previous years, for the purpose of preparing this report we have used 5%.

Nominal effort in the banana fishery decreased by 129 days (3%). In the tiger fishery, nominal effort decreased by 710 days (8%) (Figure 4).

Missed Fishing Days

The various reasons for missed fishing days has been compiled from information recorded by skippers in the logbook (Figure 5). There were far less days missed due to break downs than in 2003. In the second season of 2004 there were less days spent in other fisheries than in 2003.

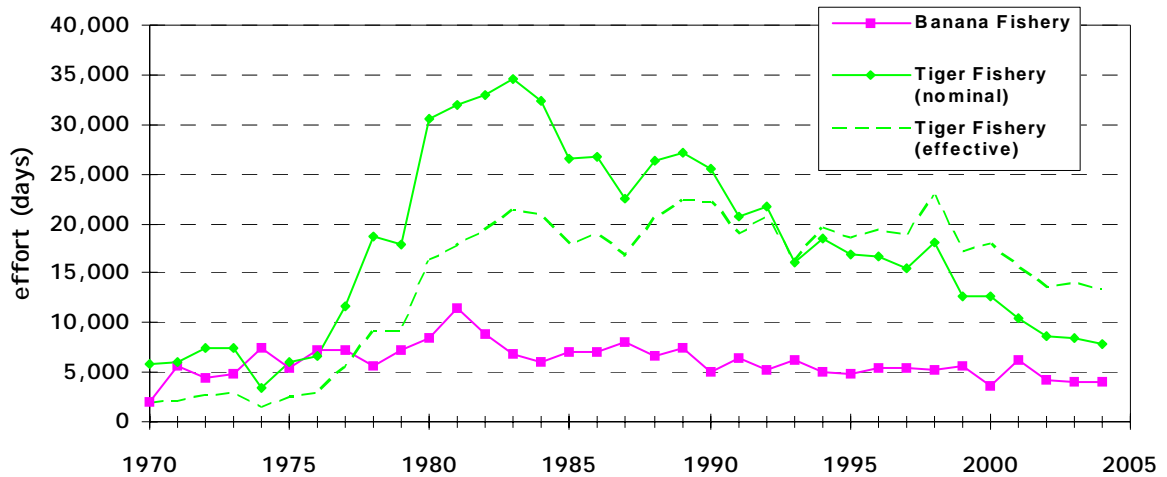


Figure 4. Effort in the banana and tiger prawn fisheries between 1970 and 2004.

Source: AFMA Logbook data



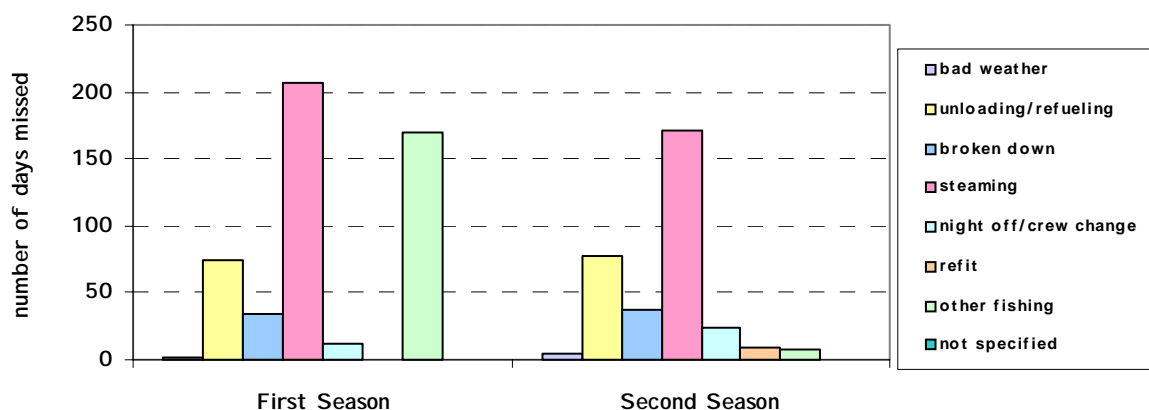


Figure 5. Missed fishing days for the banana and tiger prawn season 2004.
Source: AFMA Logbook data

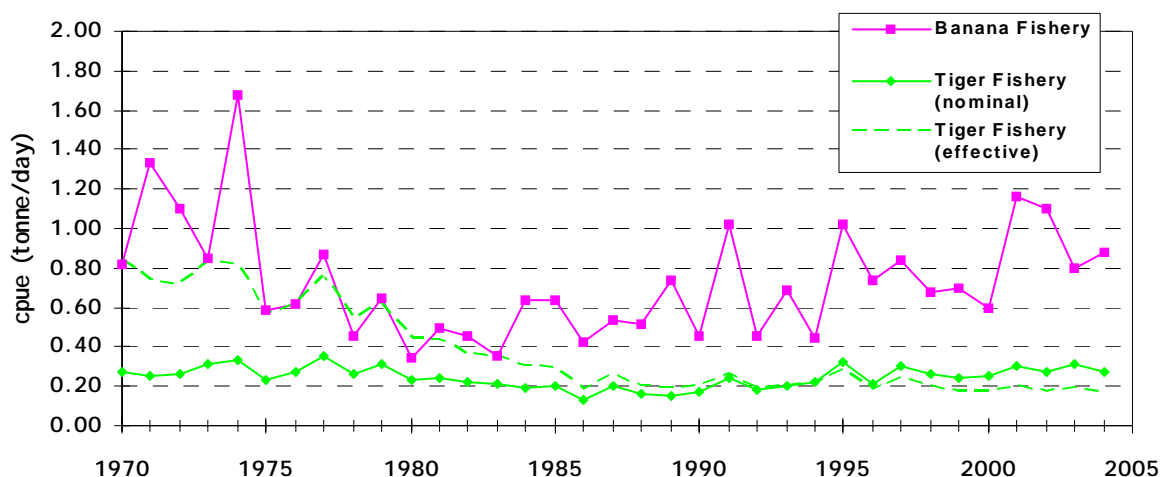


Figure 6. Catch rate in the banana and tiger prawn fisheries between 1970 and 2004.
Source: AFMA Logbook data adjusted to reconciled landings figures

Catch Rate

The banana fishery catch rate increased from 0.79 tonne/day in 2003 to 0.88 tonne/day in 2004. The nominal catch rate for the tiger fishery decreased slightly to 0.28 tonne/day while the effective catch rate decreased to 0.16 tonne/day (Figure 6).



Catch, Effort and Catch Rate by Month

Monthly banana prawn catches (Table 2) were up in May (114%) and October (33%) compared to 2003, but were down in all other months. Tiger prawn catches were lower for all months in 2004 compared with 2003 - April (down 91%), May (down 67.5%), August (down 15%), September (down 14%), October (down 21%) and November (down 21%). Endeavour prawn catches were higher in August (up 181%), September (up 2%) and November (up 9%) compared to 2003, but decreased in all other months.

The highest catches in the banana fishery were recorded in April, with the lowest in November. The highest catches in the tiger fishery were recorded in September with the lowest in April (Table 3).

Nominal effort in the banana fishery was down in all months except May and October compared with 2003. Nominal effort in the tiger fishery was slightly up in September (up 8%) compared to 2003. It was lower in all other months (Table 4).

The catch rates (tonnes/day) in the banana fishery were highest in April and lowest in November. The tiger fishery catch rates (tonnes/day) were highest in September and lowest in May (Table 5).

Table 2. Monthly catch by species in 2004

Source: AFMA Logbook data

Catch (tonnes)	<i>Apr</i>	<i>May</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	Total
<i>Banana</i>	2,351	772	247	94	11	3,475
<i>Tiger</i>	1	17	706	644	386	1,754
<i>Endeavour</i>	1	6	89	89	205	390
<i>King</i>	0	0	1	1	0	2
Total	2,353	795	1,043	827	603	5,621

Table 3. Monthly catch for all prawn species in the banana and tiger prawn fisheries in 2004

Source: AFMA Logbook data

Catch (tonnes)	<i>Apr</i>	<i>May</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	Total
<i>Banana Fishery</i>	2,352	782	253	101	12	3,499
<i>Tiger Fishery</i>	1	14	790	726	591	2,122

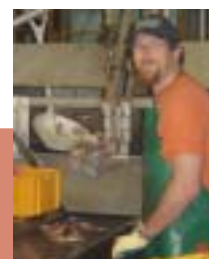


Table 4. Monthly effort in the banana and tiger prawn fisheries in 2004

Source: AFMA Logbook data

<i>Effort (days)</i>	<i>Apr</i>	<i>May</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	Total
<i>Banana Fishery</i>	1,424	1,906	397	222	51	4,000
<i>Tiger Fishery (nominal)</i>	4	82	2,348	2,625	2,662	7,721
<i>Tiger Fishery (effective)</i>	7	140	4,016	4,490	4,553	13,206

Table 5. Monthly catch rate for all species in the banana and tiger prawn fisheries in 2004

Source: AFMA Logbook data

<i>CPUE (tonne/day)</i>	<i>Apr</i>	<i>May</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>
<i>Banana Fishery</i>	1.65	0.41	0.64	0.45	0.23
<i>Tiger Fishery (nominal)</i>	0.21	0.16	0.34	0.28	0.22
<i>Tiger Fishery (effective)</i>	0.12	0.10	0.20	0.16	0.13

Vessel and Gear Information

Vessel Length

The most common NPF vessel length in 2004 was between 22.00 - 22.99 metres (Figure 7).

Distribution of Catch By Vessel

Twenty eight vessels caught between 30 and 39 tonnes in the first season of 2004 (Figure 8a). In the second season, 12 vessels caught between 30 and 39 tonnes (Figure 8b).

Average Catch per Vessel

The average catch per vessel of all prawns fell slightly to 59 tonnes per vessel in 2004 (Figure 9a). The average catch per vessel for banana prawns in 2004 increased to 36 tonnes per vessel (Figure 9b), while that of tiger prawns (Figure 9c) decreased to 18 tonnes per vessel in 2004.



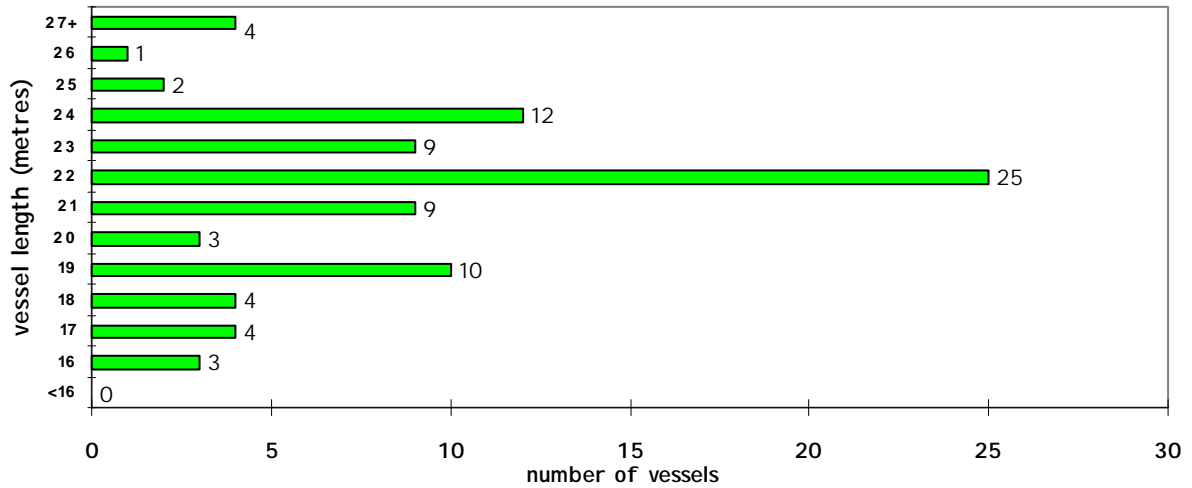


Figure 7. Frequency of vessels lengths in the NPF fleet in 2004
Source: AFMA licensing data

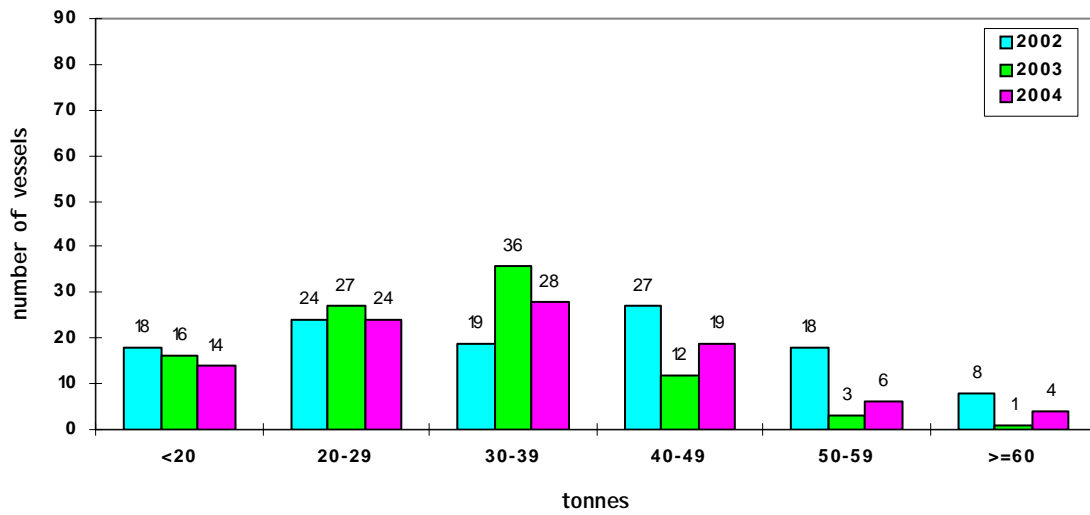


Figure 8a. Distribution of total catch by vessel in the first season, 2002 to 2004

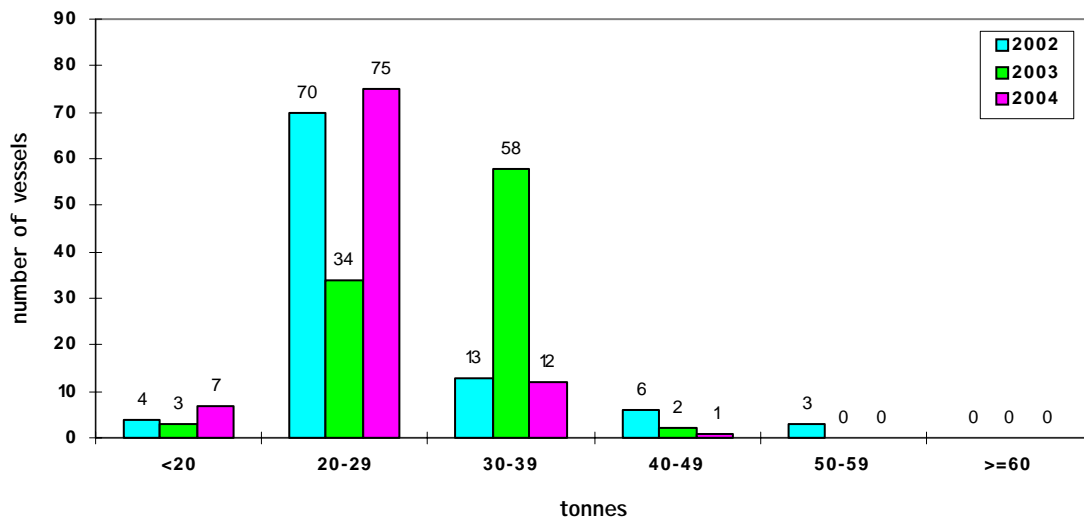


Figure 8b. Distribution of total catch by vessel in the second season, 2002 to 2004
Source: AFMA Logbook data



NORTHERN PRAWN FISHERY DATA SUMMARY 2004

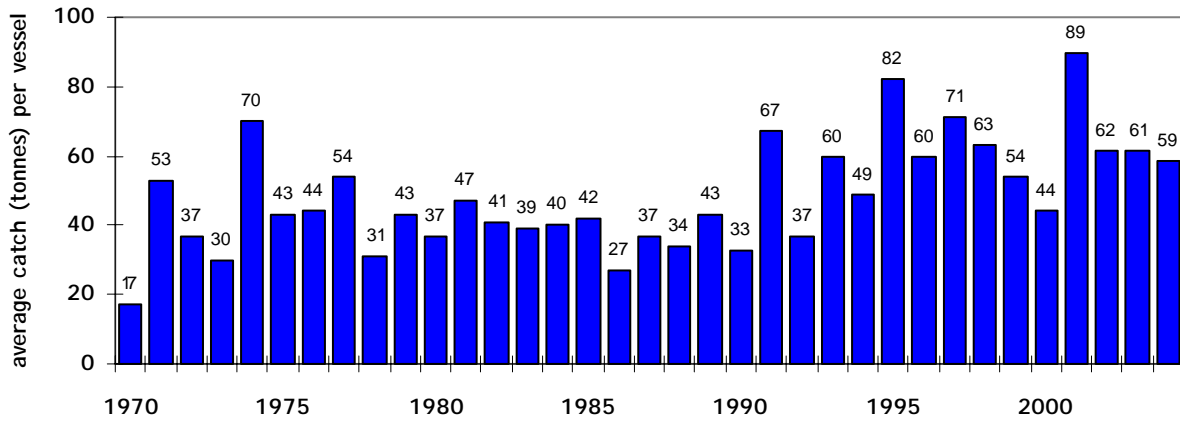


Figure 9a. Average total catch for all prawns per vessel from 1970 to 2004

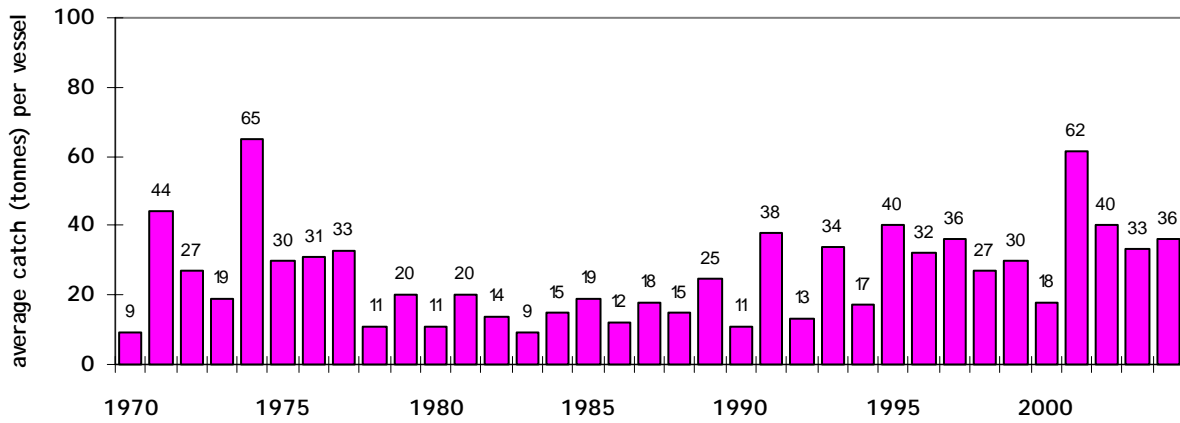


Figure 9b. Average total catch of banana prawns per vessel from 1970 to 2004

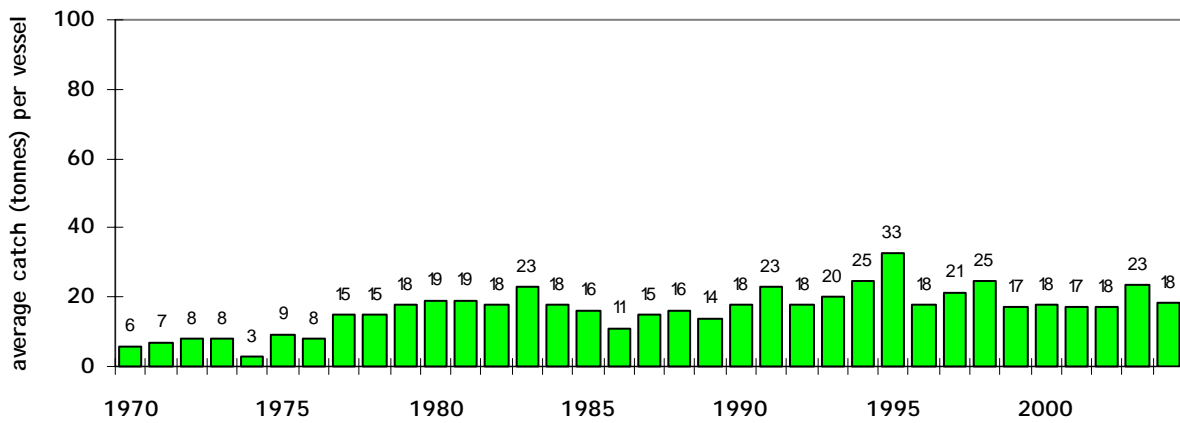


Figure 9c. Average total catch of tiger prawns per vessel from 1970 to 2004

Source: AFMA logbook data



Gear

Total tiger headrope fell slightly in 2004 to 2,139 fathoms (3.9 km) compared to 2,191 (4km) in 2003.

In the 2004 the most common headrope length per vessel was between 22 and 23.9 fathoms (40.2 and 43.7 meters), with around 48% of the fleet using this length (Figure 11). The average headrope length was 22.3 fathoms (40.8 meters).

Note - The gear information presented is only based on the 78 vessels that returned fully completed gear sheets for the 2004 season. Also, gear units for both seasons in 2002 are presented due to an effort (headrope units) reduction of 25% between the two seasons.

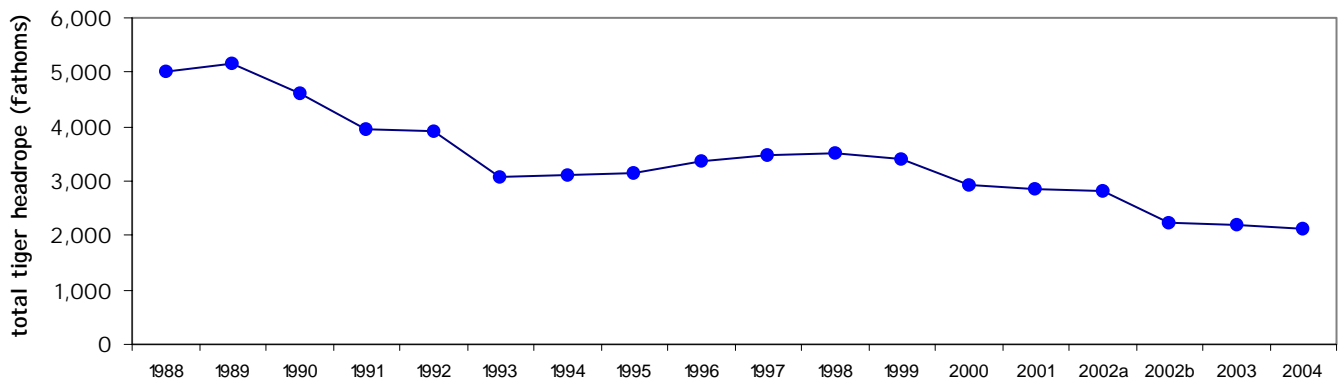


Figure 10. Total tiger headrope length from 1988 to 2004

Source: AFMA logbook data

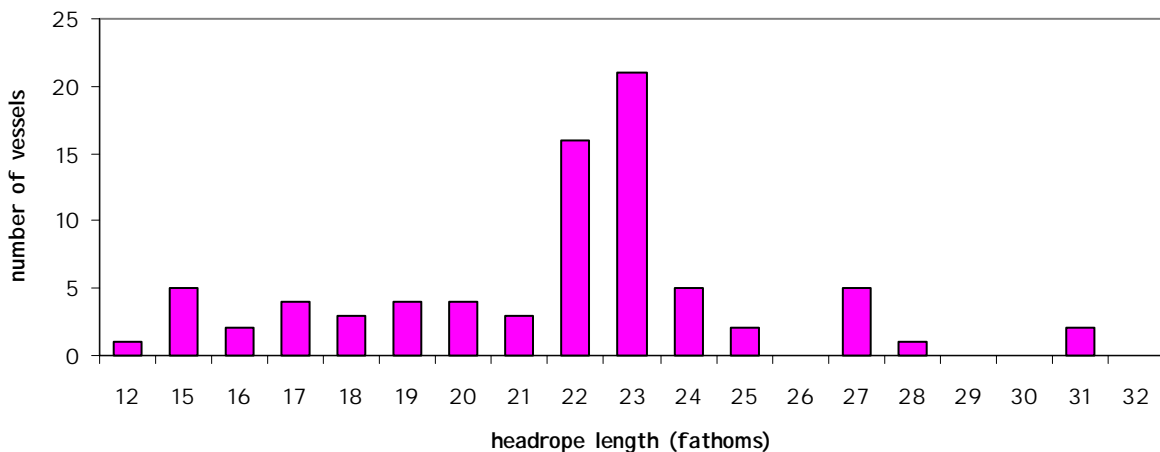


Figure 11. Frequency of tiger headrope length in 2004

Source: AFMA logbook data



Catch and Effort by Statistical Area in the NPF

General

Catch and effort has been partitioned into the 15 statistical areas illustrated below (Figure 12) and is detailed on the following pages. The highest banana catches were recorded in the Bold area with 649 tonnes (Figure 13). The highest catch of tiger prawns was recorded in the Groote area with 699 tonnes (Figure 14).

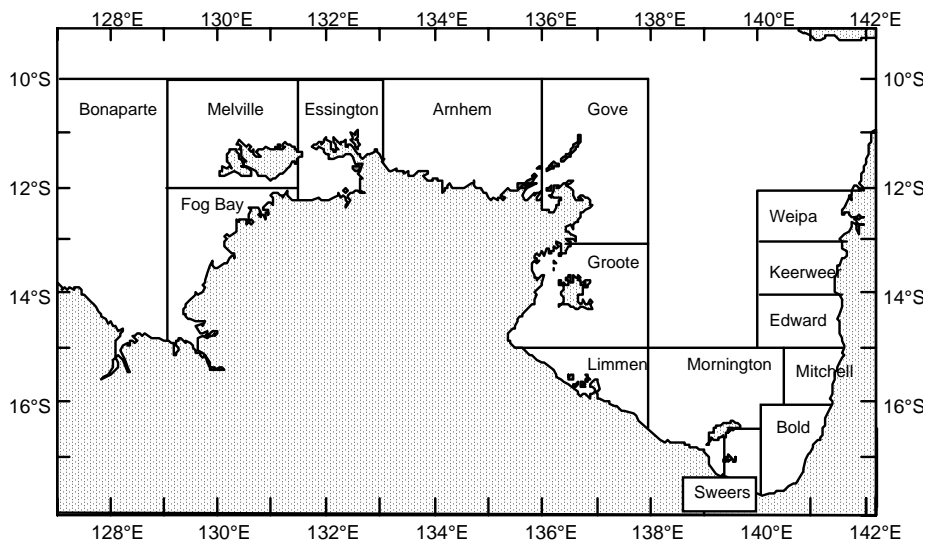


Figure 12. Statistical Areas of the Northern Prawn Fishery



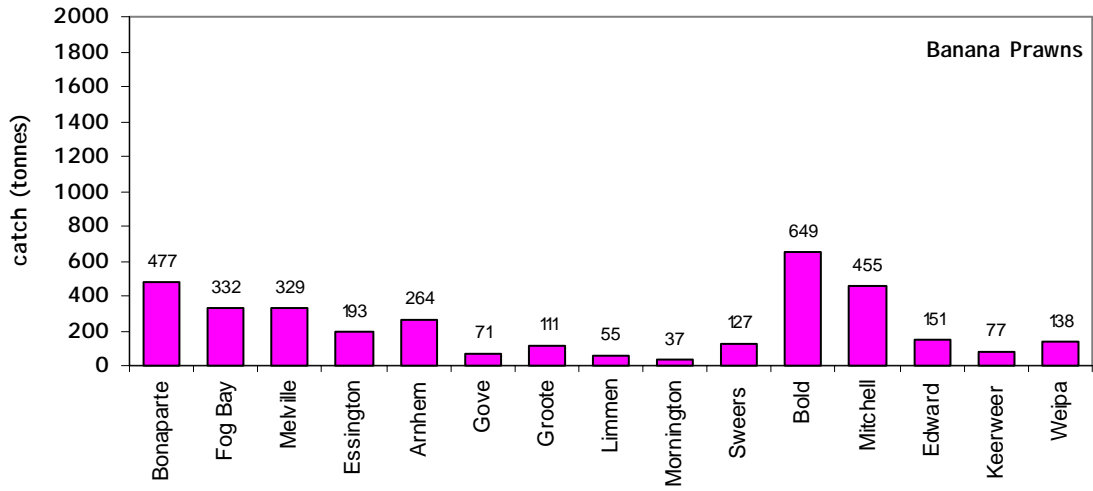


Figure 13. Catch of banana prawns in each statistical area of the NPF in 2004

Source: AFMA logbook data

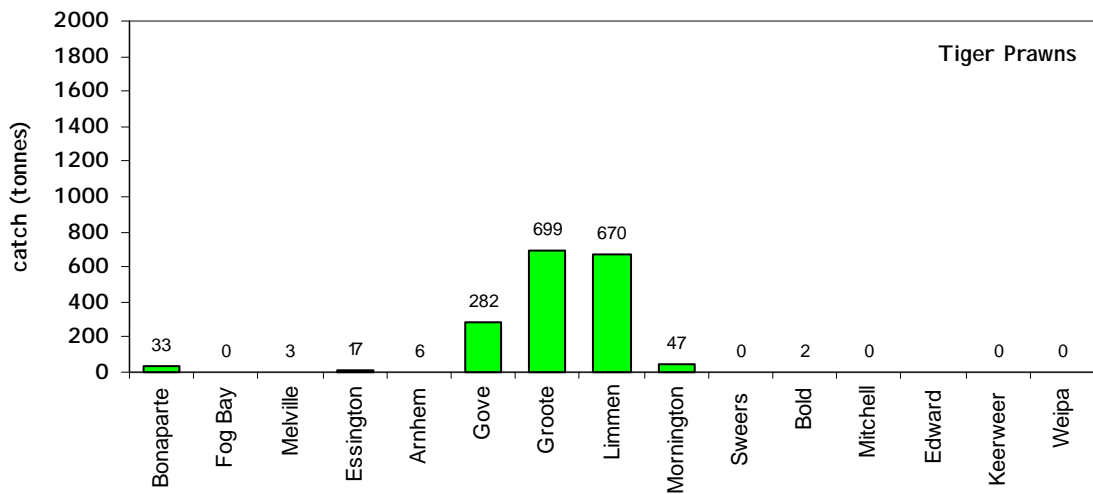


Figure 14. Catch of tiger prawns in each statistical area of the NPF in 2004

Source: AFMA logbook data



Weipa

Banana prawn catches increased from 3 tonnes in 2003 to 138 tonnes in 2004. Tiger prawn catches decreased to 51 kg (down 84%) and the catch of endeavour prawns decreased to 20 kg (down 87%) (Figure 15a). Banana prawns dominated the catch in this area (Figure 15b).

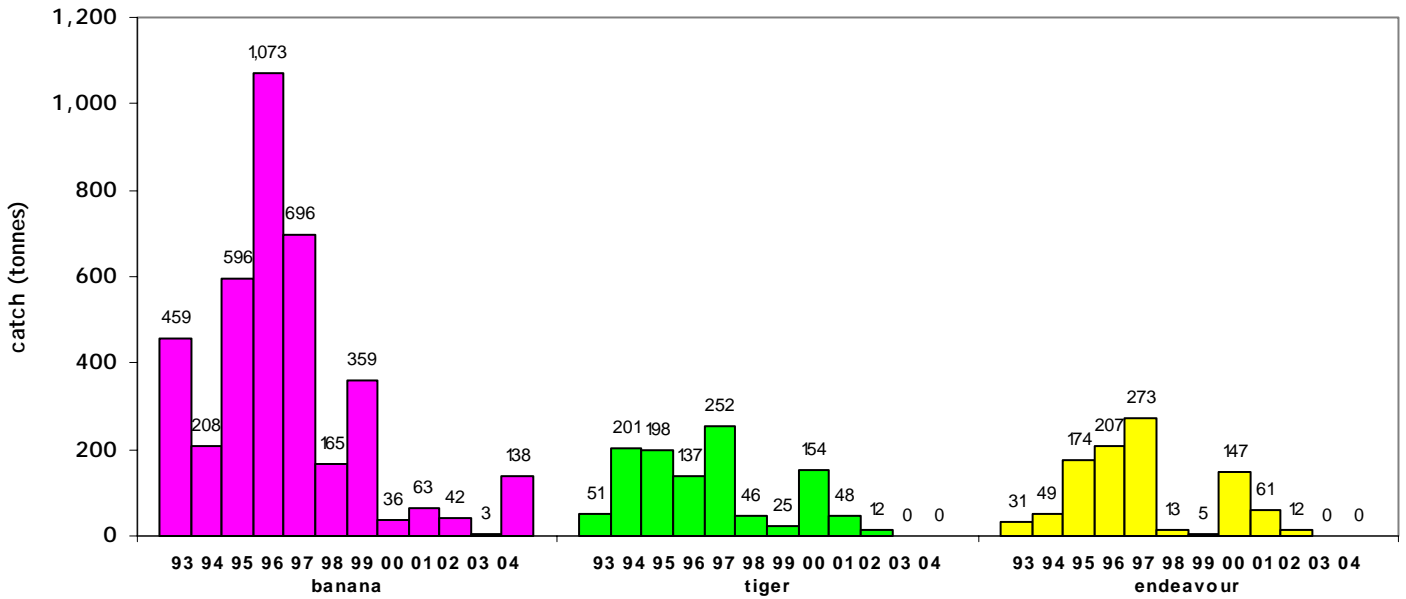


Figure 15a. Catch by species in the Weipa area between 1993 and 2004

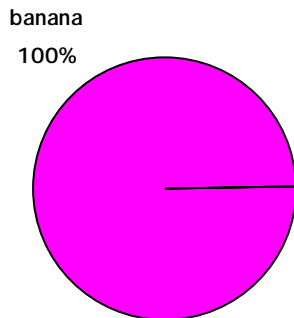


Figure 15b. Percentage catch by species in the Weipa area in 2004

Source: AFMA logbook data



Effort in the banana fishery increased to 120 days while effort in the tiger fishery decreased to 3 days (Figure 16a-c).

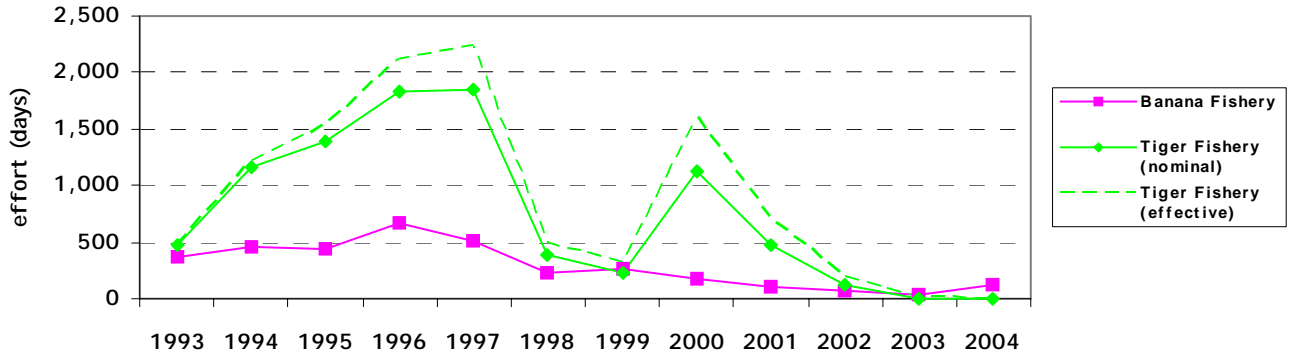


Figure 16a. Effort in the banana and tiger prawn fisheries in the Weipa area between 1993 and 2004

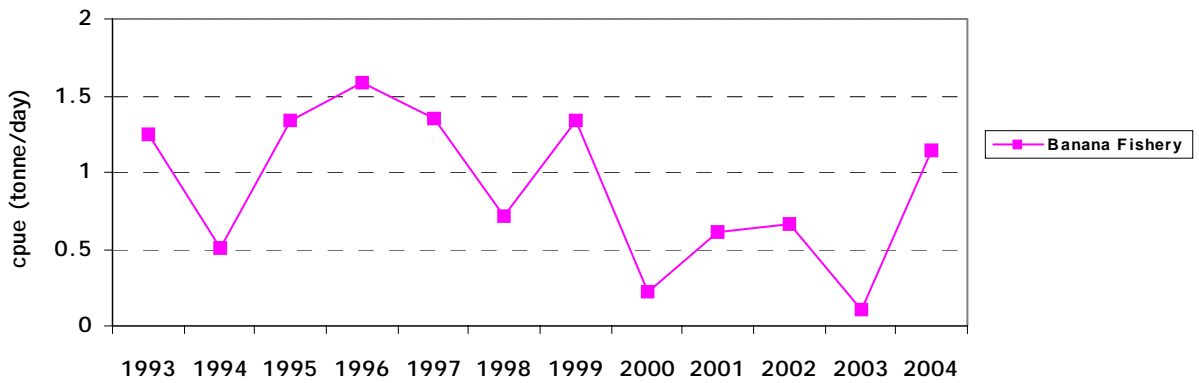


Figure 16b. Catch rate in the banana prawn fishery in the Weipa area between 1993 and 2004

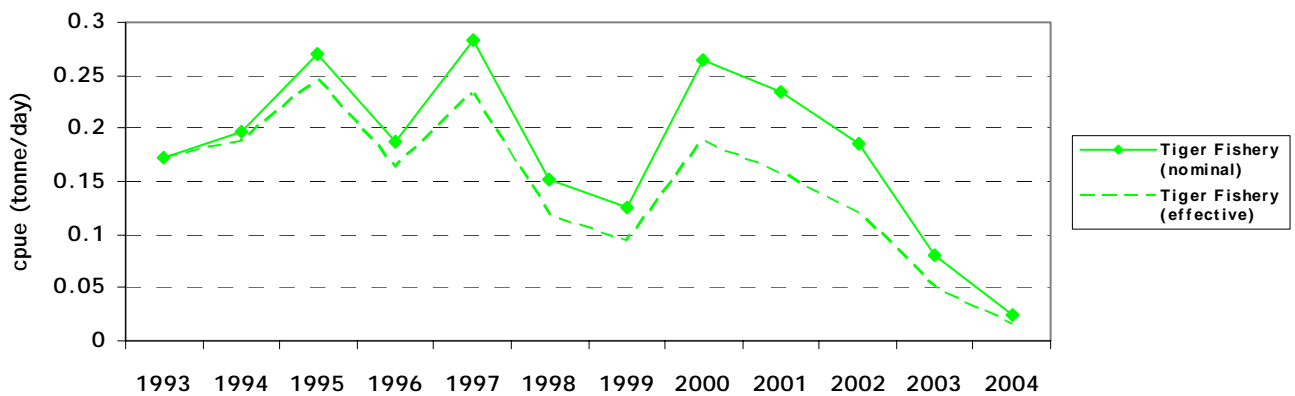


Figure 16c. Catch rate in the tiger prawn fishery in the Weipa area between 1993 and 2004
Source: AFMA logbook data



Keerweer

The banana prawn catch in the Keerweer area increased in 2004 to 77 tonnes, way up on last years catch of 6 tonnes. The catch of tiger and endeavour prawns was maintained at virtually nil. (Figures 17a & 17b).

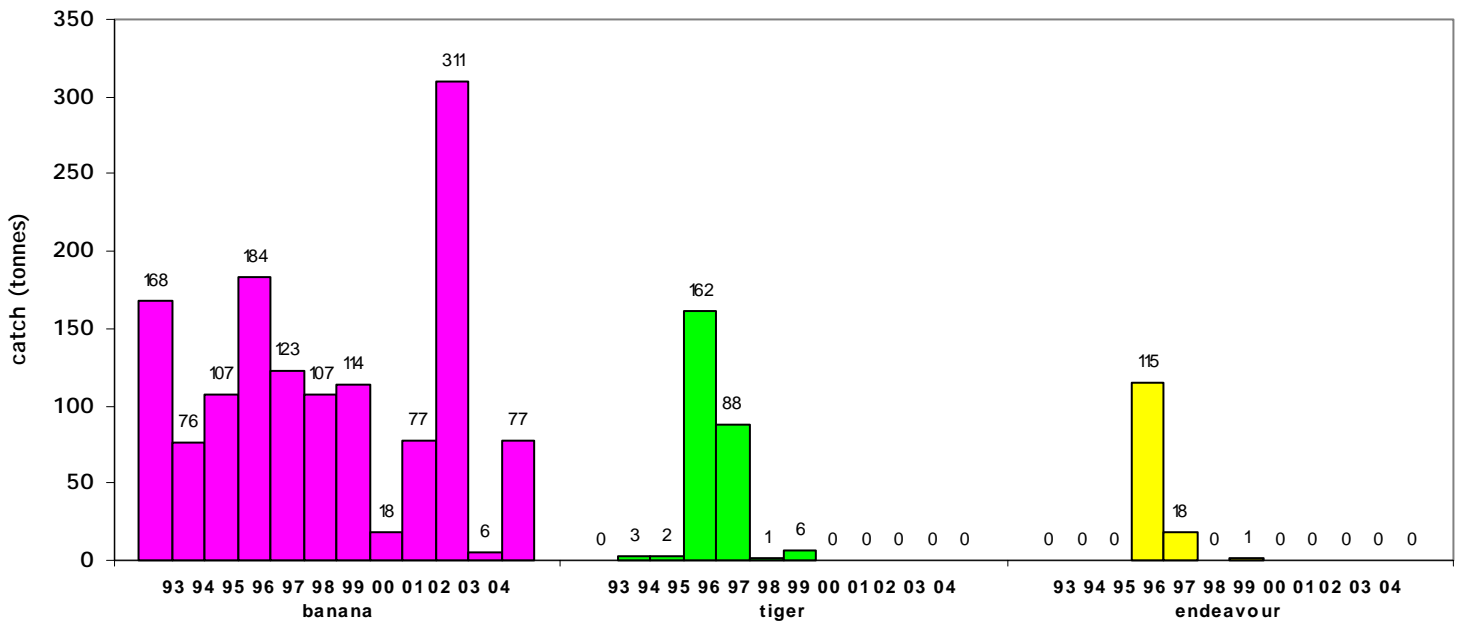


Figure 17a. Catch by species in the Keerweer area between 1993 and 2004

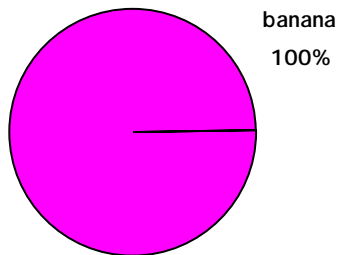


Figure 17b. Percentage catch by species in the Keerweer area in 2004

Source: AFMA logbook data



Effort directed at banana prawns was 125 days, significantly up on the 35 days recorded in 2003. There was no effort in the tiger fishery (Figure 18 a-c).

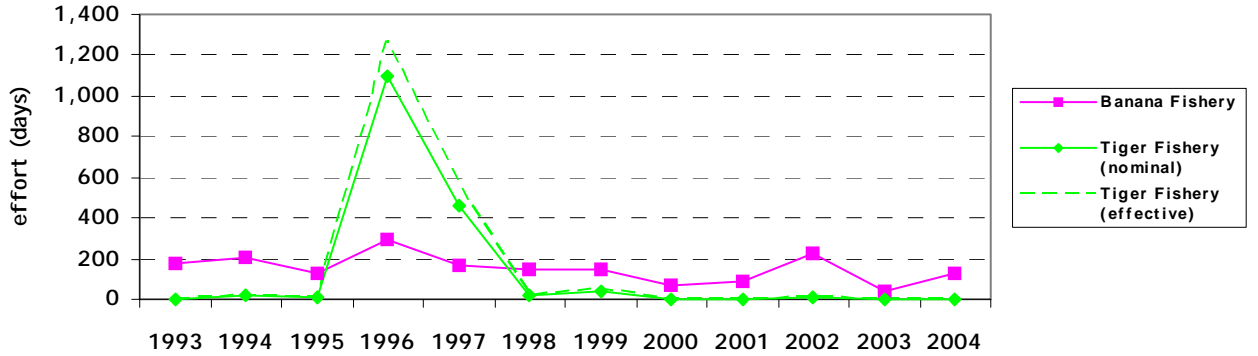


Figure 18a. Effort in the banana and tiger prawn fisheries in the Keerweer area between 1993 and 2004

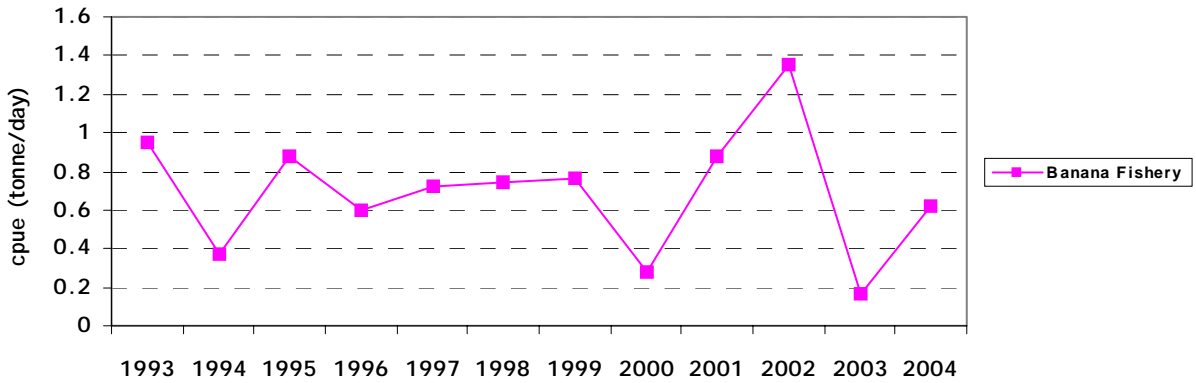


Figure 18b. Catch rate in the banana prawn fishery in the Keerweer area between 1993 and 2004

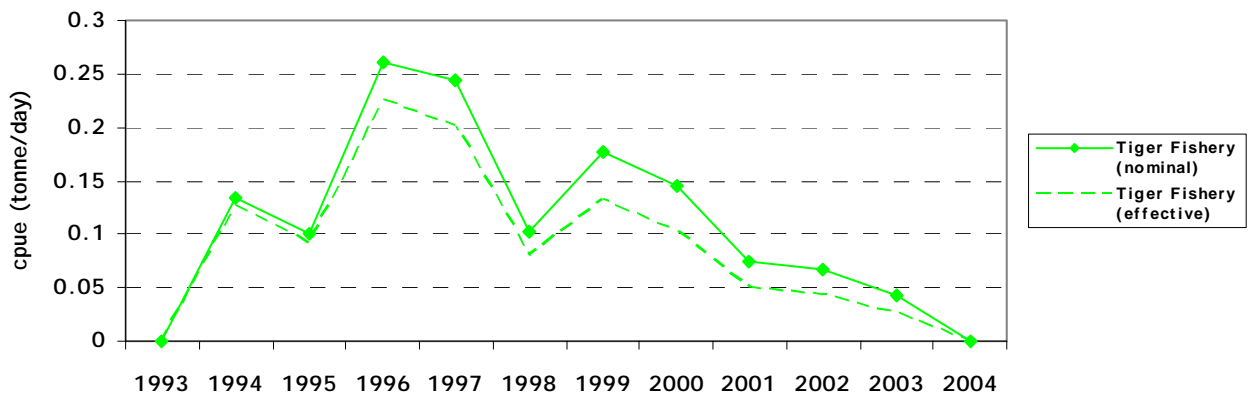


Figure 18c. Catch rate in the tiger prawn fisheries in the Keerweer area between 1993 and 2004

Source: AFMA logbook data



Edward

The banana prawn catch in the Edward area increased to 151 tonnes in 2004, up 7% from the 2003 catch of 142 tonnes. There have been no significant catches of endeavour or tiger prawns from this area for several years (Figure 19a & 19b).

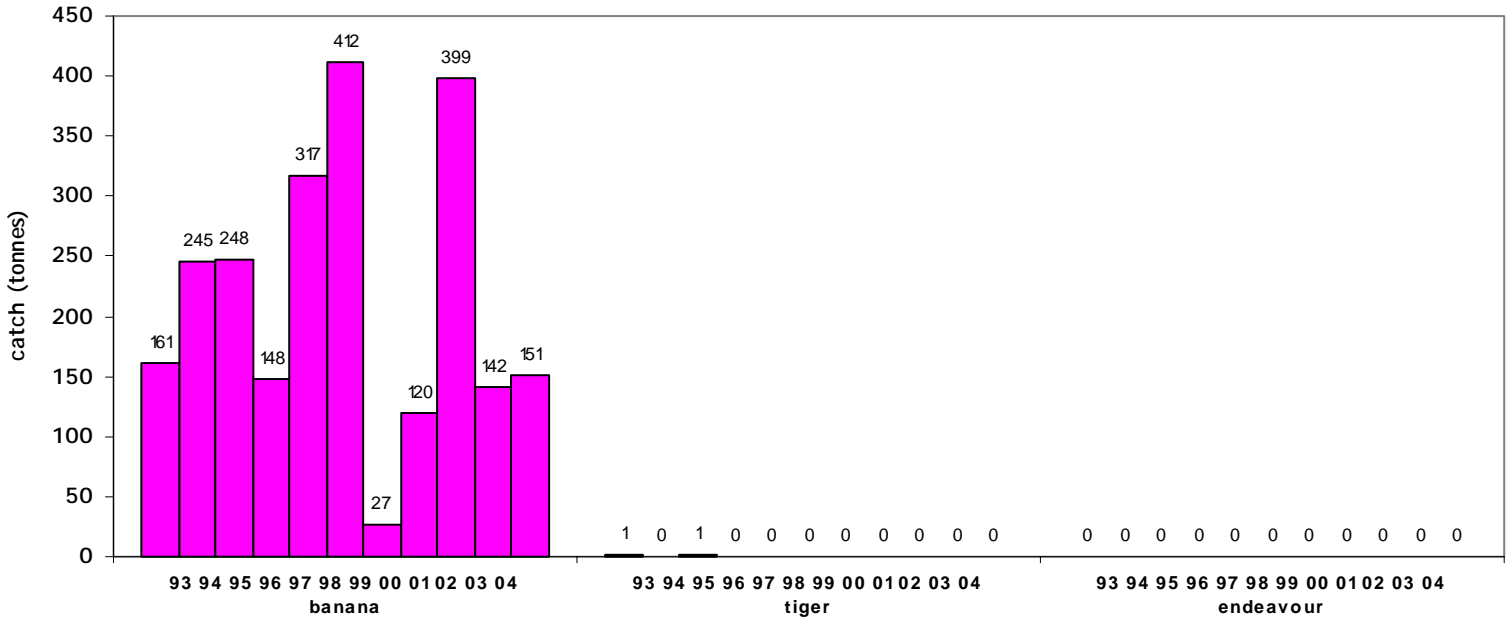


Figure 19a. Catch by species in the Edward area between 1993 and 2004



Figure 19b. Percentage catch by species in the Edward area in 2004

Source: AFMA logbook data



Effort for this region was down 11% to 162 days for the banana fishery in 2004. Tiger prawn effort remained low (Figure 20a-c).

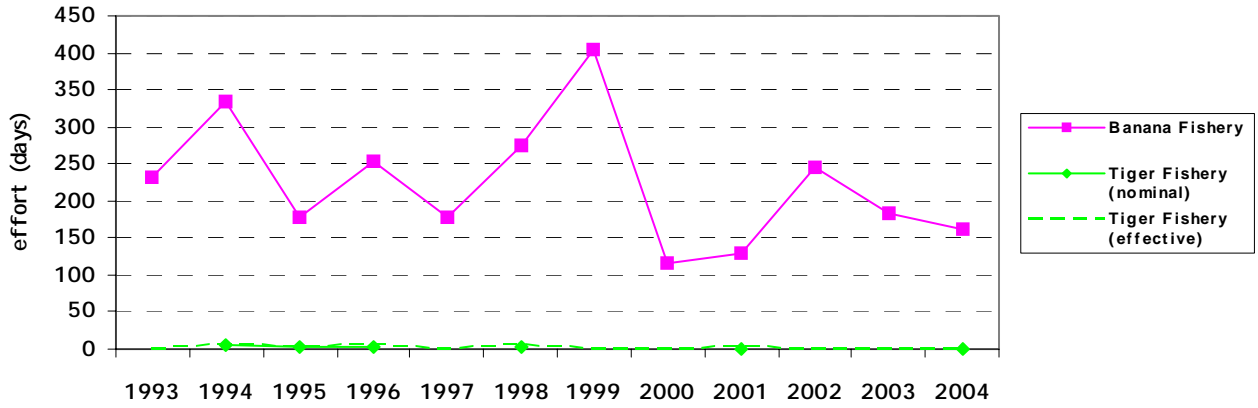


Figure 20a. Effort in the banana and tiger prawn fisheries in the Edward area between 1993 and 2004

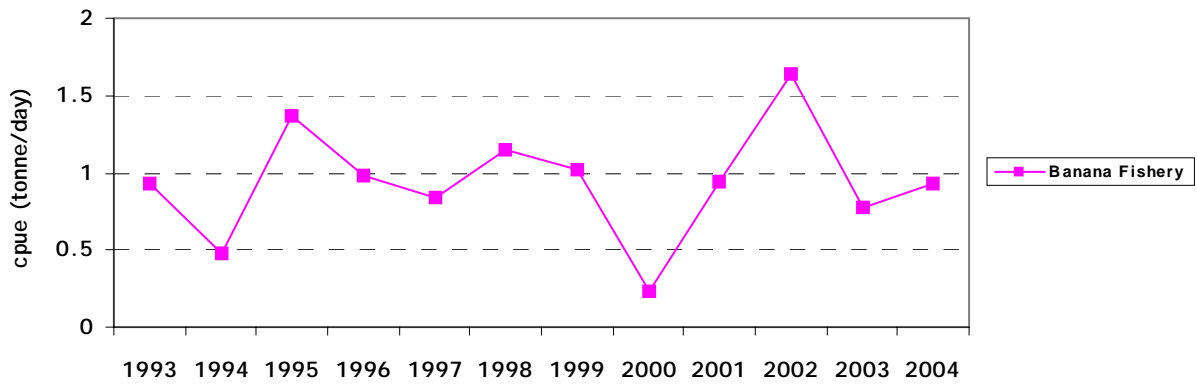


Figure 20b. Catch rate in the banana prawn fisheries in the Edward area between 1993 and 2004

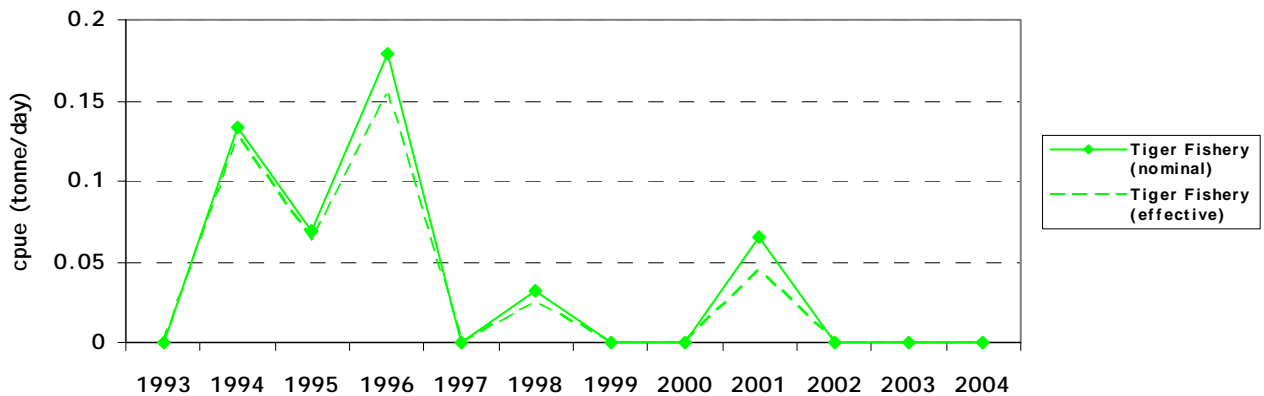


Figure 20c. Catch rate in the tiger prawn fisheries in the Edward area between 1993 and 2004
Source: AFMA logbook data



Mitchell

The banana prawn catch in the Mitchell area was 455 tonnes, up 40% from last year. Catches of tiger and endeavour prawns remained at virtually nil (Figures 21a & 21b).

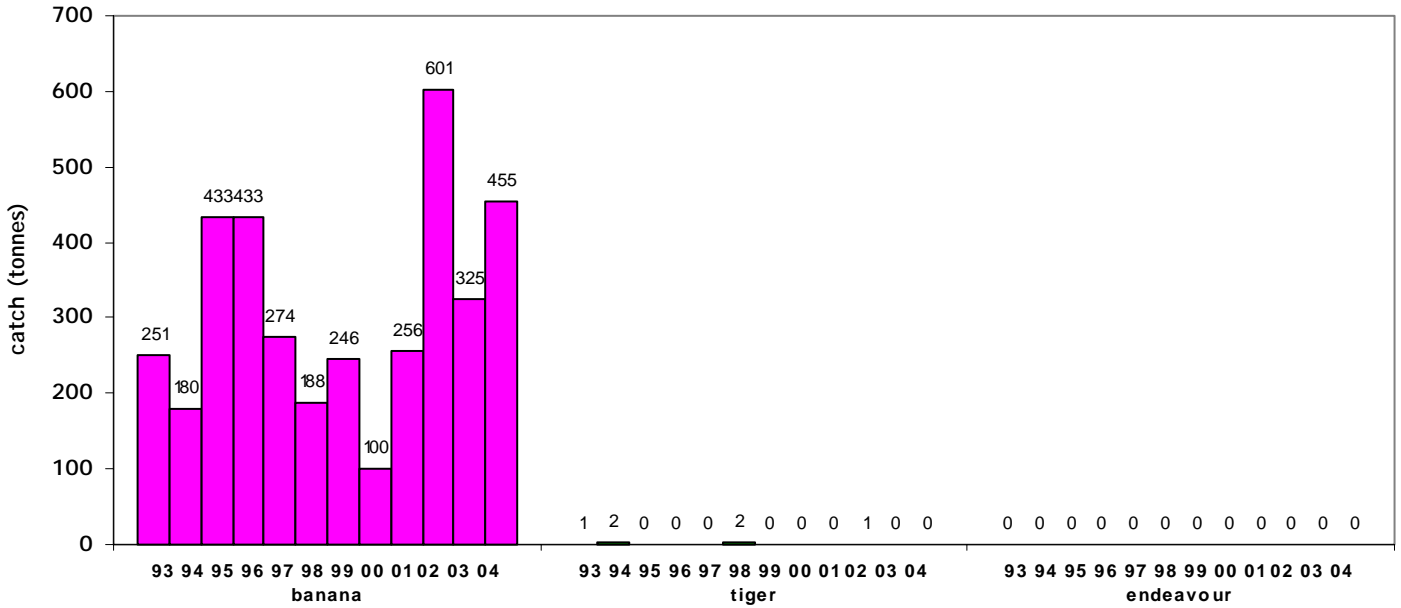


Figure 21a. Catch by species in the Mitchell area between 1993 and 2004

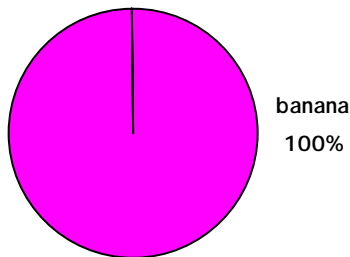


Figure 21b. Percentage catch by species in the Mitchell area in 2004

Source: AFMA logbook data



Effort directed at banana prawns was up 33% to 500 days in the Mitchell area. There was almost no effort directed at the tiger fishery in this area during the 2004 season (Figure 22a-c).

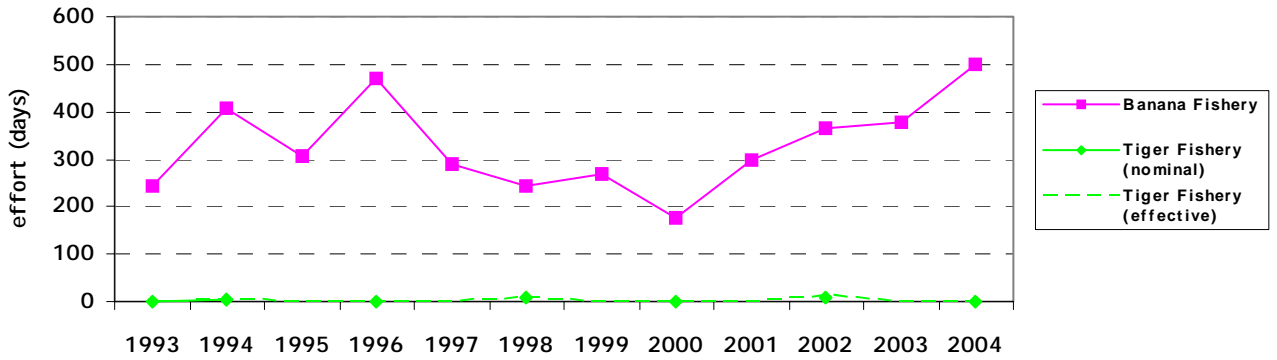


Figure 22a. Effort in the banana and tiger prawn fisheries in the Mitchell area between 1993 and 2004

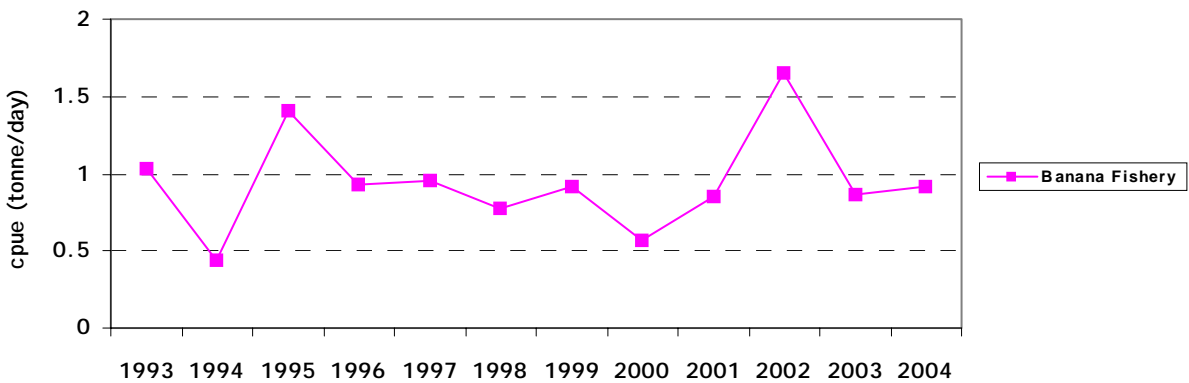


Figure 22b. Catch rate in the banana prawn fisheries in the Mitchell area between 1993 and 2004

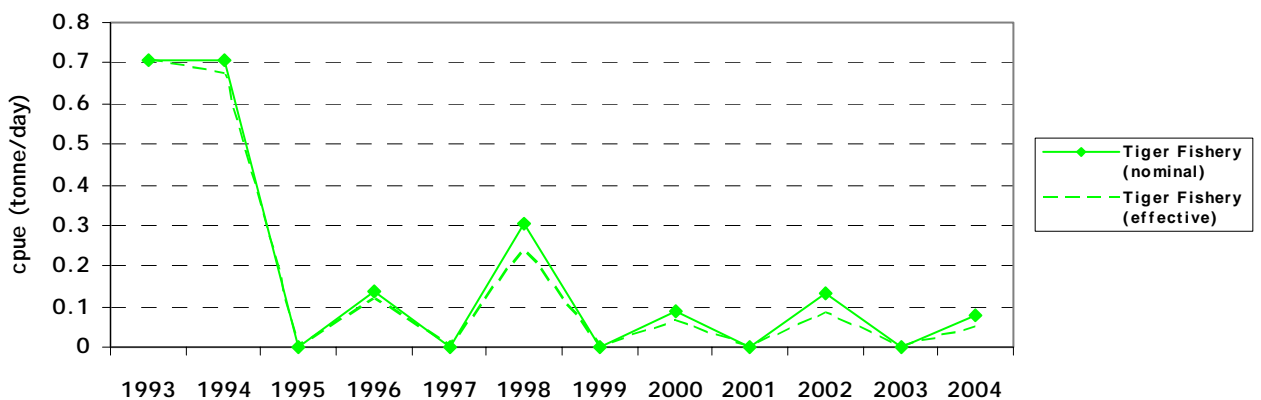


Figure 22c. Catch rate in the tiger prawn fisheries in the Mitchell area between 1993 and 2004
Source: AFMA logbook data



Bold

This area had the highest catch of banana prawns in the 2004 season, 649 tonnes, up (6%) from the 2003 catch of 609 tonnes. The 2004 catch of tiger prawns fell (53%) from last year to 2 tonnes (Figures 23a & 23b).

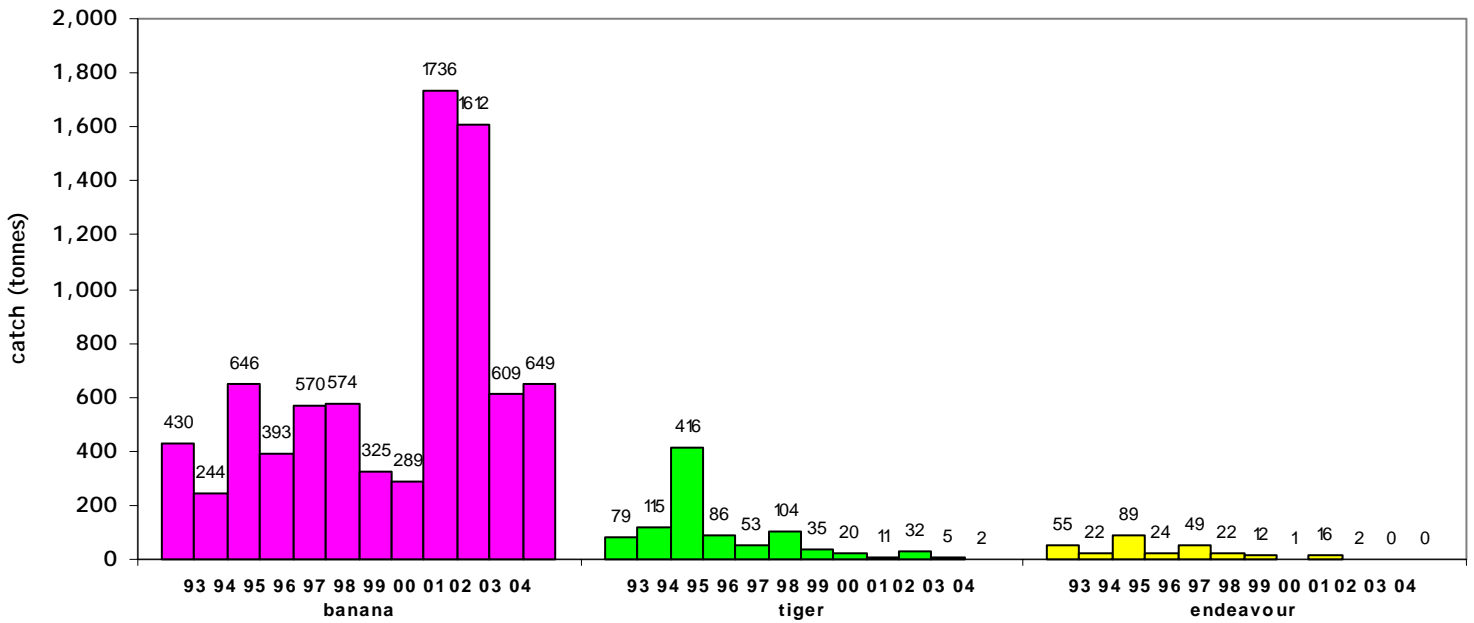


Figure 23a. Catch by species in the Bold area between 1993 and 2004

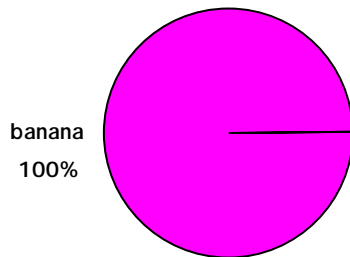


Figure 23b. Percentage catch by species in the Bold area in 2004
Source: AFMA logbook data



Banana fishery effort for the Bold area was down 18% to 392 days in 2004. Effort in the tiger fishery fell 59% to 15 days (Figure 24 a-c).

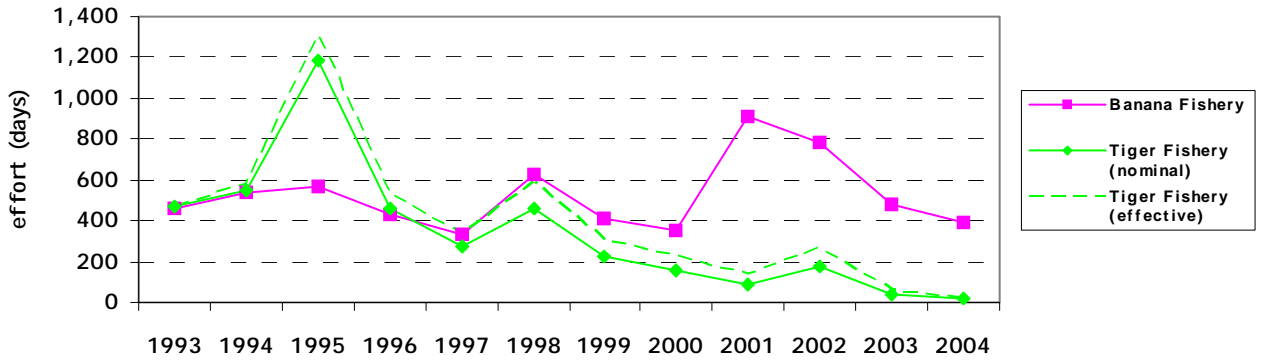


Figure 24a. Effort in the banana and tiger prawn fisheries in the Bold area between 1993 and 2004

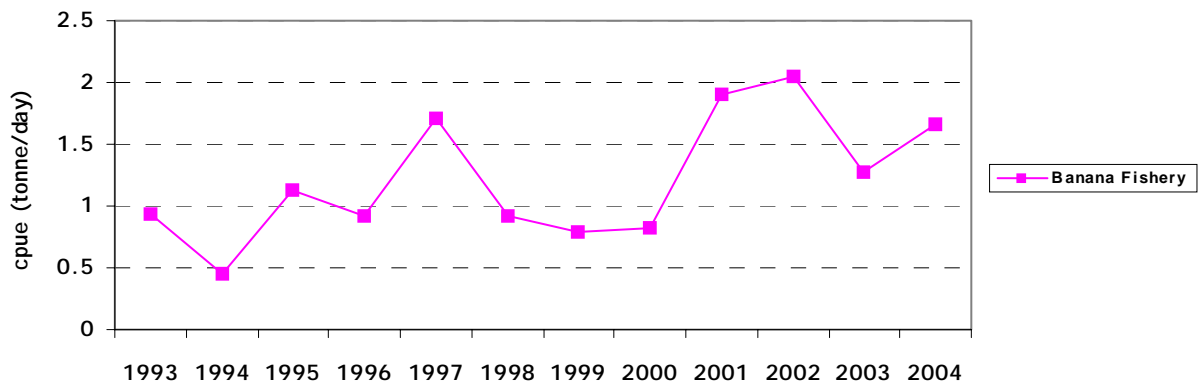


Figure 24b. Catch rate in the banana prawn fishery in the Bold area between 1993 and 2004

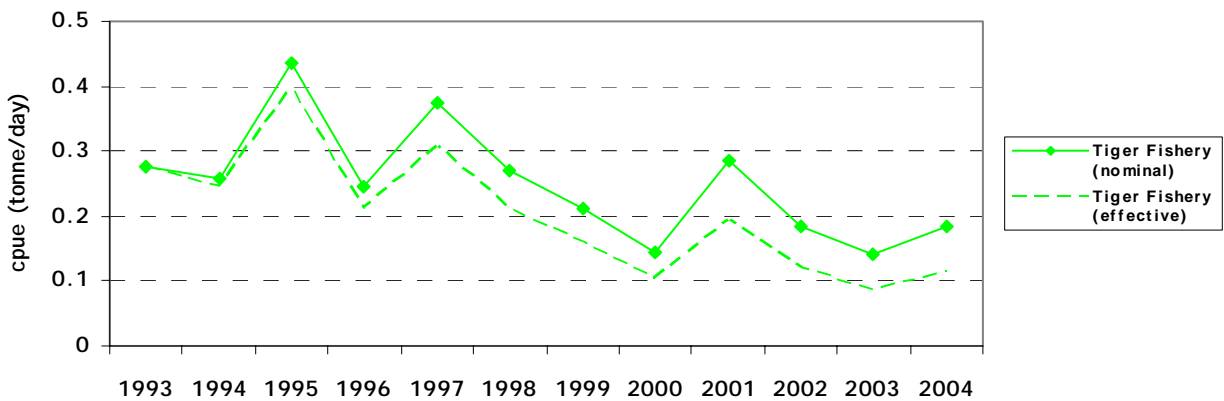


Figure 24c. Catch rate in the tiger prawn fisheries in the Bold area between 1993 and 2004

Source: AFMA logbook data



Sweers

The catch of banana prawns in the Sweers region increased to 127 tonnes in the 2004 season, up 1%. The catches of tiger and endeavour prawns were again low. (Figures 25a & 25b).

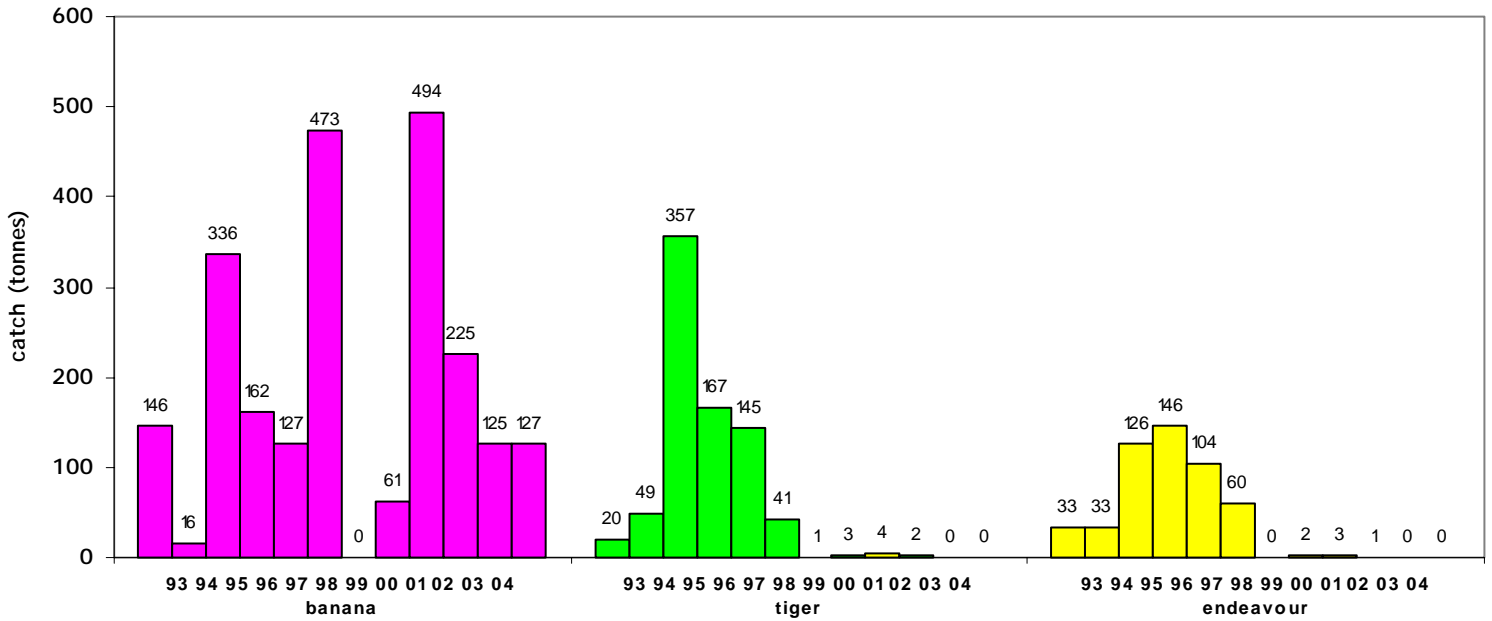


Figure 25a. Catch by species in the Sweers area between 1993 and 2004

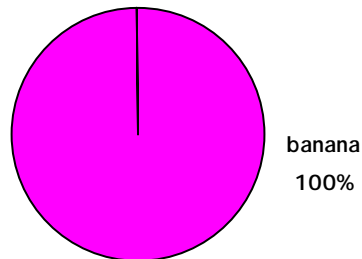


Figure 25b. Percentage catch by species in the Sweers area in 2004

Source: AFMA logbook data



Effort directed at the banana fishery in the Sweers area during the 2004 season decreased by 29% to 106 days. Effort in the tiger fishery remained low (Figure 26 a-c).

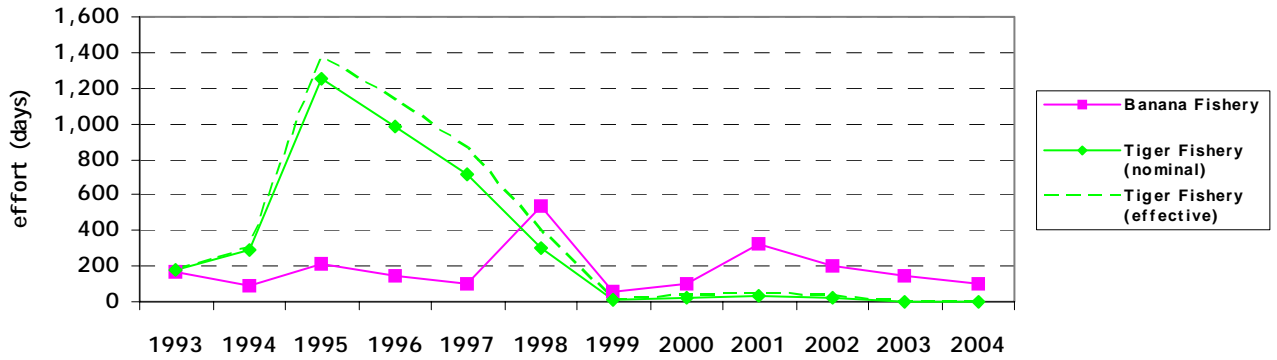


Figure 26a. Effort in the banana and tiger prawn fisheries in the Sweers area between 1993 and 2004

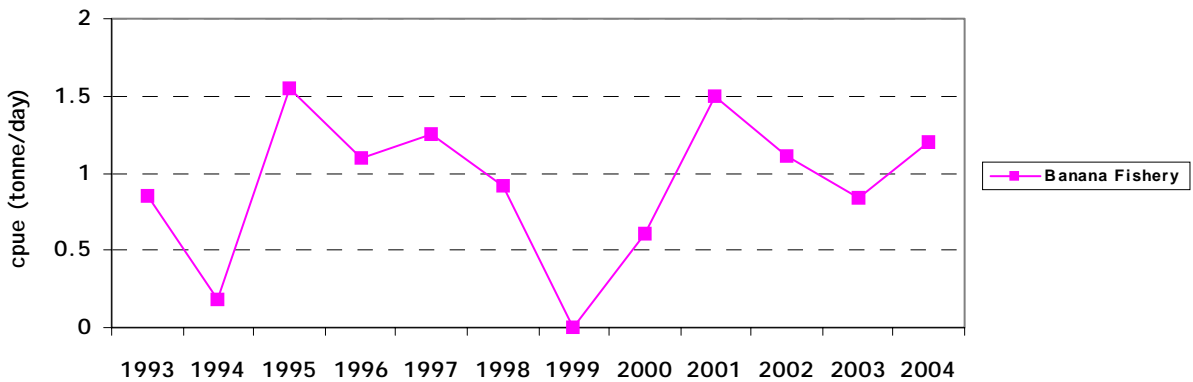


Figure 26b. Catch rate in the banana prawn fishery in the Sweers area between 1993 and 2004

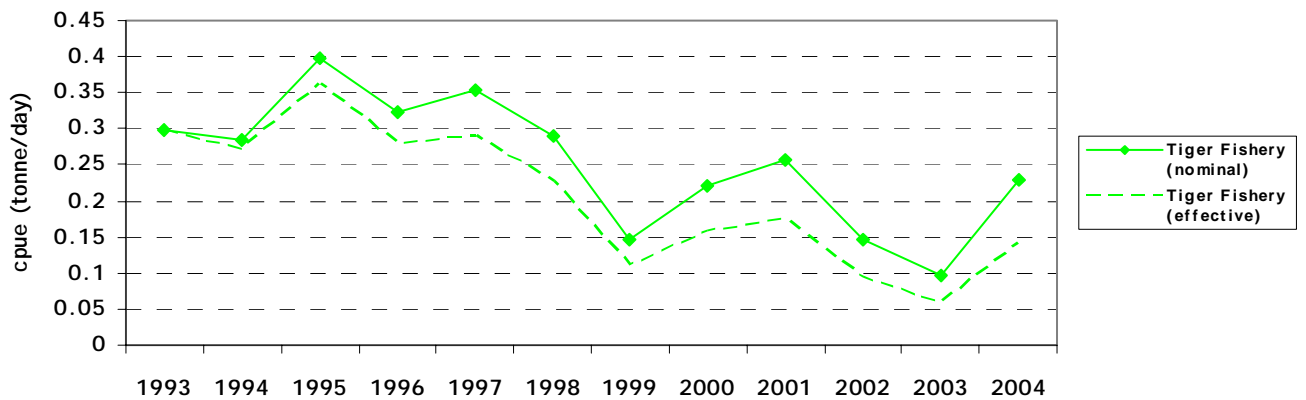


Figure 26c. Catch rate in the tiger prawn fisheries in the Sweers area between 1993 and 2004
Source: AFMA logbook data



Mornington

The 2004 banana prawn catch in the Mornington area decreased to 37 tonnes, down from last seasons catch of 102 tonnes. Tiger prawn catch was also down to 47 tonnes. Catches of endeavour prawns fell in the 2004 season, down to 7 tonnes (Figures 27a & 27b).

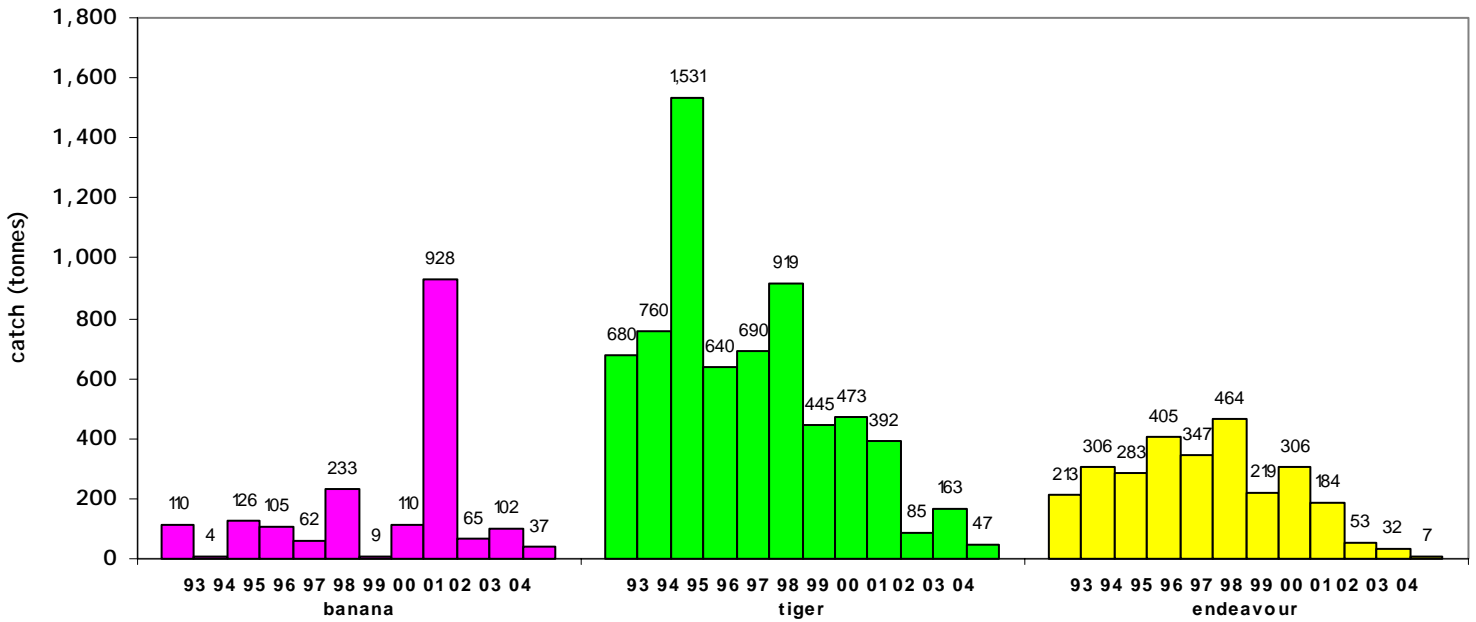


Figure 27a. Catch by species in the Mornington area between 1993 and 2004

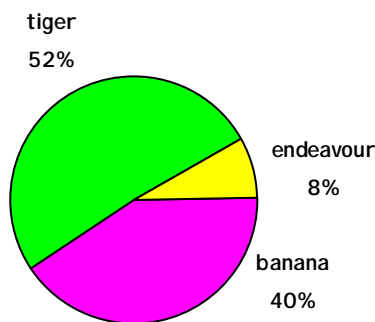


Figure 27b. Percentage catch by species in the Mornington area in 2004

Source: AFMA logbook data



Effort for the banana fishery in the Mornington area was down 35% to 82 days. Effort for the tiger fishery fell 68% to 205 days (Figure 28 a-c).

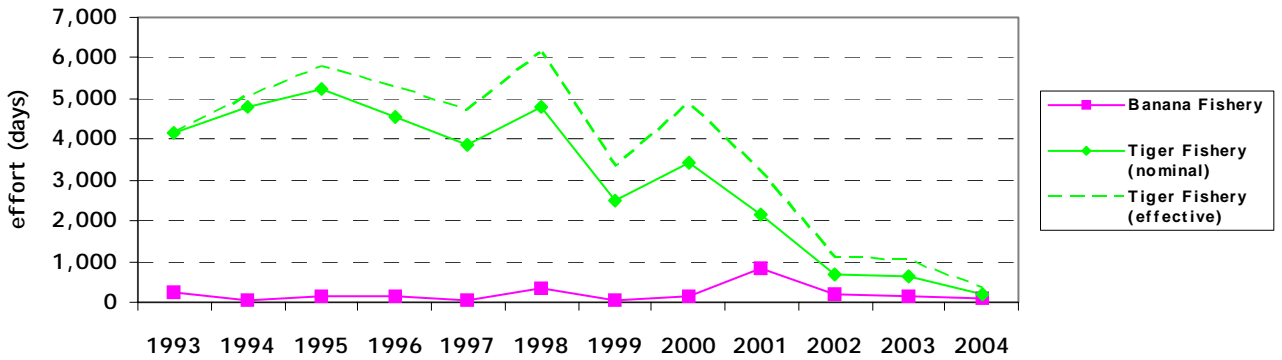


Figure 28a. Effort in the banana and tiger prawn fisheries in the Mornington area between 1993 and 2004

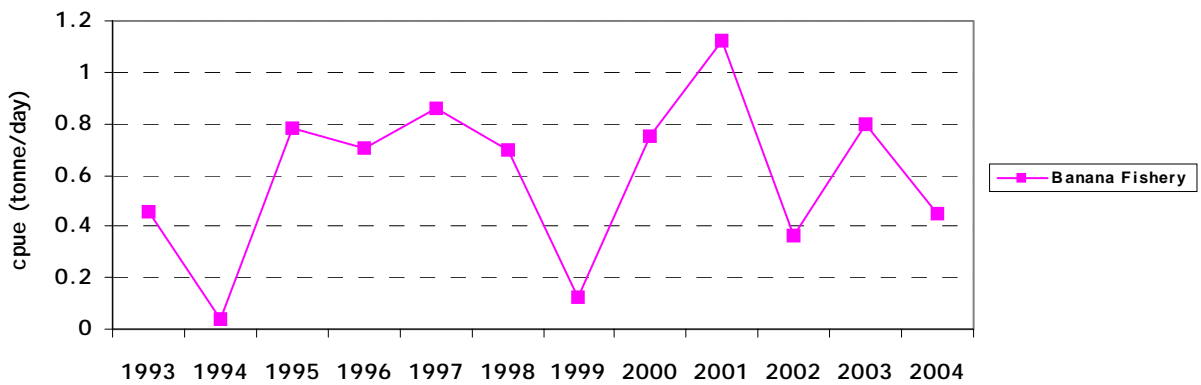


Figure 28b. Catch rate in the banana prawn fishery in the Mornington area between 1993 and 2004

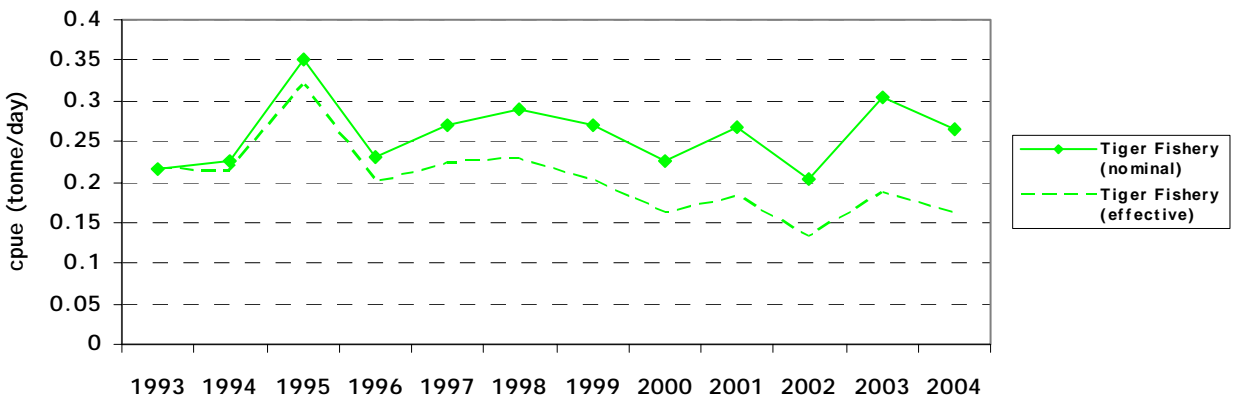


Figure 28c. Catch rate in the tiger prawn fisheries in the Mornington area between 1993 and 2004

Source: AFMA logbook data



Limmen Bight

The catch of banana prawns in the Limmen Bight area decreased in the 2004 season to 55 tonnes. Catches of both tiger and endeavour prawns also decreased, tigers to 670 tonnes and endeavours to 113 tonnes (Figures 29a & 29b).

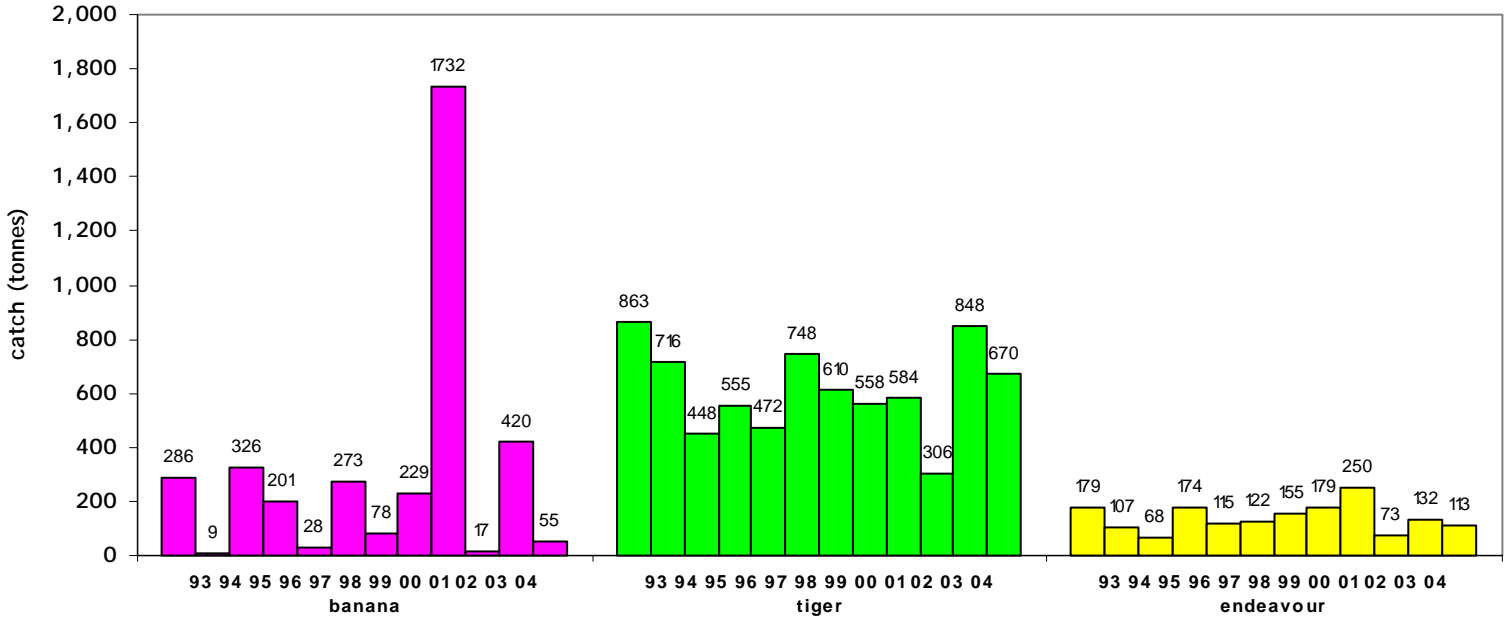


Figure 29a. Catch by species in the Limmen Bight area between 1993 and 2004



Figure 29b. Percentage catch by species in the Limmen Bight area in 2004

Source: AFMA logbook data



Effort for the banana fishery in the Limmen Bight area decreased to 173 days. The tiger fishery effort also decreased to 2607 days (Figure 30 a-c).

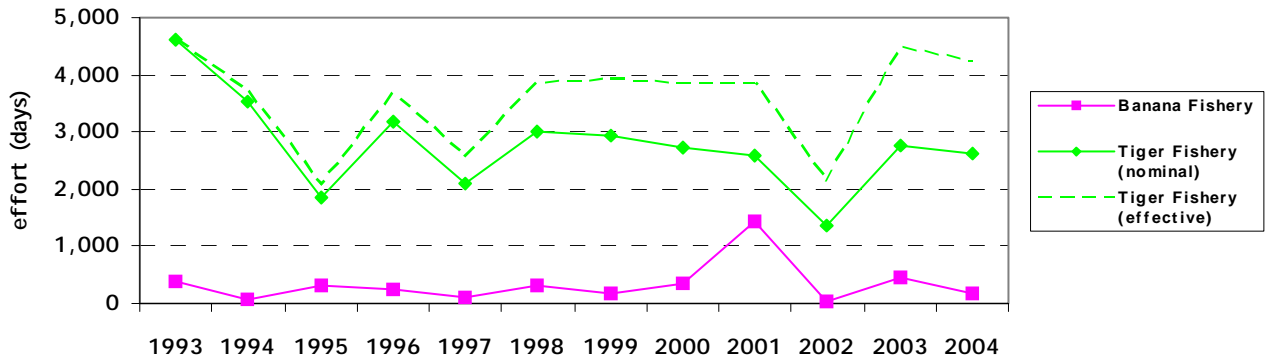


Figure 30a. Effort in the banana and tiger prawn fisheries in the Limmen Bight area between 1993 and 2004

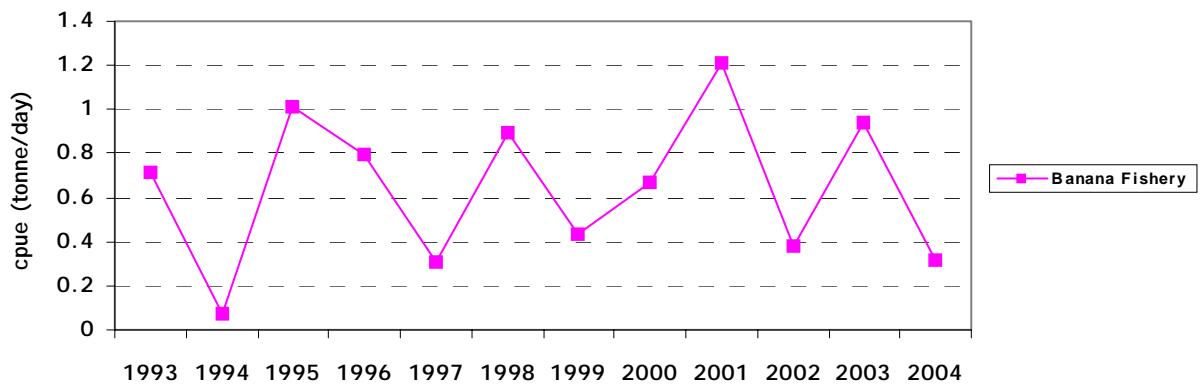


Figure 30b. Catch rate in the banana prawn fishery in the Limmen Bight area between 1993 and 2004

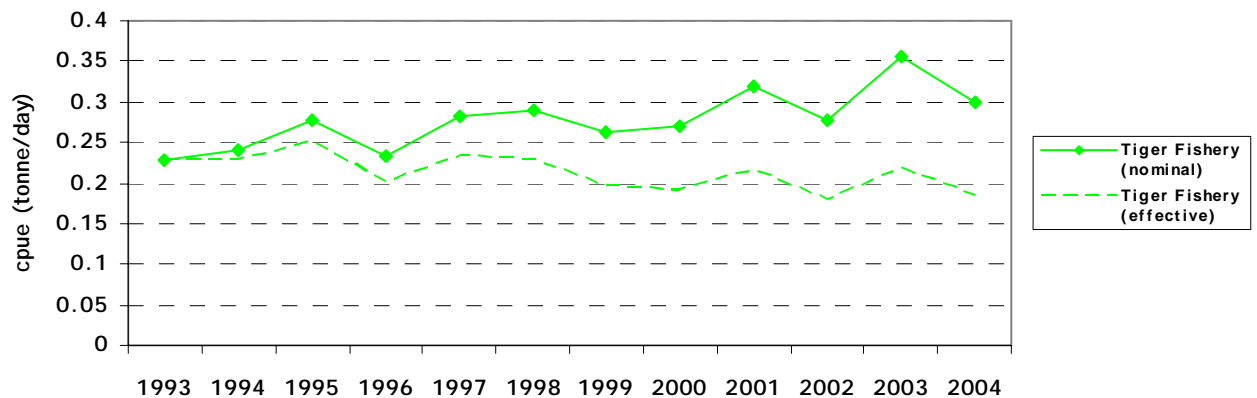


Figure 30c. Catch rate in the tiger prawn fisheries in the Limmen Bight area between 1993 and 2004

Source: AFMA logbook data



Groote

Banana prawn catches decreased to 111 tonnes in the Groote area in 2004. Groote had the largest catch of tiger prawns in 2004 with 699 tonnes, down 22% from 2003. Endeavour prawn catches also decreased 2% to 191 tonnes (Figures 31a & 31b).

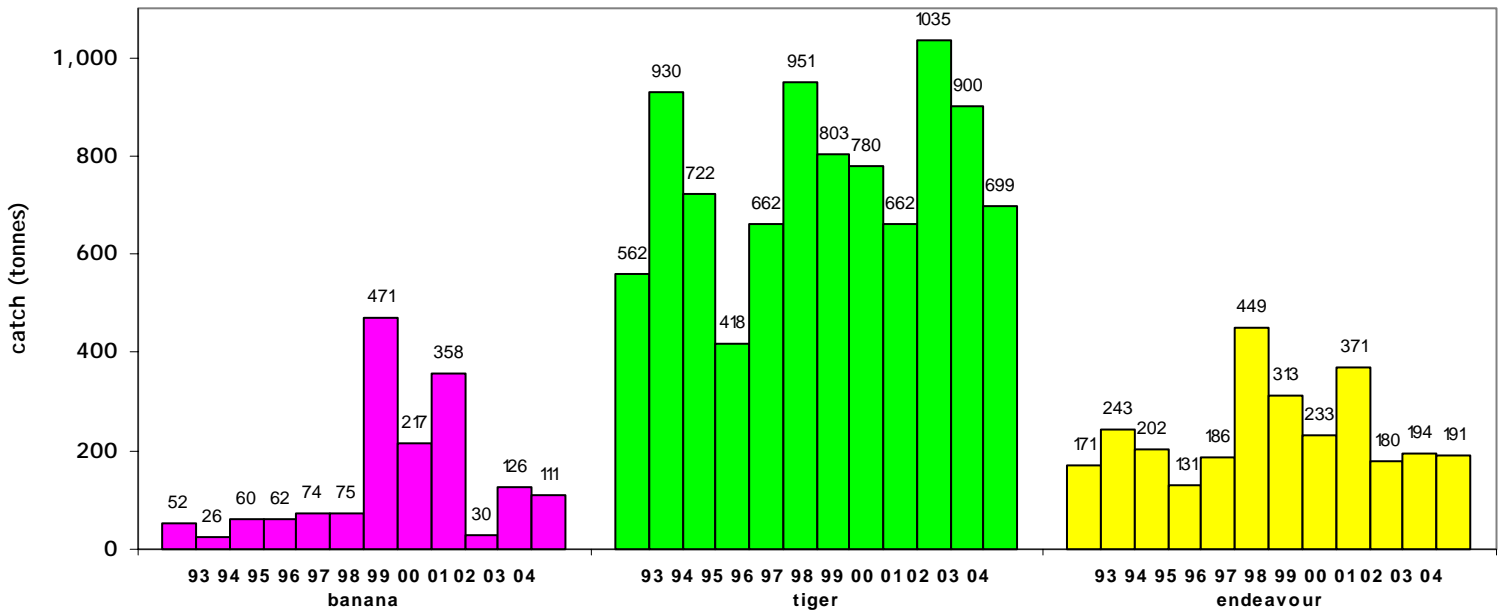


Figure 31a. Catch by species in the Groote area between 1993 and 2004

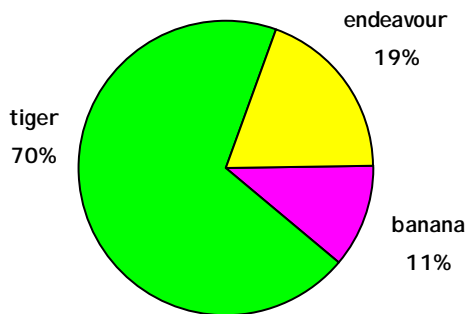


Figure 31b. Percentage catch by species in the Groote area in 2004

Source: AFMA logbook data



Effort in the banana fishery for the Groote area was up 77% to 214 days in 2004, but fell by 3% to 3363 days for the tiger fishery (Figure 32 a-c).

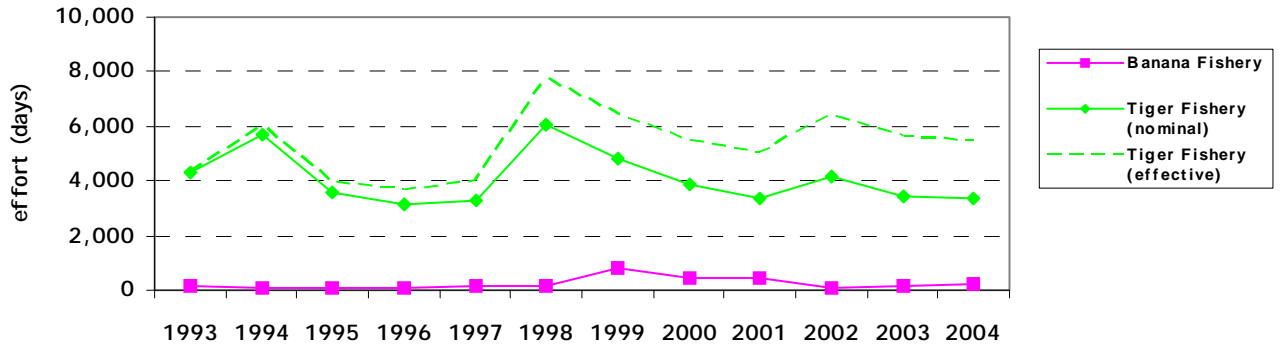


Figure 32a. Effort in the banana and tiger prawn fisheries in the Groote area between 1993 and 2004

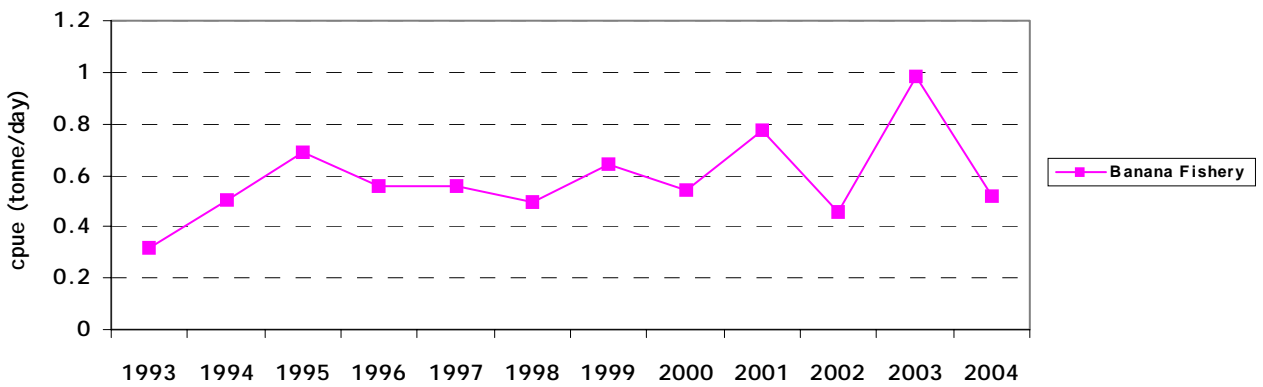


Figure 32b. Catch rate in the banana prawn fishery in the Groote area between 1993 and 2004

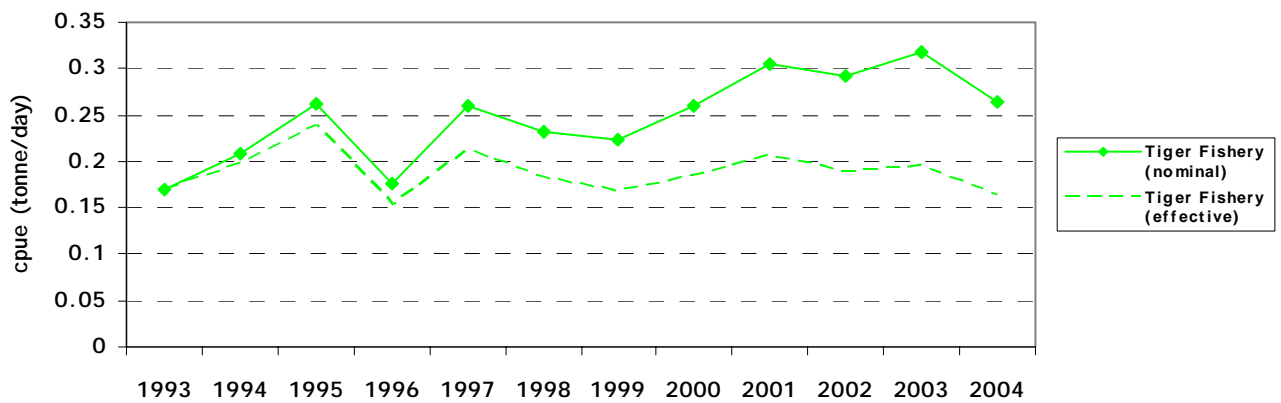


Figure 32c. Catch rate in the tiger prawn fisheries in the Groote area between 1993 and 2004
Source: AFMA logbook data



Gove

The catch of banana prawns in the 2004 season was down 16% to 71 tonnes. The catch of tiger prawns increased 38% to 282 tonnes and the catch of endeavour prawns was down slightly to 42 tonnes (Figures 33a & 33b).

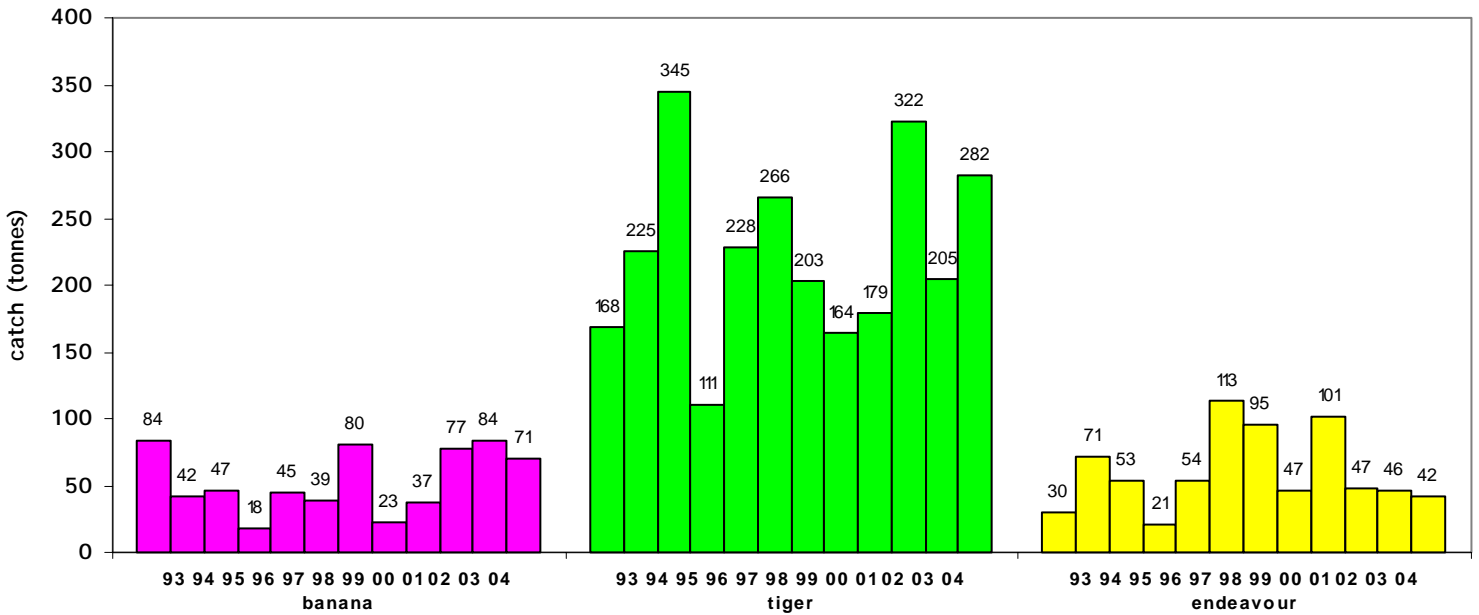


Figure 33a. Catch by species in the Gove area between 1993 and 2004

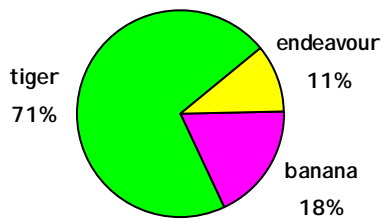


Figure 33b. Percentage catch by species in the Gove area in 2004

Source: AFMA logbook data



Effort for the Gove area was up 27% to 161 days for the banana fishery and up 38% to 1234 days for the tiger fishery (Figure 34 a-c).

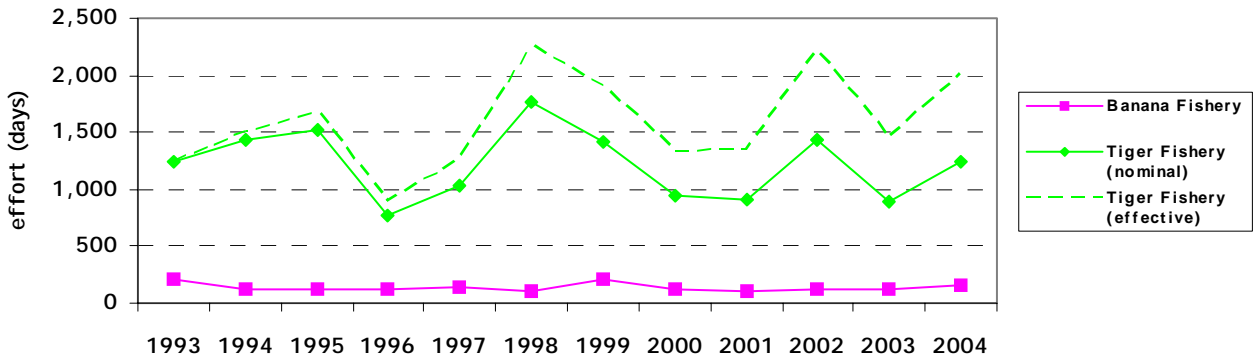


Figure 34a. Effort in the banana and tiger prawn fisheries in the Gove area between 1993 and 2004

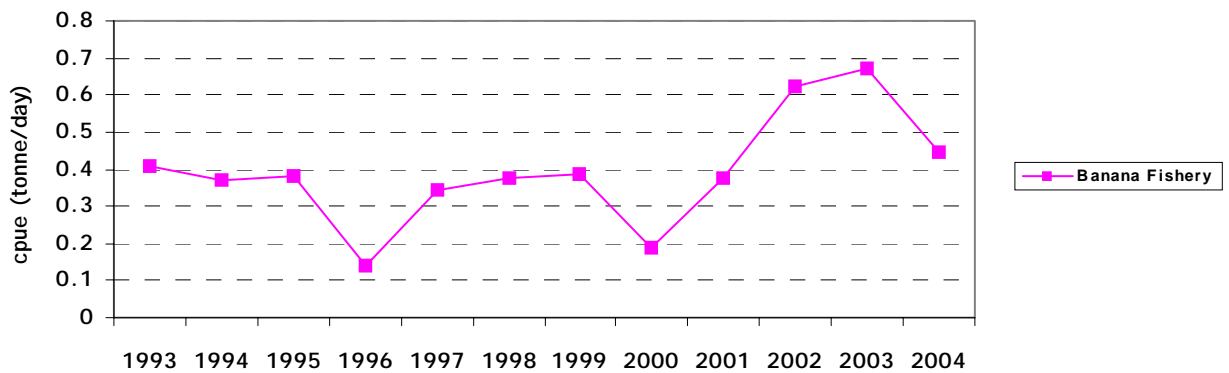


Figure 34b. Catch rate in the banana prawn fishery in the Gove area between 1993 and 2004

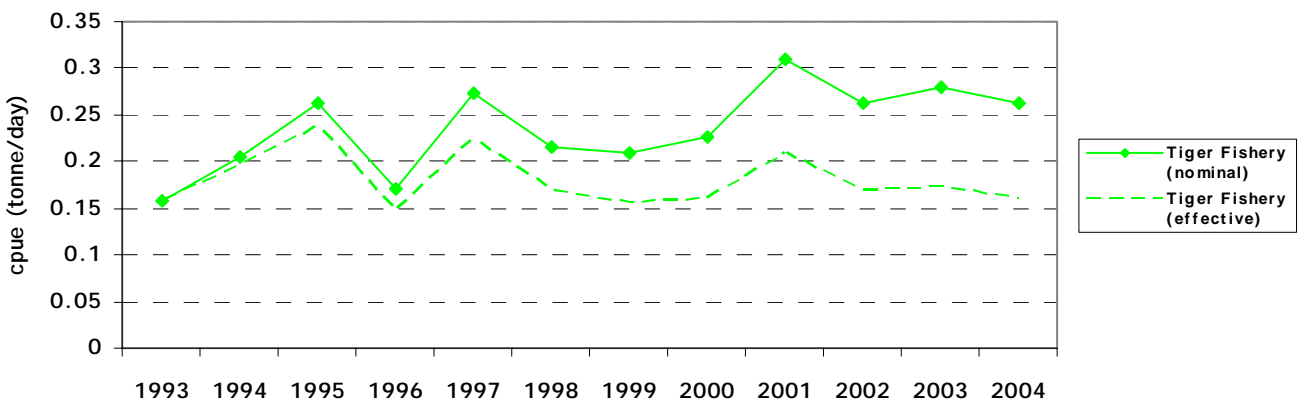


Figure 34c. Catch rate in the tiger prawn fisheries in the Gove area between 1993 and 2004
Source: AFMA logbook data



Arnhem

The catch of banana prawns increased 59% to 264 tonnes in the 2004 season and the catch of tiger prawns decreased 47% to 6 tonnes. The catch of endeavour prawns remained low, at less than half a tonne (Figures 35a & 35b).

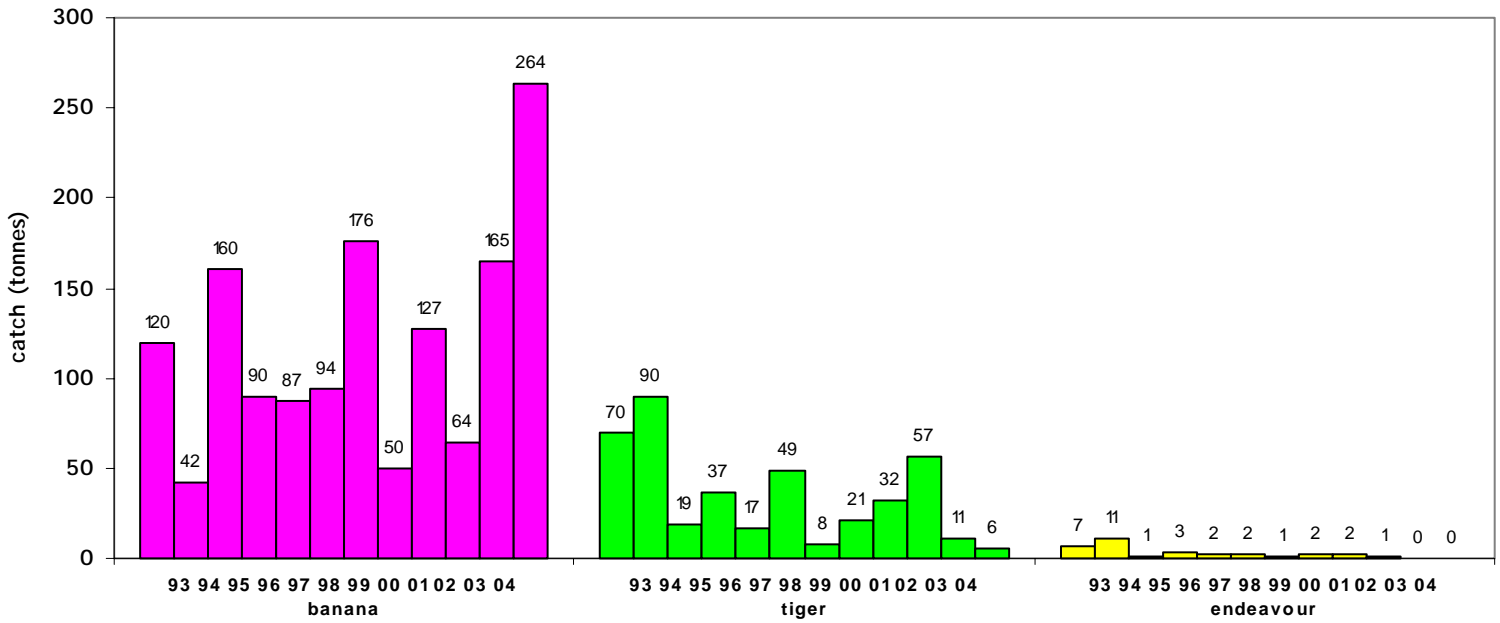


Figure 35a. Catch by species in the Arnhem area between 1993 and 2004

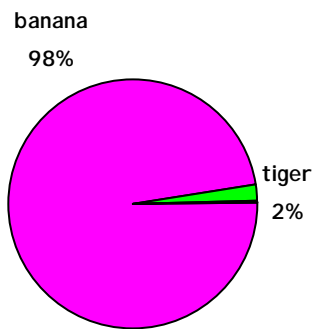


Figure 35b. Percentage catch by species in the Arnhem area in 2004

Source: AFMA logbook data



Effort for the Arnhem area increased by 66% to 303 days for the banana fishery and decreased 9% to 39 days for the tiger fishery (Figure 36 a-c).

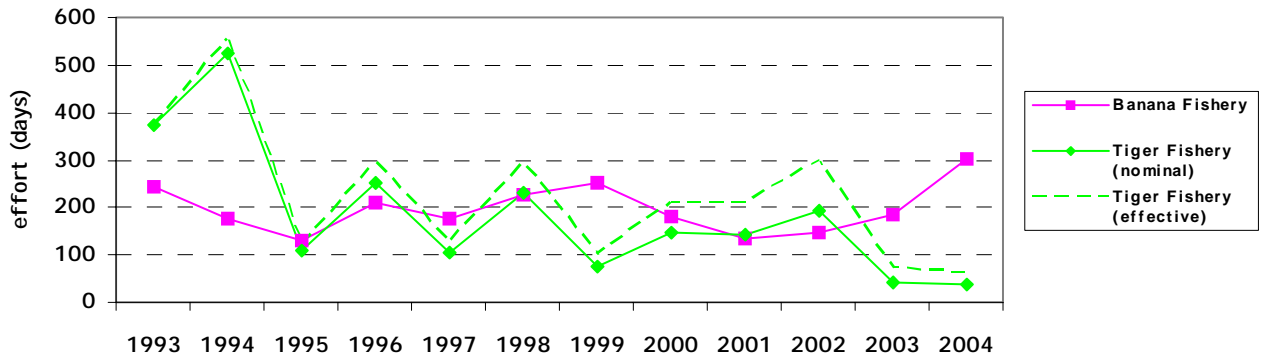


Figure 36a. Effort in the banana and tiger prawn fisheries in the Arnhem area between 1993 and 2004

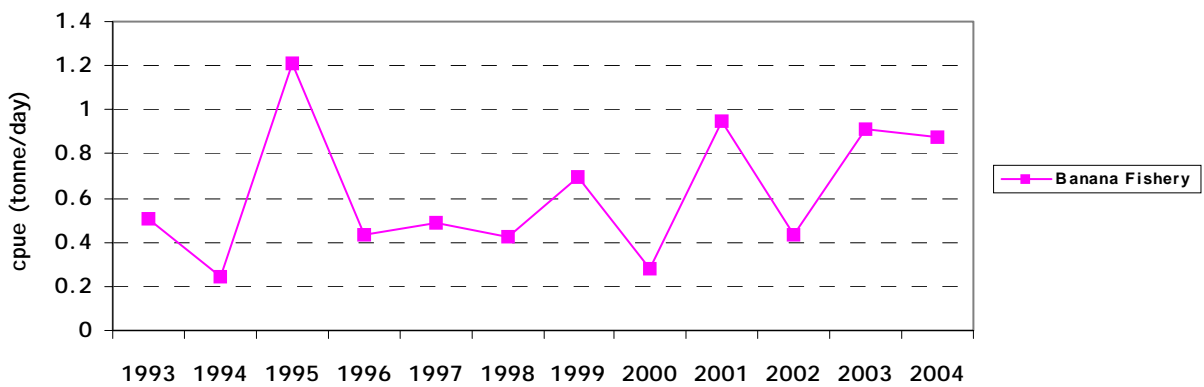


Figure 36b. Catch rate in the banana prawn fishery in the Arnhem area between 1993 and 2004

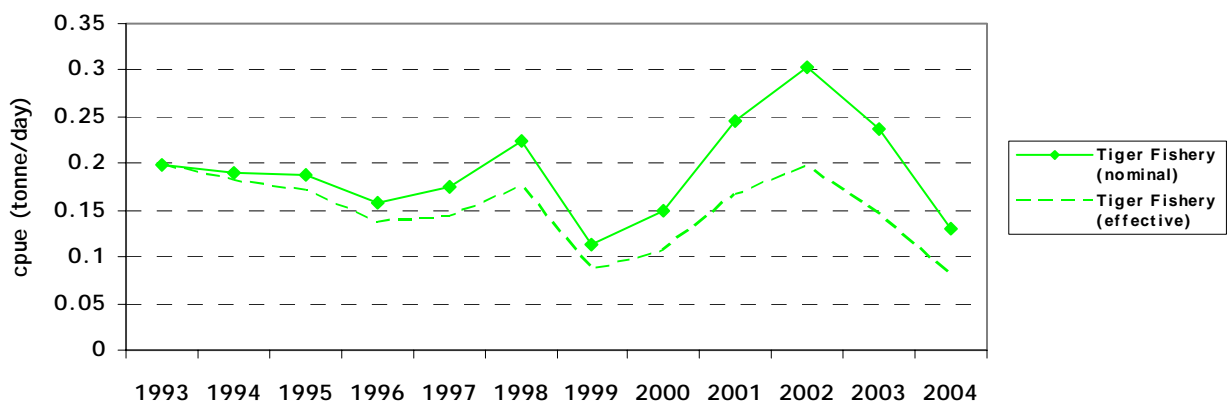


Figure 36c. Catch rate in the tiger prawn fisheries in the Arnhem area between 1993 and 2004
Source: AFMA logbook data



Port Essington

Catches of banana prawns decreased in the Port Essington area for the 2004 season to 193 tonnes. The catch of tiger prawns increased by 47% to 17 tonnes, and endeavour prawns were up by 22% to 7 tonnes (Figures 37a & 37b).

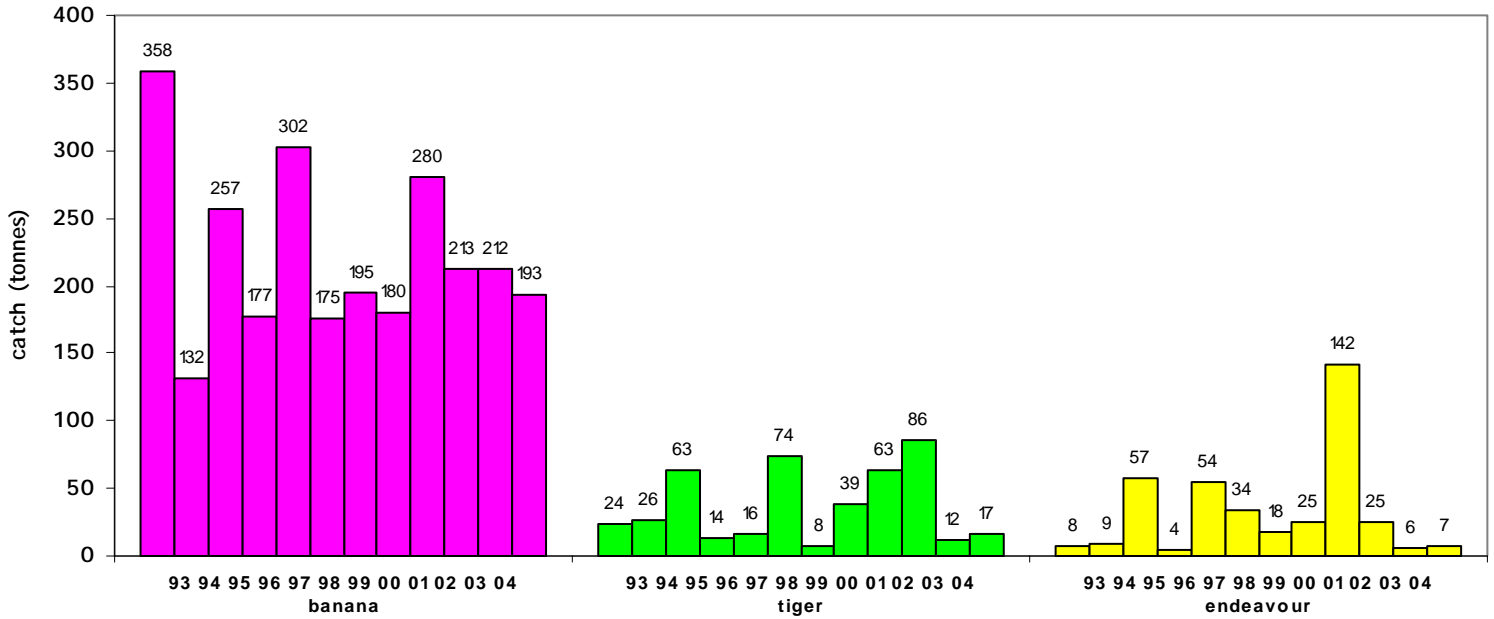


Figure 37a. Catch by species in the Port Essington area between 1993 and 2004

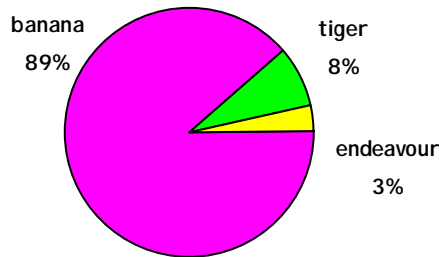


Figure 37b. Percentage catch by species in the Port Essington area in 2004
Source: AFMA logbook data



Effort in the banana fishery decreased by 34% to 241 days, while the tiger fishery effort almost doubled to 92 days (Figure 38 a-c).

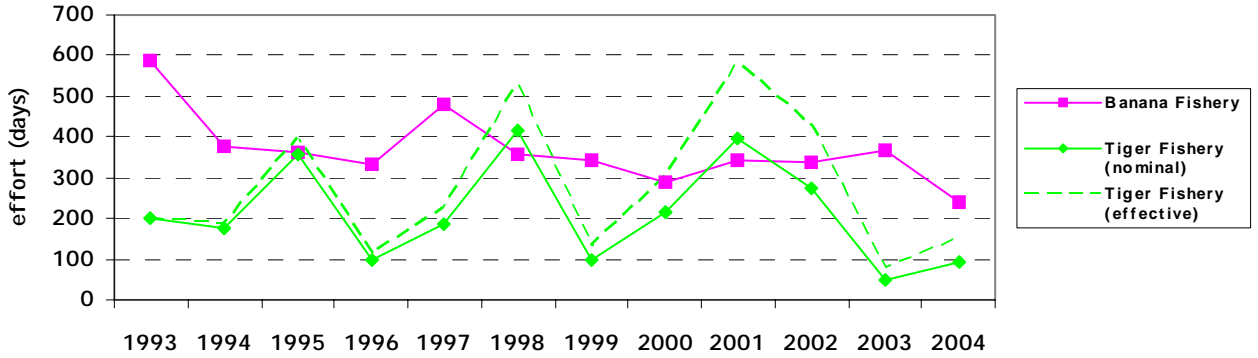


Figure 38a. Effort in the banana and tiger prawn fisheries in the Port Essington area between 1993 and 2004

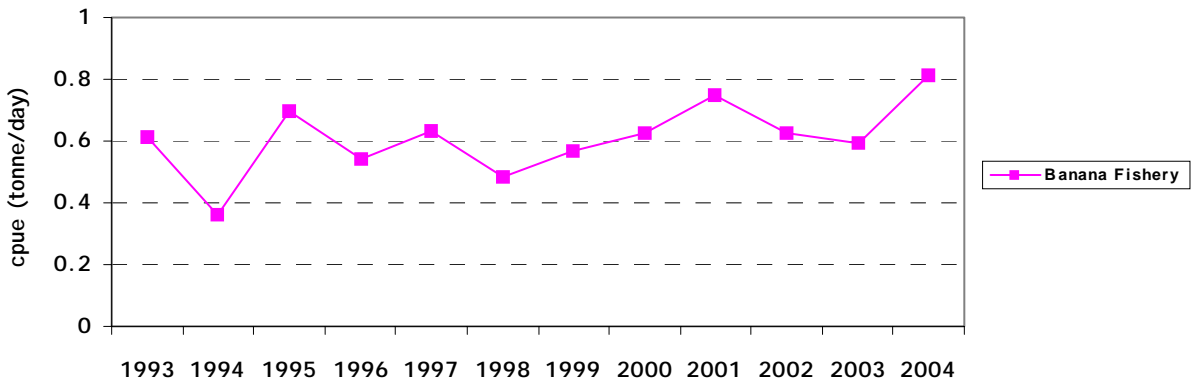


Figure 38b. Catch rate in the banana prawn fishery in the Port Essington area between 1993 and 2004

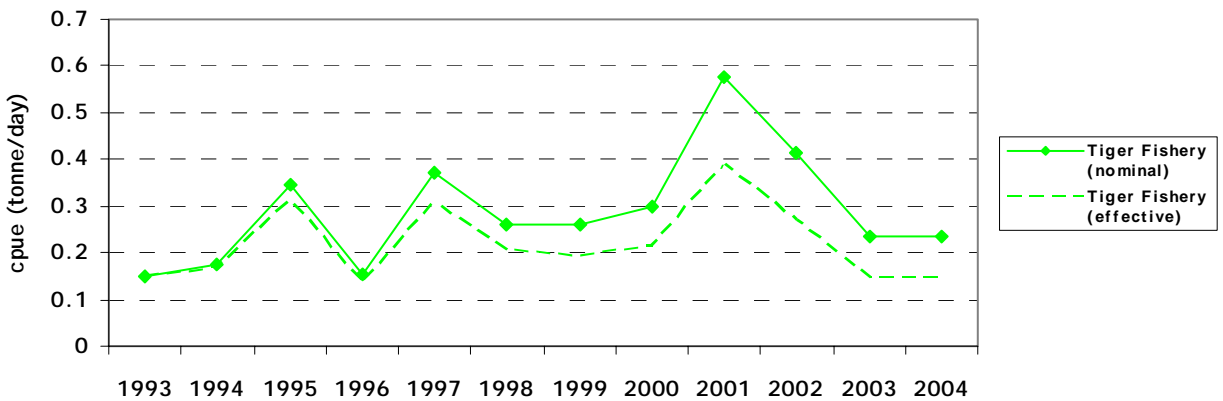


Figure 38c. Catch rate in the tiger prawn fisheries in the Port Essington area between 1993 and 2004

Source: AFMA logbook data



Melville

The banana prawn catch in the Melville area increased by 80% to 455 tonnes. Catches of both tiger and endeavour prawns decreased to less than 100 kilograms in 2004 (Figures 39a & 39b).

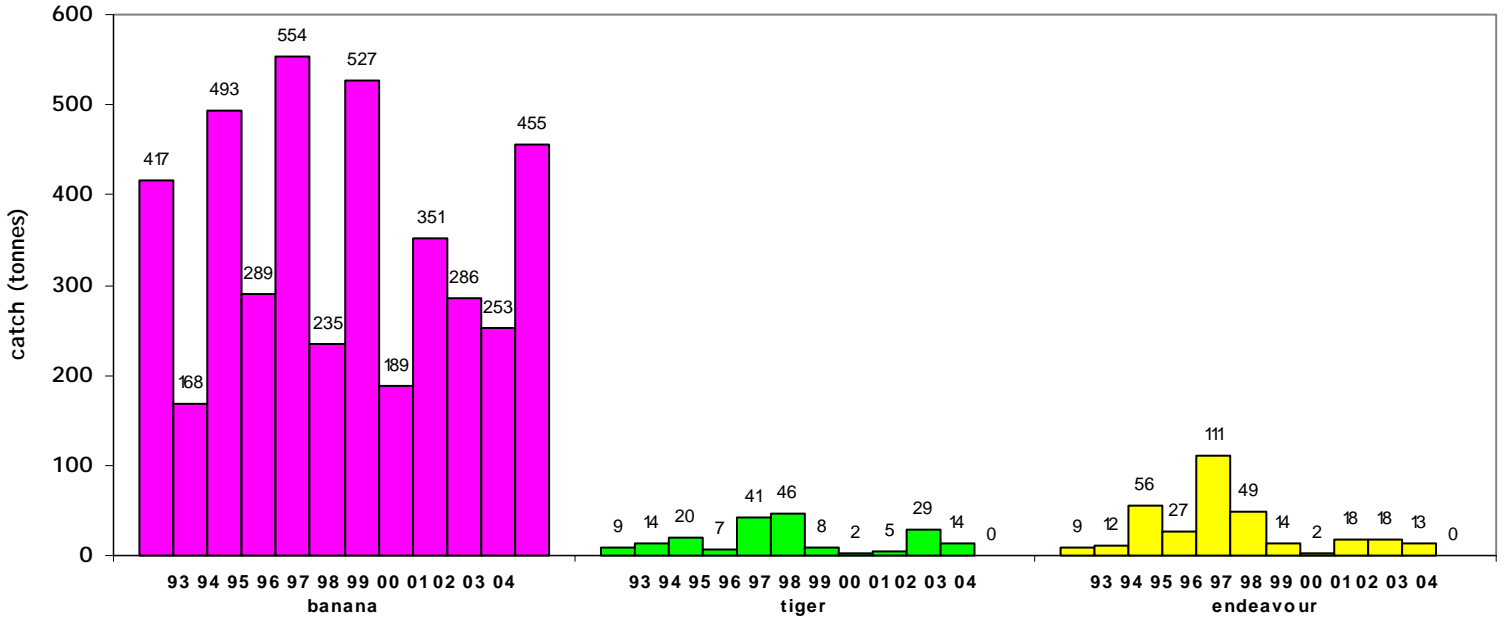


Figure 39a. Catch by species in the Melville area between 1993 and 2004

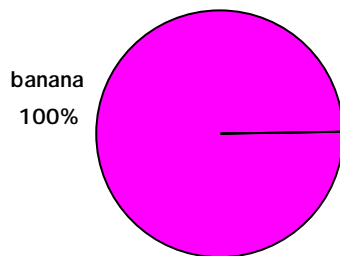


Figure 39b. Percentage catch by species in the Melville area in 2004

Source: AFMA logbook data



Effort for the Melville area in the banana fishery increased 16% to 500 days during 2004. Effort in the tiger fishery was down 98% to 1 day of effort (Figure 40 a-c).

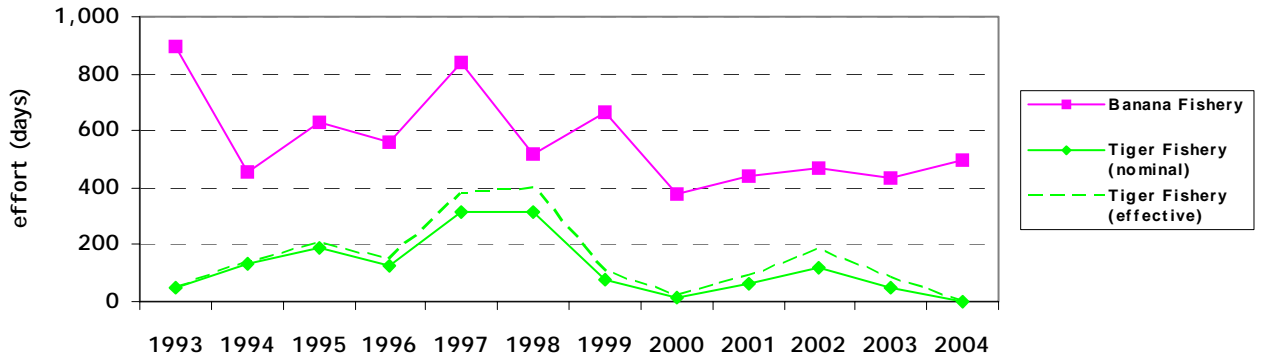


Figure 40a. Effort in the banana and tiger prawn fisheries in the Melville area between 1993 and 2004

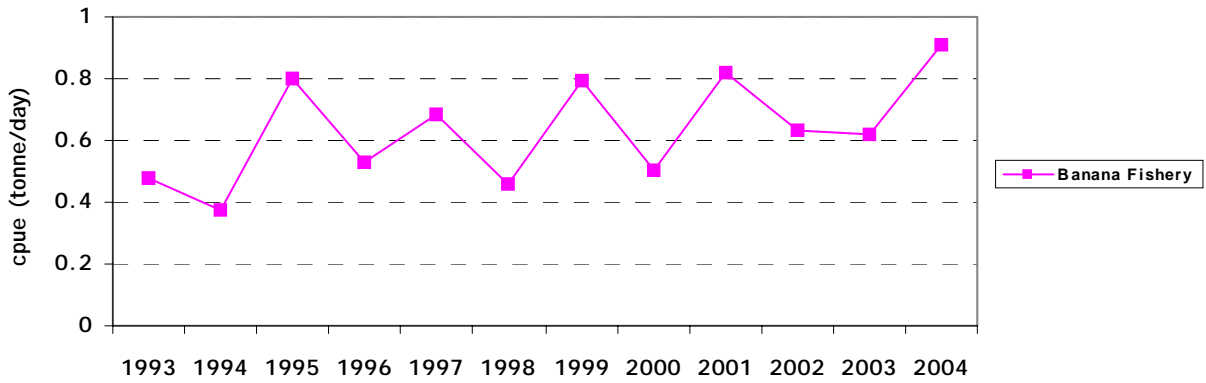


Figure 40b. Catch rate in the banana prawn fishery in the Melville area between 1993 and 2004

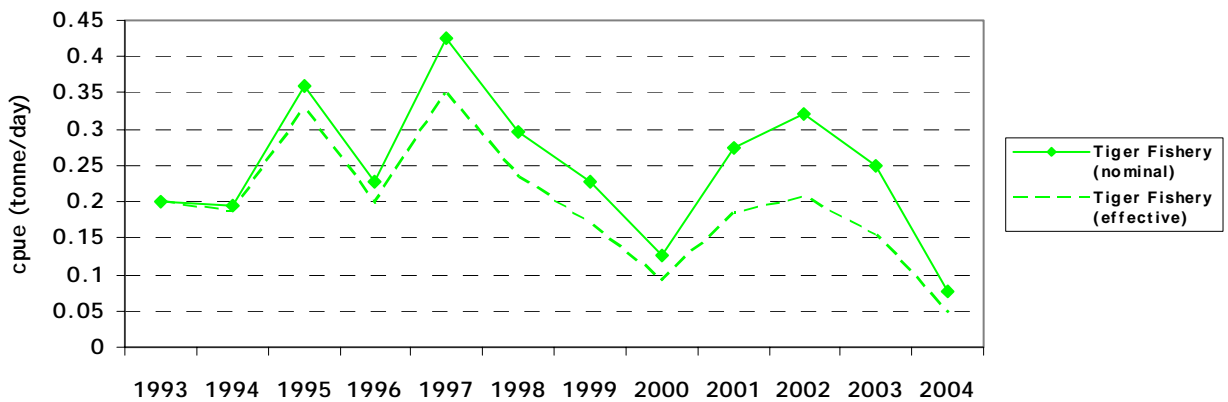


Figure 40c. Catch rate in the tiger prawn fisheries in the Mellville area between 1993 and 2004
Source: AFMA logbook data



Fog Bay

The banana prawn catch in the Fog Bay area increased 28% to 332 tonnes in 2004. Catches of tiger and endeavour prawns remained very low (Figures 41a & 41b).

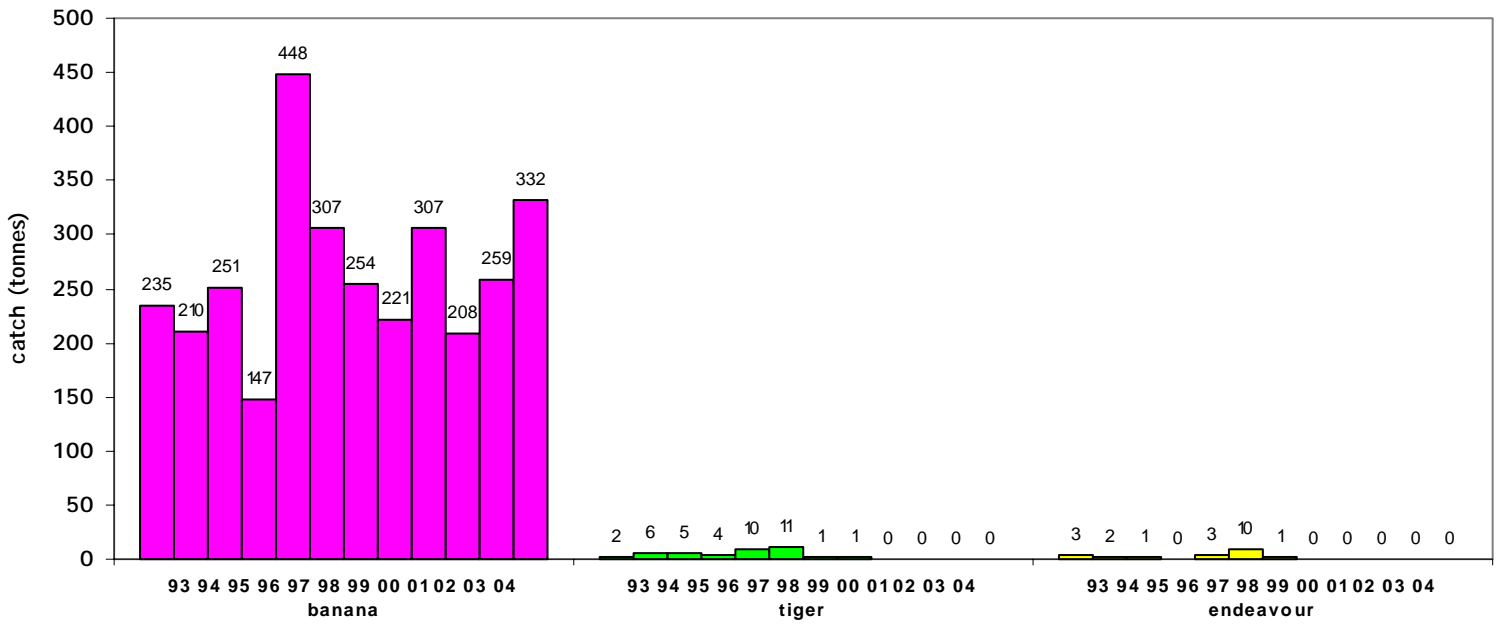


Figure 41a. Catch by species in the Fog Bay area between 1993 and 2004

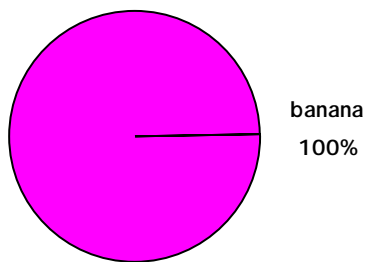


Figure 41b. Percentage catch by species in the Fog Bay area in 2004

Source: AFMA logbook data



Effort for the banana fishery in the Fog Bay area during 2004 was down 19% to 261 days. Effort for the tiger fishery remained very low (Figure 42 a-c).

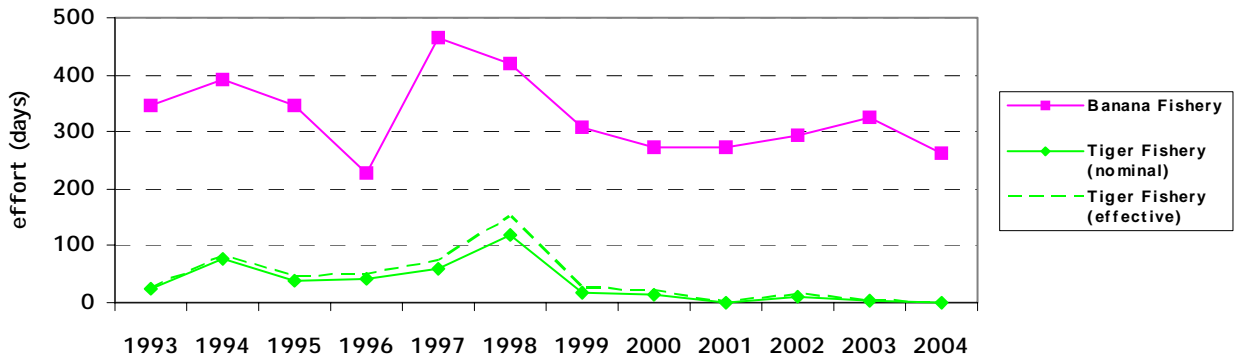


Figure 42a. Effort in the banana and tiger prawn fisheries in the Fog Bay area between 1993 and 2004

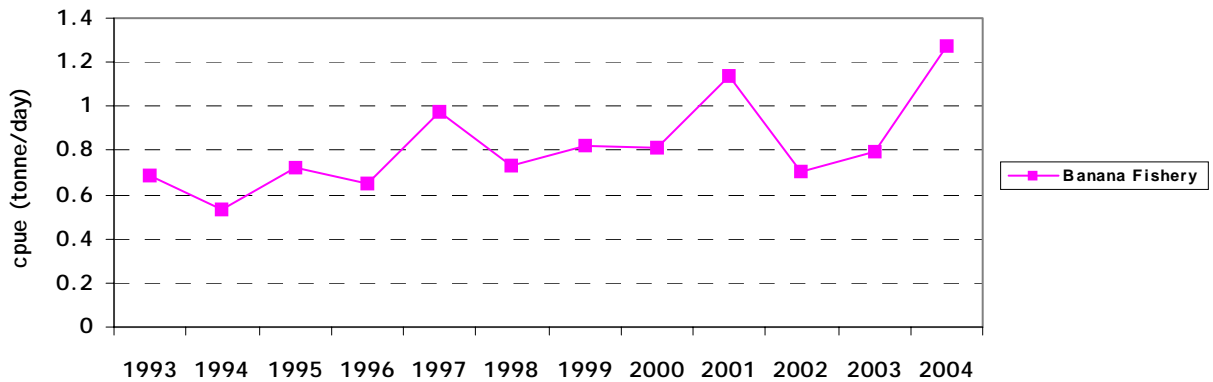


Figure 42b. Catch rate in the banana prawn fishery in the Fog Bay area between 1993 and 2004

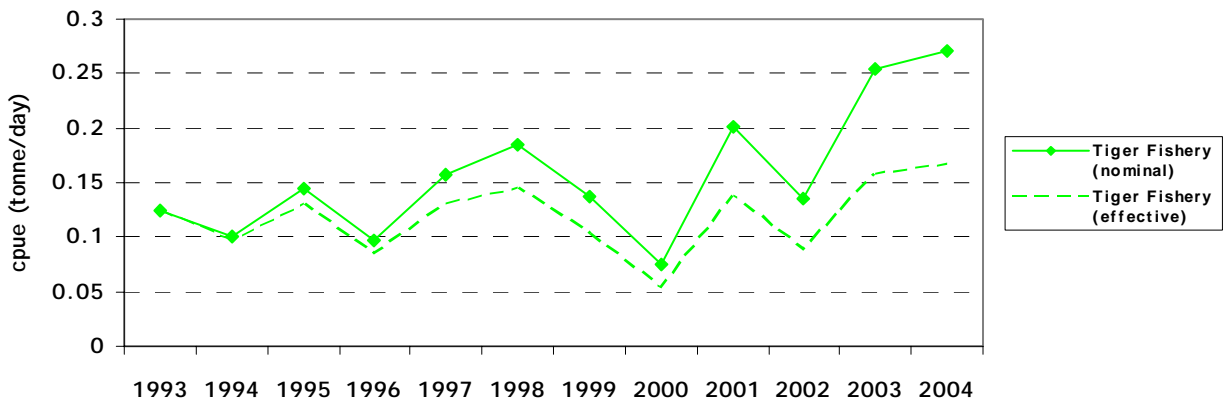


Figure 42c. Catch rate in the tiger prawn fishery in the Fog Bay area between 1993 and 2004
Source: AFMA logbook data



Bonaparte

The banana prawn catch in the Bonaparte area increased to 477 tonnes in the 2004 season. Catches of tiger prawns were down to 33 tonnes, while endeavour prawns increased to 38 tonnes (Figures 43a & 43b).

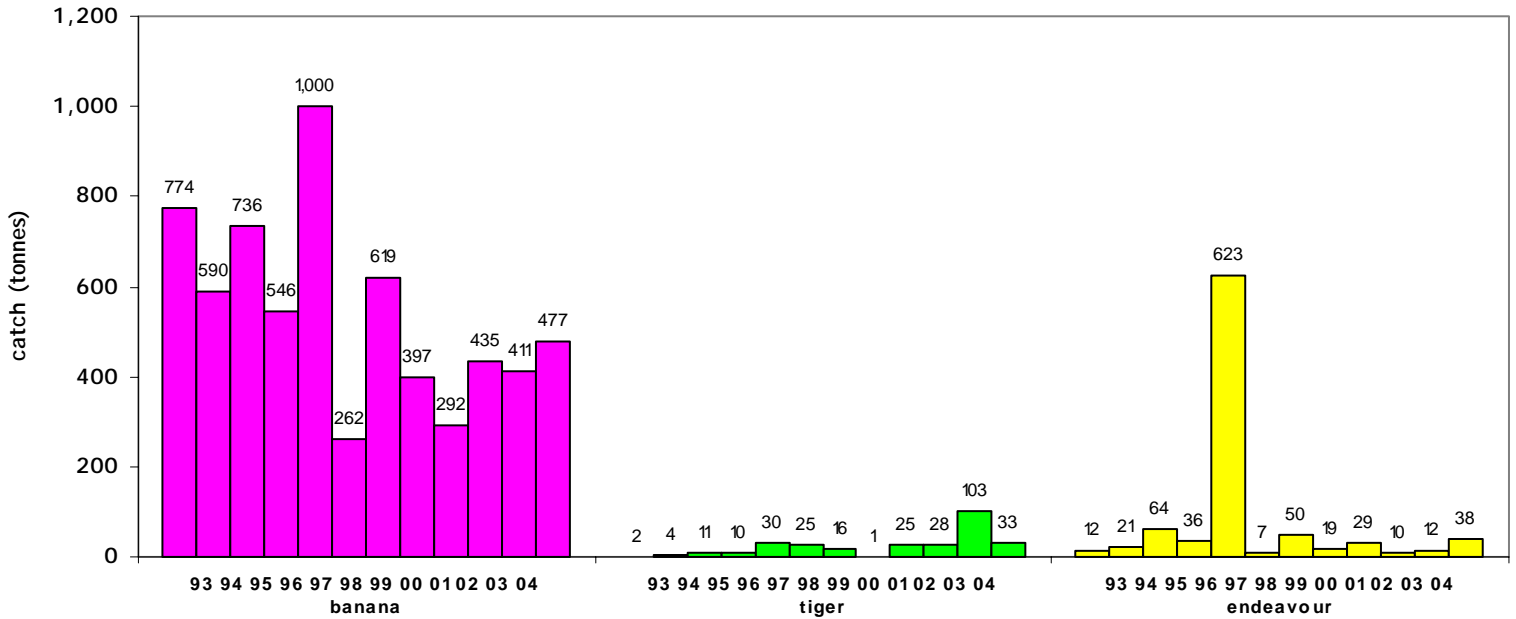


Figure 43a. Catch by species in the Bonaparte area between 1993 and 2004

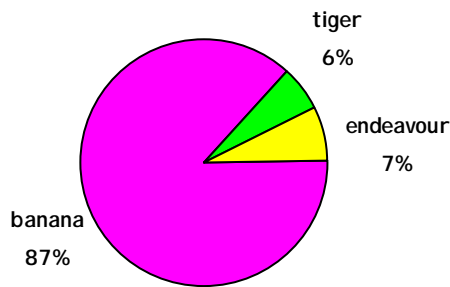


Figure 43b. Percentage catch by species in the Bonaparte area in 2004

Source: AFMA logbook data



Effort for the Bonaparte area was down 2% to 720 days for the banana fishery. The effort for the tiger fishery also decreased considerably to 198 days (Figure 44 a-c).

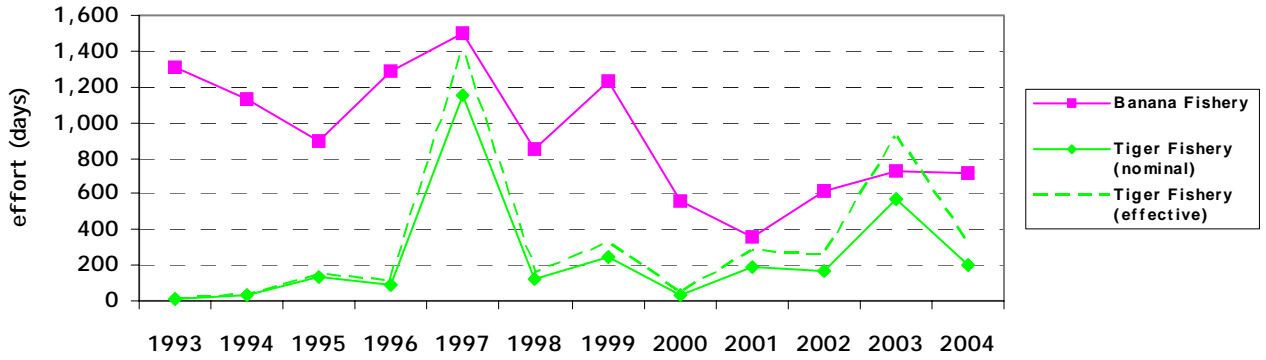


Figure 44a. Effort in the banana and tiger prawn fisheries in the Bonaparte area between 1993 and 2004

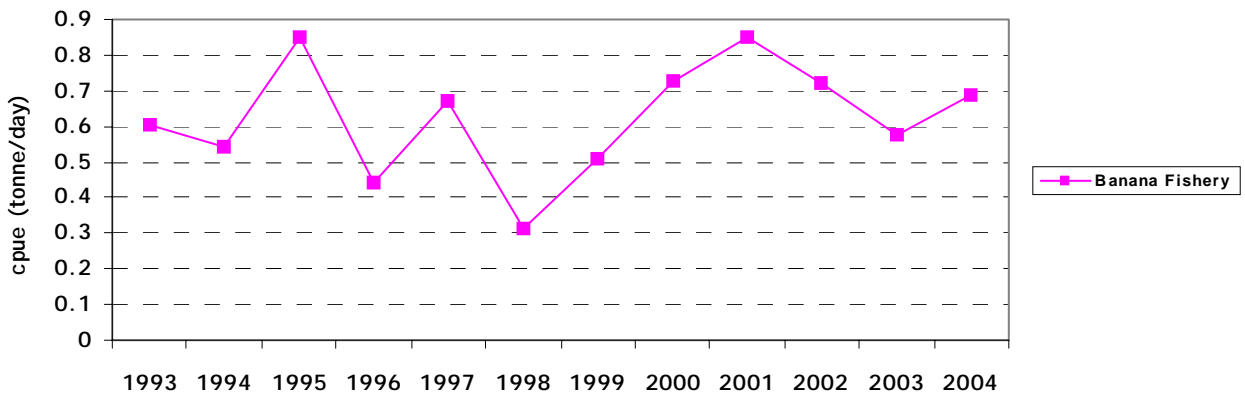


Figure 44b. Catch rate in the banana prawn fishery in the Bonaparte area between 1993 and 2004

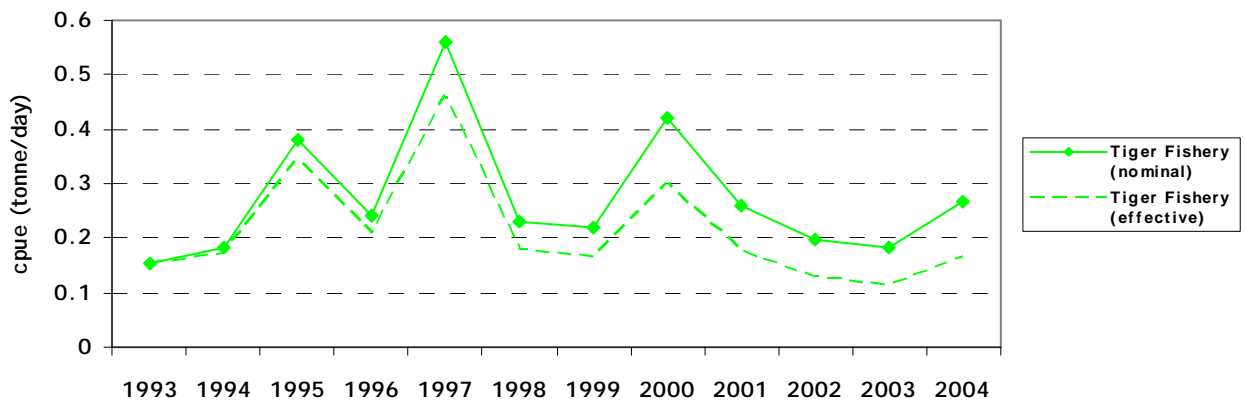


Figure 44c. Catch rate in the tiger prawn fisheries in the Bonaparte area between 1993 and 2004
Source: AFMA logbook data



Bycatch in the Northern Prawn Fishery

Turtle Bycatch

Turtle bycatch (and prawn nominal effort) by area is shown in Figures 45a and 45b and Table 6. Reported turtle catch by species is shown in Figure 46. Overall, total reported turtle interactions remained steady when compared with the 2003 season (Table 6).

Note - The implementation of Turtle Exclusion Devices (TEDs) on all NPF vessels has been mandatory since 15 April 2000. Also, no interactions with Leatherback Turtles have been recorded since 2001.

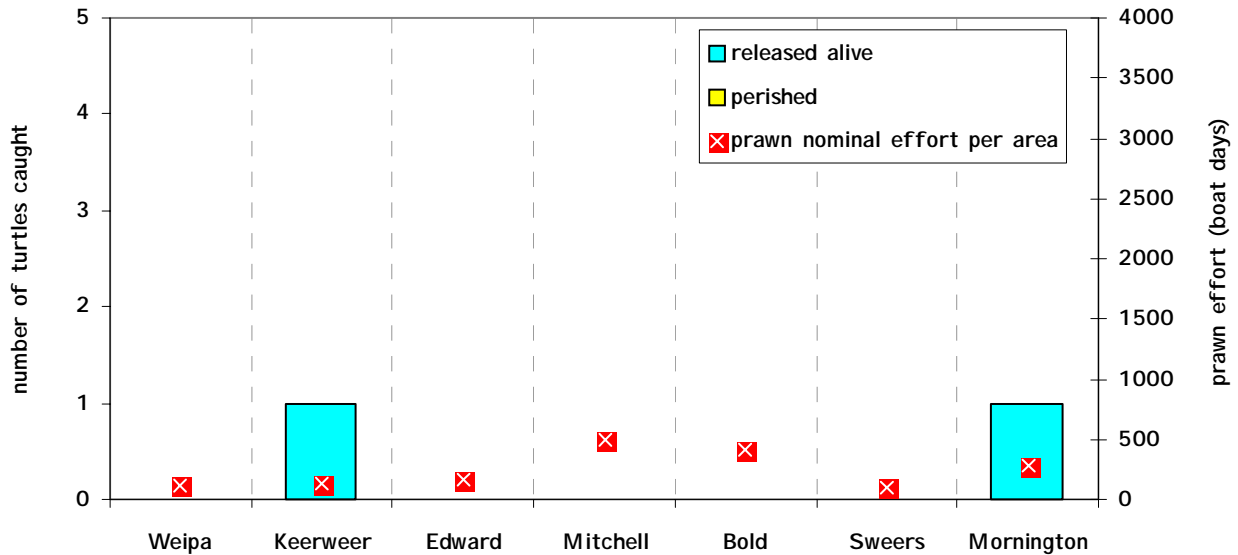


Figure 45a. Turtle Bycatch in the Northern Prawn Fishery by Statistical Area (Weipa - Mornington) in 2004

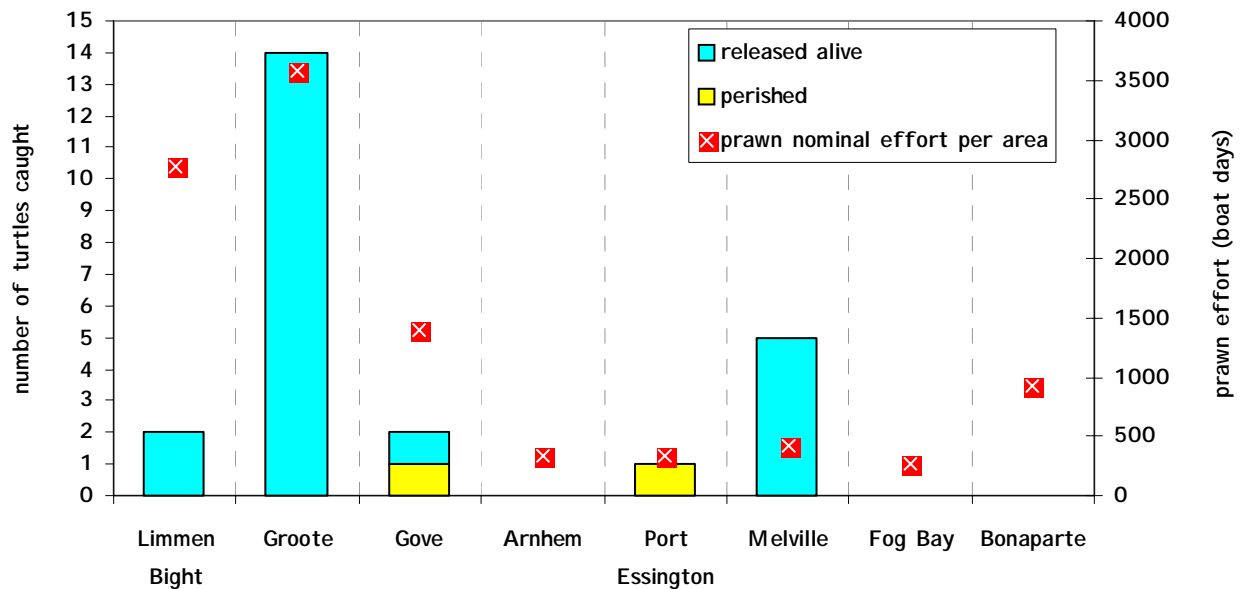


Figure 45b. Turtle Bycatch in the Northern Prawn Fishing by Statistical Area (Limmen - Bonaparte) in 2004

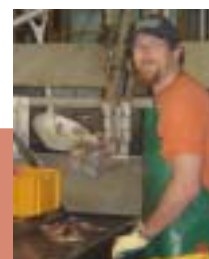
Source: AFMA logbook data



Table 6. Turtle Bycatch by Species in each Statistical Area, 2002-2004 (continued on next page)

Source: AFMA logbook data

Statistical Area	Turtle Species	Released Alive			Perished			Condition Unknown		
		02	03	04	02	03	04	02	03	04
WEIPA	Flatback									
	Green									
	Loggerhead									
	Pacific Ridley									
KEERWEER	Unidentified species									
MITCHELL	Flatback			1						
	Flatback		1							
	Green									
	Loggerhead									
	Unidentified species									
BOLD	Flatback	1	1							
	Green									
	Hawksbill				1					
	Loggerhead	1								
	Leatherback									
	Pacific Ridley		1							
	Unidentified species									
SWEERS	Flatback									
	Green									
	Pacific Ridley									
MORNINGTON	Flatback			1						
	Leatherback									
	Pacific Ridley									
LIMMEN BIGHT	Flatback	1		1						
	Green	5	4							
	Hawksbill									
	Leatherback									
	Loggerhead			1						
	Pacific Ridley	1	1							
	Unidentified species	1	1							
GROOTE	Flatback	3	1	5				1		
	Green	1	3	3						
	Hawksbill	1		2						
	Leatherback									
	Loggerhead									
	Pacific Ridley	1	1	4						
	Unidentified species		1							
GOVE	Flatback	1	5	1						
	Green		1							
	Pacific Ridley	1					1			
	unidentified species		2							
ARNHEM	Flatback									
	Green	1								
PORT ESSINGTON	Flatback									
	Green	2								
	Pacific Ridley	1					1			



Statistical Area	Turtle Species	Released Alive			Perished			Condition Unknown		
		02	03	04	02	03	04	02	03	04
MELVILLE	Flatback			2						1
	Green		1	3						
	Loggerhead				1					
	Unidentified species		1							
FOG BAY	Flatback									
	Green									
	Pacific Ridley									
BONAPARTE	Flatback	1	1							
	Green		1							
	Hawksbill									
	Pacific Ridley									
	unidentified species	1								
TOTAL ALL AREAS	Flatback	7	9	11				1		1
	Green	9	10	6						
	Hawksbill	1		2	1					
	Leatherback									
	Loggerhead	1		1	1					
	Pacific Ridley	4	3	4			2			
	unidentified species	2	5							
GRAND TOTAL	ALL SPECIES	24	27	24	2		2	1		1

Source: AFMA Logbook data

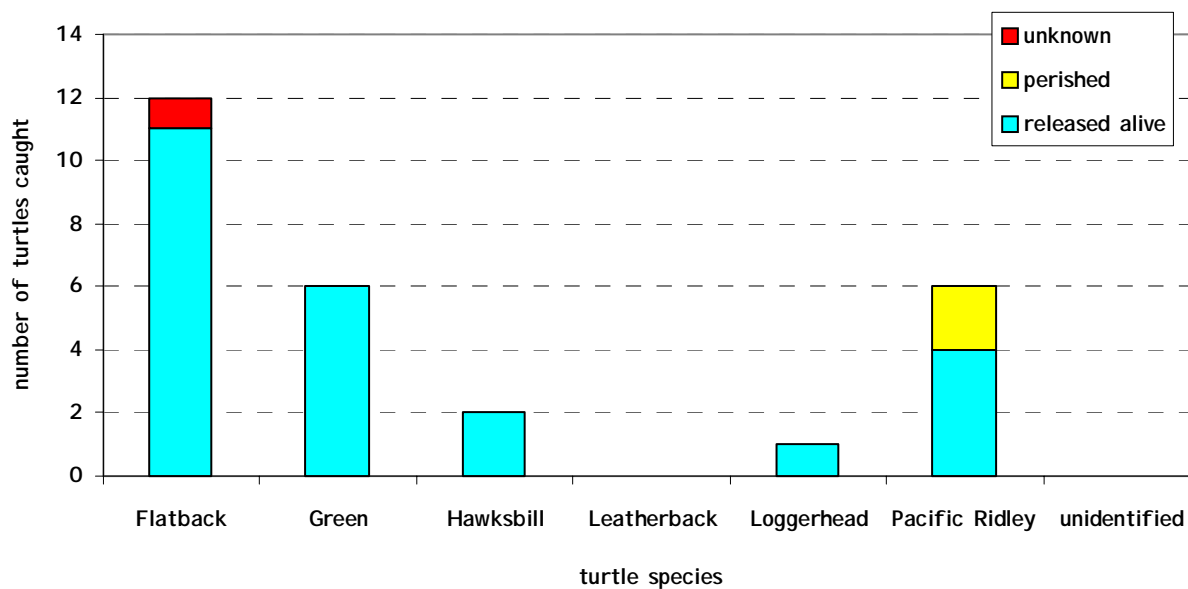


Figure 46. Turtle Bycatch in the Northern Prawn Fishery by Species in 2004

Source: AFMA logbook data



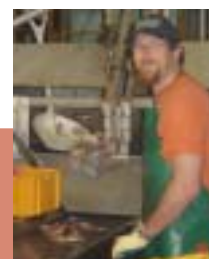
Sea snake Bycatch

Reported sea snake bycatch by statistical area for 2004 is shown in Table 7. Note - the format for recording sea snakes changed with the implementation of the NP14 logbook (implemented at the start of the 2004 season). For this reason, this is the first year that sea snake bycatch has been presented in the NPF data summary.

Table 7. Sea snake bycatch in each Statistical Area for 2004

<i>Statistical Area</i>	<i>Released Alive</i>	<i>Perished</i>	<i>Condition Unknown</i>
BOLD	285	70	39
BONAPARTE	503	129	284
GOVE	857	118	536
GROOTE	4,674	777	1,079
LIMMEN BIGHT	1,671	418	404
MELVILLE	211	74	163
MITCHELL	542	70	51
KEERWEER	47	6	3
MORNINGTON	120	20	48
PORT ESSINGTON	111	19	106
UNSPECIFIED	7	4	8
ARNHEM	84	28	34
EDWARD	95	19	2
FOG BAY	61	14	20
SWEERS	27	5	3
WEIPA	90	11	4
GRAND TOTAL	9,385	1,782	2,784

Source: AFMA Logbook data



State/Territory Specific Data

Financial Year Catch of the NPF by State/Territory

Information on financial year catches taken in the waters of each State/Territory is included to meet Offshore Constitutional Settlement obligations with Queensland, the Northern Territory and Western Australia. The information is also used by the Australian Bureau of Agricultural and Resource Economics to calculate Gross Value of Product (GVP) figures.

Prawn catches in Queensland and the Northern Territory were higher for the 2003/2004 financial year when compared to the previous financial year. The catch in Queensland waters was up 349 tonnes to 1808 tonnes, while the catch in the Northern Territory was up 172 tonnes to 3813 tonnes (Table 8). Catches in Western Australia fell by 69 tonnes to 523 tonnes.

Byproduct of the NPF by State/Territory

Logbook recording of byproduct species in the NPF has been required since 1995.

Bugs, squid, whiting and cuttlefish were the most commonly retained byproduct species in 2004 (Table 9). Bugs were the major byproduct species in 2004, with 23 tonnes caught from a total catch of 77 tonnes. Most bugs were caught in waters off the Northern Territory. The total retained byproduct for all states (QLD, NT and WA) in 2004 was up by nearly 7 tonnes on last years figure.



Table 8. Financial year catch of the NPF by State from 1990/91 to 2003/04.

Source: AFMA Logbook data.

<i>State</i>	<i>Financial year</i>	<i>banana (tonnes)</i>	<i>tiger (tonnes)</i>	<i>endeavour (tonnes)</i>	<i>king (tonnes)</i>	<i>total catch (tonnes)</i>
Queensland	1990/91	4646	1151	269	51	6117
	1991/92	1392	1710	548	30	3680
	1992/93	1857	968	357	18	3200
	1993/94	904	1032	416	8	2360
	1994/95	2540	1883	346	24	4791
	1995/96	2562	1570	761	23	4916
	1996/97	2050	1259	817	15	4141
	1997/98	1986	1318	878	11	4193
	1998/99	1548	634	335	5	2523
	1999/00	637	629	348	1	1614
	2000/01	3651	553	352	4	4560
	2001/02	3286	372	211	1	3869
	2002/03	1307	97	54	1	1459
	2003/04	1639	152	14	0	1806
Northern Territory	1990/91	1430	2156	380	46	4011
	1991/92	669	2332	434	27	3462
	1992/93	1639	1907	437	18	4000
	1993/94	697	1768	403	18	2886
	1994/95	1536	1855	423	19	3836
	1995/96	1072	1615	434	6	3127
	1996/97	1472	1184	387	9	3052
	1997/98	1241	1466	490	9	3206
	1998/99	1549	2141	778	6	4474
	1999/00	1247	1564	586	11	3408
	2000/01	2323	1546	489	3	4361
	2001/02	1789	1561	892	1	4244
	2002/03	1509	1797	333	2	3641
	2003/04	1437	1985	390	1	3813
Western Australia	1990/91	579	86	42	0	707
	1991/92	231	8	11	0	250
	1992/93	498	5	6	0	508
	1993/94	828	4	13	0	845
	1994/95	414	2	16	0	432
	1995/96	713	18	65	0	796
	1996/97	1079	5	38	0	1122
	1997/98	756	66	686	1	1509
	1998/99	519	23	17	0	559
	1999/00	329	2	38	0	369
	2000/01	281	16	23	0	321
	2001/02	345	23	28	0	396
	2002/03	509	75	8	0	592
	2003/04	461	49	13	0	523

Source: AFMA Logbook data

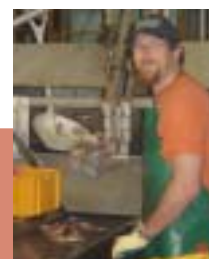


Table 9. Retained byproduct of the NPF by State of capture in 2004.

Source: AFMA logbook data

<i>Species</i>	<i>Form Type</i>	TOTAL wt (kg)	QLD wt (kg)	NT wt (kg)	WA wt (kg)
Bugs	<i>whole</i>	23519	2381	20168	970
Cuttlefishes	<i>whole</i>	5420	371	5019	30
Goatfishes	<i>whole</i>	959	6	953	
Golden snapper	<i>whole</i>	147	38	109	
Mackerel	<i>whole</i>	140	115	25	
Mangrove Jack	<i>whole</i>	134	50	84	
Mantis shrimp	<i>whole</i>	136		136	
Mixed reef fish	<i>whole</i>	1676		1576	100
Mud scallop	<i>whole</i>	201		201	
Octopus	<i>whole</i>	345		345	
Other	<i>whole</i>	1696		1686	10
Pilchard	<i>whole</i>	5831		5831	
Pink snapper	<i>whole</i>	122	13	110	
Pomfret	<i>whole</i>	3998	40	3868	90
Red Emperor	<i>whole</i>	19		19	
Redfish	<i>whole</i>	30		30	
Saddle-tailed seaperch	<i>whole</i>	67		67	
Saucer scallops	<i>whole</i>	12		12	
Scallops	<i>whole</i>	3281	60	3221	
Scampi	<i>whole</i>	10		10	
Scarlet Sea Perch	<i>whole</i>	465		465	
School Mackerel	<i>whole</i>	90		90	
Sea Bass	<i>whole</i>	24	24		
Soles	<i>whole</i>	80		80	
Spiny lobsters	<i>whole</i>	192		35	157
Squid	<i>whole</i>	22605	641	21442	522
Whitings	<i>whole</i>	5856	276	5580	
TOTAL	<i>whole</i>	77052	4014	71160	1878

Source: AFMA Logbook data

