

NORTHERN PRAWN FISHERY DATA SUMMARY 2002



**Matthew Perdrau & John Garvey
Logbook Program
February 2003**

DATA SECTION

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February 2003

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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 2002 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.

Special thanks to Janet Bishop of CSIRO for providing assistance with reconciled catches.

If you have any comments or queries on the data summary, please do not hesitate to call:

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



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Introduction

The Northern Prawn Fishery Data Summary 2002 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 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).

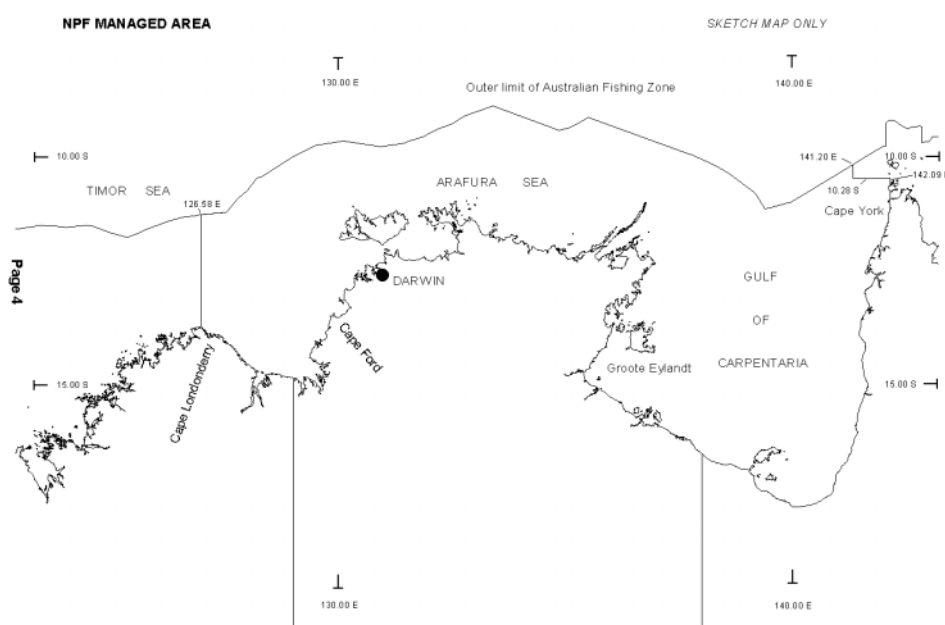


Figure 1. Northern Prawn Fishery Management Area



Most of the vessels in the NPF are purpose built from steel and range in length from 14 m to 29 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 status of prawn stocks

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. Because of this, fewer trawlers operated in the Fishery in the second season compared with the first.

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.

The fishery is split into two seasons. For 2002, the seasons were from 1 April to 13 May and from 1 September to 1 December respectively.

Data Collection Program

Northern Prawn Fishery operators are required to complete the 'Northern and Torres Strait Prawn Fisheries Daily Fishing Log' (NP13) on a daily basis. The NP13 was introduced into the fishery in April 2001, replacing the NP12.



Methods Used For Preparing Data Summary

The data used to prepare the Northern Prawn Fishery Data Summary is comprised of the logbook information (NP13) 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 16th January 2003 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. 74 vessels from a total of 114 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 all possible logbook and landing data had been received. No days were missing because of lost logsheets.

Over the entire fleet, the logbook figures for banana prawns were a little lower than the landings figures (by 0.4%). For tiger and endeavour prawns, the logbook figures were a little higher than the landings - tigers by 2.7% and endeavours by 1.2%. The catch of king prawns accounted for on the logbooks was only 37% 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 (36 days in the 2002 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 2002 NPF seasons were from 1 April to 13 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 21 days less than the 155 days available to fish in 2001. Total effort in 2002 was 12,866 days compared to 16,687 in 2001.

The total NPF prawn catch for 2002 was 6,936 tonnes, compared with 10,389 tonnes in 2001 and 5,335 in 2000 (Table 1). The catch of banana prawns decreased compared to the previous year by 37%. The catch of tiger prawns decreased slightly by 2%, while endeavour prawns decreased by 64%. The catch of king prawns increased to 5 tonnes. During the 2002 fishing year, 114 different vessels landed product (114 during the first season and 96 during the second season).

Catch

The catch in the banana prawn fishery decreased by 2,669 tonnes (37%) in 2002 to 4,583 tonnes. The tiger prawn fishery catch decreased by 784 tonnes (25%) to 2,353 tonnes (Figure 2).

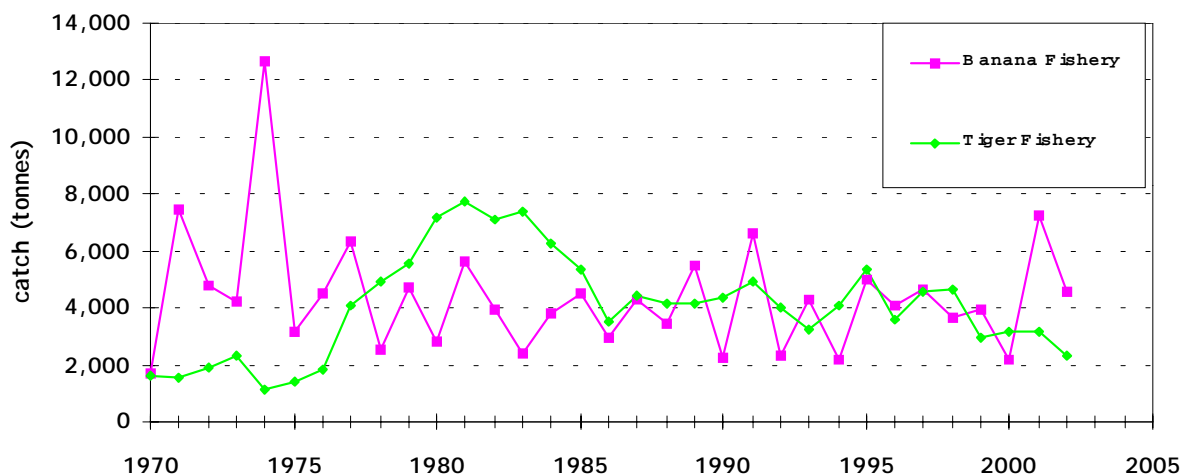


Figure 2. Catch in the banana and tiger prawn fisheries between 1970 and 2002

Source: AFMA logbook data adjusted to annual reconciled landing figures



Table 1. Annual reconciled landings, effort and vessel numbers from 1970 to 2002.

<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
<i>'00-'02 average</i>	<i>4672</i>	<i>2039</i>	<i>842</i>	<i>7</i>	<i>7553</i>	<i>118</i>	<i>4697</i>	<i>10631</i>
<i>'70-'02 average</i>	<i>4358</i>	<i>2973</i>	<i>1035</i>	<i>55</i>	<i>8422</i>	<i>186</i>	<i>6169</i>	<i>18074</i>

Source: Annual reconciled landings figures and AFMA Logbook data.



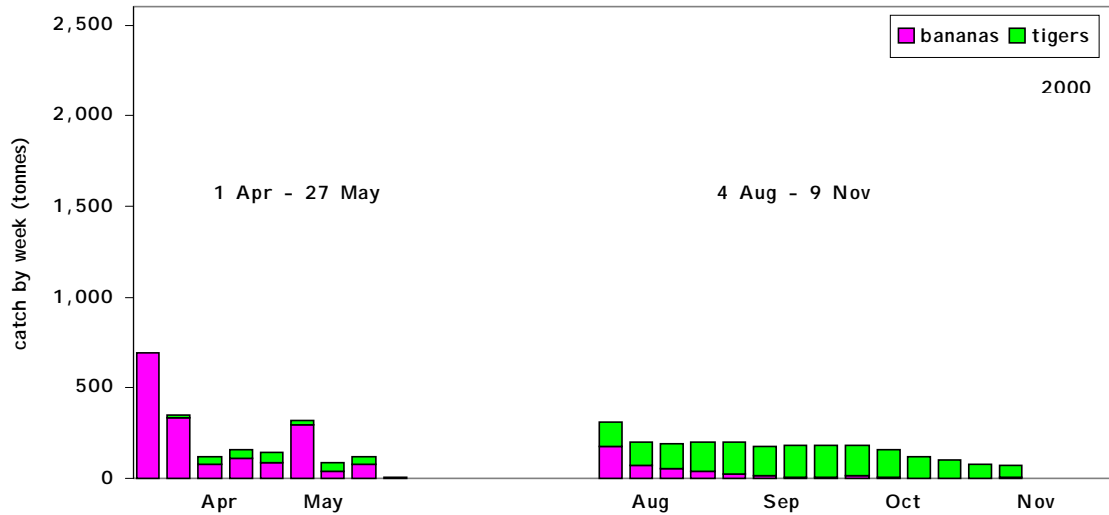


Figure 3a. Weekly catches of banana and tiger prawns (tonnes) in 2000

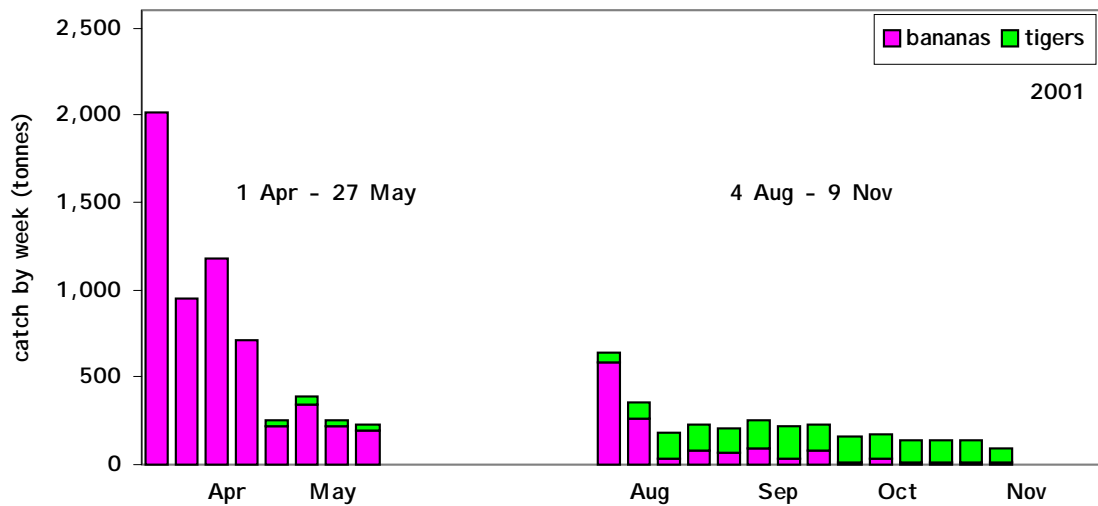


Figure 3b. Weekly catches of banana and tiger prawns (tonnes) in 2001

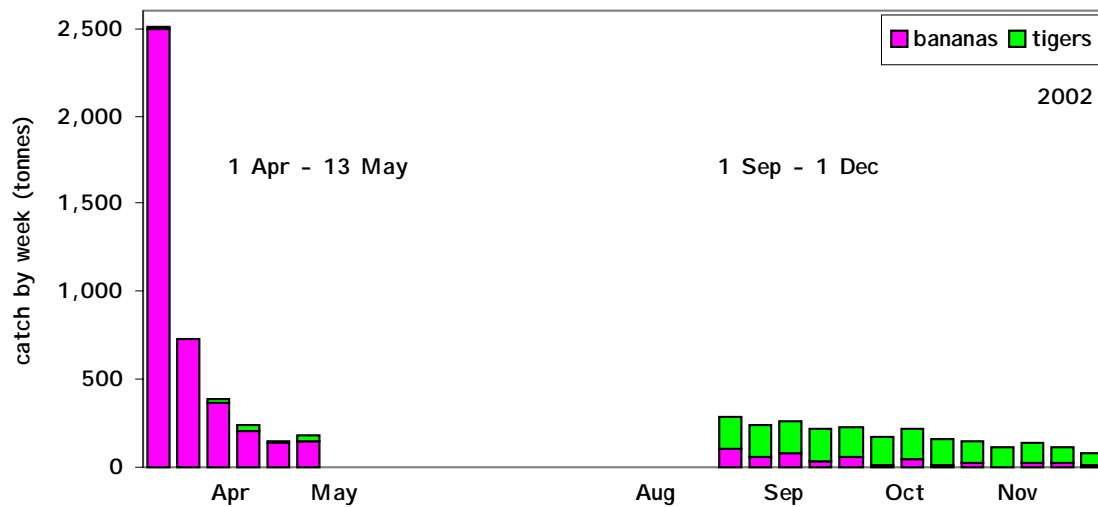


Figure 3c. Weekly catches of banana and tiger prawns (tonnes) in 2002

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 2000, 2001 and 2002.

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 NPFAG, 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 2,099 days (34%). In the tiger fishery, nominal effort decreased by 1,722 days (down 16%) and effective effort was down 1,900 days (12%) (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 slightly less days missed due to bad weather than in 2001. In the first season of 2002 there were more days spent in other fisheries than in 2001, and in the second season less days spent steaming.

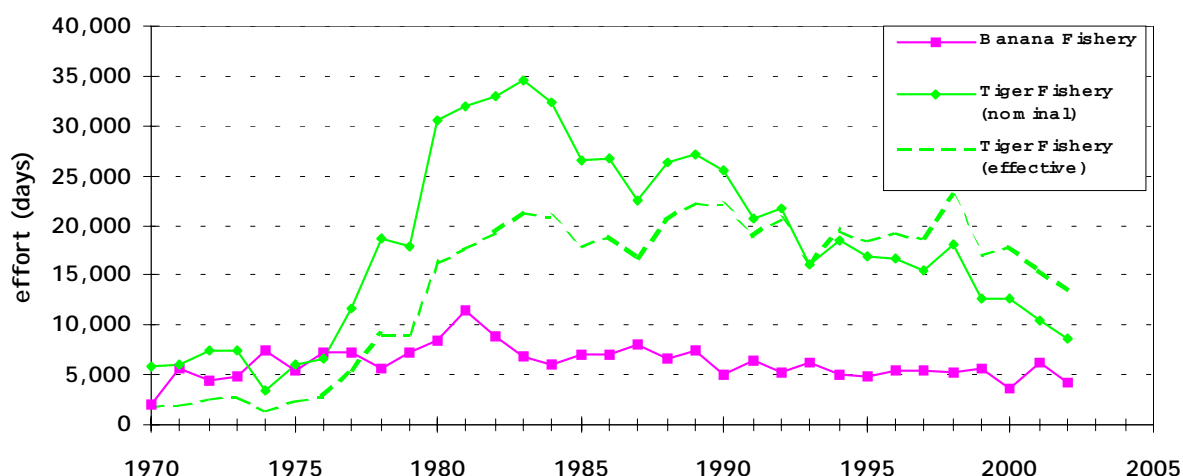


Figure 4. Effort in the banana and tiger prawn fisheries between 1970 and 2002

Source: AFMA Logbook data



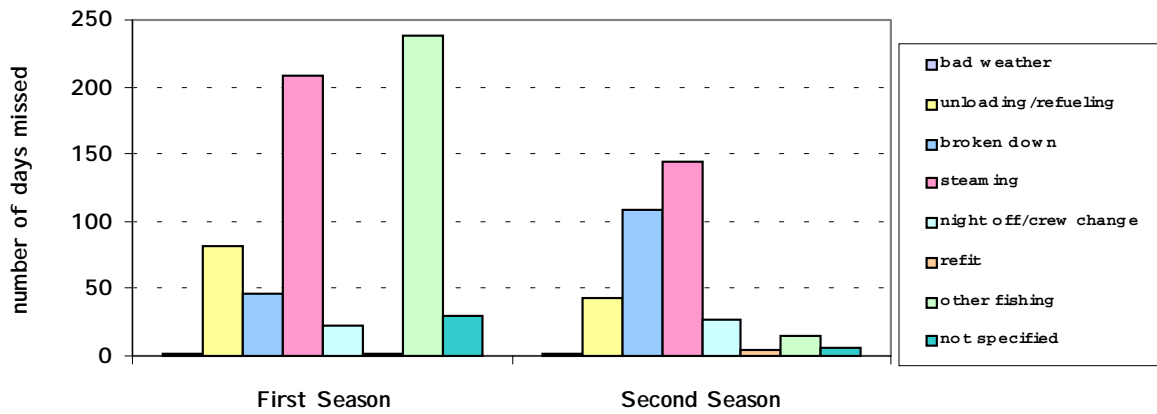


Figure 5. Missed fishing days for the banana and tiger prawn season 2002.
Source: AFMA Logbook data

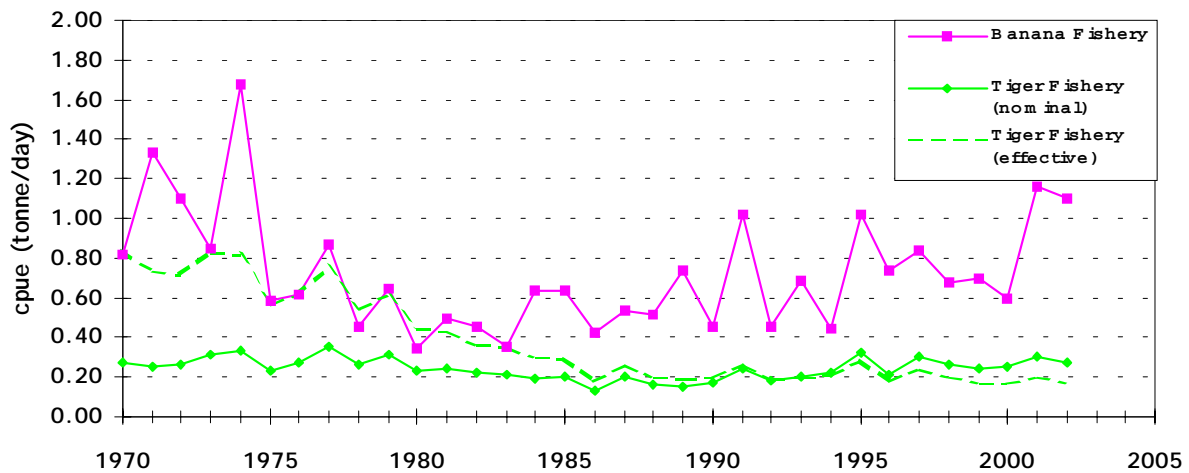


Figure 6. Catch rate in the banana and tiger prawn fisheries between 1970 and 2002.
Source: AFMA Logbook data adjusted to reconciled landings figures

Catch Rate

The banana fishery catch rate decreased from 1.16 tonne/day in 2001 to 1.10 tonne/day in 2002. The nominal catch rate for the tiger fishery decreased slightly to 0.27 tonne/day while the effective catch rate decreased to 0.17 tonne/day (Figure 6).



Catch, Effort and Catch Rate by Month

Both fishing seasons were shorter in 2002 than in 2001. The first season ended earlier in May, while the second season started later (1st September) but ended later (1st December). Because of this, direct comparisons of catch and effort for May and December with previous years should not be made.

Monthly banana prawn catches (Table 2) were down in April (23%) compared to 2001, but were up in all months of the second season. Tiger prawn catches in April were higher in 2002 (66 t) compared with 2001 (6 t) and were higher in September (up 14%) and October (up 16%) than in 2001. Endeavour prawn catches were higher in April (31 t) compared to 2001 (3 t) but were lower 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).

Effort in the banana fishery was down in all months except October compared with 2001. Effort in the tiger fishery was up in April (456 days) compared to 2001 (27 days). It was lower in all other months (Table 4).

Table 2. Monthly catch by species in 2002

Source: AFMA Logbook data

<i>Catch (tonnes)</i>	<i>Apr</i>	<i>May</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	Total
<i>Banana</i>	3,820	269	321	117	59	4,586
<i>Tiger</i>	66	52	764	689	411	1,981
<i>Endeavour</i>	31	21	105	111	149	416
<i>King</i>	0	0	0	1	1	3
Total	3,917	342	1,190	918	619	6,987

Table 3. Monthly catch in the banana and tiger prawn fisheries in 2002

Source: AFMA Logbook data

<i>Catch (tonnes)</i>	<i>Apr</i>	<i>May</i>	<i>Sep</i>	<i>Oct</i>	<i>Nov</i>	Total
<i>Banana Fishery</i>	3,831	278	313	113	58	4,593
<i>Tiger Fishery</i>	86	64	877	805	561	2,394



Table 4. Monthly effort in the banana and tiger prawn fisheries in 2002

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>	2,695	825	283	194	150	4,147
<i>Tiger Fishery (nominal)</i>	456	382	2,504	2,644	2,611	8,597
<i>Tiger Fishery (effective)</i>	707	593	3,885	4,102	4,051	13,337

Table 5. Monthly catch rate in the banana and tiger prawn fisheries in 2002

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>	1.42	0.34	1.11	0.58	0.39
<i>Tiger Fishery (nominal)</i>	0.19	0.17	0.35	0.30	0.21
<i>Tiger Fishery (effective)</i>	0.12	0.11	0.23	0.20	0.14

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

Vessel and Gear Information

Vessel Length

The most common NPF vessel length in 2002 was between 22.00 - 22.99 metres (Figure 7).

Distribution of Catch By Vessel

Twenty seven vessels caught between 40 and 49 tonnes in the first season of 2002 (Figure 8a). In the second season, most vessels (70) caught between 20 and 29 tonnes (Figure 8b).

Average Catch per Vessel

The average catch per vessel of all prawns fell to 62 tonnes per vessel in 2002 from a high of 89 tonnes per vessel in 2001 (Figure 9a). The average catch per vessel for banana prawns in 2002 fell to 40 tonnes per vessel (Figure 9b), while that of tiger prawns (Figure 9c) remained fairly stable at 18 tonnes per vessel in 2002.



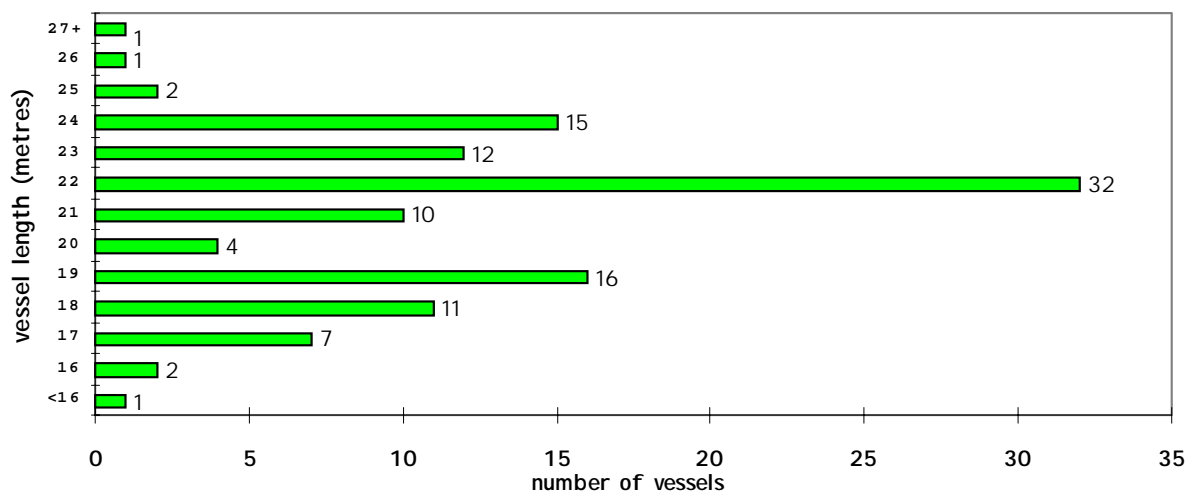


Figure 7. Frequency of vessels lengths in the NPF fleet in 2002

Source: AFMA logbook data

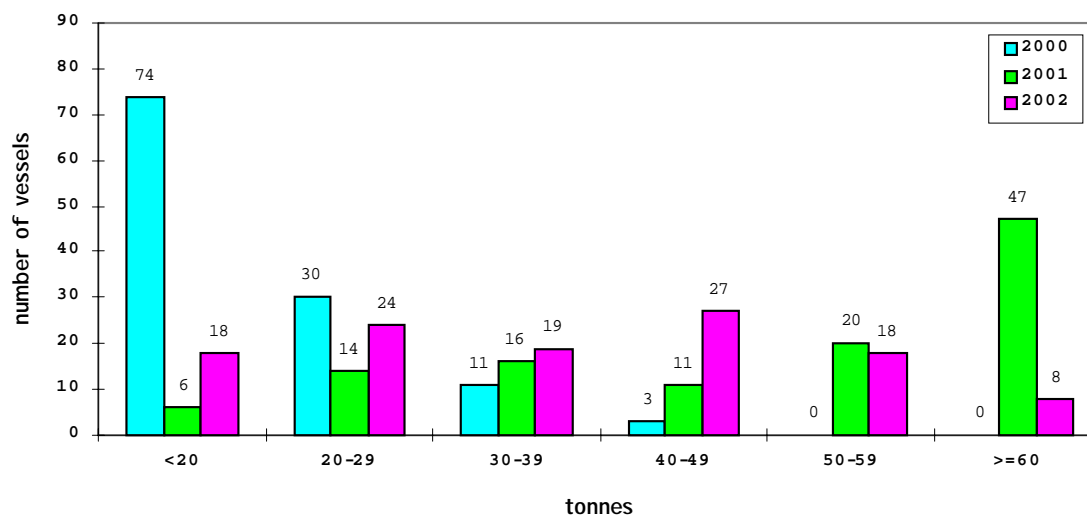


Figure 8a. Distribution of total catch by vessel in the first season, 2000 to 2002

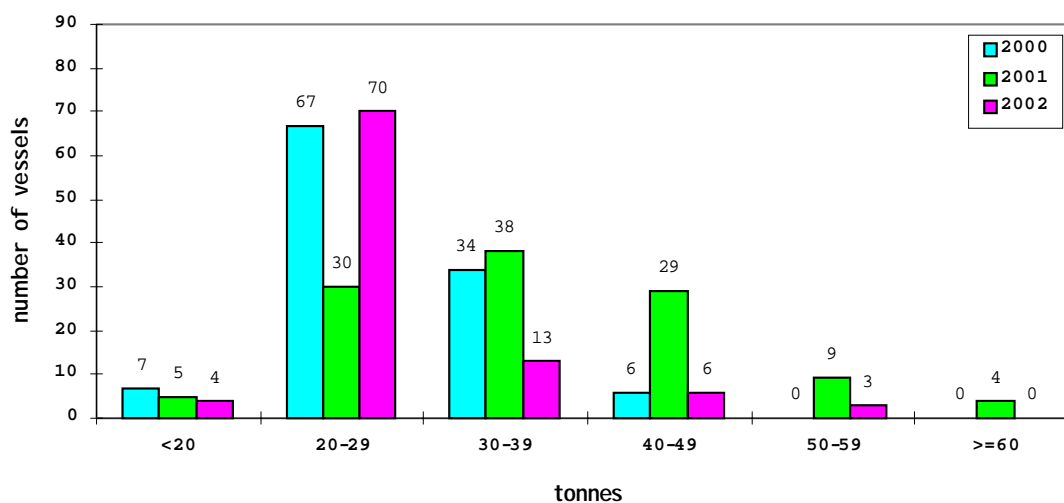


Figure 8b. Distribution of total catch by vessel in the second season, 2000 to 2002

Source: AFMA Logbook data



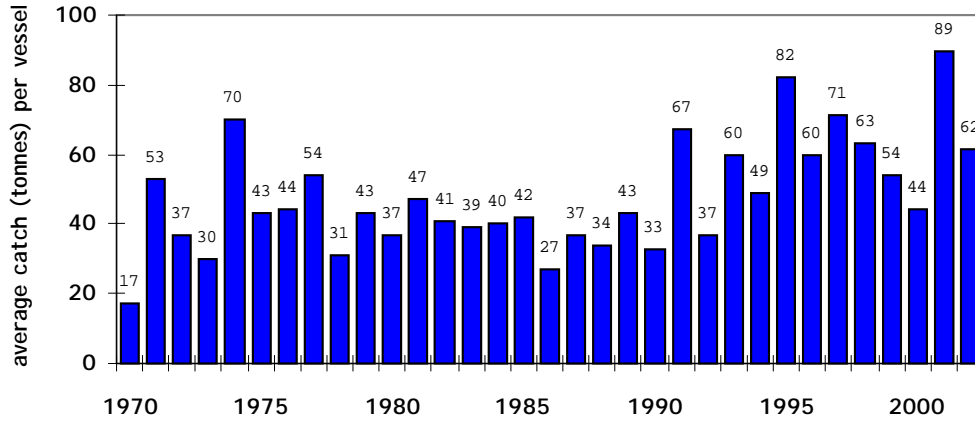


Figure 9a. Average total catch for all prawns per vessel from 1970 to 2002

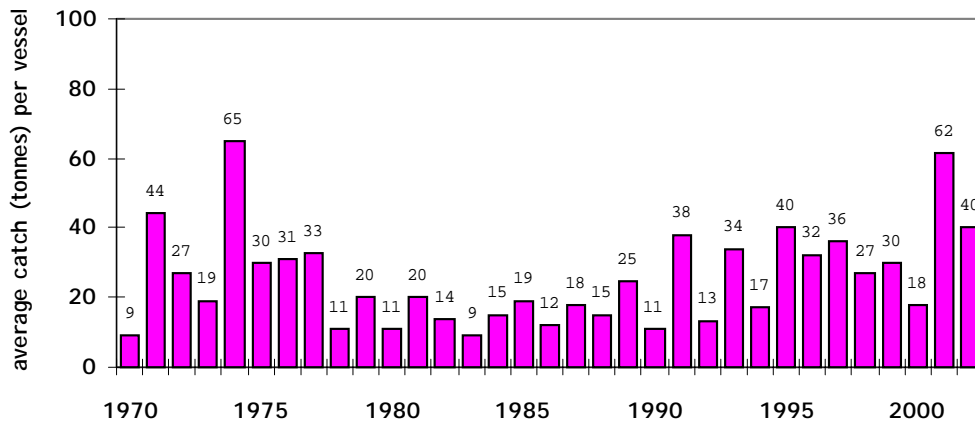


Figure 9b. Average total catch of banana prawns per vessel from 1970 to 2002

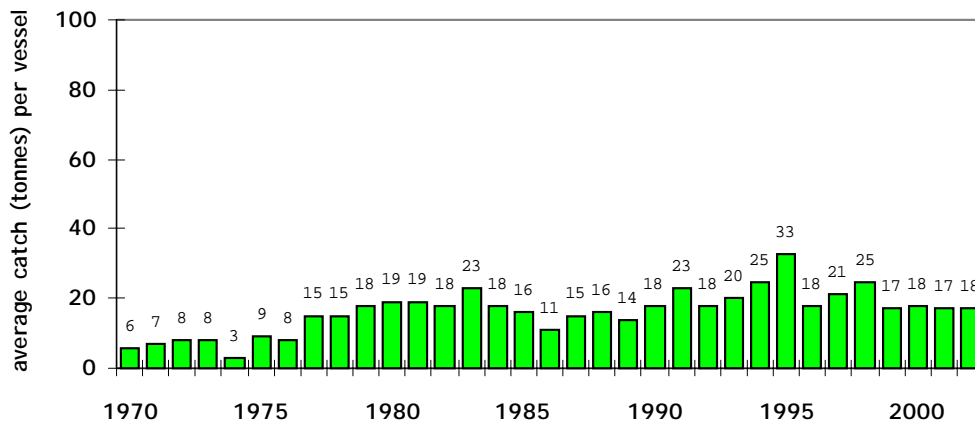


Figure 9c. Average total catch of tiger prawns per vessel from 1970 to 2002

Source: AFMA logbook data



Gear

Total tiger headrope length in the first season of 2002 was 2,804 fathoms (5.1 km) compared to 2,862 fathoms (5.2 km) in 2001 (Figure 10). In the second season of 2002 it fell to 2,223 fathoms (4.1 km).

In the first season of 2002 the most common headrope length per vessel was between 27 and 27.9 fathoms, with around 33% of the fleet using this length (Figure 11). The average headrope length was 24.6 fathoms. During the second season the most common headrope length per vessel was between 23 and 23.9 fathoms (27%), and the average headrope length was 23.2 fathoms.

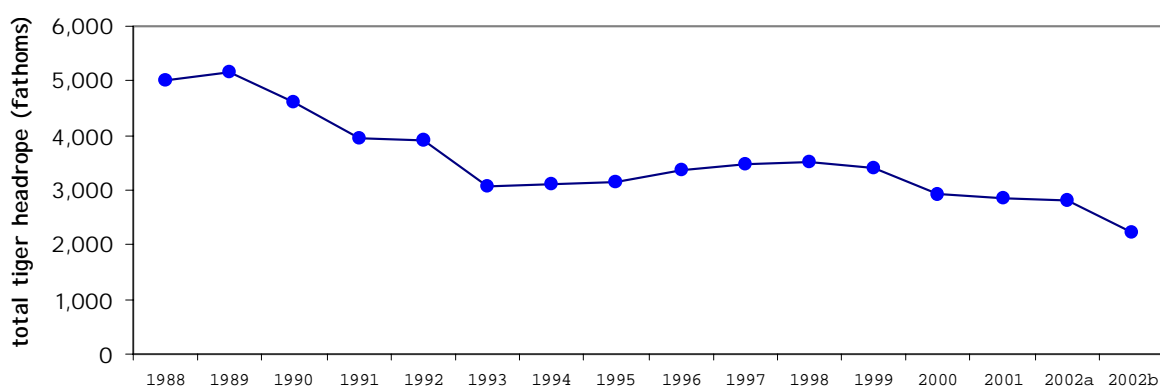


Figure 10. Total tiger headrope length from 1988 to 2002. 2002a shows the headrope length in the first season of 2002, while 2002b shows it in the second season.

Source: AFMA logbook data

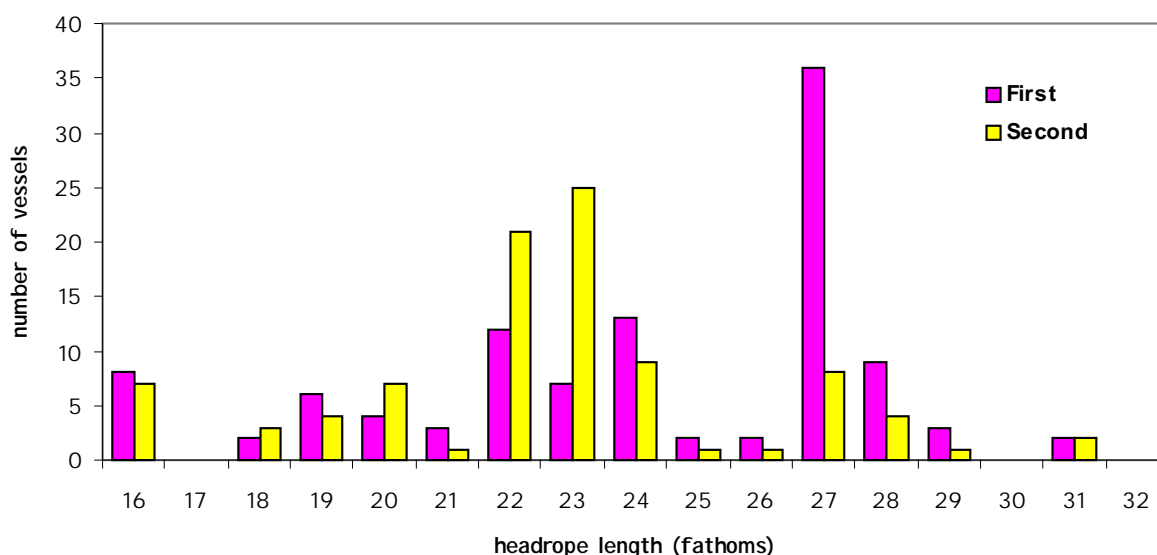


Figure 11. Frequency of tiger headrope length in 2002 (first and second seasons)

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 1,612 tonnes (Figure 13). The highest catch of tiger prawns was recorded in the Groot area with 1,035 tonnes (Figure 14).

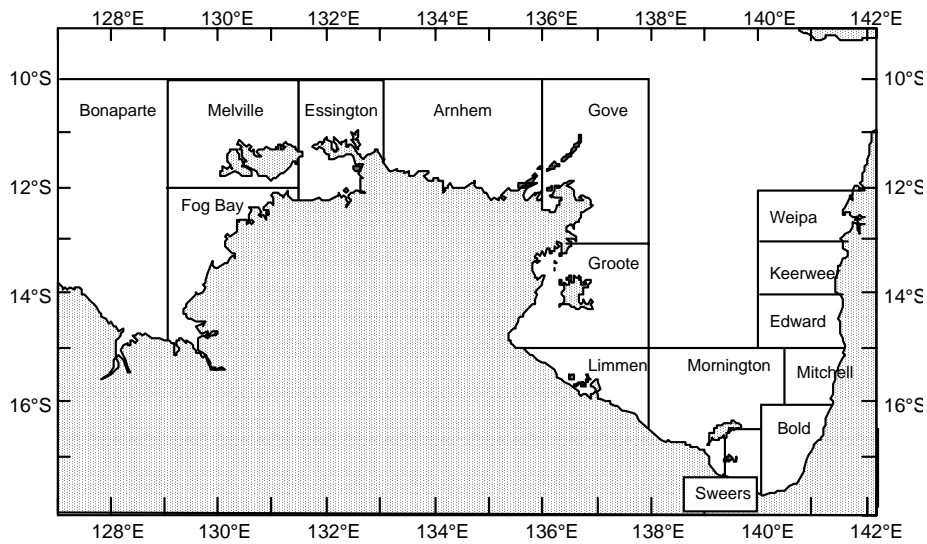


Figure 12. Statistical Areas of the Northern Prawn Fishery



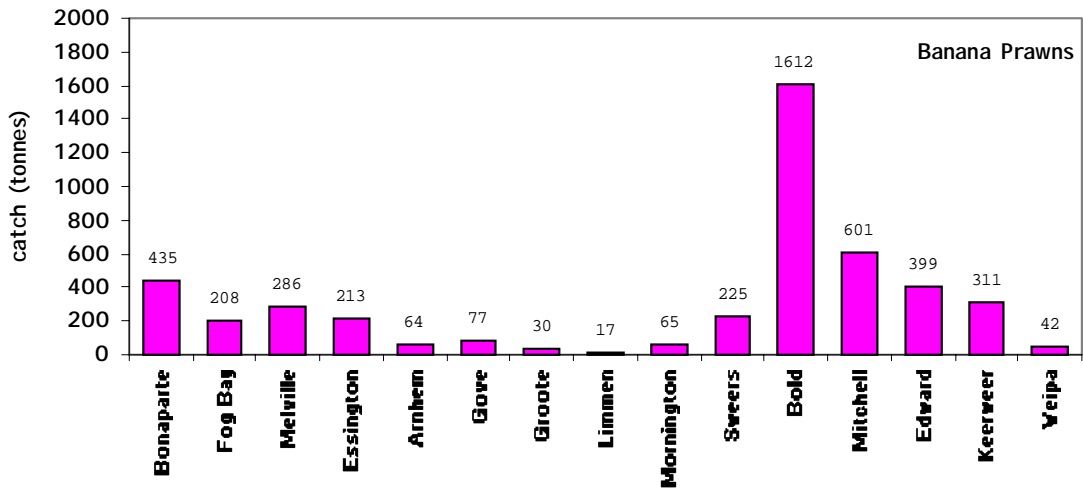


Figure 13. Catch of banana prawns in each statistical area of the NPF in 2002

Source: AFMA logbook data

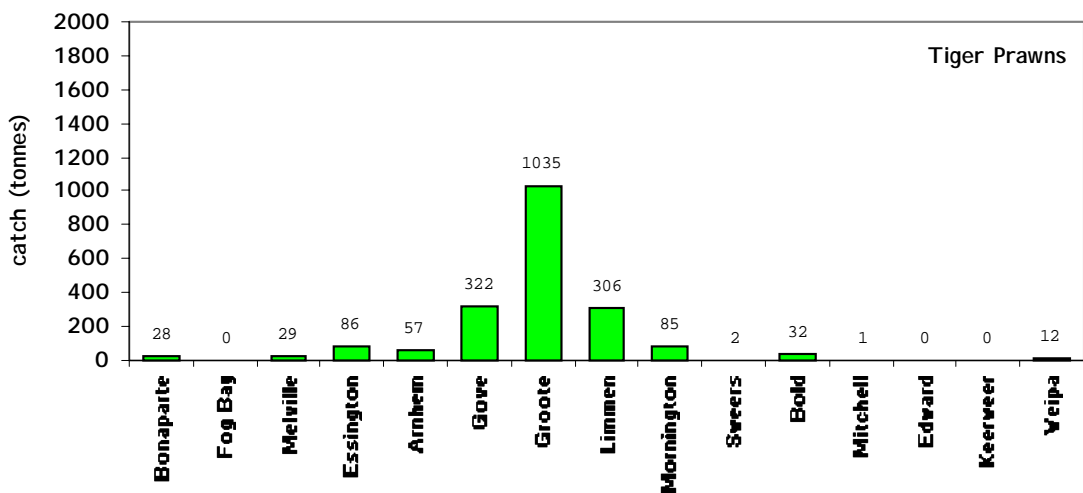


Figure 14. Catch of tiger prawns in each statistical area of the NPF in 2002

Source: AFMA logbook data



Weipa

Banana prawn catches decreased to 42 tonnes, down 33% from 2001. Tiger prawn catches decreased to 12 tonnes (down 75%) and the catch of endeavour prawns decreased to 12 tonnes (down 81%) (Figure 15a). Banana prawns dominated the catch in this area (Figure 15b).

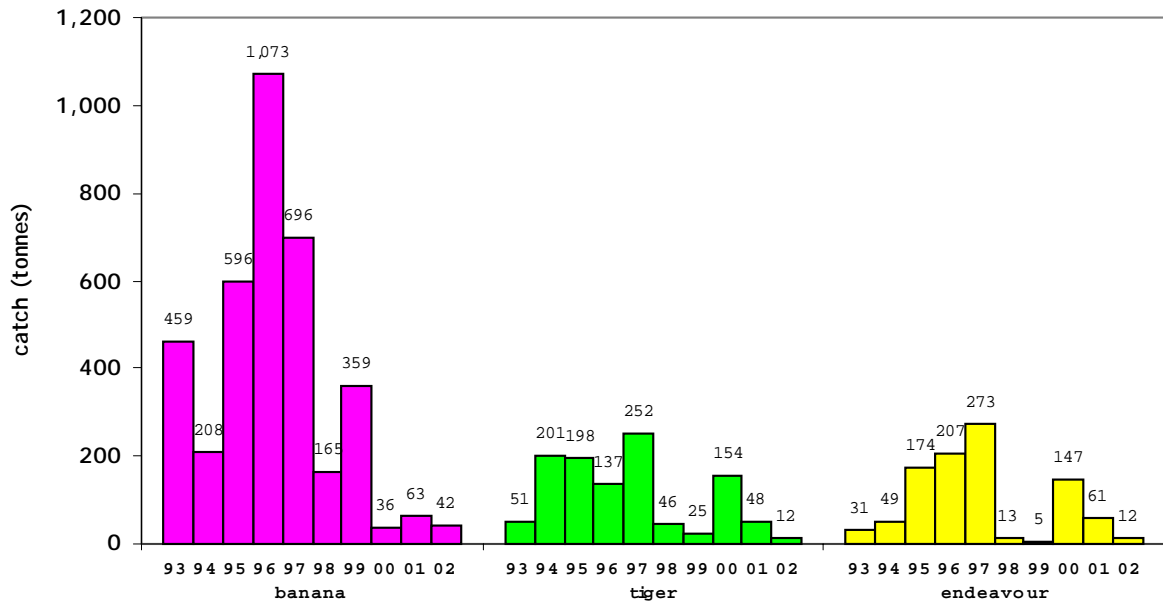


Figure 15a. Catch by species in the Weipa area between 1993 and 2002

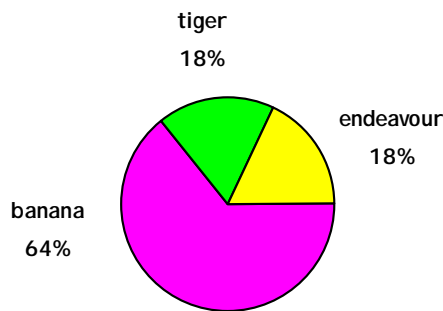


Figure 15b. Percentage catch by species in the Weipa area in 2002.

Source: AFMA logbook data



Effort in the banana fishery decreased by 41 days while effort in the tiger fishery decreased by 348 days (or 505 days effective effort) (Figure 16a-c).

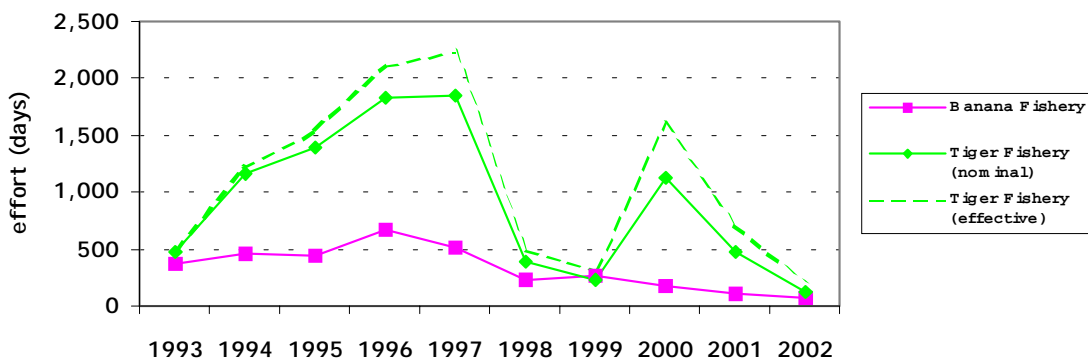


Figure 16a. Effort in the banana and tiger prawn fisheries in the Weipa area between 1993 and 2002

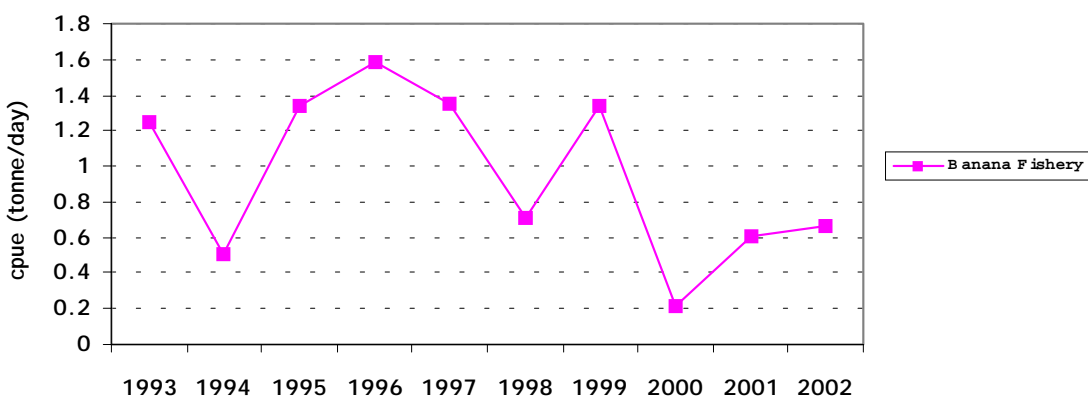


Figure 16b. Catch rate in the banana prawn fishery in the Weipa area between 1993 and 2002

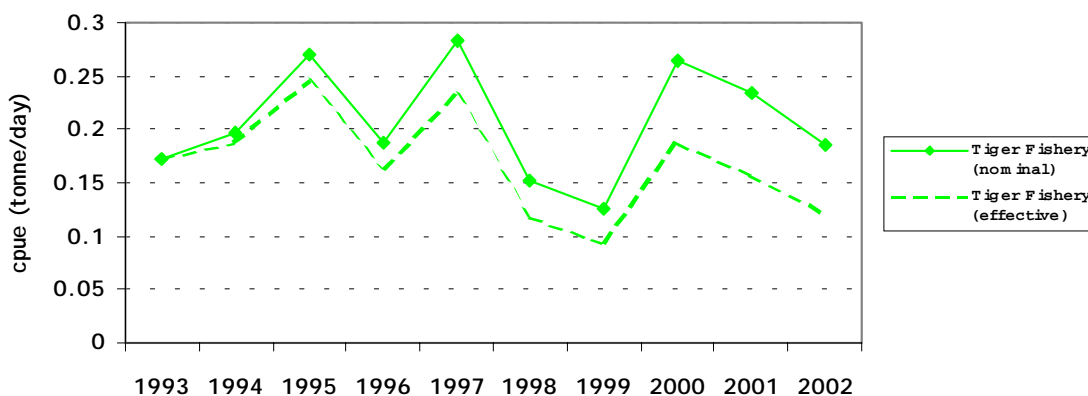


Figure 16c. Catch rate in the tiger prawn fishery in the Weipa area between 1993 and 2002

Source: AFMA logbook data



Keerweer

The banana prawn catch in the Keerweer area increased in 2002 to 311 tonnes, up more than 300% from last years catch of 77 tonnes. The catch of tiger and endeavour prawns was virtually nil. (Figures 17a & 17b).

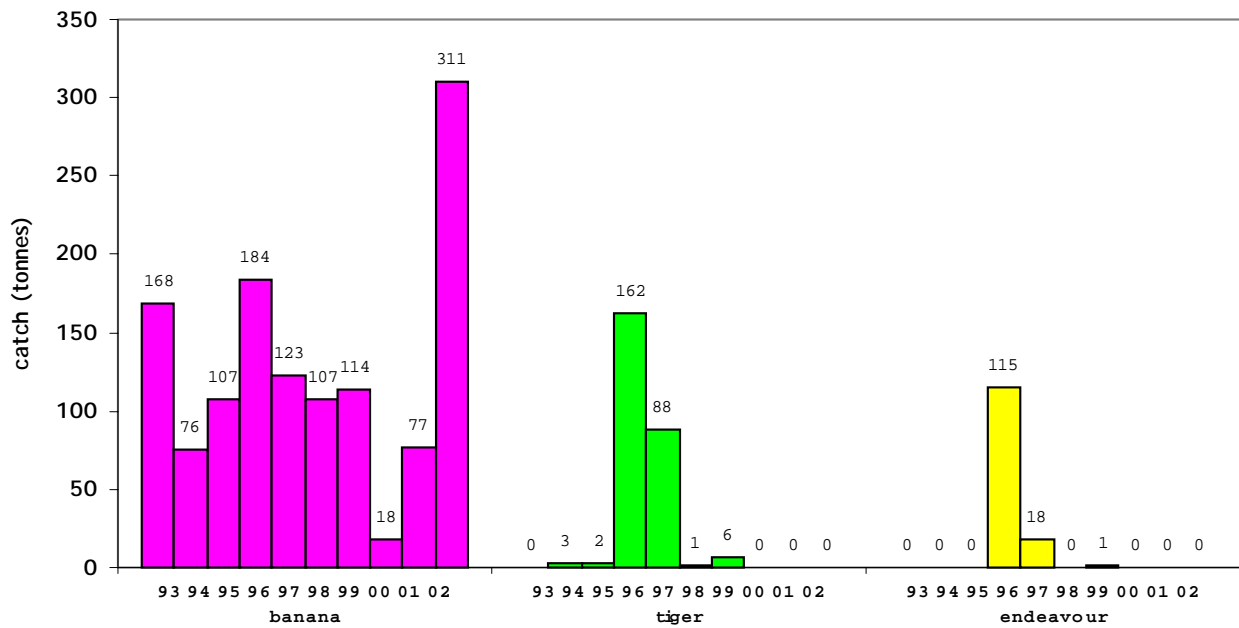


Figure 17a. Catch by species in the Keerweer area between 1993 and 2002

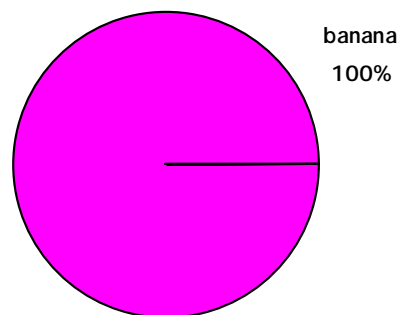


Figure 17b. Percentage catch by species in the Keerweer area in 2002.

Source: AFMA logbook data



Effort directed at banana prawns was 229 days (up 160% of the 2001 figure) and the effort in the tiger fishery was still extremely low (Figure 18 a-c).

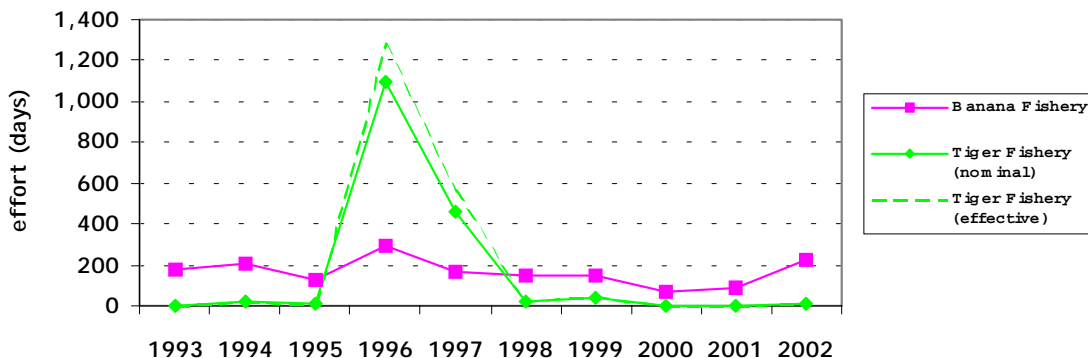


Figure 18a. Effort in the banana and tiger prawn fisheries in the Keerweer area between 1993 and 2002

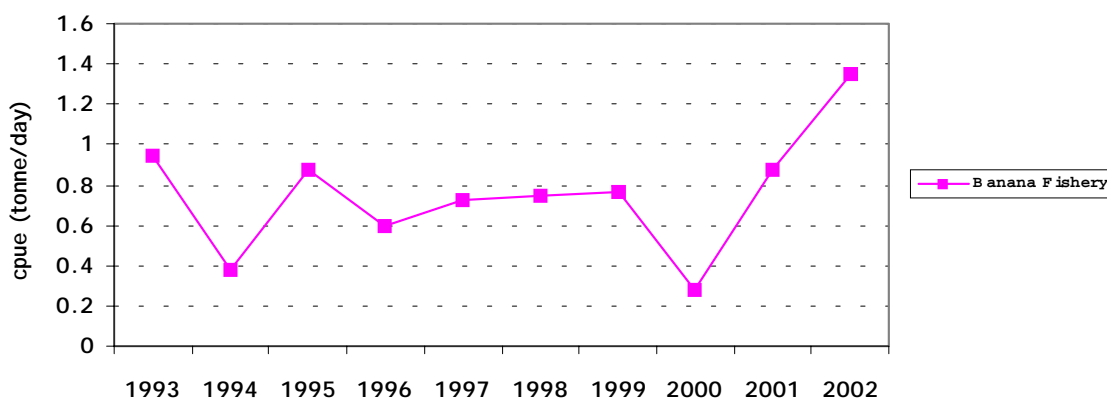


Figure 18b. Catch rate in the banana prawn fishery in the Keerweer area between 1993 and 2002

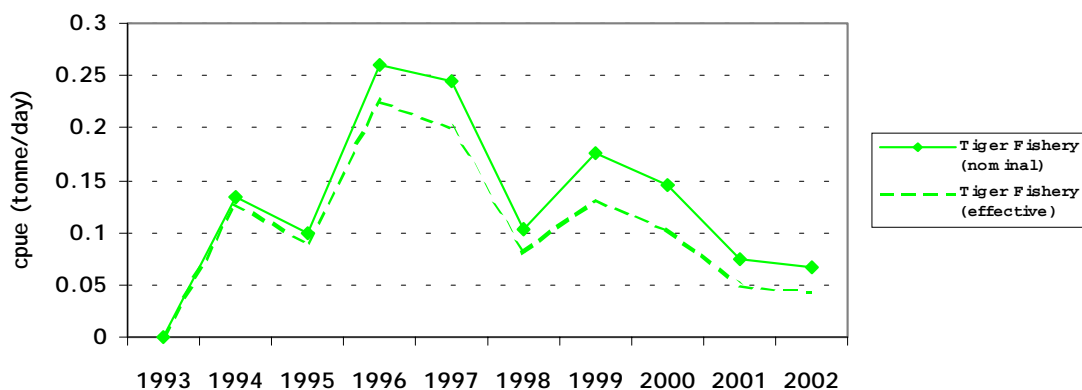


Figure 18c. Catch rate in the tiger prawn fisheries in the Keerweer area between 1993 and 2002

Source: AFMA logbook data



Edward

The banana prawn catch in the Edward area increased to 399 tonnes in 2002, up 233% from the 2001 catch of 120 tonnes. There have been no significant catches of endeavour or tiger prawns from this area for several years (Figure 19a & 19b).

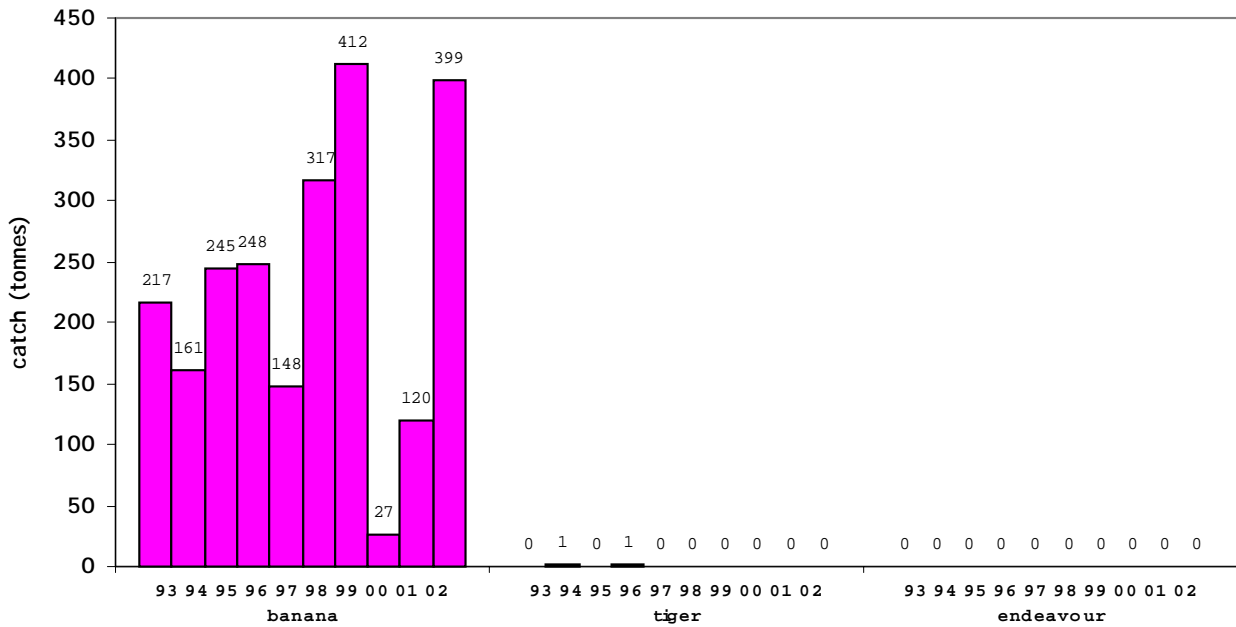


Figure 19a. Catch by species in the Edward area between 1993 and 2002

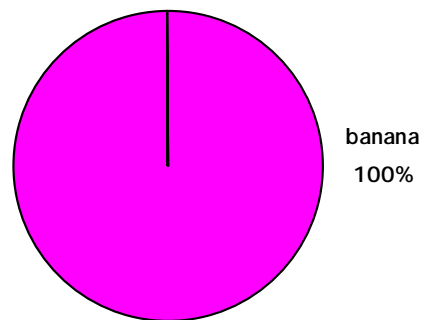


Figure 19b. Percentage catch by species in the Edward area in 2002

Source: AFMA logbook data



Effort for this region was up 89% to 244 days for the banana fishery in 2002. Tiger prawn effort was too low to be reported (Figure 20a & 20b).

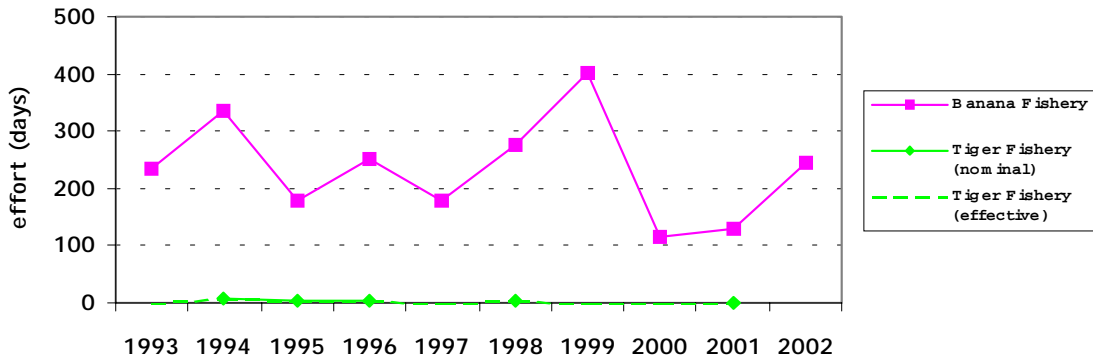


Figure 20a. Effort in the banana and tiger prawn fisheries in the Edward area between 1993 and 2002

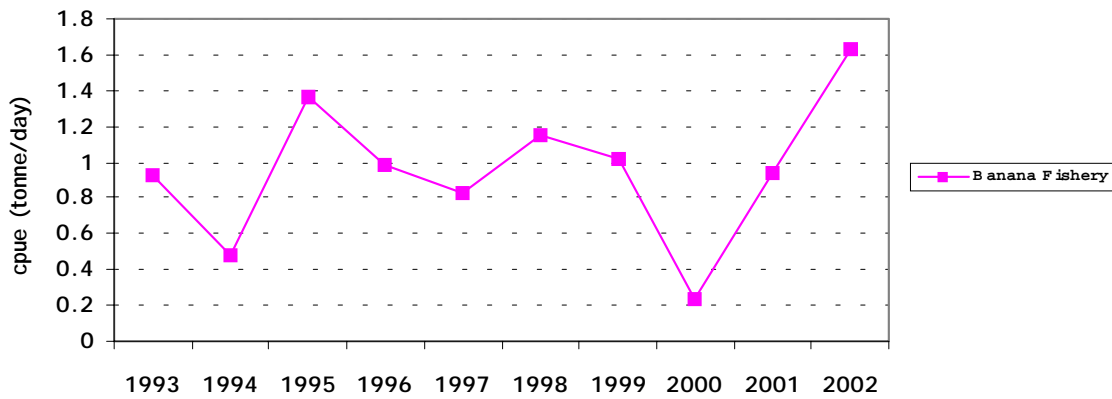


Figure 20b. Catch rate in the banana prawn fisheries in the Edward area between 1993 and 2002

Source: AFMA logbook data

* Please note that a chart of the catch rate in the tiger prawn fishery in the Edward area is not included due to the low catches of tiger prawns in the area between 1993 and 2002.



Mitchell

The banana prawn catch in the Mitchell area was 601 tonnes, up 135% from last year. Catches of tiger and endeavour prawns have been virtually nil for some years (Figures 21a & 21b).

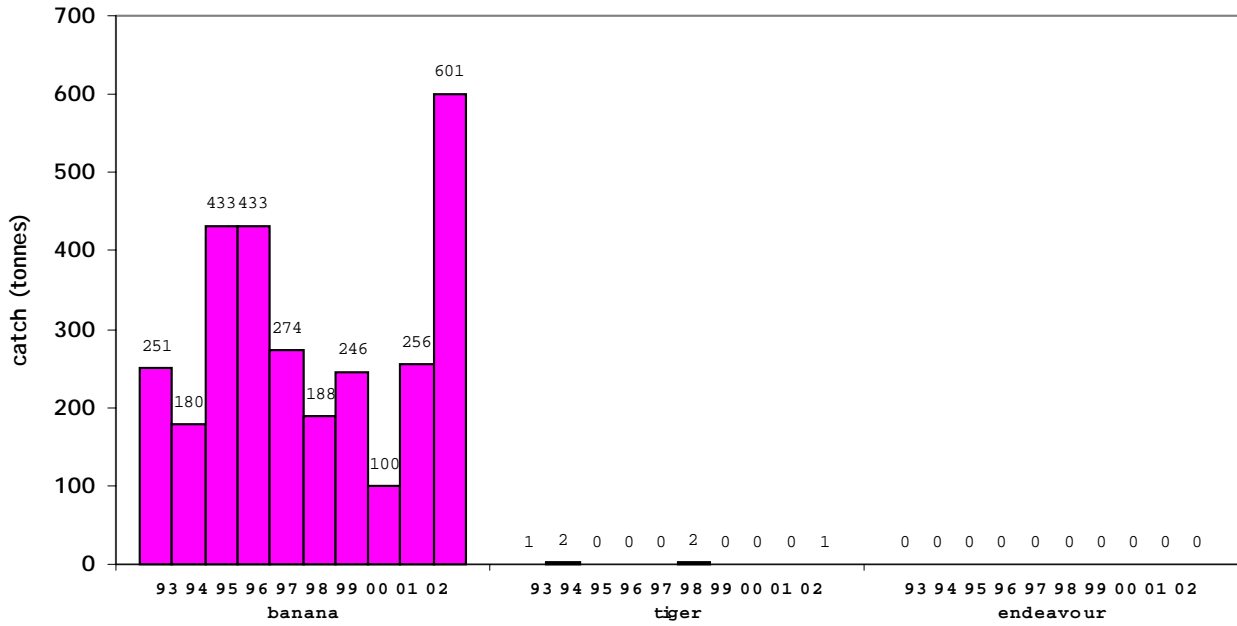


Figure 21a. Catch by species in the Mitchell area between 1993 and 2002

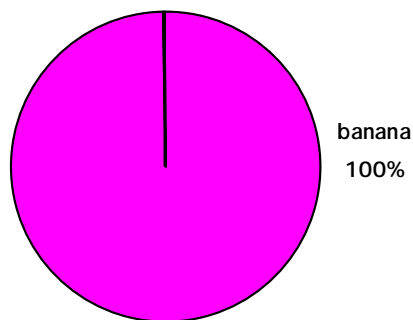


Figure 21b. Percentage catch by species in the Mitchell area in 2002

Source: AFMA logbook data



Effort directed at banana prawns was up 21% to 363 days in the Mitchell area. There was almost no effort directed at the tiger fishery in this area during the 2002 season (Figure 22a & 22b).

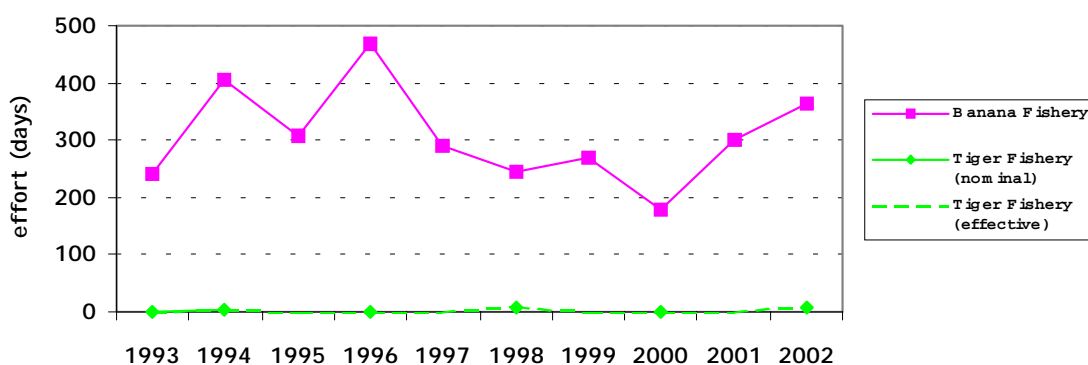


Figure 22a. Effort in the banana and tiger prawn fisheries in the Mitchell area between 1993 and 2002

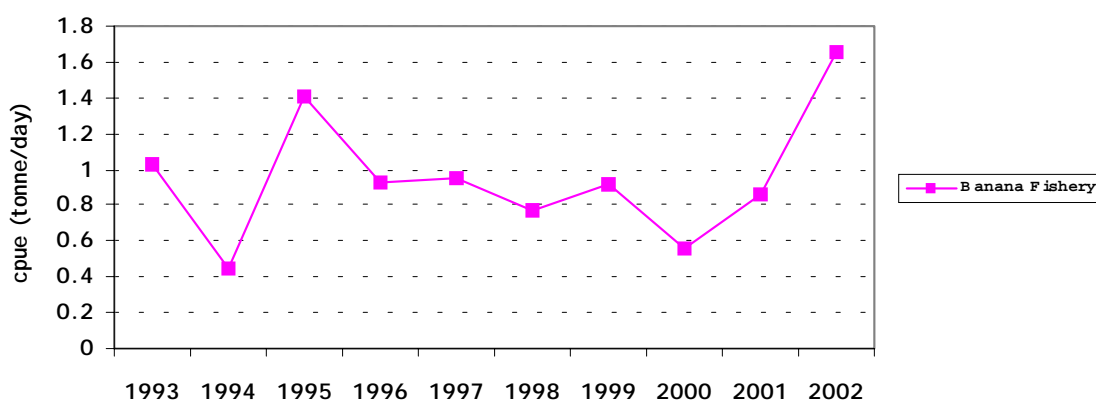


Figure 22b. Catch rate in the banana prawn fisheries in the Mitchell area between 1993 and 2002
Source: AFMA logbook data

* Please note that a chart of the catch rate in the tiger prawn fishery in the Mitchell area is not included due to the low catches of tiger prawns in the area between 1993 and 2002.



Bold

This area had the highest catch of banana prawns in the 2002 season, 1612 tonnes, slightly down (7%) from the 2001 catch of 1736 tonnes. The 2002 catch of tiger prawns was up 188% from last year to 32 tonnes (Figures 23a & 23b).

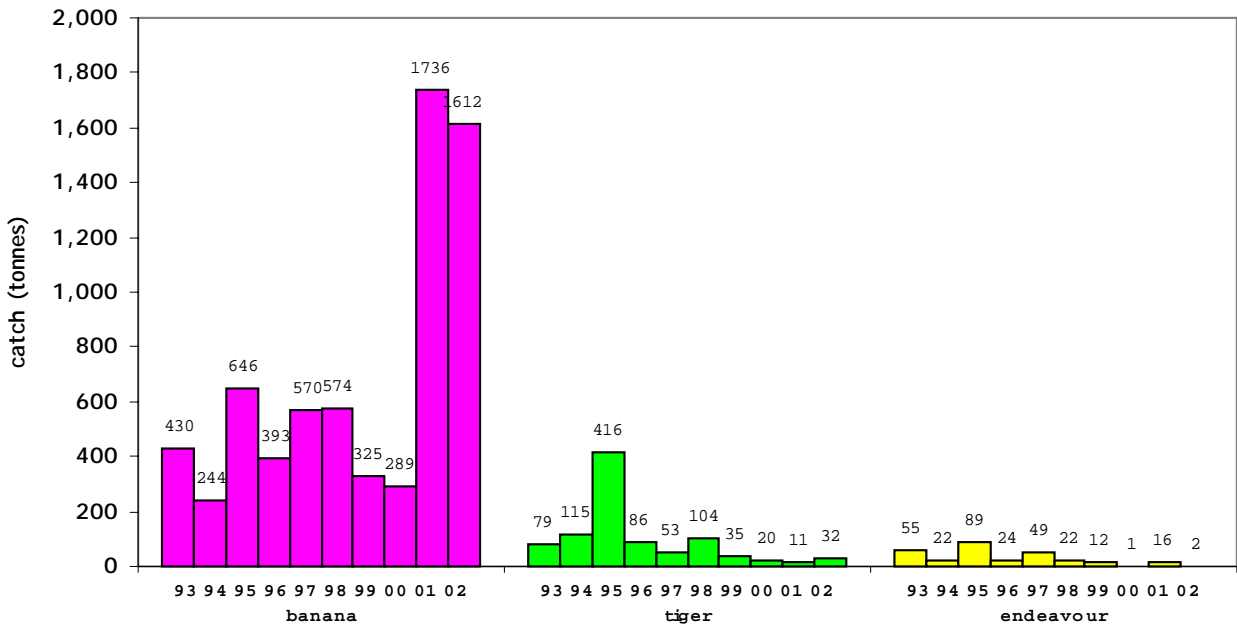


Figure 23a. Catch by species in the Bold area between 1993 and 2002

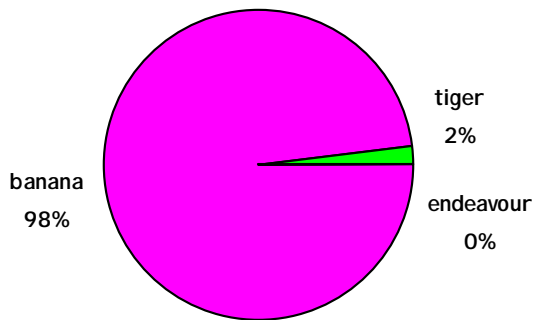


Figure 23b. Percentage catch by species in the Bold area in 2002

Source: AFMA logbook data



Banana fishery effort for the Bold area was down slightly (14%) to 788 days in 2002. Effort in the tiger fishery was up 89% to 172 days (267 days effective) (Figure 24 a-c).

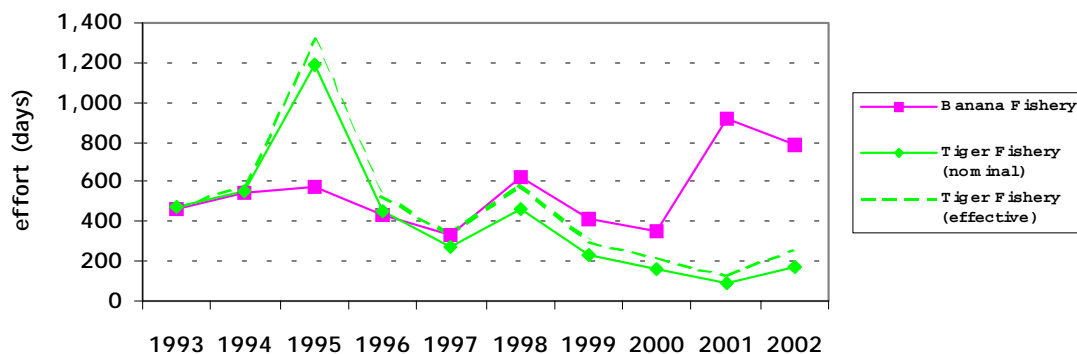


Figure 24a. Effort in the banana and tiger prawn fisheries in the Bold area between 1993 and 2002

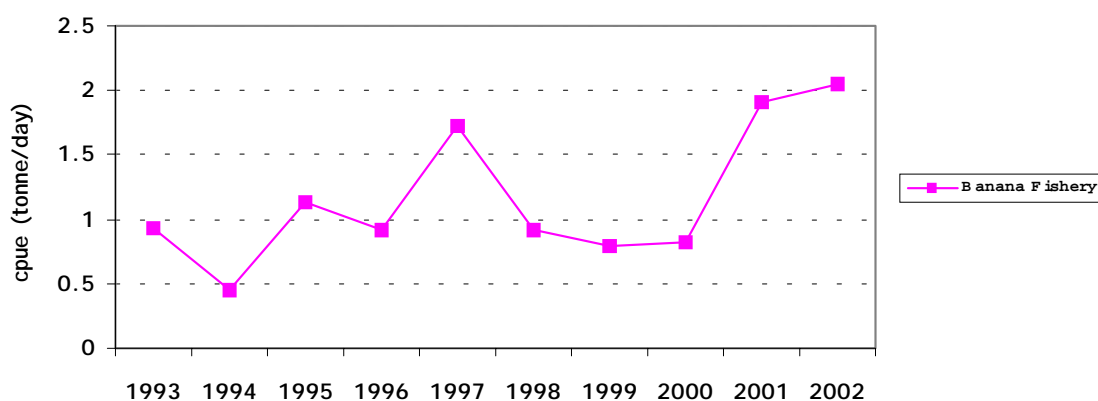


Figure 24b. Catch rate in the banana prawn fishery in the Bold area between 1993 and 2002

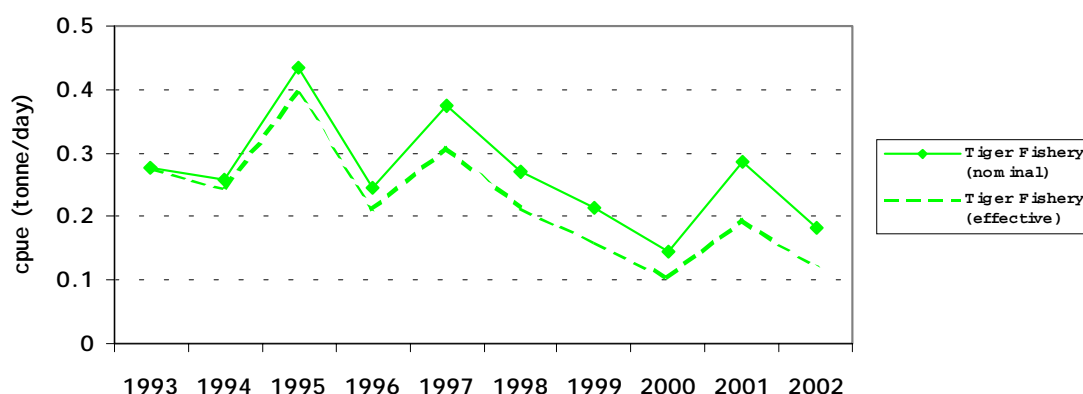


Figure 24c. Catch rate in the tiger prawn fisheries in the Bold area between 1993 and 2002

Source: AFMA logbook data



Sweers

The catch of banana prawns in the Sweers region decreased to 225 tonnes in the 2002 season, down 54%. The catches of tiger and endeavour prawns were again low. (Figures 25a & 25b).

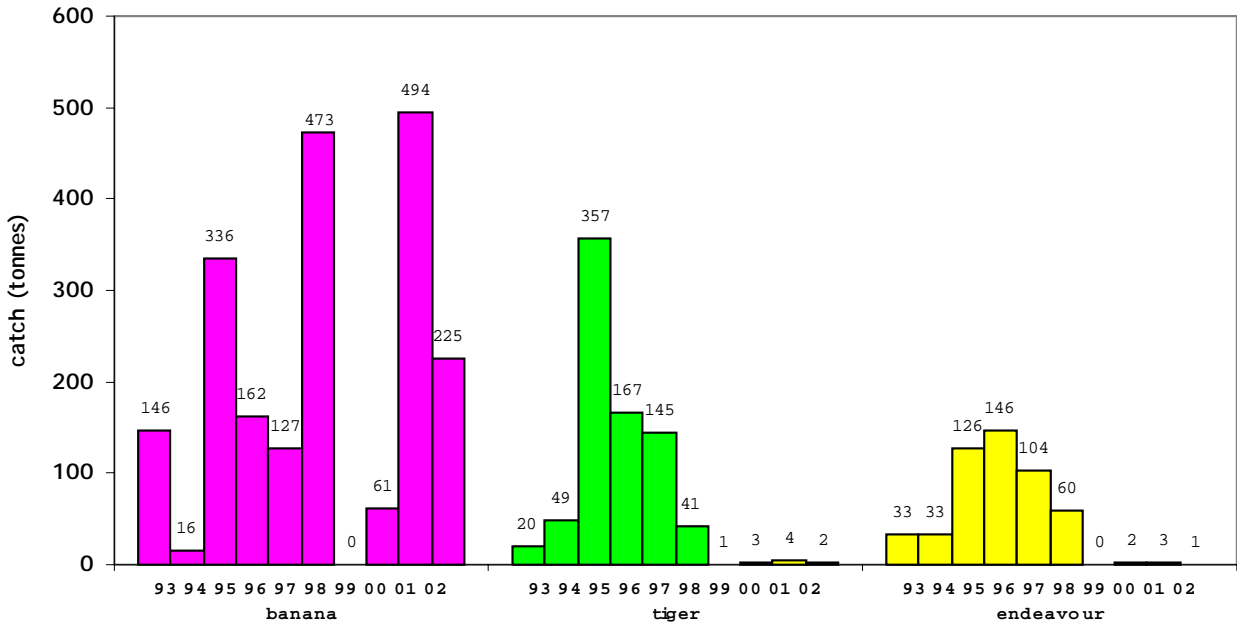


Figure 25a. Catch by species in the Sweers area between 1993 and 2002

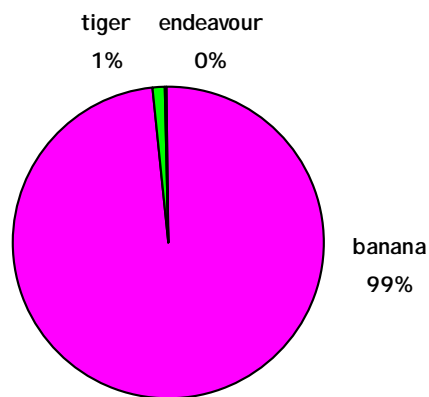


Figure 25b. Percentage catch by species in the Sweers area in 2002

Source: AFMA logbook data



Effort directed at the banana fishery in the Sweers area during the 2002 season decreased by 38% to 204 days. Effort in the tiger fishery remained low (Figure 26 a-c).

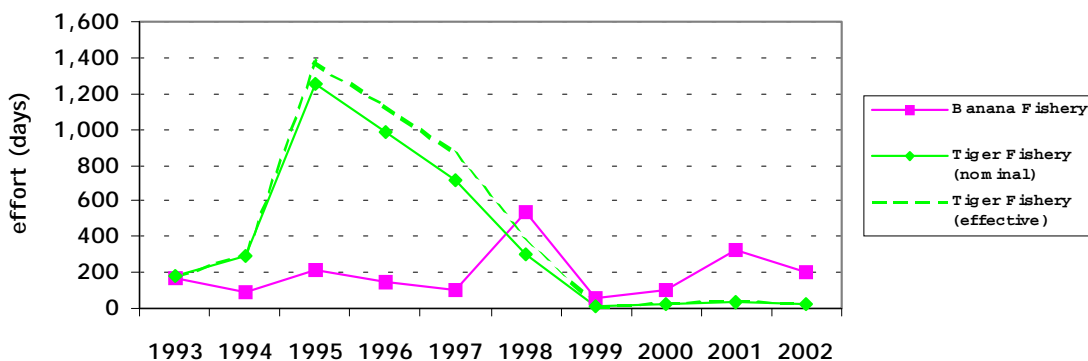


Figure 26a. Effort in the banana and tiger prawn fisheries in the Sweers area between 1993 and 2002

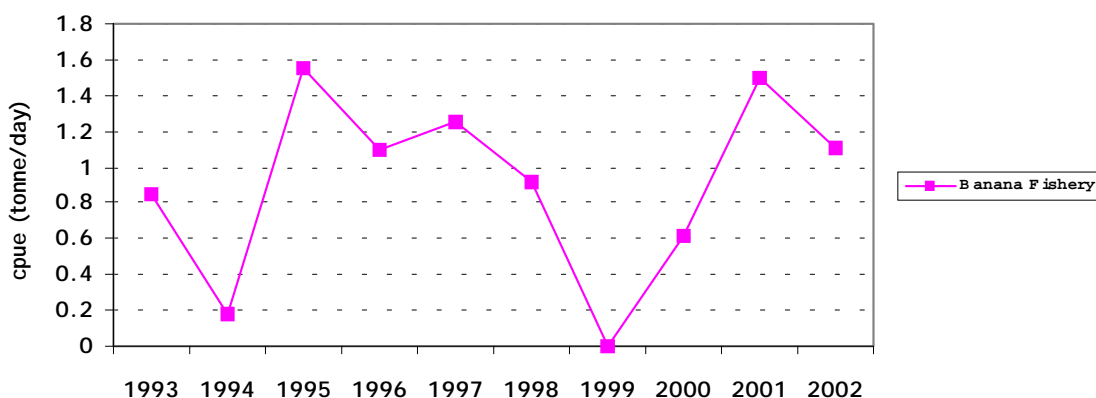


Figure 26b. Catch rate in the banana prawn fishery in the Sweers area between 1993 and 2002

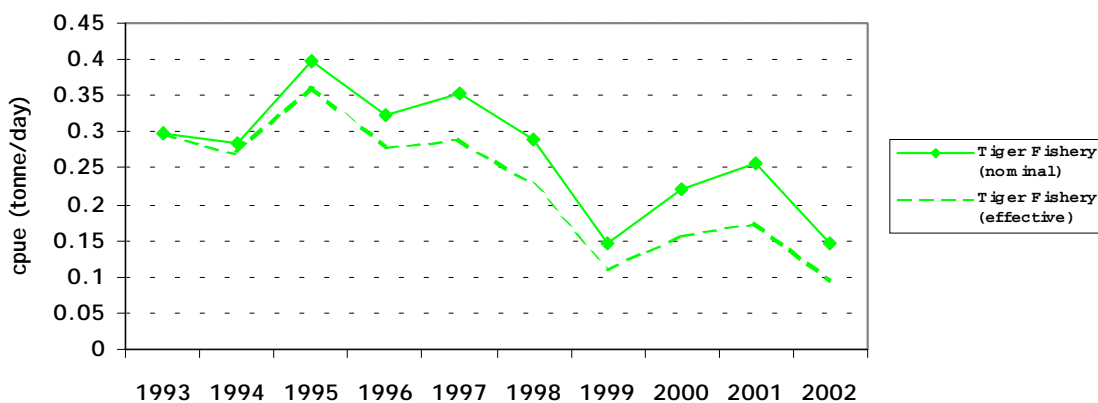


Figure 26c. Catch rate in the tiger prawn fisheries in the Sweers area between 1993 and 2002
Source: AFMA logbook data



Mornington

The 2002 banana prawn catch in the Mornington area decreased to 65 tonnes, down from last seasons catch of 928 tonnes. Catches of tiger and endeavour prawns fell in the 2002 season, down to 85 tonnes and 53 tonnes respectively (Figures 27a & 27b).

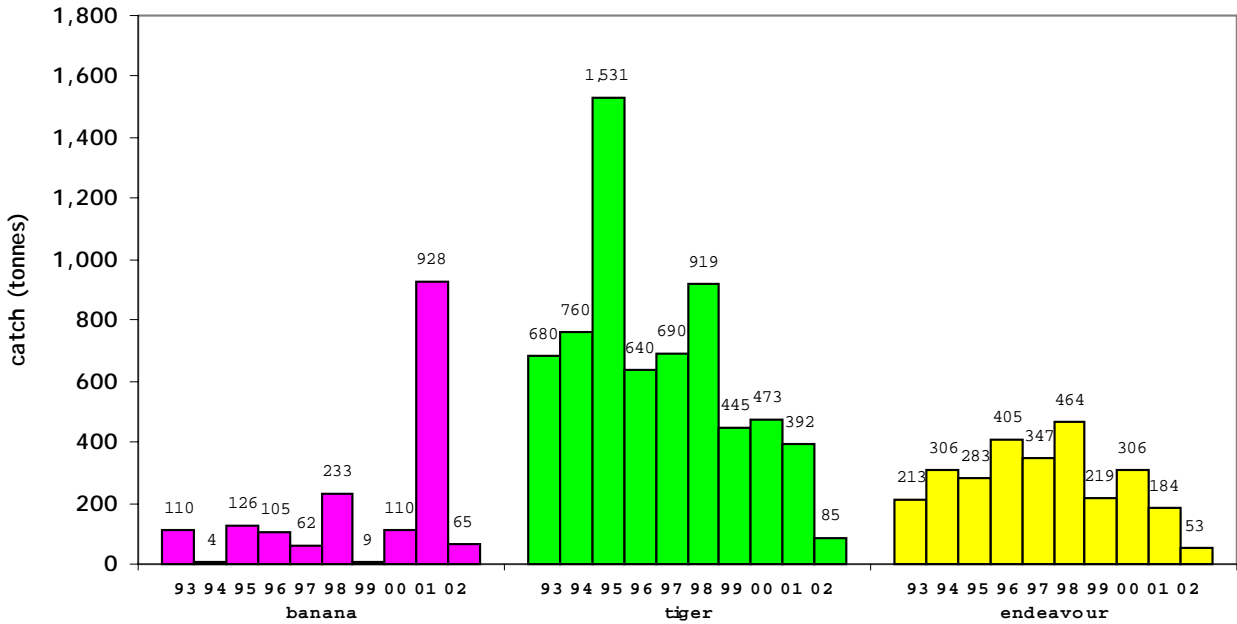


Figure 27a. Catch by species in the Mornington area between 1993 and 2002

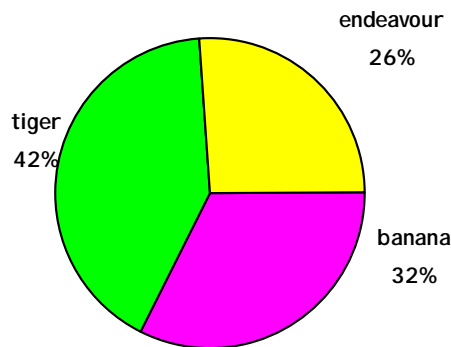


Figure 27b. Percentage catch by species in the Mornington area in 2002

Source: AFMA logbook data



Effort for the banana fishery in the Mornington area was down 79% to 177 days. Effort for the tiger fishery fell 68% to 680 days (1054 days effective) (Figure 28 a-c).

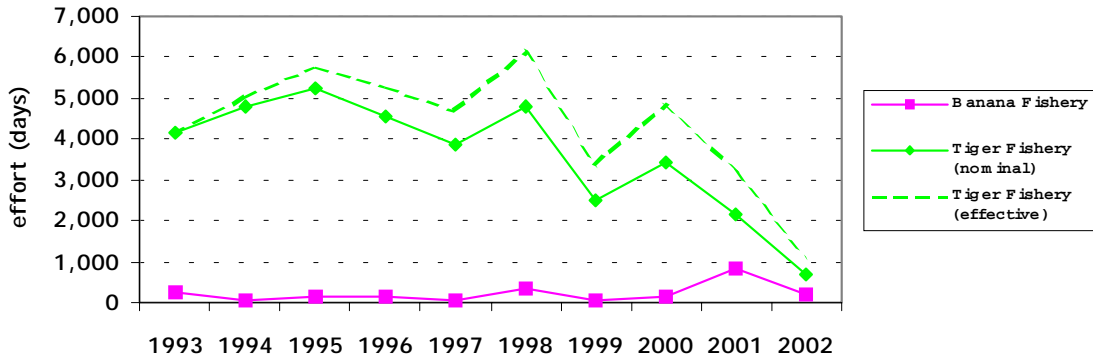


Figure 28a. Effort in the banana and tiger prawn fisheries in the Mornington area between 1993 and 2002

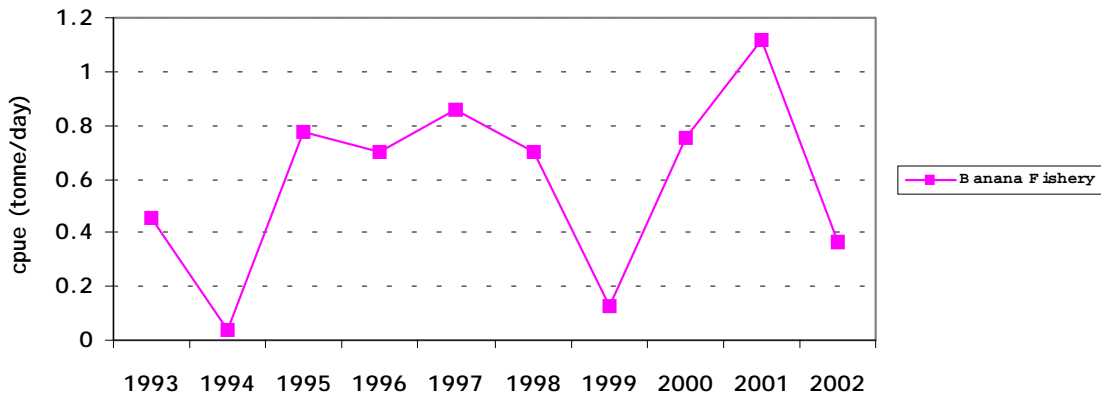


Figure 28b. Catch rate in the banana prawn fishery in the Mornington area between 1993 and 2002

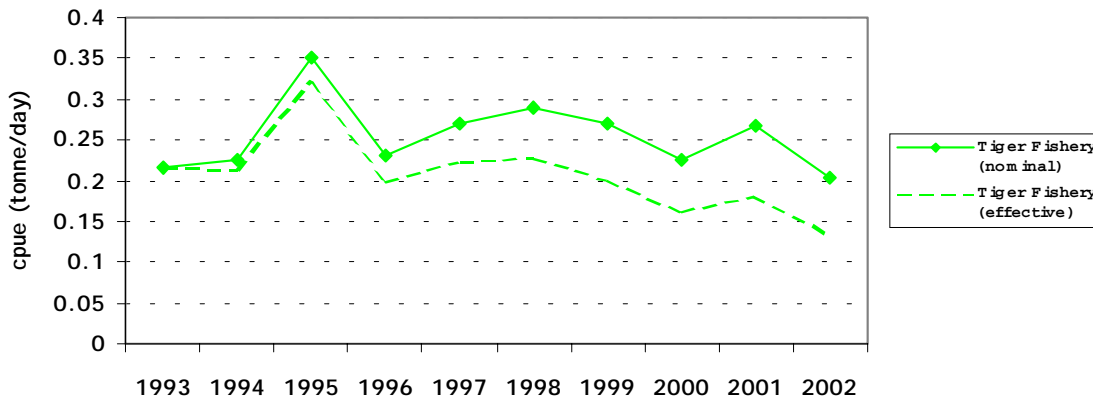


Figure 28c. Catch rate in the tiger prawn fisheries in the Mornington area between 1993 and 2002

Source: AFMA logbook data



Limmen Bight

The catch of banana prawns in the Limmen Bight area was down 99% in the 2002 season to 16 tonnes. Catches of both tiger and endeavour prawns also fell, tigers down 48% to 306 tonnes and endeavours down 71% to 73 tonnes (Figures 29a & 29b).

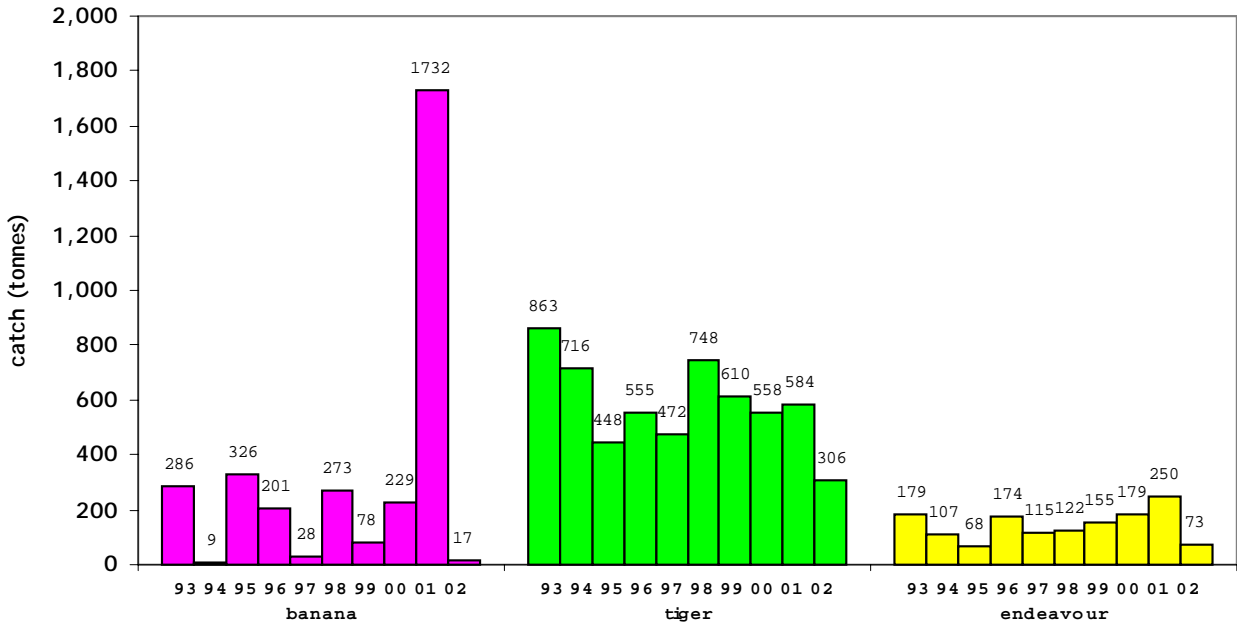


Figure 29a. Catch by species in the Limmen Bight area between 1993 and 2002

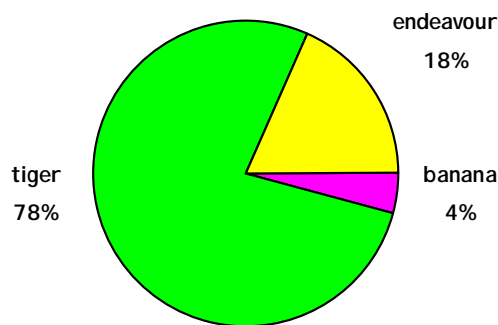


Figure 29b. Percentage catch by species in the Limmen Bight area in 2002

Source: AFMA logbook data



Effort for the banana fishery in the Limmen Bight area was down 97% to 37 days. The tiger fishery effort fell by 47% to 1373 days (2130 days effective) (Figure 30 a-c).

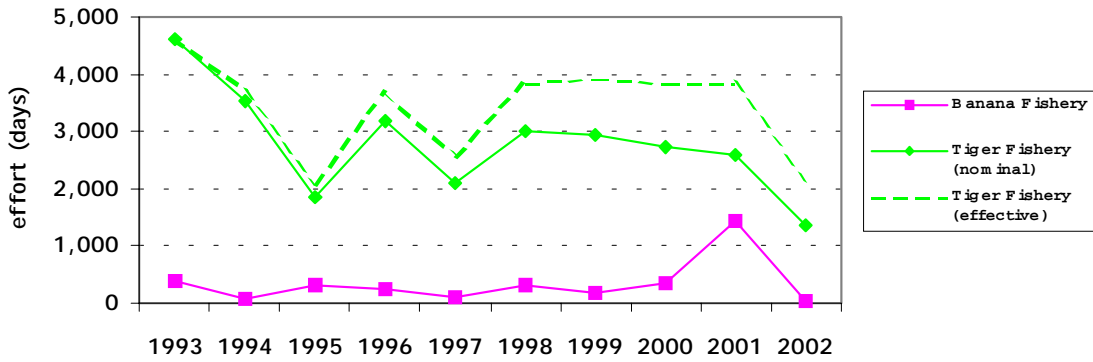


Figure 30a. Effort in the banana and tiger prawn fisheries in the Limmen Bight area between 1993 and 2002

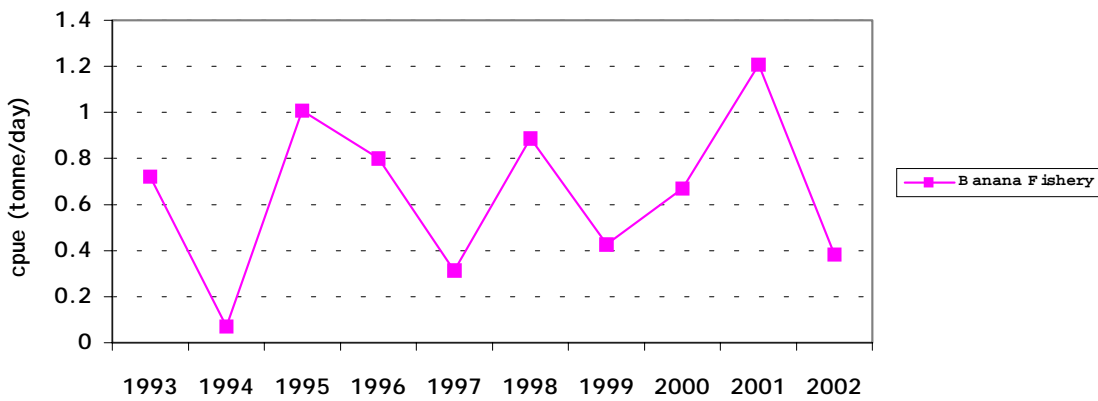


Figure 30b. Catch rate in the banana prawn fishery in the Limmen Bight area between 1993 and 2002

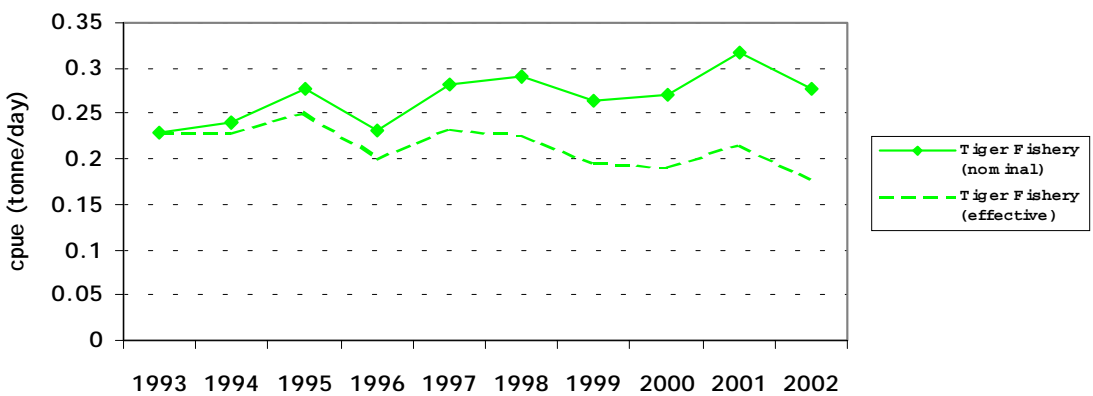


Figure 30c. Catch rate in the tiger prawn fisheries in the Limmen Bight area between 1993 and 2002

Source: AFMA logbook data



Groote

Banana prawn catches were down 92% to 30 tonnes in the Groote area in 2002. Groote had the largest catch of tiger prawns in 2002 with 1035 tonnes, up 56% from 2001. Endeavour prawn catches fell 64% to 180 tonnes (Figures 31a & 31b).

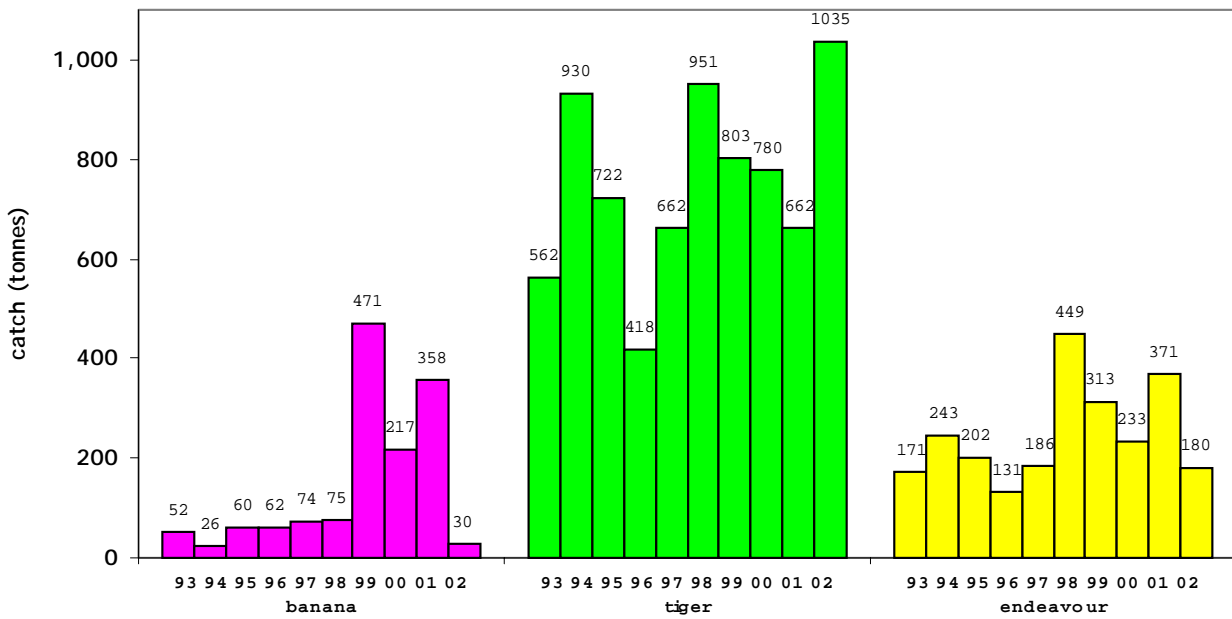


Figure 31a. Catch by species in the Groote area between 1993 and 2002

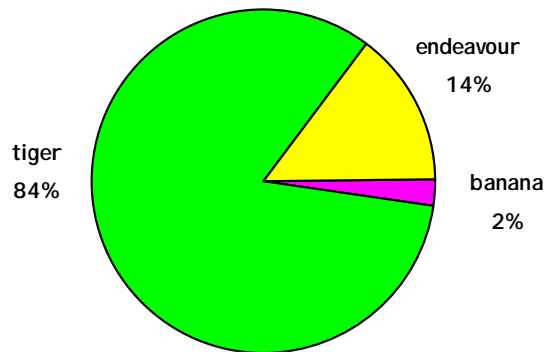


Figure 31b. Percentage catch by species in the Groote area in 2002

Source: AFMA logbook data



Effort in the banana fishery for the Groote area was down 87% to 63 days in 2002, but rose by 23% to 4152 days (6441 days effective) for the tiger fishery (Figure 32 a-c).

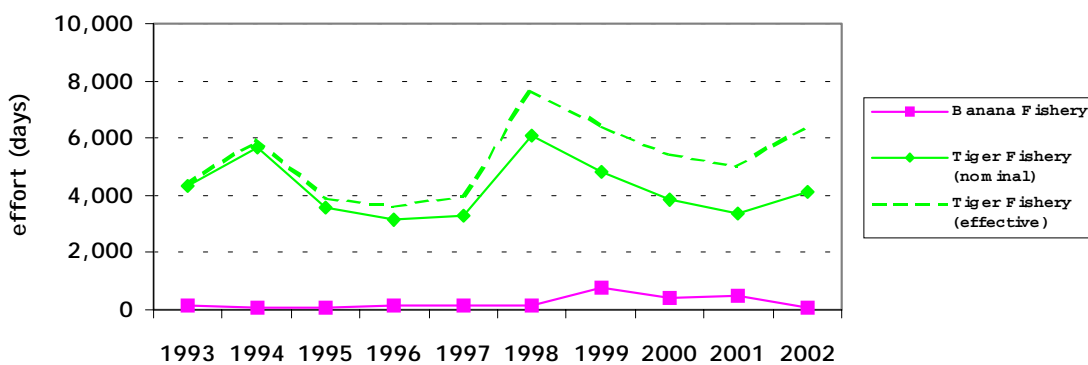


Figure 32a. Effort in the banana and tiger prawn fisheries in the Groote area between 1993 and 2002

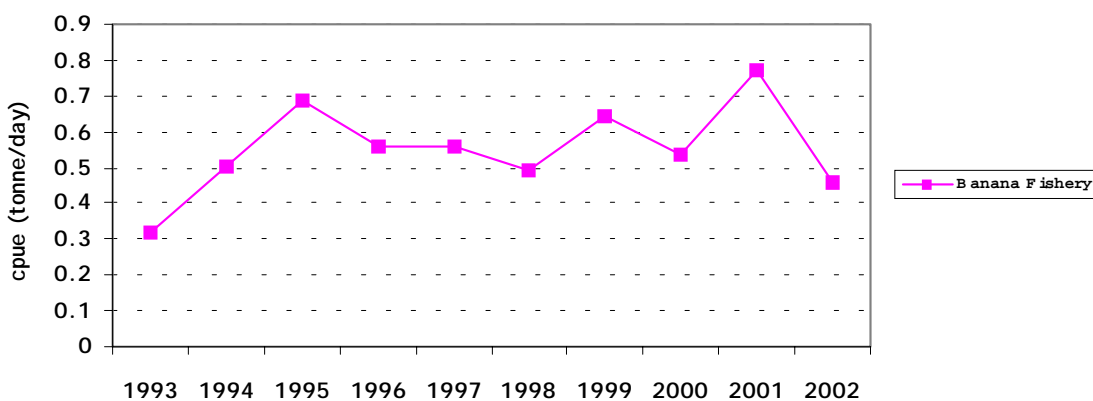


Figure 32b. Catch rate in the banana prawn fishery in the Groote area between 1993 and 2002

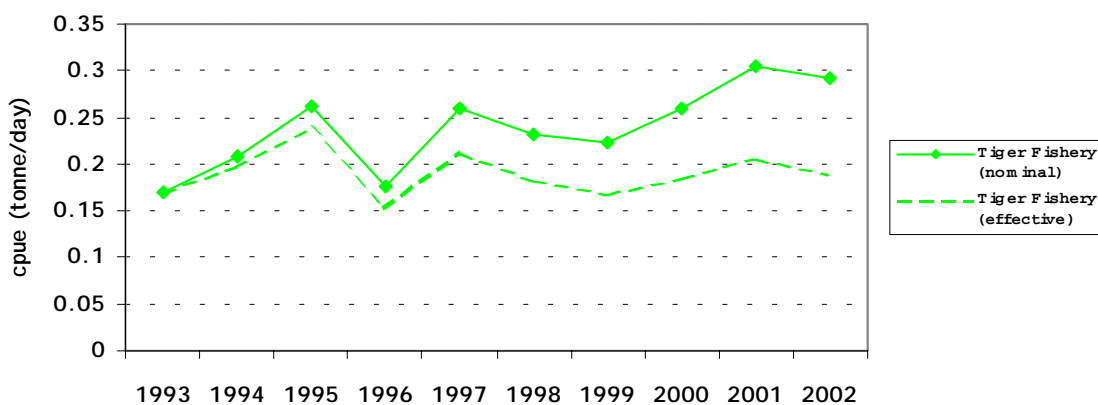


Figure 32c. Catch rate in the tiger prawn fisheries in the Groote area between 1993 and 2002

Source: AFMA logbook data



Gove

The catch of banana prawns in the 2002 season was up 109% to 77 tonnes. The catch of tiger prawns was up 80% to 322 tonnes and the catch of endeavour prawns was down 53% to 47 tonnes (Figures 33a & 33b).

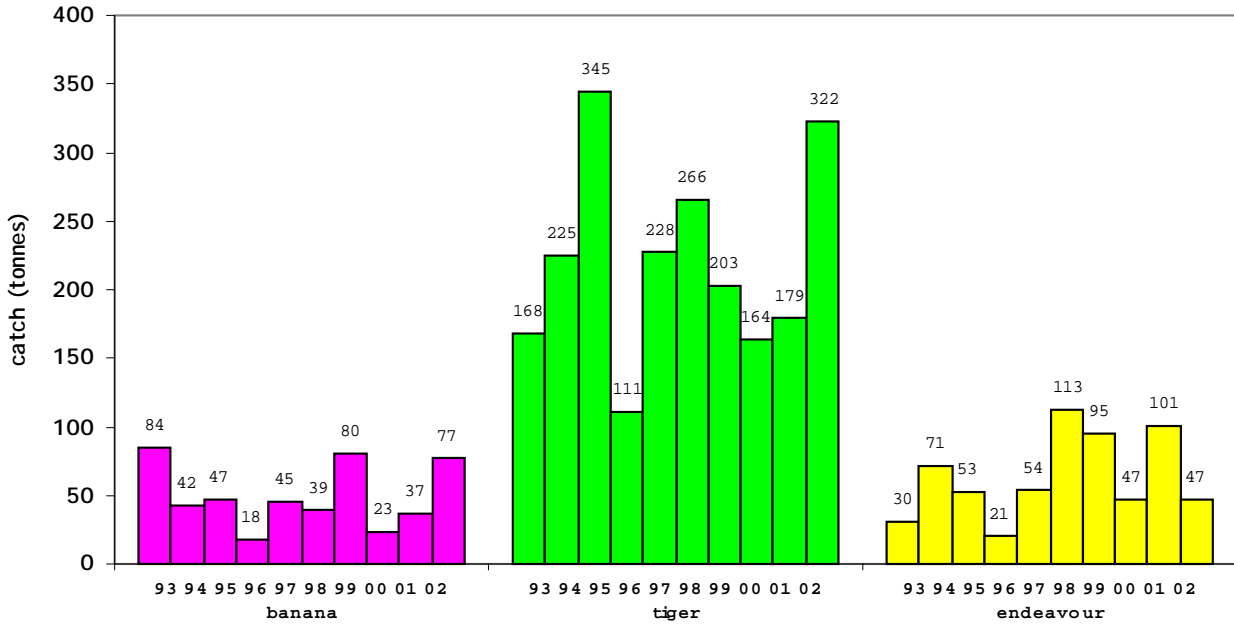


Figure 33a. Catch by species in the Gove area between 1993 and 2002

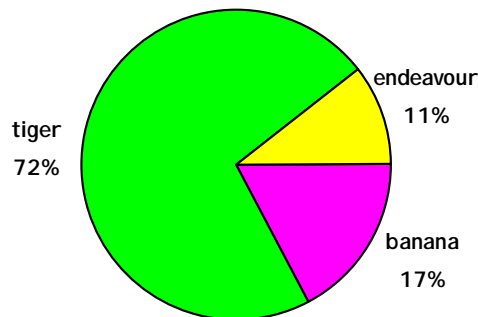


Figure 33b. Percentage catch by species in the Gove area in 2002

Source: AFMA logbook data



Effort for the Gove area was up 20% to 119 days for the banana fishery and up 57% to 1426 days (2212 days effective) for the tiger fishery (Figure 34 a-c).

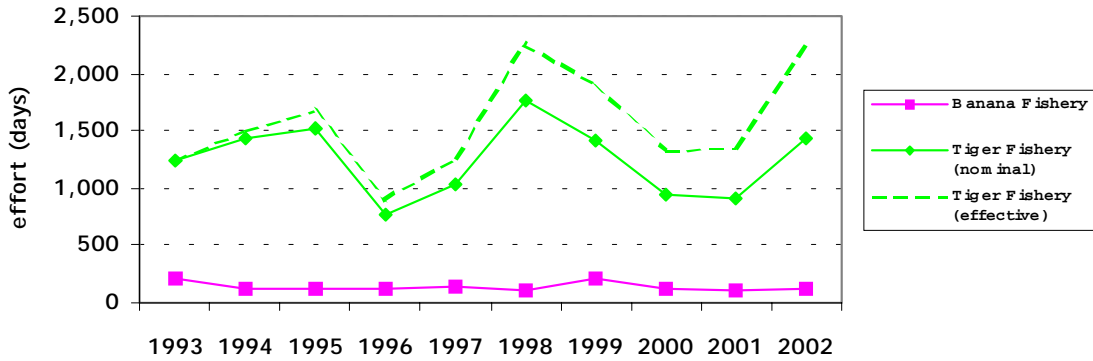


Figure 34a. Effort in the banana and tiger prawn fisheries in the Gove area between 1993 and 2002

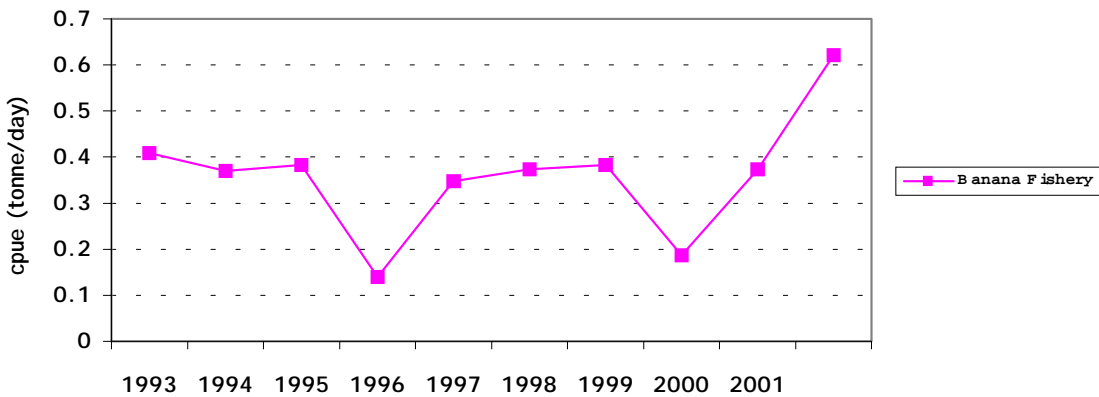


Figure 34b. Catch rate in the banana prawn fishery in the Gove area between 1993 and 2002

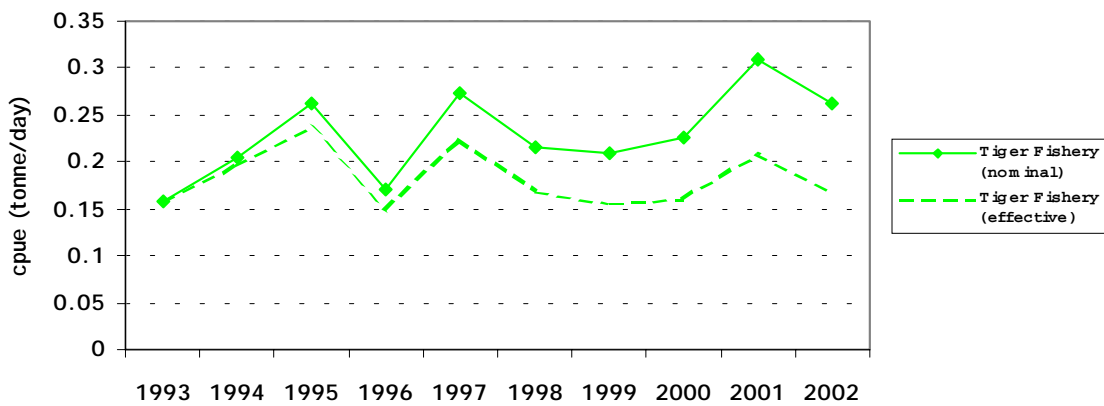


Figure 34c. Catch rate in the tiger prawn fisheries in the Gove area between 1993 and 2002

Source: AFMA logbook data



Arnhem

The catch of banana prawns fell by 49% to 64 tonnes in the 2002 season and the catch of tiger prawns increased 78% to 57 tonnes. The catch of endeavour prawns stayed low at 1 tonne (Figures 35a & 35b).

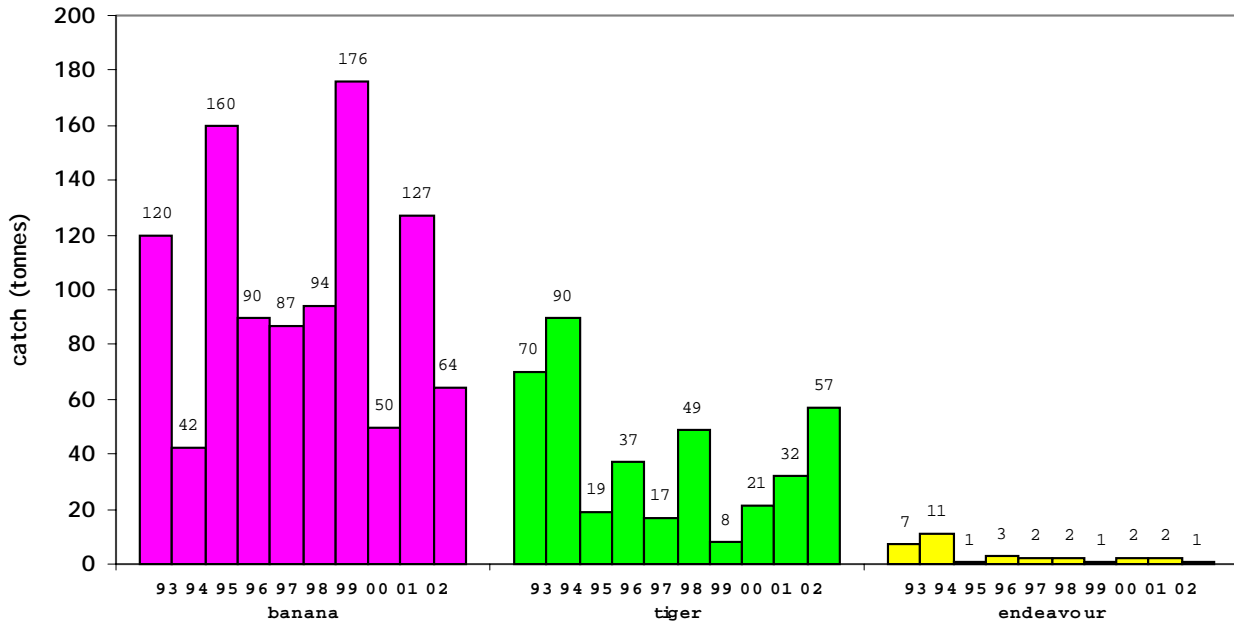


Figure 35a. Catch by species in the Arnhem area between 1993 and 2002

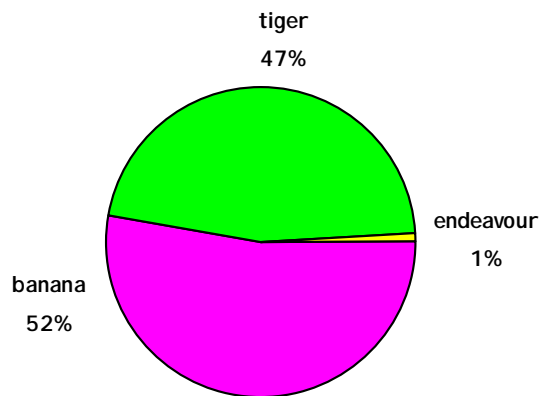


Figure 35b. Percentage catch by species in the Arnhem area in 2002

Source: AFMA logbook data



Effort for the Arnhem area increased by 9% to 147 days for the banana fishery and increased 36% to 193 days (299 days effective) for the tiger fishery (Figure 36 a-c).

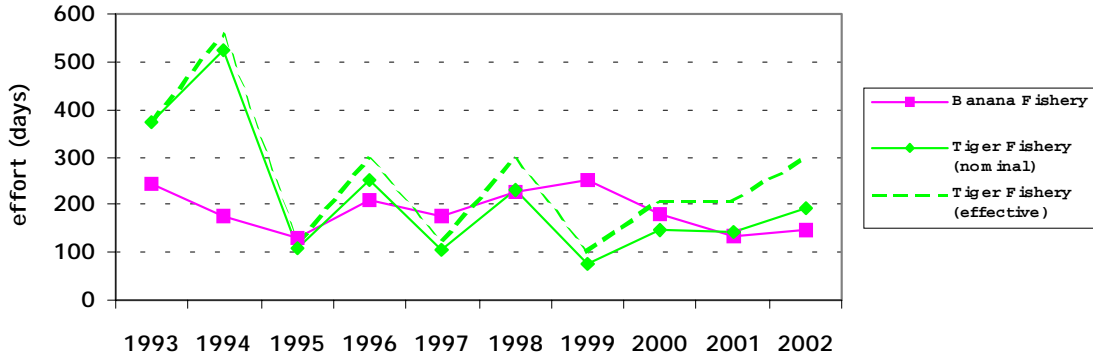


Figure 36a. Effort in the banana and tiger prawn fisheries in the Arnhem area between 1993 and 2002

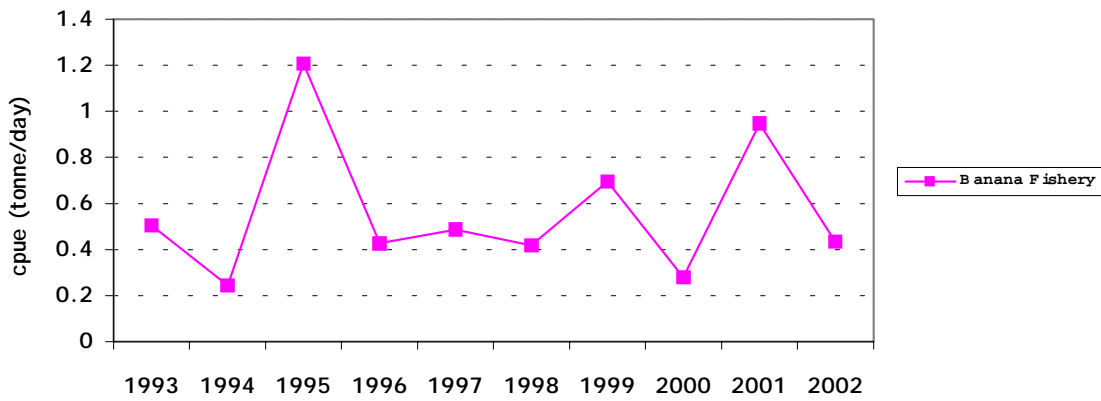


Figure 36b. Catch rate in the banana prawn fishery in the Arnhem area between 1993 and 2002

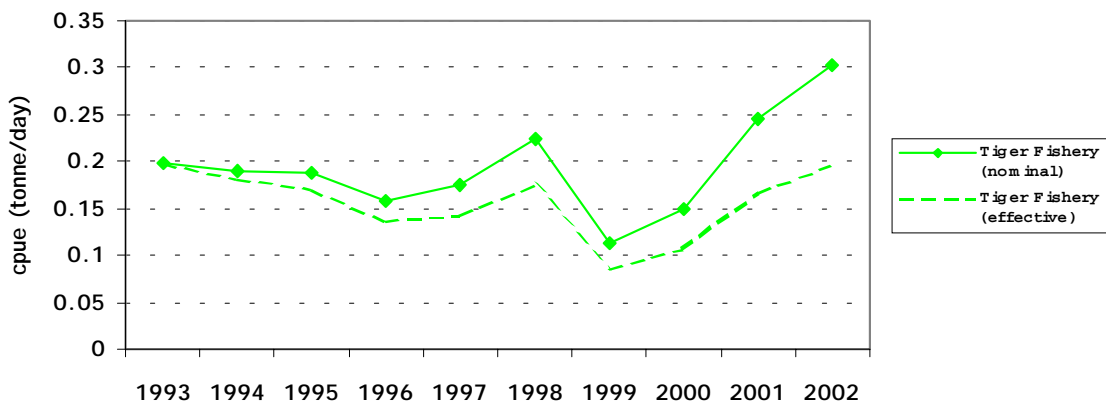


Figure 36c. Catch rate in the tiger prawn fisheries in the Arnhem area between 1993 and 2002

Source: AFMA logbook data



Port Essington

Catches of banana prawns decreased in the Port Essington area in the 2002 season by 24% to 213 tonnes. The catch of tiger prawns increased by 37% to 86 tonnes, and endeavour prawns were down by 82% to 25 tonnes (Figures 37a & 37b).

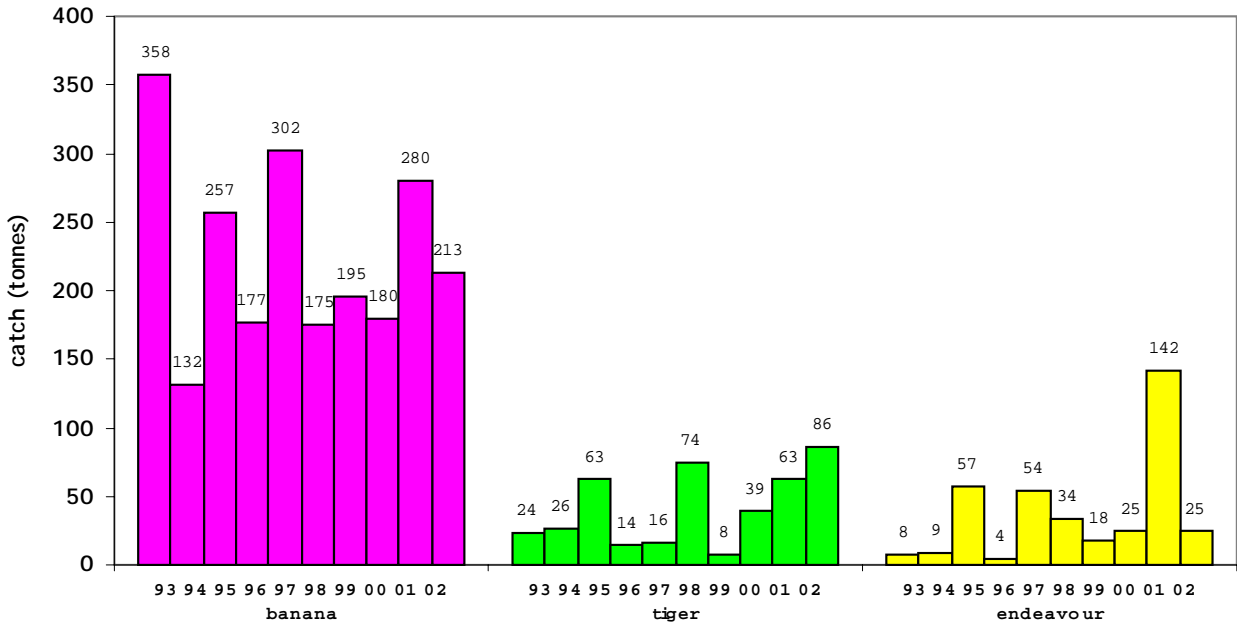


Figure 37a. Catch by species in the Port Essington area between 1993 and 2002

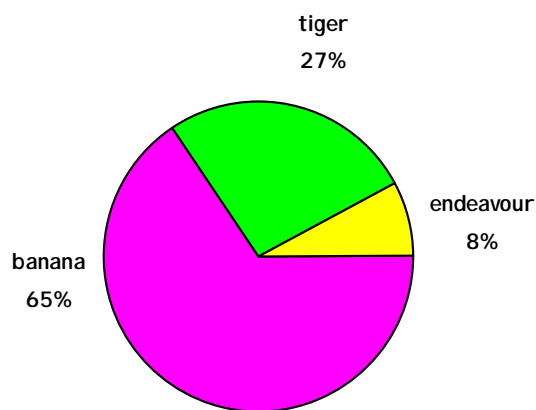


Figure 37b. Percentage catch by species in the Port Essington area in 2002

Source: AFMA logbook data



Effort for the Port Essington area decreased for both fisheries. Effort in the banana fishery was down slightly by 2% to 339 days, while the tiger fishery was down 31% to 273 days (424 days effective) (Figure 38 a-c).

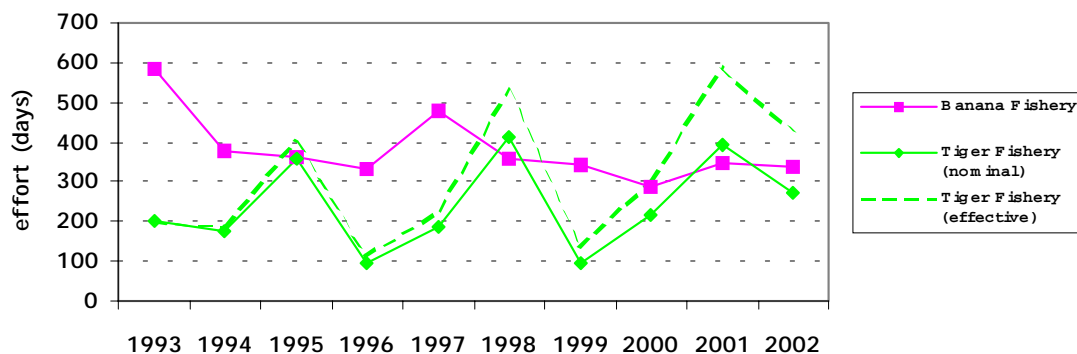


Figure 38a. Effort in the banana and tiger prawn fisheries in the Port Essington area between 1993 and 2002

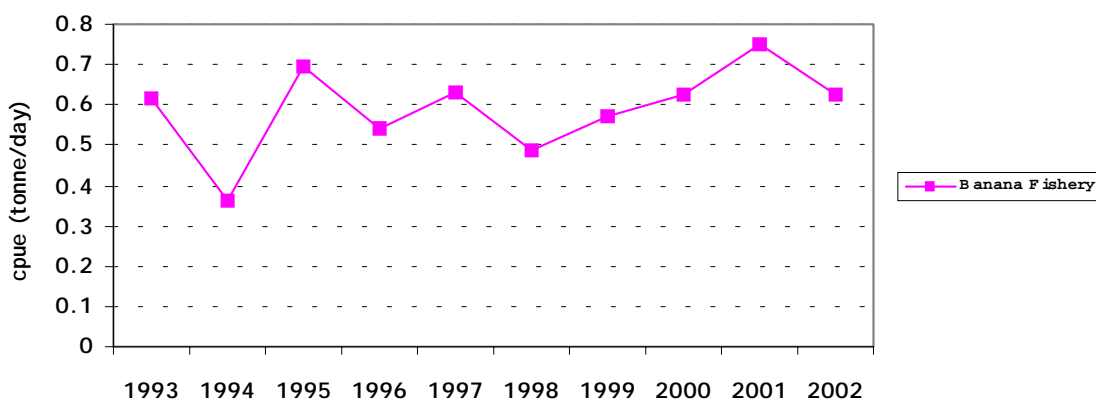


Figure 38b. Catch rate in the banana prawn fishery in the Port Essington area between 1993 and 2002

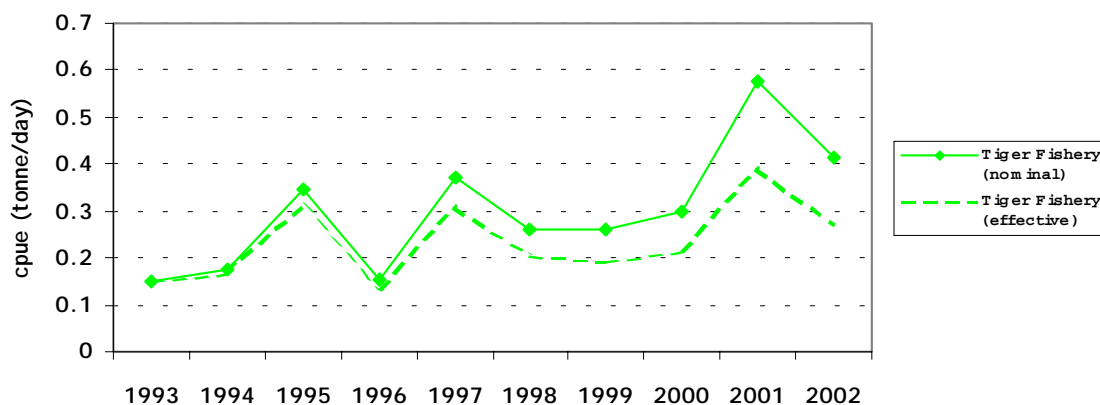


Figure 38c. Catch rate in the tiger prawn fisheries in the Port Essington area between 1993 and 2002

Source: AFMA logbook data



Melville

The banana prawn catch in the Melville area decreased by 19% to 286 tonnes. Catches of tiger and endeavour prawns remained low, though tiger prawns increased to 29 tonnes from 5 tonnes in 2001, and endeavour prawns stayed at 18 tonnes (Figures 39a & 39b).

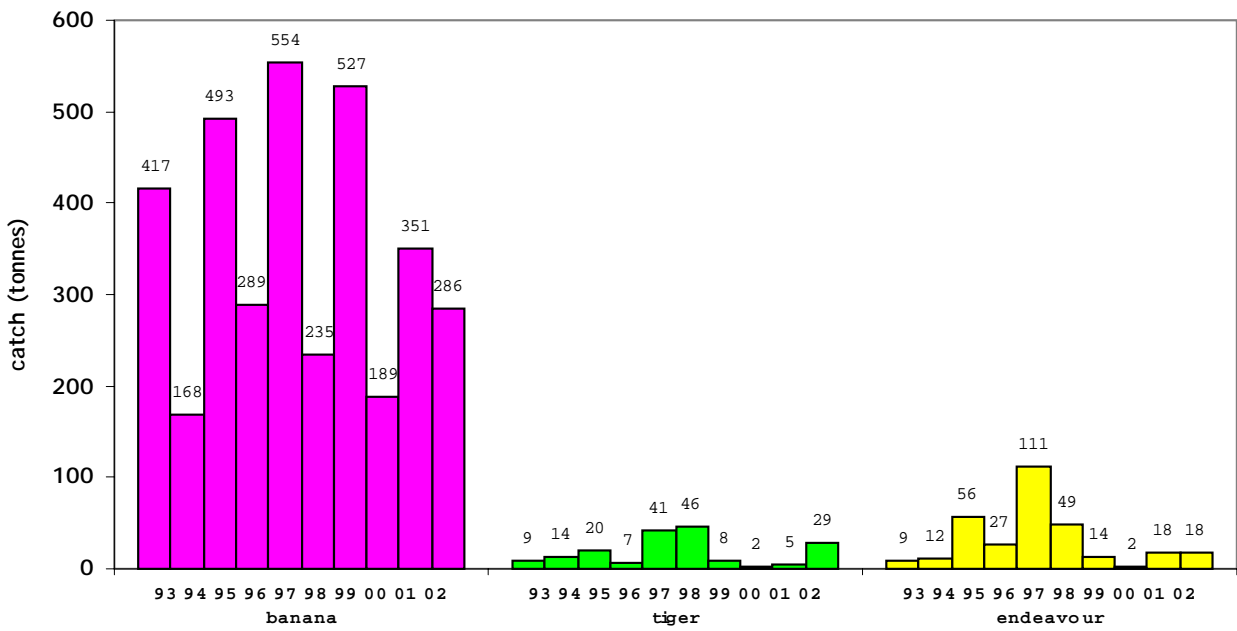


Figure 39a. Catch by species in the Melville area between 1993 and 2002

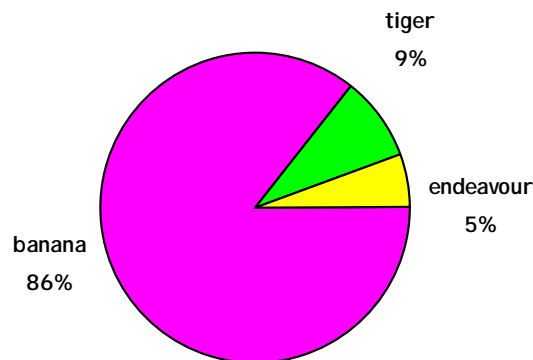


Figure 39b. Percentage catch by species in the Melville area in 2002

Source: AFMA logbook data



Effort for the Melville area in the banana fishery was up 7% to 468 days during 2002. Effort in the tiger fishery was up 87% to 118 days effort (183 days effective) (Figure 40 a-c).

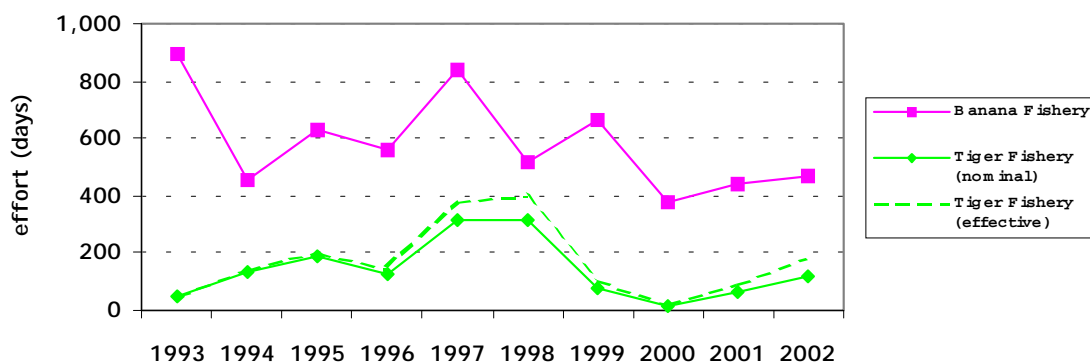


Figure 40a. Effort in the banana and tiger prawn fisheries in the Melville area between 1993 and 2002

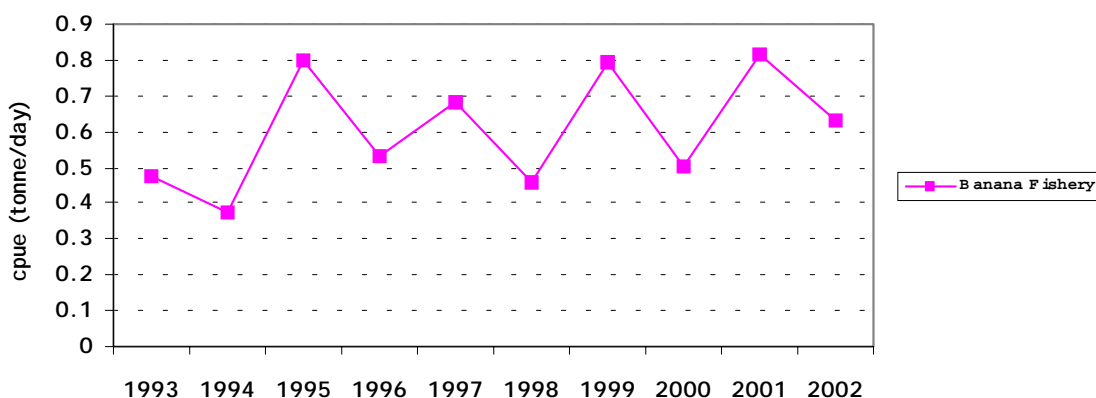


Figure 40b. Catch rate in the banana prawn fishery in the Melville area between 1993 and 2002

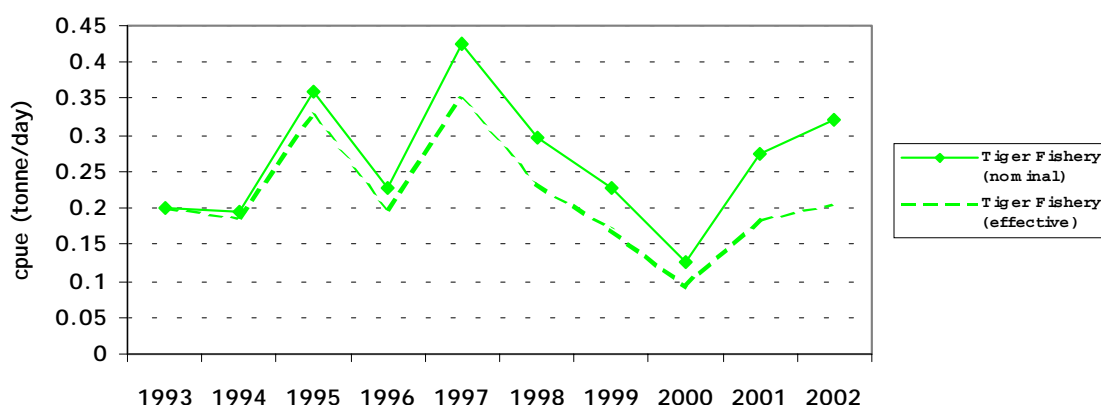


Figure 40c. Catch rate in the tiger prawn fisheries in the Melville area between 1993 and 2002

Source: AFMA logbook data



Fog Bay

The banana prawn catch in the Fog Bay area decreased 32% to 208 tonnes in 2002. Catches of tiger and endeavour prawns remained very low (Figures 41a & 41b).

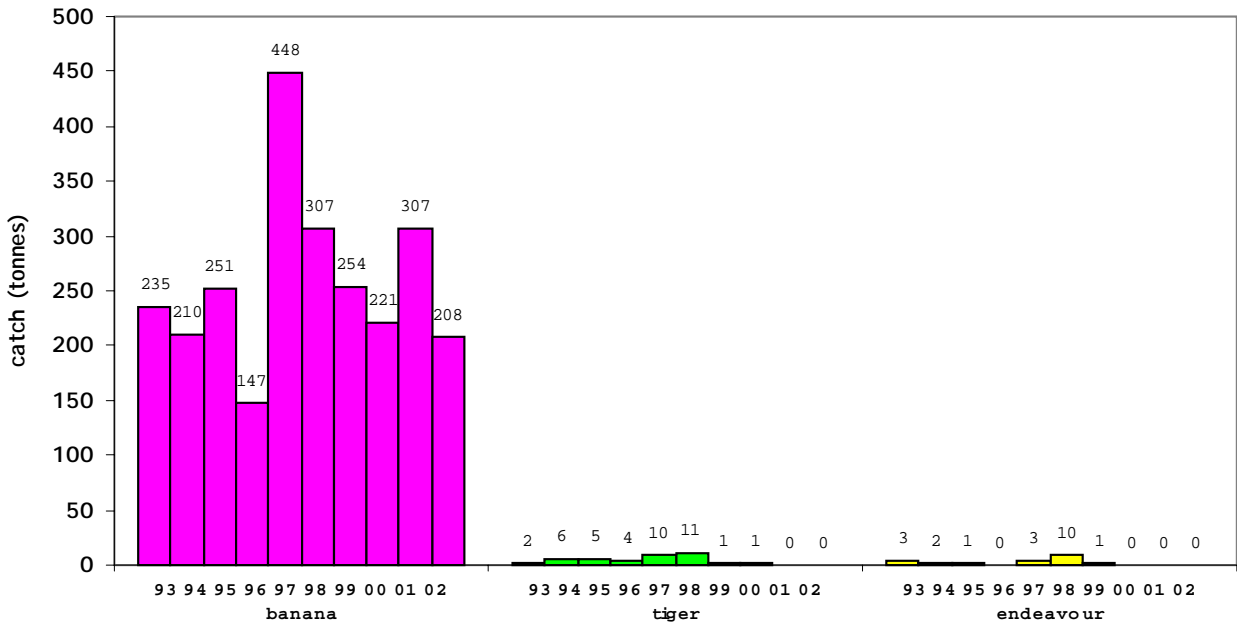


Figure 41a. Catch by species in the Fog Bay area between 1993 and 2002

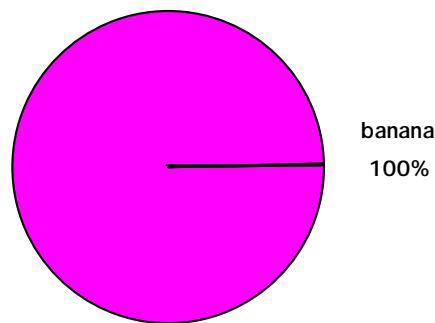


Figure 41b. Percentage catch by species in the Fog Bay area in 2002

Source: AFMA logbook data



Effort for the banana fishery in the Fog Bay area during 2002 was slightly higher than last year, up 9% to 295 days. Effort for the tiger fishery was very low (Figure 42 a-b).

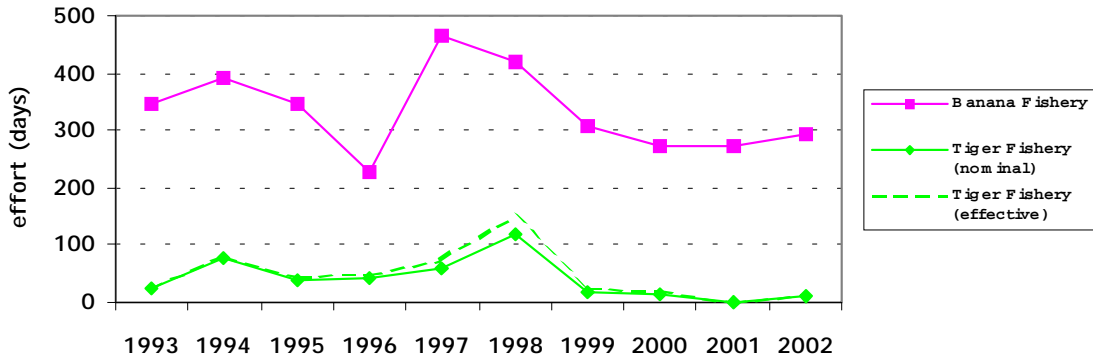


Figure 42a. Effort in the banana and tiger prawn fisheries in the Fog Bay area between 1993 and 2002

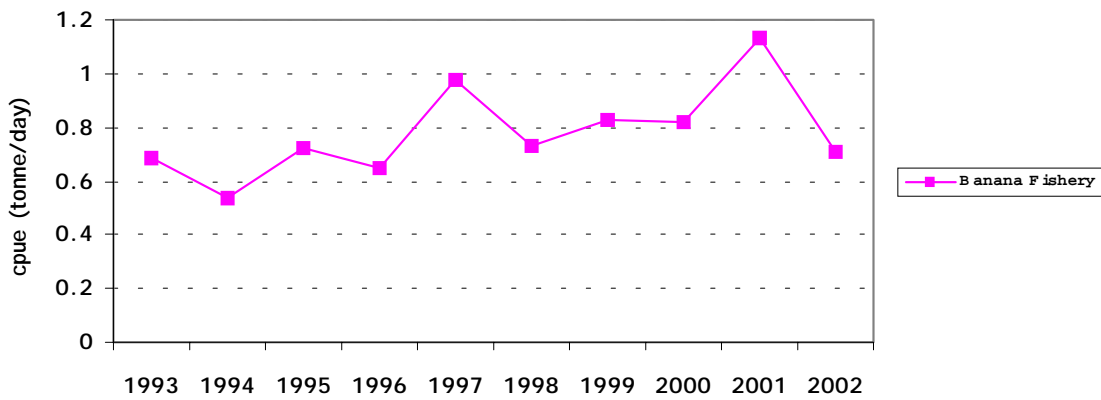


Figure 42b. Catch rate in the banana prawn fishery in the Fog Bay area between 1993 and 2002

Source: AFMA logbook data

* Please note that a chart of the catch rate in the tiger prawn fishery in the Fog Bay area is not included due to the low catches of tiger prawns in the area between 1993 and 2002.



Bonaparte

The banana prawn catch in the Bonaparte area increased by 49% to 435 tonnes in the 2002 season. Catches of tiger prawns were up slightly to 28 tonnes, while endeavour prawns were down to 10 tonnes (Figures 43a & 43b).

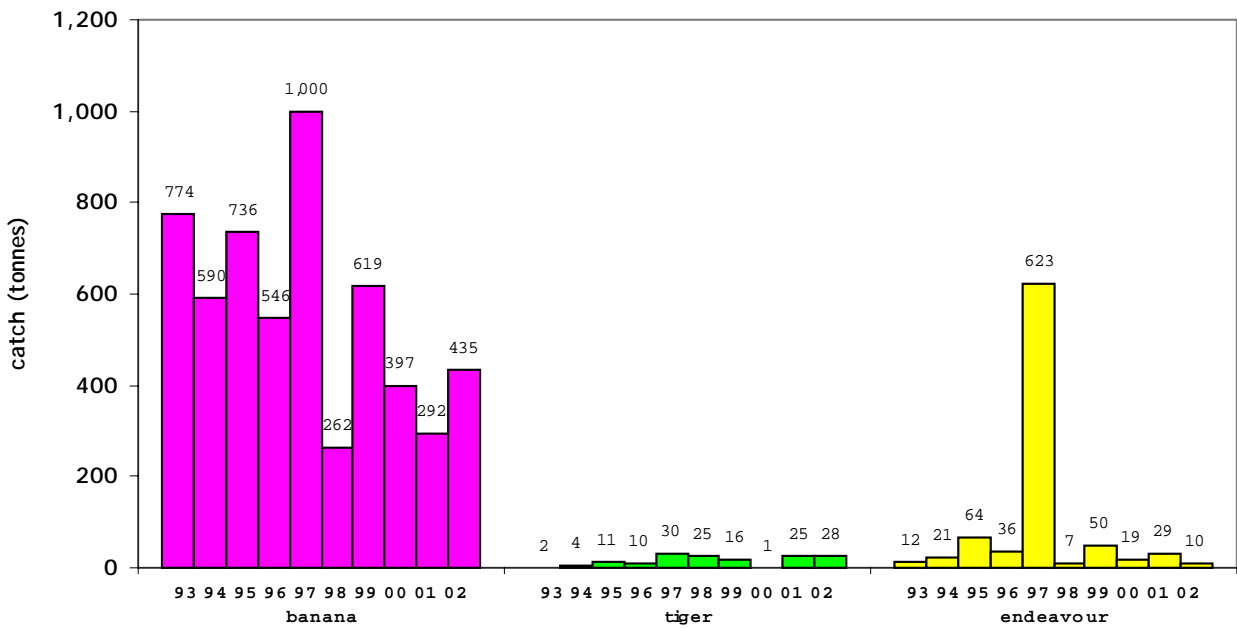


Figure 43a. Catch by species in the Bonaparte area between 1993 and 2002

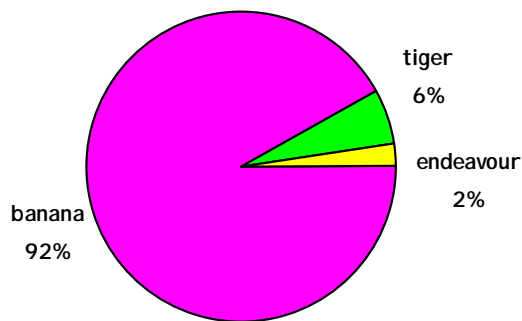


Figure 43b. Percentage catch by species in the Bonaparte area in 2002

Source: AFMA logbook data



Effort for the Bonaparte area was up 70% to 610 days for the banana fishery. The effort for the tiger fishery decreased to 164 days (254 days effective) (Figure 44 a-c).

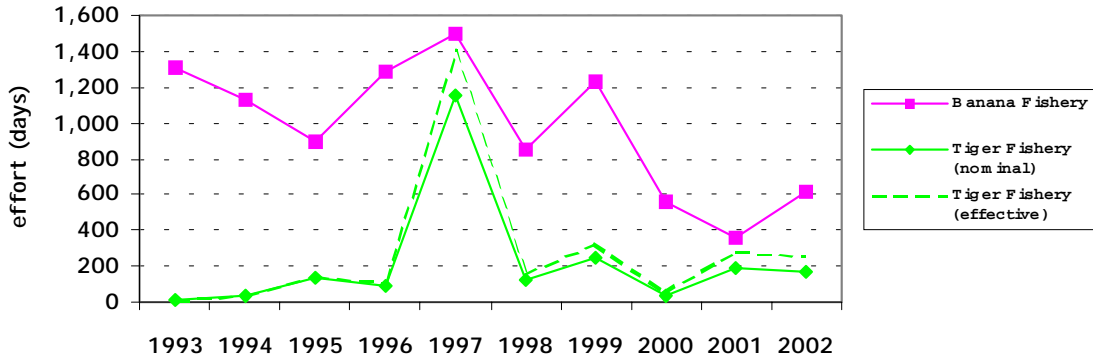


Figure 44a. Effort in the banana and tiger prawn fisheries in the Bonaparte area between 1993 and 2002

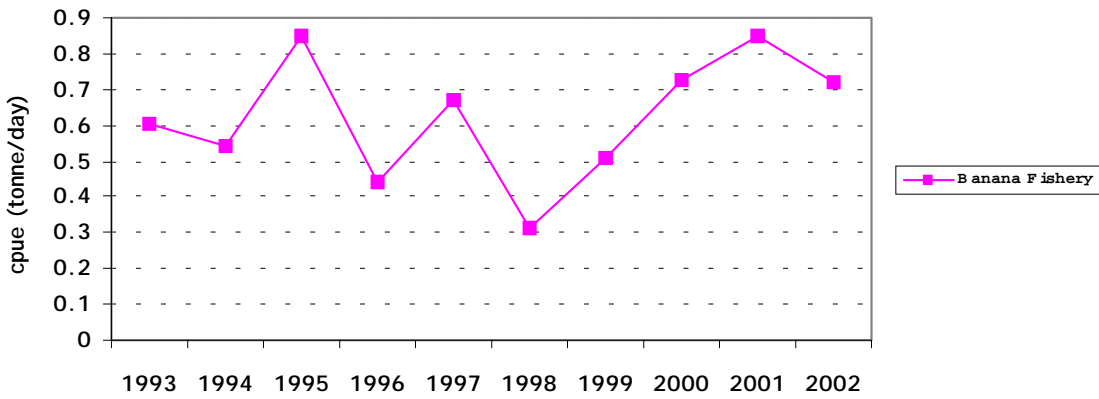


Figure 44b. Catch rate in the banana prawn fishery in the Bonaparte area between 1993 and 2002

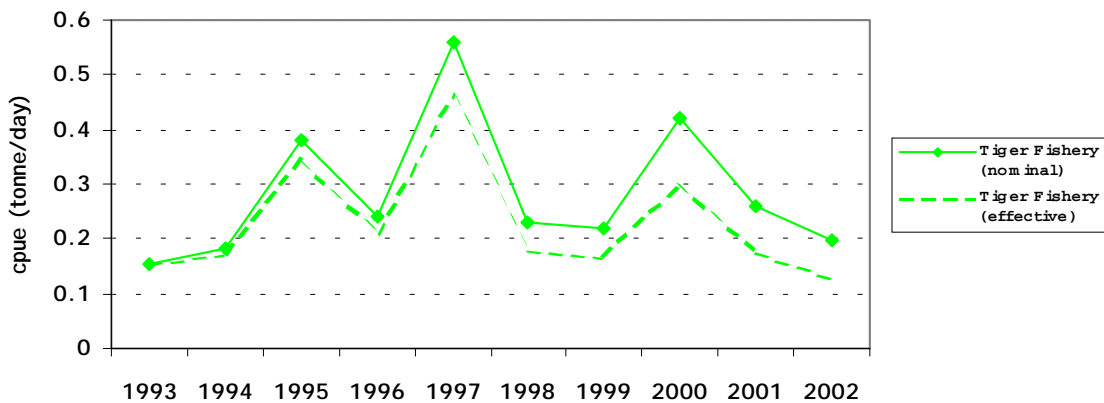


Figure 44c. Catch rate in the tiger prawn fisheries in the Bonaparte area between 1993 and 2002
Source: AFMA logbook data



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. Catch by species is shown in Figure 46. Catches were significantly lower than in 2000 and 2001 (Table 6).

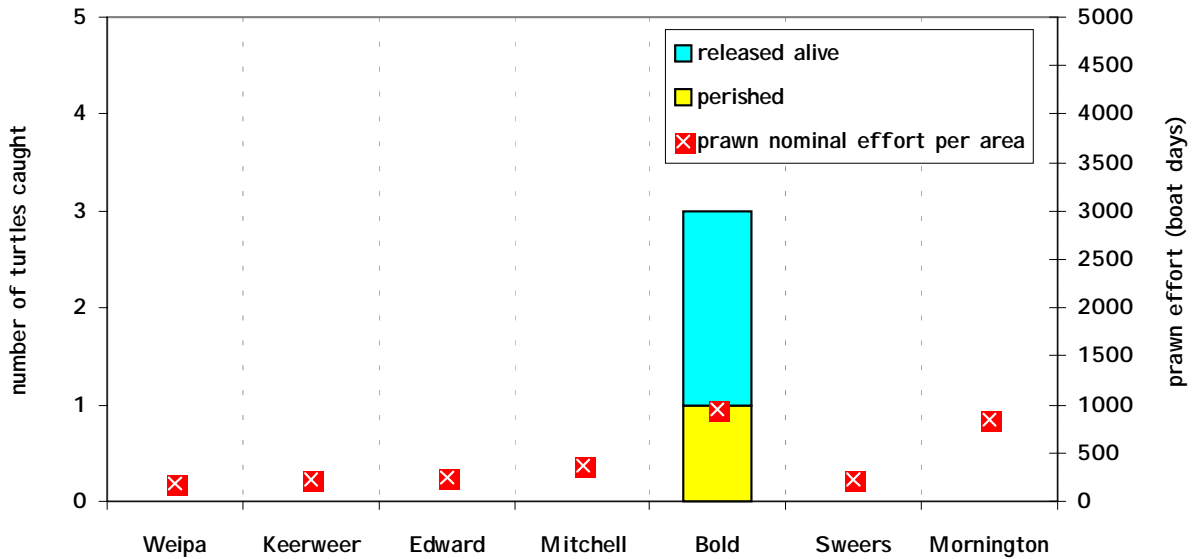


Figure 45a. Turtle Bycatch in the Northern Prawn Fishery by Statistical Area (Weipa - Mornington) in 2002.

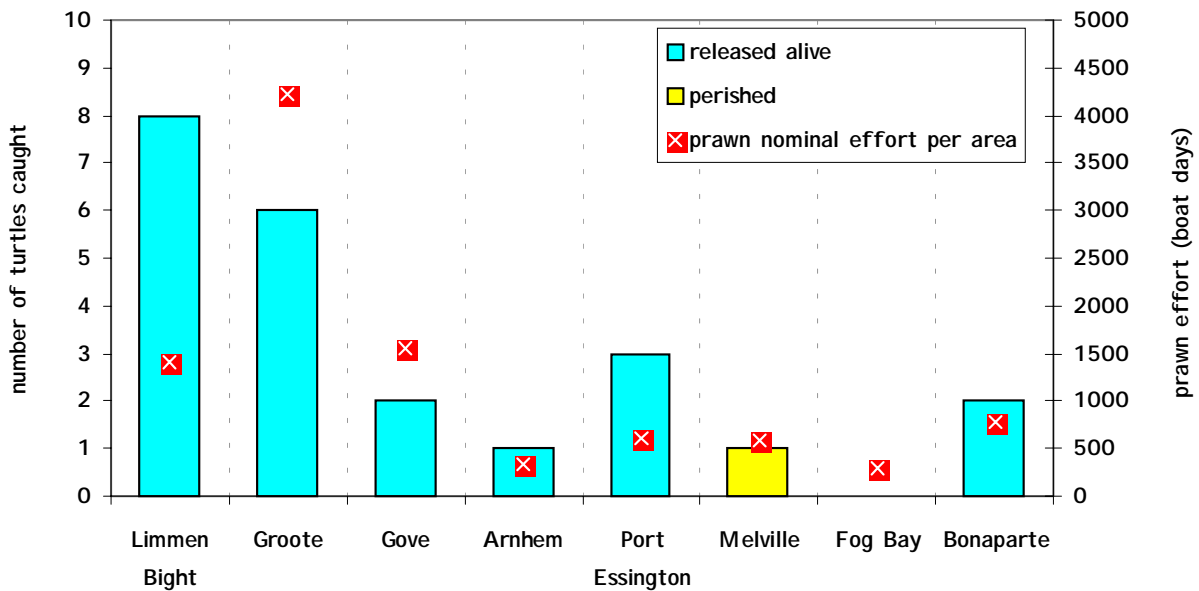


Figure 45b. Turtle Bycatch in the Northern Prawn Fishing by Statistical Area (Limmen - Bonaparte) in 2002.

Source: AFMA logbook data



Table 6. Turtle Bycatch by Species in each Statistical Area, 2000-2002.

Source: AFMA logbook data

Statistical Area	Turtle Species	Released Alive			Perished			Condition Unknown		
		00	01	02	00	01	02	00	01	02
WEIPA	<i>Flatback</i>		2							
	<i>Green</i>	1	7							
	<i>Loggerhead</i>		1							
	<i>Pacific Ridley</i>	4	6							
KEERWEER	<i>unidentified species</i>	2							1	
EDWARD	<i>Unidentified species</i>									
MITCHELL	<i>Flatback</i>	1							1	
	<i>Green</i>		1							
	<i>Loggerhead</i>		1							
	<i>Pacific Ridley</i>	3			1					
BOLD	<i>unidentified species</i>	1							2	
	<i>Flatback</i>	2	7	1		1				
	<i>Green</i>	1	2							
	<i>Hawksbill</i>		3				1		1	
	<i>Loggerhead</i>			1						
	<i>Leatherback</i>					1				
	<i>Pacific Ridley</i>	4	2							
<i>unidentified species</i>								1		
SWEERS	<i>Flatback</i>		4							
	<i>Green</i>		1							
	<i>Pacific Ridley</i>		1							
	<i>unidentified species</i>	1								
MORNINGTON	<i>Flatback</i>		2							
	<i>Green</i>				4					
	<i>Leatherback</i>		1							
	<i>Pacific Ridley</i>	2	5			1				
LIMMEN BIGHT	<i>unidentified species</i>									
	<i>Flatback</i>		1	1						
	<i>Green</i>	1	3	5						
	<i>Hawksbill</i>		1		1					
	<i>Leatherback</i>		3							
	<i>Loggerhead</i>		1							
	<i>Pacific Ridley</i>	3	10	1	1					
<i>unidentified species</i>			1							
GROOTE	<i>Flatback</i>	1	5	3						1
	<i>Green</i>	4	2	1	1				2	
	<i>Hawksbill</i>	1		1						
	<i>Leatherback</i>		1							
	<i>Loggerhead</i>	2								
	<i>Pacific Ridley</i>	1		1						
	<i>unidentified species</i>	2	18							



NORTHERN PRAWN FISHERY DATA SUMMARY 2002

Statistical Area	Turtle Species	Release Alive			Perished			Condition Unknown		
		00	01	02	00	01	02	00	01	02
GOVE	<i>Flatback</i>	2		1	1					
	<i>Green</i>	3								
	<i>Leatherback</i>	1								
	<i>Loggerhead</i>	4								
	<i>Pacific Ridley</i>	1		1	2					
	<i>unidentified species</i>	1								
ARNHEM	<i>Flatback</i>		1							
	<i>Green</i>			1						
	<i>unidentified species</i>									
PORT ESSINGTON	<i>Flatback</i>	2								
	<i>Green</i>	1		2		1				
	<i>Pacific Ridley</i>		2	1						
	<i>unidentified species</i>									
MELVILLE	<i>Flatback</i>		1		1					
	<i>Green</i>	1								
	<i>Loggerhead</i>						1			
	<i>unidentified species</i>									
FOG BAY	<i>Flatback</i>	1								
	<i>Green</i>					1				
	<i>Pacific Ridley</i>		1							
	<i>unidentified species</i>	1								
BONAPARTE	<i>Flatback</i>			1						
	<i>Green</i>		1							
	<i>Hawksbill</i>		1							
	<i>Pacific Ridley</i>	1				1				
	<i>unidentified species</i>		1	1						
TOTAL ALL AREAS	<i>Flatback</i>	9	23	7	2	1			1	1
	<i>Green</i>	12	17	9	5	2			2	
	<i>Hawksbill</i>	1	5	1	1		1		1	
	<i>Leatherback</i>	1	5			1				
	<i>Loggerhead</i>	6	3	1			1			
	<i>Pacific Ridley</i>	19	27	4	4	2				
	<i>unidentified species</i>	8	19	2					4	
GRAND TOTAL	ALL SPECIES	56	99	24	12	6	2	0	8	1



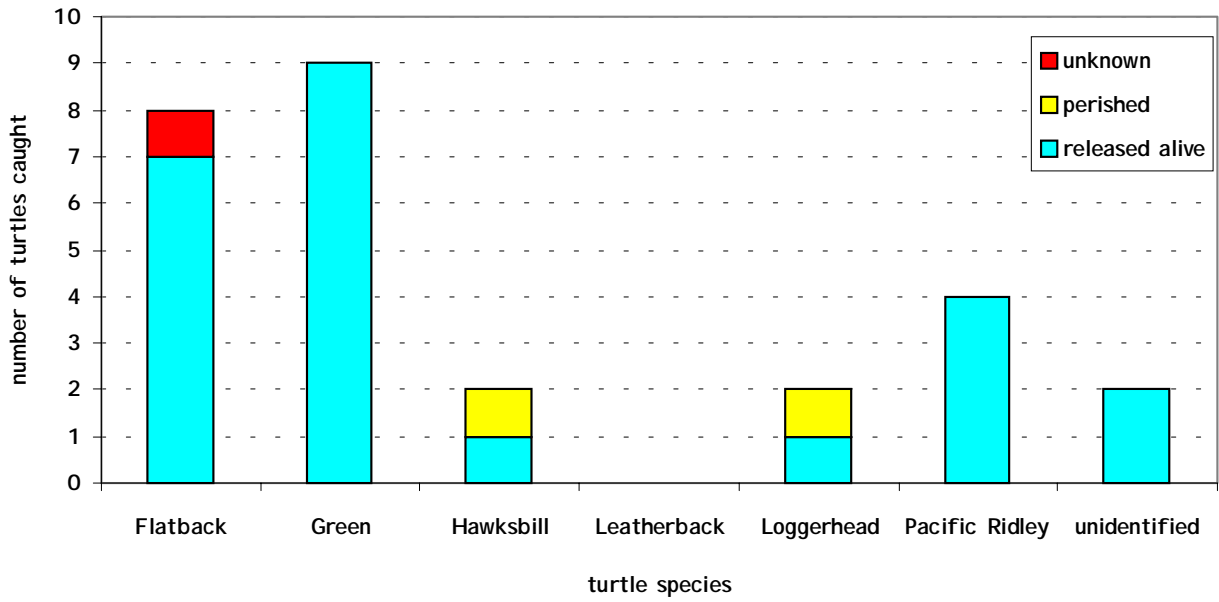


Figure 46. Turtle Bycatch in the Northern Prawn Fishery by Species in 2002.

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 lower during the 2001/2002 financial year than in the previous financial year. The catch in Queensland waters was down 691 tonnes to 3869 tonnes, while the catch in the Northern Territory was down 117 tonnes to 4244 tonnes (Table 7). Catches in Western Australia rose slightly by 75 tonnes to 396 tonnes.

Byproduct of the NPF by State/Territory

Logbook recording of retained bycatch (byproduct) in the NPF has been required since 1995.

Bugs, cuttlefish, scallops and squid were the most commonly retained bycatch species in 2002. Squid was the major bycatch species in 2002, with 177 tonnes caught from a total catch of 230 tonnes. Most squid was caught in Queensland waters (Table 8).



Table 7. Financial year catch of the NPF by State from 1990/91 to 2001/02.

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
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
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



Table 8. Retained byproduct of the NPF by State of capture in 2002.

Source: AFMA logbook data

<i>Species</i>	<i>Form Type</i>	QLD wt (kg)	NT wt (kg)	WA wt (kg)
bugs	<i>tails</i>	95	274	
	<i>whole</i>	8015	26606	232
crabs	<i>whole</i>	144	18	
crayfish	<i>whole</i>		3	22
cuttlefish	<i>whole</i>	295	3362	77
flathead	<i>whole</i>		78	
flounder	<i>whole</i>		80	
goatfish	<i>whole</i>		4	
herring	<i>whole</i>		21	
mackerel	<i>fillets</i>	90		
	<i>whole</i>		213	
mangrove jack	<i>fillets</i>	15		
	<i>whole</i>		5	
mud scallop	<i>whole</i>	314	7771	
octopus	<i>whole</i>	79	597	11
pike eel	<i>whole</i>		12	
pilchard	<i>whole</i>		11	
Ray's bream	<i>whole</i>	10	528	30
saddle-tailed sea perch	<i>whole</i>		11	42
saucer scallop	<i>whole</i>		2367	
scarlet sea perch / large mouth nannygai	<i>whole</i>		3	
sea perch	<i>whole</i>	4		
snapper	<i>whole</i>		8	
spanish mackerel	<i>whole</i>		8	
squid	<i>whole</i>	168271	8655	
trevally	<i>whole</i>		20	
whiting	<i>whole</i>	78	1148	
yellowtail kingfish	<i>whole</i>		9	
other	<i>whole</i>		110	





