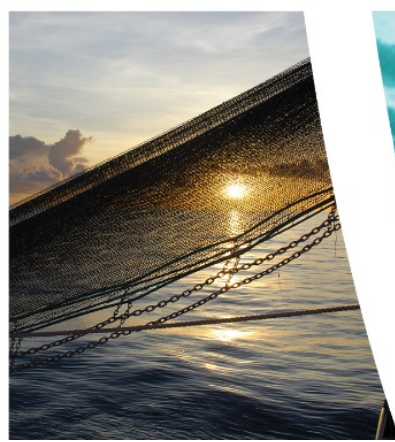




# Northern Prawn Fishery Data Summary 2014

Author: Adrienne Laird  
NPF Industry Pty Ltd





## Northern Prawn Fishery Data Summary 2014

NPF Industry Pty Ltd on behalf of the Australian Fisheries Management Authority (AFMA)

Adrienne Laird

Northern Prawn Fishery Data Summary 2014

June 2015

AFMA

Level 6

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Civic ACT 2600

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## Northern Prawn Fishery Data Summary 2014

### Preface

#### Scope of the Report

This document summarises catch and effort information for the Northern Prawn Fishery (NPF) in 2014, including data relating to interactions with threatened, endangered and protected (TEP) species. The data summary provides an important mechanism for providing feedback to stakeholders on logbook data received by AFMA. In addition, the process of data extraction and analysis assists in identifying data quality issues where they exist and also assists in ensuring that data needs for fisheries management continue to be met.

AFMA has produced data summary reports for the NPF on an annual basis since 1999. As part of the AFMA/NPF co-management arrangements in the NPF, this is the seventh year NPF Industry Pty Ltd has been responsible for development of the data summary.

#### Acknowledgements

Production of this report was made possible through the efforts of the skippers, vessel owners and Crew Member Observers of the NPF. Skippers supplied daily logbook information and vessel owners completed Season Landing Returns. Crew Member Observers supplied information on a voluntary basis whilst undertaking their daily duties, on interactions with TEP species and species identified as 'At-Risk' through the Ecological Risk Assessment process. Thanks to staff from Datafix Canberra for processing of Log sheets and Season Landing Returns. Thanks also to staff from AFMA's Data Management section for their assistance with data management activities.

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

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Also note that this Data Summary is available on AFMA's website at  
<http://www.afma.gov.au/fisheries/northern-prawn-fishery/data-summaries/>.

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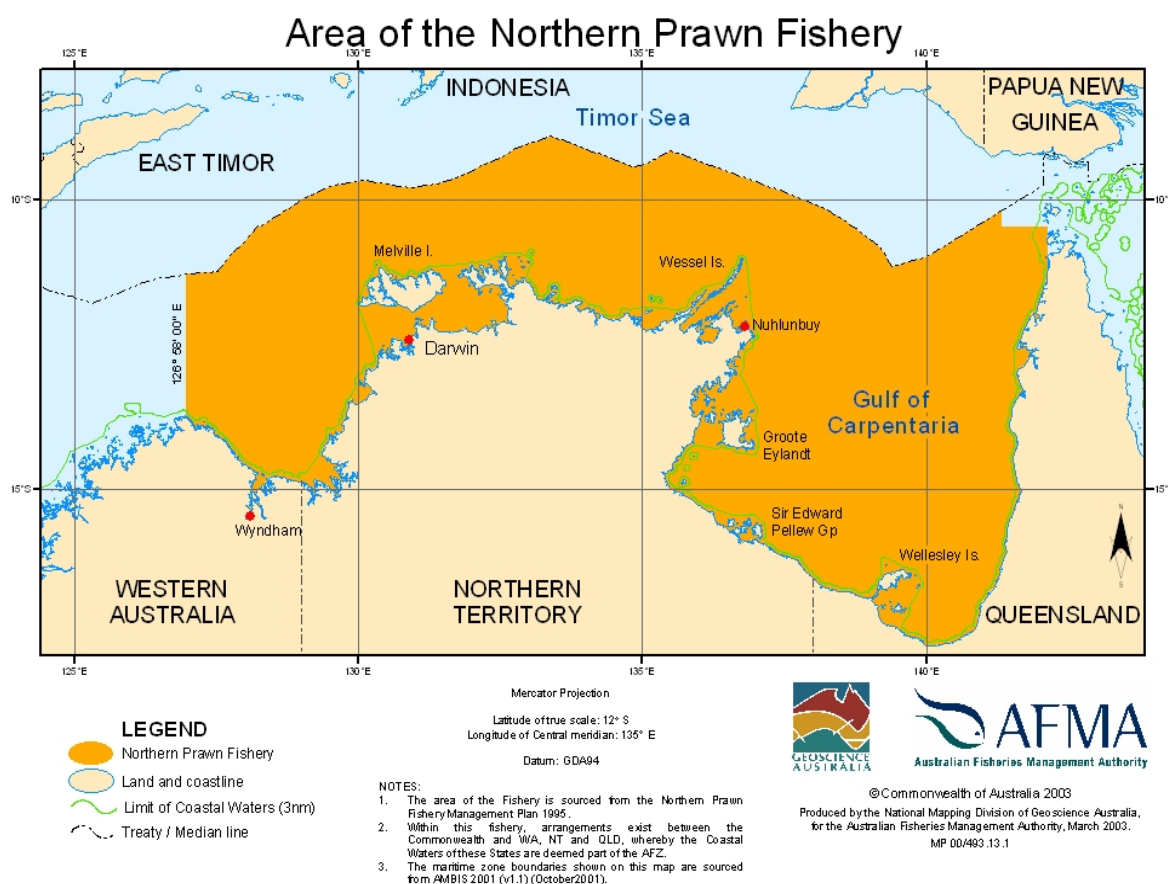
## Introduction

The Northern Prawn Fishery Data Summary 2014 contains catch and effort statistics by prawn species, area, time and fishery. Comprehensive bycatch information is also included for the information of stakeholders and to meet AFMA's obligations under Offshore Constitutional Settlement agreements with Queensland, the Northern Territory and Western Australia. Interactions with threatened, endangered and protected (TEP) species, including turtles and sea snakes are also reported.

## Description of the Northern Prawn Fishery

### Area of Fishery

The Northern Prawn Fishery (NPF) 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).



**Figure 1: Northern Prawn Fishery Management Area.**

## Fishing Methods

Prawn trawling is an active fishing method which involves towing a conical-shaped net spread open by two or four steel or timber otter boards over the seabed, commonly called otter trawling. Ground chains are also used on the nets to stimulate prawns into the trawl mouth. Vessels in the NPF may tow a range of nets in a variety of configurations. These are regulated by the *Northern Prawn Fishery Management Plan 1995* (the Management Plan) and relevant Determinations and Directions. In addition to the main nets, a small “try-net” is also used to test the potential 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) (unless fishing in waters deeper than 200m, in which case a TED is not required).

Most of the vessels in the NPF are purpose built from steel and range in length from 17 m to 28 m. All NPF boats have modern, sophisticated catch handling, packing and freezing capabilities as well as wet (brine) holding facilities. All vessels use electronic aids such as colour echo sounders and Global Positioning Systems (GPS) and plotters. Satellite phones and fax equipment is used by most vessels and many have introduced on-board computing facilities, as well as electronic log books and Wi-Fi. All vessels are required to have a Vessel Monitoring System (VMS) installed.

## Management Information

The NPF is currently managed through a combination of input controls (limited entry, seasonal closures, permanent area closures, gear restrictions and operational controls) that are implemented under 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 (Class B SFRs) and the amount of gear (gear SFRs) used in the Fishery. In 2001, the Management Plan was amended to allow the total gear pool to be set by a 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 were introduced to reduce effort by 40% on tiger prawn stocks. This was achieved by shortening the seasons and a 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.

In 2006, the Commonwealth Government’s Structural Adjustment Package removed 42 Class B SFRs and approximately 30% of the effective effort from the NPF. The fishery is now composed of 52 vessels, which is the level estimated by the Australian Bureau of Agricultural and Resource Economics and Science (ABARES) to reach Maximum Economic Yield (MEY) in the NPF.

In 2007, the industry formed a company 'NPF Industry Pty Ltd' (NPFI) that incorporates around 95% of the fishery’s gear SFR holders.

In 2008, following a recommendation from the Northern Prawn Fishery Management Advisory Committee (NORMAC) there was an 8% increase in effort in the 2008 tiger prawn season. This translated into NPF gear SFRs increasing in value from 5.625 cm to 7.481 cm and concession holders were permitted to use quad gear (with a 10% penalty applied).

In 2009, the length of the tiger prawn season was increased by four weeks based on the outputs of the 2008 tiger prawn stock assessment, resulting in a season commencing 25 July and closing 19 December.

This was the first time since the introduction of the mid-year closure in 1987 that the tiger prawn season commenced prior to 1 August.

In 2011, the banana season was extended by two weeks, commencing on 1 April and concluding on 24 June 2011. The season extension was recommended by NORMAC to enable industry to make optimal use of an expected large available biomass of banana prawns resulting from favorable environmental conditions. The tiger season commenced on 1 August and concluded one week early, on 20 November (though tiger prawns were able to be targeted from 1 May). The early closure was triggered by low catches, to protect stocks and prevent economic losses.

In 2014, as in 2013, the banana season extended from 1 April to 15 June, and the tiger prawn season extended from 01 August to 1 December (though targeting of tiger prawns was permitted from 1 May until 15 June during the banana prawn season). There were 76 days available to fish during the first season and 122 during the second season (a total of 198).

In 2014, a Maximum Economic Yield (MEY) decision rule was put in place for the banana season which would close banana fishing west of 138°, and close daylight trawling east of this location to prevent banana prawn targeting if catches fell below the restricted MEY trigger. The trigger was calculated within season based on catch, cost and price information provided by industry. The fishery would be closed at the end of the 6th, 8th, or 10th tenth week if average daily catches did not meet the restricted MEY trigger of 425 kg per boat/day of banana prawns during a two week reporting period. The 6th week closure could also be implemented if the tiger prawn catch exceeded 24 tonnes for the first four weeks.

In the tiger prawn season, if the average tiger prawn catch per boat per night is less than MEY trigger of 350kg for the 12<sup>th</sup> and 13<sup>th</sup> week the fishery would close early on 20 November UTC. This trigger was not met.

## Species

The NPF targets nine commercial species of prawns including white banana (*Fenneropenaeus merguiensis*), 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.

## Data Collection Program

NPF operators are required to complete the 'Northern and Torres Strait Prawn Fisheries Daily Fishing Log' (NP16), a paper logbook on a daily basis. Alternatively, NPF operators can use an electronic version (e-log). In 2014, 86% (42 operators) used e-logs in both fishing seasons. Both paper logbook and e-log data is 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 logbook information (NP16 and e-log) submitted by NPF skippers and the seasonal landing returns (SLR-T01) completed by SFR holders. This information is stored by AFMA on the Northern Prawn, Kimberley Prawn and Torres Strait Prawn database.



The data used in this summary was extracted during April 2015 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.

On average logbook catches of banana prawns were overestimated by 1% when compared to Seasonal Landing Returns (SLR) for the banana prawn season, with the greatest discrepancy being 15% (one vessel) for the banana prawn season. On average the tiger prawn catches were within 1.1% of catches recorded in the SLR for the tiger prawn season, with the greatest discrepancy being 14% (one vessel) for the tiger prawn season.

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

### Banana and Tiger Prawn Fishery Components

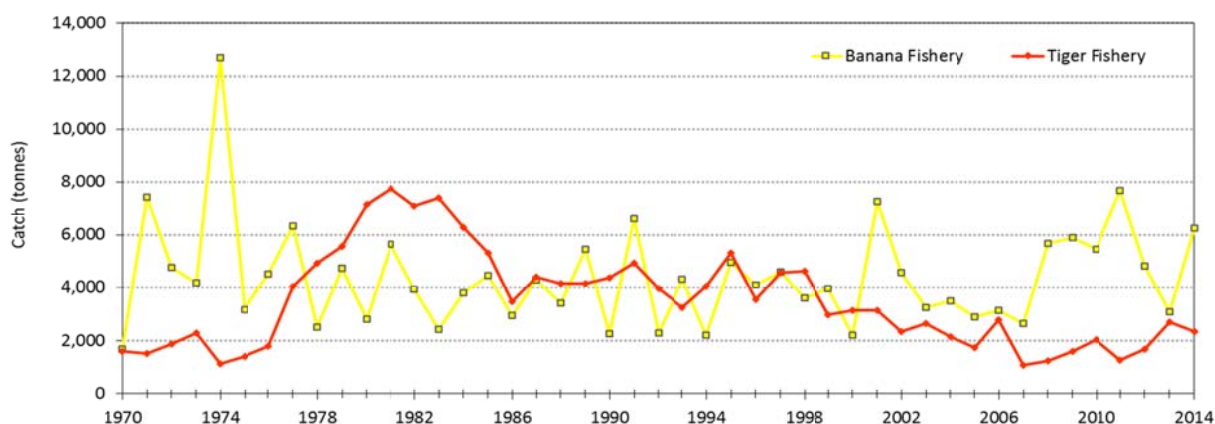
Fishery statistics have been split into banana and tiger prawn fishery components according to the composition of the catch in logbook records. If half or more of a vessel's daily catch was banana prawns or there was no prawn catch and the vessel was fishing, the vessel was defined as operating in the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

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

### Catch

The total NPF prawn catch for 2014 was 6,257 t compared to 5,802 t in 2013 (Table 1). The total catch of banana prawns in 2014 (6,330 t) far exceeded that of 2013 (3,050 t) (Figure 2). The catch of tiger prawns decreased 30% from 2,215 t in 2013 to 1,708 t in 2014. Catches of endeavour prawns increased by 33% from 508t in 2013 to 675 t in 2014 (Table 1). Catches of king prawns decreased from 29 t in 2013 to 12 t in 2014.



**Figure 2:** Catch in the banana and tiger prawn fisheries between 1970 and 2014.

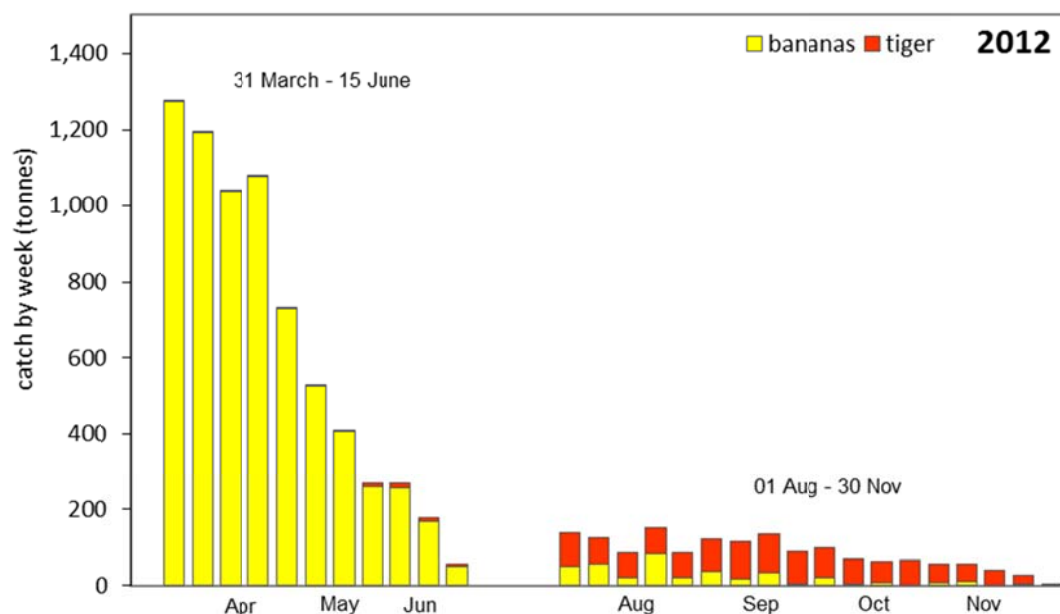
**Table 1:** Annual reconciled landings, effort and vessel number in the NPF from 1970 to 2014.

Year	Banana (t)	Tiger (t)	Endeavour (t)	King (t)	Total Catch (t)	No. of Vessels	Banana Fishery Effort (days)	Tiger Fishery Effort (days)
1970	1,702	1,138	417	0	3,257	191	2,041	5,818
1971	7,364	1,183	400	0	8,948	169	5,571	6,057
1972	4,801	1,380	472	0	6,654	180	4,327	7,380
1973	4,226	1,672	594	0	6,492	217	4,917	7,362
1974	12,711	666	434	4	13,815	196	7,537	3,439
1975	3,160	973	444	6	4,583	107	5,361	6,010
1976	4,519	1,118	675	5	6,319	145	7,238	6,660
1977	6,345	2,900	1,125	28	10,398	193	7,257	11,673
1978	2,535	3,599	1,240	82	7,456	237	5,569	18,749
1979	4,775	4,218	1,213	94	10,300	240	7,328	17,791
1970-'79average	5,214	1,885	701	22	7,822	188	5,715	9,094
1980	2,835	5,124	1,891	111	9,964	269	8,391	30,594
1981	5,672	5,559	2,073	95	13,400	286	11,524	31,895
1982	3,875	4,891	2,124	144	11,036	271	8,751	32,956
1983	2,382	5,751	1,488	207	9,831	254	6,856	34,551
1984	3,770	4,525	1,714	83	10,095	252	5,932	32,447
1985	4,469	3,592	1,671	77	9,811	231	6,946	26,516
1986	2,935	2,682	748	85	6,451	238	7,132	26,669
1987	4,257	3,617	772	65	8,713	234	7,954	22,478
1988	3,381	3,458	669	81	7,591	222	6,655	26,264
1989	5,466	3,173	909	85	9,636	223	7,439	27,036
1980-'89average	3,904	4,237	1,406	103	9,653	248	7,758	29,141
1990	2,221	3,550	735	128	6,636	200	5,044	25,525
1991	6,605	3,987	879	81	11,554	172	6,515	20,744
1992	2,254	3,084	880	47	6,267	170	5,132	21,789
1993	4,292	2,515	733	35	7,572	127	6,299	16,019
1994	2,157	3,162	872	72	6,263	128	4,955	18,592
1995	4,961	4,125	1,150	58	10,294	125	4,880	16,834
1996	4,078	2,311	1,235	41	7,665	127	5,525	16,635
1997	4,587	2,694	1,870	51	9,202	129	5,476	15,385
1998	3,569	3,218	1,322	20	8,123	130	5,301	18,003
1999	3,904	2,136	885	21	6,947	129	5,639	12,675
1990-'99average	3,863	3,078	1,056	55	8,052	144	5,477	18,220
2000	2,195	2,190	958	13	5,335	121	3,697	12,736
2001	7,245	1,983	1,157	4	10,389	118	6,247	10,440
2002	4,577	1,943	411	5	6,936	114	4,148	8,718
2003	3,238	2,222	435	4	5,898	97	4,114	8,503
2004	3,520	1,767	396	3	5,686	96	3,985	7,793
2005	2,901	1,744	281	20	4,946	89	3,364	7,967
2006	3,117	1,802	363	28	5,310	77	3,283	6,983
2007	2,902	1,192	196	20	4,310	51	2,696	4,829
2008	5,816	1,021	213	7	7,058	53	3,347	4,556
2009	5,881	1,250	346	7	7,483	55	3,095	4,889
2000-'09average	4,139	1,711	476	11	6,335	87	3,798	7,741
2010	5,642	1,628	429	12	7,711	52	3,146	4,898
2011	7,141	749	437	8	8,335	55	3,440	4,143
2012	4,901	1,203	487	11	6,601	52	2,526	5,521
2013	3,050	2,215	508	29	5,802	52	2,005	5,908
2014	6,330	1,708	675	12	8,725	52	3,100	5,045

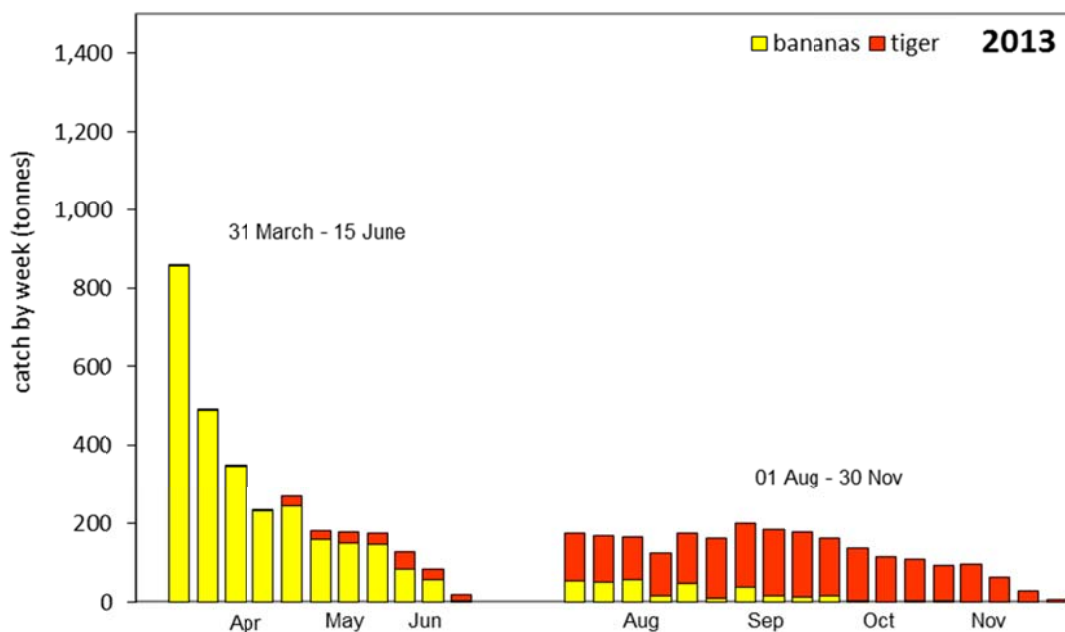
\* Note: Catch data is extracted from SLRs.

### Catch by week

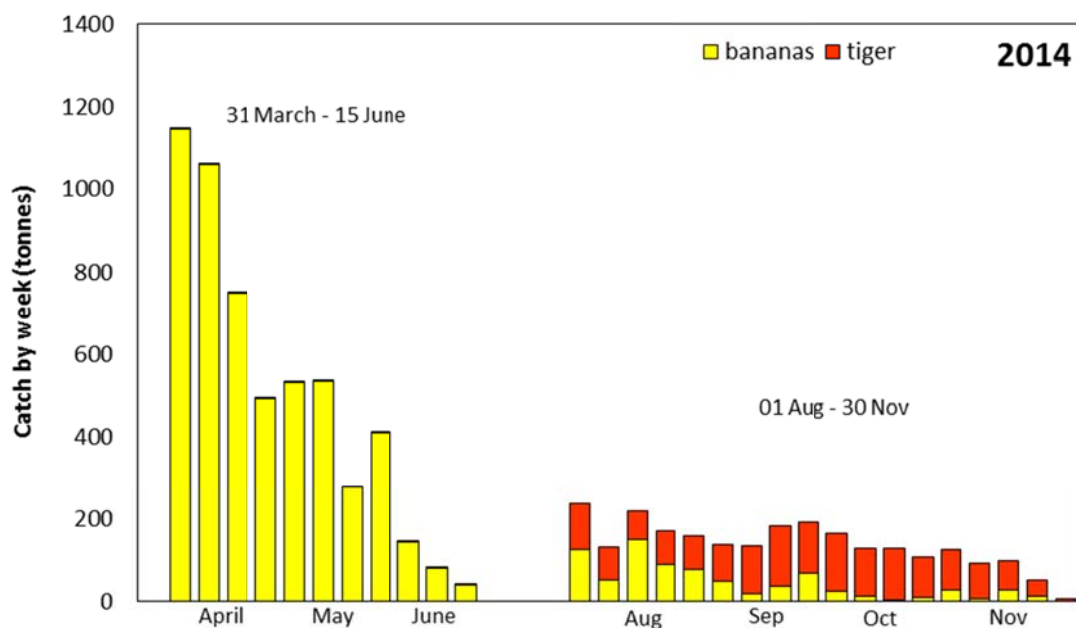
Figures 3 (a), (b) and (c) show the catch of banana and tiger prawns by week during 2012, 2013 and 2014. Highest banana prawn catches were recorded in the first week of 2014 with 1146 t. Banana prawn catches in 2014 experienced a steady decline over the 11 weeks, with the exception of increases in weeks 5 and 6 and again in week 8. Catches of tiger prawns peaked in week 9 of the 2014 tiger season, at 146.2 t.



**Figure 3a:** Weekly catches of banana and tiger prawns (t) in the NPF in 2012.



**Figure 3b:** Weekly catches of banana and tiger prawns (t) in the NPF in 2013.

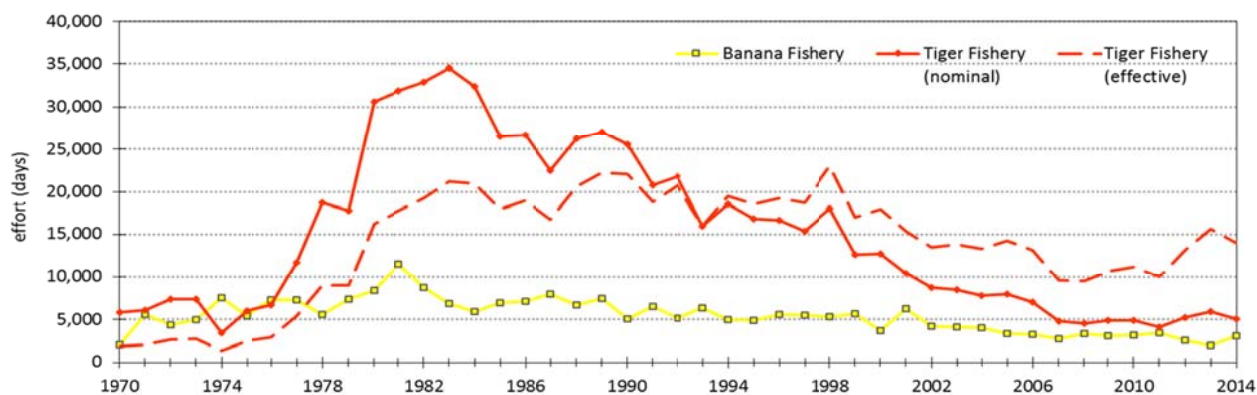


**Figure 3c:** Weekly catches of banana and tiger prawns (t) in the NPF in 2014.

## Effort

### Nominal 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 and is based on the assumption that there has been an 'effort creep' (an increase in effectiveness of the gear utilised and fishing operations). A number of different approaches are being used by the Northern Prawn Fishery Resource Assessment Group (NPRAG) to account for effort creep, including using an average 5% per year as well as variable effort creep. As in previous years, for the purpose of preparing this report we have used 5%. Nominal effort in the banana prawn fishery increased by 1,095 days (35%) in 2014 compared to 2013. In the tiger prawn fishery, nominal effort decreased by 863 days (17%) in 2014 compared to 2013. Effective effort in the tiger prawn fishery decreased by 1,621 days (12%) compared to 2013.



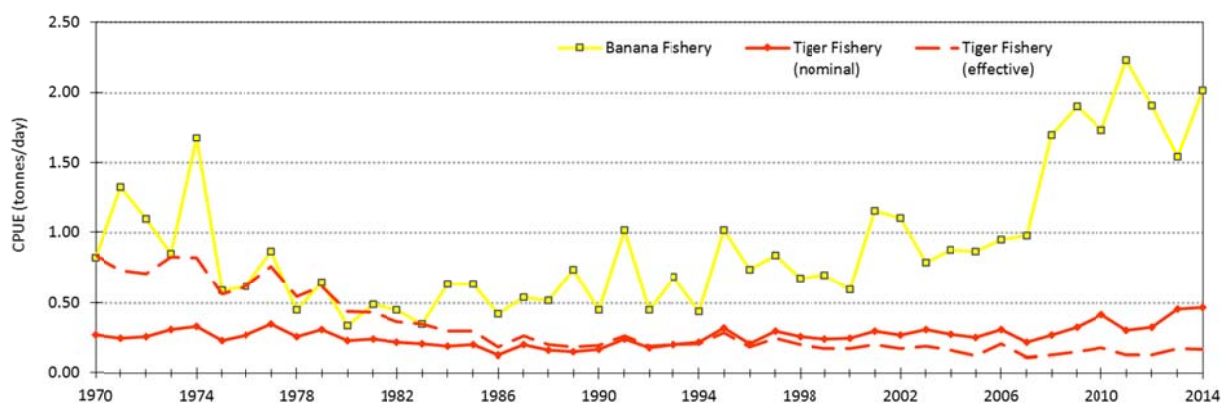
**Figure 4:** Effort in the banana and tiger prawn fisheries in the NPF between 1970 and 2014.



## Catch Rate

It is worth noting that there have been a number of changes to headrope length implemented in the NPF over time. A reduction in headrope length of 25% came into effect at the start of the first season in 2005. More recently, an 8% increase in headrope length was implemented in the 2008 tiger prawn season. As a result “catch rate”, measured in terms of Catch per Unit Effort (CPUE), being tonnes per day may be affected. It is also important to note that trends in CPUE don’t necessarily reflect trends in stock abundance.

The banana prawn fishery CPUE increased from a daily rate of 1.543 t per day in 2013 to 1.543 t per day in 2014. The nominal CPUE for the tiger prawn fishery increased from 0.457 t per day in 2013 to 0.466 t per day in 2014, while the effective CPUE decreased from 0.172 t per day in 2013 to 0.167 t per day in 2014 (Figure 5).



**Figure 5:** Catch rate in the banana and tiger prawn fisheries between 1970 and 2014.

## Catch, effort and catch rate by month

The highest total prawn catches during the 2014 banana prawn season were obtained during April, whilst the highest total prawn catches during the 2014 tiger prawn season were obtained during August (Table 2).

Table 3 shows effort by month in the banana and tiger prawn seasons for 2014. Effort for 2014 in the banana prawn season was highest in April and lowest in June. Tiger prawn season effort was highest in October and lowest in November (Table 3).

Monthly CPUE for banana prawns was highest in April during the banana prawn season (Table 4). Monthly CPUE for both nominal and effective effort for tiger prawns was highest in September.

**Table 2:** Monthly catch by species in 2014.

Catch (t)	April	May	June	Aug	Sep	Oct	Nov	Grand Total
Banana	3,527.887	1,767.955	161.736	441.614	193.849	85.975	75.564	6,254.58
Tiger	2.974	9.36	5.643	377.567	485.656	522.062	281.349	1,684.61
Endeavour	0.025	2.876	0.57	169.72	194	150.398	143.283	660.87
King				4.81	1.253	0.431	0.491	6.99
<b>Total</b>	<b>3,531</b>	<b>1,780</b>	<b>168</b>	<b>994</b>	<b>875</b>	<b>759</b>	<b>501</b>	<b>8,607.05</b>

**Table 3:** Monthly effort in the banana and tiger prawn seasons in 2014.

Effort (days)	April	May	June	Aug	Sep	Oct	Nov	Grand Total
Banana Fishery	1,275	994	182	297	170	74	81	3,100
Tiger Fishery (nominal)		29	26	1,154	1,221	1,452	1,162	5,045
Tiger Fishery (effective)		81	72	3,215	3,402	4,045	3,237	14,055
<b>Total</b>	<b>1,275</b>	<b>1,104</b>	<b>280</b>	<b>4,666</b>	<b>4,793</b>	<b>5,571</b>	<b>4,480</b>	<b>22,200</b>

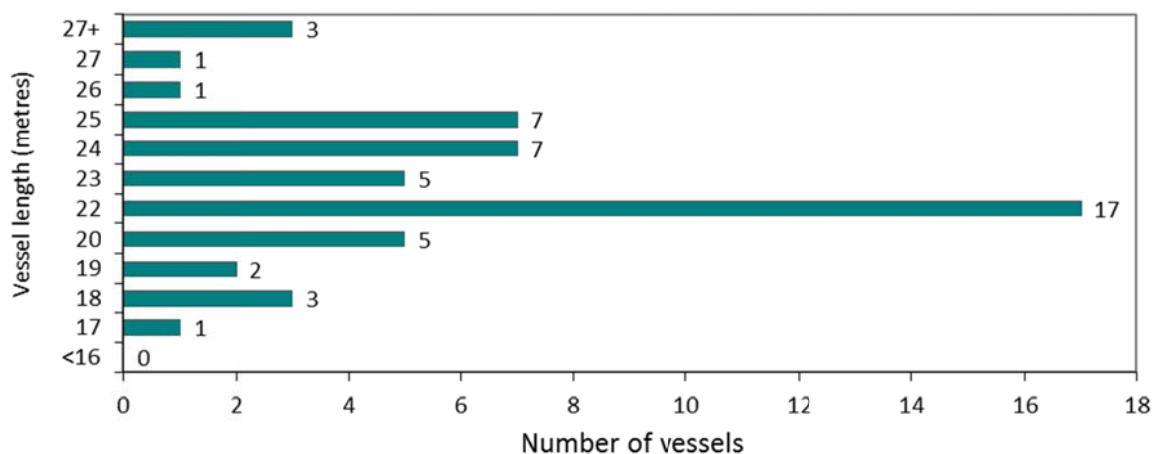
**Table 4:** Monthly catch rate for all species in the banana and tiger prawn seasons in 2014.

CPUE (t/day)	April	May	June	Aug	Sep	Oct	Nov
Banana Fishery	2.769	1.786	0.897	1.450	1.179	1.112	0.916
Tiger Fishery (nominal)		0.159	0.181	0.488	0.552	0.466	0.367
Tiger Fishery (effective)		0.057	0.065	0.175	0.198	0.167	0.132

## Vessel and gear information

### Vessel length

A total of 52 different vessels fished in the NPF during 2014. As in 2013, the most common NPF vessel length in 2013 was between 22.0-22.9 m (Figure 6).

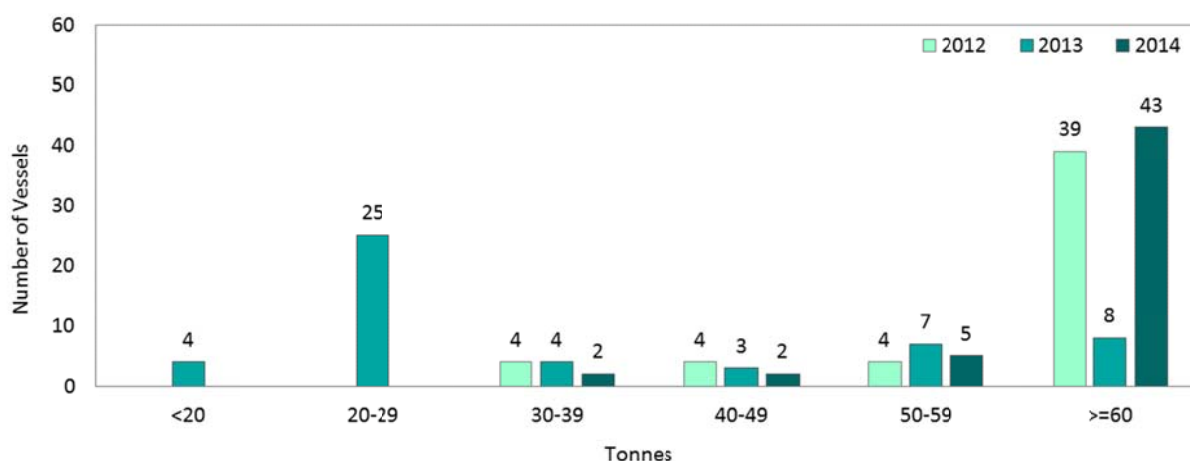


**Figure 6:** Frequency of vessel lengths in the NPF fleet in 2014.

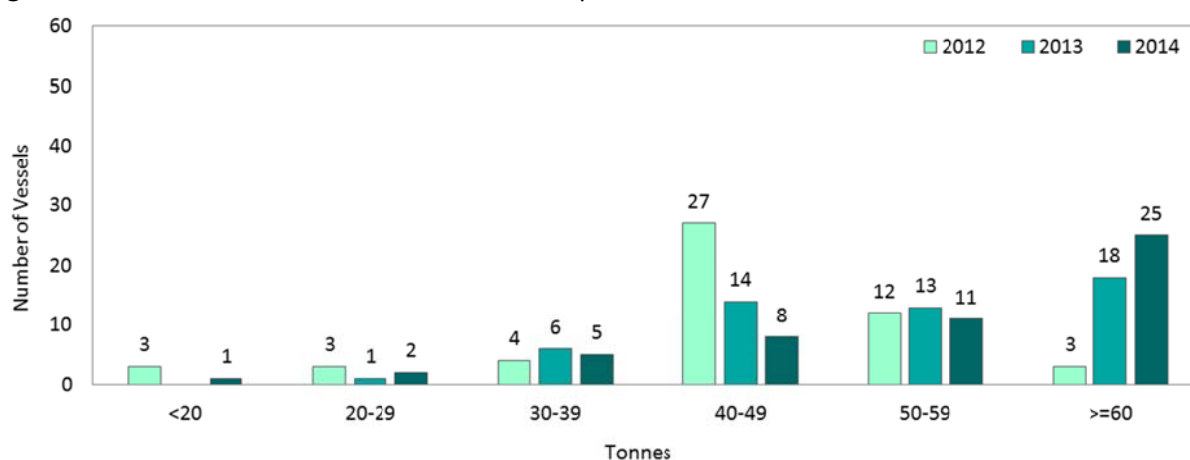
### Distribution of catch by vessel

The majority of NPF fishers caught well in the 2014 banana season with 43 (82.7%) of the 52 vessels catching over 60 t. Five vessels (9.6%) caught 50-59t and the remaining 4 (7.6%) caught between 30 and 49 (Figure 7a).

The number of vessels with a total catch over 60 t increased in the 2014 tiger season to 25 vessels (48%). Of the other 27 vessels, 11 (21%) reported catches of 50-59t, 8 vessels (15%) reported catches of 40-49t, 5 vessels (10%) reported catches between 30-39 t, and 3 vessels (6%) reported catches less than 29 t (Figure 7b).



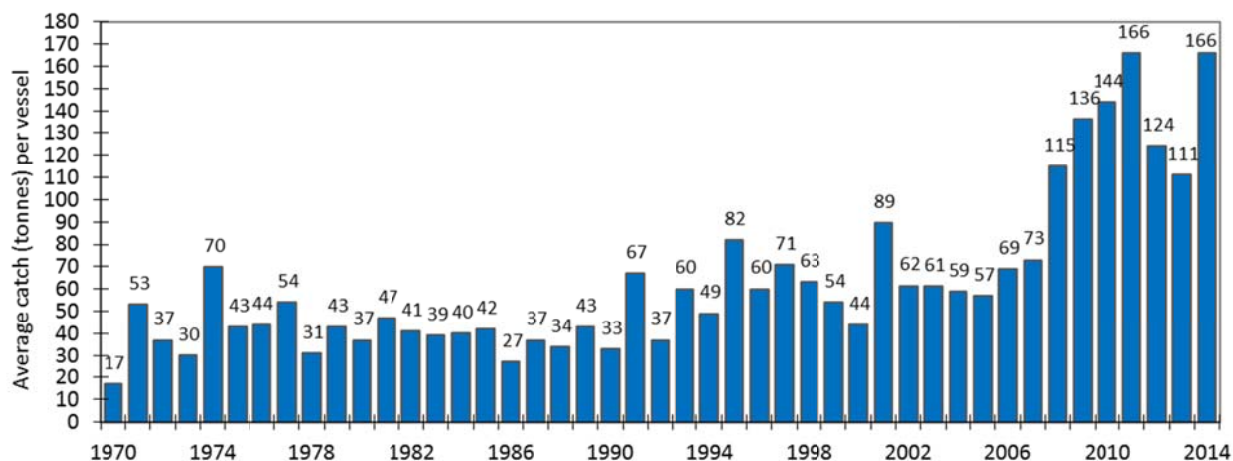
**Figure 7a:** Distribution of total catch in the banana prawn season, 2012-2014.



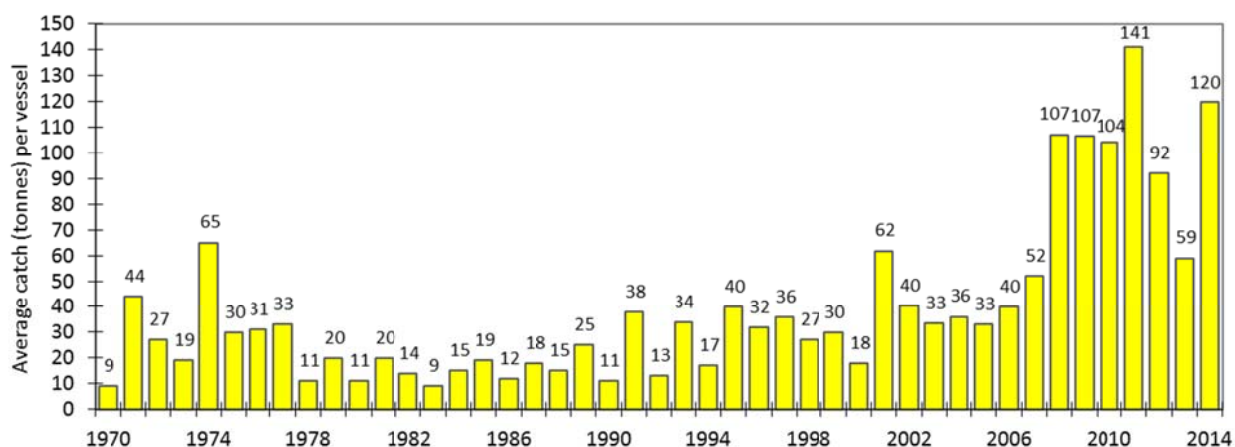
**Figure 7b:** Distribution of total catch in the tiger prawn season, 2012-2014.

### Average catch per vessel

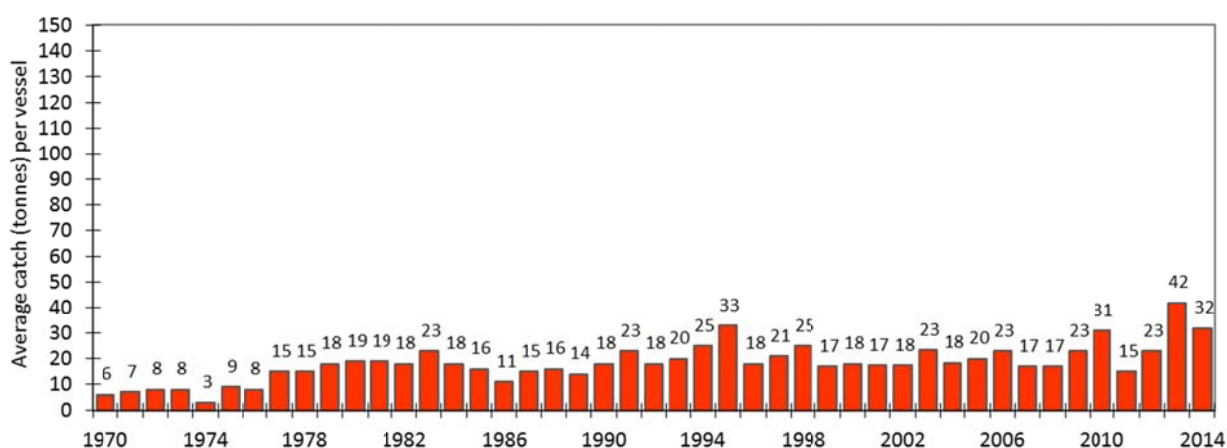
Average total prawn catch per vessel increased from 111 t per vessel in 2013 to 166 t per vessel in 2014 (Figure 8a). The average catch per vessel for banana prawns increased substantially from 59 t in 2013 to 120 t per vessel in 2014 (Figure 8b). Conversely, average catch of tiger prawns per vessel decreased from 42 t per vessel in 2013 to 32 t per vessel in 2014 (Figure 8c).



**Figure 8a:** Average total catch of all prawns per vessel in the NPF from 1970 to 2014.



**Figure 8b:** Average total catch of banana prawns per vessel in the NPF from 1970 to 2014.

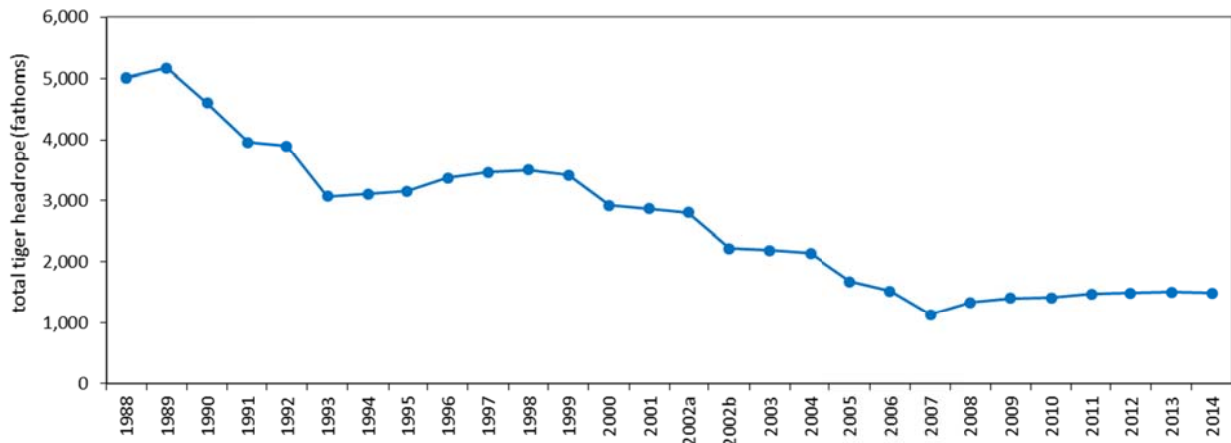


**Figure 8c:** Average total catch of tiger prawns per vessel in the NPF from 1970 to 2014.

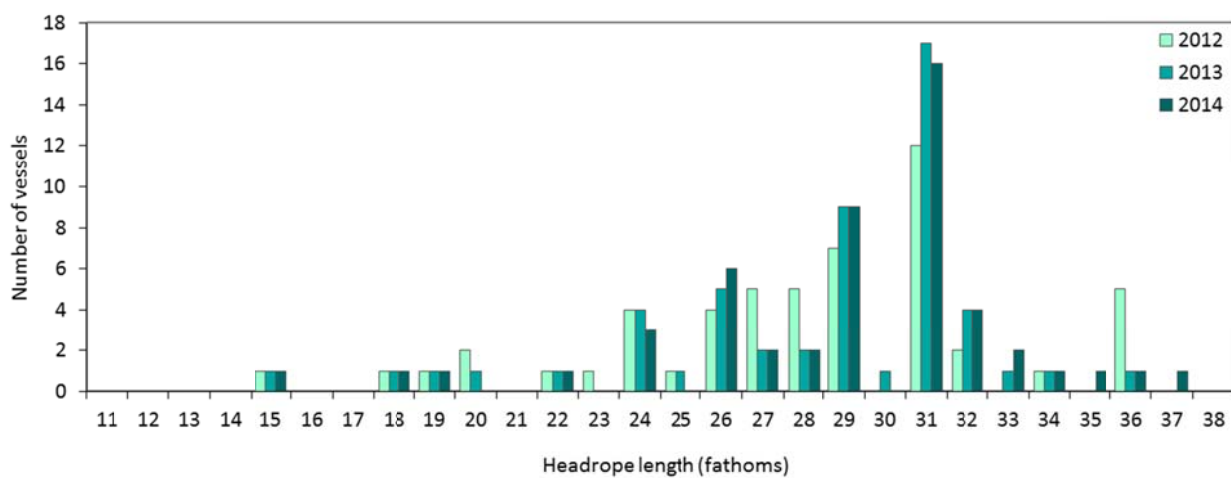


## Fishing Gear

Total tiger prawn headrope decreased slightly to 1,488 fathoms (2.72 km) in 2014 compared to 1,507 fathoms (2.76 km) in 2013 (Figure 9). The mean headrope length in 2014 was 28.61 fathoms (52.32 m) compared with 28.44 fathoms (51.01 m) in 2013 (Figure 10).



**Figure 9:** Total tiger prawn season headrope length in the NPF from 1988 to 2014.

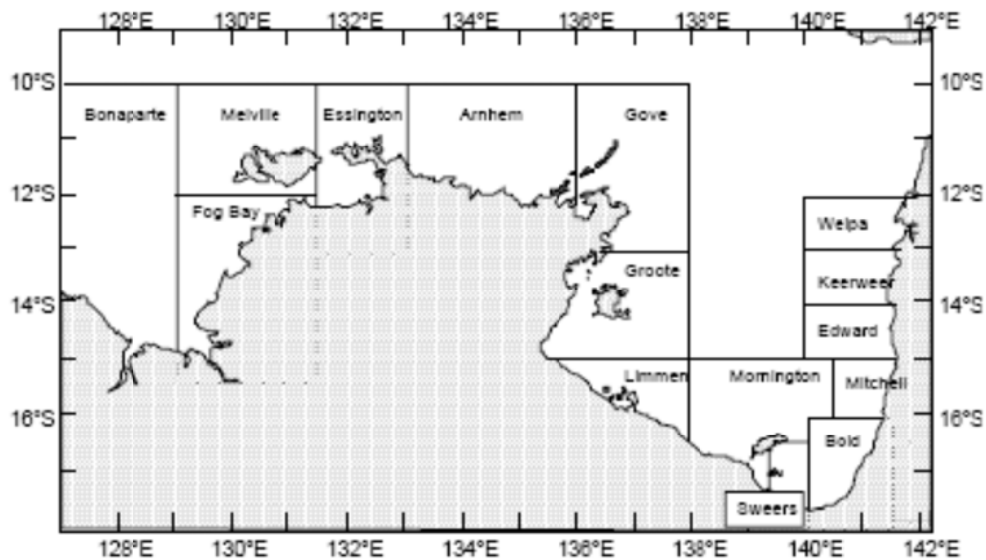


**Figure 10:** Frequency of headrope length for the tiger prawn season in the NPF from 2012 to 2014.

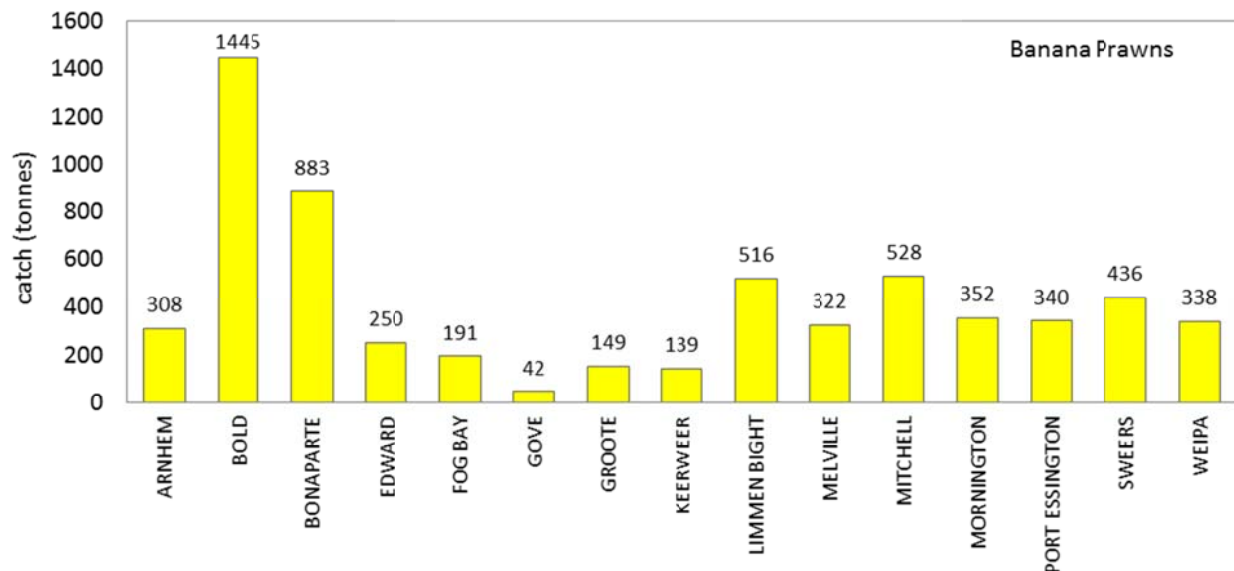
## Catch and effort by statistical area in the Northern Prawn Fishery

### All areas

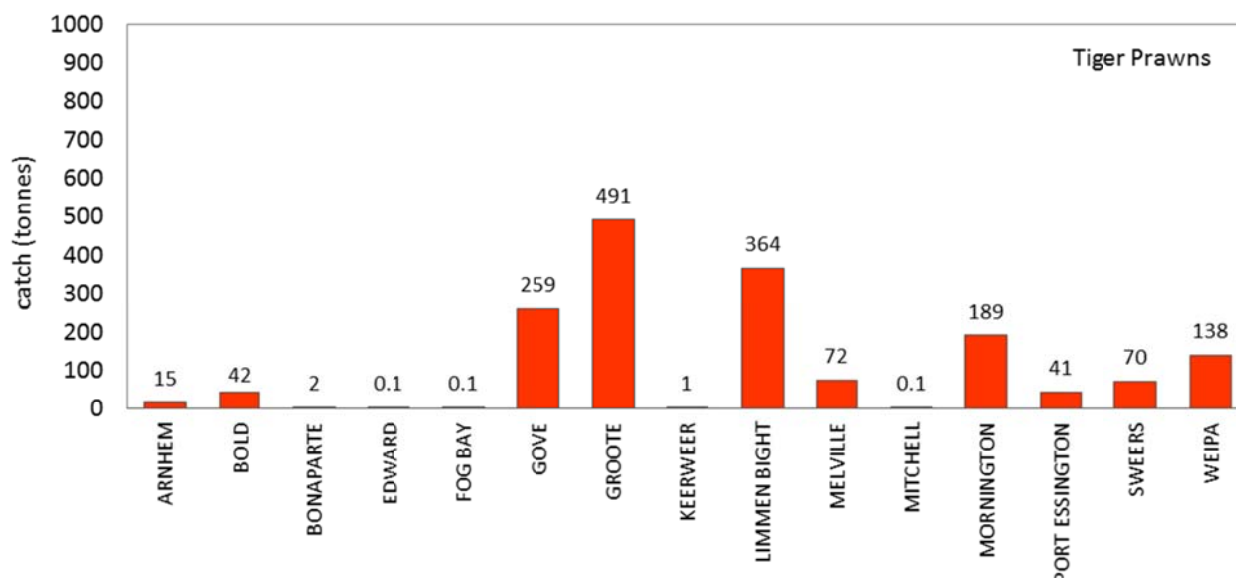
Catch and effort has been partitioned into the 15 statistical areas illustrated below (Figure 11) and is detailed on the following pages. The highest banana prawn catches were recorded in the Bold area with 1,445 t (Figure 12). The highest catches of tiger prawns were recorded in the Groote area with 491 t (Figure 13).



**Figure 11:** Statistical areas of the NPF.



**Figure 12:** Total catch of banana prawns for each statistical area of the NPF in 2014.

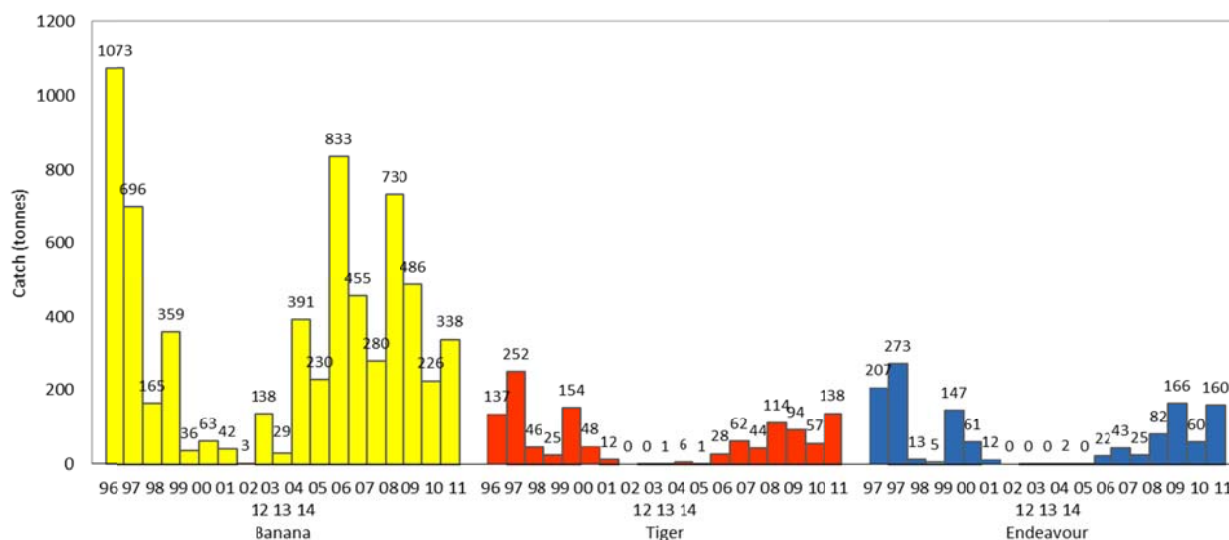


**Figure 13:** Total catch of tiger prawns for each statistical area of the NPF in 2014.

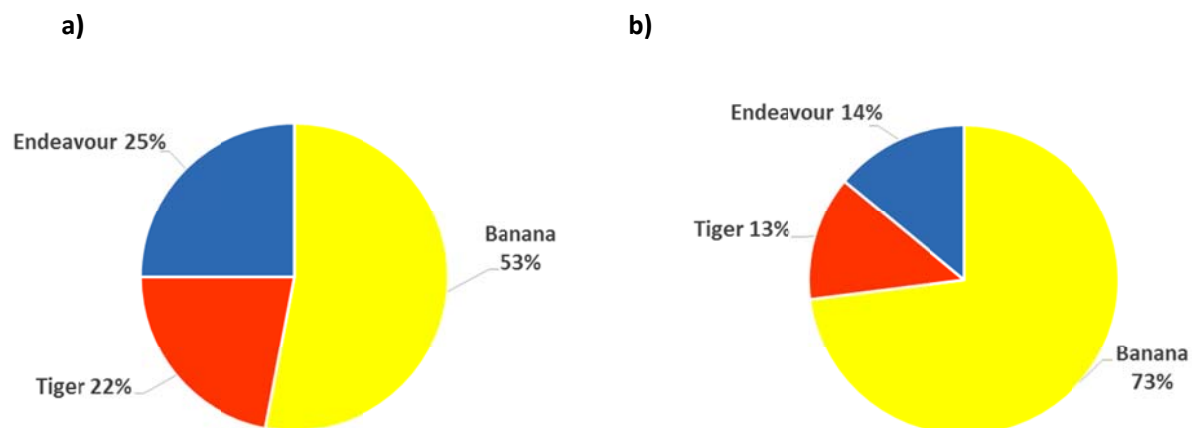
#### Weipa

Banana prawn catches in Weipa increased from 226 t in 2013 to 338 t in 2014. Tiger prawn catches increased from 57 t in 2013 to 138 t in 2014 and catches of endeavour prawns also increased from 60 t in 2013 to 160 t in 2014 (Figure 14). Banana prawns dominated the catches in Weipa during 2013, comprising 66%, with tiger and endeavor prawns making up 17% each, respectively (Figure 15).

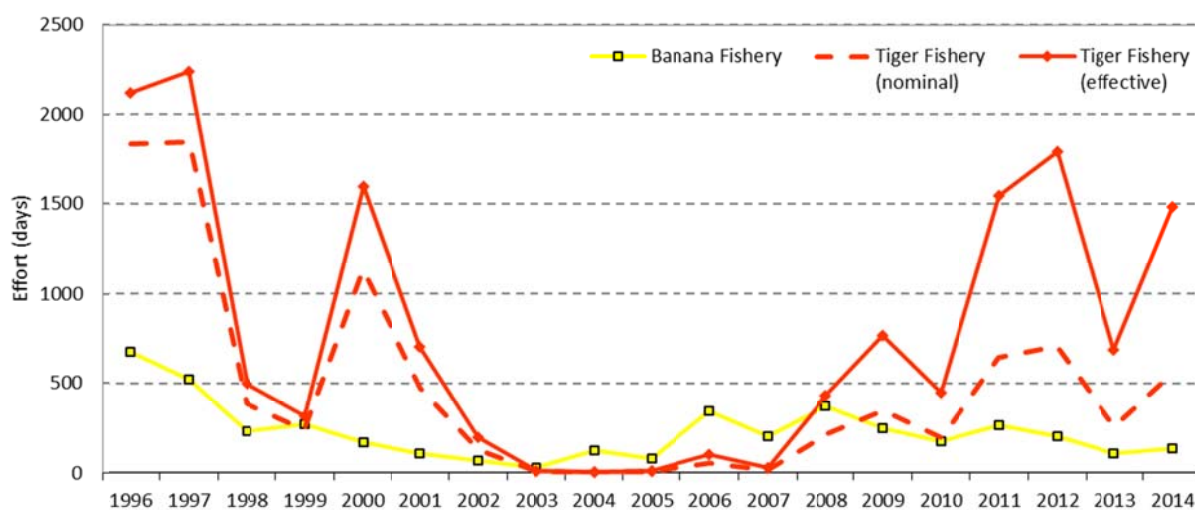
Effort in the banana prawn fishery increased slightly from 108 days in 2013 to 136 in 2014 (Figure 16a). CPUE of banana prawns increased from 2.1 t per day in 2013 to 2.49 t per day in 2014 (Figure 16b). Effort in the tiger prawn fishery increased from 258 day in 2013 (Figure 16a). Nominal and effective CPUE of tiger prawns increased from 0.452 t and 0.170 t per day in 2013 to 0.533 and 0.201 t per day, respectively, in 2014 (Figure 16c).



**Figure 14:** Catch by species in the Weipa area, 1996 to 2014.

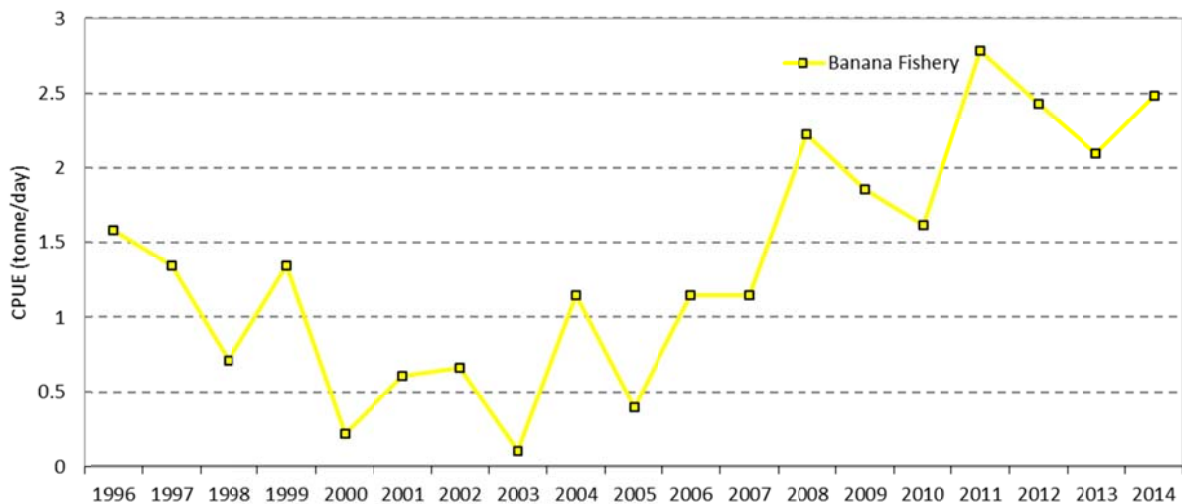


**Figure 15:** (a) Percentage catch of prawn species in the Weipa area during 2014, and (b) percentage catch of prawn species in the Weipa area, 1996 to 2014.

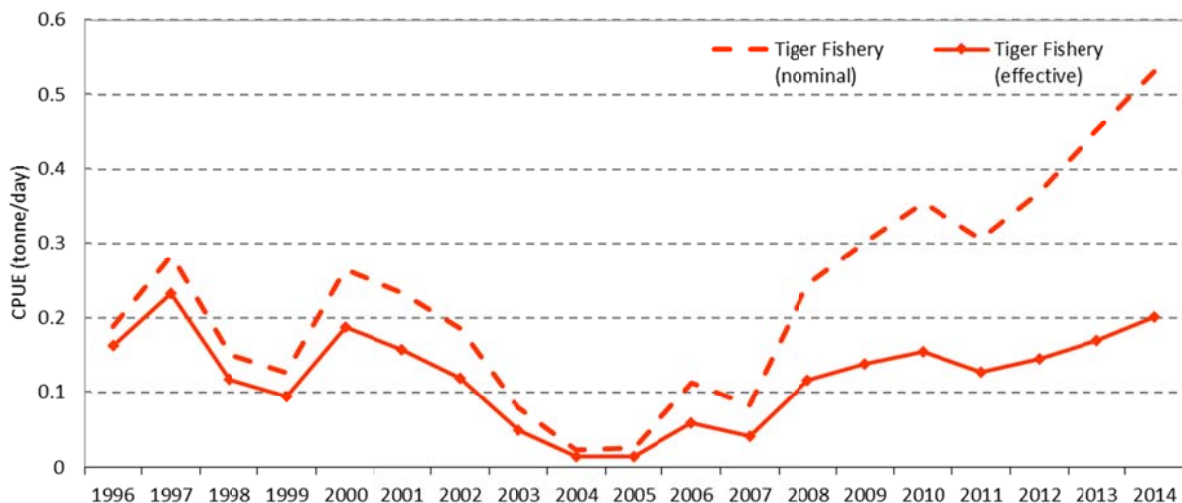


**Figure 16a:** Effort for the banana and tiger prawn fisheries in the Weipa area, 1996 to 2014.





**Figure 16b:** Catch rate for the banana prawn fishery in the Weipa area, 1996 to 2014.

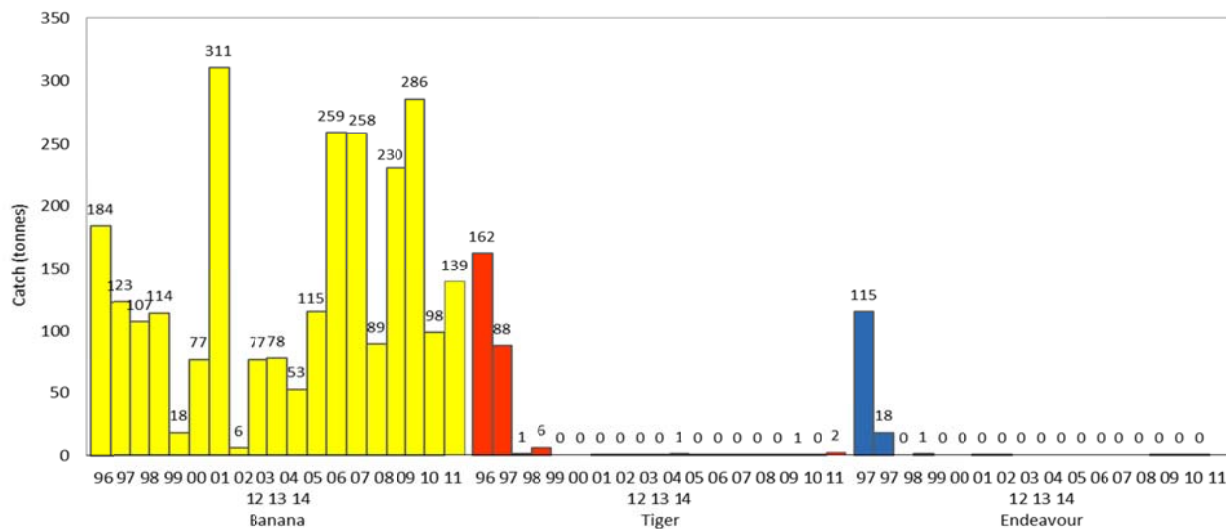


**Figure 16c:** Nominal and effective catch rate for the tiger prawn fishery in the Weipa area, 1996 to 2014.

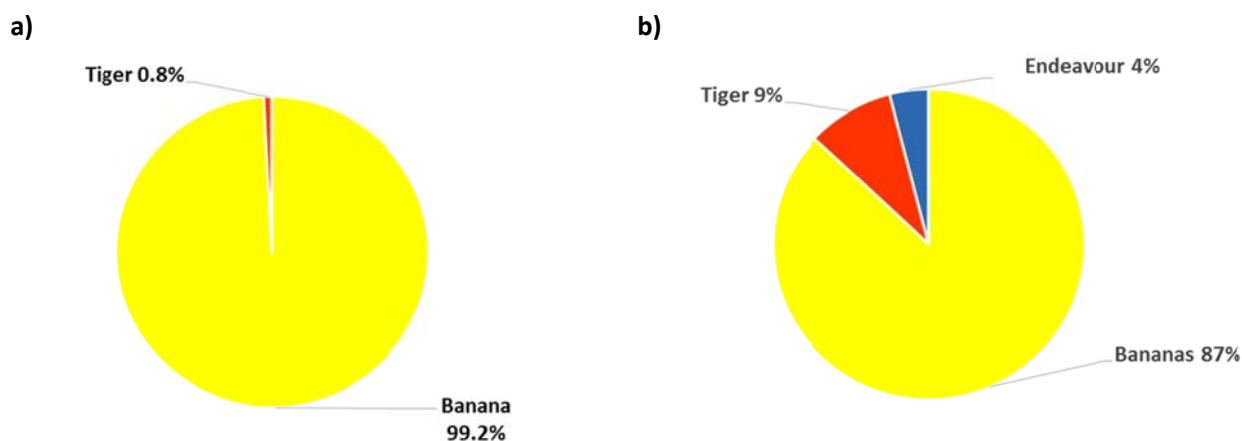
### Keerweer

Banana prawn catches in the Keerweer region increased from 98 t in 2013 to 139 t in 2014. Catches of tiger and endeavor prawns were both <1.5 t in 2014, as in 2013 (Figure 17). Banana prawns comprised 99.2% of the catch in 2014 (Figure 18).

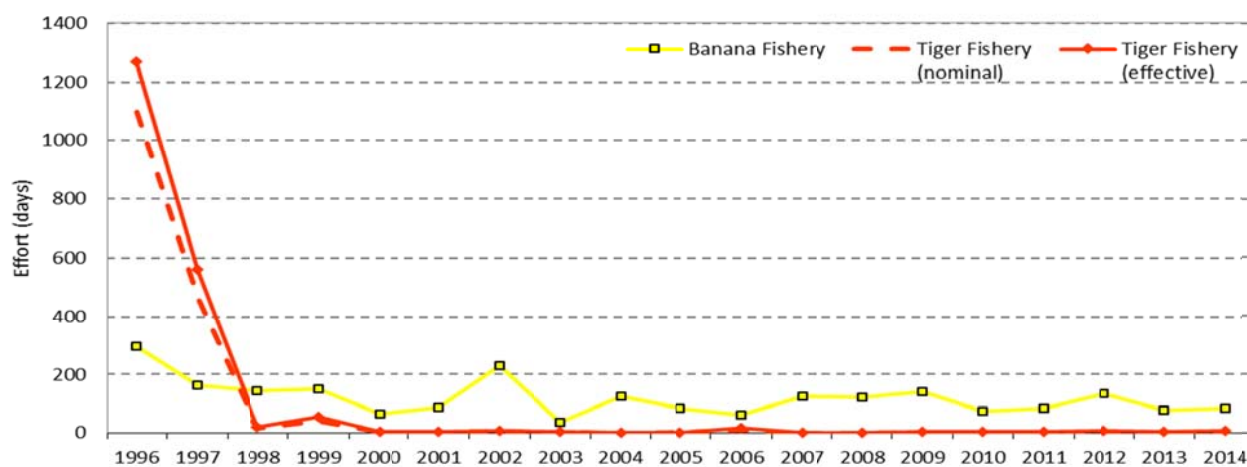
Effort in the banana prawn fishery increased from 78 days in 2013 to 139 days in 2014 (Figure 19a). CPUE for banana prawns also increased from 1.26 t per day in 2013 to 1.67 t per day in 2014 (Figure 19b). Nominal and effective CPUE of tiger prawns increased again from 0.130 and 0.049 t per day in 2013 to 0.333 and 0.125 t per day, respectively, in 2014 (Figure 19c).



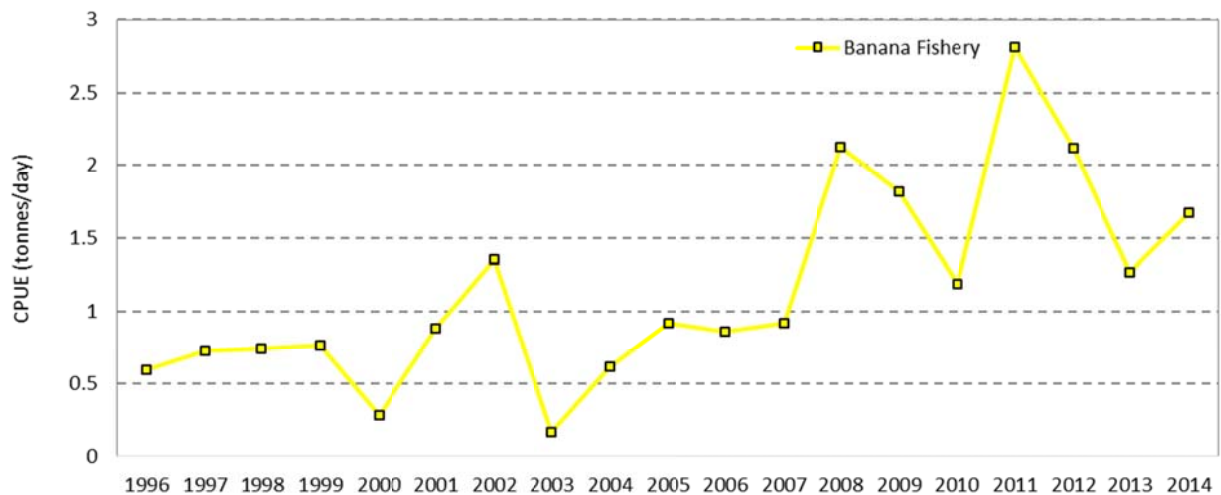
**Figure 17:** Catch by species in the Keerweer area, 1996 to 2014.



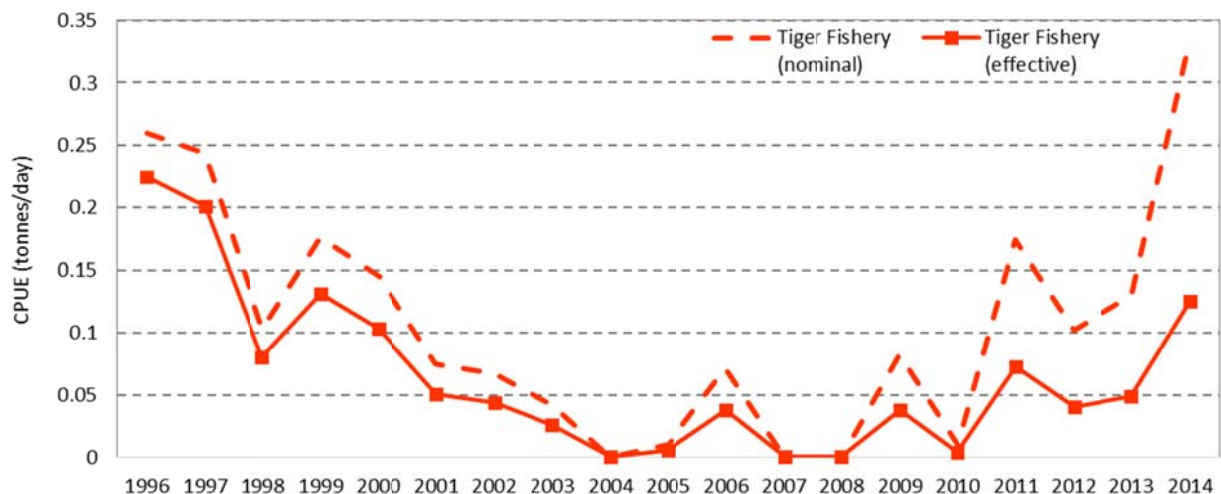
**Figure 18:** (a) Percentage catch of prawn species in the Keerweer area during 2014 and (b) percentage catch of prawn species in the Keerweer area, 1996 to 2014.



**Figure 19a:** Effort for the banana and tiger prawn fisheries in the Keerweer area, 1996 to 2014..



**Figure 19b:** Catch rate for the banana prawn fishery in the Keerweer area, 1996 to 2014..

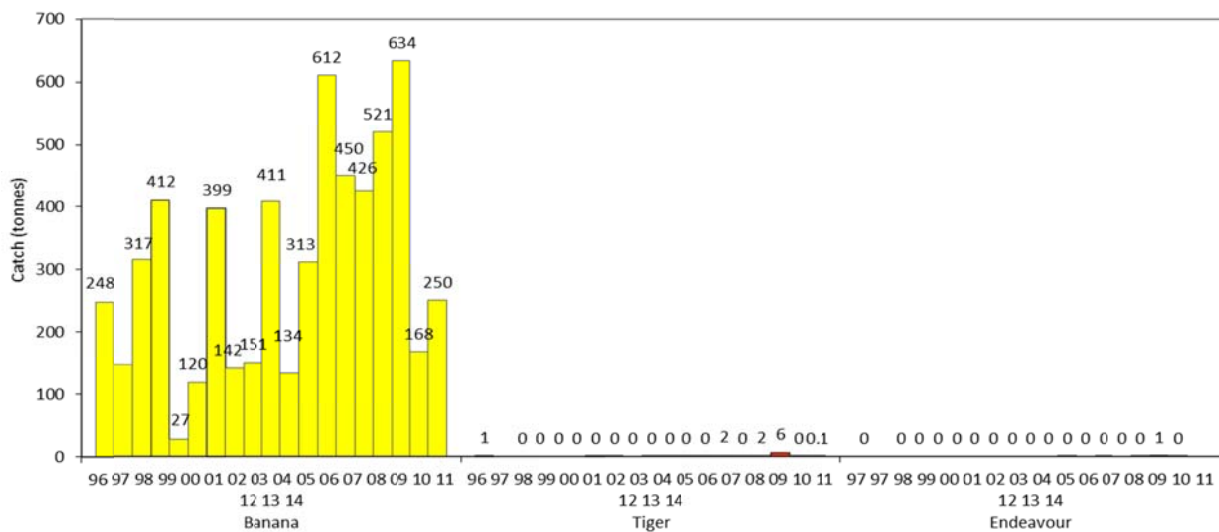


**Figure 19c:** Nominal and effective catch rate for the tiger prawn fishery in the Keerweer area, 1996 to 2014.

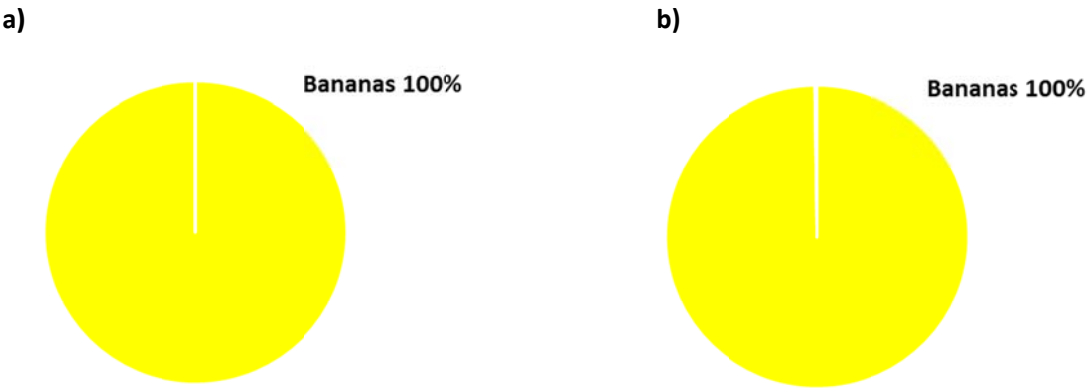
#### Edward

Banana prawn catches in the Edward area increased from 168 t in 2013 to 250 t in 2014. Catches of tiger prawns was less than 1 t and no endeavor prawns were caught in this region in 2014 (Figure 20). Banana prawns comprised 100% of the catch in 2014 (Figure 21).

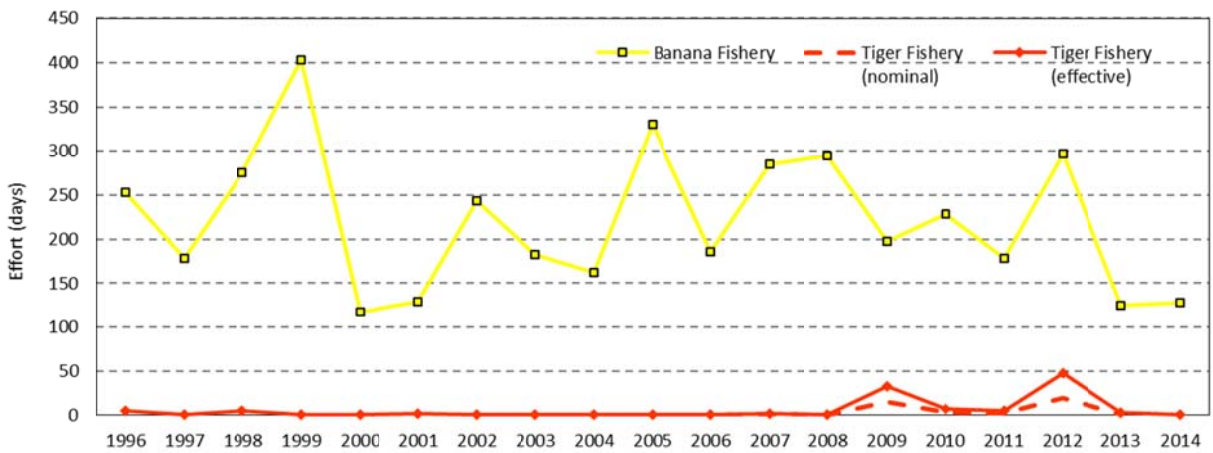
Effort in the banana prawn fishery was similar with 125 days in 2013 and 128 days in 2014 (Figure 22a). CPUE of banana prawn increased from 1.344 t per day in 2013 to 1.953 t per day in 2014 (Figure 22b). Nominal and effective CPUE of tiger prawns decreased from 0.062 t and 0.025 t in 2013 to zero in 2014 (Figure 22a, c).



**Figure 20:** Catch by species in the Edward area, 1996 to 2014..

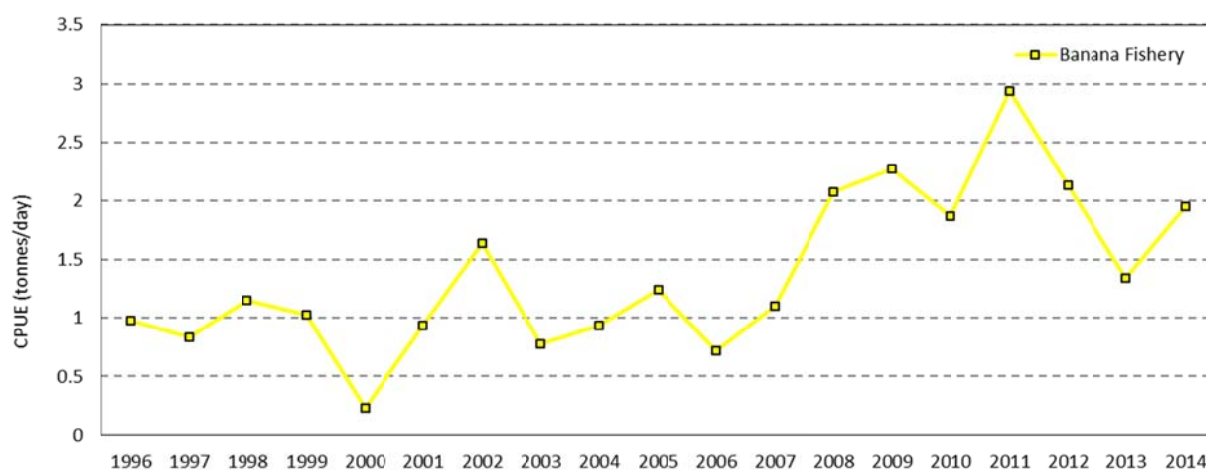


**Figure 21:** (a) Percentage catch of prawn species in the Edward area during 2014 and (b) percentage catch of prawn species in the Edward area, 1996 to 2014.

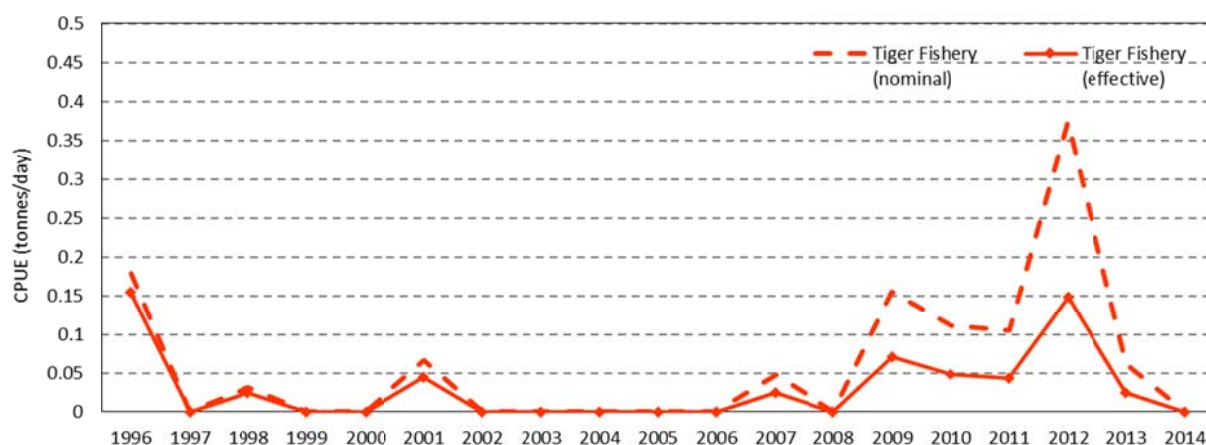


**Figure 22a:** Effort for the banana and tiger prawn fisheries in the Edward area, 1996 to 2014..





**Figure 22b:** Catch rate for the banana prawn fishery in the Edward area, 1996 to 2014.

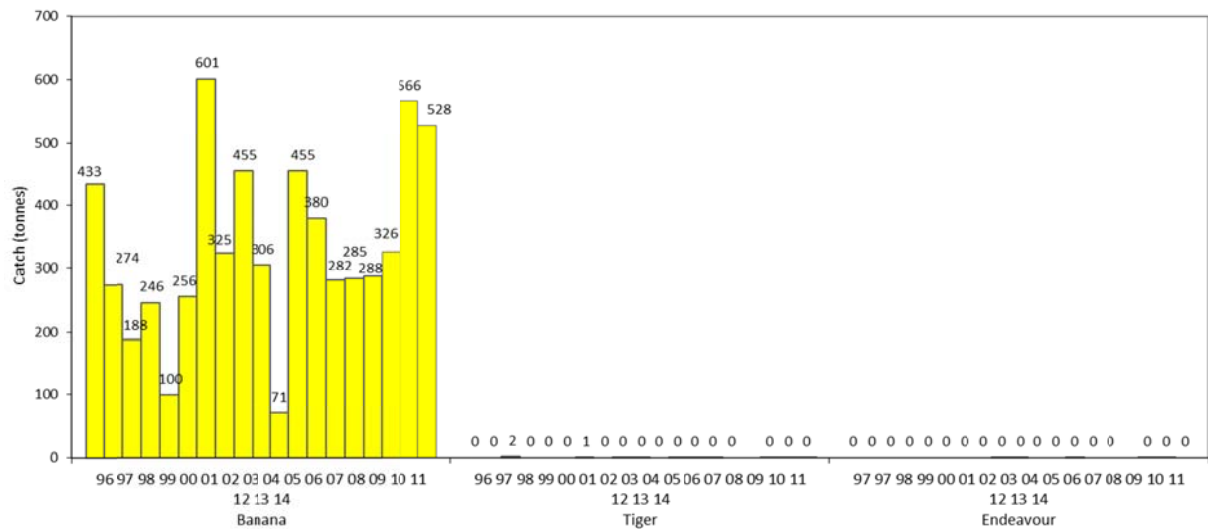


**Figure 22c:** Nominal and effective catch rate for the tiger prawn fishery in the Edward area, 1996 to 2014.

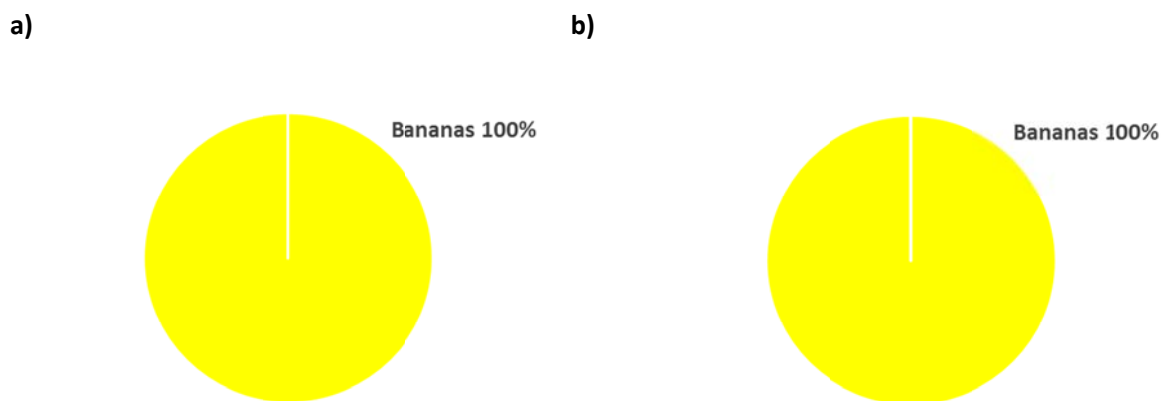
## Mitchell

Banana prawn catches in the Mitchell area decreased from 566 t in 2013 to 528 t in 2014. Tiger and endeavour prawn catches were both 0 t, as in 2012 and 2013 (Figure 23). Banana prawns comprised 100% of the catch in this area during 2014 (Figure 24).

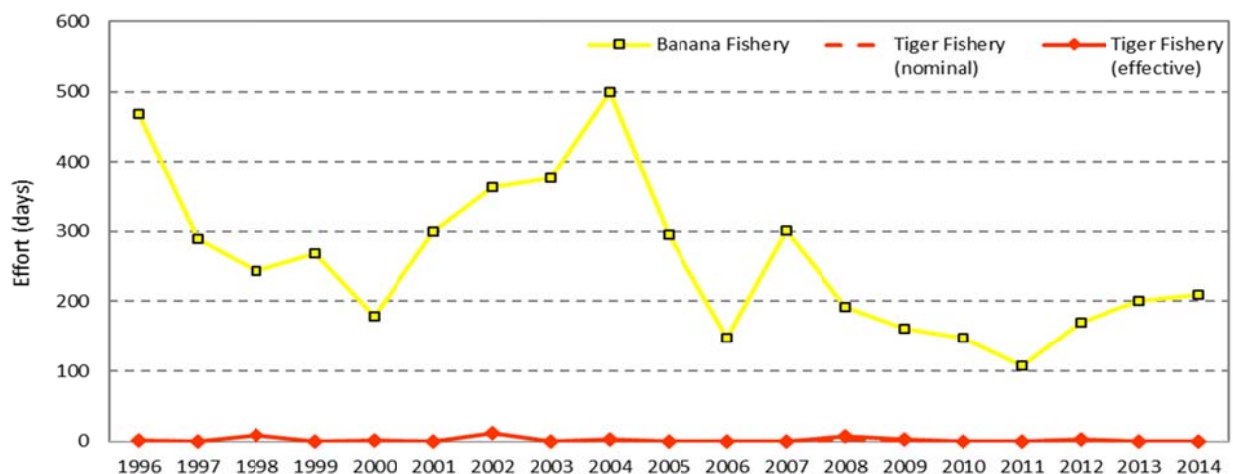
Effort in the banana prawn fishery increased from 200 days in 2013 to 210 days in 2014 (Figure 25a). CPUE of banana prawns decreased from 2.832 t per day in 2013 to 2.514 t per day in 2014 (Figure 25b). Nominal and effective CPUE of tiger prawns remained at zero in 2014 (Figure 25a, c).



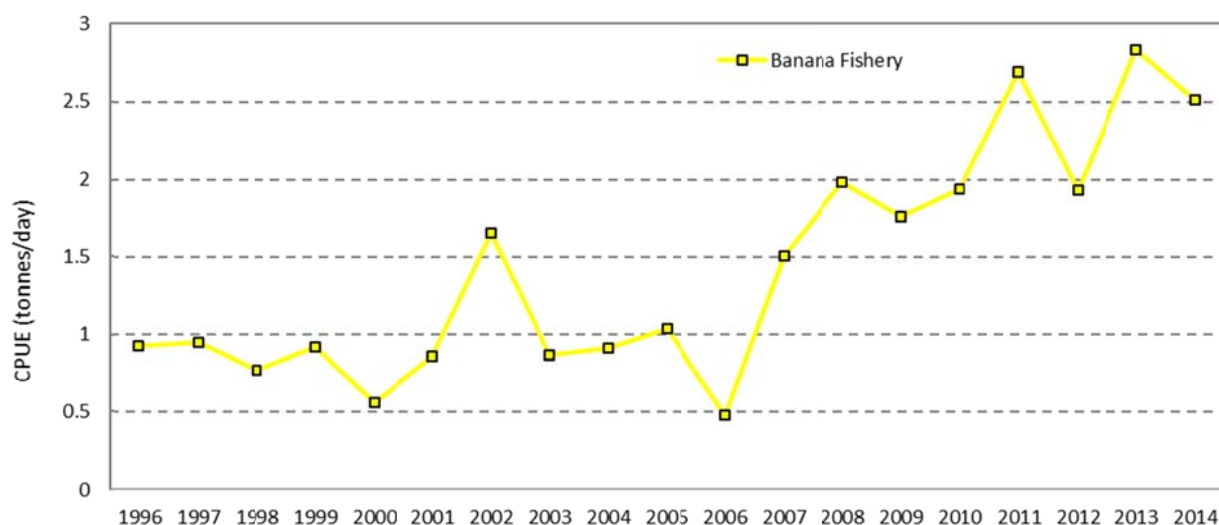
**Figure 23:** Catch by species in the Mitchell area, 1996 to 2014.



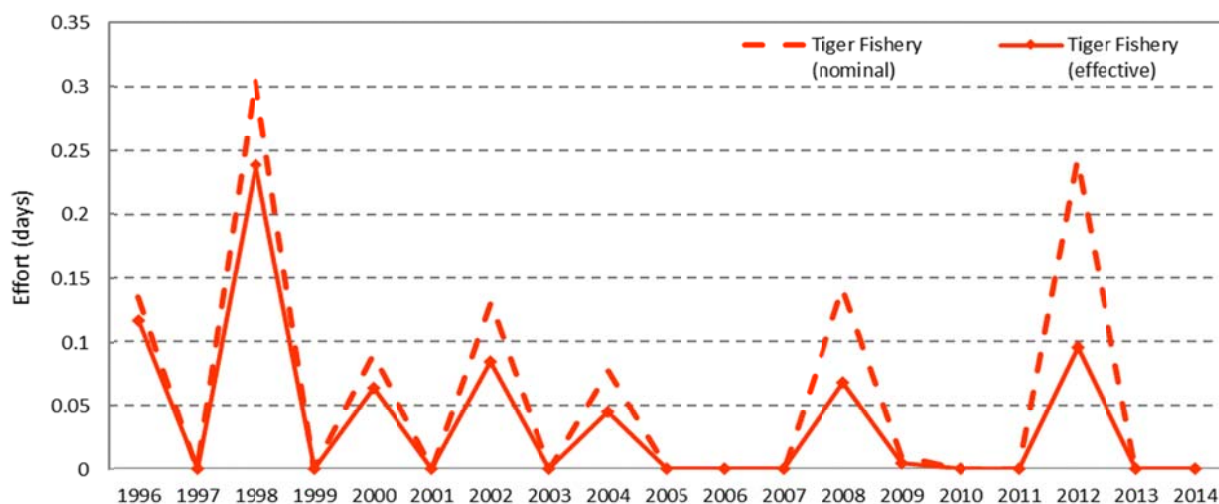
**Figure 24:** (a) Percentage catch of prawn species in the Mitchell area during 2013 and (b) percentage catch of prawn species in the Mitchell area, 1996 to 2014.



**Figure 25a:** Effort for the banana and tiger prawn fisheries in the Mitchell area, 1996 to 2014.



**Figure 25b:** Catch rate for the banana prawn fishery in the Mitchell area, 1996 to 2014.



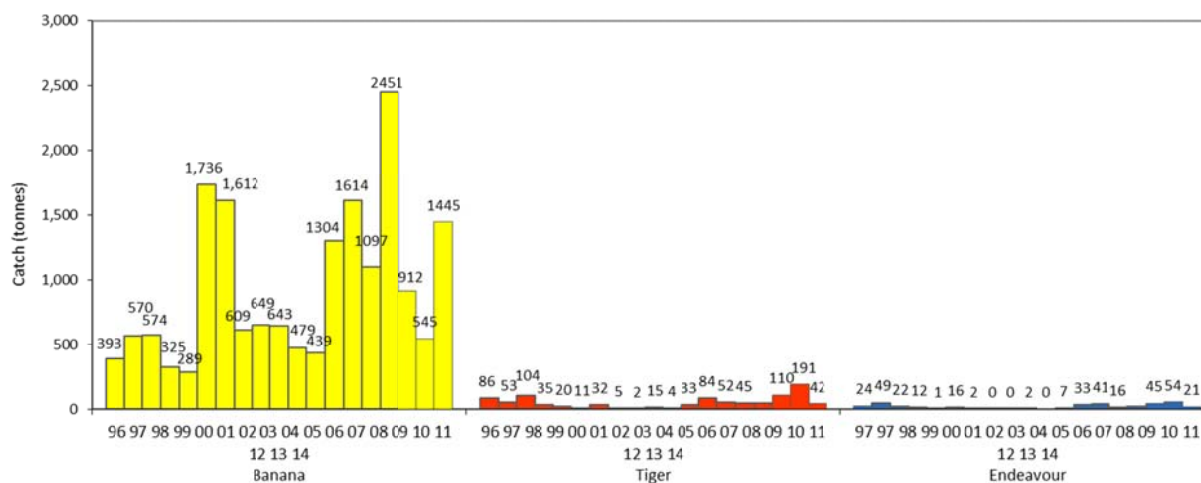
**Figure 25c:** Nominal and effective catch rate for the tiger prawn fishery in the Mitchell area, 1996 to 2014.

### **Bold**

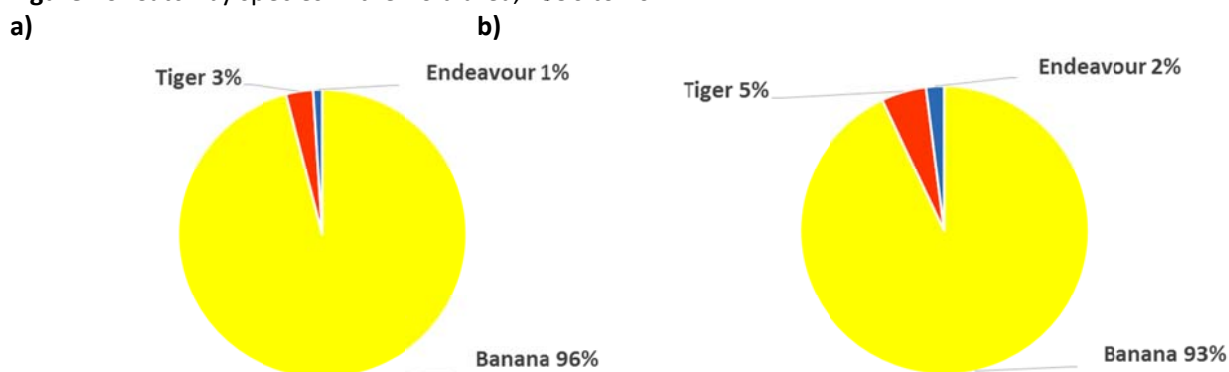
Banana prawn catches in the Bold area increased substantially from 545 t in 2013 to 1445 t in 2014. Catches of tiger prawns decreased from 191 t in 2013 to 42 t in 2014. Endeavour prawns catches also decreased from 54 t in 2013 to 21 t in 2014 (Figure 26). Banana prawns dominated the catch in this area in 2014, comprising 96% of the catch, with tiger prawns (3%) and endeavour prawns (1%) making up the remainder (Figure 27a).

Effort in the banana prawn fishery increased from 278 days in 2013 to 518 days in 2014 (Figure 28a). CPUE of banana prawns increased from 1.95 t per day in 2013 to 2.78 t per day in 2014 (Figure 28b). Effort in the tiger prawn fishery decreased from 539 days in 2013 to 131 days in 2014 (Figure 28a). Nominal and

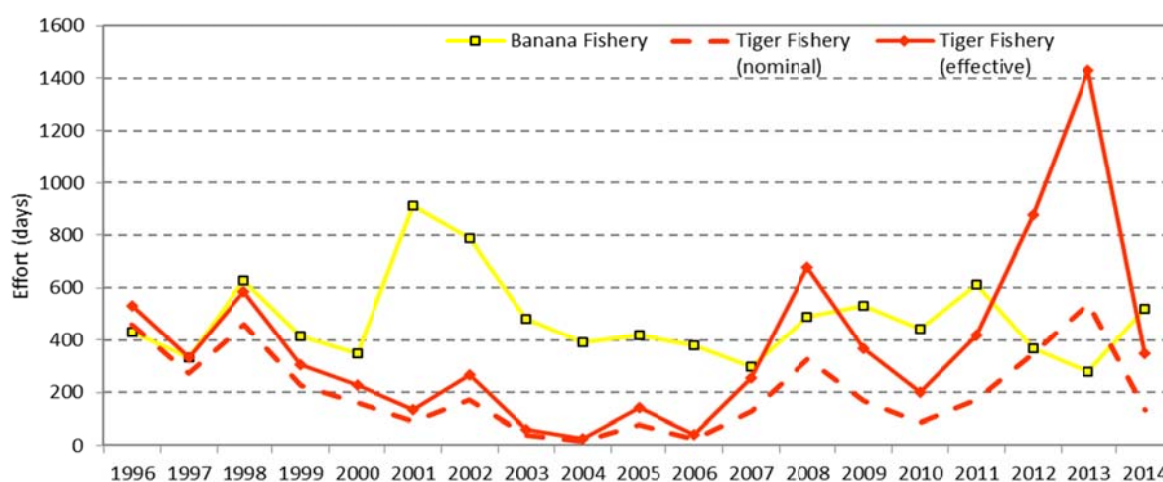
effective CPUE of tiger prawns increased from 0.465 and 0.175 t per day in 2013 to 0.511 and 0.192 t per day in 2014 (Figure 28c).



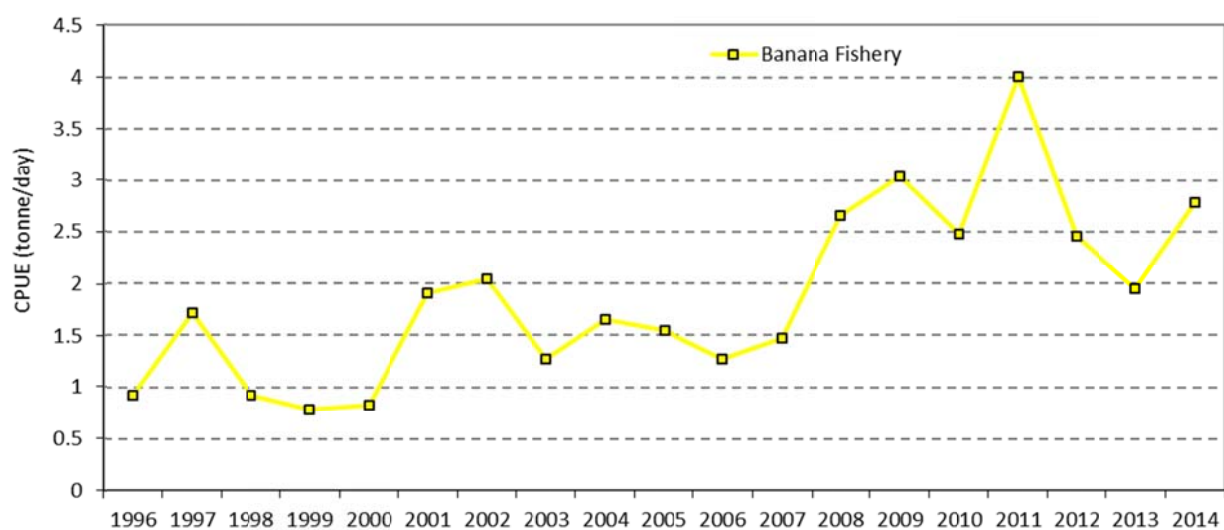
**Figure 26:** Catch by species in the Bold area, 1996 to 2014.



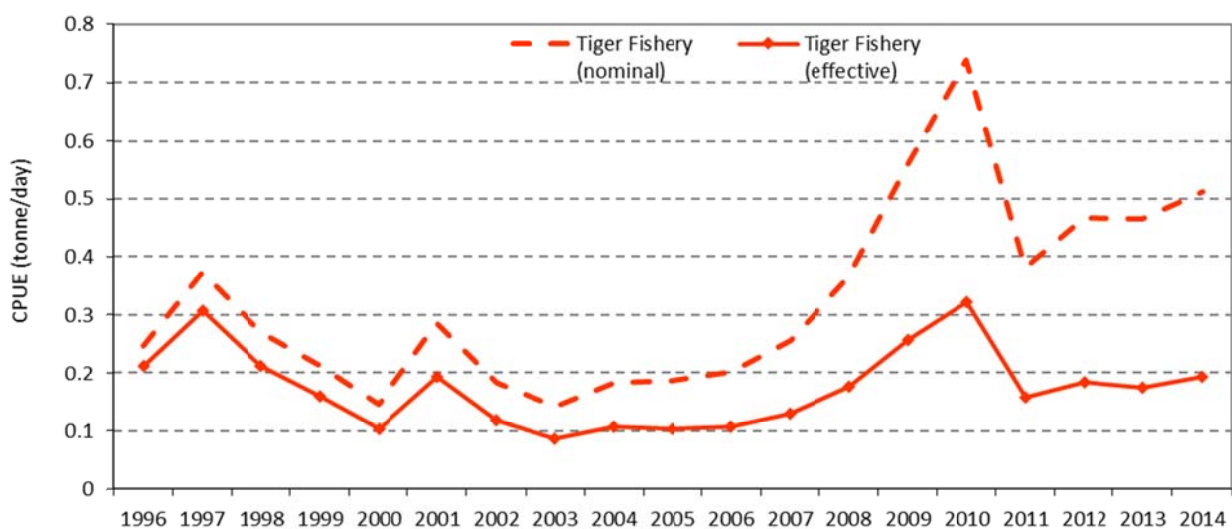
**Figure 27:** (a) Percentage catch of prawn species in the Bold area during 2014 and (b) catch of prawn species in the Bold area, 1996 to 2014.



**Figure 28a:** Effort for the banana and tiger prawn fisheries in the Bold area, 1996 to 2014.



**Figure 28b:** Catch rate for the banana prawn fishery in the Bold area, 1996 to 2014.

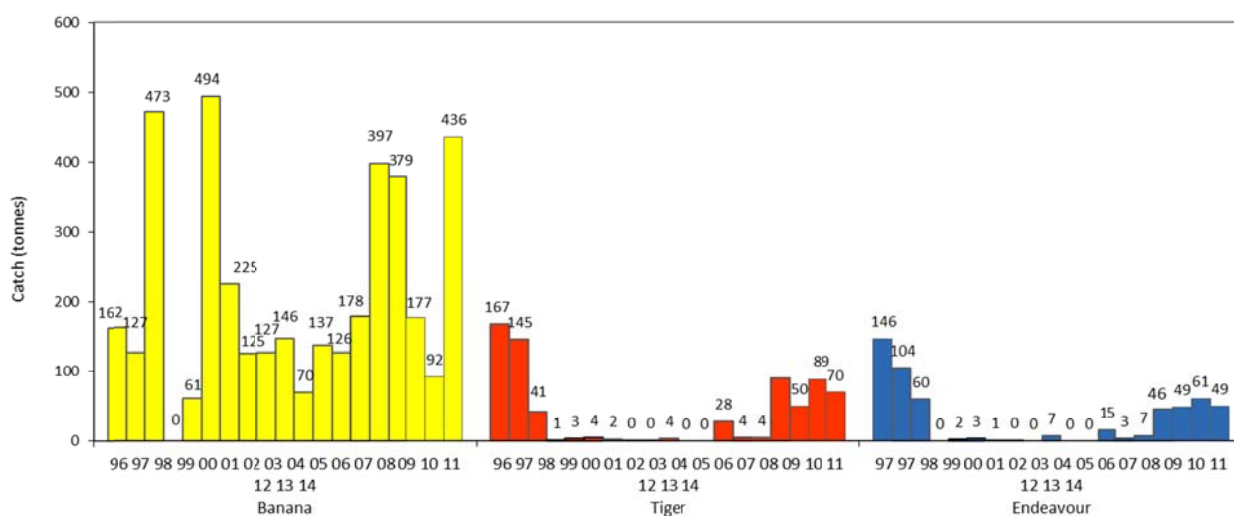


**Figure 28c:** Nominal and effective catch rate for the tiger prawn fishery in the Bold area, 1996 to 2014.

## Sweers

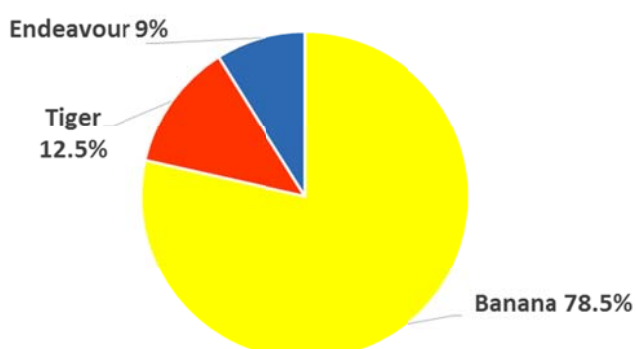
Banana prawn catches in the Sweers area increased from 92 t in 2013 to 436 t in 2014. Catches of tiger prawns decreased from 89 t in 2013 to 70 t in 2014, and endeavour prawns decreased from 61 t in 2013 to 49 t in 2014 (Figure 29). Banana prawns comprised 78.5% of the catch for 2014, with tiger and endeavor prawns comprising 12.5% and 9%, respectively (Figure 30a).

Effort in the banana fishery more than tripled, increasing from 45 days in 2013 to 144 days in 2014 (Figure 31a). CPUE of banana prawn increased from 1.99 t per day in 2013 to 2.97 t per day in 2014 (Figure 31b). Effort in the tiger prawn fishery decreased slightly from 260 days in 2013 to 223 days in 2014 (Figure 31a). Nominal and effective CPUE of tiger prawns for 2014 decreased from 0.587 and 0.221 t per day in 2013 to 0.578 and 0.218 t per day in 2014 (Figure 31c).

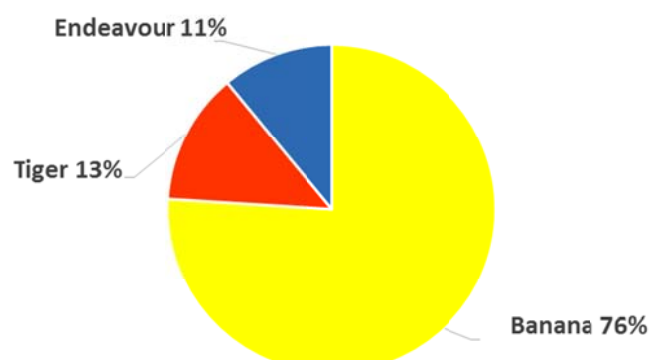


**Figure 29:** Catch by species in the Sweers area, 1996 to 2014.

a)

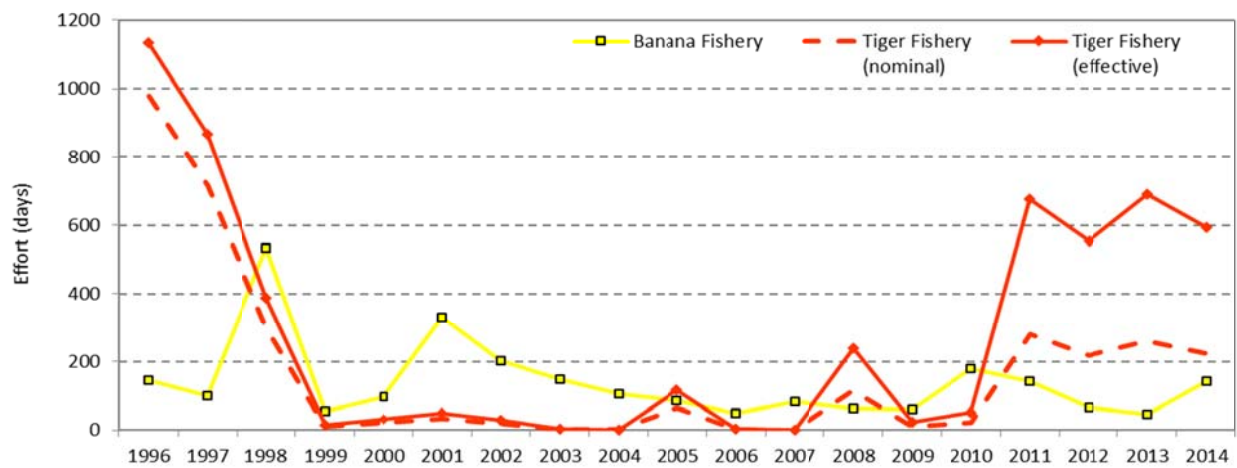


b)

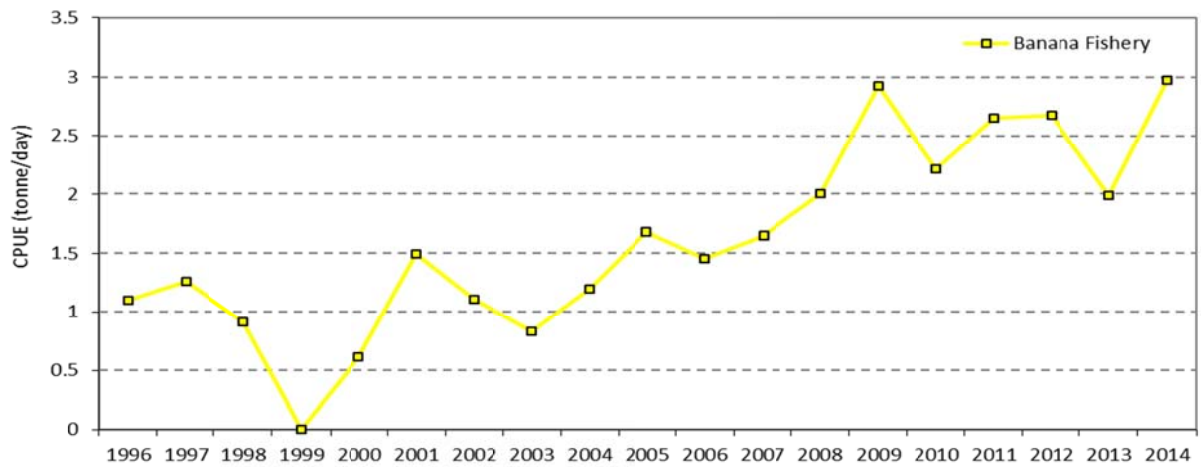


**Figure 30:** (a) Percentage catch of prawn species in the Sweers area during 2014, and (b) percentage catch of prawn species in the Sweers area, 1996 to 2014.

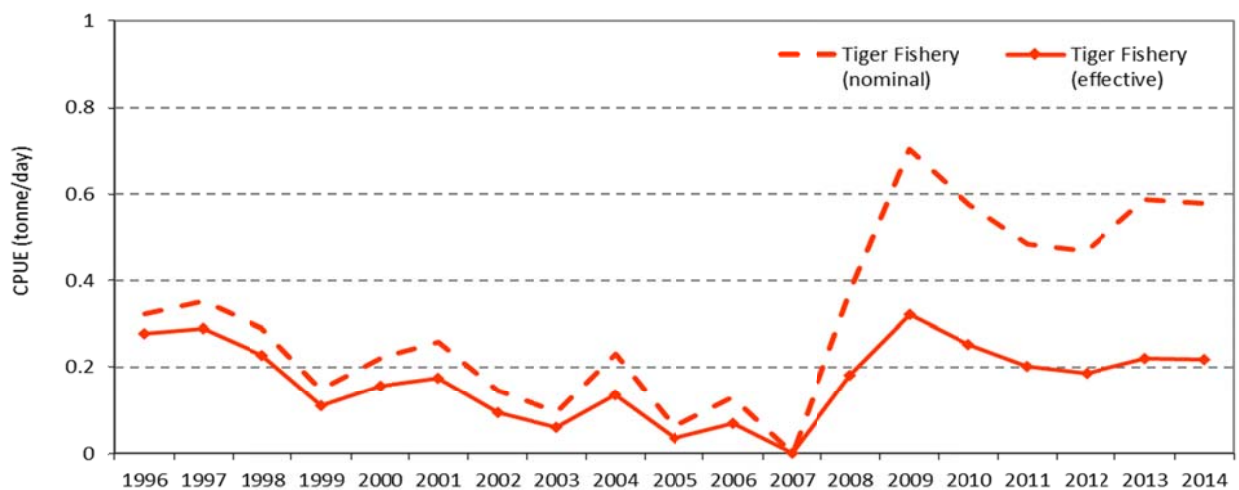




**Figure 31a:** Effort for the banana and tiger prawn fisheries in the Sweers area, 1996 to 2014.



**Figure 31b:** Catch rate for the banana prawn fishery in the Sweers area, 1996 to 2014.

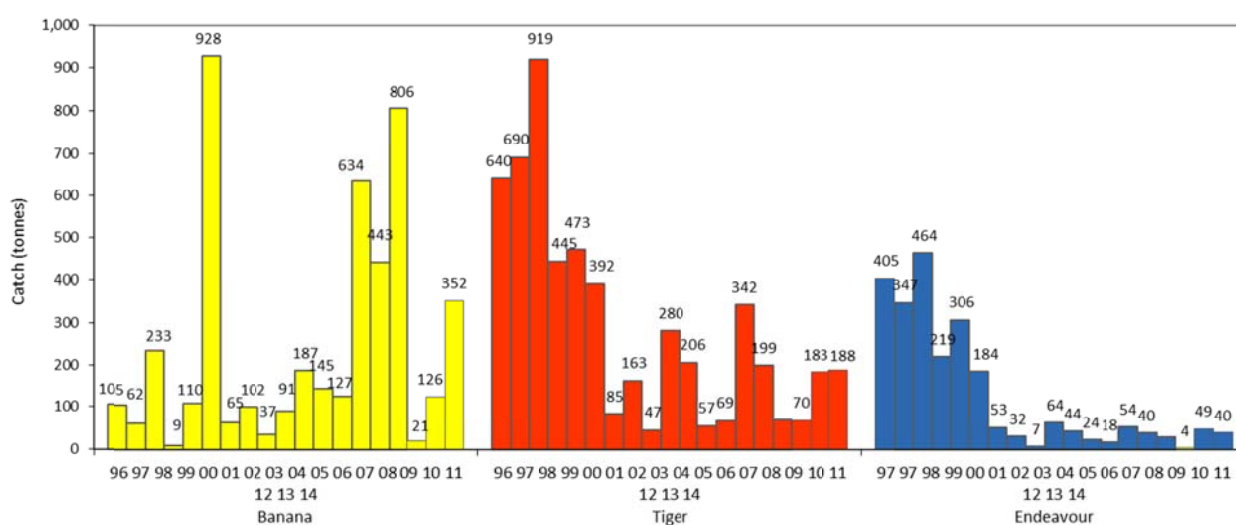


**Figure 31c:** Nominal and effective catch rate for the tiger prawn fishery in the Sweers area, 1996 to 2014.

## Mornington

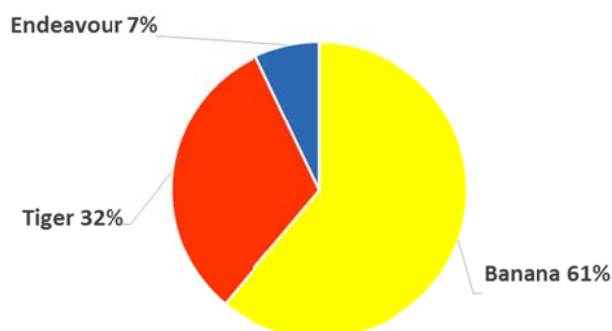
Banana prawn catches in the Mornington area increased from 126 t in 2013 to 352 t in 2014. Catches of tiger prawns increased from 183 t in 2013 to 188 t in 2014. Endeavour prawn catches decreased from 49 t in 2013 to 40 t in 2014 (Figure 32). In contrast to 2013, banana prawns dominated the catch in this area, contributing 61% of the catch in 2014, with tiger and endeavor prawns contributing 32% and 7% to the total catch, respectively (Figure 33a).

Effort in the banana fishery increased from 83 days in 2013 to 186 in 2014 (Figure 34a). CPUE of banana prawns increased from 1.492 t per day in 2013 to 1.897 t per day in 2014 (Figure 34b). Effort in the tiger prawn fishery increased slightly from 546 days in 2013 to 599 days in 2014 (Figure 34a). Nominal and effective CPUE of tiger prawns increased from 0.432 and 0.163 t per day in 2013 to 0.383 and 0.145 t per day in 2014, respectively (Figure 34c).

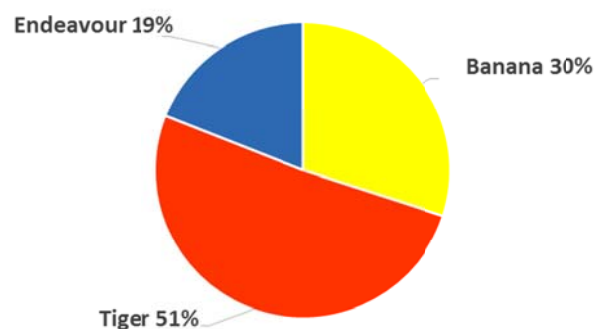


**Figure 32:** Catch by species in the Mornington area, 1996 to 2014.

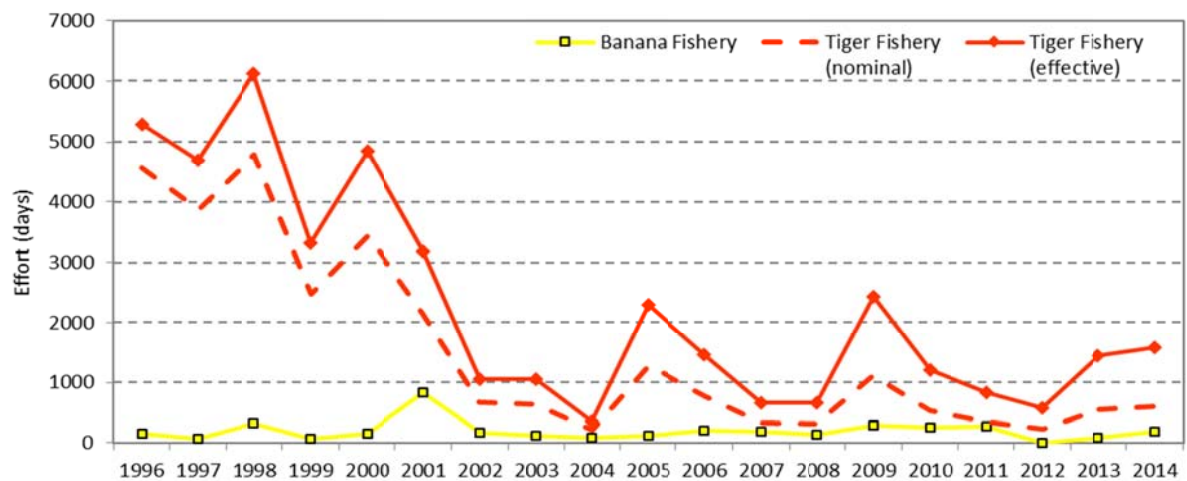
a)



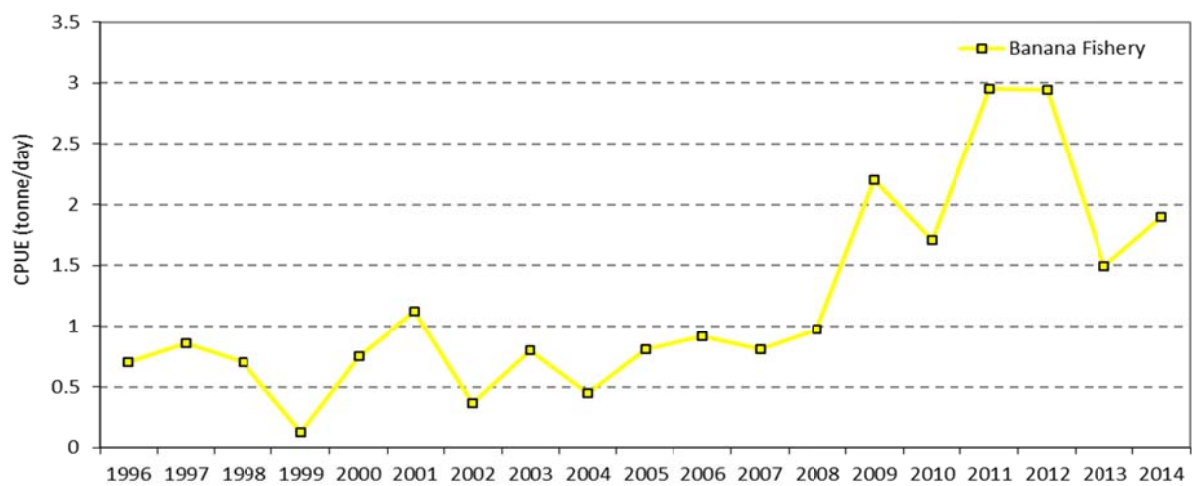
b)



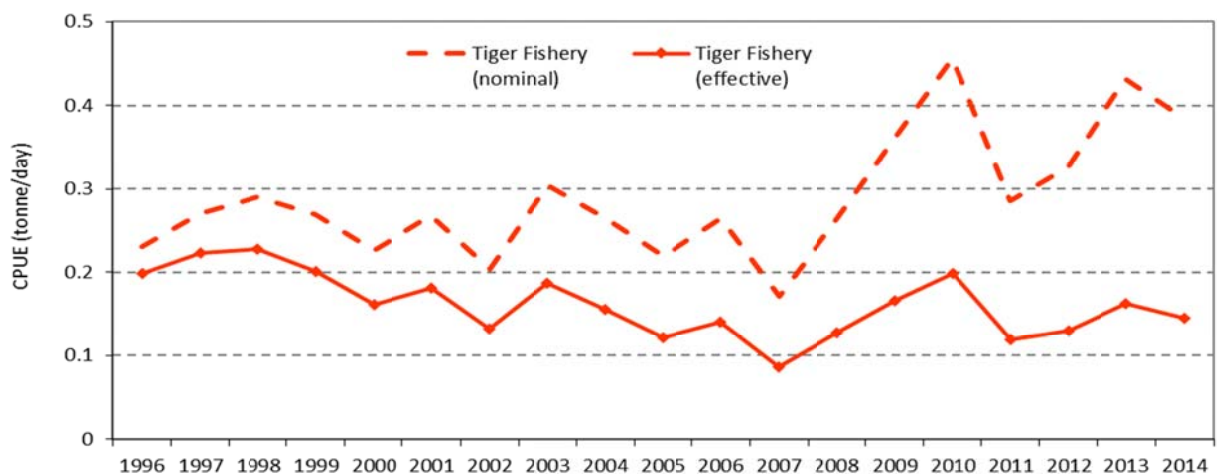
**Figure 33:** (a) Percentage catch of prawn species in the Mornington area during 2014 and (b) percentage catch of prawn species in the Mornington area, 1996 to 2014.



**Figure 34a:** Effort for the banana and tiger prawn fisheries in the Mornington area, 1996 - 2014.



**Figure 34b:** Catch rate for the banana prawn fishery in the Mornington area, 1996 - 2014.

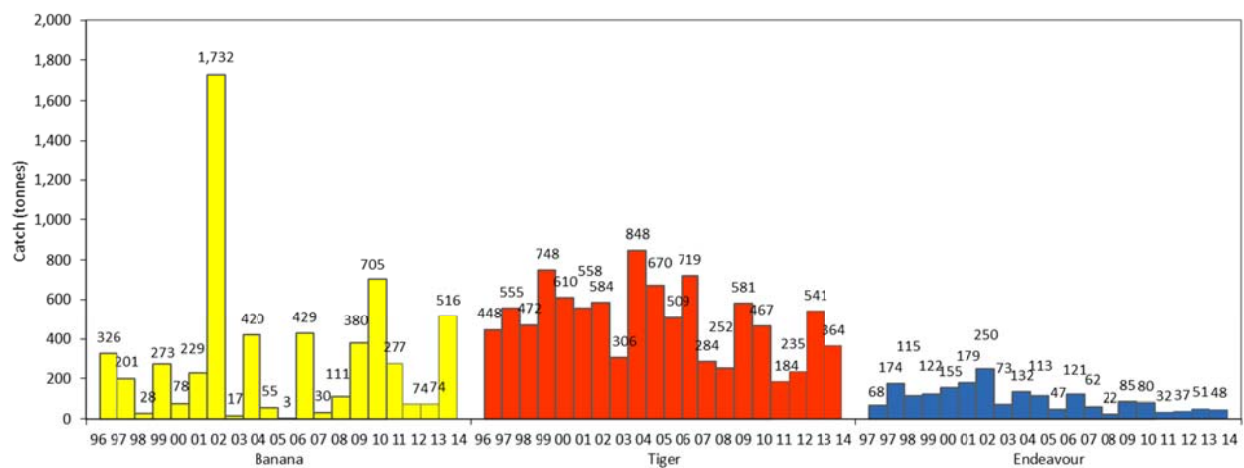


**Figure 34c:** Nominal and effective catch rate for the tiger prawn fishery in the Mornington area, 1996 - 2014.

## Limmen Bight

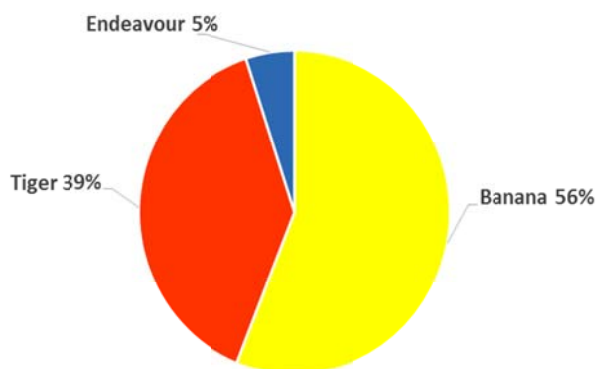
Banana prawn catches in the Limmen Bight area increased significantly from 74 t in 2013 to 516 t in 2014. Catches of tiger prawns decreased from 541 t in 2013 to 364 t in 2014. Endeavour prawn catches remained similar to 2013 (51 t) with 48 t caught in 2014 (Figure 35). In contrast to 2013, banana prawns dominated catches for 2014, comprising 56% of the total catch (compared to 81% tigers in 2013) (Figure 36).

Effort in the banana fishery increased from 63 days in 2013 to 191 days in 2014 (Figure 37a). CPUE of banana prawns increased from 1.218 t per day in 2013 to 2.717 in 2014 (Figure 37b). Effort in the tiger prawn fishery decreased from 1288 days in 2013 to 972 in 2014 (Figure 37a). Nominal and effective CPUE of tiger prawns also decreased from 0.457 and 0.172 t per day, respectively, in 2013 to 0.422 and 0.159 t in 2014 (Figure 37c).

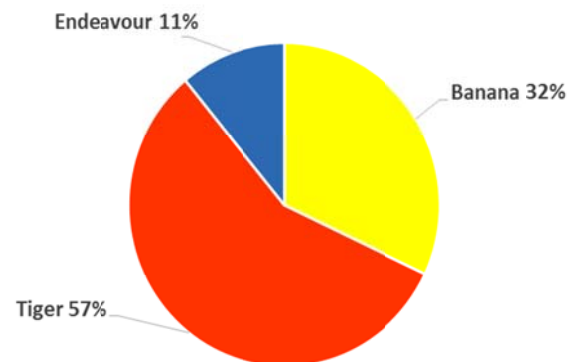


**Figure 35:** Catch by species in the Limmen Bight area, 1996 to 2014.

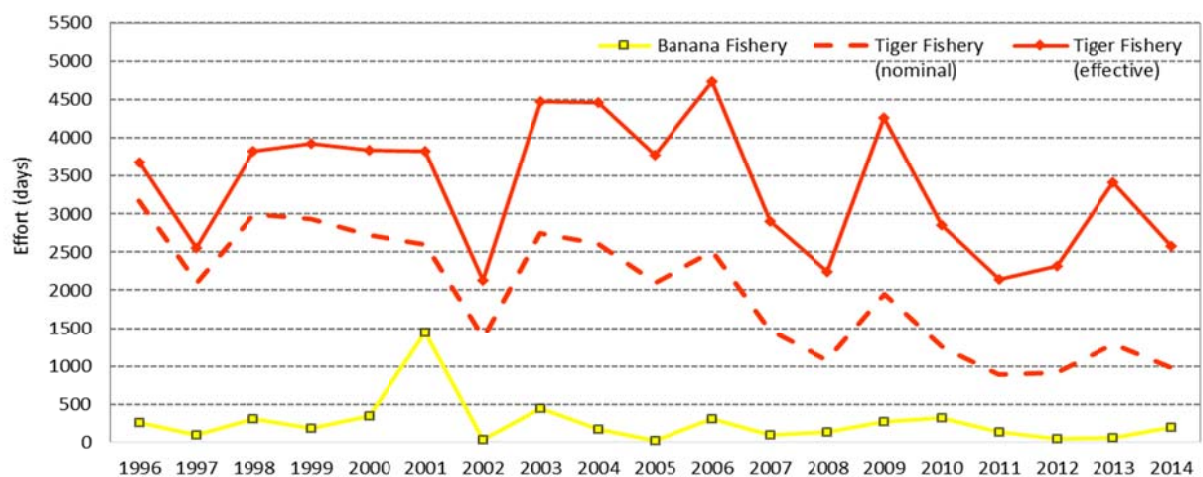
a)



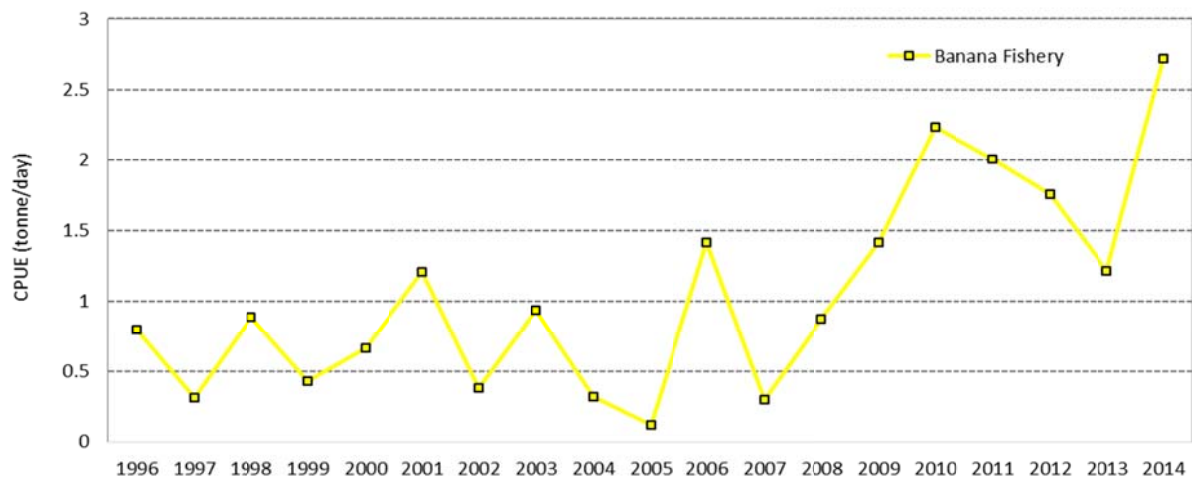
b)



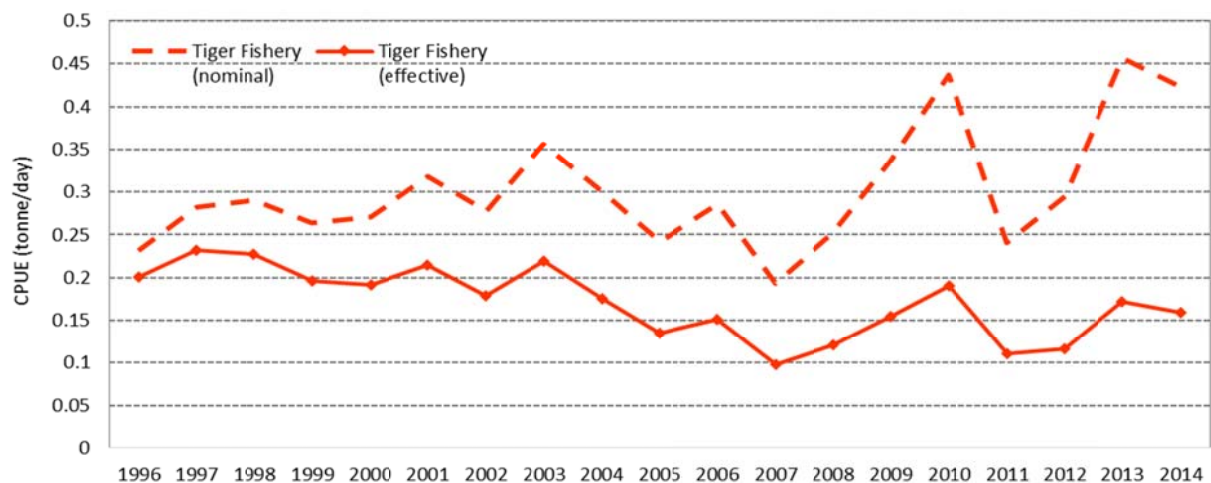
**Figure 36:** (a) Percentage catch of prawn species in the Limmen Bight area during 2014 and (b) percentage catch of prawn species in the Limmen Bight area, 1996 to 2014.



**Figure 37a:** Effort for the banana and tiger prawn fisheries in the Limmen Bight area, 1996 to 2014.



**Figure 37b:** Catch rate for the banana prawn fishery in the Limmen Bight area, 1996 to 2014.



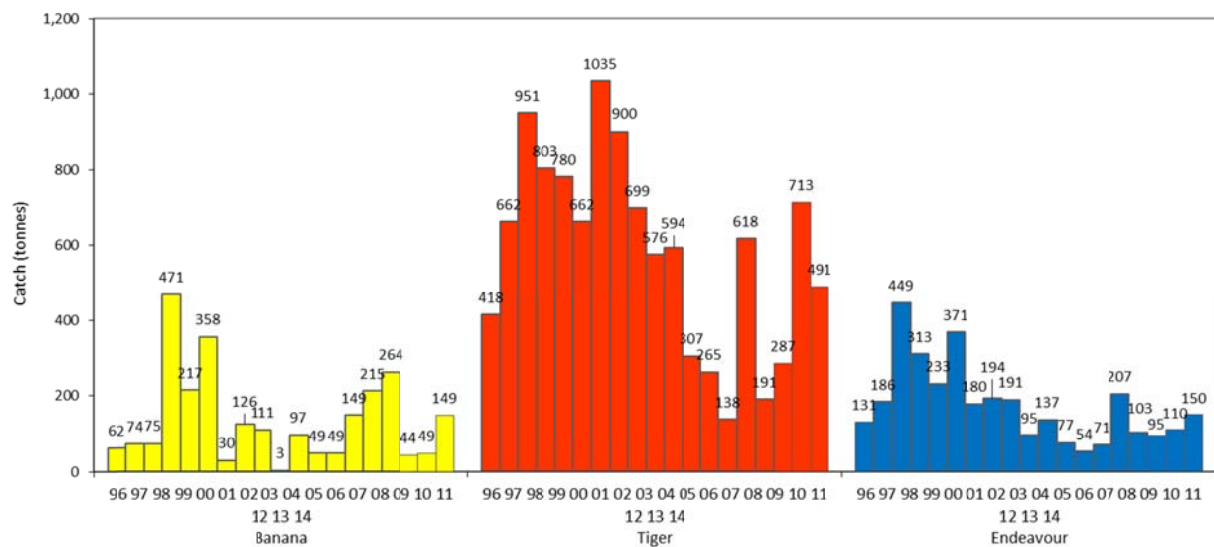
**Figure 37c:** Nominal and effective catch rate for the tiger prawn fishery in the Limmen Bight area, 1996 to 2014.



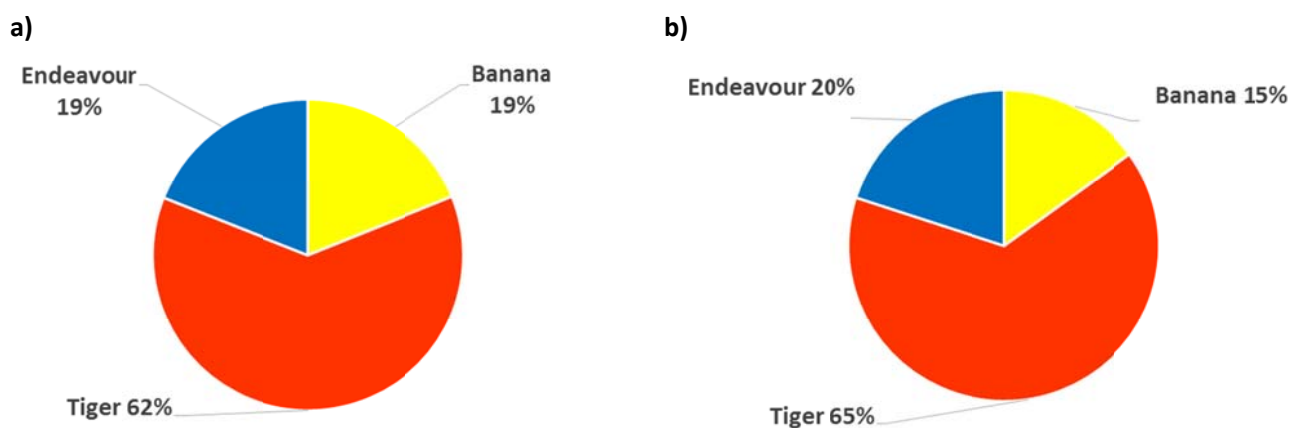
## Groote

Banana prawn catches in the Groote area increased from 49 t in 2013 to 149 t in 2014. Catches of tiger prawns decreased from 713 t in 2013 to 491 t in 2014. Endeavour prawn catches increased from 110 t in 2013 to 150 t in 2014 (Figure 38). In 2014, prawn catch comprised of 62% tiger prawns, 19% banana prawns and 19% endeavour prawns (Figure 39).

Effort in the banana fishery increased slightly from 31 days in 2013 to 43 in 2014 (Figure 40a). CPUE of banana prawns increased from 1.22 t per day in 2013 to 3.209 t per day in 2014 (Figure 40b). Effort in the tiger prawn fishery decreased from 1888 days in 2013 to 1435 days in 2014 (Figure 40a). Nominal and effective CPUE of tiger prawns increased from 0.442 and 0.167 t per day, respectively, in 2013 to 0.454 and 0.171 t per day in 2014 (Figure 40c).

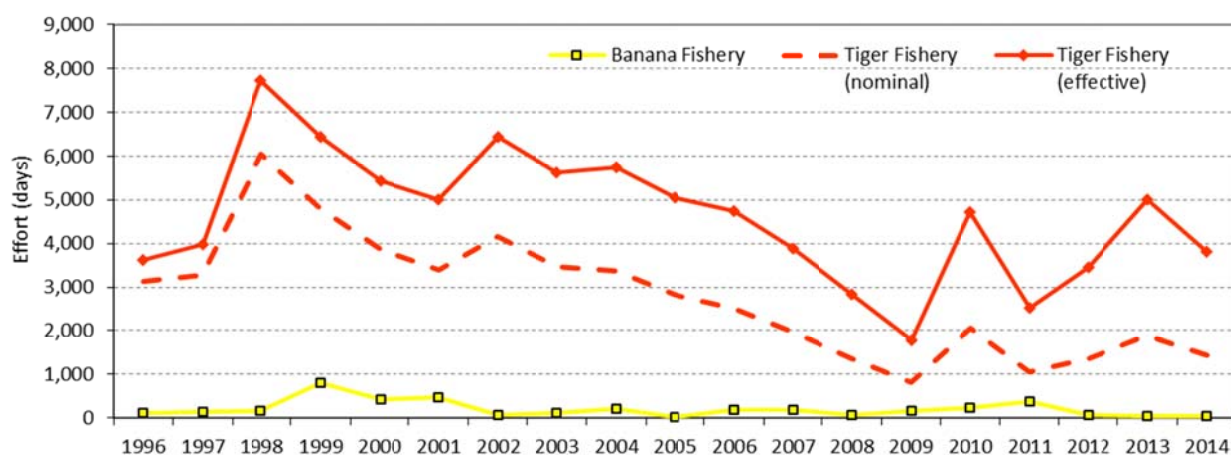


**Figure 38:** Catch by species in the Groote area between 1996 and 2014.

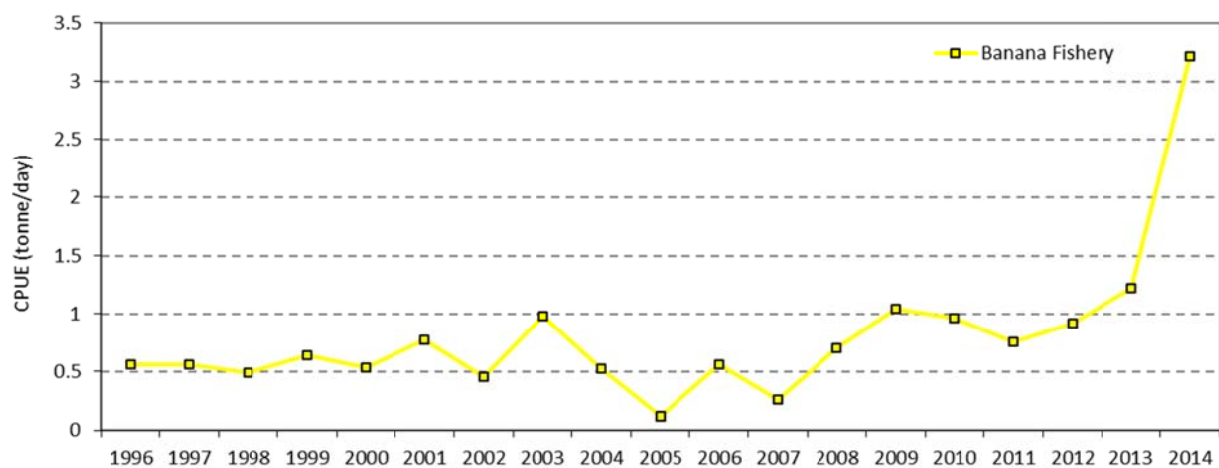


**Figure 39:** (a) Percentage catch of prawn species in the Groote area during 2014 and (b) percentage catch of prawn species in the Groote area, 1996 to 2014.

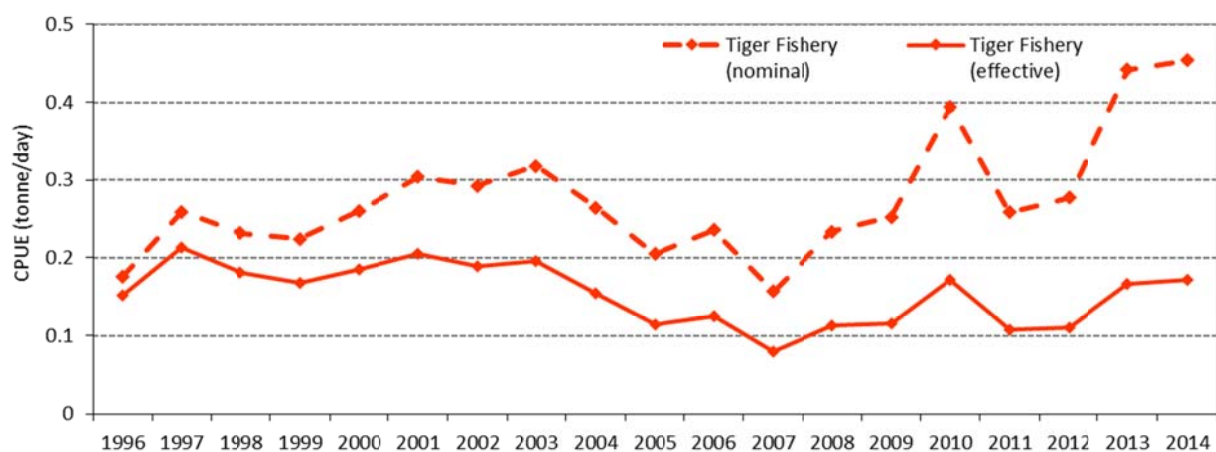




**Figure 40a:** Effort for the banana and tiger prawn fisheries in the Groote area, 1996 to 2014.



**Figure 40b:** Catch rate for the banana prawn fishery in the Groote area, 1996 to 2014.

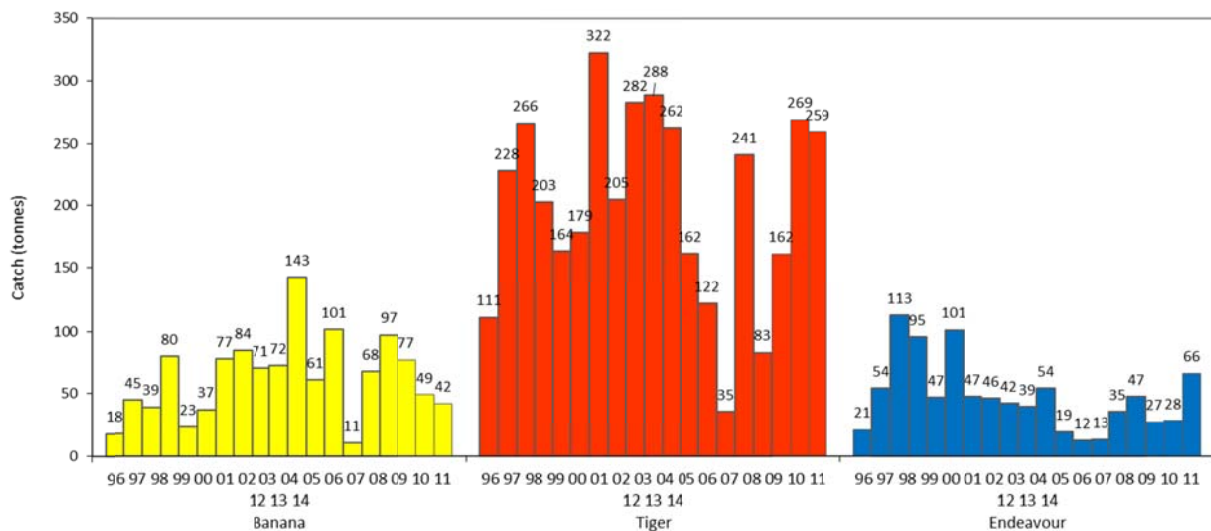


**Figure 40c:** Nominal and effective catch rate for the tiger prawn fishery in the Groote area, 1996 to 2014.

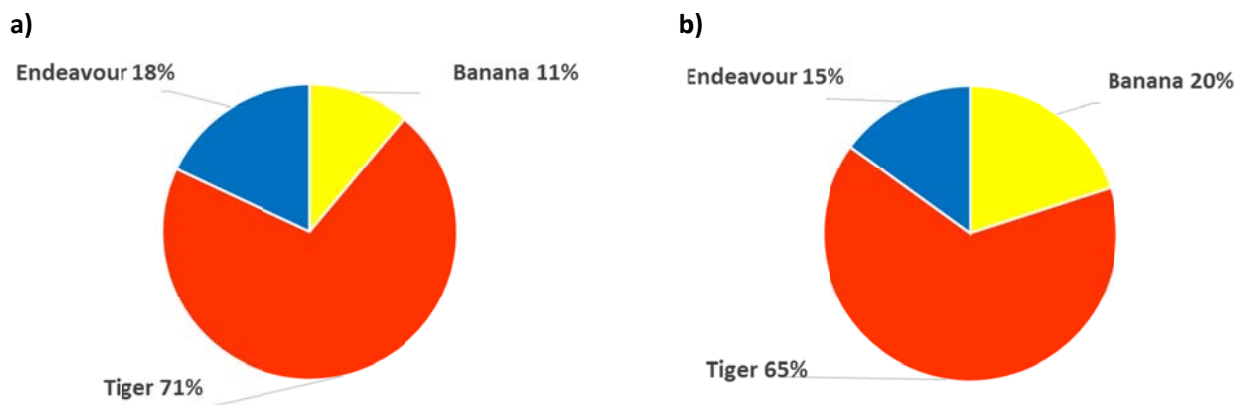
## Gove

Banana prawn catches in the Gove area decreased from 49 t in 2013 to 42 t in 2014. Catches of tiger prawns also decreased from 269 t in 2013 to 259 t in 2014. Endeavour prawn catches increased from 28 t in 2013 to 66 t in 2014 (Figure 41). Tiger prawns again dominated the catch from this area, comprising 71% of the catch, with endeavour prawns making up 18% and banana prawns the remaining 11% (Figure 42).

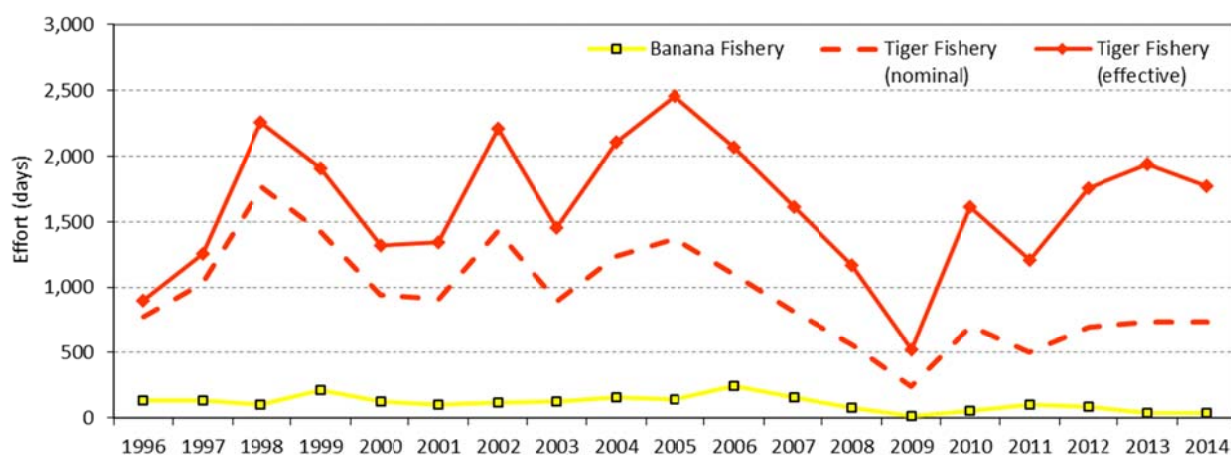
Effort in the banana fishery increased from 36 days in 2013 to 39 days in 2014 (Figure 43a). CPUE of banana prawns decreased from 1.356 t per day in 2013 to 1.051 in 2014 (Figure 43b). Effort in the tiger prawn fishery increased from 732 days in 2013 to 737 days in 2014 (Figure 43a). Nominal and effective CPUE for tiger prawns increased from 0.406 and 0.153 t per day in 2013, respectively, to 0.444 and 0.184 t per day in 2014 (Figure 43c).



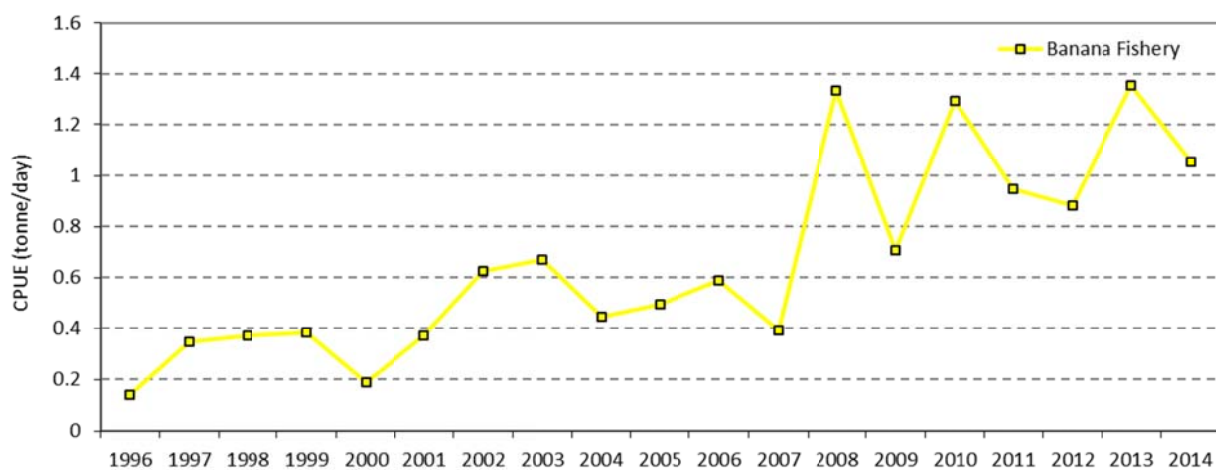
**Figure 41:** Catch by species in the Gove area, 1996 to 2014.



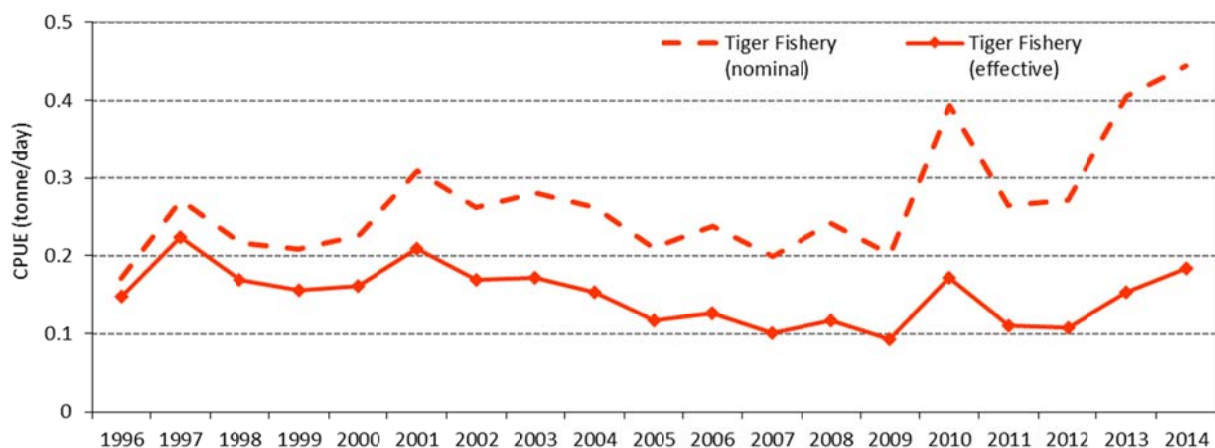
**Figure 42:** (a) Percentage catch of prawn species in the Gove area during 2014 and (b) percentage catch of prawn species in the Gove area, 1996 to 2014.



**Figure 43a:** Effort for the banana and tiger prawn fisheries in the Gove area, 1996 to 2014.



**Figure 43b:** Catch rate for the banana prawn fishery in the Gove area, 1996 to 2014.

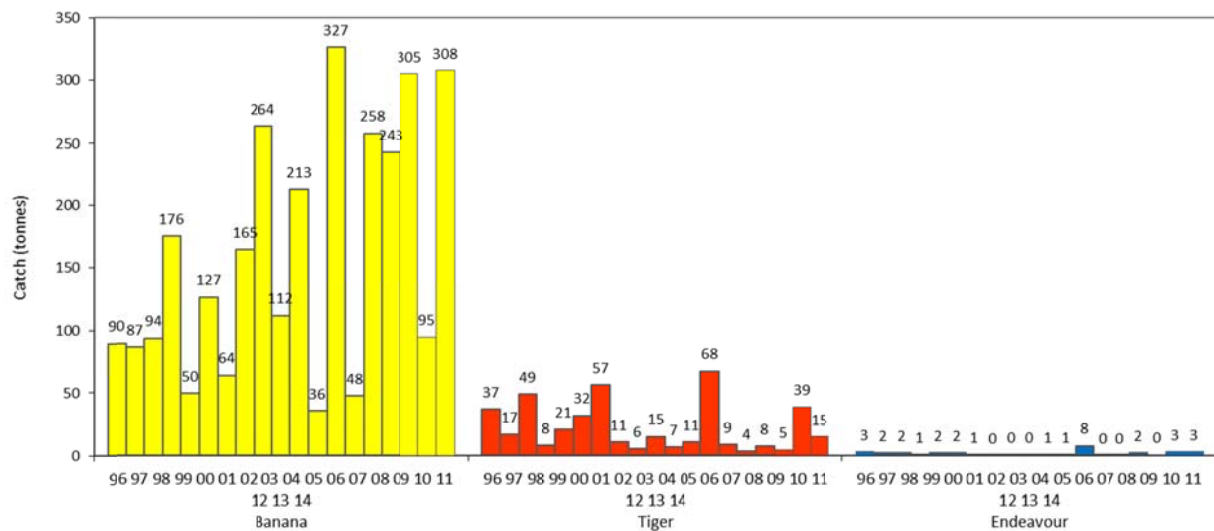


**Figure 43c:** Nominal and effective catch rate for the tiger prawn fishery in the Gove area, 1996 to 2014.

## Arnhem

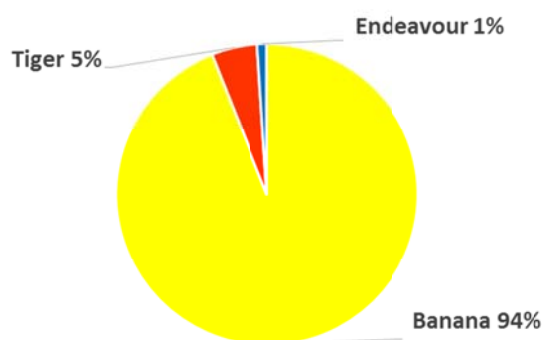
Banana prawn catches in the Arnhem area increased from 95 t in 2013 to 308 t in 2014. Catches of tiger prawns decreased from 39 t in 2013 to 15 t in 2014. As in 2013, 3 tonnes of endeavour prawns were caught in 2014 (Figure 44). Banana prawns dominated the catch for 2014, comprising 94% of the total catch (Figure 45). The remaining catch comprised 5% tiger prawns and 1% endeavour prawns.

Effort in the banana fishery increased from 58 days in 2013 to 153 days in 2014 (Figure 46a). CPUE of banana prawns increased from 1.641 t per day in 2013 to 2.019 t per day in 2014 (Figure 46b). Effort in the tiger prawn fishery decreased from 120 days in 2013 to 51 days in 2014 (Figure 46a). Nominal and effective CPUE of tiger prawns increased from 0.358 and 0.135 t per day, respectively, in 2013 to 0.333 and 0.139 t per day in 2014 (Figure 46c).

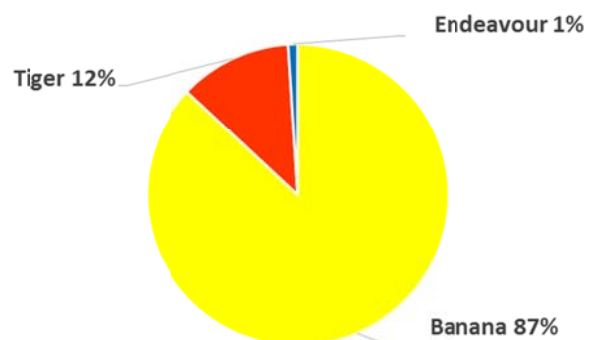


**Figure 44:** Catch by species in the Arnhem area, 1996 to 2014.

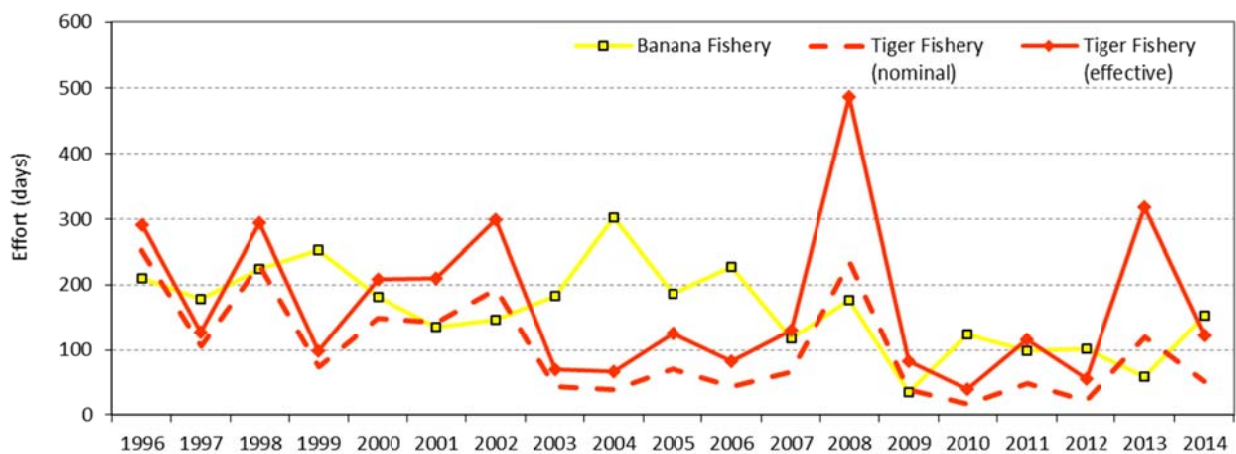
a)



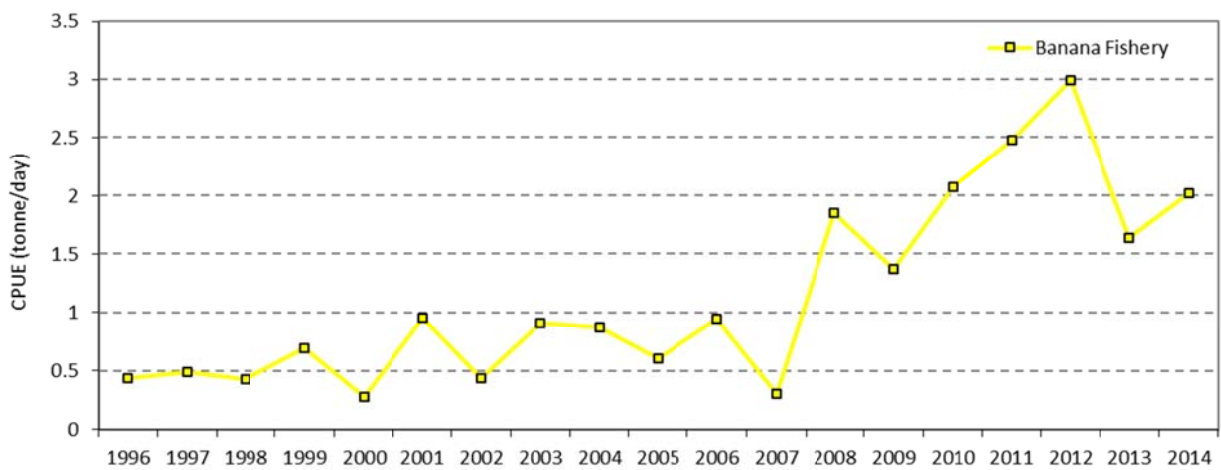
b)



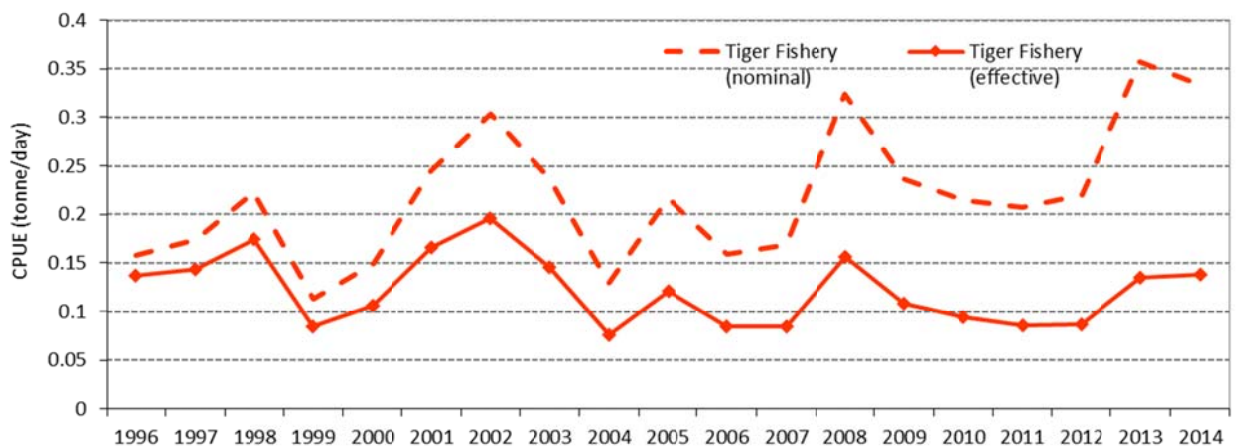
**Figure 45:** (a) Percentage catch of prawn species in the Arnhem area during 2014 and (b) percentage catch of prawn species in the Arnhem area, 1996 to 2014.



**Figure 46a:** Effort for the banana and tiger prawn fisheries in the Arnhem area, 1996 to 2014.



**Figure 46b:** Catch rate for the banana prawn fishery in the Arnhem area, 1996 to 2014.

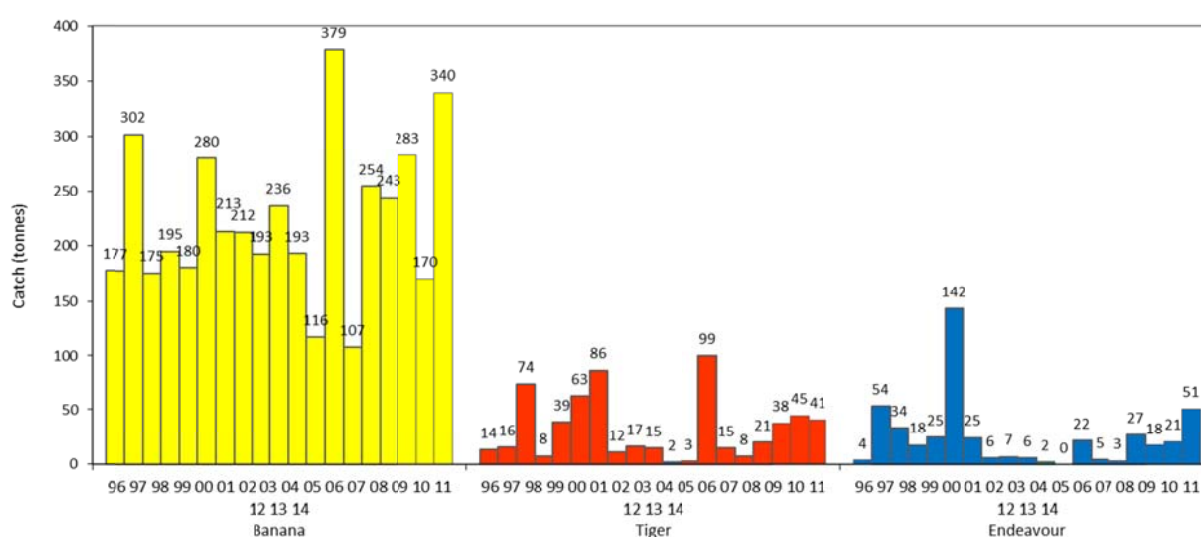


**Figure 46c:** Nominal and effective catch rate for the tiger prawn fishery in the Arnhem area, 1996 to 2014.

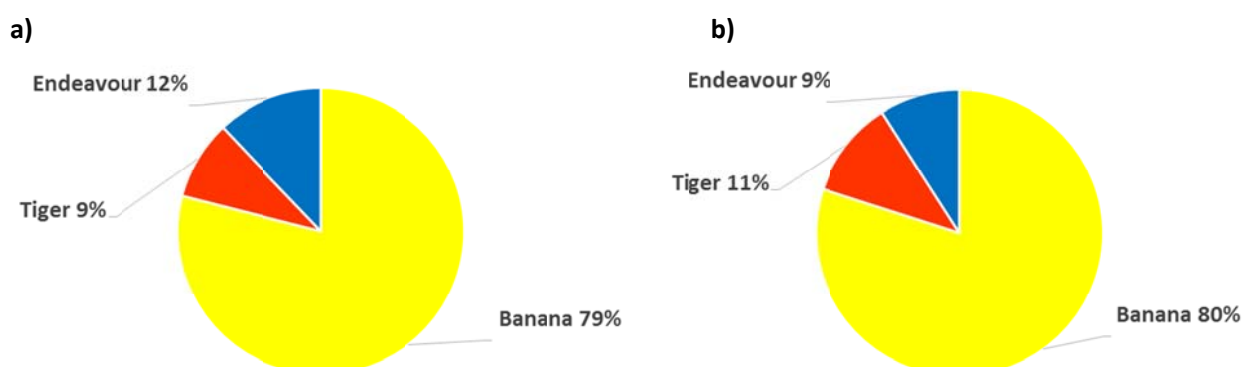
## Port Essington

Banana prawn catches in the Port Essington area increased from 170 t in 2013 to 340t in 2014. Tiger prawn catches decreased slightly from 45 t in 2013 to 41 t in 2014. Endeavour prawn catches increased from 21 t in 2013 to 51 t in 2014 (Figure 47). Banana prawns dominated catches in 2014, comprising 79% of prawn catches from the Port Essington area. Endeavour prawns made up 12% of catches, and tiger prawns, the remaining 9% (Figure 48).

Effort in the banana fishery increased from 162 days in 2013 to 264 days in 2014 (Figure 49a). CPUE of banana prawns increased from 1.042 t per day in 2013 to 1.314 t per day in 2014 (Figure 49b). Effort in the tiger prawn fishery increased from 118 days in 2013 to 133 days in 2014 (Figure 49a). Nominal and effective CPUE of tiger prawns increased from 0.568 and 0.214 t per day, respectively, in 2013 to 0.639 and 0.266 t per day in 2014 (Figure 49c).

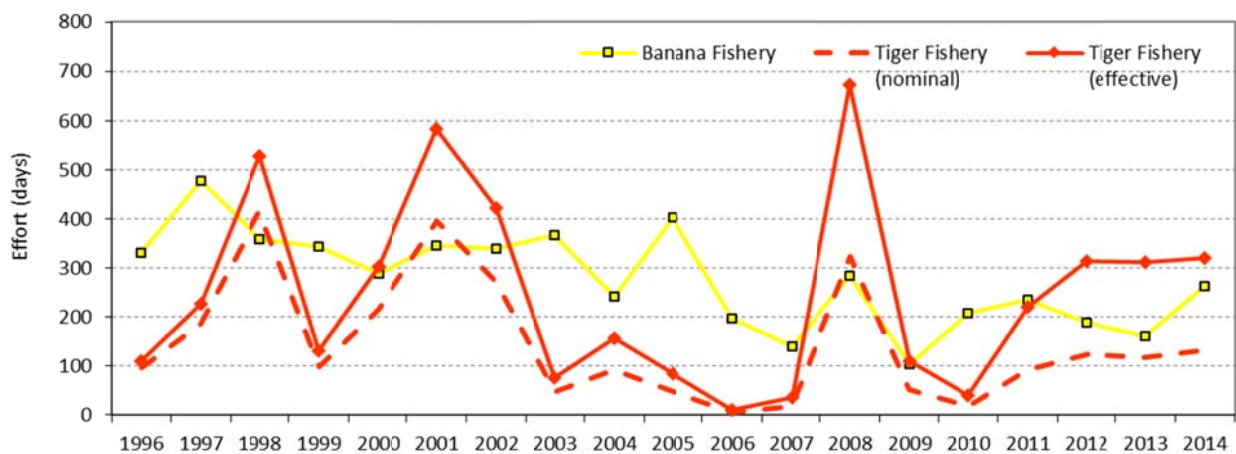


**Figure 47:** Catch by species in the Port Essington area, 1996 to 2014.

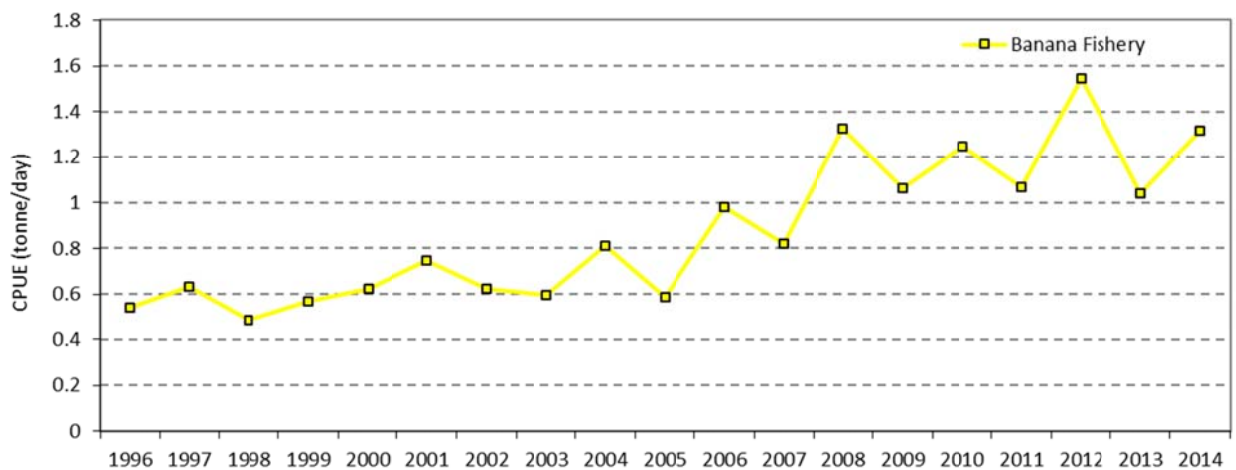


**Figure 48:** (a) Percentage catch of prawn species in the Port Essington area during 2014, and (b) percentage catch of prawn species in the Port Essington area, 1996 to 2014.

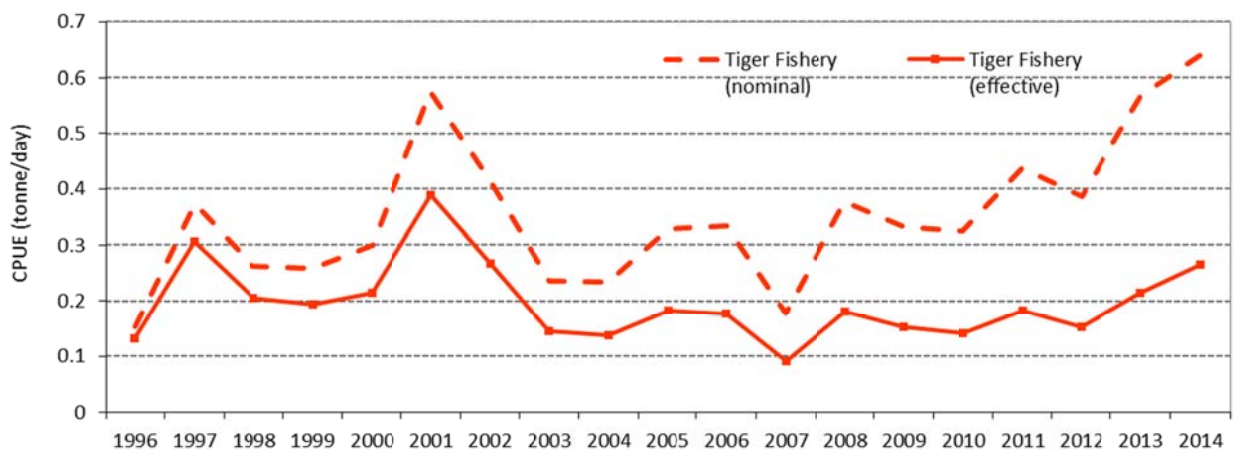




**Figure 49a:** Effort for the banana and tiger prawn fisheries in the Port Essington area, 1996 to 2014.



**Figure 49b:** Catch rate for the banana prawn fishery in the Port Essington area, 1996 to 2014.

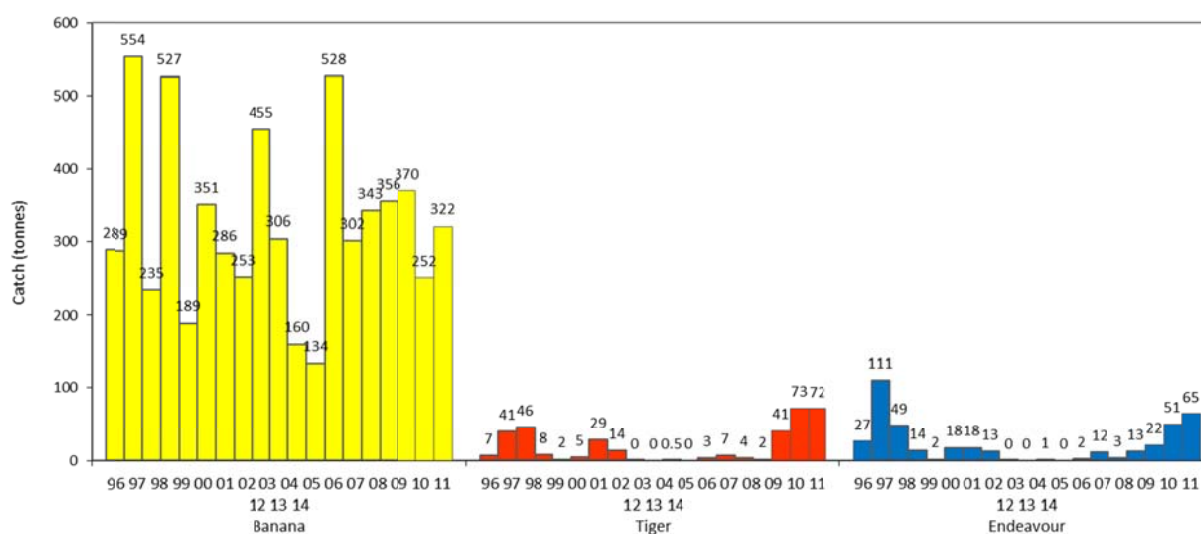


**Figure 49c:** Nominal and effective catch rate for the tiger prawn fishery in the Port Essington area, 1996 to 2014.

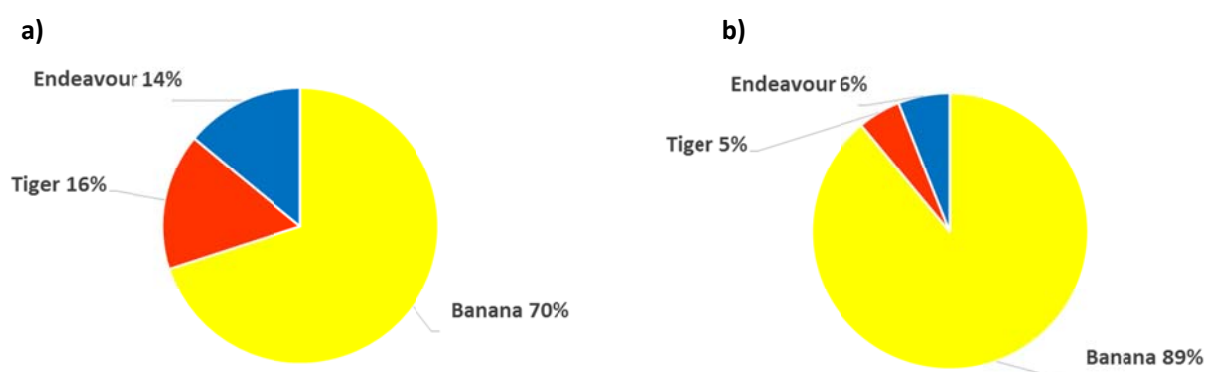
## Melville

Banana prawn catches in the Melville area increased from 252 t in 2013 to 322 t in 2014. Catches of tiger prawns went from 73 t in 2013 to 72 t in 2014. Endeavour prawn catches increased from 51 t in 2013 to 65 t in 2014 (Figure 50). Banana prawns comprised 70% of the catch in 2014, with tiger prawns making up 16%, and endeavor prawns, 14% (Figure 51).

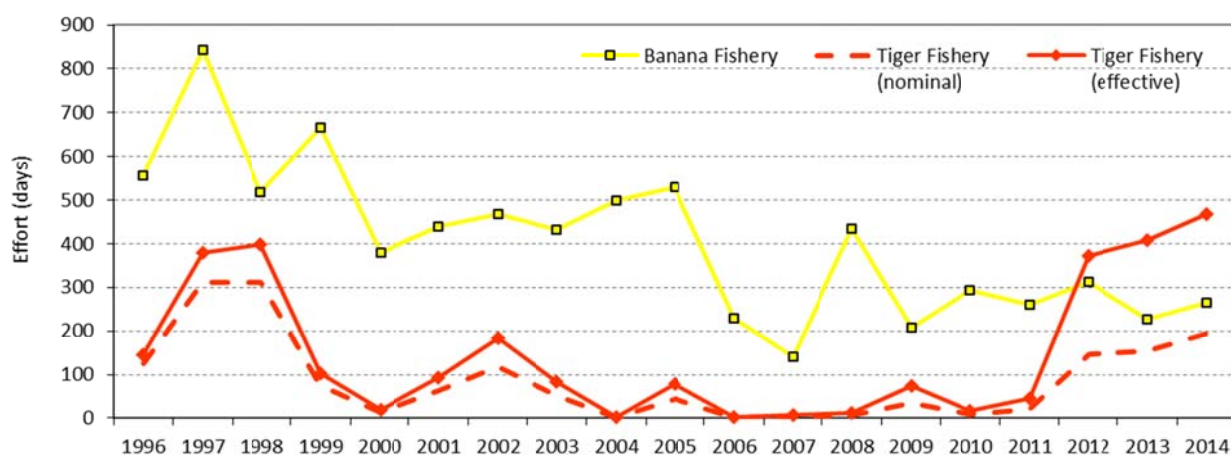
Effort in the banana fishery increased from 227 in 2013 to 265 days in 2014 (Figure 52a). CPUE for banana prawns increased from 1.160 t per day in 2013 to 1.245 t per day in 2014 (Figure 52b). Effort in the tiger prawn fishery increased from 154 days in 2013 to 194 days in 2014 (Figure 52a). Nominal CPUE for tiger prawns decreased from 0.731 per day in 2013 to 0.670 per day in 2014 and effective CPUE for tiger prawns increased from 0.275 t per day in 2013 to 0.2784 t per day in 2014 (Figure 52c).



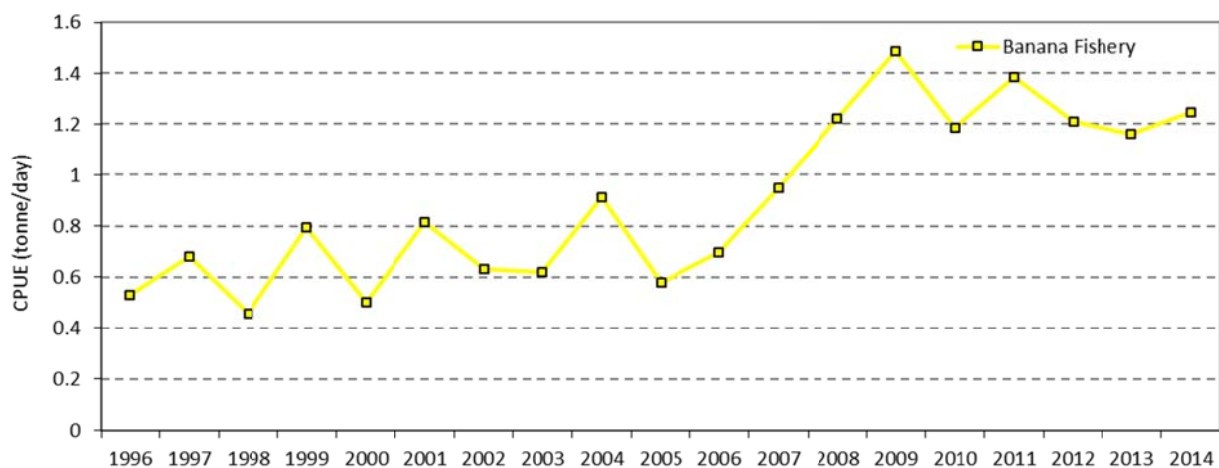
**Figure 50:** Catch by species in the Melville area, 1996 to 2014.



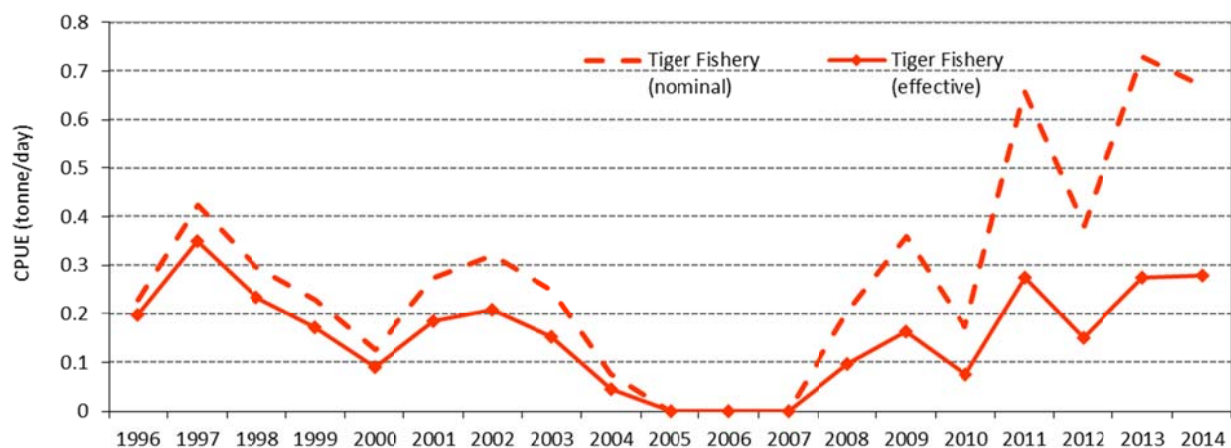
**Figure 51:** (a) Percentage catch of prawn species in the Melville area during 2013, and (b) percentage catch of prawn species in the Melville area, 1996 to 2014.



**Figure 52a:** Effort for the banana and tiger prawn fisheries in the Melville area, 1996 to 2014.



**Figure 52b:** Catch rate for the banana prawn fishery in the Melville area, 1996 to 2014.

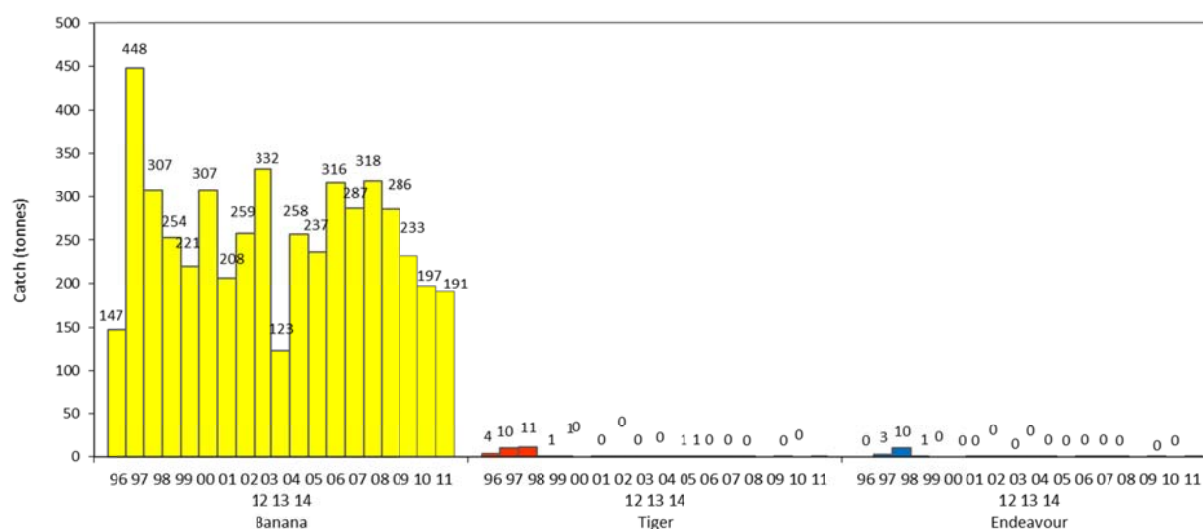


**Figure 52c:** Nominal and effective catch rate for the tiger prawn fishery in the Melville area, 1996 to 2014.

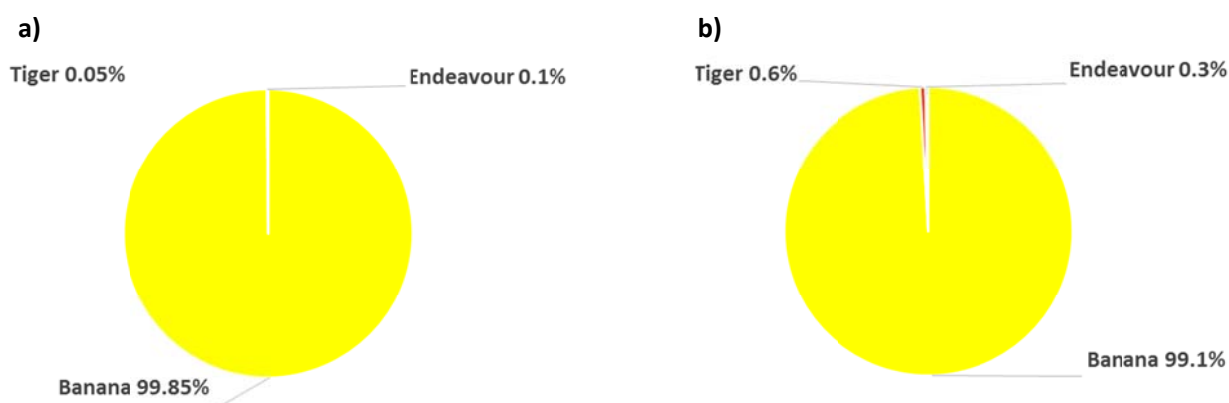
## Fog Bay

Banana prawn catches in the Fog Bay area decreased slightly from 197 t in 2013 to 191 t in 2014. Catches of tiger and endeavour prawns in 2013 were both <1 t, as in 2013 (Figure 53). Banana prawns comprised 99.85% of the catch taken during 2014 in this area (Figure 54).

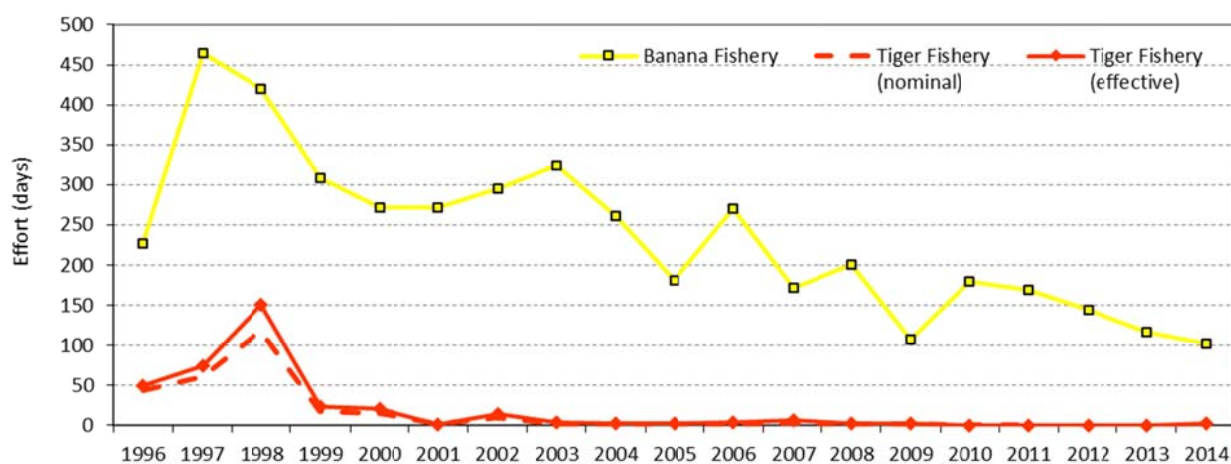
Effort in the banana fishery decreased from 117 days in 2013 to 102 days in 2014 (Figure 55a). CPUE of banana prawns increased from 1.685 t per day in 2013 to 1.872 t per day in 2014 (Figure 55b). One day of effort was expended in the tiger prawn fishery in 2014 for this area (Figure 55a). Both nominal and effective CPUE were zero in 2014 (Figure 55c).



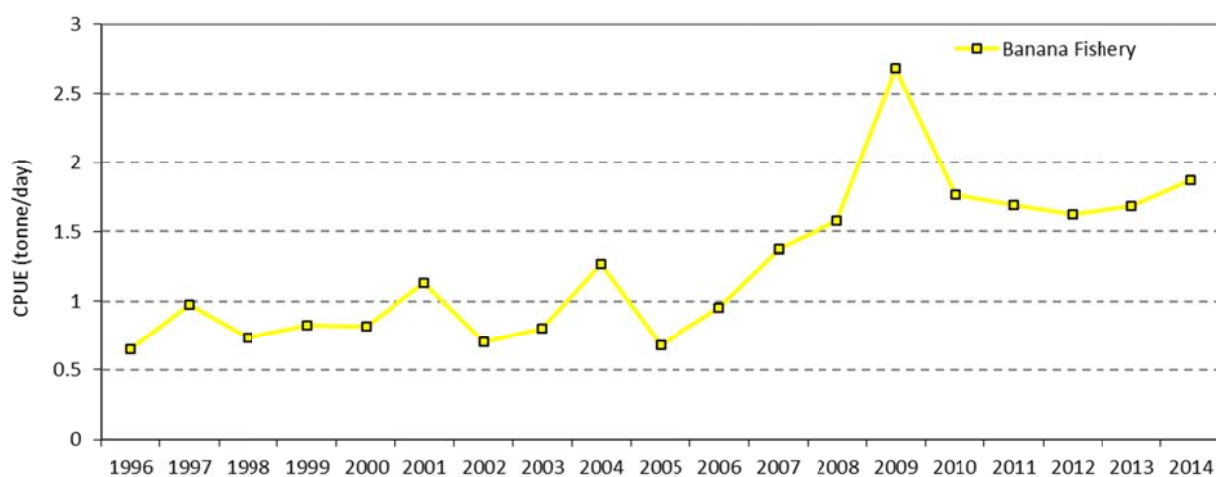
**Figure 53:** Catch by species in the Fog Bay area, 1996 to 2014.



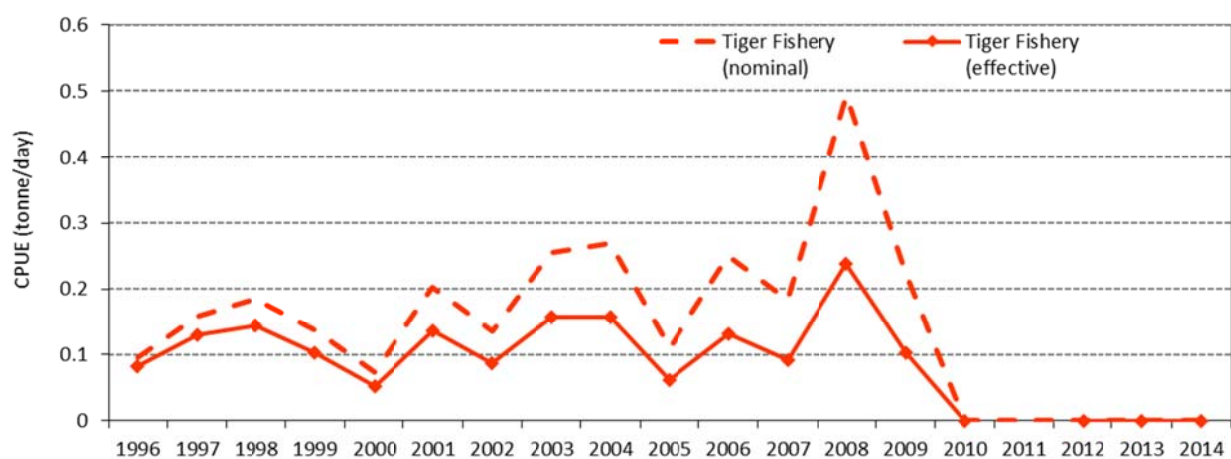
**Figure 54:** (a) Percentage catch of prawn species in the Fog Bay area during 2014 and (b) percentage catch of prawn species in the Fog Bay area, 1996 to 2014.



**Figure 55a:** Effort for the banana and tiger prawn fisheries in the Fog Bay area, 1996 to 2014.



**Figure 55b:** Catch rate for the banana prawn fishery in the Fog Bay area, 1996 to 2014.

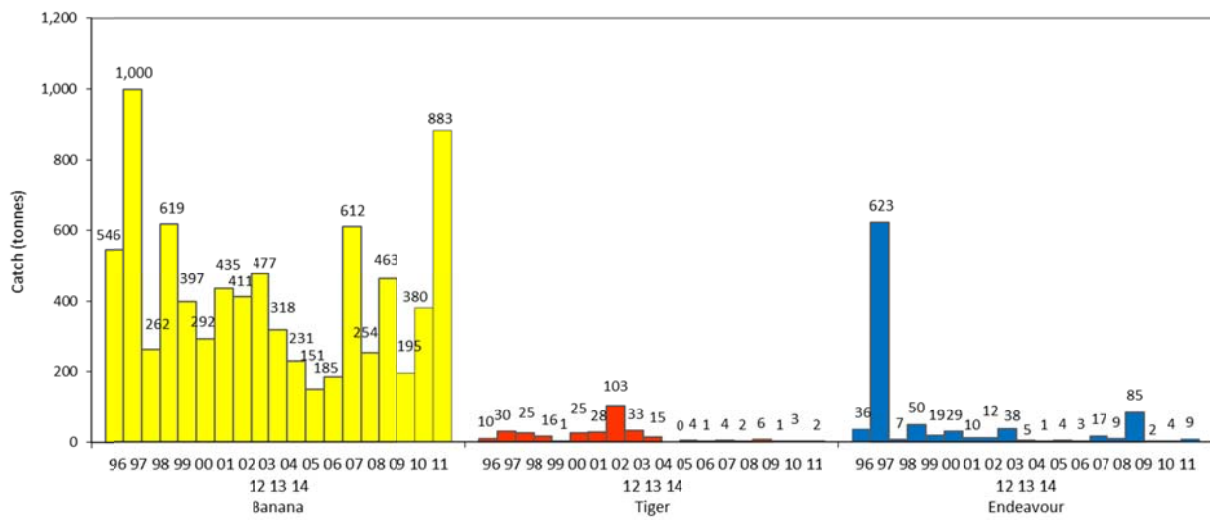


**Figure 55c:** Nominal and effective catch rate for the tiger prawn fishery in the Fog Bay area, 1996 to 2014.

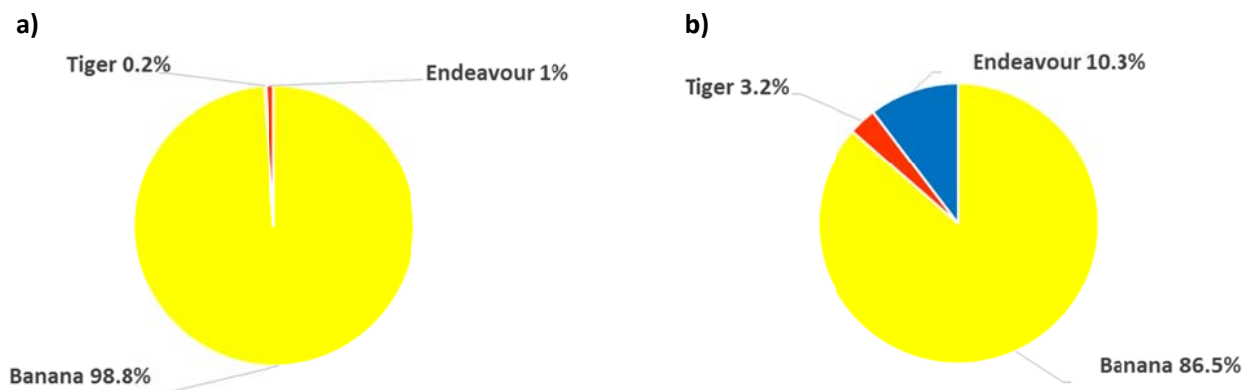
## Bonaparte

Banana prawn catches in the Bonaparte area increased from 380 t in 2013 to 883 t in 2014. Tiger prawn catches decreased from 3 t in 2013 to 2 t in 2014, and endeavour prawn catches increased from 4 t in 2013 to 9 t in 2014 (Figure 56). Banana prawns made up 98.8% of the catch for 2014 (Figure 57).

Effort in the banana fishery increased from 325 days in 2013 to 604 days in 2014 (Figure 58a). CPUE of banana prawns decreased from 1.191 t in 2013 to 1.475 t per day in 2014 (Figure 58b). Effort in the tiger prawn fishery increased from 1 day in 2013 to 4 days in 2014 (Figure 58a). Nominal and effective CPUE of tiger prawns increased from 0.025 and 0.009 t per day in 2013 to 0.75 and 0.312 in 2014 (Figure 58c).

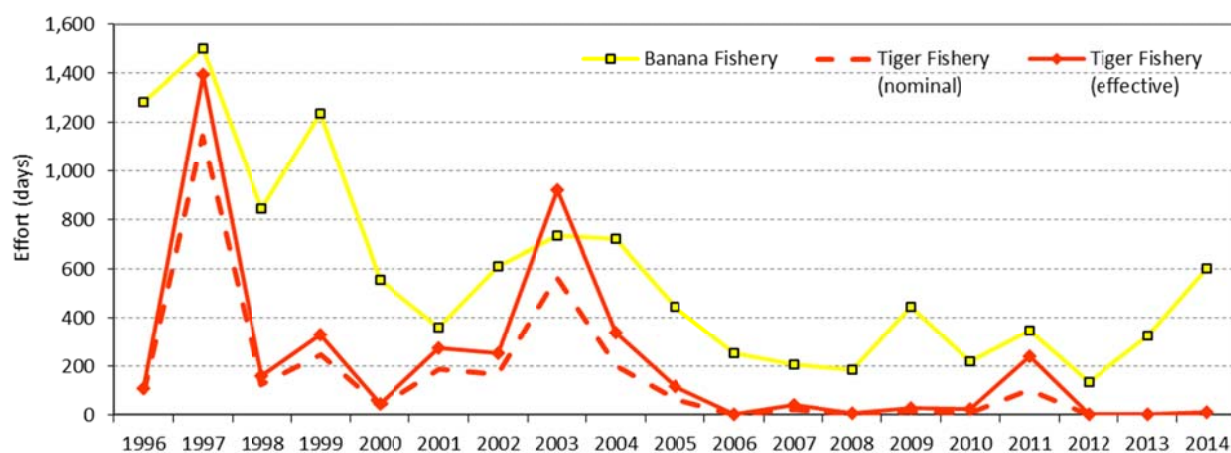


**Figure 56:** Catch by species in the Bonaparte area, 1996 to 2014.

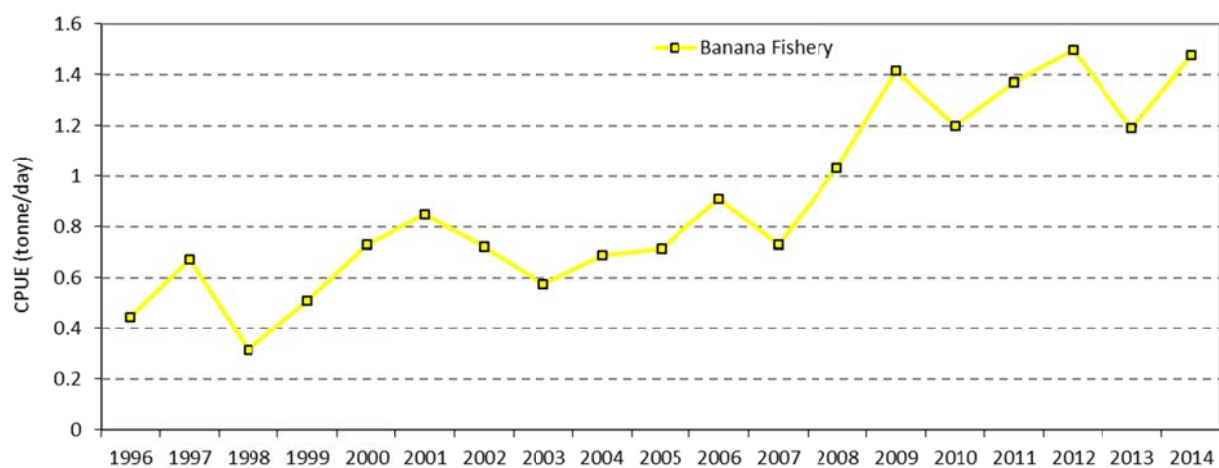


**Figure 57:** (a) Percentage catch of prawn species in the Bonaparte area during 2014, and (b) percentage catch of prawn species in the Bonaparte area, 1996 to 2014.

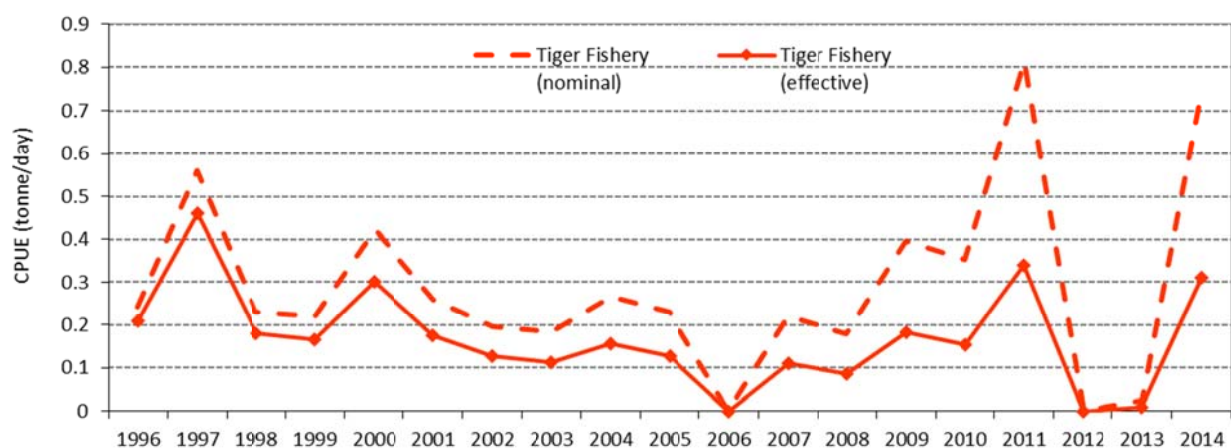




**Figure 58a:** Effort for the banana and tiger prawn fisheries in the Bonaparte area, 1996 to 2014.



**Figure 58b:** Catch rate for the banana prawn fishery in the Bonaparte area, 1996 to 2014.

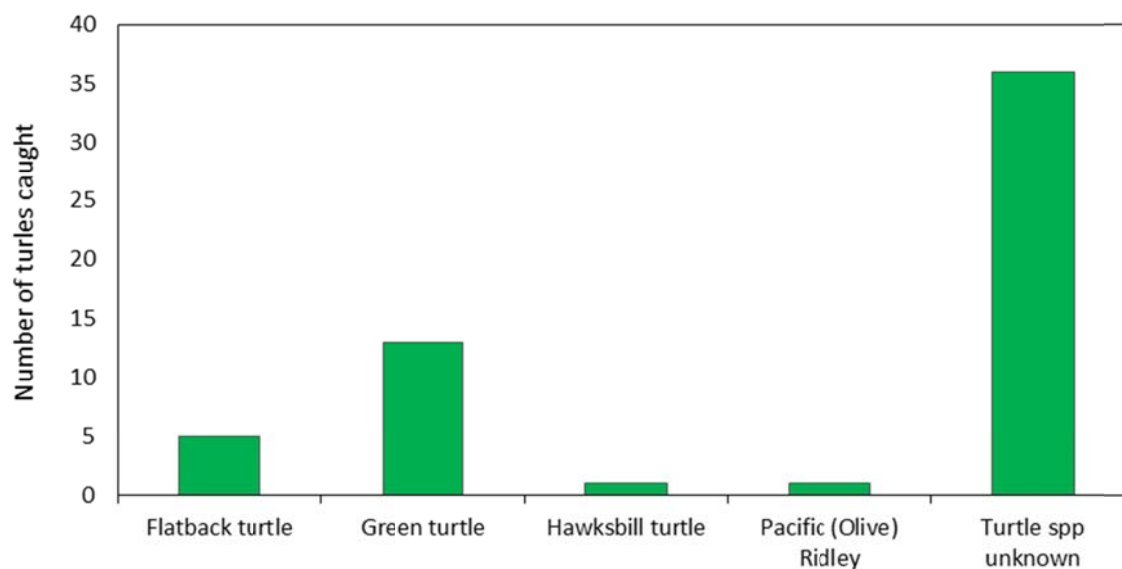


**Figure 58c:** Nominal and effective catch rate for the tiger prawn fishery in the Bonaparte area, 1996 to 2014.

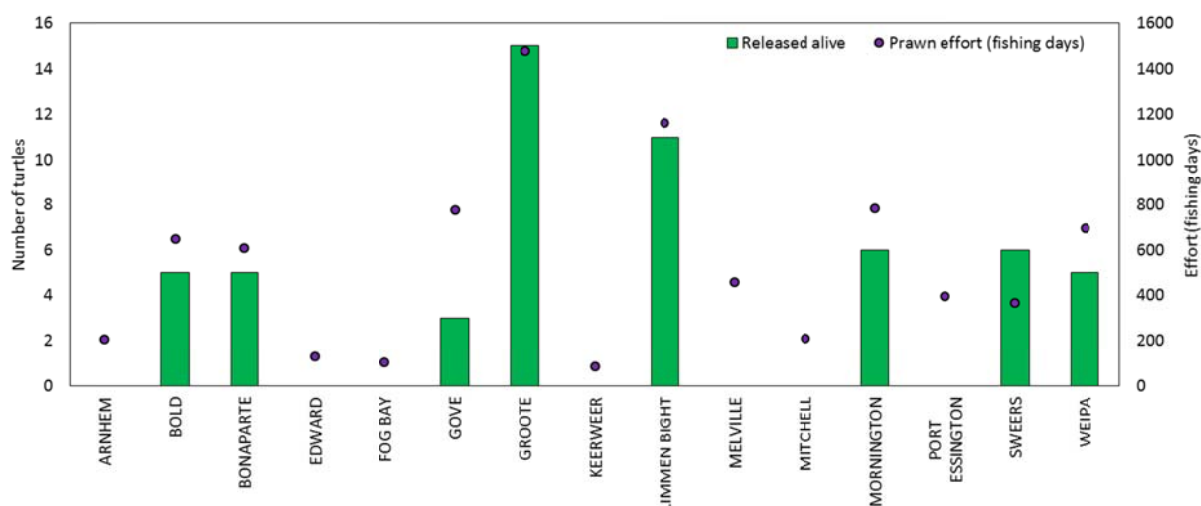
## Interactions with TEP species in the Northern Prawn Fishery

### Turtle interactions

A total of 56 turtle interactions were reported in the NPF during 2014 (Table 5). This is 25% less than 2013 when there was 75 interactions. Turtles of undetermined species were the most numerous (36 interactions) followed by Green turtles (13 interactions). Five interactions occurred with Flatback turtles and one interaction occurred with a Pacific (Olive) Ridley turtle and a Hawksbill turtle (Figure 59). All turtles were released alive. Turtle interactions were highest in the Groote region, which was also one of the areas which experienced the most fishing effort (Figure 60).



**Figure 59:** Turtle interactions in the NPF by species in 2014.



**Figure 60:** Turtle interactions in the NPF by area in 2014.

**Table 5: Turtle interactions by species, for each area between 2010 and 2014.**

Statistical Area	Turtle Species	Released Alive					Perished					Condition Unknown				
		10	11	12	13	14	10	11	12	13	14	10	11	12	13	14
<b>ARNHEM</b>	Flatback				3											
	Green															
	Hawksbill															
	Leatherback															
	Loggerhead															
	Pacific Ridley															
	Unidentified species															
<b>BOLD</b>	Flatback	1			1				1							
	Green	1		4	1											
	Hawksbill															
	Leatherback															
	Loggerhead			2												
	Pacific Ridley			1	1											
	Unidentified species				4	5										
<b>BONAPARTE</b>	Flatback				1											
	Green															
	Hawksbill															
	Leatherback															
	Loggerhead															
	Pacific Ridley															
	Unidentified species					5										
<b>EDWARD</b>	Flatback				1											
	Green															
	Hawksbill															
	Leatherback															
	Loggerhead															
	Pacific Ridley															
	Unidentified species															
<b>FOG BAY</b>	Flatback															
	Green															
	Hawksbill															
	Leatherback															
	Loggerhead															
	Pacific Ridley															
	Unidentified species															
<b>GOVE</b>	Flatback	2														
	Green		1	3	1	2										
	Hawksbill															
	Leatherback															
	Loggerhead			1	2											
	Pacific Ridley				1											
	Unidentified species	1				1										
<b>GROOTE</b>	Flatback	1	3	1		2										
	Green	1	1	5	5	2										
	Hawksbill			1												
	Leatherback															
	Loggerhead				1											
	Pacific Ridley			4	3	1			1							
	Unidentified species			8	3	10										
<b>LIMMEN BIGHT</b>	Flatback	2			2	2										
	Green	1		4	3	2										
	Hawksbill				1	1										
	Leatherback															
	Loggerhead				2											
	Pacific Ridley	5		1	2											

Statistical Area	Turtle Species	Released Alive					Perished					Condition Unknown				
		10	11	12	13	14	10	11	12	13	14	10	11	12	13	14
	Unidentified species	2	1		9	6	3									
<b>MELVILLE</b>	Flatback															
	Green			1												
	Hawksbill								1							
	Leatherback															
	Loggerhead															
	Pacific Ridley				4				1							
	Unidentified species	1			1											
<b>MITCHELL</b>	Flatback															
	Green	3														
	Hawksbill															
	Leatherback															
	Loggerhead															
	Pacific Ridley				1											
	Unidentified species															
<b>MORNINGTON</b>	Flatback			2		1										
	Green	1	4	8		3										
	Hawksbill															
	Leatherback															
	Loggerhead															
	Pacific Ridley	1		1												
	Unidentified species			3		2										
<b>PORT ESSINGTON</b>	Flatback			2	1											
	Green			1	3											
	Hawksbill															
	Leatherback															
	Loggerhead															
	Pacific Ridley															
	Unidentified species								1							
<b>SWEERS</b>	Flatback															
	Green			2	5	1										
	Hawksbill			1												
	Leatherback															
	Loggerhead			3	3											
	Pacific Ridley				1											
	Unidentified species			2	3	5										
<b>WEIPA</b>	Flatback			1												
	Green	4				3										
	Hawksbill															
	Leatherback			1												
	Loggerhead				1											
	Pacific Ridley															
	Unidentified species			1		2										
<b>TOTAL ALL AREAS</b>	Flatback	6	3	6	9	5				1						
	Green	11	6	28	18	13										
	Hawksbill			2	1	1				1						
	Leatherback			1												
	Loggerhead			6	9											
	Pacific Ridley	6		7	13	1				2						
	Unidentified species	4	1	14	20	36	3			1						
<b>GRAND TOTAL</b>	<b>ALL SPECIES</b>	<b>27</b>	<b>10</b>	<b>64</b>	<b>70</b>	<b>56</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>5</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>	<b>0</b>

## Sea snake interactions

A total of 7,304 sea snake interactions were recorded during 2014. The majority of sea snakes (5,911 individuals, representing 81% of the total) were released alive. 1,048 (14%) perished, 24 (<1%) were released injured, and 321 (4%) of sea snakes caught were released with condition unknown (Table 6). Sea snake interactions were higher in the Groote area (1,859 individuals), followed by Limmin Bight (924 individuals), and lowest in the Arnhem area (28). The number of sea snakes interactions recorded in 2014 was down 1,050 compared to 2013 (7,304 individual interactions were reported in 2014 compared to 8,354 in 2013). The percentage of sea snakes released alive in 2014 (81%) was higher compared to 2013 (76%).

**Table 6:** Sea snake interactions by area in the NPF in 2014.

Statistical area	Released alive	Perished	Released injured	Condition unknown	Total
ARNHEM	27	1			28
BOLD	401	84	3		488
BONAPARTE	712	180	4		896
EDWARD	57	20			77
FOG BAY	25		6		31
GOVE	258	20		12	290
GROOTE	1477	173	2	207	1859
KEERWEER	43	6			49
LIMMEN BIGHT	750	128	3	43	924
MELVILLE	447	66	3		516
MITCHELL	78	22	2		102
MORNINGTON	427	79		7	513
PORT ESSINGTON	259	30	1		290
SWEERS	386	65		2	453
WEIPA	564	174		50	788
Total	5911	1048	24	321	7,304

## Scientific Observer and Crew Member Observer coverage

Tables 7 and 8 enable comparison of recorded interactions with TEP species within the Crew Member Observer (CMO), Scientific Observer and logbook datasets.

In 2014, the number of fishing days from logbook returns (8,145 days) was an increase compared to 2013 (7,842 days). The number of days observed by CMOs decreased from 1038 in 2013 to 843 in 2014. The number of days observed by Scientific Observers decreased from 168 days in 2013 to 117 days in 2014.

The frequency of interactions with sea snakes reported was slightly higher in the Scientific Observer dataset (2.094) than the CMO dataset (1.854) and both higher than the logbook dataset (0.897). The frequency of turtle interactions reported was highest in the CMO dataset (0.030) followed by Scientific Observer dataset (0.017) then the logbook dataset (0.007). Reported frequency of Syngnathid interactions was similar in Scientific Observer and CMO datasets (0.120 and 0.109, respectively), and lower in the logbook dataset (0.003). Sawfish interaction frequencies reported in the Scientific Observer dataset (0.282) was higher than the CMO dataset (0.111) and logbook dataset (0.039) (Table 8).

**Table 7:** Comparison of TEP species interactions reported by Scientific Observers, CMOs and in logbooks in the NPF in 2014.

	Vessel Returns	Fishing Days*	Total Sea Snakes	Total Turtles	Total Syngnathids	Total Sawfish	Dolphins
<b>Logbook Returns</b>	52	8145	7304	56	28	319	0
<b>Crew Member Observers</b>	9	843	1563	25	92	88	0
<b>Scientific Observers**</b>	8	117	245	2	14	33	0

\*Days fishing practices were observed.

\*\*Scientific observer data includes data collected during gear trials.

**Table 8:** Comparison of TEP species interactions reported by Scientific Observers, CMOs and in logbooks per boat day during in the NPF in 2014.

	Sea Snakes per Fishing Day	Turtles per Fishing Day	Syngnathids per Fishing Day	Sawfish per Fishing Day
<b>Logbook Returns</b>	0.897	0.007	0.003	0.039
<b>Crew Member Observers</b>	1.854	0.030	0.109	0.104
<b>Scientific Observers*</b>	2.094	0.017	0.120	0.282

\*Scientific observer data include data collected during gear trials.

## State/Territory specific data

Total prawn catch by State/Territory increased in 2013/14, from 2,012 in 2012/13 to 3,462 in 2013/14. Prawn catches in Western Australia (WA) also increased from 252 t in 2012/13 to 395 in 2013/14. Total prawn catch in the Northern Territory (NT) increased from 717 t in 2012/13 to 1,614 t in 2013/14.

In 2014, banana prawn catch increased in QLD, NT and WA. QLD from 1,817 t in 2012/13 to 3,450 t in 2013/14. Banana prawn catch also increased in the NT from 704 t in 2012/13 to 1,606 t in 2013/14. Banana prawn catch in WA also increased from 247 t in 2012/13 to 393 t in 2014 (Table 9).

Tiger prawn catches decreased in QLD, from 186 t in 2012/13 to 12 t in 2013/14 and in the NT from 10 t in 2012/13 to 5 t in 2013/14. Tiger prawn catches also decreased in WA, from 3 t in 2012/13 to 1 t in 2013/14.

Catches of both endeavour prawns were 2 t in NT, 1 t in WA and zero catch in QLD. (Table 9).



**Table 9: Prawn catch by State/Territory from 1990/91 to 2012/13 financial years.**

<i>State</i>	<i>Financial Year</i>	<i>Banana (t)</i>	<i>Tiger (t)</i>	<i>Endeavour (t)</i>	<i>King (t)</i>	<i>Total Catch (t)</i>
<b>Queensland</b>	1990/91	4,646	1,151	269	51	6,117
	1991/92	1,392	1,710	548	30	3,680
	1992/93	1,857	968	357	18	3,200
	1993/94	904	1,032	416	8	2,360
	1994/95	2,540	1,883	346	24	4,793
	1995/96	2,562	1,570	761	23	4,916
	1996/97	2,050	1,259	817	15	4,141
	1997/98	1,986	1,318	878	11	4,193
	1998/99	1,548	634	335	5	2,522
	1999/00	637	629	348	1	1,615
	2000/01	3,651	553	352	4	4,560
	2001/02	3,286	372	211	1	3,870
	2002/03	1,307	97	54	1	1,459
	2003/04	1,639	152	14	0	1,805
	2004/05	1,700	70	7	0	1,777
	2005/06	1,384	217	46	9	1,656
	2006/07	1,839	192	46	8	2,085
	2007/08	3,578	126	32	8	3,744
	2008/09	3,858	8	0	0	3,866
	2009/10	2,952	17	0	0	2,969
	2010/11	5,388	3	0	0	5,391
	2011/12	3,181	49	2	0	3,232
	2012/13	1,817	186	8	1	2,012
	2013/14	3,450	12	0	0	3,462
<b>Northern Territory</b>	1990/91	1,430	2,156	380	46	4,012
	1991/92	669	2,332	434	27	3,462
	1992/93	1,639	1,907	437	18	4,001
	1993/94	697	1,768	403	18	2,886
	1994/95	1,536	1,855	423	19	3,833
	1995/96	1,072	1,615	434	6	3,127
	1996/97	1,472	1,184	387	9	3,052
	1997/98	1,241	1,466	490	9	3,206
	1998/99	1,549	2,141	778	6	4,474
	1999/00	1,247	1,564	586	11	3,408
	2000/01	2,323	1,546	489	3	4,361
	2001/02	1,789	1,561	892	1	4,243
	2002/03	1,509	1,797	333	2	3,641
	2003/04	1,437	1,985	390	1	3,813
	2004/05	838	1,683	368	2	2,891
	2005/06	1,495	1,587	316	19	3,417
	2006/07	783	1,582	304	19	2,688
	2007/08	1,550	1,100	164	12	2,826
	2008/09	930	1	0	0	931
	2009/10	1,868	4	3	0	1,875
	2010/11	1,447	0	1	0	1,448
	2011/12	1,224	3	3	0	1,230
	2012/13	704	10	3	0	717
	2013/14	1,606	5	2	0	1,614

<i>State</i>	<i>Financial Year</i>	<i>Banana (t)</i>	<i>Tiger (t)</i>	<i>Endeavour (t)</i>	<i>King (t)</i>	<i>Total Catch (t)</i>
<b>Western Australia</b>	1990/91	579	86	42	0	707
	1991/92	231	8	11	0	250
	1992/93	498	5	6	0	509
	1993/94	828	4	13	0	845
	1994/95	414	2	16	0	432
	1995/96	713	18	65	0	796
	1996/97	1,079	5	38	0	1,122
	1997/98	756	66	686	1	1,509
	1998/99	519	23	17	0	559
	1999/00	329	2	38	0	369
	2000/01	281	16	23	0	320
	2001/02	345	23	28	0	396
	2002/03	509	75	8	0	592
	2003/04	461	49	13	0	523
	2004/05	293	29	36	0	358
	2005/06	231	0	1	0	232
	2006/07	108	190	0	0	298
	2007/08	151	5	4	0	160
	2008/09	72	0	0	0	72
	2009/10	0	0	0	0	0
	2010/11	117	0	0	0	117
	2011/12	4,426	52	5	0	4,484
	2012/13	247	3	2	0	252
	2013/14	393	1	1	0	395

## Retained Byproduct in the Northern Prawn Fishery by State/Territory waters

Total byproduct retained in the NPF by State/Territory in 2013 was 86, 060 kg, with highest retained byproduct levels observed in NT waters (53, 937 kg), and lowest in WA waters (267 kg). Moreton Bay bugs were the largest component of byproduct catches, with 47, 531 kg retained, a reduction of 34% from 2013 in which 71,603 kg of bugs was retained (Table 10).

**Table 10:** Retained byproduct in the NPF by State/Territory in 2014 (kilograms).

Species	NT	QLD	WA	Total
Australian scampi	7,092			7,092
Bugs - Shovel nosed and slipper lobsters	4,866	6,157	38	11,061
Champagne lobster - Spear lobster	420			420
Commercial scallop	985			985
Cuttlefishes	2,702	1,089		3,791
Flathead	109			109
Golden snapper - Fingermark seaperch	18			18
Mangrove Jack	13			13
Moreton Bay bugs	28,650	18,709	172	47,531
Octopuses	123	51		174
Painted rock lobster - Green cray	60		25	85
Pomfret	112	175	10	297
Saddle-tailed seaperch (Crimson seaperch)	9			9
Scallops	4,284			4,284
Squids	3,298	5,675	22	8,995
Whiting	1,196			1,196
Total	53,937	31,856	267	86,060