

TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	Meeting No. 14 17-18 July 2013
REPORTS Data Report – final 2012 and 2013 season to date catch and effort trends	Agenda Item No. 3.4

RECOMMENDATION

3.4.1 The TSPMAC **NOTES** the final catch statistics for the 2012 fishing season and the monthly trends in the catch and effort for the start of the 2013 fishing season.

BACKGROUND

A download of the TSPF logbook data for 2012-13 was obtained from the AFMA logbook section on 18th June 2013. This data was analysed and the results are detailed below and will be presented at TSPMAC 14. The analysis provides the final catch and effort statistics for the 2012 season and a first look at the monthly trends in catch and effort for the start of the 2013 fishing season.

DISCUSSION

Final catch and effort estimates for 2012

The final estimates of fishing effort and catches for the 2012 season are higher than for 2010 and 2011 due to a 57% increase in fishing effort and a very high CPUE for tiger prawn. The final harvest estimates for 2012 are: 398(t) tiger prawn, 115(t) endeavour prawn and 3(t) of king prawn. The increase in effort and catch in 2012 flags the end of a decline in effort and catch that started in 2002.

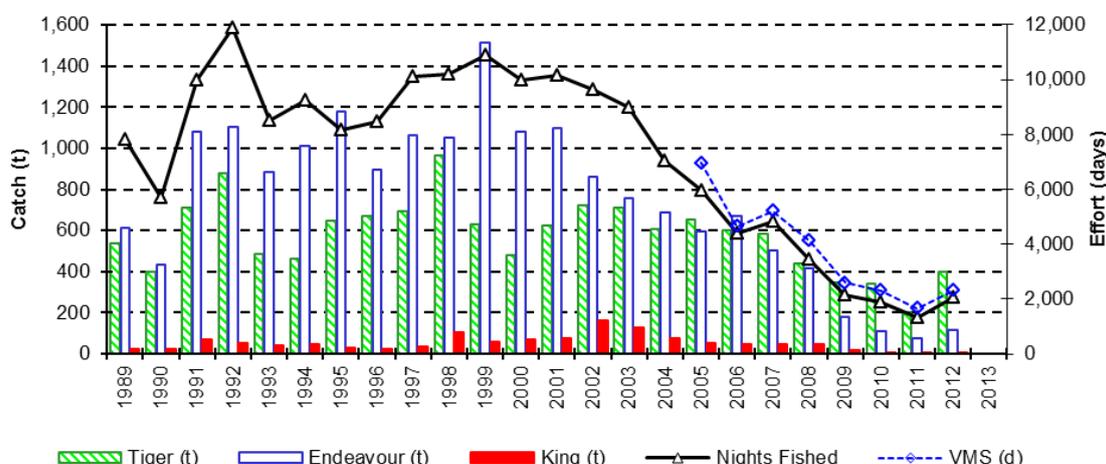


Figure 1 Prawn catches by species (columns) and effort (line).

The final estimates of total fishing effort for 2012 are 2,081 days based on the logbook data and 2,310 from the VMS data. Although the fishing effort was higher than in 2010-11 it is only 21% of the average for the years 1991-03 (9,710 days) and 22% of the Emsy limit reference point (9,200 days).

Table 1 Effort in days based on logbook records for the TSPF. The table compares the effort in days since 2009 with the historic average for the years 1991-2003. The VMS effort estimate is shown in brackets.

Average effort 1991-2003	2009 effort	2010 effort	2011 effort	2012 effort
9710	2165 (2599)	1859 (2309)	1309 (1663)	2081 (2310)

Table 2 Catch of the three prawn species caught in the TSPF since 2009 compared with the historic average for 1991-2003.

Species	Average catch 1991-2003 (t)	MSY (t)	2009 catch (t)	2010 catch (t)	2011 catch (t)	2012 catch (t)
Tiger prawn	668	676	348	344	240	398
Endeavour prawn	1044	1105	178	110	74	115
King prawn	70	NA	17	9	4	3

As a result of the very low levels of effort since 2009 (Table 1 and Figure 1) the catches (Table 2) were below both the historic catch levels during the years 1991-2003 and the estimated Maximum Sustainable Yield (MSY) for tiger and endeavour prawns. Tiger prawn catch rates (CPUE), however, are the highest recorded (Figure 2). The high tiger prawn CPUE combined with the low harvest of tiger prawns in recent years suggests that the tiger prawn stock is currently well above the sustainability reference point of Bmsy (the biomass that supports MSY).

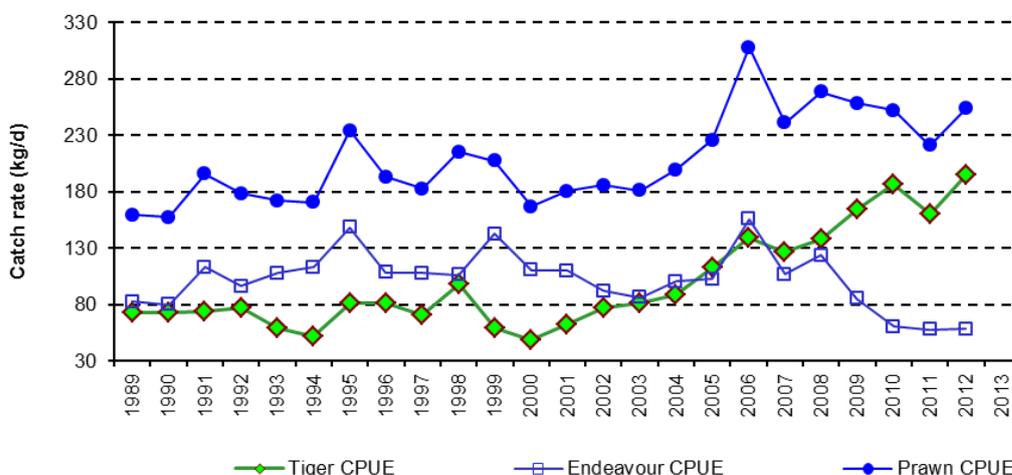


Figure 2 Yearly catch rate (CPUE) indices for tiger, endeavour and total prawn catch.

Although endeavour prawn catch rates (Figure 2) are below average this most likely is due to fishers focusing on the higher value tiger prawns. The harvest of endeavour prawns is well below historic levels and the estimate of MSY. Therefore the effect of fishing (fishing mortality) on the endeavour prawn stock has been very low in recent years compared with the 1990's when fishing mortality on the endeavour prawn stock was higher due to fishers targeting endeavour prawns, more vessels and higher fishing effort.

Catch and effort for start of 2013

The following figures compare the monthly trends for the 2012 season and the start of the 2013 season with the average of the years 1989-11. The range markers on the average lines in Figure 3 to Figure 7 indicate the minimum and maximum values that occurred over the years 1989-11.

The VMS and logbook estimates of effort for 2013 (Figure 3) indicate that available logbook data provides the following monthly coverage of fishing effort; March 86%, April 78%, May 30% and June 1%. In Figures 4 & 6 the coverage was used to estimate the full fleet catch for those months.

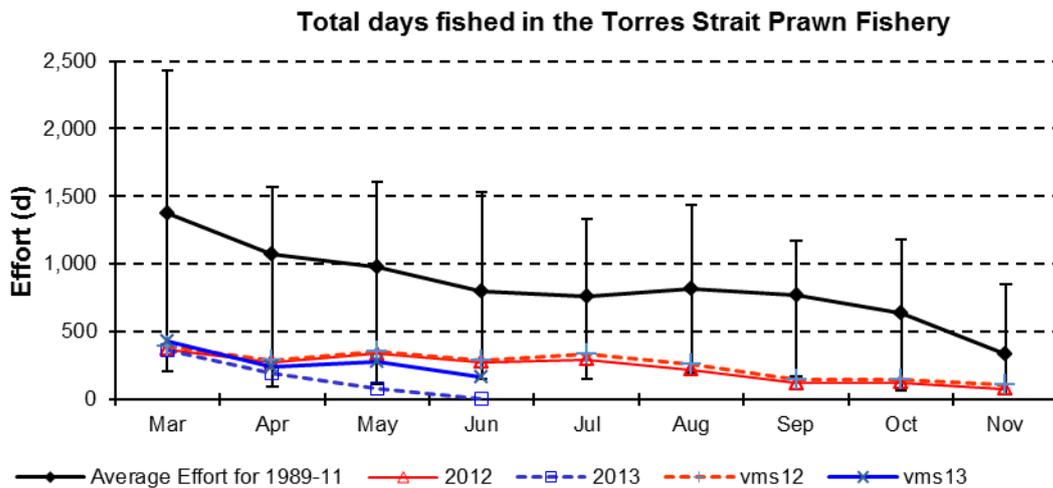


Figure 3 Monthly fishing effort in days.

The 2013 adjusted tiger and endeavour prawn catches were higher in March and lower in subsequent months compared to 2012 (Figures 4 & 6). This essentially reflects the difference between the two years in the monthly effort.

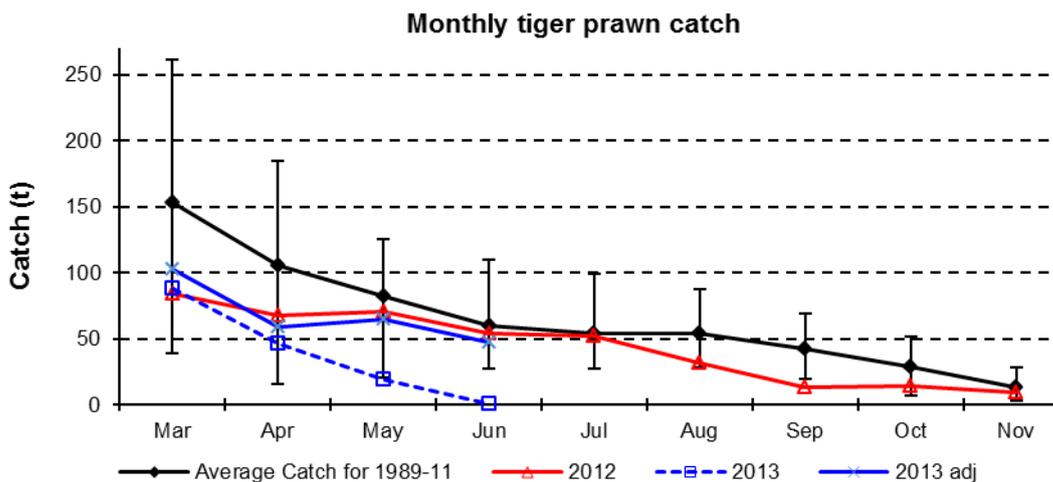


Figure 4 Monthly tiger prawn catch in tonnes.

The 2013 catch rates (CPUE) for March and May were slightly higher than for 2012 making them the highest on record for those months.

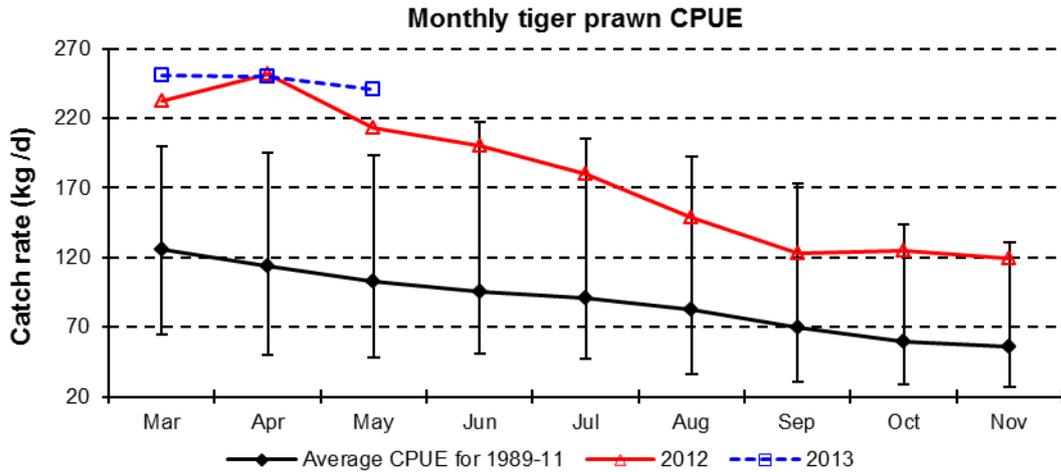


Figure 5 Monthly tiger prawn catch rates (CPUE).

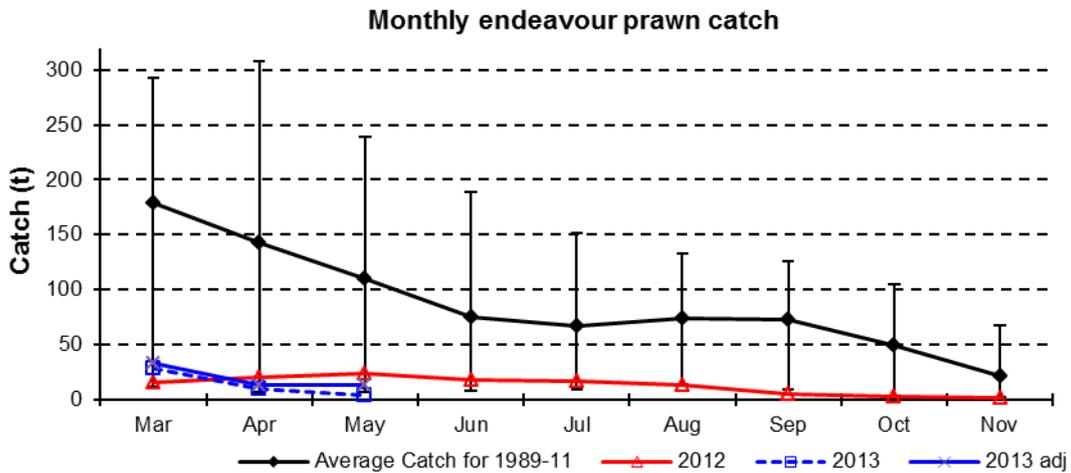


Figure 6 Monthly endeavour prawn catches in tonnes.

The March 2013 CPUE was up compared with 2012 but April and May were lower (Figure 7).

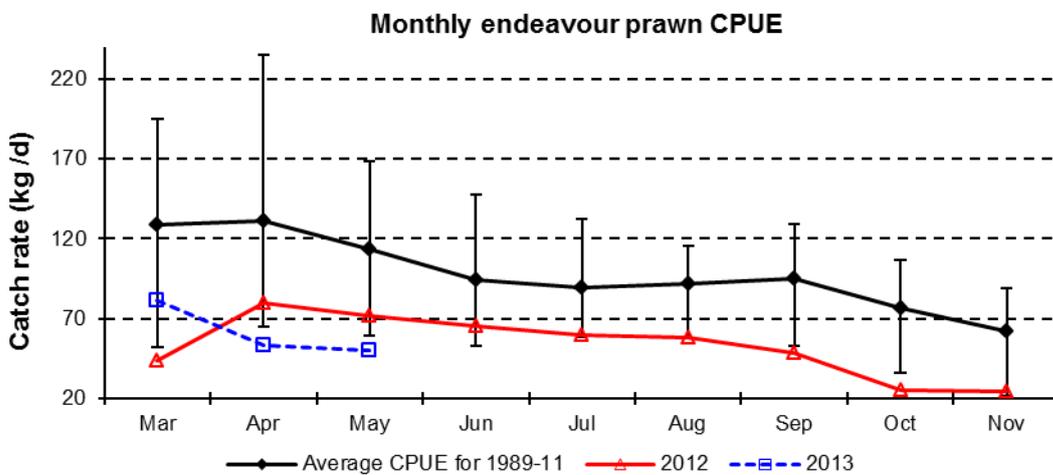


Figure 7 Monthly endeavour prawn catch rates (CPUE).