TORRES STRAIT PRAWN MANAGEMENT ADVISORY COMMITTEE	Meeting No. 15 17 June 2014
REPORTS **Data Report – final 2013 and 2014 season to date catch and effort trends**	Agenda Item No. 3.4 **For Noting**

RECOMMENDATION

3.4.1 That the TSPMAC **NOTES** the final catch statistics for the 2013 fishing season and the monthly trends in the catch and effort for the start of the 2014 fishing season.

BACKGROUND

A download of the TSPF logbook data for 2013-14 was obtained from the AFMA logbook section on 22nd May 2014 and the VMS data was downloaded on the 5th June. This data was analysed and the results are detailed below and will be presented at TSPMAC 15. The analysis provides final catch and effort statistics for the 2013 season and a first look at the monthly trends in catch and effort for the start of the 2014 fishing season.

DISCUSSION

Figure 1 shows that during 2012-13 fishing effort stabilised at around 2,000 nights following a general downward trend since 2001. Although fishing effort and catches were higher in 2012 and 2013 than the preceding two years they are still much lower than during the 1990's and the early 2000s. The tiger prawn catch in the last two years was around 400 tonnes which is considerably better than the lowest catch ever of 204 tonnes in the 2011 fishing season. The increase in catch since 2011 is due to higher tiger prawn catch rates (Figure 2) and increased fishing effort.

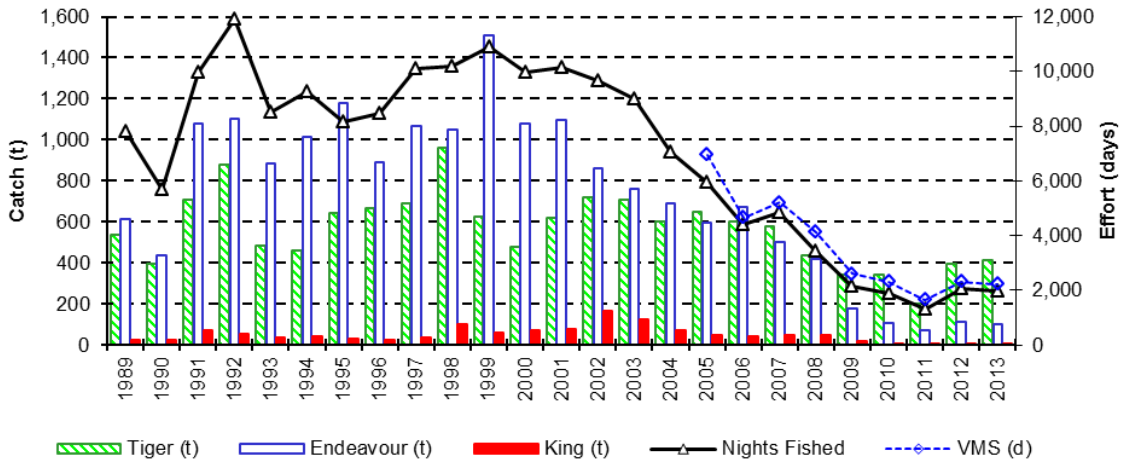

Figure 1 Prawn catches by species (columns) and effort (line).

The final harvest estimates for 2013 are: 418(t) tiger prawn, 103(t) endeavour prawn and 4(t) of king prawn. The 2013 estimates of fishing effort are 1,988 days based on the logbook data and 2,240 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	2013 effort
9710	2165 (2599)	1859 (2309)	1309 (1663)	2081 (2310)	1988 (2240)

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

Species	Average catch (t) 1991-2003	MSY (t)	2009 catch (t)	2010 catch (t)	2011 catch (t)	2012 catch (t)	2013 catch (t)
Tiger prawn	668	676	348	344	240	398	418
Endeavour prawn	1044	1105	178	110	74	115	103
King prawn	70	NA	17	9	4	3	4

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).

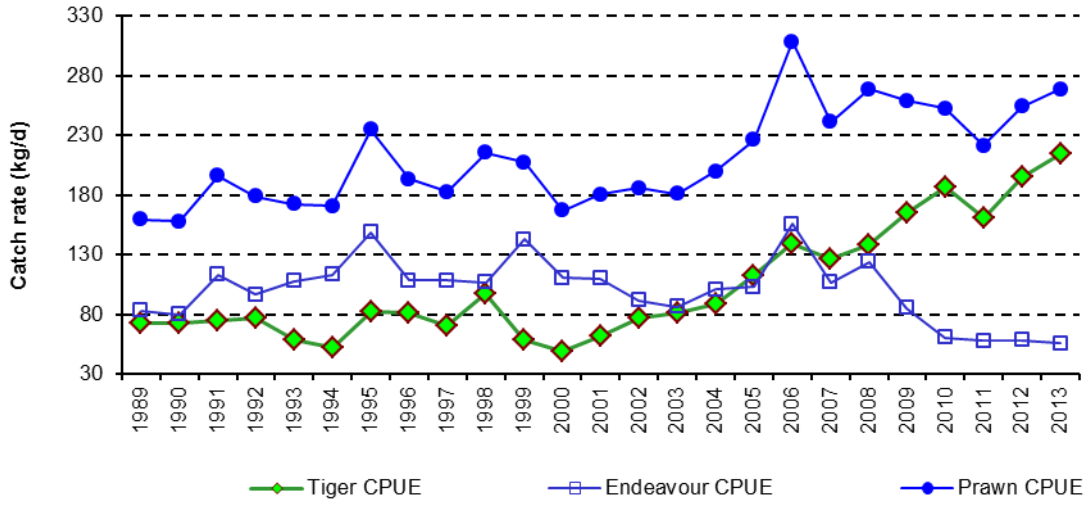

Figure 2 Yearly catch rate (CPUE) indices for tiger, endeavour and total prawn catch.

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.

Effort and catches for the first three months of the 2014 fishing season

The 2014 fishing effort (VMS data) is tracking slightly lower than in 2013 with the largest difference in May (Figure 3). The VMS and logbook estimates of effort for 2014 indicate that available logbook data provides the following monthly coverage of fishing effort; March 51%, April 15% and May 11%. In Figures 4 & 6 the coverage was used to estimate the full fleet catch for those months. The range markers on the average lines in indicate the minimum and maximum values that occurred over the years 1989 to 2012.

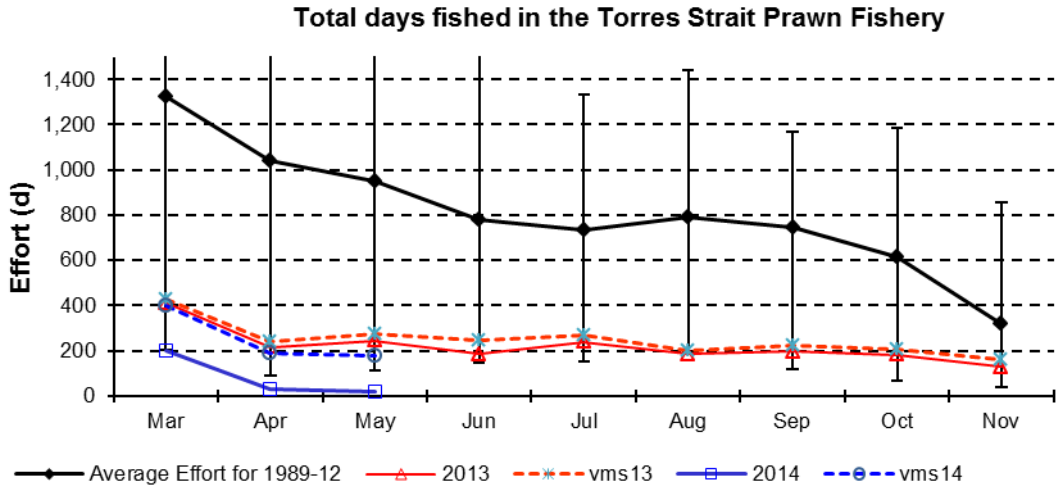

Figure 3 Monthly fishing effort in days.

The 2014 adjusted tiger catches (Figures 4) for March to May are lower compared to the corresponding months in 2013. This reflects the lower effort (Figure 3) and the lower catch rates (Figure 5). The current data suggests that the annual fishing effort, tiger prawn catch and CPUE for 2014 will be lower than for 2013.

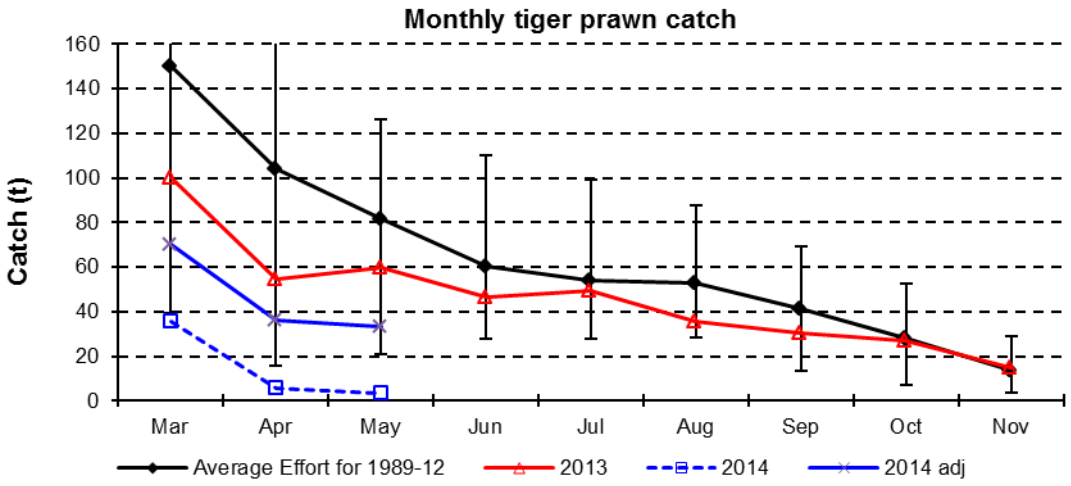

Figure 4 Monthly tiger prawn catch in tonnes.

The 2014 adjusted endeavour prawn catch (Figures 6) show the same trends as for tiger prawn. The March to May catches are lower compared to the corresponding months in 2013 due to lower effort (Figure 3) and the lower CPUE (Figure 7).

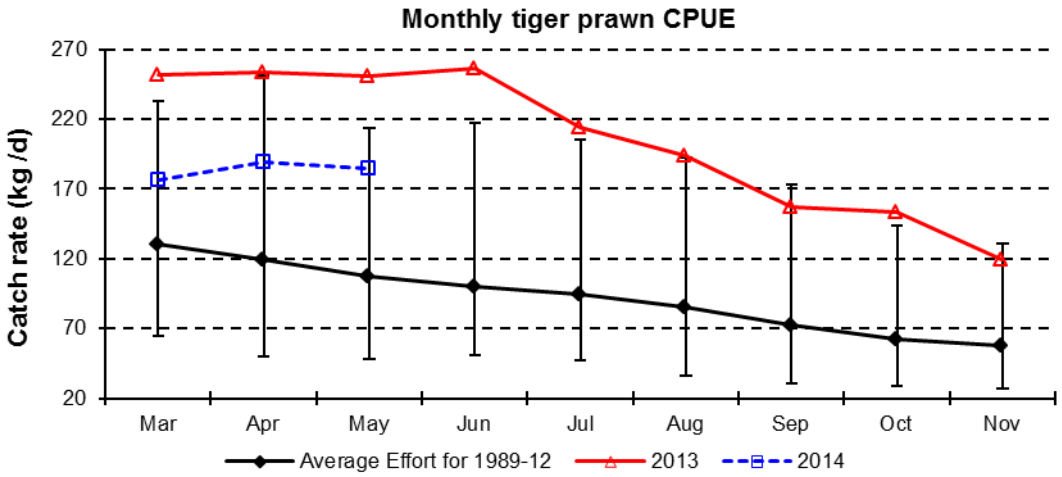

Figure 5 Monthly tiger prawn catch rates (CPUE).

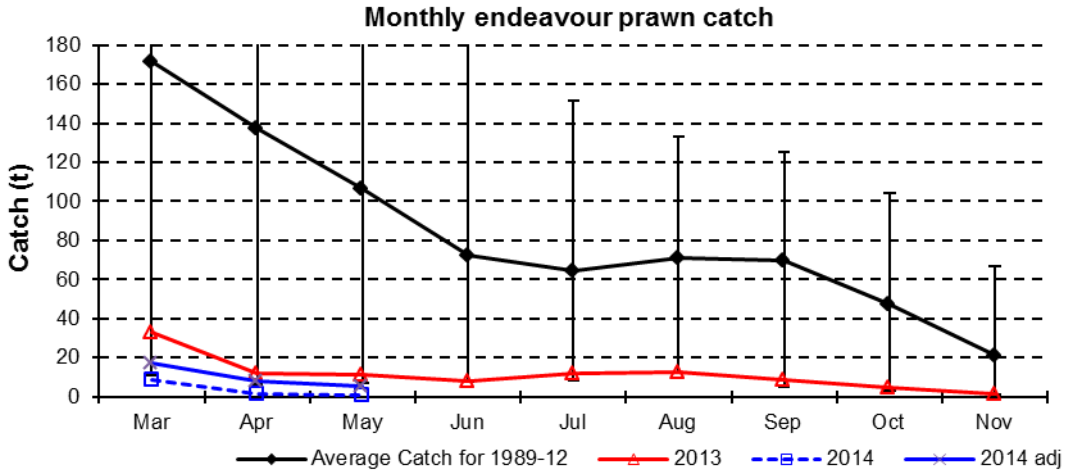

Figure 6 Monthly endeavour prawn catches in tonnes.

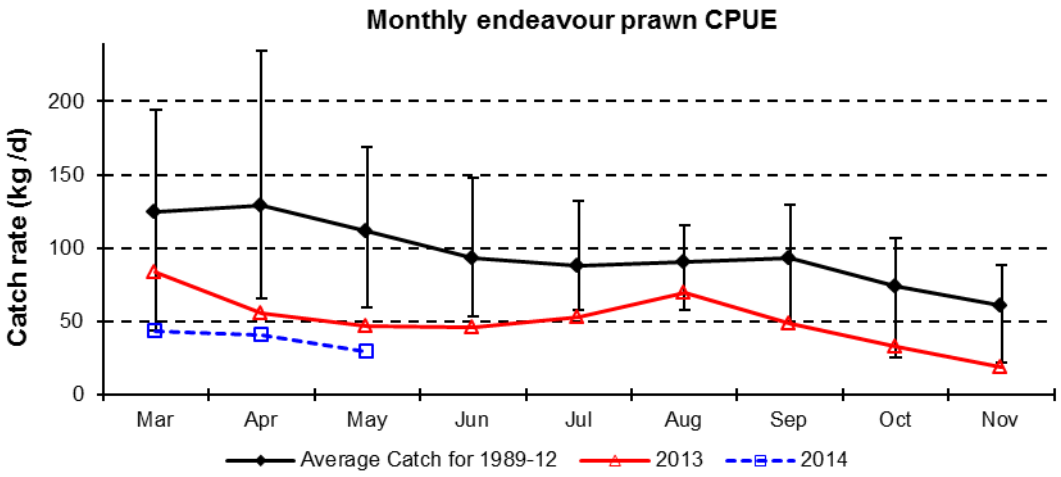

Figure 7 Monthly endeavour prawn catch rates (CPUE).