Output from the South African Hake OMP-2006 for the 2008 TAC recommendation

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September 2007

Abstract

The TAC output from the South African hake OMP-2006 for 2008 is 130 532t.

The 2008 TAC recommendation for the South African hake resource is computed in terms of the 2006 OMP (Rademeyer and Glazer, 2007) as follows:

$$C_y^{spp} = C_{y-1}^{*spp}\left[1+\lambda_y\left(s_y^{spp} - target^{spp}\right)\right] \quad (1)$$

The computations input a TAC of 135 thousand tons for 2007. As specified in the OMP, this is disaggregated by species assuming the 2006 species-split of the catches, i.e. 81.96% (110 642 t) *M. paradoxus* and 18.04% (24 358 t) *M. capensis* to provide the C_{y-1}^{*spp} values for equation (1).

The GLM-standardised CPUE series (Glazer, 2007) and survey biomass abundance estimates (Leslie, 2007) used as inputs to the OMP are shown in Table 1 and the resulting trends in Fig. 1.

The recent annual trend, s_y, computed from a specified weighted average of the CPUE and survey slopes (0.5 for CPUE and 0.25 for each survey), is 0.63% for *M. paradoxus* and -7.34% for *M. capensis*.

From equation 4 ($\lambda_y = \begin{cases} 0.06(y-2006)+0.5 & \text{if } s_y > 0 \\ -0.09(y-2006)+2.0 & \text{if } s_y \le 0 \end{cases}$) of Rademeyer and Glazer (2007):

$$\lambda_{2008} = \begin{cases} 0.62 & \text{if } s_y > 0 \\ 2.82 & \text{if } s_y \leq 0 \end{cases}$$

Thus the *M. paradoxus* contribution to the TAC is:

$$C_{2008}^{para} = 110642t\left[1 + 0.62\left(0.63\% - 2.4\%\right)\right] = 109427t$$

and the *M. capensis* contribution:

$$C_{2008}^{cap} = 24358t\left[1 + 1.82\left(-7.34\% - 0\%\right)\right] = 21105t$$

The total 2008 TAC output from the OMP is therefore **130 532 t**.

References

Glazer J.P. 2007. Updated hake GLM-standardized CPUE series. Unpublished report, MCM, South Africa. 2007:WG-Dem:H:06. 22pp.

Leslie R. 2007. Biomass indices from the 2006 spring and 2007 summer and autumn Demersal surveys. Unpublished report, MCM, South Africa. 2007:WG-Dem:H:2. 5pp.

Rademeyer R.A. and Glazer J.P. 2007. The 2006 Operational Management Procedure for the South African *Merluccius paradoxus* and *M. capensis resources*. Unpublished report, MCM, South Africa. 2007:WG-Dem:H:1. 18pp.

Table 1: GLM-standardised CPUE series and west coast summer and south coast autumn survey abundance estimates used as input in the 2008 TAC computation. Note, the abundance estimates in bold are for surveys that have been conducted with the new gear on the *Africana*.

	M. paradoxus			*M. capensis*		
	GLM-standardised CPUE	West coast summer	South coast autumn	GLM-standardised CPUE	West coast summer	South coast autumn
2001	5.569			4.526		
2002	4.836	272.172		4.952	108.025	
2003	5.686	405.457	108.756	4.768	74.771	126.749
2004	5.532	**259.566**	**55.914**	4.086	**205.976**	**103.356**
2005	5.303	**281.991**	**25.834**	3.193	**71.272**	**77.024**
2006	5.400	313.457	35.038	3.057	88.357	132.082
2007		**392.026**	**120.886**		**81.981**	**69.358**

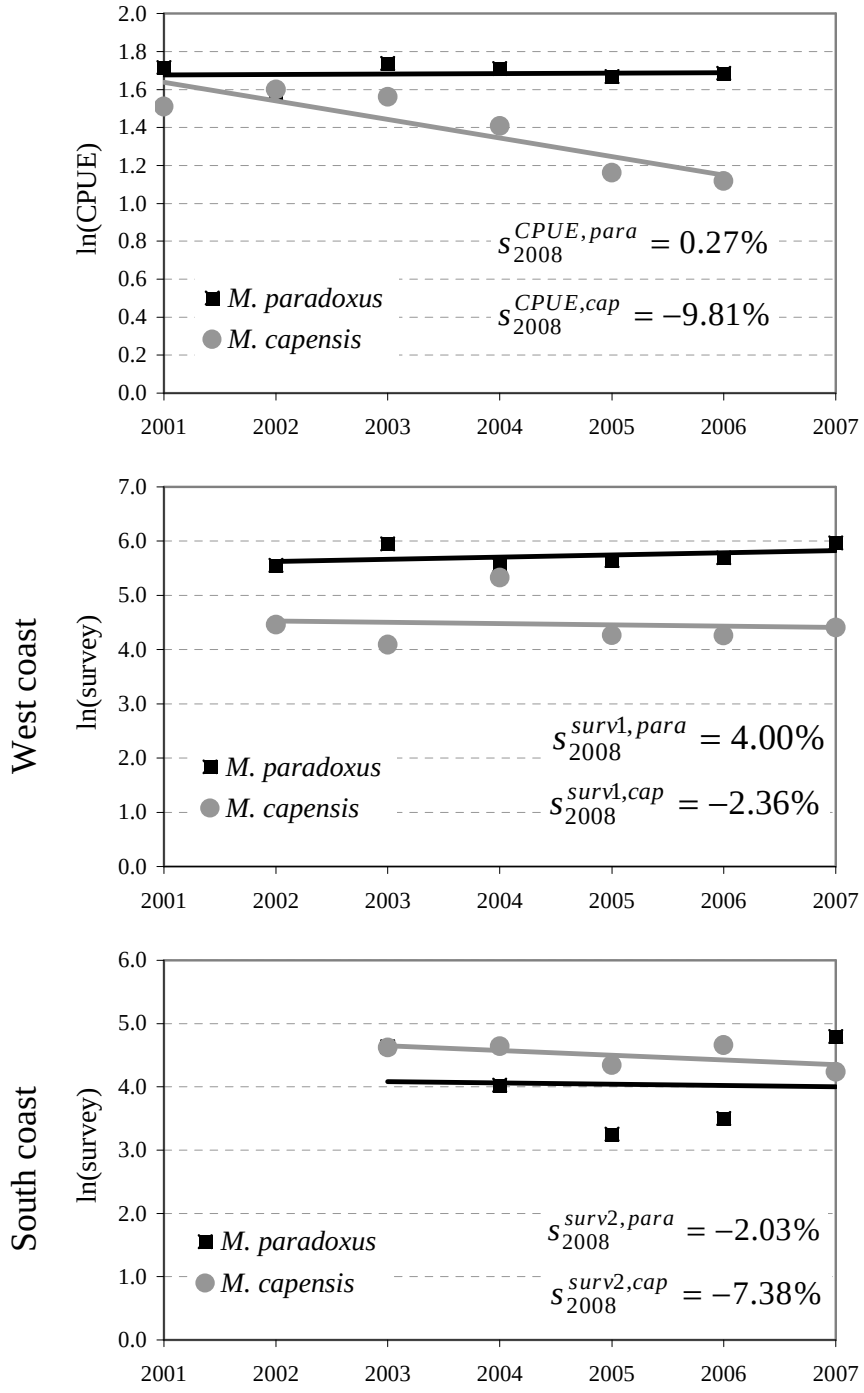

Fig. 1: Recent trends in the GLM-standardised CPUE and survey abundance indices for *M. paradoxus* and *M. capensis* which are used in the TAC computation. The survey abundance estimates shown include the calibration factors specified in the OMP for the years in which the new gear was used on the *Africana*.