



Comparison of the last two years' input to the hake OMP-2006 to model projections

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INTRODUCTION

This paper follows from requests made at the last Demersal Working Group meeting for further calculations relating to determination of whether the 2008 west coast survey results corresponded to anomalous circumstances, and so should not be included in OMP computations of the TAC for 2009.

The paper first checks whether OMP inputs for the last two years have been within the range projected when the OMP was agreed in 2006. Then it compares differences between west coast survey and CPUE results for adjacent periods to check whether these show any evidence of an anomaly for the 2008 west coast survey.

RESULTS

Fig. 1 and Table 1 compare projections made under the Reference Set of Operating Models at the time the current OMP was adopted with data obtained since from surveys and CPUE. The 90% probability intervals are from the simulation trials in question. However because of Monte Carlo error for the smallish number of simulations conducted, the 99% intervals shown are calculated by using the 90% interval results for each yearly and assuming a log-normal distribution. The 2007 and 2008 survey biomass estimates for both species fall within the 90% probability intervals projected under the Reference Set, similarly for the 2006 and 2007 GLM-standardised CPUE values for *M. paradoxus*. The last two years of CPUE data for *M. capensis* on the other hand both fall below the 99% probability intervals.

Fig. 2 plots the difference between the standardised residuals for the west coast summer survey from the new baseline assessment (Rademeyer and Butterworth, 2008) and corresponding residuals for the west coast GLM-standardised CPUE. There is no indication that the west coast survey results for 2008, when compared to the previous year's CPUE, is anomalous when compared to previous years (see left side plots in Fig. 2).

CONCLUSIONS

.These results do *not* support the assertion that the 2008 west coast survey results should be treated as anomalous. The only results outside the 99% probability intervals for earlier projections are the low CPUE levels for *M. capensis* over the last two years.

REFERENCE

Rademeyer RA and Butterworth DS. 2008. Development of a new Baseline Assessment for the South African Hake resource, incorporating catch-at-length information. Unpublished document, MCM, South Africa. MCM/2008/OCT/SWG-DEM/60. 21pp.

Table 1: Summary of comparisons of the last two years' data inputs to the OMP to probability intervals for projections under the Reference Set of Operating Models used in determining the hake OMP.

		<i>M. paradoxus</i>	<i>M. capensis</i>
2007 West coast summer survey	observed value	421.7	102.5
	90% model range	(131.7; 504.1)	(59.3; 226.8)
	99% model range	(87.6; 757.2)	(39.5; 340.6)
	outside 90% range	no	no
	outside 99% range	no	no
2008 West coast summer survey	observed value	260.0	63.6
	90% model range	(119.2; 572.4)	(61.1; 199.5)
	99% model range	(74.1; 920.7)	(42.7; 285.5)
	outside 90% range	no	no
	outside 99% range	no	no
2007 South coast autumn survey	observed value	157.0	87.7
	90% model range	(20.0; 159.0)	(67.9; 251.8)
	99% model range	(10.7; 298.0)	(45.6; 374.6)
	outside 90% range	no	no
	outside 99% range	no	no
2008 South coast autumn survey	observed value	41.6	134.9
	90% model range	(17.1; 129.1)	(70.1; 246.1)
	99% model range	(9.3; 238.3)	(47.9; 360.0)
	outside 90% range	no	no
	outside 99% range	no	no
2006 GLM-standardised CPUE	observed value	5.4	3.0
	90% model range	(3.4; 5.9)	(3.8; 6.0)
	99% model range	(2.8; 7.0)	(3.3; 6.9)
	outside 90% range	no	below
	outside 99% range	no	below
2007 GLM-standardised CPUE	observed value	5.8	1.6
	90% model range	(3.0; 6.8)	(3.8; 6.1)
	99% model range	(2.3; 8.8)	(3.3; 7.0)
	outside 90% range	no	below
	outside 99% range	no	below

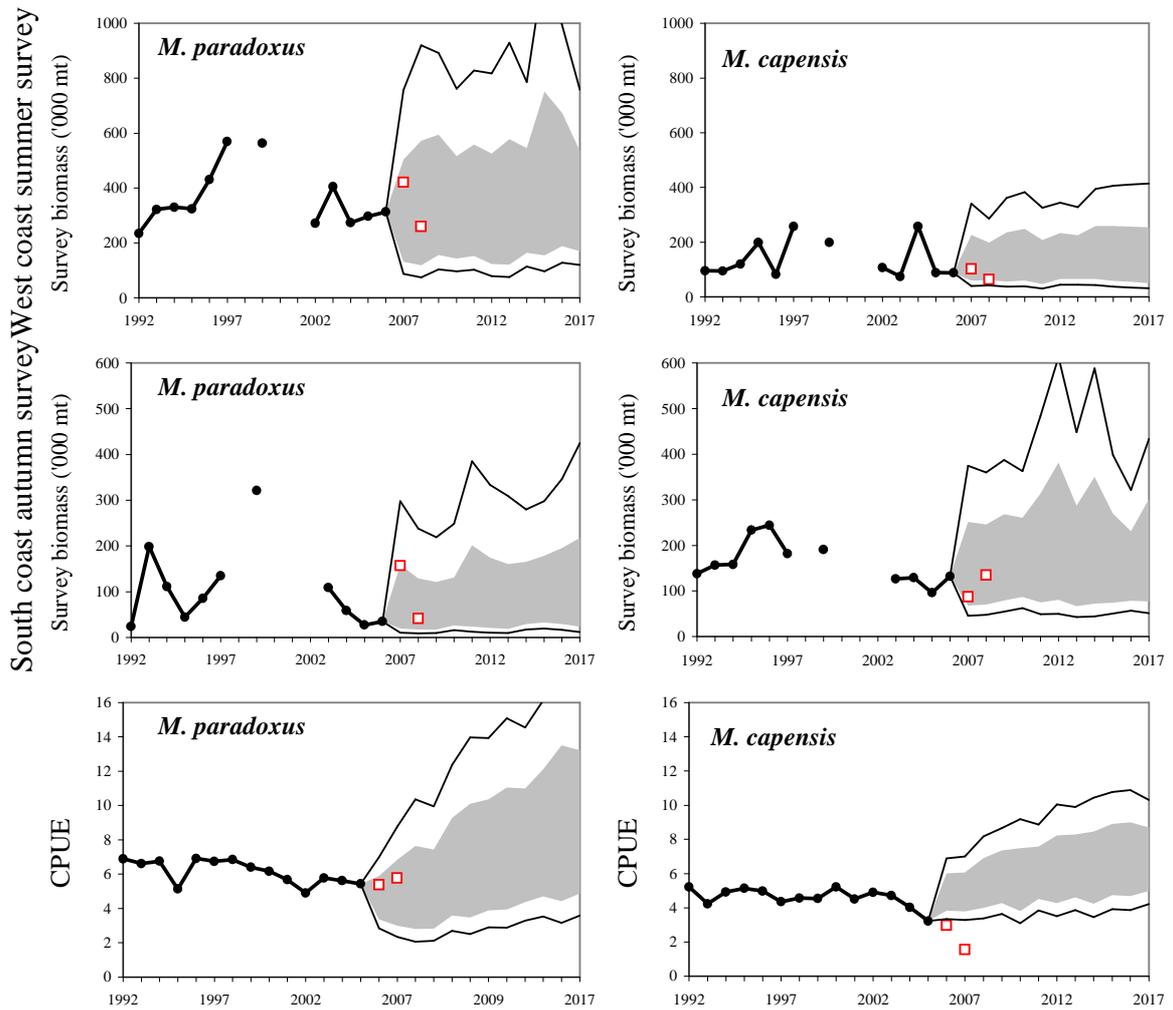


Fig. 1: Projections under the Reference Set (fitted to data up to 2006 – data shown as dark lines with dots) compared to the last two years' survey abundance estimates and GLM-standardised CPUE. The open squares show the new data points. The shaded areas correspond to the 90% probability intervals and the thin lines to the 99% probability intervals.

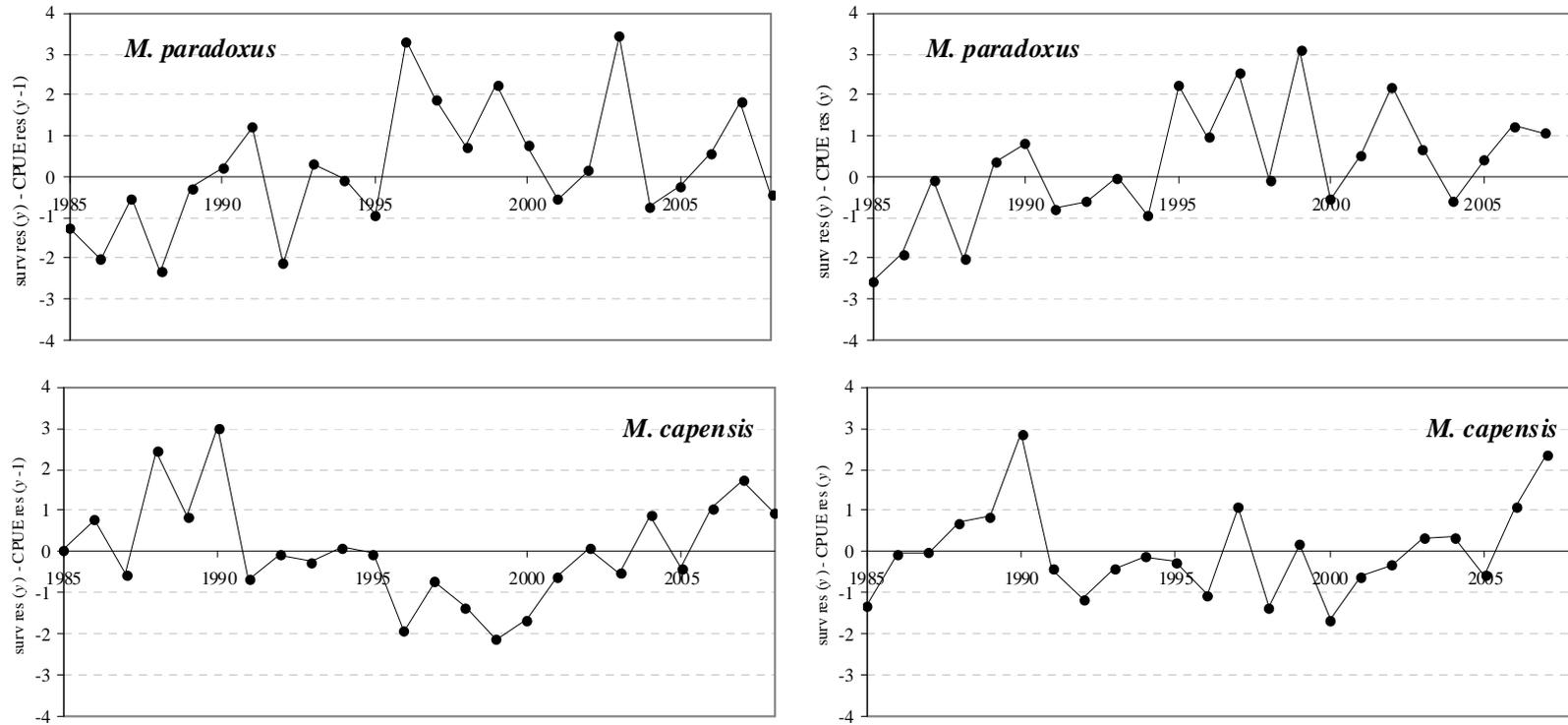


Fig. 2: Time-series of the difference for the hake new baseline assessment (Rademeyer and Butterworth, 2008) between the west coast survey and GLM-standardised CPUE in terms of standardised residuals.