

Session 02

Resilience of key biological parameters of the Senegalese flat sardinella in the context of overfishing and climate change

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Abstract

The Senegalese flat sardinella, *Sardinella maderensis* is a highly exploited fish in Senegal, West Africa; thus, its growth and reproduction parameters are used as key biological parameters to improve fisheries management. Here, we studied these parameters using landing data from the Senegalese small-scale fisheries and a review of the published literature dating back over more than 25 years. Age was estimated from length frequency analysis, from which growth parameters were calculated and the growth performance index was assessed. In the context of global climate change such as the increase of the average sea surface temperature along the Senegalese coast, we found that the length-weight parameters, sex ratio, size at first sexual maturity, period of reproduction, and condition factor of *S. maderensis* have not changed significantly in Senegal. The biological parameters of *S. maderensis* remained highly consistent, despite high exploitation and the fluctuations in environmental conditions that affect the early phases of the small pelagic fish in West Africa. This lack of plasticity by this species should be incorporated into fisheries management plans.

Keywords: Fisheries, ELEFAN, *Sardinella maderensis*, CCLME, sexual maturity, size structure.



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