

ABSTRACT

Roberts, M.J. (1997).

Quantification of squid spawning behaviour: design of Underwater Video-Environmental-Acoustic telemetry System (UVEATS).

Abstracts of the CIAC'97 International Symposium and Workshops on Cephalopod Biodiversity, Ecology and Evolution, Cape Town, August-September 1997: 77.

It is becoming apparent that, simple, direct statistical correlation between readily measurable environmental parameters such as temperature and chokka squid catches do not exist, despite observed promising associations between large scale, seasonal, environmental anomalies and annual catches (Roberts and Sauer, 1994). Clearly, the processes which govern the abundance of squid on the inshore spawning grounds and catches are more numerous and complex than hoped for, and that these need to be made in the prediction of population trends (Roberts, in prep). However, the study, and particularly the quantification of these processes is not a simple task.

In this paper a methodology is developed to tackle this need. In light of a descriptive review of our understanding of chokka squid spawning, it is argued that the core process of the 'Nuptial dance' (Sauer et al 1997) is the actual deposition off the egg pods onto the seafloor, which if quantified, can be used as a squid aggregation intensity index (AII). Because fishing vessels search and position on these aggregations. The AII should be proportional to the daytime catches in the immediate vicinity.

Results of a pilot experiment, aimed at testing in part the methodology, are presented. In view of this experience, criteria were established which have been considered in the detailed design and manufacture of the first Underwater Video-Environmental-Acoustic Telemetry System. (UVEATS) to be used in a new series of squid spawning behaviour experiments in 1998.