

**ACOUSTIC DATA OBTAINED FROM A FISHING VESSEL SEARCHING CHILEAN JACK MACKEREL AT THE HIGH SEA OFF SOUTH CENTRAL CHILE DURING YEARS 2009 Y 2010**

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A fishing trawler equipped with a calibrated SIMRAD EK60 scientific echosounder and SX90 sonar was exclusively used as a searching unit during fishing seasons of years 2009 and 2010 with a total of 147 and 177 days at the sea, respectively. Normally, four scientists were participating at each trip and the mean duration of monthly trips was 18.3 days in 2009 and 21.3 days in 2010, this allowed a rich collection of acoustic data, biological samples and oceanographic data from different zones of productivity and fish density. The searching strategy for productive zones of Chilean Jack Mackerel (*Trachurus murphyi*) at the High Sea was also based on satellite information of oceanographic features. Jack Mackerel aggregations were counted and acoustic density estimates were obtained by the use of School Detection Module (Echoview), and different measurements and morphology of fish schools were also extracted. Mean density and the size of schools obtained in year 2010 were smaller than the observed in year 2009 and a greater number of aggregations were also found in 2009. The vertical distribution of Jack Mackerel schools was clearly deeper in 2009 during night hours and in year 2010 a more homogeneous and shallow bathymetric distribution was observed, presenting ideal conditions for the operation of the purse seine fleet at High Sea waters. Vertical tows of CTDO and zooplankton samples were collected with a WP2 net and different associations between hydrography and plankton productivity were made with fish occurrence for a better understanding of the duration of fishing events.

**Keywords:** Acoustics, Searching vessel, Adaptive strategy, Oceanographic Events, Ecosystem approach

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