BLUEFIN TUNA TAGGING IN THE MEDITERRANEAN: FIRST RESULTS WITH POP-UP SATELLITE-DETECTED TAGS

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ABSTRACT

Twelve bluefin tuna, several of them giants, were tagged in 1998, as part of the EC-funded TUNASAT project. Three fish were tagged at Stintino in northern Sardinia in June and nine at Barbate in southern Spain in late July. Three more fish were tagged near Chalkidiki in the northern Aegean Sea in April 1999. In 1998 the tuna were caught in conventional traps and tagged underwater using a sport-fishing gun (Sporasub, Viper élite 90, power 10 m). The tags were attached by nylon monofilament line (45 kg breaking strain) to medical grade nylon darts (Floy Inc.) embedded in the dorsal muscles. PTT-100 'pop-up' satellite-detected tags (Telemetry 2000 Inc., Columbia, Maryland, USA) were used with pre-programmed release times ranging from 5 to 300 days. The 61 average hourly, or daily, sea temperatures recorded by each tag were recovered by radio telemetry using the Argos satellite system, which also determined the pop-up position of the tag. Six (50%) of the 1998 tags popped-up successfully. Tags from the Stintino releases popped up in the Tyrrhenian Sea and off the coast of North Africa. Tags from Barbate popped up in the Atlantic near Madeira and the Cape Verde Islands. Data from one tag released at Barbate were returned from the Greenland Sea in March 1999 after the fish had been at liberty for 240 days.