

FISH ASSEMBLAGES AROUND FISH AGGREGATION DEVICES IN AEGEAN SEA COAST OF TURKEY

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Abstract

Fish assemblage associated with fish aggregating devices (FADs) in Aegean Sea was carried out between June 2008 and June 2009. Two FADs and two control areas were established to check the aggregation efficiency of the FADs. Small-scale fisheries techniques and underwater visual census have been conducted around of FADs and control sites monthly. A total of 17 families and 24 species of fishes were observed beneath FADs. Pelagic fishes, largely *Trachurus spp.*, *Seriola dumerili*, *Coryphaena hippurus* and *Xiphias gladius*, dominated the fauna. This study is also show that FAD is provide good opportunity to understand pelagic ecosystem.

Keywords: Aegean Sea, Artificial Reefs, Biodiversity, Fisheries, Pelagic

Introduction

Associations of fishes with flotsam have been widely reported in the literature [1, 2] from subtropical and temperate waters. However, few data are available on the Mediterranean [3, 4]. Despite of the fact that FADs have been used in the other countries for many years, using of FADs for fishing or same aims not reported in coats of Turkey. Any records couldn't be found on use of FADs in pelagic fisheries in coast of the Aegean Sea and Eastern Mediterranean. Therefore, this study has been became the first for Eastern Mediterranean area. This paper focused on the description of composition, abundance and seasonality of fishes associated with FADs in Eastern Mediterranean (Aegean Sea).

Material and Methods

This study was conduct off Gümüldür village which located 40 km south of Izmir. Two steel FADs units were moored in water at 50m and 100m depths respectively. Two zones without FAD, separated one nautical mile from each FADs unit and at the same depth, were taken controls to test for the aggregation behavior of the species. The study was carried out from July 2008 to June 2009. Seasonal variability was studied by sampling each FADs and control cities with a monthly. Samples were collected with small scale fisheries techniques (angling, trolling, gillnet and pelagic loglines) around of FADs and control sites. Underwater visual observations were also conducted to obtain qualitative information on the spatial distribution of fishes.

Results

A total of 17 families and 24 species of fishes were observed beneath FADs. Pelagic fishes, largely *Trachurus spp.*, *Seriola dumerili*, *Coryphaena hippurus* and *Xiphias gladius*, dominated the fauna. The observed specimens were mainly juveniles, with the exception of a few adults of *Balistes capriscus*, *Centrolopus niger*, *Lepidopus caudatus* and *Corypheana hippurus*. The recruitment of juvenile middle-sized pelagic fishes to FADs was rapid, with shoals being presented only a few days after FADs deployment.

References

- 1 - Gooding, R. M., Magnuson, J.J., 1967. Ecological significance of a drifting object to pelagic fishes. *Pac. Sci.* (21), 486-497.
- 2 - Durace, B. E., Kingsford, M. J., 1995 An experimental investigation of the fishes associated with drifting objects in coastal waters of temperate Australia. *Bulletin of Marine Sciences* 57 (2), 378-392
- 3 - Relini, G., Relini, M., Montanari, M., 2000. An offshore buoy as a small artificial island and a fish aggregating device (FAD) in the Mediterranean. *Hydrobiologia* 440: 65-80
- 4 - Andaloro, F., Campo, D., Castriota, L., Sinopoli, M., 2007. Annual trend of fish assemblage associated with FADs in the southern Tyrrhenian Sea. *Journal of Applied Ichthyology* 23: 258-263