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Multidimensional Approach to Grouper Fishery Management: Preliminary Results of Gokova MPA Case Study, Turkey

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Abstract

Groupers play an important role both economically and culturally since ancient times. Their role within the ecosystem is also considerable but relatively less known. Therefore, a better understanding is essential for effective management. For this purpose and to fill the existing gaps regarding biological, ecological and socio-economical aspects of these species have been collected in the emblematic MPA Marine Protected Area of Gokova. Fishery data was collected from cooperative and fishermen which were also suppliers of fish samples. A total of 172 individuals were sampled to examine age and growth characteristics and fishing features. It is found high dependency on the groupers fishery in the study area. The 49% of marine products (kg) sold at fish restaurants are groupers, representing 54% of the total value (aquaculture and exported products excluded). According to the fishery cooperative data, 9% of marine products (kg) are groupers, representing 21% of the total value. The preliminary results on key biological parameters as LWR showed differences between *Epinephelus aeneus* ($W = 0.0161L^{2.9193}$) and *Epinephelus costae* ($W = 0.0308L^{2.7151}$). CPUE estimations also showed differences in species abundance, the most abundant was *E. aeneus*, followed by *E. costae* while *E. marginatus* was practically absence throughout 2015. Study is still ongoing. Due to the preliminary results, groupers are economically important and valuable for both restaurants and fishers compared to other local products. Conservation for the groupers became more strict by the recently updated fisheries regulations in Turkey. However, this does not necessarily mean a successful management it requires more elements than conservation measurements.

Keywords:

Grouper, epinephelus, fisheries management, marine protected area, small scale fisheries