



## Modeling of the Fisheries Production Levels for *Epinephelus* Genus Distributed in the Seas of Turkey

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### Abstract

*Epinephelus* genus of Serranidae family is represented in the seas of Turkey with four species including *Epinephelus aeneus*, *E. caninus*, *E. costae* and *E. marginatus*. These species are distributed in the Mediterranean and the Aegean coasts but not the Black Sea, and only *E. marginatus* is also distributed in the Marmara Sea. *Epinephelus* genus species which are included in the demersal fish stocks that are economically important in the seas of Turkey have become endangered in years due to many factors. The lowest and the highest levels of production for the genus are 35 tons in 1976 and 808 tons in 1994, respectively. Also, *E. aeneus* is categorized under near threatened list (NT) and *E. marginatus* is categorized under Endangered (EN) list in the International Union for Conservation of Nature (IUCN) Red List of Threatened Species. In this study, the amount of future productions for the Dusky Grouper (*Epinephelus marginatus*) and the White Grouper (*Epinephelus aeneus*) distributed in the seas of Turkey were estimated using the retrospective production level data. Time Series Analysis method was applied to the data for 1972-2014 obtained by Turkey Statistical Institute (TUIK). In conclusion, the estimated level of production for the Dusky Grouper and the White Grouper which are among the products of commercial fisheries in Turkey for the year 2030 was found as 373 tons/year. Also, optimistic and pessimistic forecasts for the *Epinephelus* genus was calculated as 595 tons/year and 145 tons/year, respectively.

### Keywords:

*Epinephelus*, Fisheries, Serranidae, Time series, TUIK

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