

## Survey of overexploited amount of tuna fish (tuna fish, seer fish and billfish) in Iranian Southern Waters (Persian Gulf and Oman Sea)

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### Abstract

Tuna fish from the order Perciform and the scombridae family, with 15 genera and 52 species, it has been an important economic fish for most countries and the most valuable economic aquatic are in industrial catch in the world. The rate of overfishing in the southern waters (from 1997 to 2016) in 2019 was based on CMSY model and R software and Bayesian status approach (Problem solving based on basic information) and Monte Carlo simulation. The average catch of tuna fish (tuna fish, seer fish and billfish) in the southern waters for the period studied was 167260 tons with 95% confidence interval of 167367-167152 tons and the average catch increased significantly during the last two decades ( $R = 0.94$ ,  $P < 0.05$ ) and the average catch of tuna fish (tuna fish, seer fish and billfish) in Sistan and Baluchestan province (Yi) for this period was 94505 tons with 95% confidence interval of 94414- 94595-9595 tons and the average catch increased significantly during the last two decades. ( $R = 0.83$ ,  $P < 0.05$ ). Overall overfishing rate (weight of tuna) in the southern waters of the country and Sistan and Baluchestan province for the study period were 43% and about 47%, respectively, and in the case of overfishing rate (number of tuna) in the southern waters of the country and in Sistan and Baluchistan province reached about 16 percent and more than 7 percent, respectively. According to the terms and situation mentioned, it seems with regard to sustainable fishing requirements, it is possible to increase the catch of tuna and large pelagic fish in the south of the country.

**Keywords:** Tuna fish, CMSY model, overfishing.