

# Fishery for the Large Pelagic resources in Gujarat

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## Abstract

Large pelagic fishery resources contributed about 4% of total marine fish landing in Gujarat. Tunas dominated among LP resources, followed by seerfishes, queenfish and dolphinfish. They are targeted by mechanized gillnetters and the multiday trawlers with region between Veraval and Porbander as the major fishing zones. Mainly limited to the shelf areas within 200 m depth, the operations extended to oceanic areas beyond 200m during summer months. Poor handling and onboard storage effect the quality of the fishes and market value realised by the fishers. Mainly dried products of LP are traded within the country as well as abroad like Sri Lanka, Tunisia and Thailand.

*Keywords:* Large Pelagics, fishery, Gujarat, tunas

## Introduction

Gujarat's Large Pelagics (LP) fishery accounting 0.31 lakh tons constituted 11% and 4% of the total pelagic fish and marine fish landing respectively during 2018 (CMFRI, 2019). Tunas are the dominant group in the LP fishery followed by seerfishes, queenfish and dolphinfish. The large pelagics are principally tapped by the large mesh drift gillnets and to a limited extend by multiday trawl nets and a brief about the fishery trends is presented.

## Fishery trends

Tunas followed by the seer fishes are the major groups constituting the large pelagic resources landing in Gujarat. Queen fishes, barracudas and mahimahi (dolphin fishes) are the other major groups in the fishery (Fig.1). Basically two types of gillnet crafts are involved (i) small FRP canoes of 9-12m OAL fitted with outboard or inboard engine and (ii) Wooden or FRP boats of 6-17m with inboard engine and fish-hold (4-6 t). Voyages of outboard crafts

generally last for 3-5 days and mechanized units up to 10 days. The length of the net varies according to the size of the crafts. There has been progressive increase in lengths of the net and have almost reached up to 7000 meters. There has been an increased rate of replacement of smaller vessels with larger ones since 2008, which resulted in improved catch of the target species like the

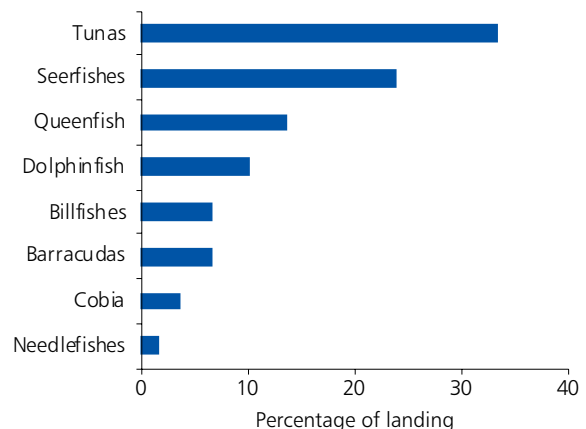


Fig.1. Composition of large pelagics in the landing along Gujarat coast.

longtail tuna. Most of the motorised boats also operate troll line for tunas, mahimahi, seer fishes, cobia, billfishes etc. The composition of gillnet catches varied with the season and the area of operation. The catch comprised tunas, seerfishes, and queen fishes besides barracudas, billfishes, dolphinfish and cobia. The trawl catch of large pelagics are mainly limited to the juveniles or smaller species of certain barracudas (*Sphyraena obtusata*, *S. putname*, etc), queen fishes and seerfishes .

Average tuna landing during 2010-19 was 11 105 t (Fig.2). Tuna landings occurs throughout the year with peak during post monsoon months, accounting 65% of annual landing. Outboard gill netters are the major contributor (61%) of tuna followed by Multiday gillnet (34%). *Thunnus toggol* and *Euthynnus affinis* are the dominant species in the fishery. Seerfish landings varied from 9057 to 7462 tonnes during 2010 to 2019 with an average of 9841t during the last 10 years and unusually high catches of 2014 and 2015 (Fig.3). *Scomberomorus guttatus* and *S. commerson* are the two species occurring

in the fishery with almost equal share. Fishing season starts from September to April with the peak during October-December. The outboard gill netters is the major gear which contribute 40% of the landing followed by multiday trawlers (32%),

Billfishes formed only 2.5% of the LP landing during 2010-19 with an average landing of 983t. Species contributing to the fishery are Sailfish (*Istiophorus platypterus*) (89%), Marlins (1%) (Black marlin, *Istiompax indica* and blue marlin *Istiompax mazara*); and swordfish (*Xiphias gladius*) (10%). Nearly 60% of the landing was by the mechanized multiday gillnetters followed by outboard gillnetters. Mahimahi, *Coryphaena hippurus* landings have been decreasing since 2017 after the peak landing of 5007t. Landings occurred throughout the year with a peak during November - December and major contribution was by multiday trawl net (43%), outboard gillnetters (19%) and mechanized gillnetters (12%). Average queenfish landing during 2010-19 was 3997t forming nearly 12.3% of the total LP landing

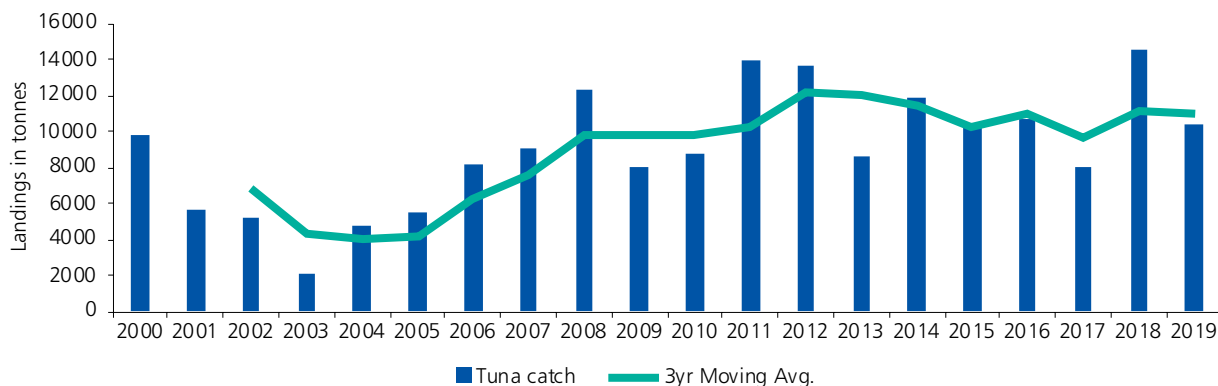


Fig.2. Trend of tuna landings (t) along Gujarat coast

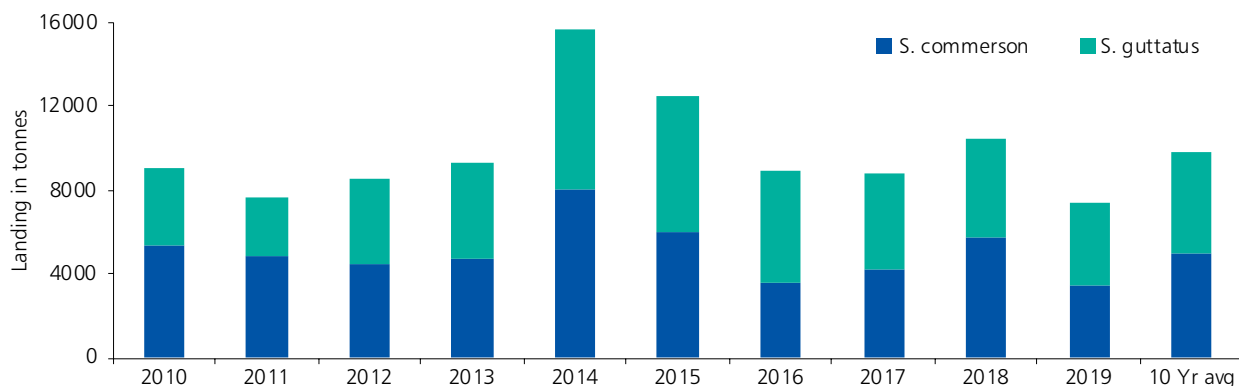


Fig. 3. Trend of seerfish landings (t) along Gujarat coast

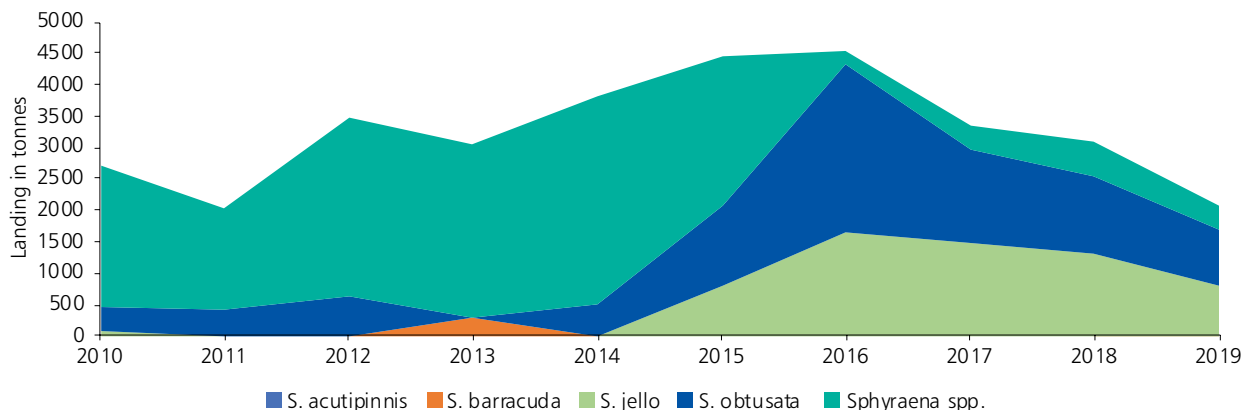


Fig. 4. Species wise trend of annual barracuda landings (t) during 2010 to 2019

in the state. The species supporting the fishery are *Scomberoides lysan* (40%), *S. tol* (5%), *S. tala* (1.16%) and *S. commersonianus* (0.73%). They were landed round the year with peak during October-March. Outboard gillnets are the major contributor (39%) followed by multiday trawl net (32%) and mechanized gillnetter (19%). Barracudas formed about 9% of LP landing during 2010 to 2019 with an average of 3259t. The major species landed are *Sphyraena obtusata*, *S. jello*, *S. barracuda* and *S. acutipinnis* with the first two species together constituting over 50% of barracuda landings (Fig.4). Its landed throughout the year with a peak during October to January. Multiday trawlers account for nearly 75% of the barracudas landed followed by outboard gillnetters. Cobia (*Rachycentron canadum*) landings occurred throughout the year with the peak during February-March. Multiday trawlers landed major

share (38%) followed by outboard gillnetters (32%) and the mechanized gillnetters (22%). Fishing grounds for the large pelagics is limited mainly to the shelf areas with depth ranging from 14 to 200 m, especially off the Saurashtra coast between 20°N and 22°N latitudes with area between Veraval and Porbander being major fishing zones (Fig. 5). The. Fishing operations in the oceanic areas (beyond 200m) are mainly during the summer months (March-May). Occurrence of oceanic tunas and billfishes in the catches from inshore areas during winter months indicates its movement to inshore areas during this period .

Historically, Veraval is known for trade of dried and salted fish products to domestic markets and other neighbouring countries. Queen fishes, seer fishes, billfishes, tunas etc are exported to Sri Lanka in salted form even these days. Domestic fresh fish sales and export in frozen form are prevalent trends. There are several fish processing plants in Gujarat of which a few process the tunas for export in whole or gilled and gutted form; principally for canneries in various parts of the world, especially, Tunisia and Thailand. There is increasing demand for other LP like mahimahi in the export market in the recent years. Owing to the poor handling and storage onboard (inadequate ice-fish ratio, physical damage due to pressure of stacking, increased duration of storage etc) quality of fishes landed are low. There is potential for development of fisheries for oceanic tunas by deploying advanced tuna fishing vessels with modern facilities. Integration of collector vessels that can freeze and store the catch in view of the distance to the fishing ground due to the wide continental shelf off Gujarat is desirable. Gillnet based fishery for coastal tunas and other LP on the shelf may be continued with the existing fleet.

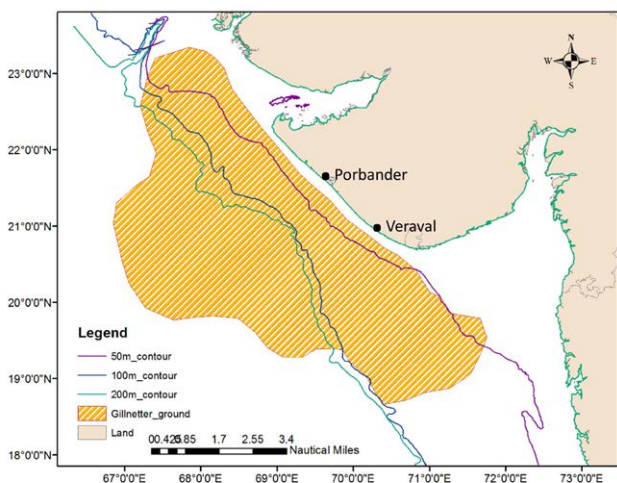


Fig. 5. Fishing grounds of gill netters targeting large pelagic fishes