

**12<sup>th</sup> Session of the Working party on Billfish (WPB12)****21–25 October 2014 Tokyo, Japan****Title: An overview on large pelagic species in Iran & Billfish fishery Status****BY: Fariborz Rajaei  
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Iran fishing grounds in southern waters of country are of the oldest and most important resources of large pelagic species. There are 4 coastal provinces in those areas and about 11 thousands vessels consist of fishing boat, dhows and vessels which are engaged in fishing in the coastal and offshore waters. There are three fishing methods targeting tuna and tuna-like species in the IOTC area which include gillnet and purse seine and also some of small boats use trolling in coastal fisheries. Billfish production in Iran is at increasing trend during a period of 5 years i.e. from 2009 to 2013 shows a sustainable increase. Gillnet is the dominant fishing gear in the IOTC area competency, Majority of the production comes from the Gillnet vessels operating within EEZ as well as offshore fishery.

The total production of large pelagic fishes during 2013 was 239600 Mt which 209641Mt belongs to tuna and tuna-like fishes in IOTC area competency. The third largest group of fish is the billfish with almost 14280Mt which is around 6% the total large pelagic landings in Iran. The Sailfish dominated the billfish catch with 7475Mt, followed by three marlins about 6000Mt, and Swordfish 804Mt. Although billfish are not normally targeted species, they are considered as by-catch species and according our regulation for Tuna species fishing, no part of billfish catch will be discarded by vessels.

## 1. GENERAL FISHERY INFORMATION

Islamic Republic of Iran with vast resources in terms of 5,800 km coastline (including coastal areas of the Persian Gulf Islands), 2700 km Length of continental coastline and 196000 km<sup>2</sup> Shelf areas has the opportunity to access High Seas through Strait of Hurmoz. In Iran fishing management is based on Sustainable Fishing of Marine Resources Approach and according to Law of Marine Resources Protection approved in 1995 and according to this Law, no legal entity or person can exploit or catch marine resources without valid license or official permission.

There are three categories of fisheries activities in Iran consist of the southern fishery, the northern fishery (the Caspian Sea) and inland fishery and aquaculture. Figure 1.1 shows total yearly catch and production in the country during 2009-2013 and the annual production in Iran was about 885000 Mt in 2013, which can be distributed as 473600 Mt of the total catch and production contributed to the country fishing activities in the Persian Gulf, Oman Sea and offshore waters, about 40400 Mt of production from northern water (Caspian Sea) and 371000 Mt through inland water and aquaculture.

The main fishing grounds for large pelagic species in southern of the country are located in the coastal sectors of Persian Gulf and Oman Sea and total volume of production in the coastal and offshore waters in 2013 around 473600 Mt, which consist of large pelagic 239,600 Mt, Small Pelagic 50200 Mt, Demersal species 171000 Mt, Shrimp 8800 Mt and Myctophids 4000 Mt. shown in Figure1.2

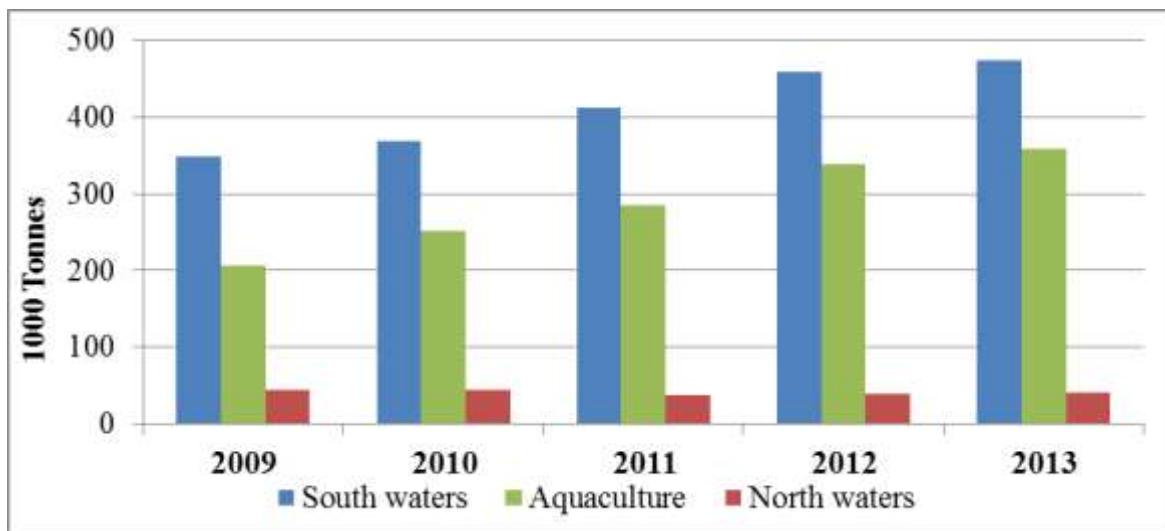


Figure1.1 Total Catch & production in the country during 2009-2013

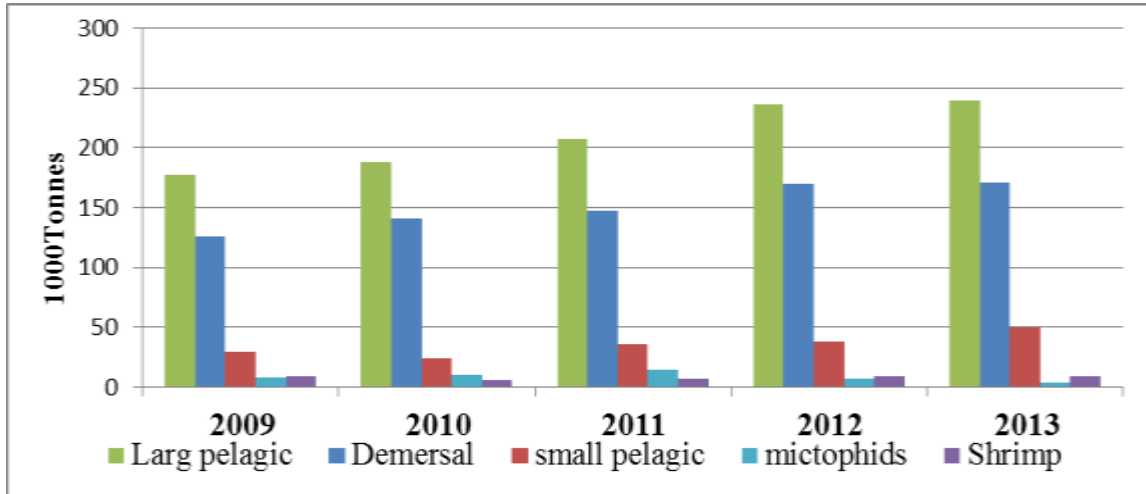


Figure 1.2 The catches quantity of different aquatic species group in the southern waters of Iran during in 2009-2013

## 2. FLEET STRUCTURE AND GEAR

Iran Fisheries and exploitation of aquatic animals in the southern water is carried out by a fishing fleet including 11,000 vessels of which about 6752 fishing crafts are engaged large pelagic species activities in 2013, Of this total volume of vessels, about 1200 are active in Tuna and Tuna like fishing in the Oman Sea and offshore waters and more than 80 percent of crafts are operated in the coastal fishery. Those fishing crafts consist of industrial purse- seiners, fishing boats and Artisanal vessels (Dhows) and GRT of purse seiners is up to 1000 t and GRT of Gillnetters ranges from less than 3 t to more than 100 t. Gillnet and purse seine are two main fishing gear for catching tuna and tuna-like Species in the IOTC area and also some of small boats used trolling in coastal fisheries. Figure 2.1 shows the fishing fleet is disaggregated into the following (GRT) categories during 2009 to 2013

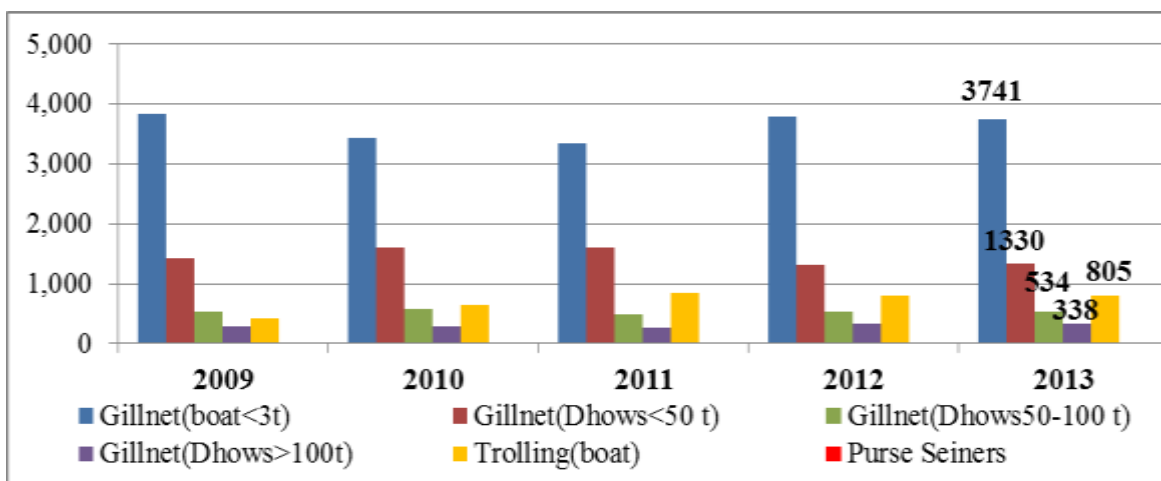


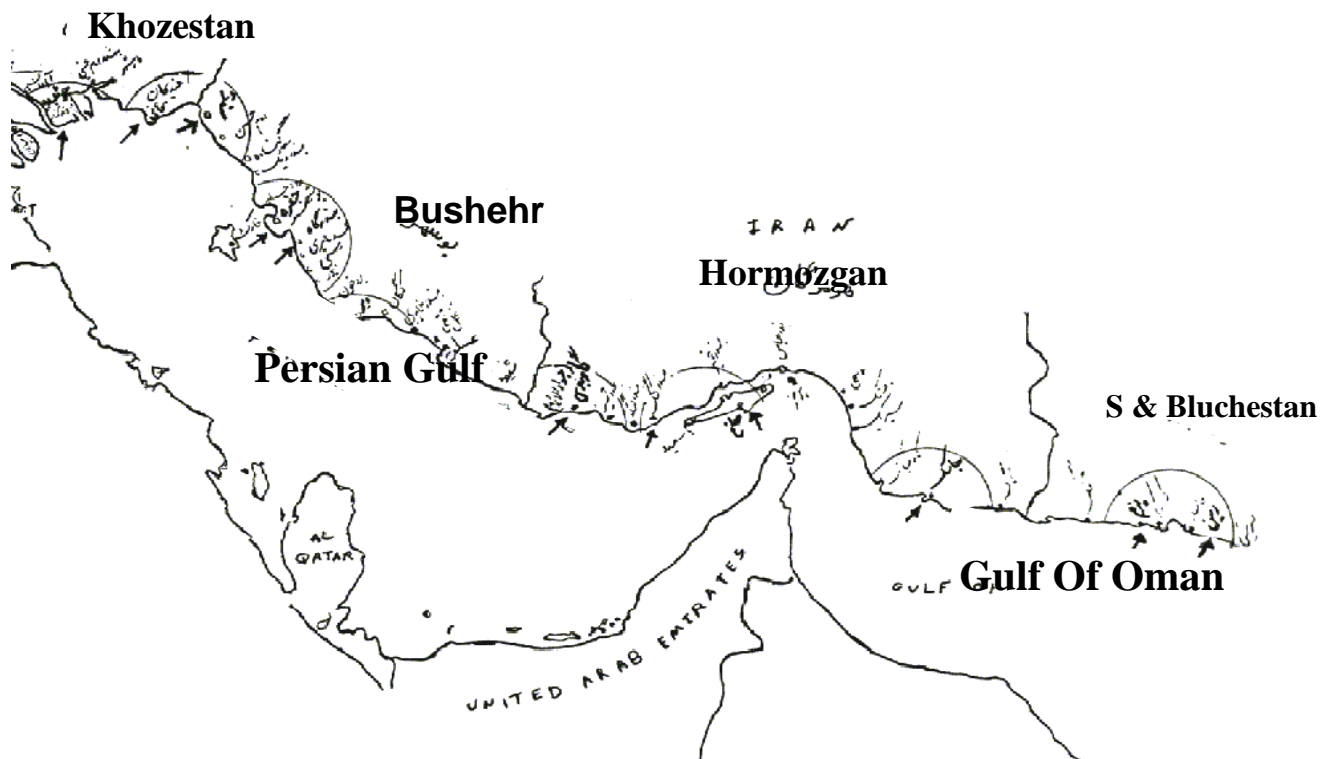
Figure 2.1 Number of large pelagic fishing vessel Categorized by different vessel classes (2009-2013)

### 3. CATCH AND EFFORT (BY SPECIES AND GEAR)

#### 3.1. Catch quantity

Catch and effort and biological data of the coastal and offshore large pelagic fishery are collected at the 43 out of 63 fish landing sites. Consist of 10 landing sites in KHOZESTAN Province, 8 landing sites in BUSHEHR Province, 20 landing sites in HORMOZGAN Province and 5 landing sites in SISTAN-BLUCHESTAN Province in the alongside the Persian Gulf and Oman Sea coastlines, and port samplers permanently stay on landing sites which they collect the data and fill out the forms, and also collect length/weight frequency data. Following Map shows of landing sites distribution in the southern coastlines. Catch and Effort data were collected in all the above sites by stratified random sampling by the samplers, in this way, 10% of total fishing crafts for different vessel classes of fishing dhows and boats are picked out randomly and their fishing data will be registered. Tuna and Tuna-like species are mainly comprised of 6 tuna species, 2 seerfish species and 5 billfish species which are identified in the large pelagic categories. Landing surveys are undertaken to obtain data on catches in the artisanal fisheries.

*Map of Landing sites distribution in the southern coastlines*



The Catch quantity of large pelagic in Iran was 239600 Mt in 2013 and around 210,000Mt belongs to tuna and tuna-like fishes in the Indian Ocean areas. Those catch consist of Big eye tuna 1649Mt, Yellowfin tuna 32403 Mt, Longtail tuna 66572Mt, Skipjack 33327Mt, Frigate tuna 6827Mt, Kawakawa 28764Mt, Indo-pacific king mackerel 5752Mt, Narrow- barred Spanish mackerel 20021Mt and Billfish 14280Mt. shown table3.1.1 and figure 3.1.1

Figure 3.1.2 showing total yearly Catch of Purse Seiners by Species during 2009 to 2013. The total catch recorded by the purse seine fleet during 2013 is estimated at 5735Mt, representing an increase of 6.7% over the catches reported for 2009.

Although billfish are not normally targeted species, they are very common in offshore gillnet catch are considered as by-catch species. As mention above billfish annual production is estimated to be about 14280Mt and this is around 6.8% of the total tuna and tuna-like species landings in Iran and figure 3.1.4 showing a trend of landing of billfish are steadily increasing in the previous years. Iran has recently started collected information about landings of billfish which reveals that Indo-Pacific sailfish catch with 7475 Mt is the most dominating species of billfish found followed by black marlin with 4173Mt and striped marlin 574Mt. Swordfish and blue marlin is the rarest of all the billfishes which is seldom caught by large pelagic gillnetters. Shown figure 3.1.5

<b>Species \ Years</b>	<b>2009</b>	<b>2010</b>	<b>2011</b>	<b>2012</b>	<b>2013</b>
Bigeye tuna	0	0	105	1644	1649
Yellowfin tuna	21760	31485	28800	34965	32403
Longtail tuna	48493	64450	80883	76201	66572
Skipjack tuna	47094	22285	17473	27051	33327
Frigate tuna	5178	6172	6013	8210	6827
Kawakawa	17827	16336	22266	26222	28764
I.P.king mackerel	2669	3170	3900	5497	5752
N.B.Spanish mackerel	7691	10884	14794	16442	20021
Billfish	7976	9209	8866	11315	14280
<b>Total</b>	<b>158219</b>	<b>163991</b>	<b>183100</b>	<b>208547</b>	<b>209595</b>

Table.3.1.1. Nominal catches of tuna and tuna-like species for Iranian during 2009-2013 ((Tonnes)

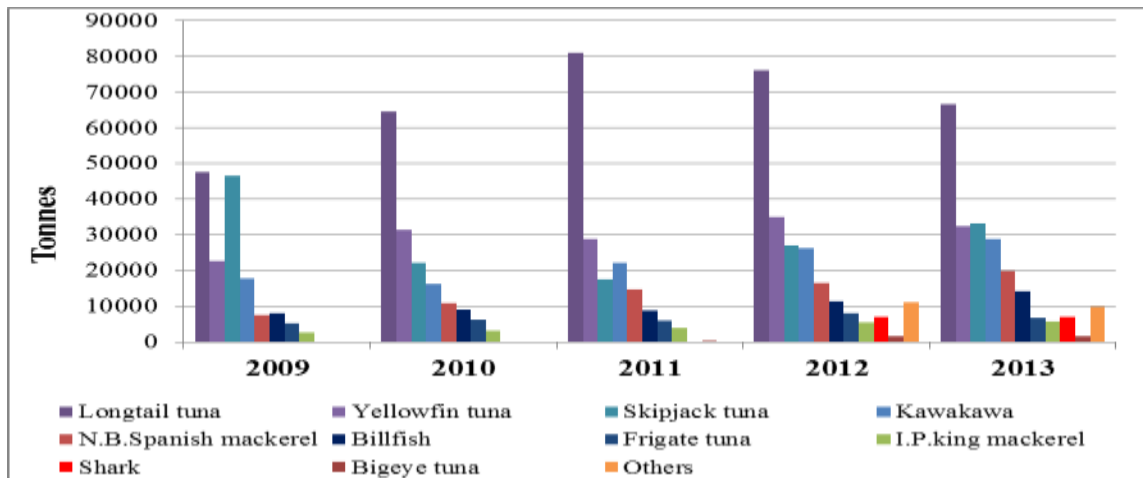


Figure 3.1.1 Total yearly catch by species reported for the all fleet during 2009-2013 (Mt)

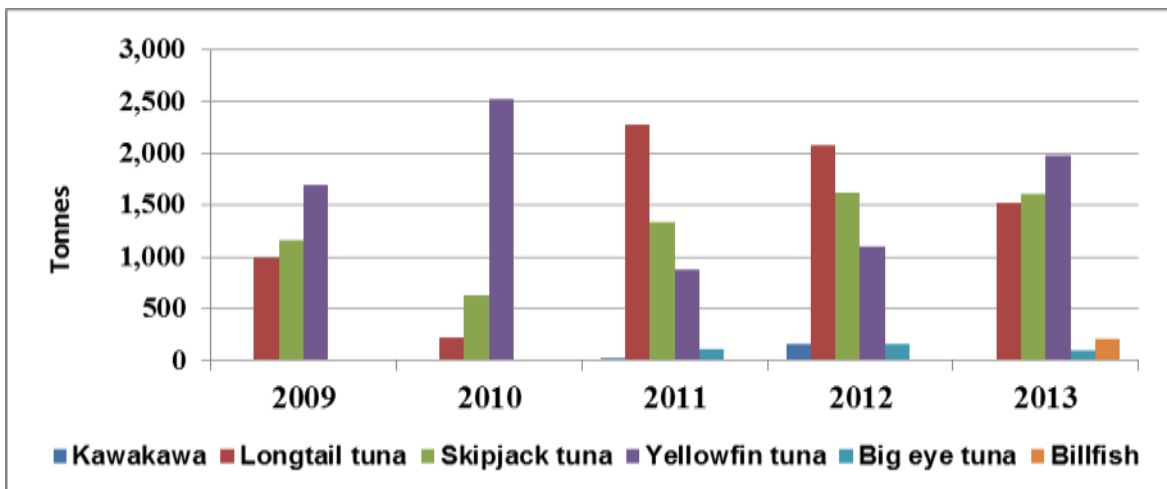


Figure 3.1.2 Total yearly Catch of Purse Seiners by Species (Mt)

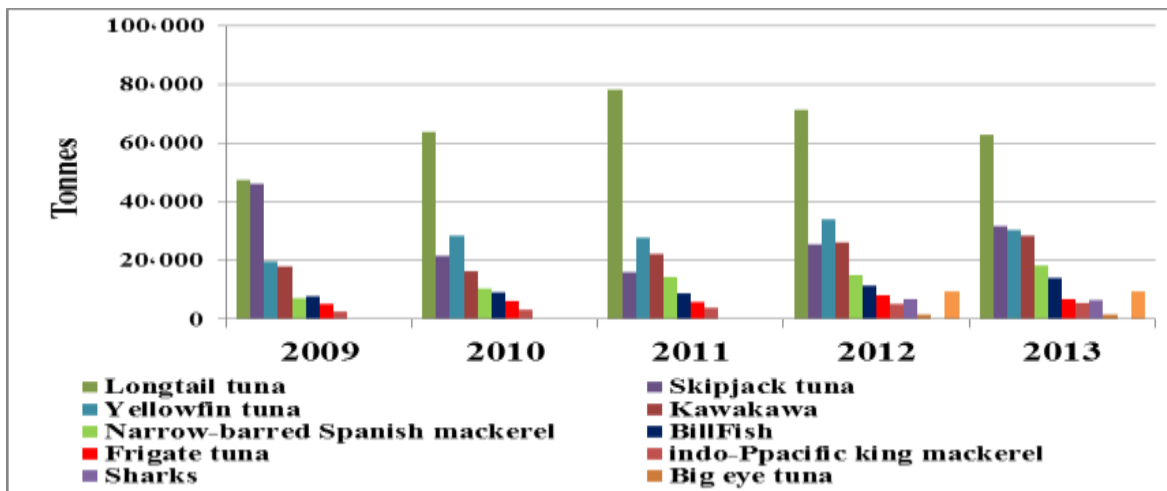


Figure 3.1.3 Total yearly Catch of Gillnets by Species (Mt)

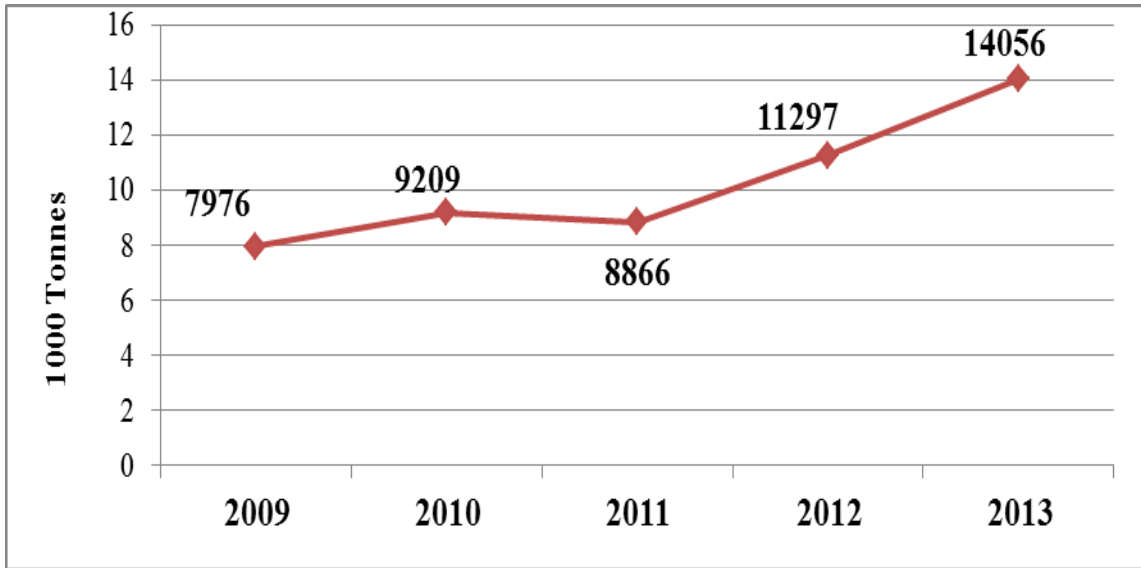


Figure3.1.4: Annual trend catches of billfish in 2009-2013(Mt)

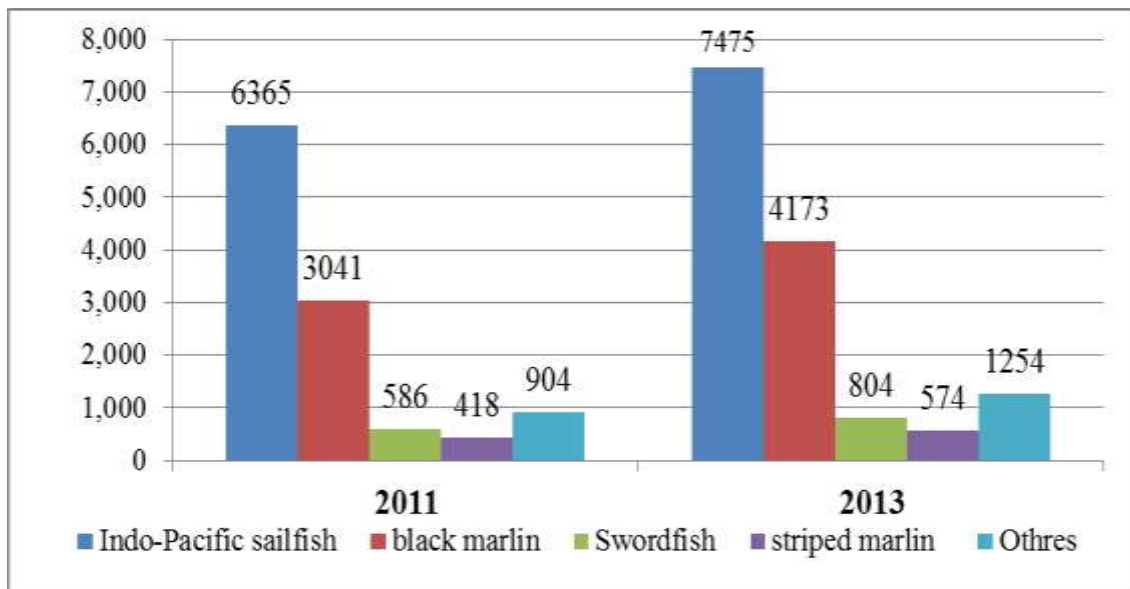


Figure3.1.5 landing billfish during 2011 & 2013(Mt)

### 3.2. Fishing effort

Figure 3.2.1 shows the fishing effort for tuna and tuna like species by different vessel categories for the all fleet consist of purse seine, gillnetter and trolling during recent years. In 2013, for tuna and tuna-like catches around 1,040,000 days fishing efforts was Carried out, of which 916,100 days was operated by Gillnet, 727 days by purse seine and 123,000 days done by trolling fisheries. This figure3.2.2 show that the highest gillnet fishing pressure occurs within the Islamic Republic of Iran's EEZ and within 20 nautical miles of the coastal waters.

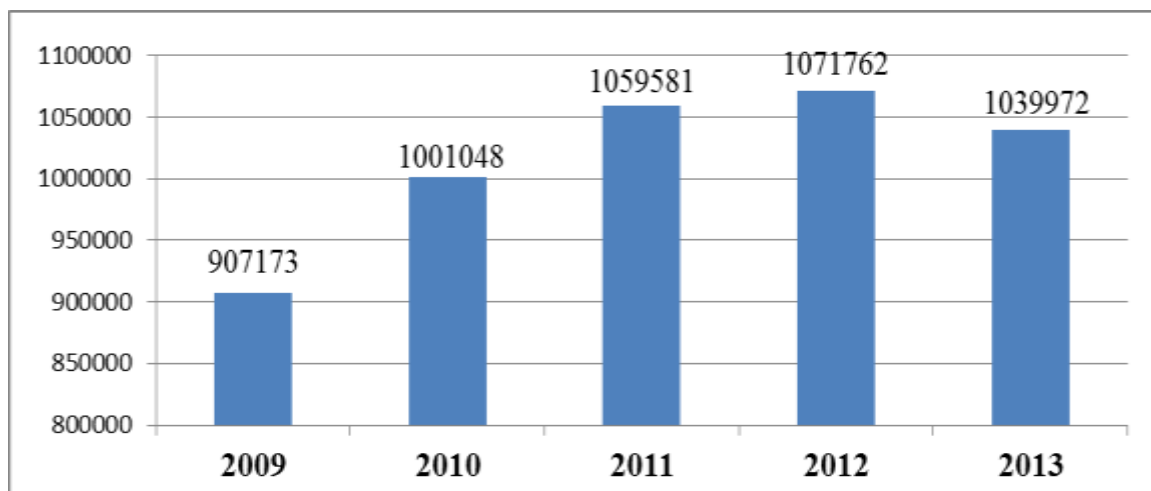


Figure 3.2.1. Trend of Tuna and tuna like fishing effort by all fleet during 2009-2013(fishing day)

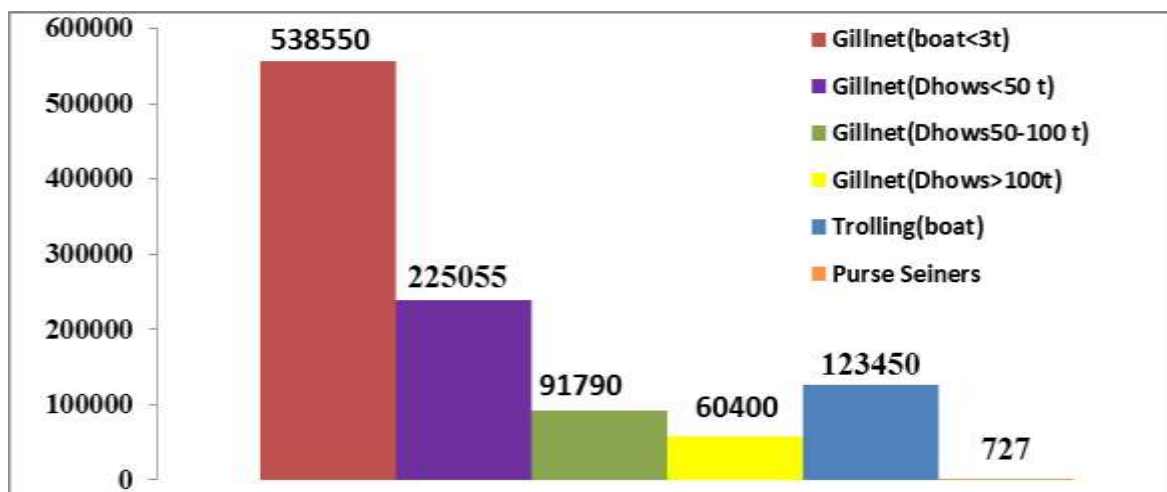


Figure3.2.2 Tuna and tuna like fishing effort by all fleet in 2013(fishing day)



Figure.3.2.3 shows the distribution of fishing effort reported by purse-seine fleet for 2013. As it can be seen from the diagram fishing effort distribution is northern water of IOTC area.

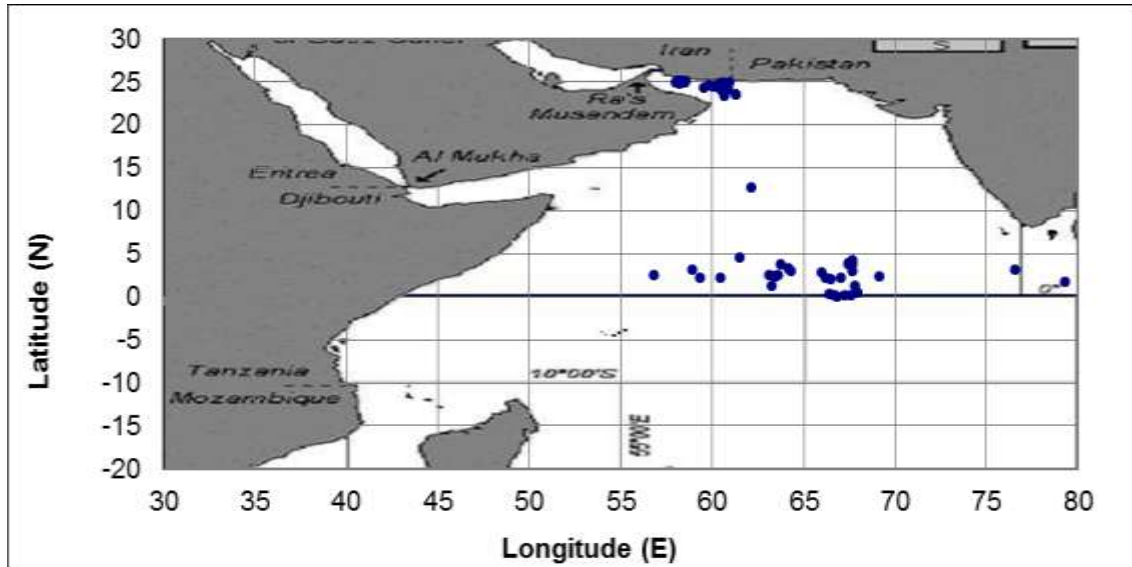


Figure 3.3. Distributions of Purse seiners efforts in the IOTC area for 2013

#### 4. Conclusions

Iran has taken various actions to implement the Scientific Committee and working party on billfish recommendations. One of the notable approaches in our country in the field of tuna fishery is how to fulfill the IOTC regulations and adapting it with national implementing condition and complying with the IOTC approvals. Some of actions taken by Iran is improving data collection system by completing of AMAR software to meet IOTC demanded outputs with a suitable reporting for tuna fishery and billfish during 2013, and implemented the training courses for port samplers and Identification cards for billfish has been translated and distributed among port samplers and fishing vessels Captains to enhance the validity of identifying the billfish. We have implemented artisanal gillnets, purse seiners and modification of logbook template to meet mandatory minimum statistic requirement, particularly with regards to data recording of vessel position in IOTC area for target species, By-catch and discard. It is noteworthy to say that for the first time, we could identify and include sailfish and black marlin catch by purse seiners fleets in our data base and reported to the IOTC secretariat. In line with development of ID cards for identifying different by-catch species, Iran request financial support to develop ID cards for Billfish and shark.