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National Report of Islamic Republic of Iran to the Scientific Committee of The Indian Ocean Tuna Commission for 2011

In accordance with IOTC Resolution 10/02, preliminary scientific data for the previous year was provided to the Secretariat by 30 June of the current year, **for all fleets other than longline**	**YES** **12/7/2011**
In accordance with IOTC Resolution 10/02, final scientific data for the previous year was provided to the Secretariat by 30 Dec of the current year, **for all fleets other than longline**	**YES** **22/10/2011**
In accordance with IOTC Resolution 10/02, provisional **longline data** for the previous year was provided to the Secretariat by 30 June of the current year	**NO**
reason(s) and intended actions: we don't have any active longliner vessel at present ,we have got one longliner but it is not active yet	

1-BACKGROUND/GENERAL FISHERY INFORMATION:

Tuna and tuna-like species fisheries is one of the most important activities in the Persian Gulf & Oman Sea. In 2010 a total of 5 industrial purse- seiners and 5920 Gillnetters operated in the area. GRT of purse seiners is >1000 t and GRT of Gillnetters ranges from less than 3 t to more than 100 t.

Iranian Annual catch Tuna and tuna-like species in 2010 were estimated as follows:

Yellowfin tuna: 31485 t
Skipjack tuna: 22285 t
Longtail tuna: 64450 t
Kawakawa: 16336 t
Frigate tuna: 6172 t
Billfish*: 9209 t
Indo-pacific king mackerel: 3170 t
Narrow- barred Spanish mackerel: 10884 t
Total catch: 163991 tons
*contain Sailfish and Marlin

The amount of catch for purse-seiners showed an ascending trend in 2010 comparing to 2009. The amount of catch for different fishing methods of purse seine, Gillnet and trolling was estimated 3377 t, 159320 t and 1294, respectively.

2- FLEET STRUCTURE:

Table 1. Number of vessels operating in the IOTC area of competence, by gear type and size, for the history of the fleet (2005-2010)

GEAR	GRT	No. of vessels by year					
		2005	2006	2007	2008	2009	2010
No. of Active Purse Seiners	1000-2000	6	7	7	7	6	5
Gillnet	<3	4101	4125	3966	3974	3828	3444
	3-20	753	733	731	761	753	702
	21-50	726	715	725	730	667	911
	50-100	895	805	794	669	534	580
	>100	101	130	147	208	278	283
Trolling		206	214	397	417	426	634

3- CATCH AND EFFORT (BY SPECIES AND GEAR)

Table.2.1.Annual catch by gear type and species (tons)

Gear Group	Species Group	2004	2005	2006	2007	2008	2009	2010
Purse Seine	Bigeye tuna	0	0	1	55	23	0	0
	Longtail tuna	1491	1227	2303	2321	1205	994	220
	Skipjack tuna	82	1214	3909	450	1489	1159	628
	Yellowfin tuna	11028	7271	8353	2330	2141	1693	2529
Total Purse Seine catch		12601	9712	14566	5156	4858	3846	3377
Gill net	Frigate tuna	1460	1616	2444	5197	7164	5178	6172
	Kawakawa	11645	11803	12596	15556	20439	17827	16336
	Longtail tuna	18037	17300	22840	25900	31186	46486	63762
	Skipjack tuna	53564	79436	98759	67618	42411	45404	21657
	Yellowfin tuna	39692	35769	32064	13615	17085	20585	28522
	Narrow- Barred Spanish mackerel	7079	5936	8339	8860	9975	7279	10556
	Indo-Pacific King mackerel	4279	3088	4049	3747	4026	2633	3106
	Billfish	12050	12587	10578	6243	5634	7976	9209
Total Gillnet catch		147806	167535	191669	146736	137920	153368	159320
Trolling	Longtail tuna	--	--	--	375	229	239	468
	Yellowfin tuna	--	532	305	338	256	318	434
	Narrow-Barred Spanish Mackerel	--	228	440	535	317	412	328
	Indo-Pacific king mackerel	--	--	--	35	52	36	64
Total Trolling catch		0	760	745	1283	854	1005	1294

Table 2-2: Annual catch of Iranian vessels (tons)

Species	2006	2007	2008	2009	2010
Bigeye tuna	1	55	23	0	0
Yellowfin tuna	40722	16283	19482	22596	31485
Longtail tuna	25143	28596	32620	47719	64450
Skipjack tuna	102668	68068	43900	46563	22285
Frigate tuna	2444	5197	7164	5178	6172
Kawakawa	12596	15556	20439	17827	16336
Narrow-barred Spanish mackerel	8779	9395	10292	7691	10884
Indo-pacific king mackerel	4049	3782	4078	2669	3170
Billfish	10578	6243	5634	7976	9209
Total	***206980***	***153175***	***143632***	***158219***	***163991***

Table.2.3.Fishing effort by different vessel categories (days)

Gear	Capacity GRT	Fishing effort by gear(days)					
		2005	2006	2007	2008	2009	2010
Purse seine	1000-2000				728	675	880
Gillnet	<2	447009	482625	563172	520594	486156	501402
	3-20	95631	96023	103071	115672	118974	113740
	21-50	99462	115115	115275	118990	116058	165640
	51-100	148570	134435	106396	90984	81168	83754
	>101	16766	19630	17346	34528	50040	38810
Total fishing effort (Gillnet)		807438	847828	905260	880768	852396	903346
Trolling	Non-mechanised	22454	25038	56374	54627	54102	96822

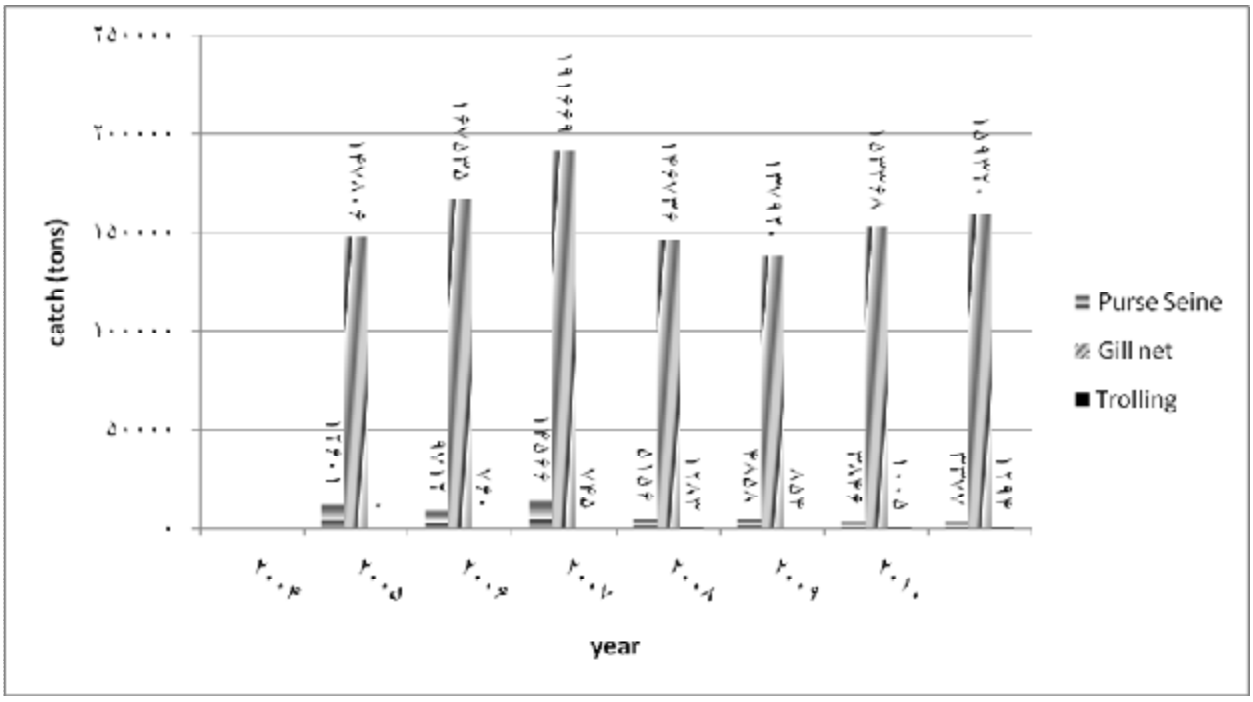

Figure 1.1. Annual catch by gear type

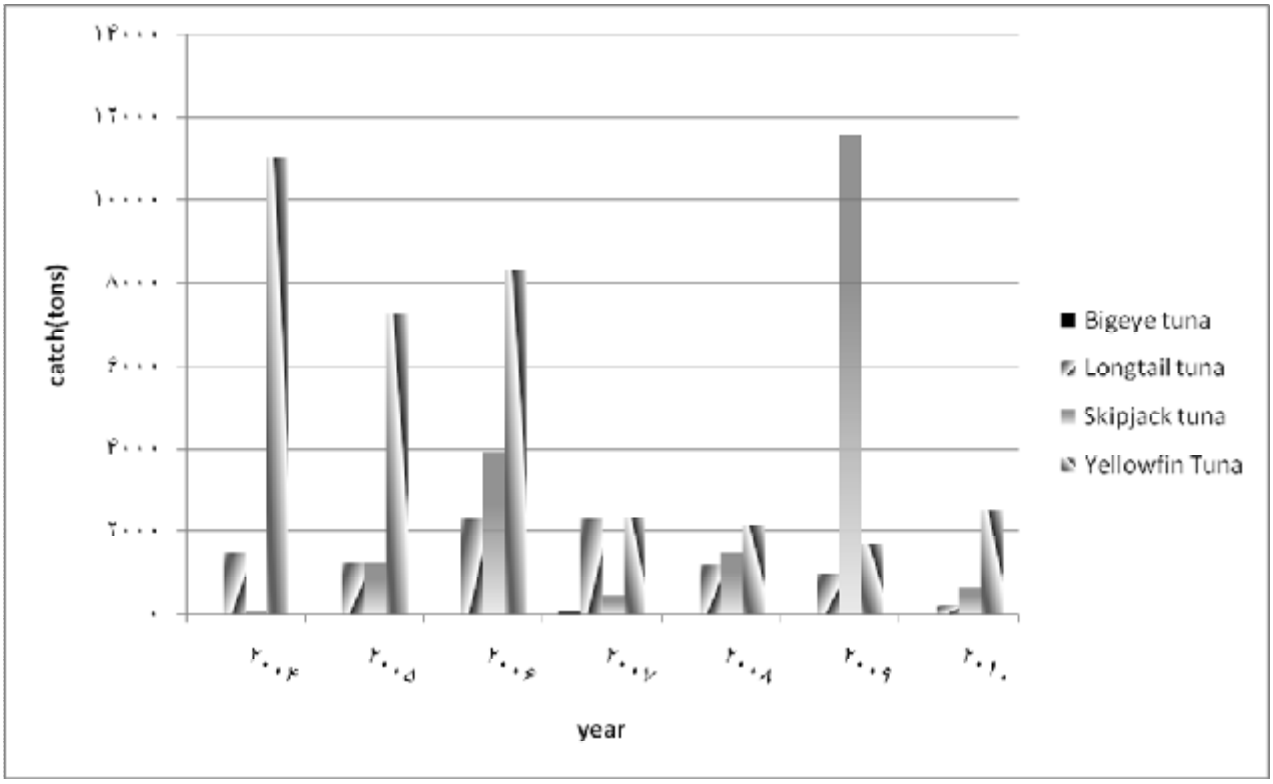

Figure 1.2. Annual catch of Purse seiners by species

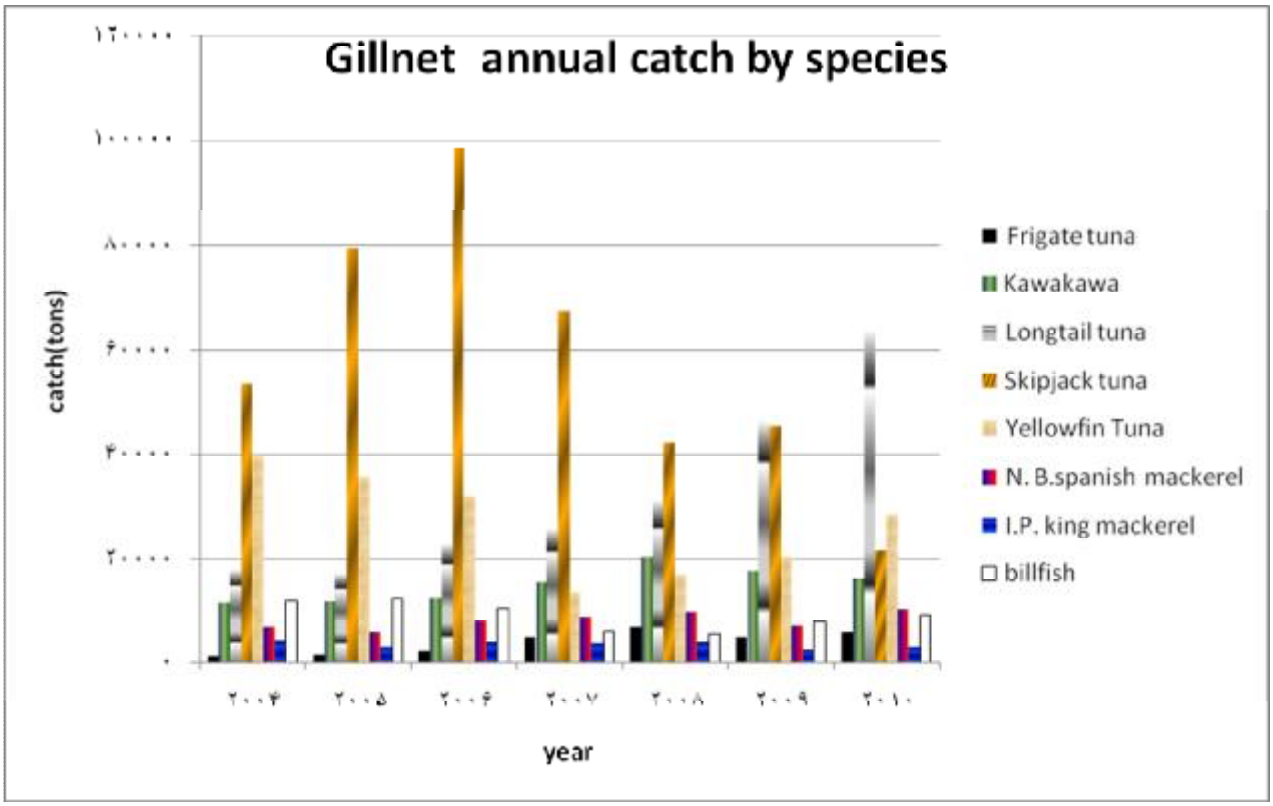

Figure 1.3. Annual catch of Gillnets by species

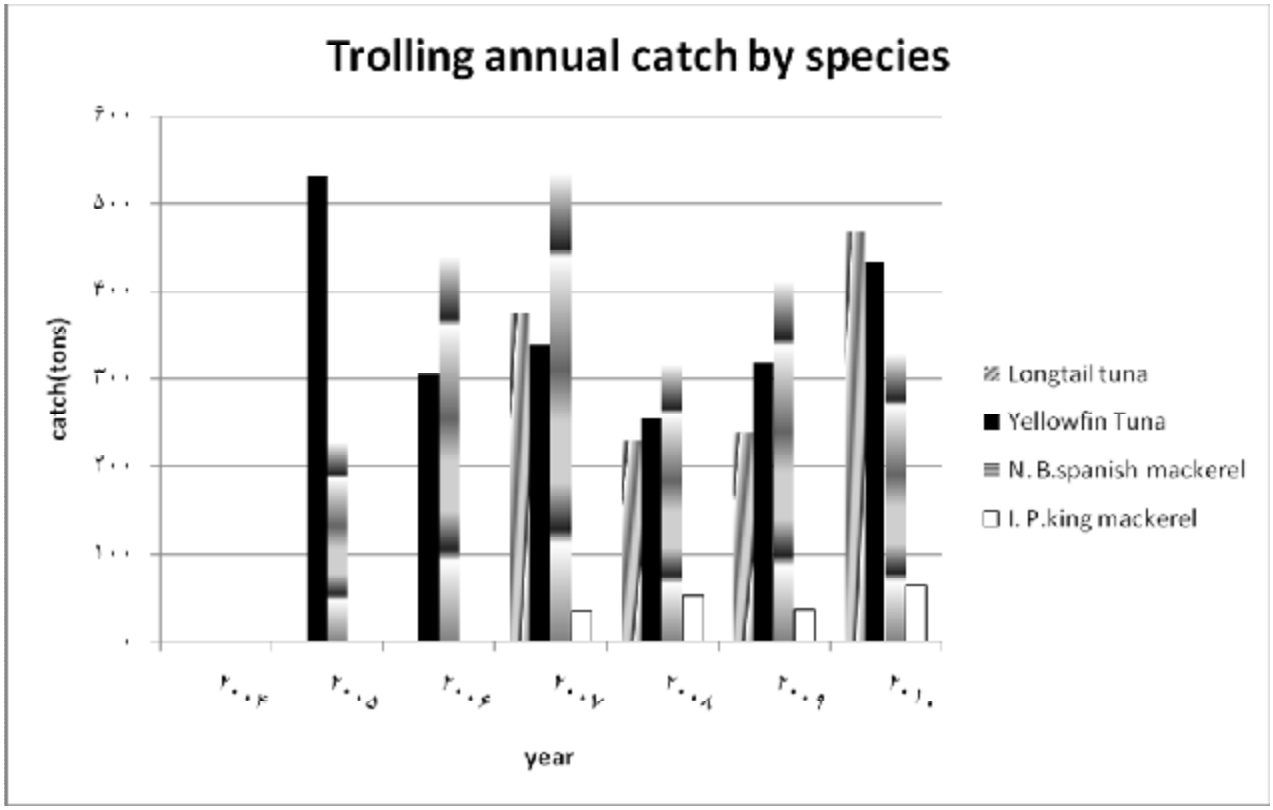

Figure 1.4. Annual catch of trolling method by species

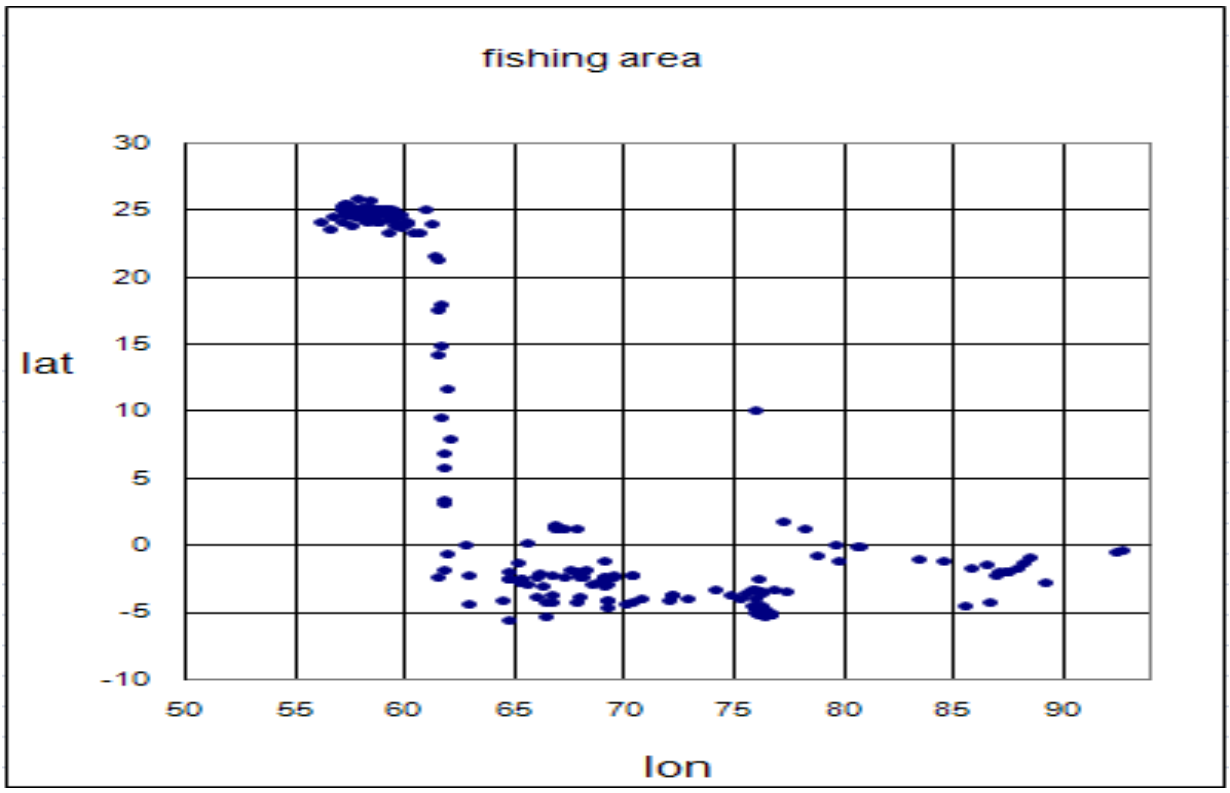

Figure 2-1.Distribution pattern of tunas based on fishing efforts of purse seiners), 2010

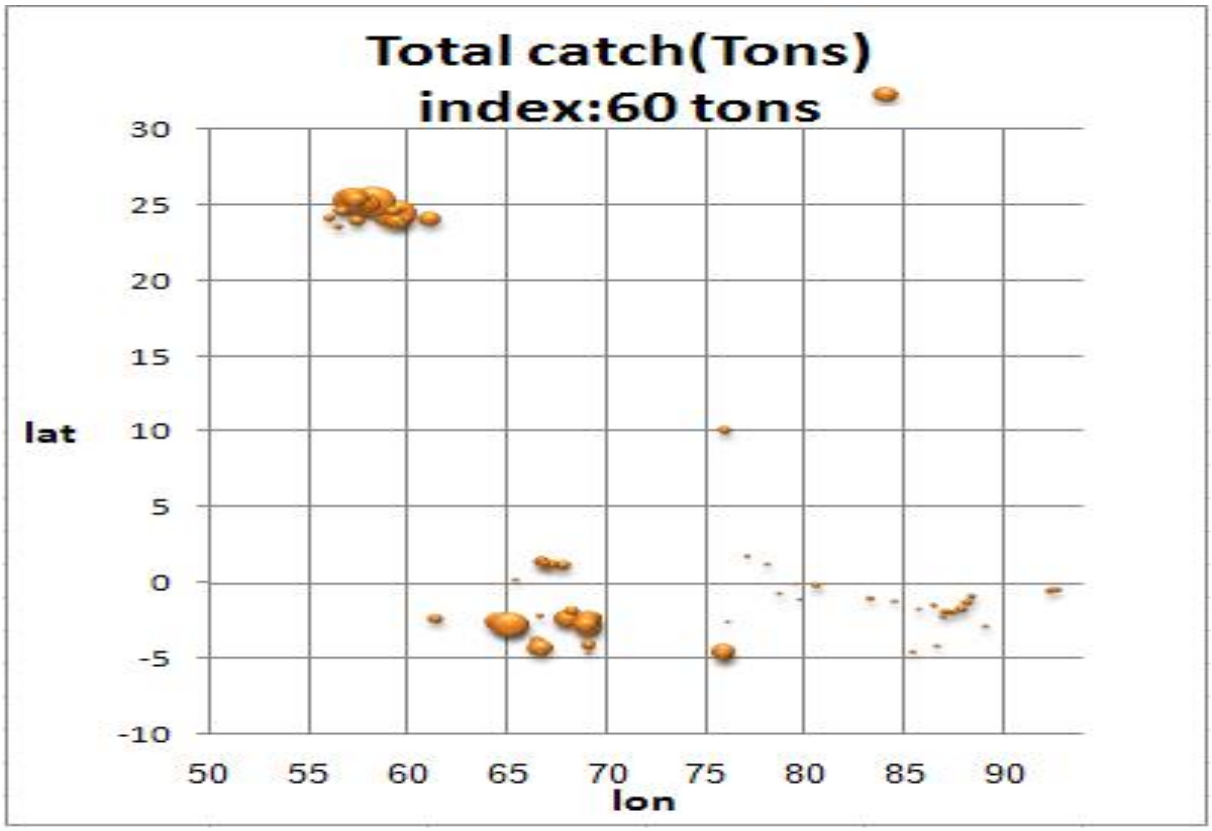

Figure 2-2.Distribution pattern of Tuna fishes based on Purse seiners catches, 2010

4- RECREATIONAL FISHERY

We don't have any recreational fishing operation in our water for tuna and tuna-like species.

5- ECOSYSTEM AND BYCATCH ISSUES

5.1-Base on article 9 Part B of national gillnet fishing regulation which was also highlighted in circular dated July 15, 2011, catching Thresher shark is banned and in case of incidental catch they must be released to sea immediately after catch in the sea. This issue has been formally announced to all Cooperatives on Jan, 2011 to consider and respect.

5.2-It is noteworthy that Iran has no selective methods for Sharks catch and in order to decrease the bycatch we have already started preparing an action plan which will be finalize by 2012. In fact landing of sharks in fishing harbors is an infraction and fishermen are punished if they land any sharks or other protected species. In addition base on religious legislations most of the Iranians do not eat sharks, for these reasons the interests of fishermen for landing of this group of fish are very low.

5.3-During an extension services program, Iran Fisheries Organization(IFO) has prepared some training courses and extension brochures and posters regarding to by catch reduction of marine mammals, sea birds and turtles and IFO is going to do this individually for sharks.

5.4-Regarding necessary steps taken about seabirds and based on resolution No.10/06, as it was mentioned in country report to IOTC secretariat, Iran has no active long line vessel working on Tuna catch and therefore, there is no basis for seabirds catch for Tuna fishing activities of Iran and that is why no steps was taken for preparation of action plan to decrease seabirds by catch.

5.5- Base on Our country regulations the national authority organization for protection of marine sensitive species is Department of Environment (DOE). During past years this organization has developed and implemented some projects, training courses, brochures and posters related to the group of species like marine mammals, Sea turtles, sharks and etc. In addition we have four marine protected areas in coastal line of Persian Gulf and Oman Sea.

6- NATIONAL DATA COLLECTION AND PROCESSING SYSTEMS

6.1 **Logsheet data collection and verification (including date commenced and status of implementation)**

Logbook program was implemented for Iranian industrial purse seiners and artisanal gill-netter as follows:

1- For purse seiners we designed a new logbook template according to IOTC Resolutions and it was submitted for all ships and they started to record the data in new logbooks.
2- For gill-netters we designed a logbook and distributed among 50 fishing dhows as a pilot plan. After feedback by fishers we will add more items to the ongoing template.

6.2. Vessel Monitoring System

Regarding Vessel Monitoring System (VMS) Iran has some experiences from 2006. In order to develop these experiences in 2010 we started a study to choose the best available system in our country. According to the results we are going to equip all the vessels to On-line or Off-line VMS. We also have done feasibility study on some cases to remove the probability problems. Base on our plan all the active vessels in Tuna fishing activities must will equipped from 2012.

6.3. Observer programme

Base on 2010 observer reports the coverage of the program on board has been low but in landing places the coverage of control is near to 10%. Regarding on board observer program there are some problem which Iran has tried to solve them. Also Iran has expected a technical and financial supports for solving this problem.

As we mentioned during Ecosystem and bycatch working group meeting in Maldives, the main problem of Iran is the number of our vessels and coverage of 5% for on-board observers. In fact 5% on-board monitoring imposes a huge amount of costs and needs a huge number of experts as observers. For this issue, Iran proposed his recommendation and it has been reflected in the Ecosystem and bycatch working group report as follows:

Coverage of on-board observers for countries which has less than 100 vessels equal to 5%, from100 up to 500 vessels equal to 3% and more than 500 equal to 1%.

Iran believes that this quantity of the mentioned recommendation will cover all the related aspects and does not put the country under financial pressures.

The other problem for implementation of observer program is the condition of Iran artisanal fishing vessels. As we know these vessels are not enough large and have not the minimum

requirements for accommodation of observers as a ship officer which has mentioned in related resolutions.

According to current situation most of IFO monitoring plans have focused on port state controls and logbooks of vessels.

6.4- Port sampling programme

6.4.1-Catch Data sampling

Port sampling was carried out for small-scale fisheries. In this way, 10% of fishing vessels are randomly selected and the sample data are raised to all active fishing vessels and total catches are maintained by vessel categories, gear types and species composition, landing site and each month. All of the operations are fulfilled by Iran Fisheries Organization fish statistic software called AMAR Software.
Considering these points for each landing center, 42 out of 63 were selected and can be used to raise information to other landing sites.
In each landing site, there is one enumerator who is responsible to collect data.

The size of artisanal vessels:
The capacity of vessels is measured in GRT and they are classified in four categories for sampling purposes consist of:
1-vessels less than 3 tonnes (fishing boats)
2-vessels between 3 to 20 tonnes
3-vessels between 21 to 50 tonnes
4-vessels >50 tonnes

51 categories of species/families are identified in the landings of artisanal vessels. Further classified as demersal, large pelagic, small pelagic and shrimp categories.
9 species of tuna and tuna-like species are identified in the large pelagic category
Landing surveys are undertaken to obtain data on catches in the artisanal fisheries.
Control of fishing license and Questionnaire carry out by the Head of Statistical Unit in the relevant city
This kind of control will then be done in province centre through computer
Again this will be repeated in Headquarter in Tehran
Cross Check by total census in one or two landing site

6.4.2-Size data sampling

There are 10 important commercial species in Iranian southern waters which are measured. The species includes: Narrow-barred spanish mackerel (*Scomberomorus Commerson*), Tigertooth croaker (*Otolithes ruber*), Silver pomfret (*Pampus argenteus*), Black pomfret (*Parastromateus niger*), Javelin grunter (*Pomadasys kaakan*), Longtail tuna (*Thunnus tonggol*), Kawakawa (*Euthynnus affinis*). Fourfinger threadfin (*Eleutheronema tetradactylum*), Yellowfin tuna (*Thunnus albacores*) and Skipjack tuna (*Katsuwonus pelamis*). The length and weight frequency of species has been recorded from 2001. Sampling in southern waters done in 13 landing places consist of : Choebdeh and Hendijan in KHOZESTAN Province, Daylam, Dayer, Jofreh & Bandargah in BUSHEHR Province, Jask, Javad'el'aemeh, Salakh & Kong in HORMOZGAN Province, - Ramin, Pozm & Pasabandar in SISTAN-Bluchestan Province. When the fishing dhows get alongside, the observer attend on board and separate some fish from the fish well randomly and begin to measure its length and weight. At each landing center there are fish measuring board and precise Balance (scales). Observers are all trained for how to measure different fishes. About 500 fish are measured each month in each landing places and for each fishing method. Biometry carried out for different fishing methods consists of gillnet, wire trap, purse seine, industrial trawl and small scale hook. For some fishing methods, enough sample is not available per month .catches of some species like pampus argenteus are low, and samples are difficult to obtain, whereas, samples of other species, e.g., otolithes ruber are available for most of the year. Fishing vessels catches were irregular for all species, but biometry carried out on board from time to time to get precise data. The length-weight frequencies data will be then transfer to special data sheet designed for this purpose. Raw data will be processed in some statistical Softwares like SPSS, Excel, MiniTab and FiSat. The output results are in the form of some indicators which show the present status of fish exploitation. For each province the status of species will be obtained. If some species are overfished, the fishery management warns the fishers of that area and takes appropriate measures to persuade or compel the fishers to comply with the fishing regulations and hence alleviate the overfishing. Studies on some of these 10 species have been carried out for varying periods. A number of parameters were estimated and assessed for some of above mentioned species. By combination of sample data with total catch, percent of undersized species estimated. For some species, rate of exploitation obtained by length at age, and by using of Von Bertalanffy growth models. The study shows that pampus argenteus and Scomberomorus commerson are highly exploited and considered as endangered species. Of course this estimation has been done according to length frequency data, but various approaches to stock assessment of these species need to be attempted and further work should be undertaken for reliable stock assessment of these species

7- NATIONAL RESEARCH PROGRAMS

Research activities according to tunas & tuna-like species are carried out in every five years program. The latest one was started from 2005 and final report was issued in Persian language in 2009.Two papers were also submitted in International Journals. The results are as follow:

- to estimate lm 50% of YFT, LOT , SKJ and Narrow- barred Spanish mackerel
- to estimate population dynamic parameters (K, L_{∞} ,M, F, Z) by species
- to determine Gut content by species
- to estimate Gonadosomatic Index
- to estimate sex ratio by species
- to estimate length-weight relationship

Another research activity was included oceanographic surveys by R/V Ferdows-1 in years 2007 & 2009 in two seasons of Spring & Autumn in the Oman Sea.

The results contained:

- To measure the parameters of temperature, salinity, density, turbidity, oxygen by CTD
- Distribution & biomass of macrobenthoses