

# FISHING STATUS OF THAILAND

by

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## Abstract

Marine fishery of Thailand characterized as multi-species and multi-gear fishery. The continuous advances in fishing technology make marine production increasing annually that resulted in depletion of the stocks particularly in the Gulf of Thailand. Most of economically important species has been reported as overexploited or fully exploited. Approximate 90% of marine catch come from large scale fisheries. Trawlers, purse seines, drift gill nets, encircling gill nets regarded as important fishing gears practice. In 1994, total marine production (capture and culture) was 3,150,233 ton, comprised pelagic fish 953,907 ton, demersal fish 287,940 ton, miscellaneous fish 172,591 ton, crustaceans 437,508 ton, mollusk 281,611 ton, trash fish 930,546 ton and others 86,112 ton. The demersal resources are mostly caught by trawl net while pelagic caught mainly by purse seines and gill nets. Among these, trash fish accounted for 40% of total catch, of which more than 30% of the trash is juvenile and unsized economic fish. The major catch of trash fish comes from otter board trawl 75%, pair trawl 15%, purse seines 8%, push net 1%, and the rest is from other gears. The Department of Fisheries has implemented the strategy for responsible fisheries management and development on the basis of conservation and long-term sustainable fisheries in which environmental and ecological management is also taken into account. Fishery's regulations and notification are imposed on a fishery to achieve management and conservation objectives. The regulations that protect particular parts of the stocks are minimum mesh size to protect small individuals, closed season and area to protect juvenile and spawning stock, the restriction of the use of certain type of fishing and methodology in certain area. Other approaches are minimize number of fishing trawl vessel, ban the push net, developments of fishing gear selectivity to reduce by-catch and discard fish, installation of artificial reefs to restore the sea, encourage public awareness in using the resources. Besides government has established two committees, the National Fisheries Policy Committee and the National Committee of the Thai Sea Rehabilitation Program to be responsible for fishery and fishery-related activities.

## 1. INTRODUCTION

Fish is regarded as major food item for Thai people. The fish consumption per capita is about 35 kg. Fish production of Thailand obtained from both marine and freshwater resources. Marine capture dominates about 81% of total production, the rest is from coastal aquaculture 9%, freshwater culture and inland capture 5% each.

Marine fishery of Thailand characterized as multi-species and multi-gear fishery. The fishing activity is in the Gulf of Thailand about 70% and in the Andaman Sea 30%. In Thai waters there are 1075 species from 135 families of marine fish (Sukhavisidthi, 1989); Penaeoid shrimps found more than 50 species (Chaitiamvong and Supongpan, 1992); and there are 10 families, 17 genera and more than 31 species of Cephalopods (Chotiyaputta et al., 1992). Fisheries production of Thailand gradually increased as resulted from development and introducing of new fishing gears, technologies, investigated new fishing grounds, research in fishing science and technology, and regulatory measures to manage the fishery. Catch of marine fish comes from large scale fishery 90% and from small scale fishery 10%.

## 2. FISHERIES STATUS

Thai fisheries has been developed since 1950s by using artisanal fishing gears. In those days, pelagic fishery was most popular that using stationary gears such as bamboo stake trap to catch fish especially Indo-Pacific mackerel. Then the monofilament gill net was introduced and the gears had been changed gradually to Chinese-purse seine, Thai-purse seine which made the catch of pelagic fish increased annually.

In 1960s, trawler was introduced to fishermen that made demersal resources increased and becoming more economically instead of pelagic fish. The marine production in 1960 was 146,471 ton and increased annually to 1,538,016 ton in 1973 with evidenced that it reached the maximum exploitation. However, production still increasing with slightly fluctuation to 3,150,233 ton in 1994. The increased of fisheries production is resulted from development of fishing gears, technologies, investigation of new fishing ground within EEZs of Thailand, fishing new target species, research in fishing science and technology, development of coastal aquaculture, and regulatory measures to manage the fishery.

The continuous advances in fisheries affected the depletion of resources abundance both pelagic and demersal. The long term systematic monitoring surveys of research vessels trawl since 1963 showed the decline of catch per unit of effort as index of stock abundance (Meemeskul, 1982; Vadhanakul et al., 1985; Chotiyaputta, 1992; Intong et al., 1992; Jirapanpipat, 1992). CPUE of research vessel trawl operating daytime was 290 kg/hr in 1963 declined to about 50 kg/hr in 1993. The catch composition, size caught, and first mature size are changed toward smaller and less valuable. The CPUE from night-trawled monitoring survey for shrimp and other marine resources was decreased from 57 kg/hr in 1976 to about 21 kg/hr in 1995 (Marine Fisheries Division, 1997).

Catch from trawl surveys composed of trash fish 30-40% of total catch, of which more than 30% of trash is juvenile and undersized fish. The study from commercial fisheries also showed that trash fish contains at least 30% of juvenile fish. Pair trawl has highest composition of juvenile economic fish namely Indo-Pacific mackerel, threadfin bream, lizard, big eye, scad, sardine that represented 70% of total trash. Otter board trawl obtains juvenile economic fish about 40% of total trash (Sripanpaiboon, 1995).

Mostly, the important pelagic fish in the Gulf of Thailand has been fully exploited namely, Indo-Pacific mackerel, anchovies, round scad, and sardines. Indian mackerel is not overfishing yet but it is suggest that mesh size net for luring purse seine should enlarge from 2.5 cm to 3 cm to protect small size fish (Chullasorn, 1996). The working group on chub mackerel fishery in the Gulf of Thailand has proposed management advice that the effort should not be expanded, the current closed season from 15 February to 15 May, must be maintained and strict enforcement is necessary (FAO, 1995).

Almost all the demersal stocks are in the state of overfishing, include fish, shrimps, squid, cuttlefish and others. Many studies have been carried out in attempted to seek proper management measures. The working group on the demersal trawl fishery in the Gulf of Thailand has proposed management advice that fishing effort should be reduced by 60% of the present level or cod end mesh size should be increased to at least 45 mm to maximize the yield (FAO, 1995).

### 3. FISHERIES PRODUCTION

Fisheries production of Thailand comes from freshwater fisheries 10% and marine fisheries 90%.

The long term statistical record of fisheries production is shown in Table 1. In 1994, total marine fisheries was 3,150,233 ton, comprised capture in the Gulf 1,996,542 ton, and in the Andaman sea 356,282 ton. Coastal aquaculture was 345,807 ton of which 87% comes from the Gulf of Thailand. Among production, pelagic fish accounts for 30% of the total almost the same as trash fish. The combine of demersal and miscellaneous fish is about 15%, shrimps 12% and cephalopods 5%.

Considering in value, total marine capture valued US\$ 2335 million, of which production of trash fish accounted for 40%, but valued only US\$ 82 million. Shrimp is the most valuable commodity that cost about US\$ 1,791 million, but about 70% of production come from culture. The highest value of pelagic fish is Indo-Pacific mackerel with production of 147,520 ton, valued US\$ 115 million, but the highest production is anchovy 169,359 ton. Cephalopods catch is 144,436 ton, valued US\$ 255 million viz., 8.4% of total production value.

The marine production by type of gear in 1994 is shown in Table 2. Otter board trawl, pair trawl, purse seines, king mackerel gill net, encircling gill net and bamboo stake trap are regarded as large scale fishing gears and the catch from them

was 2,475,491 ton viz., 78.58% of total marine production. Catch from small scale fisheries and coastal aquaculture were 328,935 (5.86%), and 345,807 (15.56%) ton, respectfully.

#### 4. FISHING METHOD

Marine fishery characterized as multi-species and multi-gear fishery. Fishing method can categorize into large scale (industrial fishery) and small scale or artisanal fishery. About 90% of marine capture are mainly obtained from large scale fishery, namely trawls, purse seines, drift gill nets and encircling gill nets. The typical small scale fishing gears are gill nets, push net, lift net, traps hooks and lines, bag net.

In Thailand there are about 75 fishing gears which can classify into 13 types as follows;

- 1) Surrounding nets: Purse seine,
- 2) Seine nets: Beach seine
- 3) Trawls: Otter board trawl, Pair trawl, Beam trawl
- 4) Dredges
- 5) Lift nets: Anchovy lift net, Crab lift net, dip nets etc.
- 6) Falling nets: Squid falling net, Anchovy falling net, Large cast net
- 7) Gill nets and Entangling nets; King mackerel gill net, Shrimp gill net, trammel net etc.
- 8) Push nets
- 9) Pots, Traps: Fish trap, Squid trap, Crab trap etc.
- 10) Set nets, Pound nets
- 11) Set bag nets, Stow nets
- 12) Hooks and Lines
- 13) Miscellaneous gears

The number of registered fishing boats by fishing methods during 1976-1994 is shown in Table 3. Otter board trawl is the largest number of fishing method contributed about 40 % of the total. Number of fishing boat registered by size of boat and gross tonnage in 1994 is shown in Table 4. The number of fishing boat of size

smaller than 14 meter long is the major contributed about 48% of the total. Boats of size range from 14-18 meter long and 18-25 meter long represented about 21% each.

## **5. POST-HARVEST AND UTILIZATION**

Fishery industry of Thailand is very important to national economy. Majority of marine products are processed to export and trash fish is utilize as fish meal. The export of fishery products is top among agricultural export. Recently, Thailand is the world top country in export of fishery products. The most costly commodity is shrimp that mainly obtains from culture. In 1994 total export fisheries production of Thailand was about 1.1 million ton and valued about US\$ 3,600 million, of which shrimp product accounted for 42% in value. However, Thailand has faced many problems concerned about shortage of raw materials, standard quality products and trade barriers by foreign markets.

## **6. MANAGEMENT MEASURES AND POLICY**

The Department of Fisheries is responsible for management and development of fisheries to obtain the long-term sustainable resources. The ecological and environmental management is considering as basis for the measurement strategies. The economical and social of communities are also taken into account to ensure that fisheries are exploited on an ecologically sustainable basis.

The studies on fishery biology, behavioral studies, fishing gear development and selectivity have been conducted to propose advisory management.

To conserve the fishery resources, the Department of Fisheries has implemented various regulations and notification through Fisheries Act of 1947, and has been revised in 1953 and 1985. The important enforced regulations are as follows;

- a) The minimum mesh size regulation is imposed to protect small individuals; the prohibit of minimum mesh size net of 2.5 cm is for light luring purse seine fishing of finfish, mesh size net of 3.2 cm for squid light-fishing,
- b) Closures regulation; closed areas and seasons for juvenile and spawning stock, restricted area of 3 km from shoreline that prohibiting trawlers and motorized push net
- c) Limit number of new entry trawler, ban push net
- d) The restriction of the use of certain type of fishing and methodology in certain area
- e) Conserve endangered species by prohibiting to catch dugong, sea turtle include collection of sea turtle eggs and coral reefs. Shrimp trawlers must equip with turtle excluder devices (TEDs)

- f) Prohibition to discharge proclaimed chemical substances into waters and prohibit to use commercially available poison and explosive for fishing purpose.

The Department of Fisheries has considered many measurement strategies for more effective management. The installation of artificial reefs to protect illegal trawlers and motorized push net to fish near shore and enriched fishery resources in coastal area have been initiated for many years and achieve very well outcome. Other approach is development of fishing gear selectivity to reduce by catch and discard. Other project undergoing is the attempt to diminish the fishing gears that damage the resources particularly push net, trawlers. The buy-back of fishing boat or exchange fishing gear to the one that are not destructive to others are now undergoing. The catch quotas as output controls, fishing zone and fishing rights are being considered to enforce in the future.

There are some problems concern about illegal fishing, regulations that are imposed but unenforced. The conflicts among fishermen of different fishing gears and fish in same fishing ground. Indeed, education is the practical way to change attitude towards against illegal fishing, over-exploitation and environmental-damaging practices. The knowledge is provided to public for both short-term and long-term objectives.

Besides, the regional cooperation in conservation and management of straddling fish stocks and high migratory stocks is needed. The development of offshore or deep sea fishery has been considered to be potential.

The government has established two committees to work out on best management of marine resources in Thai waters.

- 1) The National Fisheries Policy Committee: The committee endorsed four fishery policies and plans of action namely, the national fishery policy within the EEZ, the overseas fishery policy, the policy on coastal zone management and aquaculture, and the policy on fishery processing development incorporated with fisheries management and environment impact assessment.
- 2) The National Committee of the Thai Sea Rehabilitation Program: Innovation in rehabilitation and enhancement of the Thai Sea.

It is cleared that the production will not increase remarkably like in the past, but the Department of Fisheries is aimed mainly to the responsible fisheries to maintain long-term ecologically sustainable development

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**Table 1 Fisheries production (capture and culture) of Thailand, 1957-1994.**

Year	Grand Total	Marine Production			Inland
		Subtotal	Gulf	Andaman	
1957	234,570	170,900			63,670
1958	196,300	145,000			51,300
1959	204,790	147,770			57,020
1960	219,045	146,471			72,574
1961	305,750	233,275	227,746	5,529	72,330
1962	339,788	269,709	256,649	13,060	70,079
1963	420,685	323,374	314,964	8,410	95,311
1964	576,989	494,196	473,226	20,970	82,790
1965	615,120	529,483	513,096	16,387	85,637
1966	720,282	635,165	605,019	30,146	85,117
1967	847,443	762,187	617,664	144,524	85,255
1968	1,089,303	1,004,058	841,810	162,248	85,254
1969	1,270,034	1,179,595	909,423	270,172	90,439
1970	1,448,404	1,335,690	1,098,562	237,128	112,714
1971	1,587,077	1,470,289	1,232,721	237,568	116,788
1972	1,679,540	1,548,157	1,318,060	230,097	131,383
1973	1,678,901	1,538,016	1,246,822	291,194	140,885
1974	1,510,466	1,351,590	1,107,098	244,492	158,876
1975	1,555,300	1,394,608	1,172,420	222,188	160,692
1976	1,699,086	1,551,792	1,295,742	256,050	147,294
1977	2,189,907	2,067,533	1,724,818	342,715	122,374
1978	2,099,281	1,957,785	1,615,173	342,612	141,496
1979	1,946,334	1,813,158	1,493,943	319,215	133,176
1980	1,792,948	1,647,953	1,306,893	341,060	144,995
1981	1,989,025	1,824,444	1,465,480	358,964	164,581
1982	2,120,133	1,986,571	1,561,039	425,532	133,562
1983	2,255,433	2,099,986	1,677,888	422,098	155,447
1984	2,134,838	1,973,019	1,630,599	342,420	161,819
1985	2,225,204	2,057,751	1,745,183	312,568	167,453
1986	2,536,335	2,348,572	1,945,072	403,500	187,763
1987	2,779,071	2,601,929	2,174,942	462,987	177,142
1988	2,629,732	2,446,125	2,108,450	337,675	183,607
1989	2,740,008	2,539,237	1,963,657	406,891	200,771
1990	2,711,764	2,480,798	2,037,042	443,756	230,966
1991	2,967,715	2,709,051	2,030,336	678,715	258,664
1992	3,239,880	2,965,722	2,282,733	682,989	274,158
1993	3,385,150	3,048,128	2,186,586	861,542	337,022
1994		3,150,233	2,297,575	852,658	

Table 2 Marine production by type of fishing gear, 1994

Fishing Methods	Grand Total		Pelagic Fish		Demersal Fish		Miscellaneous Fish		Trash Fish	
	Total	Gulf	Subtotal	Andaman	Subtotal	Andaman	Subtotal	Andaman	Subtotal	Andaman
Grand Total	3,150,233	2,297,575	953,907	309,834	237,940	93,817	116,561	56,030	530,546	661,080
Other board trawl	1,306,008	898,952	85,315	41,339	247,086	76,701	60,894	41,363	598,612	495,135
Pair trawl	212,613	158,082	13,280	1,229	23,647	10,522	5,942	980	141,244	109,445
Beam trawl	1,285	1,285	0	0	28	28	36	0	1	1
Purse seine	768,569	522,250	636,162	201,707	6,577	3,522	38,927	11,516	74,803	43,858
Anchovy purse seine	153,405	95,140	154,069	60,264	69	69	238	1	2	2
King mackerel gill net	15,225	13,261	64,723	1,837	130	125	272	150	97	97
Mackerel encircling gill net	18,323	18,254	17,508	69	76	76	31	31	784	784
Bamboe stake trap	4,408	4,408	1,926	0	76	76	271	271	2,035	2,035
Push net	24,823	21,560	1,000	1,000	327	140	513	449	62	7,292
Mackerel gill net	11,362	11,157	9,404	9,199	162	162	1,780	0	0	0
Promfret gill net	203	119	169	72	0	0	34	22	12	0
Mullet gill net	4,747	3,363	4,037	1,076	17	17	670	308	7	7
Shrimp gill net	16,207	12,374	905	900	135	135	2,106	1,828	11	11
Crab gill net	28,296	26,080	26	26	79	79	443	440	0	0
Other gill net	16,523	11,775	7,694	1,608	4,294	2,214	3,467	460	256	256
Squid light fishing	26,174	25,678	3,849	0	6	6	11	11	240	240
Squid cast net/drip net	516	481	0	0	0	0	0	0	0	0
Other cast net	186	164	53	49	5	3	39	39	0	0
Acetes scoop net	12,539	9,079	0	0	0	0	0	0	1	1
Scoop net	627	627	14	14	31	31	31	31	67	67
White board catching shrimp	35	35	0	0	0	0	0	0	0	0
Other net	3,328	2,970	676	453	99	75	214	110	0	0
Other moving gear	120	103	0	0	0	0	0	0	0	0
Long line	1,831	1,452	414	406	1,220	1,019	97	27	70	0
Hook	2,869	1,973	923	798	937	484	966	691	0	0
Squid hook	579	579	0	0	0	0	0	0	0	0
Set bag net	8,789	6,584	12	12	2	2	962	630	352	1,152
Wing set bag net	171	171	24	24	1	1	7	7	47	47
Fish trap	1,081	527	29	17	498	59	170	72	96	0
Crab trap	8,141	3,005	0	0	1	1	0	0	0	0
Squid trap	7,042	6,506	0	0	0	0	0	0	0	0
Other stationary gear	7,256	7,217	157	157	190	190	132	124	8	650
Shrimp culture	264,078	220,670	238	218	2	2	343	343	0	0
Fish culture	3,213	2,773	0	0	3,213	2,773	440	0	0	0
Shellfish culture	78,516	77,590	0	0	0	0	0	0	0	0
Collecting shellfish	58,113	53,043	0	0	0	0	0	0	0	0
Other fishing	86,112	76,308	0	0	0	0	0	0	0	0

Table 2. Marine production by type of fishing gear, 1994 (cont'd)

Fishing Methods	Shrimps		Cephalopods		Shells		Crabs		Others	
	Subtotal	Andaman Gulf	Subtotal	Andaman Gulf	Subtotal	Andaman Gulf	Subtotal	Andaman Gulf	Subtotal	Andaman Gulf
Grand Total	344,751	323,515	144,406	109,031	137,175	131,167	55,975	39,917	86,712	78,308
Other board trawl	91,855	52,876	91,864	65,530	524	512	11,805	9,044	0	0
Pair trawl	8,651	6,108	18,153	11,326	22	22	1,294	663	0	0
Beam trawl	1,118	1,118	44	44	0	0	58	58	0	0
Purse seine	0	0	2,524	1,488	0	0	0	0	0	0
Anchovy purse seine	0	0	227	227	0	0	0	0	0	0
King mackerel gill net	0	0	3	3	0	0	0	0	0	0
Mackerel encircling gill net	0	0	0	0	0	0	0	0	0	0
Bamboo stake trap	0	0	100	100	0	0	0	0	0	0
Push net	11,737	10,975	1,148	985	0	0	802	719	83	0
Mackerel gill net	0	0	0	0	0	0	16	16	0	0
Premifrat gill net	0	0	0	0	0	0	0	0	0	0
Mullet gill net	9	9	0	0	0	0	7	7	0	0
Shrimp gill net	12,627	9,195	3,432	0	0	0	423	305	118	0
Crab gill net	4	4	0	0	0	0	27,748	25,557	2,181	0
Other gill net	0	0	178	178	0	0	34	34	0	0
Squid light fishing	0	0	21,068	21,572	0	0	0	0	0	0
Squid cast net/ dhp net	0	0	481	481	0	0	35	0	35	0
Other cast net	69	73	0	0	0	0	0	0	0	0
Acetes scoop net	12,538	9,078	3,460	0	0	0	0	0	0	0
Scoop net	400	480	0	0	0	0	0	0	0	0
White board catching shrimp	35	35	0	0	0	0	4	4	0	0
Other net	2,538	2,532	7	0	0	0	0	0	0	0
Other moving gear	58	71	0	0	0	0	32	32	0	0
Long line	14	0	0	0	0	0	7	0	7	0
Hook	0	0	2	2	0	0	0	0	0	0
Squid hook	0	0	579	579	0	0	0	0	0	0
Set bag net	5,343	4,520	823	11	0	0	246	243	3	0
Wing set bag net	92	92	5	5	0	0	0	0	0	0
Fish trap	354	384	0	0	0	0	0	0	0	0
Crab trap	0	0	0	0	0	0	8,140	3,004	5,136	0
Squid trap	0	0	7,042	6,506	0	0	0	0	0	0
Other stationary gear	5,922	5,894	7	7	0	0	195	195	0	0
Shrimp culture	283,446	220,071	43,375	0	0	0	48	36	13	0
Fish culture	0	0	0	0	0	0	0	0	0	0
Shellfish culture	0	0	0	0	78,516	77,580	0	0	0	0
Collecting shellfish	0	0	0	0	58,113	53,043	0	0	0	0
Other fishing	0	0	0	0	0	0	0	0	0	0
										78,308
										7,804

Table 3 Number of fishing boat registered by type of fishing method, 1976-1994

Type of gear	1976	1977	1978	1979	1980	1981	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991	1992	1993	1994
Total	9,388	11,407	12,529	16,146	19,511	14,723	19,756	17,386	16,006	15,968	15,916	16,054	15,550	20,979	21,547	18,170	16,820	16,973	16,494
Otter board trawl	4,088	4,962	5,110	7,038	8,131	6,021	9,358	7,796	7,769	6,968	6,226	6,129	5,766	10,438	10,256	8,117	7,538	7,213	6,482
Pair trawl	832	906	854	1,172	1,230	1,008	1,406	1,266	1,166	1,218	1,084	1,164	1,132	2,193	2,193	2,037	1,876	1,750	1,708
Beam trawl	284	420	489	537	1,060	496	711	328	196	139	97	50	52	482	456	144	51	123	156
Thai purse seine	351	160	129	68	115	57	43	40	469	582	568	644	738	556	857	938	858	*1173	*1163
Chinese purse seine	17	22	15	15	12	14	13	18	16	17	17	14	16	16	12	24	16	336	348
Anchovy purse seine	58	19	31	51	34	32	56	97	155	197	143	117	199	348	367	347	324	270	*
Luring purse seine	300	505	578	547	620	730	728	691	321	237	268	399	503	523	393	305	270	*	*
King mackerel drift gi	157	244	151	227	296	327	281	264	265	269	329	365	461	282	299	338	362	271	280
Promfret gill net	16	2	8	24	21	20	11	8	21	18	9	17	34	20	33	59	82	134	91
Mackerel encircling gi	226	314	359	356	307	258	238	144	245	227	203	223	146	114	101	88	72	94	99
Others gill net	1,498	1,169	1,352	1,224	671	676	384	559	418	401	795	606	770	540	620	474	466	710	665
Mackerel gill net					102	124	124	83	71	179	153	181	156	24	143	107	137	257	328
Crab gill net					871	489	737	1,071	879	697	1,334	985	1,008	520	937	1,259	817	1,131	1,371
Sardinella gill net					51	56	53	59	31	31	13	22	16	44	44	34	42	21	42
Mullet gill net					128	52	35	59	17	25	23	16	31	45	40	34	8	45	25
Threadfin gill net					34	27	41	24	13	15	24	6	18	5	3	8	24	12	34
Push net	844	1,177	1,426	1,923	2,262	1,216	1,899	1,236	960	759	664	624	531	1,907	1,879	1,047	818	808	651
Shrimp gill net	527	1,196	1,770	2,529	3,067	2,759	2,856	2,900	2,052	2,901	2,974	3,294	2,438	1,629	1,583	1,367	1,369	2,084	2,045
Others net	99	240	190	213	162	79	111	165	364	362	287	351	222	187	195	33	47	30	74
Long line	47	71	33	216	222	47	34	54	46	63	51	53	142	50	48	47	68	59	36
Squid cast net	44		34	6	115	235	637	524	532	663	654	794	1,171	1,056	1,088	1,363	1,591	1,895	2,059

\* registered as purse seine

**Table 4. Number of fishing boat registered by size and total gross tonnage, 1994.**

Type of fishing method	Total		< 14 m.		14-18 m.		18-25 m.		> 25 m.	
	No. of boat	Gross Ton	No. of boat	Gross Ton	No. of boat	Gross Ton	No. of boat	Gross Ton	No. of boat	Gross Ton
Otter board trawl	6482	204,354.98	2068	19,198.15	2262	58,229.38	2067	112,045.37	85	14,882.08
Pair trawl	1708	72,041.87	4	56.58	6	172.23	5	357.46	-	-
Beam trawl	156	3,534.63	63	464.61	54	1,354.59	39	1,715.43	-	-
Purse seine	1163	69,214.69	58	807.42	189	5,445.63	879	58,510.43	37	4,451.21
Anchovy purse seine	348	12,199.43	118	1,263.02	98	3,135.07	130	7,649.18	2	152.16
King mackerel drift gill	280	10,373.18	42	354.77	120	3,147.95	111	5,954.97	7	915.49
Pomfret gill net	91	2,561.52	16	166.47	46	1,099.72	28	1,271.99	1	23.34
Mackerel encircling gill	99	2,881.29	36	316.47	34	894.14	28	1,550.85	1	119.83
Other gill net	665	11,605.77	491	2,360.89	67	1,755.84	98	6,009.37	9	1,479.67
Mackerel gill net	328	3,237.51	298	1,643.18	8	220.94	22	1,373.39	-	-
Crab gill net	1371	9,385.81	1288	6,774.85	61	1,152.11	20	1,145.70	2	313.15
Sardinellas gill net	42	136.64	42	136.64	-	-	-	-	-	-
Mullet gill net	25	122.00	25	122.00	-	-	-	-	-	-
Threadfin gill net	34	336.87	30	225.91	3	56.10	1	54.86	-	-
Push net	651	4,076.81	558	2,624.15	69	830.10	24	622.56	-	-
Shrimp gill net	2045	9,105.69	1996	8,351.90	45	620.11	4	133.68	-	-
Other net	74	769.54	64	533.74	9	187.92	1	47.88	-	-
Long line	36	1,586.59	4	12.90	14	369.39	17	1,105.15	1	99.15
Squid cast net	2059	33,521.92	1346	13,899.61	554	12,630.60	158	6,945.54	1	46.17