منظمة الأغذية والزراعة للأمم المتحدة | 联合国粮食及农业组织 | Food and Agriculture Organization of the United Nations | Organisation des Nations Unies pour l'alimentation et l'agriculture | Продовольственная и сельскохозяйственная организация Объединенных Наций | Organización de las Naciones Unidas para la Agricultura y la Alimentación

E

REGIONAL COMMISSION FOR FISHERIES (RECOFI)

Fifth Session

Dubai, United Arab Emirates, 12 – 14 May 2009

REVIEW OF CAPTURE FISHERY STATISTICS IN THE RECOFI AREA

I. INTRODUCTION

This document updates information on catch trends as extracted from the RECOFI capture production database. Total catch in the area decreased in 2007 after an uninterrupted growth period which lasted for eight years. Differences in catch composition and trends between the two RECOFI statistical divisions are briefly discussed as well as trends for some of the priority species and groups of species identified by the Working Group on Fisheries Management as supporting main reference fisheries in the RECOFI area.

Most of the RECOFI Member Countries submit the annual update of catch data in a complete and timely manner and improvements in the species breakdown reported have been noted in recent years. Aiming at a major uniformity of the database, it is desirable that also the remaining countries would make efforts to regularize the reporting of data and to improve the species breakdown at which their national catches are registered.

II. GENERAL INFORMATION

The RECOFI capture production database was established at the request of the Commission and it is managed on its behalf by the FAO Fisheries and Aquaculture Information and Statistics Service (FIES). Its first issue was released in August 2005 and in April 2009 the fifth annual issue including data for a 22-year period (1986-2007) has been released. It can be downloaded at the FISHSTAT+ web page[1] and is also made available on CD-ROM.

The majority of the eight RECOFI Members submit the requested *National Summary (NS1)* and/or *FISHSTAT 51* questionnaires in a complete and timely manner, although there is still no or late reporting by a few countries. In these cases, estimates made by FAO are introduced in the database.

[1] http://www.fao.org/fi/statist/fisoft/FISHPLUS.asp

The level of taxonomic disaggregation of catch statistics included in the RECOFI capture database is significantly higher in comparison to other areas, in particular to the rest of the Indian Ocean. The number of species items[2] with catch quantities included in the database has more than doubled from 1986 (71 species items) to 2007 (151 species items; see Figure 1). Recent major increases occurred in 1997, 2000 and 2004, corresponding to improved species breakdown reported by Iran (Islamic Rep. of), Saudi Arabia and Bahrain respectively. Progressive reporting of more detailed catch statistics is also shown by the historical decrease of unidentified catches, that are usually lumped together in the "Marine fishes nei" species item, which represented over one-third of total catch in the area until 1996 but since 2003 had decreased at about 5 percent although in 2007 their share increased again at 9 percent (Figure 1).

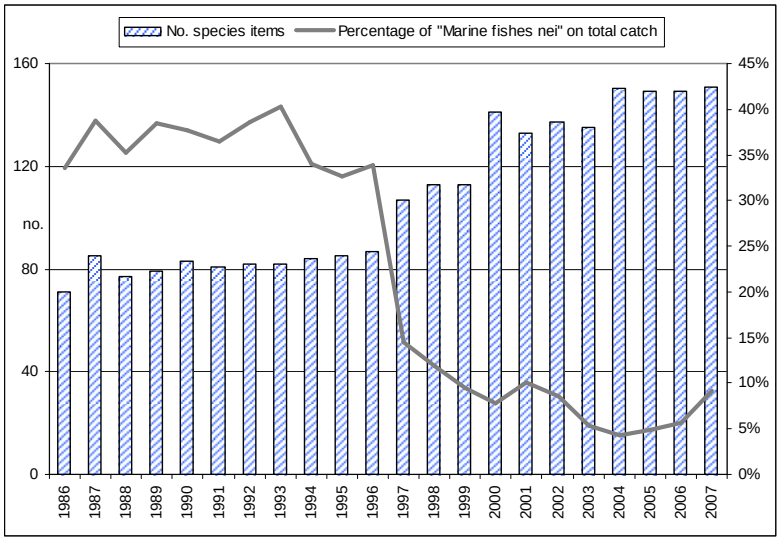

Figure 1. Species breakdown and unidentified catches in the RECOFI database

In order to ensure uniformity of data included in the RECOFI database, to facilitate analyses of catch trends by species and to establish data series that in the future may also provide information for fishery management at the national level, it would be desirable that those Member Countries that still report quite aggregated catch data strengthen efforts to improve the species breakdown at which their national catches are registered and reported

III. CATCH TRENDS IN THE RECOFI AREA

After an uninterrupted growth period lasting eight years during which total capture production in the RECOFI area had increased from around 500,000 tonnes in 1998 to over 700,000 tonnes in 2006, in 2007 total catch slightly decreased by 4 percent in comparison to the previous year (Figure 2 and Table 1).

[2] "Species items" is the term used to identify the statistical taxonomic unit, which can correspond to species, genus, family or to higher taxonomic levels.

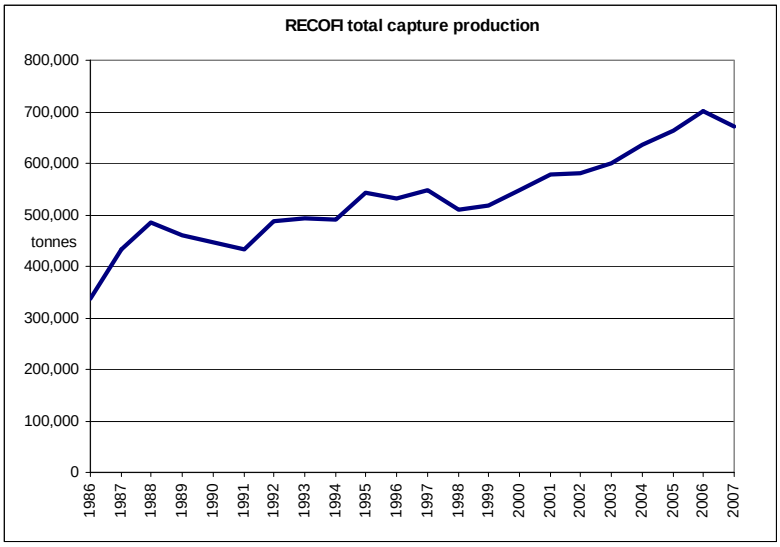

Figure 2. Trend of total capture production in the RECOFI area

Table 1. Capture production (tonnes) by country in the RECOFI area (four-year intervals and last four years)

Country	1986	1990	1994	1998	2002	2004	2005	2006	2007
Bahrain	8,057	8,105	7,628	9,849	11,204	14,334	11,854	15,594	15,012
Iran (Islamic Rep. of)	121,771	199,007	218,944	226,500	269,000	314,165	343,492	374,447	329,571
Iraq	5,000 F	3,754	4,221	13,463	14,100	2,355	6,359	12,959	12,319
Kuwait	7,630	4,454	7,752	7,798	5,360	4,833	4,895	5,635	4,373
Oman	96,353	119,783	118,572	106,171	142,670	165,082	157,326	147,669	151,744
Qatar	1,980	5,702	5,086	5,279	7,155	11,134	13,935	16,376	15,190
Saudi Arabia	16,057	11,355	20,271	25,979	33,223	34,961	37,095	42,036	56,862
United Arab Emirates	79,321	95,129	108,600	114,739	97,574	90,000 F	86,735	87,000 F	87,000 F
Total RECOFI area	336,169	447,289	491,074	509,778	580,286	636,864	661,691	701,716	672,071

Note: "F" indicates a total estimated by FAO

Regarding catch trends by the two statistical divisions ("51.2.0 – Gulf" and "51.3.1 – Oman Sea", see Figure 3) in which the RECOFI area is subdivided, it has already been noted in previous reports that they showed periodic phases of inverse trends. Only two countries (i.e. Iran and Oman) are fishing in both RECOFI statistical divisions. Data reporting by Oman for division 2.0 started in 2001 but catches from this division are very minor in comparison to those reported for division 3.1. On the other hand, catches by the Islamic Republic of Iran in the whole 1986-2007 period totalled almost the same amount in the two divisions (51% from division 2.0 and 49% from division 3.1) and, given the magnitude of these catches, the fluctuations of Iranian catches in the two divisions strongly influenced the trends of total capture production by RECOFI statistical division (Figures 4 and 5).

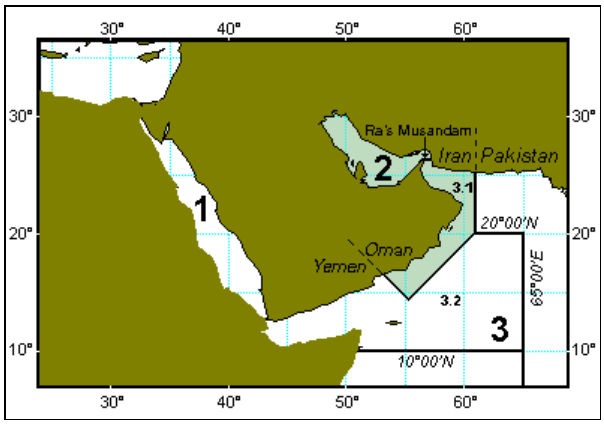

Figure 3. Map of the RECOFI statistical divisions

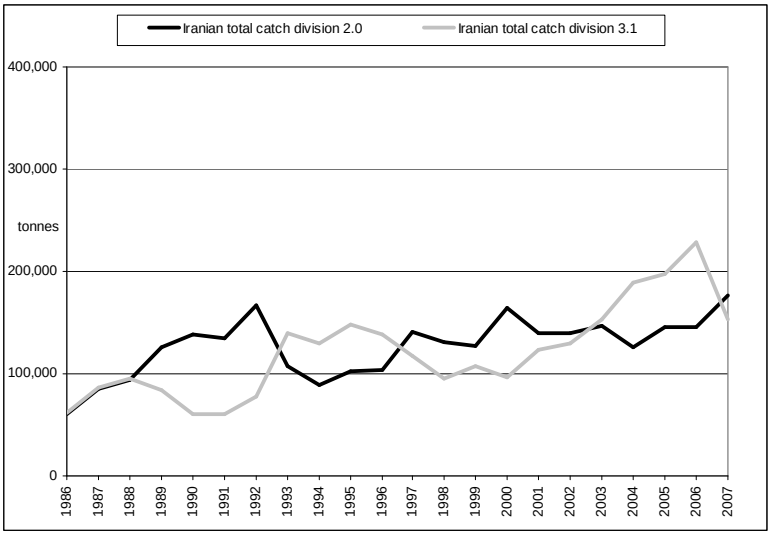

Figure 4. Trends of Iranian capture production by RECOFI statistical division

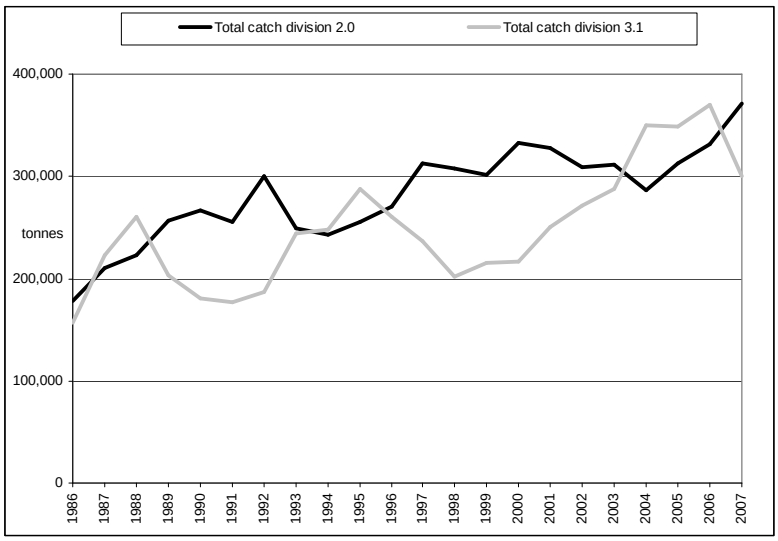

Figure 5. Trends of capture production by RECOFI statistical division

Catch composition in the two divisions reflects differences in their morphological and oceanographic conditions. In the Gulf, a shallow and semi-closed sea, coastal fishes and crustaceans form the bulk of total catches and are the most valuable target species, whereas in the deeper and more open Oman Sea tunas and tuna-like species represented over half of the catches in the last three years (2005-07; see Figure 6).

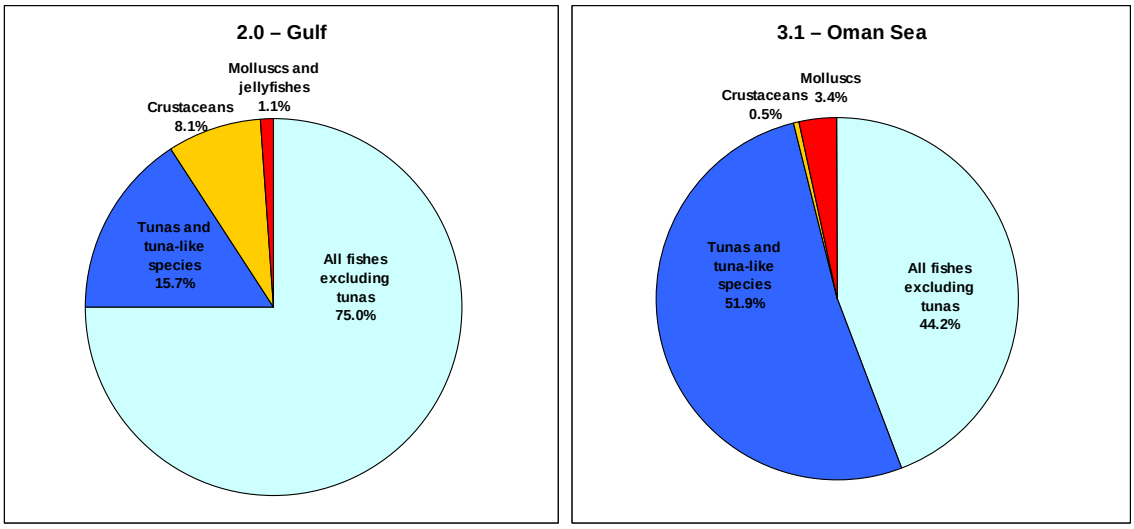

Figure 6. Catch composition (2005-07) in the two statistical divisions by major species groups

The Second Session of the RECOFI Working Group on Fisheries Management (Cairo, Egypt, 27-30 October 2008) identified the priority species which stocks support fisheries of common interest in the RECOFI area. An additional column has been added to the List of priority species agreed at the Working Group (see Table 2) to show the present availability of data series for the selected species in the RECOFI capture database. Only two priority species (i.e. *Gnathanodon speciosus* and *Scomberomorus commerson*) have recent catch data by at least half of the RECOFI Member Countries, the majority have data by 1 to 3 countries, and catch data for one species (*Carangoides gymnostethus*) are not submitted by any country. However, it is very probable that countries not reporting data for these species have included their catches under more aggregated species items (shown also in the 4th column of Table 2). Other priority species (i.e. *Sepia pharaonis* and *Siganus canaliculatus)* are reported at a higher taxonomic level, while for two aggregated priority species items (i.e. Penaeidae and Carcharhinidae) some data are also available at the species level.

Member Countries are reminded that the Working Group on Fisheries Management agreed that catches and also a set of more detailed data should be reported for priority species in a standardized format. Provision of the data is essential to allow future meetings of the Working Group to perform reliable stock assessment and develop recommendations for effective management measures.

Table 2. List of priority species items and availability of their data series in the RECOFI capture database

FAO English name	ASFIS code	Scientific name	Species items with recent data in the RECOFI capture database (no. of countries)
Penaeid shrimps nei	PEZ	Penaeidae	*Metapenaeus monoceros* (1), *Penaeus semisulcatus* (2), *Penaeus* spp (2), Natantia (3)
Blue swimming crabs	SCD	*Portunus pelagicus*	*Portunus pelagicus* (3), Brachyura (2)
Pharaoh cuttlefish	IAH	*Sepia pharaonis*	'Sepiidae, Sepiolidae' (6)
Stolephorus anchovies	STO	*Stolephorus* spp	*Stolephorus* spp (1), Engraulidae (1), Clupeoidei (2)
Indian oil sardine	IOS	*Sardinella longiceps*	*Sardinella longiceps* (2), *Sardinella* spp (1), Clupeoidei (2)
Bludger	NGY	*Carangoides gymnostethus*	*Carangoides gymnostethus* (-), Carangidae (5)
Golden trevally	GLT	*Gnathanodon speciosus*	*Gnathanodon speciosus* (4), Carangidae (5)
Indian mackerel	RAG	*Rastrelliger kanagurta*	*Rastrelliger kanagurta* (3)
Snubnose emperor	LBW	*Lethrinus borbonicus*	*Lethrinus borbonicus* (1), Lethrinidae (6)
Pink ear emperor	LTS	*Lethrinus lentjan*	*Lethrinus lentjan* (2), Lethrinidae (6)
Spangled emperor	LHN	*Lethrinus nebulosus*	*Lethrinus nebulosus* (2), Lethrinidae (6)
Coral hind	CFI	*Cephalopholis miniata*	*Cephalopholis miniata* (1), Serranidae (2)
Orange-spotted grouper	ENI	*Epinephelus coioides*	*Epinephelus coioides* (2), *Epinephelus* spp (4), Serranidae (2)
White-spotted spinefoot	SCN	*Siganus canaliculatus*	*Siganus* spp (6)
Narrow-barred Spanish mackerel	COM	*Scomberomorus commerson*	*Scomberomorus commerson* (7)
Longtail tuna	LOT	*Thunnus tonggol*	*Thunnus tonggol* (3)
Requiem sharks nei	RSK	Carcharhinidae	*Carcharhinus sorrah* (1), Carcharhinidae (1), Elasmobranchii (3)

In addition to the lack of information for some countries, catch data for several priority species are available only for recent years as a consequence of improved species breakdown in the national data collection systems (see paragraph 3) and this may introduce biases when analysing catch trends for all years in the data series. For these reasons, the following graphs and basic analyses of catch trends are presented only for priority species that are well covered in the RECOFI capture database and in some cases data are aggregated at the family level (i.e. groupers-Serranidae and emperor-Lethrinidae).

Trends for grouper catches (data are available in the database for *Cephalopholis hemistiktos, C. miniata, Epinephelus areolatus, E. chlorostigma, E. coioides, E. multinotatus, E. tauvina, Epinephelus* spp, but over half of grouper catches are reported as unidentified 'Serranidae') are shown in Figure 7 by statistical division. The steep increase that can be noted in division 2.0 in 2000 is due to significant variations in catches by species reported by UAE in that year in comparison to the previous year. Reported catches of Serranidae increased from 7,400 tonnes in 1999 to 24,000 tonnes in 2000 and decreased in the following years to 14,500 t in 2005 (the same quantity has been repeated in the database for 2006 and 2007 as no catch data have been reported by UAE for the last two years). However, also total Serranidae catches for all other RECOFI countries in division 2.0 peaked in 2001 (8,700 t) and subsequently decreased to 7,000 t in 2007.

Grouper catches in division 3.1 are lesser, peaks were registered in 1998-99 and 2004 and in recent years catches have stabilized at around 5,100 tonnes.

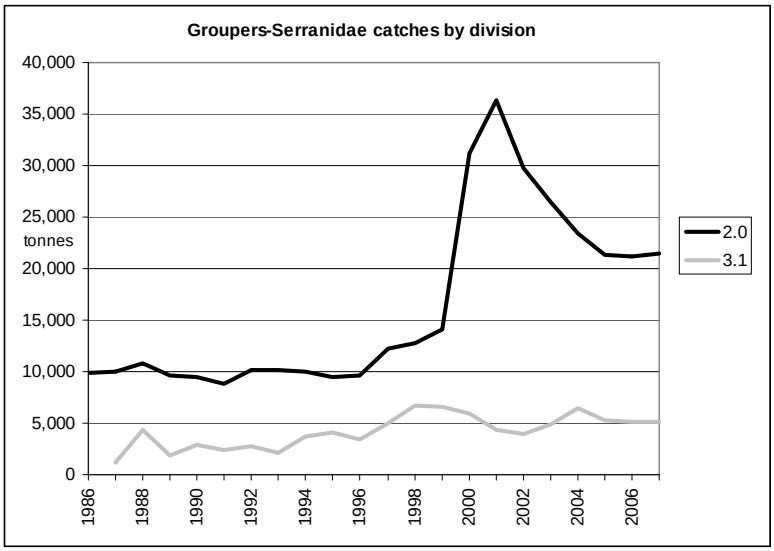

Figure 7. Trends of groupers-Serranidae catches by RECOFI statistical division

Catch data for emperor species are available in recent years also at the species level (*Lethrinus borbonicus*, *L. lentjan*, *L. microdon*, and *L. nebulosus*) but the great majority of catches are still reported under the 'Lethrinidae' species item. Trends (Figure 8) and major source of variation are similar to those for groupers: an abrupt increase of catches in division 2.0 since 2000 due to significantly greater quantities reported by UAE; lesser catches in division 3.1 with a peak in 2004.

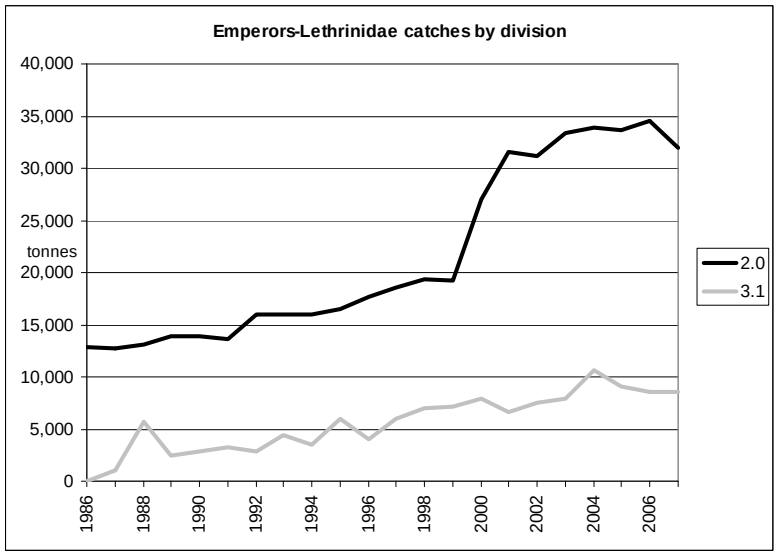

Figure 8. Trends of emperors-Lethrinidae catches by RECOFI statistical division

Catch data for the priority species *Sardinella longiceps* are available since the beginning of the data series for division 2.0 and since 1993 in division 3.1, as probably in previous years data for this species were included under 'Clupeoidei' or even 'Marine fishes nei'. The trend in this division shows an outstanding peak in 2001 at over 66,000 tonnes (Figure 9), and a downward trend since then. On the other hand, catches in division 2.0 have been steeply increasing in the last two years.

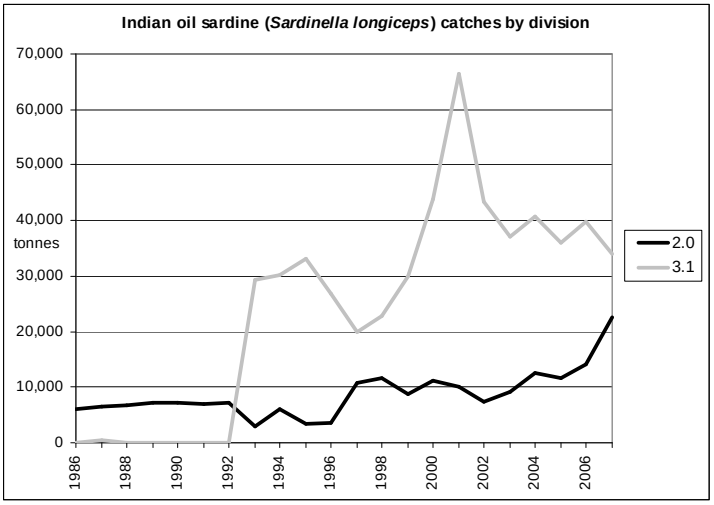

Figure 9. Trends of *Sardinella longiceps* catches by RECOFI statistical division

Two tuna and tuna-like species were selected by the Working Group on Fisheries Management as priority species in the RECOFI area: *Thunnus tonggol* (longtail tuna) and *Scomberomorus commerson* (narrow-barred Spanish mackerel). Trends for these two species in the whole area are shown in Figure 10. The longtail peaked in 2000 and after some years of decreasing trend in the last two years catches have increased again to almost 40,000 tonnes in 2007. While in the 1990s this species was mostly caught in the statistical division 2.0, since 2001 catches from the Oman Sea have exceeded those from the Gulf. Furthermore, the great majority of the narrow-barred Spanish mackerel catches come from the Oman Sea and its total catches are rather stable around 20,000 tonnes per year since 1995.

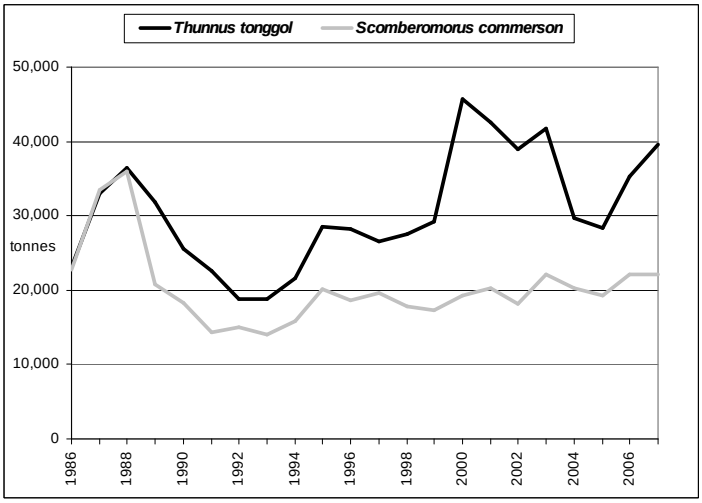

Figure 10. Trends of *Thunnus tonggol* and *Scomberomorus commerson* catches in the RECOFI area

After several fluctuations in historical years, since 2001 shrimp catches in the Gulf have been growing almost continuously and in 2007 they exceeded 20,000 tonnes for the first time (Figure 11). In the Oman Sea the maximum catch for shrimps was reached in 1993 at about 2,100 t and since then catches have been oscillating between 500 and 1,700 tonnes per year. Crab catches (mostly of *Portunus pelagicus*) from division 2.0 also peaked in 2007 at over 10,000 tonnes. On the contrary, spiny lobster in the Oman Sea dropped from average catches of 1,800 t per year in 1986-90 and 700 t in 1991-95 periods to an average of about 400 t in the last 14 years. Slipper

lobster catches in the Gulf exceeded 100 t per year in the early 1990s but later stabilized at about 20-80 tonnes per year.

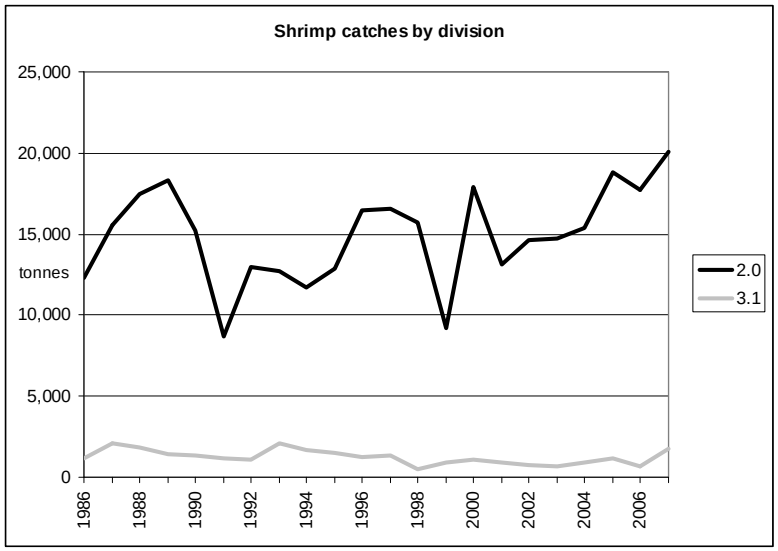

Figure 11. Trends of shrimp catches by RECOFI statistical division

IV. RECENT FAO PUBLICATIONS RELEVANT TO FISHERY DATA COLLECTION

The field guide "*The living marine resources of Kuwait, Eastern Saudi Arabia, Bahrain, Qatar, and the United Arab Emirates*" edited by the FAO Species Identification and Data Programme (SIDP) is now also available in both a PDF version[3] and in the SIDP's "*Field Guides*" CD-ROM. Copies of the CD-ROM and of the original hard copy version can be requested to FI-Inquiries@fao.org

The Arabic version of the FAO Fisheries Technical Paper no. 382 "*Guidelines for the routine collection of capture fishery data*" is available since April 2009. This publication provides a complete overview of all aspects of fishery data collection. The electronic version will soon be retrievable and downloadable from the FAO Fisheries web site[4] and the hard copy can be requested from FIES-Inquiries@fao.org .

V. SUGGESTED ACTION BY THE COMMISSION

The Commission is invited to comment on, among other related issues, the catch trends in the RECOFI area, and the co-ordinated actions at the national and/or regional level that may contribute to the improvement of the catch statistics submitted by Members for the RECOFI database.

[3] Downloadable from the SIDP web site http://www.fao.org/fishery/sidp/3,2/en
[4] http://www.fao.org/fishery/publications/search/en