NATIONAL REPORT OF SOUTH AFRICA

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1. GENERAL FISHERY STATISTICS

South Africa has three commercial fishing sectors which either target or catch tuna and tuna-like species as by-catch in the Indian Ocean. These sectors are swordfish/tuna longline, pole and line/ rod and reel, and shark longline. In addition, there is a boat-based recreational/sport fishery.

1.a Catch by Gear

Swordfish/Tuna Longline

South Africa's commercial longline fishery started as early as the 1960s. This fishery terminated in the late 1960s due to declining catch rates, which resulted in fishing being directed at other more lucrative fisheries. The longline fishery was only re-established in 1997, with the issuing of 30 experimental permits. This fishery was finally commercialized in 2005, with the issuing of 18 swordfish-directed permits and 26 tuna-directed permits. These commercial rights were allocated for ten years. The large pelagic longline fishery was deliberately split into swordfish and tuna-directed sub-sectors due to the drastic declines in swordfish CPUE experienced during the period of the experimental fishery. As South Africa had developed expertise to target swordfish a policy decision was made not to allow any foreign vessel chartering in this sub-sector. In contrast, South Africa has not yet developed the skills nor acquired suitable vessels to effectively target tuna using longline. Consequently, South Africa has allowed an interim period for foreign vessel chartering in this sub-sector as a means of skills development and a means of acquiring suitable vessels. South Africa submitted a bigeye tuna fishing plan (CoC 07/13) to the Commission meeting of the IOTC, thereby notifying the Commission of South Africa's intention to exceed 1000t of bigeye tuna in future as the fishery develops.

Prior to 2002 most of longline fishing effort was concentrated in the Atlantic Ocean. Fishing effort only started increasing in the Indian Ocean since 2001 with the development of ice and processing facilities at Richard's Bay, which is situated on the east coast of South Africa. In recent years, a sizeable amount of the fishing effort was conducted in the Indian Ocean. This fishery is now the most important South African tuna fishery operating in the Indian Ocean in terms of tonnage landed.

With the allocation of long-term rights in 2005, the fishery policy stated that right holders which used foreign flagged vessels had 1 year in which to reflag the vessels. Consequently, a number of foreign vessels fished for South Africa in 2005, which resulted in peak catches for South Africa in this year. As none of the foreign vessels reflagged they were not permitted to fish in 2006. Consequently, only 9 South African swordfish-directed longline vessels fished in 2006 and resulted in the lowest annual catch since 2001. (South Africa amended its fishery policy in early 2007 thereby allowing foreign vessel chartering under less stringent conditions.)

Due to the lack of tuna-directed vessles operating in 2006 swordfish was the dominant catch in the longline fishery. The total reported swordfish catch in the Indian Ocean for 2006 was 164 t (dressed weight) and declined by over 60t compared to that of 2005. Nominal CPUE for swordfish-directed vessels also declined from 405 kg.1000hooks^{-1} in 2005 to 375 kg.1000hooks^{-1} in 2006. Yellowfin and bigeye tuna reported catches in 2006 were 155 t and 52.7 t (dressed weight) respectively. This was much less than the 1248 t yellowfin and 755 t bigeye reported in 2005. Despite reduced yellowfin catches the nominal CPUE of the swordfish-directed vessels increased sharply from179 kg.1000hooks^{-1} in 2005 to 354 kg.1000hooks^{-1} in 2006. In contrast, bigeye showed sharp declines from 222 kg.1000hooks^{-1} in 2005 to 120 kg.1000hooks^{-1} in 2006.

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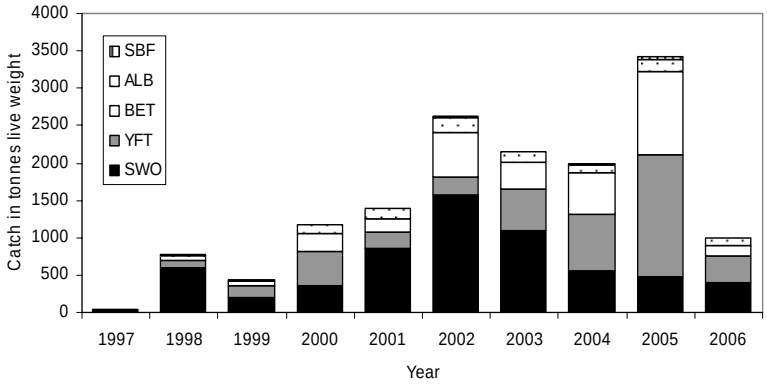

Fig. 1. Total reported catch of primary species for SA tuna/swordfish longline fishing sectors in the Atlantic and Indian Oceans since 1997.

Pole and Line/ Rod and Reel

The use of pole and line has been employed commercially since the 1970s to target tuna. In 1979 commercial tuna fishing effort increased after a record run of yellowfin tuna off Cape Point. Subsequent to this, the South African tuna fishery has essentially been a surface pole and line fishery that targets mainly juvenile (3-4 year old) albacore in near-shore waters off the west coasts of South Africa and Namibia. Although this fishing effort occasionally extends beyond 20^{0}E and into the IOTC region to target albacore, this has in fact no occurred in 2005 and 2006. It is important to note that within the tuna pole fishery there has been an emerging rod and reel component that targets large yellowfin tuna (> 45 kg dressed weight) south of Cape Town. Although the fishing ground lies just outside the IOTC area the catch is presumed to be of Indian Ocean origin. This catch has been increasing sharply since 2003 to reach > 1 000 t in 2006 (Fig. 2). Currently, these catches are reported to ICCAT until further research can determine the origin of the catch.

South Africa also has a commercial linefish fishery which opportunistically catches yellowfin, king mackeral and shark in the Indian Ocean using rod and reel. These catches usually only contribute to a small percentage of the total catch by the linefishery due to the multispecies nature of the fishery. Catches of pelagic species are also inversely correlated to abundance of other preferred target species such as kob, geelbek and slinger. This implies that when the preferred species is not available the fleet will opportunistically shift targeting to pelagic species, including yellowfin, king mackeral and sharks. In 2005 and 2006 the only significant catches made were for sharks (dusky, copper, hound and black-tip), which exceeded 100 t. Yellowfin catches only accounted for approximately 2t in both years.

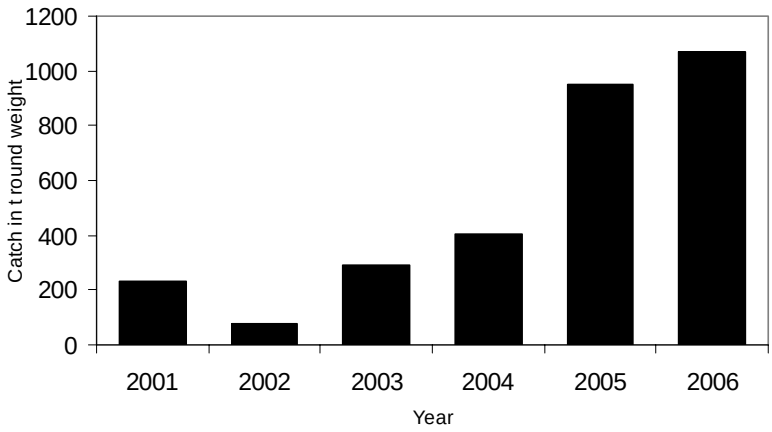

Fig. 2. Yellowfin catch made by poling/rod and reel fleet in Atlantic Ocean.

Shark longline

In 2005 the shark longline sector was split into a demersal shark longline component, which predominantly targets soupfin and hound sharks, and a pelagic longline component, which predominantly targets shortfin mako. The latter also catches blue shark, tuna and swordfish as bycatch. This fishery was split as a precursor to phase out the targeting of pelagic sharks due to the concern over the stock status of these species. South Africa is still in the process of phasing out its pelagic shark fishery and currently these fishers are operating under exemption. This fishery is scheduled to be closed in 2008.

Pelagic shark catches only started to increase in 2003 when the fishery shifted fishing to the east Agulhas Bank area (Fig. 3). Fishing effort in the Indian Ocean increased from 323 thousand hooks in 2005 to 348 thousand hooks in 2006. Peak catches were obtained in 2005 with 625 t mako and 65 t of blue shark reported. In 2006 the catches declined to 420 t mako and 50 t blue shark. Nominal catch rates declined drastically for mako sharks from 1934 kg.1000hokks^{-1} in 2005 to 1204 kg.100hooks^{-1} in 2006. Similarly, catch rates for blue sharks declined from 200 kg.1000hooks^{-1} to 142 kg.1000.hooks^{-1}. By-catches of yellowfin and swordfish accounted for less than 2 t in both years.

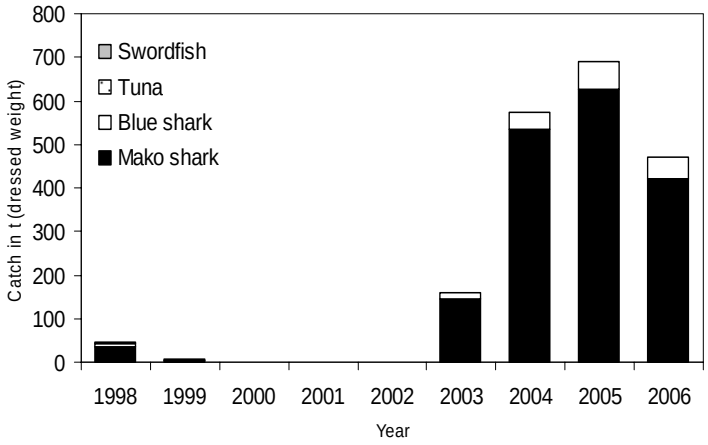

Fig 3. Reported Shark longline catch in the Indian Ocean (1998-2006)

Recreational fishery

The recreational fishery uses rod and reel from ski-boats (5-8 m) to target numerous game fish, including yellowfin and king mackerel. Although catch and effort data are unknown for this fishery it is estimated that over 100 t of yellowfin and king mackerel are landed annually for the Atlantic and Indian Oceans combined. All recreational fishers are required to purchase a permit and are restricted to a bag-limit of 10 tuna per day, with the sale of catch prohibited. (Recreational bag limits are currently under review and may be reduced in future.)

1.b Fleet Structure

Table 1. Structure of fleets catching tuna and tuna-like species in the Indian Ocean in 2006.

	Fleet Structure			
Fishing Sector	No Active Permits	Min Vessel Size (in m)	Max Vessel Size (in m)	Avg Vessel Size in (m)
Swordfish Longline	9	19	36	~30
Pole & Line	191*	8	30	~15
Rod & Reel (commercial)	455*	6	10	~7
Rod & Reel (recreational)	unknown	4	10	~6
Pelagic Shark Longline	5	13	30	~18

* - denotes registered not necessarily active in the Indian Ocean

1.c Available Information on NTAD species

Blue and mako sharks account for the most common shark species caught in the longline fishery. In total, blue sharks and mako sharks accounted for 16%, by weight, of all tuna caught by tuna-directed longline vessels. Similarly, these sharks accounted for 32% by weight of all tuna and swordfish caught in the swordfish-directed longline fishery. A considerable amount of sharks are released due to the current shark by-catch limit which restricts tuna vessels to a by-catch of 10% of tuna landed. In the swordfish longline fishery, this by-catch limit is 10% of the combined weight of tuna and swordfish. South Africa is currently exploring the implementation of an Upper Precautionary Catch Limit for pelagic sharks for 2008.

Average seabird mortality has been estimated at 2460 birds per annum, from 1998-2005. The three most common species caught in the longline fishery is the white-chinned petrel, the white-capped albatross and the black browed albatross. The average catch rate for tuna and swordfish-directed longliners combined was estimated at 0.44 birds.1000hooks^{-1}. Although catch rates in the tuna tuna-directed fleet is significantly higher than the swordfish-directed fleet, both fleets are catching birds at a rate much higher the FAO International Plan of Action of 0.05 birds.1000hooks^{-1}. South Africa is currently exploring a bird limit per vessel in its large pelagic fishery as a means of reducing seabird mortality in 2008.

Turtle catch rates in the Indian Ocean has averaged 0.05 turtles.1000hooks^{-1} for the years 2000-2003. The most common turtle caught was the loggerhead (39%) followed by the leatherback (23%). Green and Hawksbill turtles were also recorded but in small numbers. A large number of turtles (32%) were unidentified by the observer.

Other catches such as billfish has remained low as longline skippers are required through permit conditions to release live billfish. Oilfish and escolar probably constituted over 70% of the “other” by-catch, with dorado accounting for 10%. There are a large number of ray and shark species (including crocodile sharks) that are also caught but not reported as they are discarded at sea.

2. Report on the implementation of recommendations of the Scientific Committee

98/01, 00/01 and 01/05 – Mandatory statistical requirements

South Africa has provided IOTC with catch, effort and length frequency data for its commercial fisheries according to the resolution required.
South Africa has not always managed to adhere to the deadlines of data submission due to capacity problems.
As yet South Africa is unable to provide data on its recreational fishery targeting tuna.

00/02 – Predation Survey

South Africa only started collecting data for this survey using its observer programme since 2004.

01/01 – National Observer Programme

South Africa established an on board scientific observer programme for its vessels in 1998. The primary aim of the programme is to collect length frequencies, biological samples and fisheries data for target and by-catch species. The observer coverage is aimed at 20% of domestic vessel trips and 100% coverage of all foreign vessel trips fishing under charter agreement. The observer programme has also reported on non-compliance such as flying of tori lines, and shark fining.

01/06, 03/03 – Bigeye Tuna Statistical Document

Although South Africa implemented the programme in 2003 the management of the programme was subsequently improved in 2007 with the establishment of dedicated Management unit to deal with RFMO matters. Although South Africa does not import much tuna the Department is nonetheless working more closely with Customs in 2007 as a means to raise awareness on these issues. Thus far no import stats documents have been received from customs or reported to IOTC.

03/01 – Limitation of fishing capacity

South Africa has never had more that 50 vessels on the IOTC record and is therefore exempted fromthis resolution

05/01 – Conservation and Management of bigeye tuna
South Africa intends to catch more than 1000t of bigeye tuna in the future and as such has submitted a bigeye tuna fishing plan to the Commission.

05/05 – Conservation of sharks
South Africa has provided all its historic shark data to IOTC. Shark finning is banned in South Africa and vessels are required not to exceed 8% shark fin to trunk ratio. In the large pelagic fishery a 10% shark by-catch limit was imposed since 2006 and skippers are require to release live sharks.

05/08 – Sea Turtles
South African government has worked closely with WWF to educate skippers on release procedures for turtles. The use of circle hooks are also encouraged as stated in the permit conditions. South Africa has provided information on turtle interaction to IOTC.

05/09, 06/04 – Incidental mortality of seabirds
South Africa has been collecting data on seabird interaction with its longline fishery since 1998. South Africa has finalized is NPOA for seabirds and was gazetted in 2007. South Africa has made a number of bird mitigation measures a permit condition since the start of its fishery such as dumping of offal on the non-hauling side of the vessel, thawed bait to improve sink rates, no daylight setting in the tuna fishery and the compulsory flying of tori lines. Furthermore, South Africa is currently developing a management plan to reduce seabird by-catch in its longline fishery in 2008. This plan may include a seabird limit per vessel.

06/05, 07/05 – Limiting of fishing capacity
South Africa has made provision for 20 swordfish and 30 tuna-directed vessels in its fishery. It has submitted the bigeye tuna fishing plan and is currently developing its capacity.

3. National Research Programs currently in place

South Africa has an established on board scientific observer programme to obtain length frequencies, biological samples, and fisheries information on target and by-catch species. The observer coverage is aimed at 20% for domestic vessels and 100% coverage for foreign flag vessels.

The main focus of large pelagic research in South Africa has been the life history and stock structure of swordfish in southern African waters. The observer programme has been used extensively since 1998 to collect swordfish length frequencies and biological material for age and growth studies, sexing, maturity staging and dietary studies. Sampling is completed with over 2 500 biological samples processed and the data electronically captured. A further 1 500 tissue samples were collected for genetic studies to better understand the mixing dynamics of swordfish in the boundary region between the Atlantic and Indian Oceans. A pilot tagging programme for swordfish, bigeye and yellowfin, using commercial longliners as a tagging platform, was conducted between 2004 and 2006, with approximately 300 large pelagics fish tagged. One swordfish was recaptured from this tagging programme with one swordfish recaptured a few months later from the same vicinity where it was originally tagged. Given the co-operation from the skippers and relatively high observer coverage it is possible to make in-water tagging a permanent programme if supported by IOTC. The analyses of the data of the swordfish programme have been placed on hold due to the vacating of the large pelagic research post.

Over 500 dorsal spines of albacore have been collected in 2005 and 2006, from both the poling and longline fishery, in an attempt to provide age and growth parameters for the southern Atlantic albacore stock assessment which was conducted in 2007. The spines were not processed in time due to a lack of research capacity.

The Department is also collaborating with WWF and Birdlife SA by using the observer data collected since 1998 to assess the impact of longline fisheries on seabirds, turtles and sharks and to investigate various mitigation and management measures. The impact of predators on longline catch is also investigated under this programme.

A Rhodes University student is currently supported by industry to conduct a MSc study on the size and dynamics of recreational and commercial fisheries targeting yellowfin tuna. In addition, the student will also obtain length measures and biological samples to determine length frequencies, diet, age and growth, sex ratios and maturity. The student will also engage in conventional tagging of yellowfin from commercial rod and reel vessels.

The Sedgewicks/ ORI recreational tagging programme was established in the 1980s and has recorded tagging of tuna and billfish species.

4. Other Relevant Information

South Africa is a long standing Member of ICCAT. Consequently, South Africa has implemented ICCAT management and control measures for her fleets, including measures to combat IUU fishing, mandatory VMS, onboard scientific observer coverage for longline vessels, full port inspection scheme, minimum size limits and a daily logbook system for commercial fisheries. South Africa has also improved upon its port state control measures for foreign vessels making application to use South African port facilities. South Africa also provides fishery statistics according to IOTC specifications on an annual basis.

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