agriculture,
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Annual Review of the South African SBT Fishery for the 19th Annual Meeting of the Commission September 2012

1. Introduction

The South African longline fishery started in the early 1960s. Southern bluefin tuna was one of the most common species caught in South African waters with more than 1 500 t estimated to be landed from 1961-1967. The fishery failed to develop as fishing interests turned to other more lucrative fish stocks such as hake and rock lobster. Subsequently, tuna longline fishing in the 1970s to 2002, in South African waters was dominated by foreign vessels from Japan and Chinese-Taipei through the issuing of bi-lateral agreements. These agreements were terminated in 2002, with the intention that marine resources within South Africa's EEZ should only be exploited by South Africans. Renewed interest by South Africans to conduct longline fishing for tuna and swordfish was developed in 1997 with the establishment of an experimental longline fishery. The South African longline fishery was formalized into a commercial fishery in 2005 and 18 swordfish longline rights and 26 tuna longline rights were allocated. A further allocation was held in 2011 with a further 3 swordfish longline rights and 3 tuna longline rights were allocated. The total effort in the South African longline fishery is therefore restricted to a maximum of 21 swordfish longline vessels and 29 tuna longline vessels.

Currently southern bluefin tuna is only caught in South Africa by means of swordfish and tuna longline vessels. The swordfish longline vessels are domestic vessels that mainly target swordfish, yellowfin and bigeye within South Africa's EEZ and catch southern bluefin tuna as by-catch. These vessels set after dusk, using shallow sets, squid bait and light sticks. The longline system used is based on the American system, i.e. using monofilament mainline. The tuna longline vessels target yellowfin and bigeye tuna. South Africa is currently in the process of developing this relatively 'new' sector of its fishery and notes that no suitable domestic vessels exists for this fishery. Furthermore, South

Africans are not suitably skilled to target tuna using longline. Consequently, there is a large reliance on chartering of foreign vessels to source suitable vessels for reflagging and to provide an environment for the transfer of skills to South Africans.

2. Operational Constraints on Effort

Regulatory Measures

- The South African longline fishery is restricted to a maximum of 50 vessels.
- Within the longline fishery only tuna Right Holders are allowed to engage in chartering of foreign vessels.
- The fishery is currently restricted to a TAC of 40t. For the current 2012 season swordfish operators were allowed to catch 11 t of southern bluefin tuna under an Olympic system. The remaining 29 t was allocated as individual quotas to tuna operators. Once the South African TAC is reached then no further landing of southern bluefin is permitted. In 2012 the southern bluefin fishery closed on the 17th July for the swordfish longline vessels and on the 1st August for the tuna longline fishery.
- Observer coverage is 100% for all charter vessels and a target of 20% is required for the domestic vessels. This observer contract for the domestic vessels expired in March 2011 and the Department is the process of appointing a new observer service provider.
- All catches are landed in South Africa with 100% independent monitoring of landings.
- The original landing declaration (signed by the fishery monitor) and electronic landing summaries have to be provided on a monthly basis.
- Catch logbooks are required to be completed on a daily basis.
- VMS reporting to the South African Department of Agriculture, Forestry and Fisheries is mandatory for all vessels.
- Southern bluefin less than 6 kg is not permitted to be landed.
- At seas transshipments are not permitted. Transshipments in port are allowed on the authority of a permit and must be monitored.
- All catch data pertaining to southern bluefin is required to be completed on a tagging form, with each bluefin marked with a unique tag as provided by the Department.
- The Catch Monitoring Form is required to accompany all consignments of southern bluefin.
- Export permits are required for the export of any marine product.

3. Catch and Effort

In 2011, 20 of 29 active vessels reported catches of southern bluefin. The total reported catch (live weight) was 48.5 t and is the highest catch recorded since the re-establishment of the longline fishery in 1997. The longline vessels do not target southern bluefin given the small country quota. Hence, southern bluefin catches can best be described as a by-catch to targeting of swordfish, bigeye and yellowfin. The domestic swordfish component of the fishery was once again responsible for the bulk of the southern bluefin catch (54%). The total effort deployed by the whole fleet in 2011 was similar to the effort deployed in 2010 with over 5 million hooks deployed. The nominal CPUE for southern bluefin in 2011 for the entire effort deployed was 9.7 kg.1000 hooks^{-1} for the entire effort deployed and represents an increase of 42% compared to that of 2010. No southern bluefin is permitted in the tuna pole fishery. Although the recreational fishery is in theory allowed to catch 10 southern bluefin per person per day, this in practice is not realized as the fishing grounds for southern bluefin is too far offshore and the fish occur during the winter period when sea and weather conditions are adverse. The department is in the process of addressing tuna bag limit reductions for recreational fishers.

4. Historical Catch and Effort

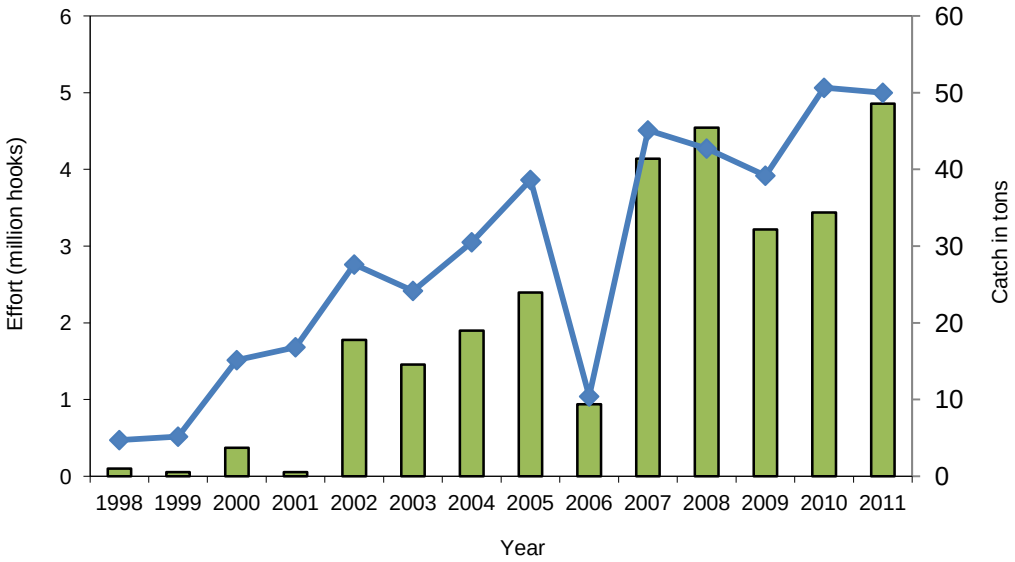

Fig. 1. South African southern bluefin catch (bar) and effort (line) data (1998-2011)

The total South African catch of southern bluefin has increased significantly from 1 t in 1998 to a peak of 48.5 t live weight in 2011 (Fig. 1). This increase is mainly attributed to the tenfold increase in fishing effort. Fishing effort increased from 0.4 million hooks in 1998 to over 5 million hooks in 2011 (Fig. 1). Nominal CPUE increased from 6.8 kg.1000 hooks^{-1} to 9.7 kg.1000 hooks^{-1}. However, nominal CPUE analysis shows contradictory trends (Fig. 2). CPUE using total catch and effort shows a general increasing trend whereas CPUE using total catch and only the effort for sets containing southern bluefin indicating no apparent trend. Analysis of southern bluefin nominal CPUE is challenging for this fishery as this species is caught as by-catch to the targeting of swordfish, bigeye and yellowfin. A further complexity is that longline vessels use different gear and fish on different fishing grounds. Lastly, the small country allocated does not permit the fishery to target this species.

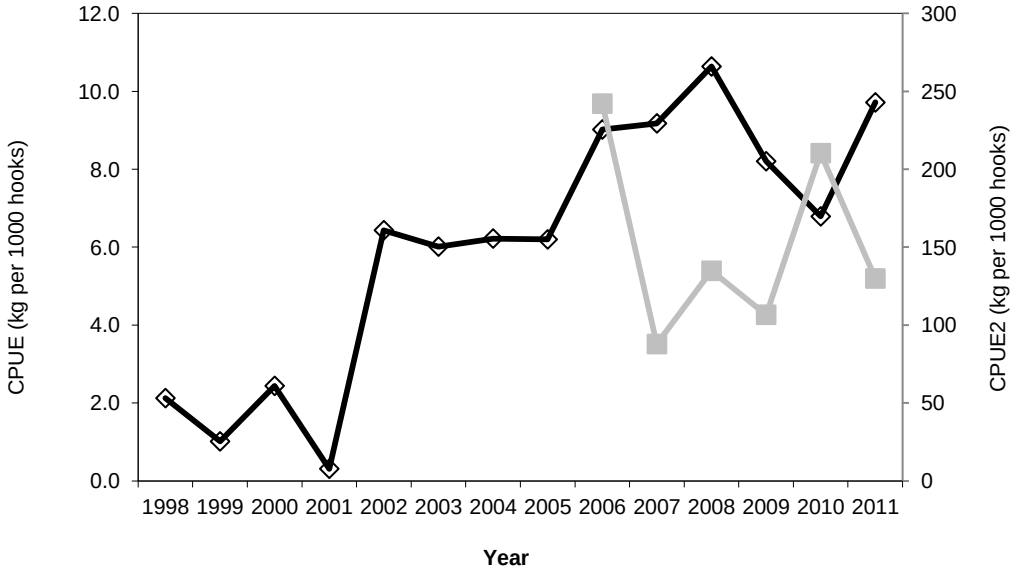

Fig. 2. Nominal South African SBT CPUE (1998-2011) for total SBT catch divided by the total fishing effort (black line). The second series (grey line) indicates the total SBT catch divided by the the total effort of sets which

5. Annual Fleet Size and Distribution

The number of active vessels increased from 26 in 2010 to 29 in 2011. The vessels mainly focused fishing activities within the South African EEZ. Of the 29 active vessels, 14 vessels focused fishing effort on swordfish, bigeye and yellowfin whereas 15 vessels targeted yellowfin and bigeye. More than 80% of fishing effort was concentrated in the Indian Ocean along the south and east coast of South Africa.

6. Historical Fleet Size and Distribution

From 1998 to 2001 most of the longline fishing activity was conducted along the west coast of South Africa. Since, the development of processing facilities at Richard's Bay the fishing effort of local vessels gradually shifted to the east coast of South Africa where higher catch rates of swordfish and yellowfin are obtained. The addition of charter vessels resulted in many of the tuna vessels fishing along the south coast of South Africa since 2005. On average, more than 95% of the fishing effort is conducted with South Africa's EEZ. Over the last 5 years the average number of active longline vessels have ranged between 25-30 vessels. Although the number of active vessels may be as high as 50 vessels in theory, many right holders have not activated their rights because of the challenges in sourcing of suitable vessels, unpredictable catch rates, and high fuel and freight costs.

7. Fisheries Monitoring

The Department issues each right holder a unique batch of tag numbers when the right holder collects their fishiong permit for the season. All landed southern bluefin are required to be tagged and all corresponding tag information (including tag no, length, weight) are provided to the Department on the prescribed Catch Tagging Form.

On board scientific observer coverage is aimed at 100% of all foreign vessel fishing trips and 20% of domestic vessel fishing trips. However, the observer contract expired in March 2011 and observers have subsequently only been placed on foreign vessels chartered by South Africa. The Department is currently in the process of appointing an observer service provider. Observer duties include monitoring compliance with permit conditions, recording catch composition, obtaining size frequencies, and obtaining biological sampling etc.

In addition to observer coverage all landings are monitored independently by fishery monitors/ fishery control officers. All completed landing declarations as well as electronic summaries have to be submitted to the Department on a monthly basis. These forms are used to assist the Department with quota control and to verify CMFs.

All vessels are required to have a functional VMS on board before conducting any fishing trips. The VMS used in South Africa is INMARSAT C and reports directly to DAFF VMS base station. VMS is mainly used to verify fishing positions and number of trips undertaken.

The Department has acquired four offshore patrol vessels, which conduct general patrols at sea. Sea patrols would also include at sea inspection of catches and fishing gear.

8. Other Factors

Import/Export Statistics

Almost all of South Africa's southern bluefin catches are exported with only poor quality bluefin sold locally. All southern bluefin exported requires an accompanying CMF as prescribed by CCSBT as well as export and catch permit conditions. There is no market established for bluefin in South Africa hence none is reported to be imported.

A number of foreign longline vessels with southern bluefin tuna on board use port facilities at Cape Town Harbour. If the vessel is not discharging any southern bluefin tuna then the authorization for these vessels to enter port are only provided once the Department receives an acknowledgement letter from the relevant flag state. If the vessel is discharging/ transshipping southern bluefin tuna and the product is destined to be exported then a CMF from the flag state is required by the Department.

Markets

Fresh southern bluefin is mainly exported to USA, while frozen product is exported to Japan.