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EXAMINATION OF THE EFFECT OF PIRACY ON FLEET OPERATIONS AND SUBSEQUENT CATCH AND EFFORT TRENDS

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PURPOSE

To inform the Scientific Committee (SC) of the known impacts of piracy activities in the Indian Ocean on IOTC fleet operation and subsequent catch and effort, as identified by the various working parties in 2012.

BACKGROUND

At the 15th Session of the Commission, it was '*recognized that piracy activities in the western Indian Ocean, have had substantial negative consequences on the activities of some fleets, as well as the level of observer coverage in these areas. The Commission requests that the Scientific Committee assess the effect of piracy on fleet operations and subsequent catch and effort trends*' (para. 40 of the S15 report).

At the 16th Session of the Commission, Members further '*recognised the severe impact of piracy acts on humanitarian, commercial and fishing vessels off the coast of Somalia and noted that the range of the attacks extended towards almost all of the western Indian Ocean, notably toward Kenya and Seychelles, with attacks being reported in their respective EEZ.*'

DISCUSSION

Throughout 2012, the various IOTC species working parties carried out further examinations of the impacts of piracy activities on IOTC fleets, and came to a range of conclusions which could be summarised as follows:

Effect of piracy on catches of IOTC species

Although no specific analysis of the impacts of piracy on fisheries in the Indian Ocean were presented at IOTC working party meetings in 2012, many papers demonstrated some level of impact on fishing operations in the western Indian Ocean (Somali Basin) and other areas as a result of relocated fishing effort. Specifically, that there has been a substantial displacement of effort into traditional albacore fishing areas, thereby increasing fishing pressure on this species. In recent years, the proportion of fishing effort of the Japanese longline fleet sharply decreased in the north-western Indian Ocean (off the Somalia coastline), while fishing effort increased in the area south of 25°S, especially off western Australia, where catch rates of albacore are higher (Fig. 1). Similarly, as a direct result of piracy activities in the western Indian Ocean, many of the vessels from the I.R. Iran targeting tropical tuna species on the high seas have moved back to the EEZ of I.R. Iran and are now targeting neritic tuna and tuna-like species. This has resulted in substantial increases in the total catch and effort of neritic tuna and tuna-like species under the IOTC mandate.

The number of active vessels in the IOTC area of competence have declined substantially since 2008 (Fig. 2), and that this was likely due to the impact of piracy activities in the western Indian Ocean. The impacts appear to have been greatest on the longline fleets with effort having declined to negligible levels in recent years by most fleets (Figs. 2 and 3). Fishing effort of the purse seine fleet has also shifted east by at least 100 miles compared to the historic distribution of effort and piracy was reported to also be playing a role in determining the behaviour of small-scale fishing vessels which have declined in the region.

There has also been a substantial reduction in total effort due to piracy, evident from the decline in total effort from all major fleets (Fig. 1). In the first half of 2011, 11 vessels from Taiwan,China, moved to the Atlantic Ocean and 2 to the Pacific Ocean. However, in the second half of 2011, 5 vessels returned from the Atlantic Ocean, and 1 vessel returned from the Pacific Ocean. In 2012, the trend has been reversed, with a total of 15 vessels being transferred from the Atlantic Ocean back to the Indian Ocean. Similarly, 6 vessels from Taiwan,China have been transferred from the Pacific Ocean back to the Indian Ocean in 2012. Japan reported a reduction of ~140 vessels since 2006, with 85 remaining in 2011 (preliminary), which corresponds to a decrease of total catch of about 80% (for bigeye tuna and yellowfin tuna combined). In recent years, the proportion of fishing effort of the Japanese longline fleet sharply decreased in the north-western Indian Ocean (off the Somalia coastline), while fishing effort increased in the area south of 25°S, especially off western Australia. The Rep. of Korea reported that one longline vessel was hijacked in 2006 and this had resulted in a large reduction (50%) of the number of Rep. of Korean active vessels, from 26 in 2006 to 7 in 2011; while the remaining vessels moved to the Southern Indian Ocean. The number of EU and associated purse seiners has also decreased from 51 in 2006 to 34 in 2011 (a 33% of reduction).

Given the potential impacts of piracy on fisheries in other areas of the Indian Ocean through the relocation of longliners to other fishing grounds, specific analysis should be carried out and presented at the next WPTT and WPTmT meetings by CPCs most affected by these activities, including Japan, Rep. of Korea and Taiwan,China. For example, longline fishing effort has been redistributed to traditional albacore fishing grounds in recent years, thereby further increasing fishing pressure on the albacore stock (see IOTC–2012–WPTmT–R).

Reports from Thailand, China and Taiwan,China that longline vessels from some fleets appear to be moving back towards the central Indian Ocean in 2012, as a direct result of increased CPUE being recorded in these areas. This movement back into the area vacated due to piracy activities should be closely monitored and reported at the SC and the working party meetings in 2013.

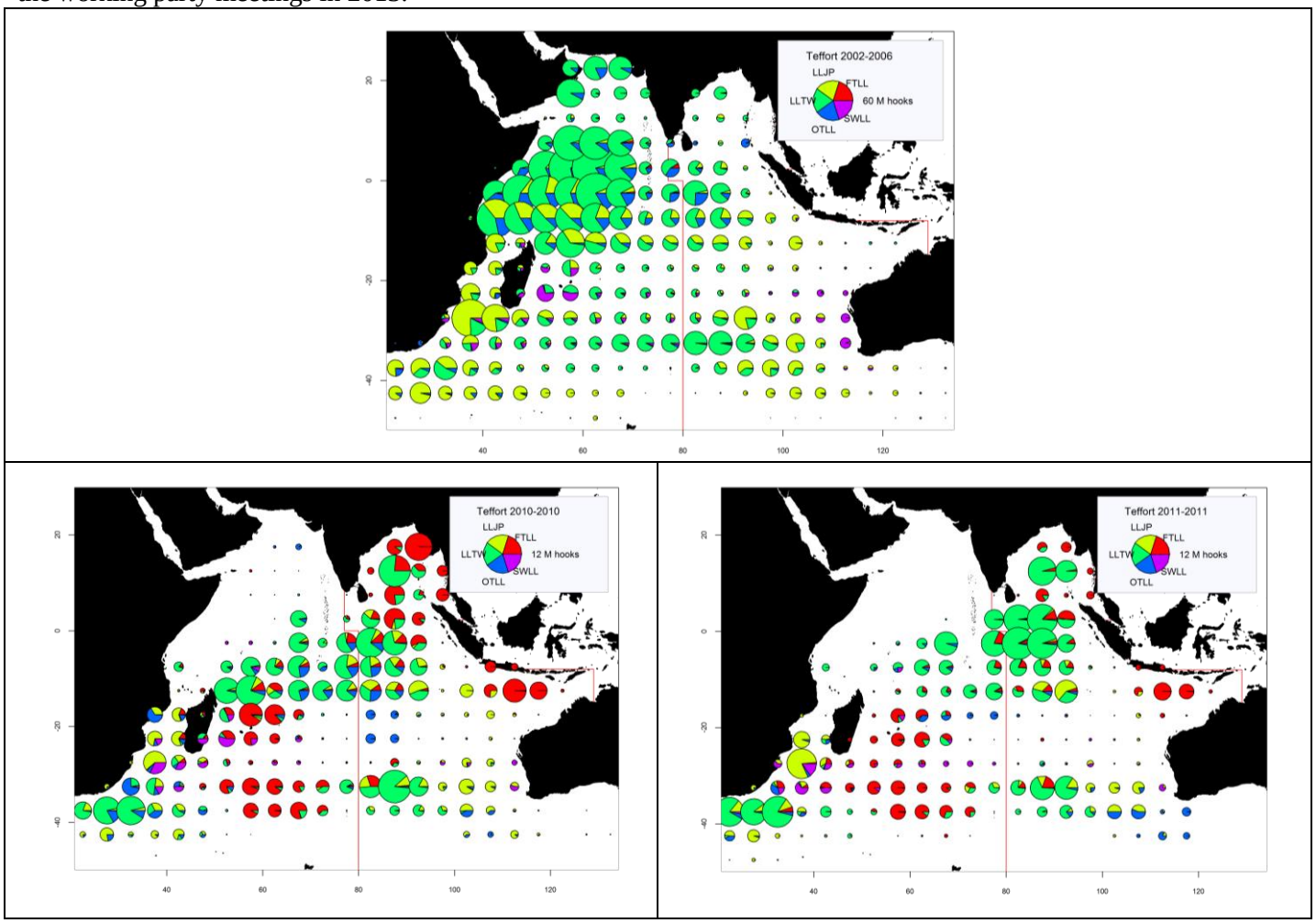

Fig. 1. The geographical distribution of fishing effort (millions of hooks) as reported for the longline fleets of Japan (LLJP), Taiwan,China (LLTW), fresh-tuna longline (FTLL), other longline (OTLL), and longline directed at swordfish (SWLL), in the IOTC area of competence, 2002–06, and 2010–11. The red line represents the boundary between western and eastern Indian Ocean regions. LLJP (light green): deep-freezing longliners from Japan; LLTW (dark green): deep-freezing longliners from Taiwan,China; SWLL (turquoise): swordfish longliners (Australia, EU, Mauritius, Seychelles and other fleets); FTLL (red): fresh-tuna longliners (China, Taiwan,China and other fleets; OTLL (blue): Longliners from other fleets (includes Belize, China, Philippines, Seychelles, South Africa, South Korea and various other fleets).

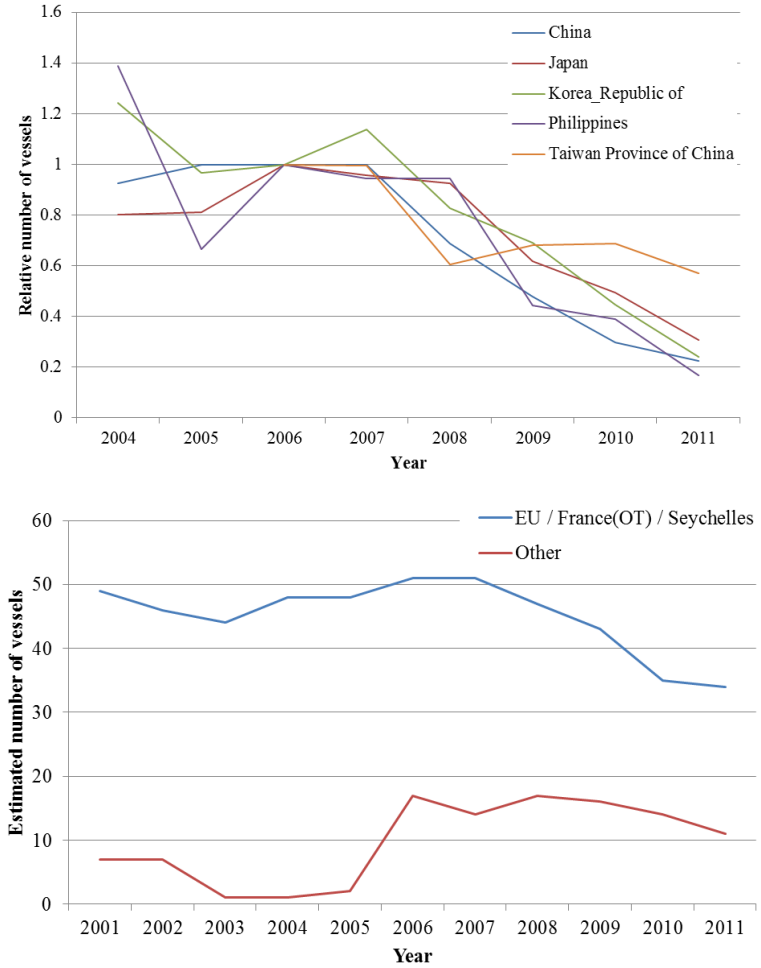

Fig. 2. The change in the relative number of some active longline fleets since 2004 (upper – numbers have been scaled to the number of active vessels in 2006) and estimated numbers of active purse seine vessels from 2001 to 2011 (lower) in the Indian Ocean.

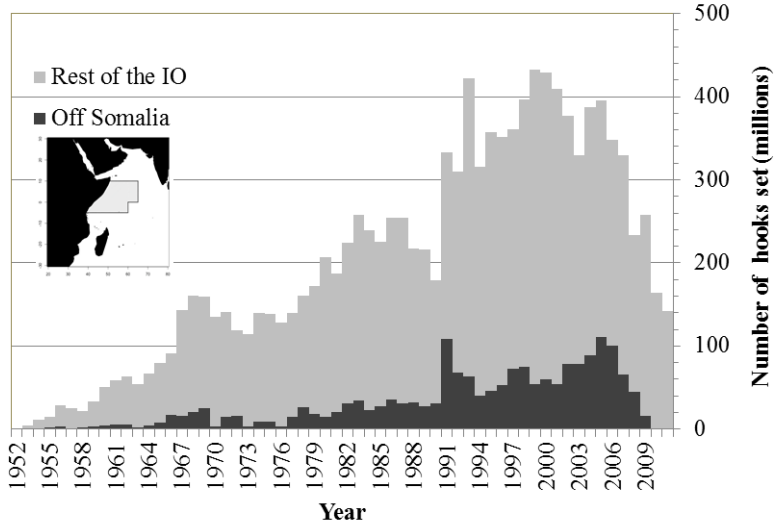

Fig. 3. The total number of hooks set (in millions), by year and geographical area: off the Somalia coastline (area shown in the insert) and for the rest of the Indian Ocean (IO), from 1952 to 2011.

Recommendation

That the SC **NOTE** the reported impacts of piracy on fishing operations in the western Indian Ocean (Somali Basin) and other areas as a result of relocated fishing effort, and **CONSIDER** how to convey these reported impacts to the Commission.