

Report of activities for conventional and archival tagging and recapture of southern bluefin tuna by Japan in 2006/2007

日本によるミナミマグロ標識放流計画および標識再捕状況

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要約

2006年8月から9月に、南東インド洋において、延縄船からミナミマグロ中大型魚67個体のアーカイバルタグ標識放流を実施した。日本は6年間の標識放流計画によって、通常標識1159個体、アーカイバルタグ350個体、ポップアップアーカイバルタグ15個体のミナミマグロ中大型魚を放流してきた。2007年7月からも同様のアーカイバルタグ/ポップアップアーカイバルタグ放流調査を実施中である。なお、日本の放流したアーカイバルタグは、これまでに13個体から回収されている。日本は、2007年1月には、曳縄による加入量調査を通じてミナミマグロ1歳魚189個体に対し通常標識の装着・放流を実施した。2006年8月から2007年6月までに、日本の延縄漁船より70個体分のCCSBT通常標識が再捕報告された。

Summary

Japanese archival tagging for medium and large size of southern bluefin tuna (SBT, N=67) from a longline vessel was conducted in south-eastern Indian Ocean from August to September 2006. By this program for six years, the numbers of medium and large size of SBT individuals released were 1159 with conventional tags only, 350 with archival tags and 15 with pop-up archival tags. An archival tagging survey has also been conducted since July 2007 in the same manner in 2006. 13 archival tags have been recovered for six years. Japan also conducted the conventional tagging for the age 1 SBT (N=189) during the trolling survey in January 2007. From the Japanese longline vessels, 70 individuals with CCSBT tags were recovered from August 2006 to June 2007.

1. Japanese activity for the CCSBT Tagging Program (SRP) in 2006/2007

1-1. Tag and release for medium and large size SBT

Japan has been conducting activity of SRP tagging since 2001 (Itoh et al., 2002, 2003, 2004, Itoh and Miyauchi 2005, Itoh et al., 2006). This activity is that tag and release for medium and large size individuals from offshore area in the Indian Ocean or off Cape so that SBT will be released from whole of area distributed simultaneously in conjunction with other SRP tagging programs. In order to attain this objectives, Japan has conducted a tagging program that charter a commercial longline vessel and tag and release SBT caught with conventional, archival and / or pop-up archival tags (PATs), under the plan made by NRIFSF. Since 2004, because funding situation became tightened, it have adopted the

payment only for price of released fish and compensation for potential loss due to additional time and labors required for tagging instead of full-charter of the vessel. Then, it has not been able to release SBT with conventional tags only.

In 2006, the program was conducted in similar way as in 2004-2005 and archival tags were deployed on SBT individuals. An on-board researcher was sent to a Japanese longline vessel that usually working for SBT. Tagging was conducted from 9-August to 16-September 2006 in the south-eastern Indian Ocean (36-41S, 96-101E; Fig. 1). When SBT in vigorous condition was caught and environmental conditions allow, the individual was landed on deck by a large scooping net for tagging. After ensuring no or little breeding from gill and good hooking near mouth, an archival tag was inserted into the body cavity. A CCSBT conventional tag was inserted in between pterygiophore at the base of the second dorsal fin. The fish was measured in length and released into sea. Usually, it took 1-2 minutes during fish were on deck. Total of 67 SBT individuals (78-125 cm FL, with mean of 105.3 cm FL) were released with archival tags (Lotek Wireless Inc.). Fish which were not released were kept on vessel and reported to Fisheries Agency of Japan as usual commercial catch. The researcher also collected data and some biological samples for any species caught as same as scientific observers do. Otoliths were collected from 36 SBT individuals.

By this program for six years, the numbers of medium and large size SBT released were 1159 with conventional tags only, 350 with archival tags and 15 with PAT (Table 1). Length frequency of fish with archival tag is shown in Fig. 2.

1-2. Tag and release for age 1 SBT in the trolling surveys as the recruitment monitoring

In January 2007, the trolling survey was conducted in order to provide the recruitment level of age 1 SBT. During the survey, we tagged the CCSBT conventional tags and released SBT mainly in age 1 which was caught by the trolling and little damage on its mouth. Tagging was conducted between 22 and 29 January 2007 off the south coast of Western Australia (34.5-34.8S, 119.4-150.5E; Fig. 3). Two conventional tags per one individual were inserted in between pterygiophore at the base of the second dorsal fin. The fish was measured in fork length and released into sea. Total of 189 SBT individuals (38-78 cm FL, with mean of 53.9 cm FL) were tagged and released.

2. Tag recapture in 2006/2007

In the season when landing of Japanese vessel were concentrated, a person who visit the vessels to recover recaptured tag was employed. She went to the major SBT landing ports; Shimizu, Yaizu and Oigawa. She recovered tags that from recaptured fish and kept in the vessel, as well as asked fishermen directly to keep recaptured tags in the next cruise.

From August 2006 to June 2007, tags from the total of 70 individuals (125 tags) released in the CCSBT tagging activities were recovered. In addition, tags from the total of 14 individuals (18 tags) with CSIRO tags were recovered.

In six years archival tagging by Japan, 13 out of 350 individuals were recovered. Among them, two were recovered between August 2006 and June 2007 from Japanese longline vessels.

3. Plan for 2007/2008 activity

Since July 2007, the archival tagging has been conducting in similar way as in 2006. Utmost 50 and 10 SBT will be deployed archival tags and PATs in the south-eastern Indian Ocean, respectively.

We plan the trolling survey of early 2008. Its survey design is similar to that of 2007. We propose to use the CCSBT conventional tags for the tagging during the trolling survey as well as in 2007.

A person who visits Japanese longline vessels during their landings at ports will be employed.

Reference

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- Itoh, T., N. Takahashi, S. Tsuji, and Y. Hosogaya. 2003 Report of 2002/2003 results and proposal for 2003/2004 activities on CCSBT tagging by Japan. CCSBT-ESC/0309/35.
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Table 1 Summary of the tagging activities by Japan using Japanese longline fleet for medium and large size SBT individuals from offshore area in the southern Indian Ocean and off Cape.

Year	2001	2002	2003	2004	2005	2006	Total
First operation	5-Nov	20-Oct	24-Oct	25-Sep	15-Oct	9-Aug	
Final operation	14-Jan	27-Dec	31-Dec	3-Feb	16-Dec	16-Sep	
Area operated	39-44S 23-48E	33-40S 30-44E	37-40S 29-44E	31-42S 99-101E	32-42S 82-111E	36-41S 96-101E	
Number of SBT tagged							
with conventional tags only	329	273	557				1159
with archival tag	45	40	80	40	78	67	350
with pop-up archival tag	7	5			3		15

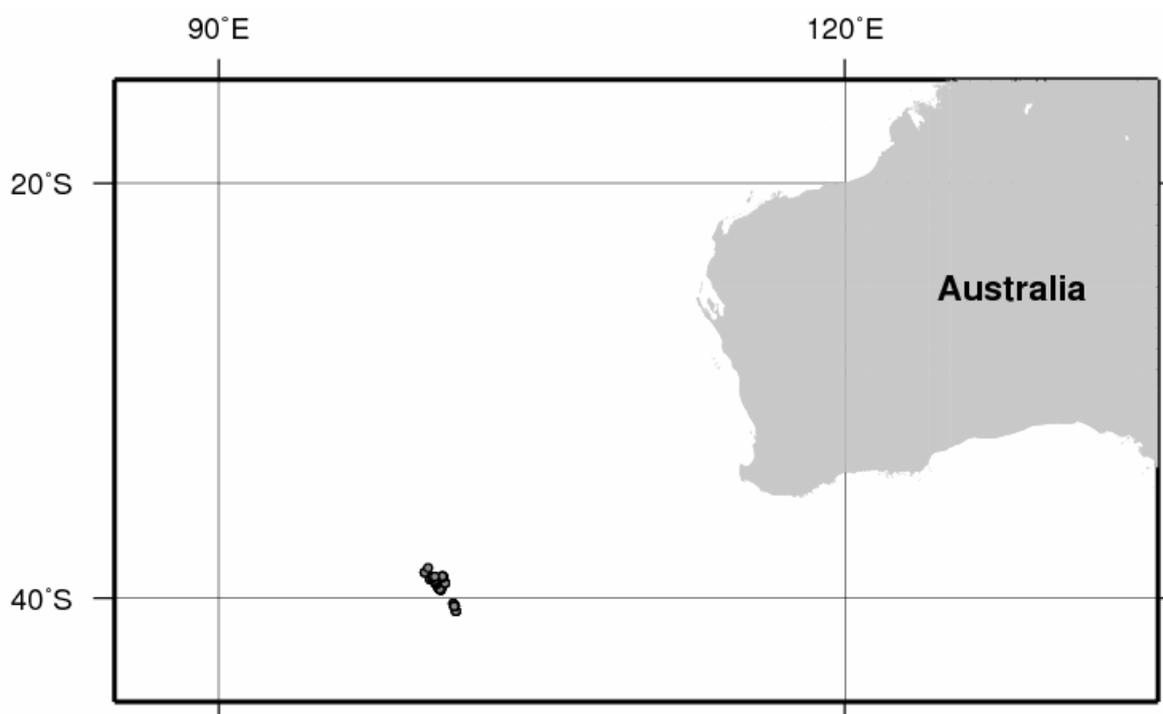


Fig. 1 Locations of SBT with archival tags were released in Japanese tagging program in 2006 (N=67).

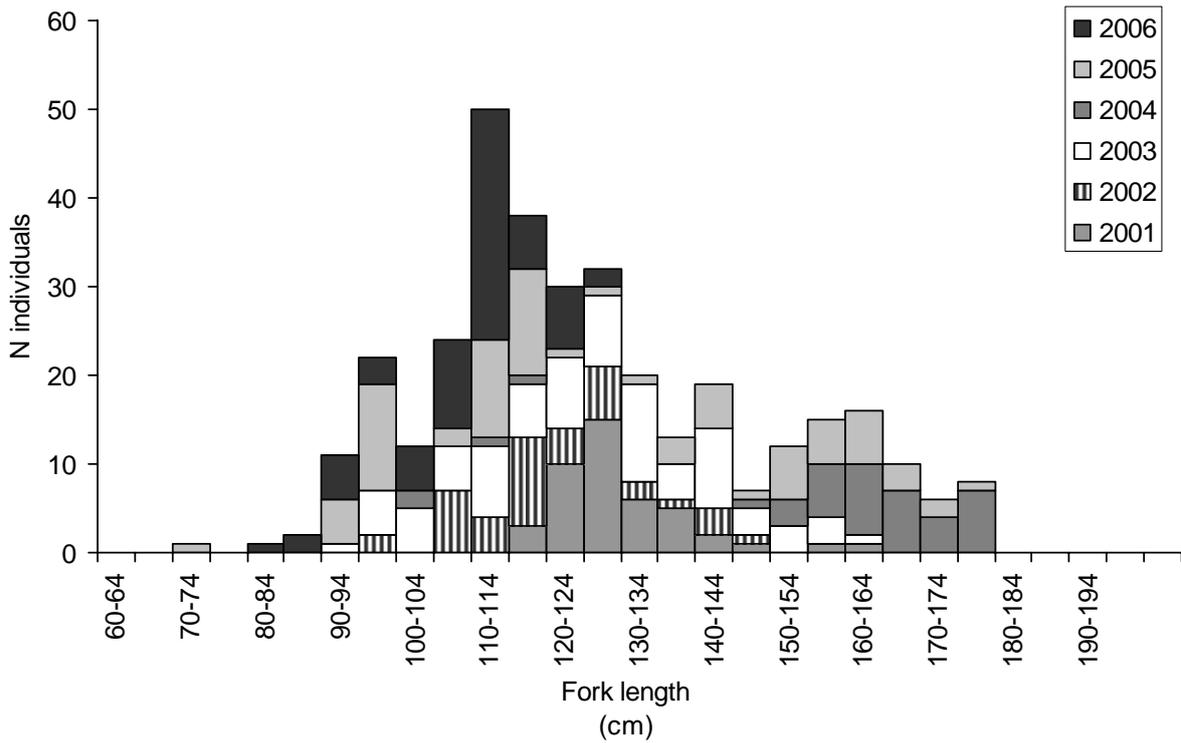


Fig. 2 Length frequency distribution of SBT with archival tags in Japanese tagging program for five years.

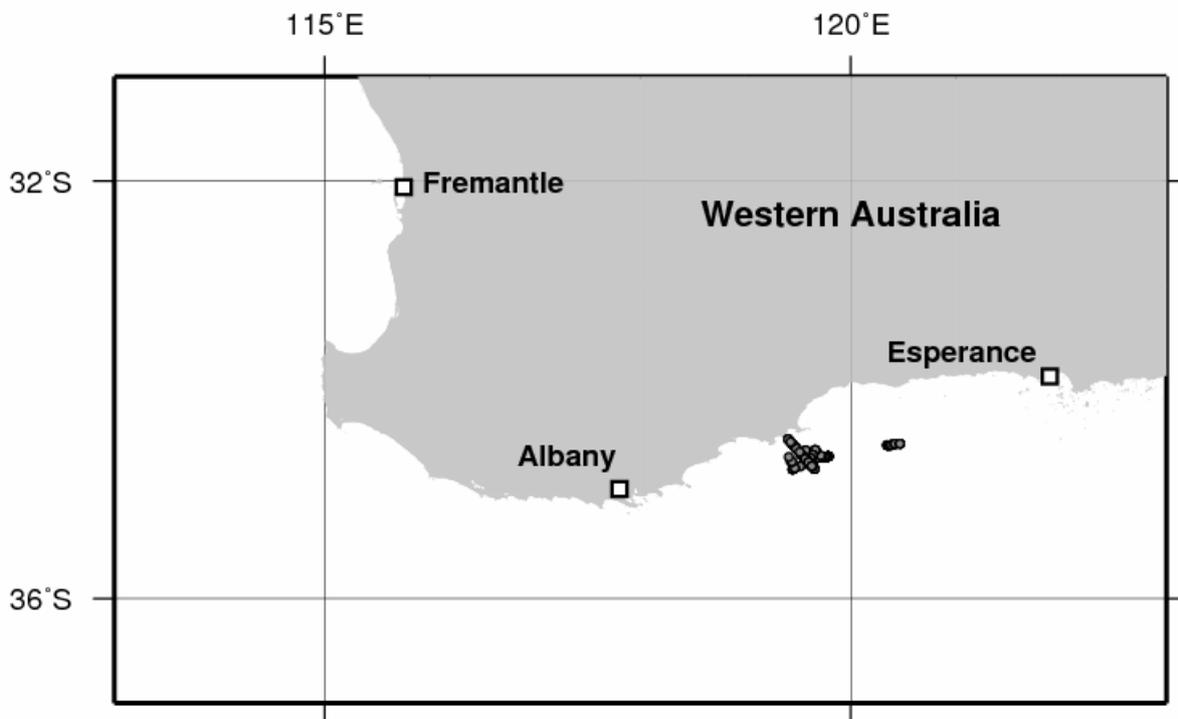


Fig. 3 Locations of SBT with conventional tags were released during the trolling survey in January 2007 (N=189).