Proposal for the recruitment monitoring survey in 2010/2011

2010/2011 年の加入量調査のプロポーザル

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Summary

Recruitment surveys for age one SBT in 2010/2011 are proposed. The surveys, including the piston-line trolling survey, the acoustic tagging, archival tagging and other relevant researches, will be carried out off the south and west coasts of Western Australia.

要約

2010/2011 年のミナミマグロ 1 歳魚加入量調査を提案する。計画は、ピストンライン曳縄調査、音響タグ、アーカイバルタグ、関連する他の調査を含み、西オーストラリアの西岸から南岸海域で実施する予定である。

Objectives

The main objective is obtain the index of the recruitment level of age one (the 2010 year class) southern bluefin tuna (SBT) that distributed off the south coast of Western Australia. In addition, data for determine dynamics of SBT distribution within the research area will be collected.

Methods

The surveys will be carried out off the south and west coasts of Western Australia in a period between December 2010 and January 2011 for the age one SBT.

We plan to have two or three cruises using chartered Australian fishing vessels. One of the cruises will be for the piston-line trolling survey. Because it is a recruitment monitoring survey, consistency of method to the previous years will be sought. Detail of last survey was described in CCSBT-ESC/1009/25.

In other cruise, we will set hydrophones in array for acoustic tagging. The acoustic tagging

has been carried out as the joint research project between Japanese and Australian scientists. Detail of previous survey was described in CCSBT-ESC/0809/44.

In all cruises, we will try to collect information of age one SBT distribution off Western Australia for a wide range as much as possible with trolling or pole-and-line catch. When SBT are caught in good condition, SBT will be tagged and released with two CCSBT conventional tags per individual following the CCSBT tagging procedure. Some of SBT will be also attached archival tag or acoustic tag. If SBT are not appropriate for tagging, biological samples, including otolith, muscle tissue and stomach contents, will be collected. Stomach contents will be observed for fish other than SBT (such as skipjack and mackerel) to compare feeding ecology between SBT and others. CTD (Conductivity Temperature Depth profiler) will be cast in some points for oceanographic observations. Towing type underwater video will be taken to investigate SBT school structure and behavior.

Budget

Fisheries Agency of Japan will bear the expense of the trolling survey. The acoustic tagging will be supported by several funds, including Nagasaki University, CSIRO, if possible, and Fisheries Agency of Japan.

Scientific research permission from Australian government

Because this survey will be carried out within the Australian EEZ, the scientific research permission from Australian government is necessary.

Report of the results

Results will be submitted to the next CCSBT-ESC in documents. Mortality of SBT by the surveys will be also reported to the next CCSBT-ESC.

Seeking endorsement

We seek endorsements from the Extended Scientific Committee of CCSBT for the research described above, for including the conventional tagging in these research surveys as a part of the CCSBT SRP tagging, and for using Research Mortality Allowance for these research surveys as shown in CCSBT-ESC/1009/28.

References

Fisheries Agency of Japan (2010) Report of the 2009/2010 RMA utilization and application for the 2010/2011 RMA. CCSBT-ESC/1009/28.

Hobday, A., R. Kawabe, Y. Takao, K. Miyashita, T. Itoh (2008) Preliminary report on migration paths of juvenile southern bluefin tuna determined by acoustic tagging in Western Australia 2007-08. CCSBT-ESC/0809/44.

Itoh, T. and O. Sakai (2010) Report of the piston-line trolling survey in 2009/2010. CCSBT-ESC/1009/25.