



CCSBT-CC/1810/23

AIS Analysis Project Proposal AIS 解析プロジェクト提案

Purpose

目的

To gain an improved understanding of the risk of potential IUU fishing for southern bluefin tuna (SBT).

みなみまぐろ（SBT）に関する IUU 漁業のリスクにかかる理解を改善する。

Background

背景

IUU fishing of SBT is a threat to the CCSBT's target for rebuilding the southern bluefin tuna stock. Furthermore, the risk of IUU fishing could increase as the SBT stock rebuilds and the SBT catch rates improve.

SBT に関する IUU 漁業は、CCSBT のみなみまぐろ資源再建目標に対する脅威となっているところである。さらに、SBT 資源の再建が進み SBT の漁獲率が改善するに連れて、IUU 漁業のリスクは高まる可能性がある。

The actual extent of IUU fishing of SBT is not well known. Paper CCSBT-OMMP/1609/Info02 provided estimates of SBT catches by non-Member States by combining longline fishing effort data from ICCAT¹, IOTC² and WCPFC³ with CCSBT catch and effort data for Japan and Taiwan. Non-Member catch estimates varied considerably depending on the modelling approach and catchability assumptions used, such that estimates for 2014 varied from 22 to 460t of SBT. Paper CCSBT-CC/1710/07 reported IUU fishing activities of three vessels that were placed on CCSBT's Draft IUU Vessel List, with the IUU activity of one of these vessels exceeding 100 tonnes of misreported SBT.

SBT に関する IUU 漁業の実際の程度はよくわかっていない。文書 CCSBT-OMMP/1609/Info02 は、ICCAT、IOTC 及び WCPFC から得られたはえ縄漁獲努力量データに、CCSBT における日本及び台湾の漁獲量及び漁獲努力量データを組み合わせることにより、非メンバーによる SBT 漁獲量を推定した。推定された非メンバー漁獲量は用いたモデリング手法と漁獲能力の仮定によって大きく変化し、2014 年における非メンバーの推定 SBT 漁獲量は 22 トンから 460 トンまでの幅があった。文書 CCSBT-CC/1710/07 では、CCSBT の IUU 船舶リスト案に掲載された 3 隻の IUU 漁業活動が報告され、これらのうち 1 隻の IUU 活動では 100 トン以上の SBT が誤報告されていた。

¹ International Commission for the Conservation of Atlantic Tunas. 大西洋まぐろ類保存国際委員会

² Indian Ocean Tuna Commission. インド洋まぐろ類委員会

³ Western and Central Pacific Fisheries Commission. 中西部太平洋まぐろ類委員会

In addition, the CCSBT Secretariat has, at times, received both anecdotal information and copies of AIS position plots regarding non-Member vessels fishing in areas where SBT is known to be caught. An incident of this nature occurred during 2018 and was reported to a transshipment observer who subsequently identified⁴ appreciable transshipments of SBT from six non-Member fishing vessels. DNA analysis has also confirmed that SBT represents an appreciable proportion⁵ of sales in China's retail sushi restaurants (CCSBT-ESC/1609/37), so it is possible that this could be a destination for non-Member SBT catches.

さらに CCSBT 事務局は、SBT が漁獲されることで知られる海域で操業する非メンバー漁船に関する定性的な情報及び AIS 位置情報の写しをこれまでに何度も受領している。こうした事案は 2018 年も発生しており、転載オブザーバーからは 6 隻の非メンバー漁船からの相当量の SBT の転載を確認した旨が報告された⁴。また DNA 解析の結果、中国の小売寿司レストランで販売されていたまぐろの相当割合が SBT であったことが確認されており⁵ (CCSBT-ESC/1609/37)、これが非メンバーによる SBT 漁獲物の仕向け先となっている可能性がある。

Consequently, while the extent of IUU fishing of SBT is not well known, it seems clear that some level is occurring.

このため、SBT に関する IUU 漁業の程度はよくはわかっていないものの、一定程度行われていることは明白である。

Project Proposal

プロジェクト提案

The Secretariat held discussions with Trygg Mat Tracking (TMT) during 2018 regarding a potential project to analyse AIS data in an effort to improve CCSBT's understanding of the risks of IUU fishing for SBT. At the Secretariat's request, TMT developed the attached proposal for consideration by the CCSBT. The proposal describes the project, the timeline and the associated costs. It should be noted that this project has not been included in the draft budget for 2019 as it has not yet been considered by the Compliance Committee. It is currently envisaged that the project would commence in 2020, but this would be dependent on the availability of funds.

事務局は 2018 年に、SBT に関する IUU 漁業のリスクに対する CCSBT の理解を改善するための一助として AIS データを解析するためのプロジェクトについて Trygg Mat Tracking (TMT) との議論を行ったところである。TMT は、事務局からの要請に応じ、CCSBT による検討に向けて別紙の提案を作成した。同提案ではプロジェクト、タイムライン及び関連費用について記述している。このプロジェクトは遵守委員会による検討を経たものではないので、2019 年予算案には計上されていないことに留意されたい。現在のところ、同プロジェクトは 2020 年に開始することを想定しているが、これは利用可能な資金があるかどうかに依る。

The project proposal mentions that TMT will explore the possibility of cooperation with IOTC in order to secure data relating to IOTC fisheries in SBT areas that could contribute to understanding of vessel activities and risk in areas where the fisheries overlap. The CCSBT

⁴ Tissue samples have not been taken to confirm the identifications through DNA analysis. DNA 解析を通じて種同定を確認するための組織サンプルは採集されていない。

⁵ 13% of sales in Shanghai and Beijing during the short period of the study. For Shanghai, SBT constituted 25% of the sashimi grade tuna sold through sushi restaurants. 本研究の短期間における上海及び北京での販売物の 13%。上海では、寿司レストラン全体で販売されていた刺し身まぐろの 25% が SBT であった。

and IOTC Secretariats have briefly discussed the proposal and the IOTC Secretariat supports the proposal in principle. However, the nature and extent of the IOTC Secretariat's cooperation will depend on the details of the proposal once it is finalised and the confidentiality of the information being requested.

プロジェクト提案では、SBT 海域での IOTC 漁業データ（船舶の活動及び漁業が重複する海域におけるリスクの理解に貢献する可能性がある）を活用できるよう、TMT として IOTC との協力を模索する可能性に言及している。CCSBT 事務局と IOTC 事務局は、同提案について簡潔に議論し、IOTC 事務局は原則的には同提案を支持しているところである。しかしながら、IOTC 事務局による協力内容及び範囲については、最終化された時点での提案の詳細及び要請される情報の機密性に依ることとなる。

A smaller (AU\$20,000), ad-hoc data analysis project has been included in the draft budget for 2019 for consideration by the Extended Commission. This funding has been proposed to allow the Secretariat to contract TMT on an ad-hoc basis to conduct analysis of AIS data and examine vessel company relationships as a follow-up to reports that may be provided to the Secretariat on suspicious fishing activity in SBT fishing grounds during 2019. The outcomes of real-time analysis of such data could provide a basis to request inspections of vessel(s) from Port or Flag States.

少額（20,000 豪ドル）の臨時的データ解析プロジェクトは、拡大委員会による検討に向けて 2019 年予算案に計上されている。この費用は、事務局が 2019 年に受領する可能性がある SBT 漁場における不審な漁業活動に関する報告のフォローアップの手段として、事務局が TMT と契約を結び、臨時的に AIS データの解析及び船舶会社との関係の精査を実施できるようにするべく提案されているものである。こうしたデータのリアルタイム解析の結果は、寄港国又は旗国による船舶検査を要請するための根拠となるものと考えられる。

The Compliance Committee is invited to discuss both projects and advise whether it would like the Secretariat to proceed with either or both of these projects.

遵守委員会は、これらの両プロジェクトについて検討し、事務局がこれらのプロジェクトのいずれか又は両方を進めることを望むかどうかについて助言するよう招請されている。



PROJECT PROPOSAL

Analysis to identify risk of potential Southern Bluefin Tuna (SBT) IUU catch and undeclared transshipment at sea

AUGUST 2018

TMT Background

Trygg Mat Tracking (TMT) is a Norwegian not-for-profit, with offices in Norway, the UK and Ghana. TMT provides fisheries authorities and international organisations with expert fisheries analysis and capacity building to support action against illegal fishing and related crimes.

TMT is internationally recognized as a provider of high quality information on global fishing operations (vessels and companies), and the development of tools and technology to support this function is a core part of our methodology. Our Fisheries Analytical Capacity Tool (FACT), which integrates international vessel databases, positional data, photographs, documents and other sources, enables us to provide our partners with up to date information on vessel identity, operations and compliance history, and also underpins our public service website the *Combined IUU Vessel List* www.iuu-vessels.org.

TMT has extensive experience in the use of AIS for fisheries monitoring, and conducts EEZ monitoring and identification of fishing operations, potential transshipments and other at-sea activities for partner countries and organisations. The integration of AIS monitoring and analysis with the multiple data sources contained in FACT enables us to build an accurate picture of vessel activities, identities and ownership.

Project Overview

Illegal, Unreported and Unregulated (IUU) fishing of southern bluefin tuna (SBT) is recognized as a threat to catch monitoring, stock assessment and sustainable management of SBT. To date, understanding the scale, distribution and possible perpetrators of IUU fishing for SBT has been a challenge due to the fishery's remote and dispersed locations, however anecdotal reports of vessel sightings from authorised vessels and occasional reporting of SBT found onboard unauthorized vessels suggests that IUU is occurring. The use of AIS data coupled with other sources of fishing operational data has the potential to improve understanding of the risk and characteristics of this phenomenon, by identifying and tracking the movements of unauthorized vessels operating in areas where SBT is known to be caught and assessing the identities and operations of those vessels and companies that may be involved.

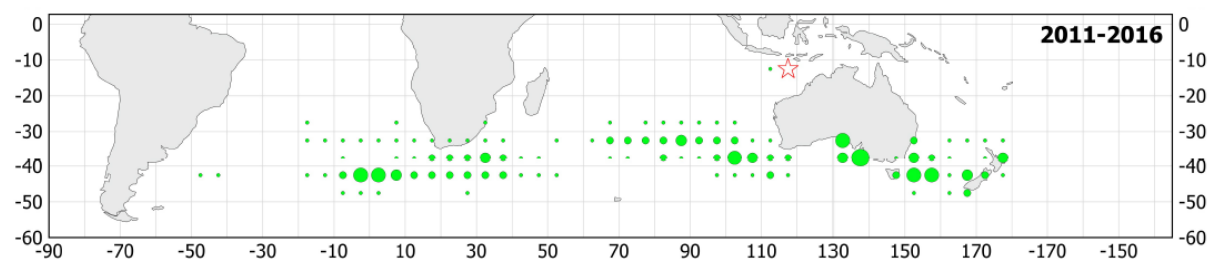
While Automatic Identification System (AIS) was developed as a collision avoidance system, it is increasingly used for fisheries monitoring and analysis purposes. Whilst most fishing vessels do not meet the criteria for compulsory AIS usage under the SOLAS Convention, a significant proportion of industrial fishing vessels do transmit over AIS, and flag and coastal States are increasingly making it a requirement for registration or licensing. For those vessels that are transmitting, AIS can provide valuable information regarding their operations at sea, port visits and interactions with other vessels. While vessel identity information transmitted over AIS can be inaccurate or contain gaps, TMT has developed extensive expertise in the use of vessel databases and unstructured sources of information, integrated into TMT's internal system FACT, to enable the accurate identification of the majority of fishing vessels and their operators.

Project

The overall objective of the proposed analysis is to improve the Commission for the Conservation of Southern Bluefin Tuna's (CCSBT's) understanding of the risk of IUU fishing occurring in the Southern Bluefin Tuna (SBT) fishery, and where possible identify the distribution, identities and activities of vessels and fleets that may be engaged in IUU fishing of the stock. This will further enable CCSBT and Member States to better understand the potential impact of IUU on the SBT stock and identify steps to address IUU fishing of the species. Whilst the analysis is focused on SBT, we will explore the possibility of cooperation with IOTC in order to secure data relating to Indian Ocean Tuna Commission (IOTC) fisheries in SBT areas that could contribute to understanding of vessel activities and risk in areas where the fisheries overlap.

We will identify all fishing and carrier vessels transmitting on AIS in areas where SBT are likely to be targeted or bycaught and analyse their activities while in or adjacent to these areas to identify potential risk fishing activity. This process will utilise AIS data matched with global vessel and company identity data contained in FACT, overlaid with catch distribution and authorisation information for SBT. If data is available, the findings will be further overlaid with seasonal catch distribution data for non-SBT species (e.g. species managed by IOTC and other RFMOs as relevant) to assess the likelihood that vessels could be targeting species other than SBT. The analysis will cover a two-year period (two years to present, or the most recent two-year period for which catch distribution data is available).

Average annual distribution of the SBT catch:



Risk activities that will be targeted for identification include but are not limited to:

- Events where non-authorized vessels appear to be fishing in SBT areas. A list of flags, vessels, dates, fishing areas, origin and destination port/country of the trip will be provided, where available;
- Events where authorised fishing vessel(s) are operating in tandem with non-authorized fishing vessel(s) in SBT fishing areas;
- Events where transshipments appear to be occurring from a non-authorized fishing vessel that has been fishing in an SBT area to an authorised fishing vessel or vice versa;
- Events where transshipments appear to be occurring from a non-authorized fishing vessel that has been fishing in an SBT area to any carrier vessel (whether authorized or not);
- Events where transshipments appear to be occurring from an authorised fishing vessel that has been fishing in an SBT area to a non-authorized carrier vessel;
- Events where carrier vessels show movements in an SBT area that may be indicative of transshipment, without there being a donor vessel visible on AIS. This process will, where available, also include cross referencing with positions of authorized transshipments reported to CCSBT to eliminate authorised transshipments;
- Events where authorised and non-authorized vessels encounter known or suspected supply vessels in SBT areas.

The risk events highlighted above and any other activity of interest that is identified will be recorded and documented per vessel, and the results will be analysed to identify any relevant trends in the findings, for example regarding flag State, ownership, vessel type, port destinations, activities and other key characteristics of vessels involved.

Timeline

The analysis is anticipated to require eight (8) months of analysis, with a completion date and final presentation targeting the relevant compliance committee meeting of CCSBT based on date of start.

Month:	1	2	3	4	5	6	7	8	9
Activity									
Establishing filters and acquiring AIS data	X								
Matching process, identification of fishing, carrier and supply vessels	X	X	X						
Analysis, detection of risk activity			X	X	X	X			
Writing up activity, investigation on select cases			X	X	X	X	X	X	
Drafting report, consultation with CCSBT				X	X	X		X	
Submit draft report								X	
Final report to be presented at CCSBT CC meeting									X

Proposed Budget

Activity	Days/qty	Cost	Sum
Analysis			
Analyst days	75	600	45000
Data and equipment			
AIS data (terrestrial and satellite) x 2 years	1	20000	20000
Other data sources	1	5000	5000
Travel			
2 X International travels for meeting and presentation to CCSBT (TMT Staff)	2	2500	5000
4 x International travels for meeting and coordination with IOTC (2 x TMT, 2 x CCSBT)	4	2500	10000
		TOTAL	€ 85,000