



Potential Non-Member Fishing Activity 非メンバーによる漁業活動の可能性

1. Introduction 序論

This paper provides:

本文書では以下を提供する。

- a brief summary of communication with Non-Cooperating Non-Members (NCNMs) since CCSBT 30;
CCSBT 30以降の非協力的非加盟メンバー（NCNM）との連絡状況の概要
- an update on any NCNM Southern Bluefin Tuna (SBT) catch reported to ICCAT¹ since CCSBT 30;
CCSBT 30以降に ICCAT に対して報告された NCNM による SBT 漁獲量に関するアップデート
- a brief summary of an intelligence report produced for the Secretariat by the Joint Analytical Cell (JAC);
Joint Analytical Cell (JAC) が当事務局向けに作成した情報報告書の概要
- an update concerning CCSBT's relationship with TMT (formerly Trygg Mat Tracking) and information about the existing contingency fund for ad-hoc analysis with TMT;
CCSBT と TMT (Trygg Mat Tracking) との関係に関するアップデート及び TMT による臨時解析に関する既存の臨時基金の情報
- an analysis by the Secretariat relating to potential non-Member catches of SBT.
非メンバーによる SBT 漁獲の可能性に関する事務局の解析結果

Consistent with the decision of the Eighteenth meeting of the Compliance Committee (CC18), this paper no longer contains a three-year summary and analysis of SBT trade information from the COMTRADE database. CC18 agreed that the Secretariat should discontinue its annual presentation of COMTRADE data in this paper, noting that the most the recent calendar year's SBT fresh/frozen exports and imports from COMTRADE is already provided in the Secretariat's Compliance with Measures paper (CCSBT-CC/2410/04).

第18回遵守委員会会合（CC18）による決定を踏まえ、本文書には COMTRADE データベースから得られた SBT 貿易情報に関する3年間のサマリー及び解析結果は含めていない。CC18は、直近の暦年における生鮮／冷凍 SBT の輸出及び輸入に関する情報は既に措置の遵守状況に関する事務局文書（CCSBT-CC/2310/04）の中で提供されていることを踏まえ、本文書における毎年の COMTRADE データの提示は停止すべきことに合意した。

2. Communications with Non-Members 非メンバーとの連絡状況

CCSBT 30 tasked the Secretariat to invite China, Fiji, Malaysia, Mauritius, Seychelles, Singapore and USA to participate as observers at CC19. All were invited to attend the

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

Annual Meetings of the Compliance Committee and the Extended Commission.

CCSBT 30 は、事務局に対し、中国、フィジー、マレーシア、モーリシャス、セイシェル、シンガポール及び米国に対して CC 19 会合にオブザーバーとして参加するよう招請する任務を課したところである。

As noted in paper CCSBT-CC/2410/08, the USA continues to cooperate voluntarily with the CDS and provide important quarterly CDS data submissions to the Secretariat. The USA is also engaging with the Secretariat on the eCDS development, and this engagement is outlined further in the Secretariat's update on the Trial eCDS development (CCSBT-CC/2410/19). 文書 CCSBT-CC/2410/08 でも述べたとおり、米国は引き続き自主的に CDS に協力しており、四半期に一度、事務局に対して輸入情報を提供している。また米国は、eCDS の開発に関しても事務局と連絡をとっており、この連絡状況については試行的 eCDS の開発に関する事務局からのアップデート (CCSBT-CC/2410/19) において総括した。

During August 2024, the Secretariat was contacted by the Port State Measures focal point from the Department of Fisheries Malaysia requesting assistance and information on the requirements for transshipping SBT in port. The Secretariat engaged with Malaysia and provided the requested information. Whilst the planned transshipment did not proceed, it was encouraging to have a Non-Member inquire with regards the CCSBT obligations to support their Port State Measures obligations.

2024 年 8 月において、事務局は、マレーシアの寄港国措置当局からの連絡を受け、SBT の港内転載にかかる要件についての支援及び情報提供を要請された。事務局はマレーシアとの連絡を維持し、要請された情報を提供した。予定されていた港内転載は最終的に実施されなかったが、非メンバーが寄港国措置にかかる義務をサポートする CCSBT の義務について照会してきたことは心強い事実である。

3. Reported SBT Catch and Trade by Non-Members

非メンバーから報告された SBT の漁獲及び貿易

In 2019, CC14 requested that the Secretariat check ICCAT's website² to confirm whether any new catches of SBT by CCSBT Non-Cooperating Non-Members (NCNMs) have been reported to ICCAT.

2019 年の CC 14 は、事務局に対し、CCSBT 非協力的非加盟メンバー (NCNM) による新たな SBT 漁獲量が ICCAT に報告されたかどうかを確認するべく ICCAT ウェブサイトを確認するよう要請した。

The Secretariat re-checked ICCAT's website in 2024 and advises that Brazil has again³ reported SBT catch to ICCAT. In their Task 1 catch statistics provided to ICCAT, Brazil reported SBT catches of 1T in the Southeast Atlantic and 16T in the Southwest Atlantic in 2022. All catch was reportedly taken using longline gear.

事務局が 2024 年に ICCAT ウェブサイトを再確認したところ、ブラジルが再度 SBT の漁獲を ICCAT に報告していた。ICCAT に提出された Task 1 漁獲報告の中で、ブラジルは 2022 年において南東大西洋で 1 トン、南西大西洋で 16 トンの SBT を漁獲したことを報告した。これらの漁獲物は全てはえ縄漁具による漁獲であった。

² <https://www.iccat.int/en/t1.asp>

³ In 2016 Brazil also reported 69t and in 2017 they reported 1t. 17t was also reported by Namibia in 2017. ブラジルは 2016 年に 69 トン、2017 年に 1 トンの漁獲を報告した。2017 年はナミビアも 17 トンの漁獲を報告した。



Image 1: Chart showing reported Brazil SBT catches and ICCAT Southeast Atlantic (AT-SE) and Southwest Atlantic (AT-SW) Areas

4. Joint Analytical Cell Analysis Received in 2024

2024年に受領した Joint Analytical Cell による解析結果

In March 2024, the Secretariat received a Fisheries Intelligence Report from TMT as part of their work in the Joint Analytical Cell (JAC)⁴. This report is provided as **Attachment A** to this paper. This report analysed the activities during 2023 of four fishing vessels that are not CCSBT authorised, and that the Secretariat had previously noted operating⁵ in locations close to vessels known to be targeting SBT. All four vessels appear on the official 'FOC list' of Taiwanese-owned, foreign flagged vessels maintained by the Taiwan Fisheries Agency⁶ with three of the fishing vessels flagged to Mauritius and one flagged to the Seychelles.

事務局は、2024年3月に、Joint Analytical Cell (JAC)における作業の一環として TMT から漁業情報報告書を受領した。当該報告書を本文書の別紙 A に示した。当該報告書は、CCSBT によって許可されておらず、かつ以前から SBT を専獲していることが既知の漁船の近傍で操業していることを事務局が指摘していた4隻の漁船による2023年中の活動を解析したものである。これらの4隻の漁船はいずれも、台湾漁業署が管理する、台湾所有の外国船籍船舶にかかる公式「FOC リスト」に掲載されており、うち3隻がモーリシャス船籍及び1隻セイシェル船籍である。

The report provides a summary of vessel activities in 2023, including suspected fishing and transshipment activities along with a description of the company associations for all four vessels. The report did not identify any information that could definitively indicate whether the vessels had caught SBT, although the report did note that CCSBT historic catch data indicated a significantly higher risk of unreported SBT catches in 2023 for one vessel, NF YU YO NO. 1 (Seychelles flagged vessel). This vessel was found to have been active further east than the other vessels during 2023 (in CCSBT Statistical Area 14 and 8⁷) where catches

⁴ Refer to Secretariat paper CCSBT-CC/2410/18 for more information on the JAC. JACに関する詳細な情報については事務局文書 CCSBT-CC/2410/18 を参照。

⁵ Based on Automatic Identification System (AIS) data but recognising the limitations of AIS data. 船舶自動識別装置 (AIS) に基づく情報であるが、AIS データの限界についても認識している。

⁶ Flag of Convenience 'FOC' list of fishing vessels that are flagged out to other countries. 外国に船籍を置く漁船である便宜置籍船「FOC」リスト

⁷ This is the same area that is regularly being fished by Chinese flagged tuna longline vessels through this same period. Refer to the discussion in Section 6 of this paper for further details of the activities of these vessels. 、同時期に中国船籍まぐ

of SBT by authorised vessels are more prevalent.

当該報告書は、これら 4 隻全ての会社組織の情報とともに、2023 年の漁船の活動（疑義のある漁業及び転載活動を含む）のサマリーを提示している。当該報告書は、これらの漁船が SBT を漁獲していたかどうかを示す決定的な情報は特定しなかったものの、CCSBT における過去の漁獲データに基づく、NF YU YO No.1（セイシェル船籍漁船）については 2023 年に未報告の SBT 漁獲を行っていたリスクが極めて高いことが示唆された旨を特に指摘した。当該漁船は、2023 年において、他の 3 隻よりもさらに当方の海域、すなわち許可漁船による SBT の漁獲がより一般的に行われている海域（CCSBT 統計回 14 及び 8）において活動していたことが確認された。

5. TMT

Analysis Contingency Fund with TMT

TMT の臨時解析基金

In 2018, CCSBT 25 agreed to a small budget (AUD \$20,000) for the Secretariat to contract TMT on an ad-hoc basis to conduct analyses of Automatic Identification System (AIS) data and examine vessel company relationships. An agreement was signed on 1 February 2019 and an initial payment of AUD \$9,969 (USD \$7,000) was made to TMT, with this to be held in an operating fund pending CCSBT analysis requests. During 2023 the Secretariat requested that TMT conduct an analysis and USD \$2,300 of the initial USD \$7,000 was utilised. The JAC report discussed in Section 4 of this paper was not requested by the Secretariat so no funds from the existing agreement were used in the development of this report. At present there remains USD \$4,700 for analysis by TMT, including using broader JAC data and resources, as required by CCSBT.

2015 年の CCBT 15 は、船舶自動識別装置（AIS）データの解析の実施及び船舶の会社組織関係の精査を行う臨時解析について事務局が TMT と契約を締結するための少額の予算（AUD 20,000）に合意した。当該契約は 2019 年 2 月 1 日に締結され、CCSBT からの解析要請に備えて保持しておく運営基金として、TMT に対して 9,969 ドル（7,000 米ドル）の最初の支払いが行われた。2023 年において、事務局は TMT に解析実施を要請し、初期基金 7,000 米ドルのうち約 2,300 米ドルが使用された。本文書セクション 4 で触れた JAC 報告書は事務局からの要請を受けて実施されたものではないので、当該報告書の作成に当たっては既存の契約に基づく資金は使用されていない。現時点において、TMT による解析（より広範な JAC データ及びリソースの活用を含む）のための基金の残額は 4,700 米ドルとなっている。

6. Information on Suspected Catches of SBT by Non-Member Flagged Vessels

非メンバー船籍漁船による SBT 漁獲の疑いに関する情報

The Secretariat prepared paper [CCSBT-ESC/2409/04](#) for the 29th Meeting of the Extended Scientific Committee (ESC29) which notes that the Chinese and Seychelles fleets in the Indian Ocean have appeared “in recent years to have more effort and larger areas of overlap in areas where SBT could be expected to be caught”.⁸

事務局は、第 29 回拡大科学委員会会合（ESC 29）に提出した文書 [CCSBT-ESC/2409/04](#) の中で、インド洋で操業する中国船団及びセイシェル船団について「近

ろはえ縄漁船が定期的に漁獲を行う海域と同様の海域。これらの船舶による活動のさらなる詳細については本文書セクション 6 の議論を参照

⁸ The paper notes that there were no Seychelles effort data available for 2022, so this was unable to be included in the 2022 distribution maps. 本文書では、2022 年についてはセイシェルの漁獲努力量データが利用可能になっていないので、2022 年の分布マップにセイシェルを含めることはできなかったことを述べている。

年、漁獲努力量が増大しており、SBTの漁獲が想定され得る海域との操業海域の重複が拡大している」ように見えることを指摘した。

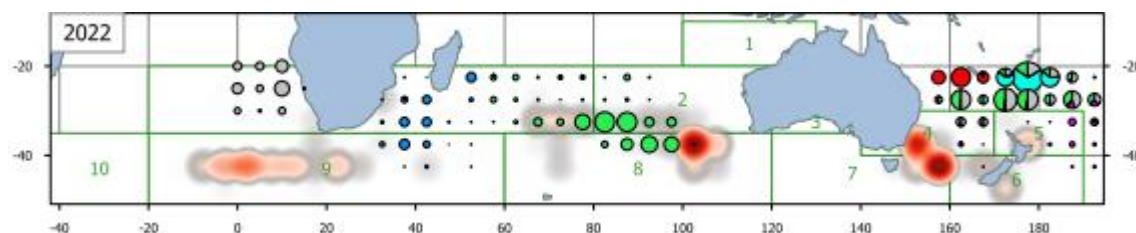


Image 2: Distribution of SBT catch (heat map of catch in weight from raised catch data) and proportion pies for longline effort for Non-Members for 2022 from ICCAT, IOTC and WCPFC catch and effort data (from [CCSBT-ESC/2409/04](#) with catch and effort by Chinese flagged vessels is shown as green).

Using available AIS data, the Secretariat has identified more than 34 Non-Member tuna longline vessels that have been active in the area around the intersection of CCSBT Statistical Areas 14, 2 and 8 between March and August 2024⁹. All 34 Non-Member tuna longline vessels identified in this analysis were flagged to China.

事務局は、利用可能な AIS データを用いて、2024 年 3 月から 8 月にかけて CCSBT 統計海区 14、2 及び 8 の交差点周辺海域で活動した 34 隻以上の非メンバーまぐろはえ縄漁船を特定した。本解析で特定されたこれら 34 隻の非メンバーまぐろはえ縄漁船はいずれも中国船籍であった。

Based on available data, the majority of these vessels seem to have arrived in the area in mid-March 2024 with most effort concentrated in CCSBT Area 8 through March and April before effort appears to transfer gradually to CCSBT Area 2 through the month of May. The fleet then moves to Area 14 through early to mid-June before moving back to Area 2 in early to mid-July. They remain in Area 2 until early to mid-August when they gradually begin moving north and transiting out of the CCSBT statistical areas. The times of greatest overlap with known CCSBT authorised vessels appeared to have occurred in May, June, and July 2024. These vessels have been active in the area in previous years and images 3, 4 and 5 below show the areas of activity for this fleet for the past three years.

利用可能なデータによれば、これらの漁船の大部分は 2024 年 3 月半ばに同海域に到着し、3 月から 4 月にかけては漁獲努力量の大部分が CCSBT 統計海区 8 に集中し、その後は 5 月頃まで CCSBT 統計海区 2 に徐々に移動していくようである。その後の 5 月初旬から 6 月にかけて、船団は海区 14 に移動し、7 月初旬から中旬頃に海区 2 に戻っていく。船団は 8 月初旬から中旬まで海区 2 に留まり、その後は徐々に北上して CCSBT 統計海区から退出していく。既知の CCSBT 許可漁船をの重複が最大化したと思われる時期は 2024 年 5 月、6 月及び 7 月であった。これらの漁船は例年本海域で活動しており、下の図 3、4 及び 5 は過去 3 年におけるこれらの船団の活動範囲を示したものである。

⁹ No Seychelles' flagged vessels have been identified from available AIS data as being active in this area in 2024. 2024 年に同海域で活動したセイシェル船籍漁船は利用可能な AIS データからは特定できなかった。

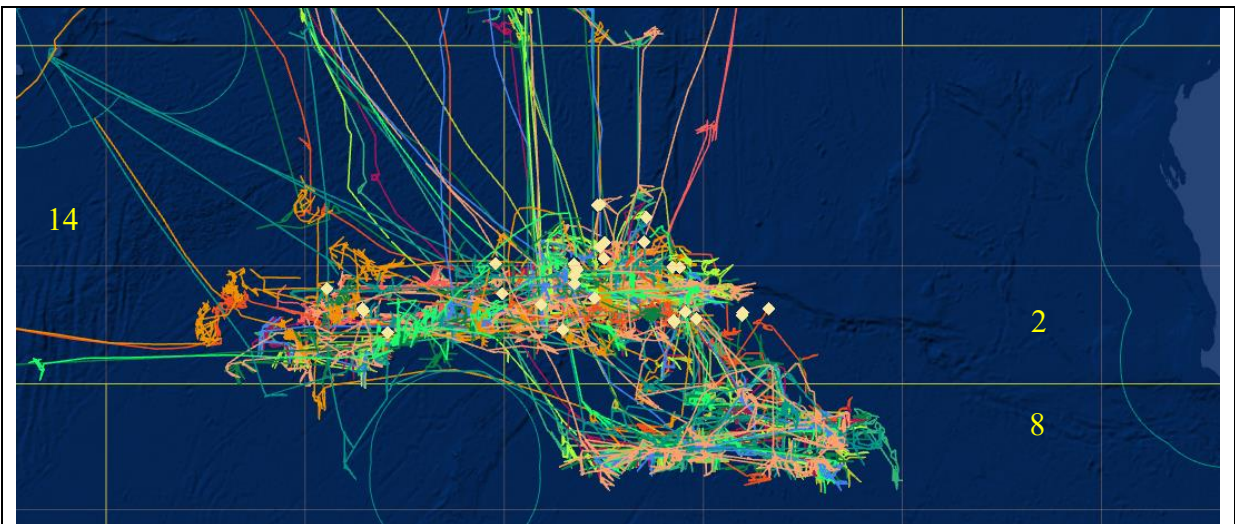


Image 3: AIS reported positions for Non-Member longline vessels active in areas consistent with SBT catches - March to August inclusive 2024

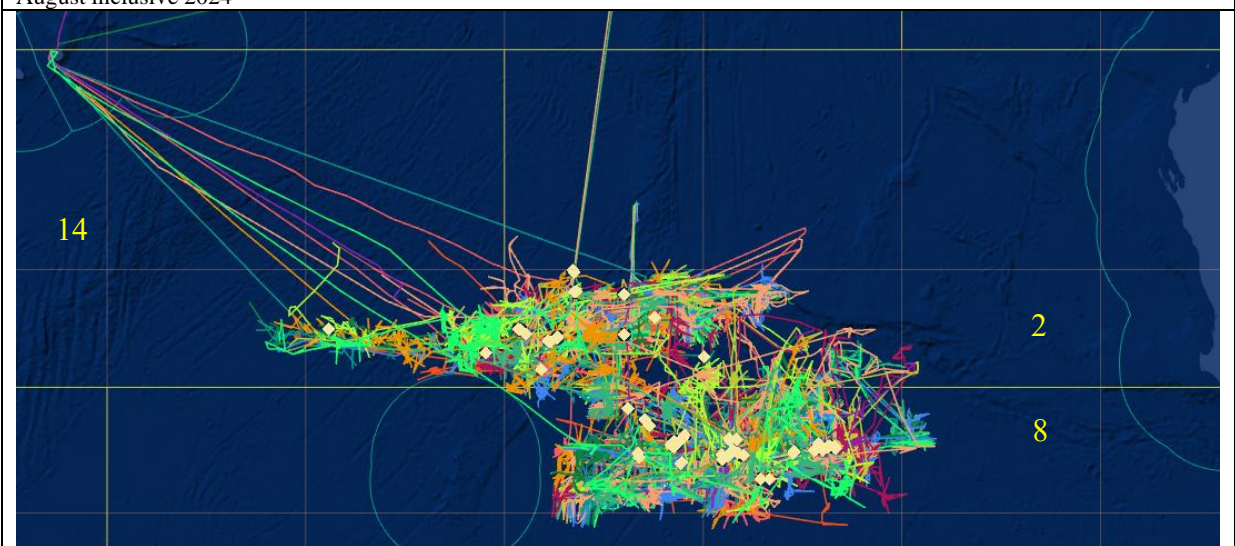


Image 4: AIS reported positions for Non-Member longline vessels¹⁰ active in areas consistent with SBT catches - March to August inclusive 2023

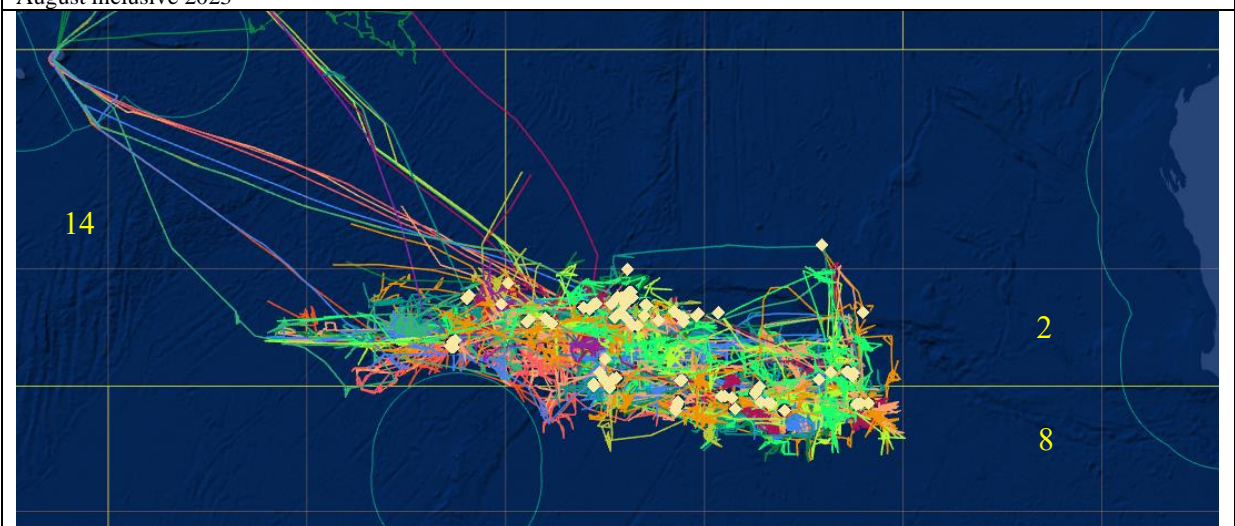


Image 5: AIS reported positions for Non-Member longline vessels active in areas consistent with SBT catches - March to August inclusive 2022

¹⁰ One Seychelles flagged vessel was also active in this area in 2023, and this vessel is discussed further in the JAC report included as Attachment A to this paper. また 2023 年は 1 隻のセイシェル船籍漁船が稼働し、当該漁船は本文書別紙 A に示した JAC 報告書でさらに検討されている。

The reported AIS positions for these Non-Member tuna longline vessels between March to August (inclusive) 2023 show a strong correlation with the areas of reported SBT catches in 2023 (see image 6)¹¹.

2023年3月から8月までの期間にこれらの非メンバーまぐろはえ縄漁船について報告された AIS 位置データによれば、2023年に SBT の漁獲が報告された海域と強い相関がある（図 6 を参照）。

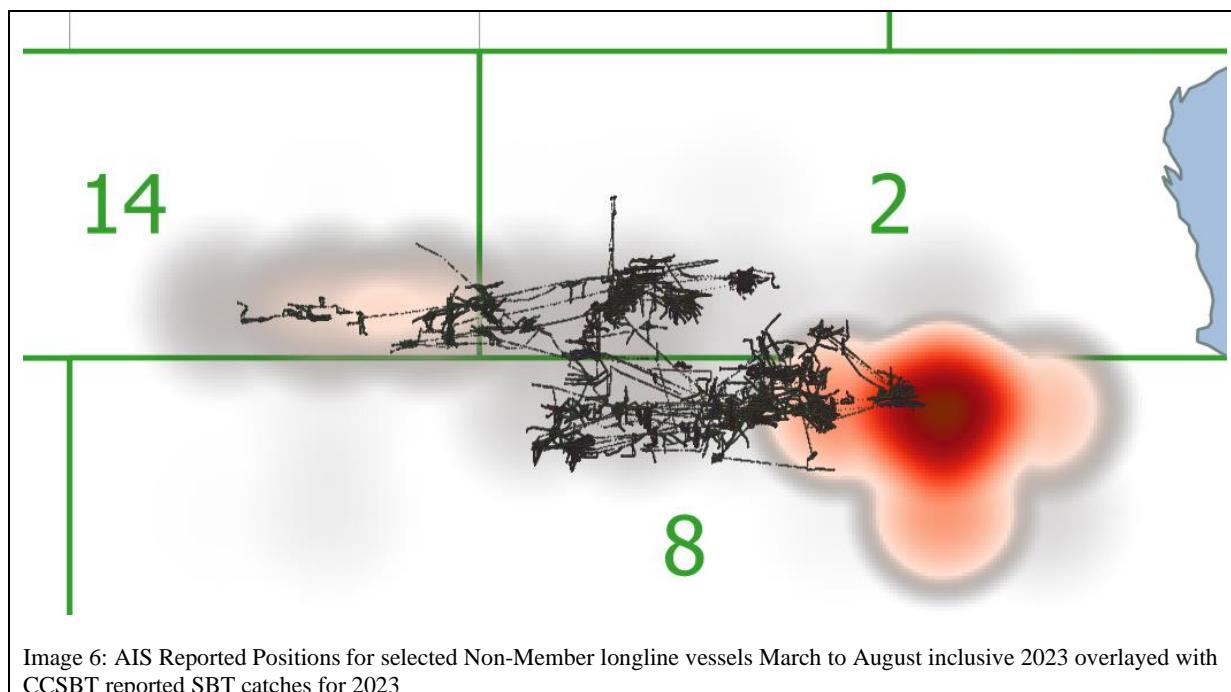


Image 6: AIS Reported Positions for selected Non-Member longline vessels March to August inclusive 2023 overlaid with CCSBT reported SBT catches for 2023

Noting that there can be temporal differences between where vessels may be catching SBT, the areas in which these Non-Member tuna longline vessels were active during May 2023 were compared with the available AIS data for a sample of authorised CCSBT longline vessels that were active in the same area during the same month and that reported SBT catches. When the areas of activity for these two fleets of longline vessels are compared (see image 7) there again appears to be a strong overlap¹².

漁船が SBT を漁獲している可能性がある海域間で時間的な差異がある可能性があることを踏まえ、2023年5月にこれらの非メンバーまぐろはえ縄漁船が稼働していた海域を、同月に同海域で稼働しかつ SBT の漁獲を報告した許可 CCSBT はえ縄漁船をサンプルにした利用可能な AIS) データと比較した。これら二つの船団のはえ縄漁船による活動海域を比較した場合（図 7）、やはり重複が大きいように見える。

¹¹ Image 6 shows only a sample (six vessels) of the Non-Member flagged tuna longline vessels identified as active in the area to ensure that the heatmap areas showing SBT catch are still visible. 図 6 は、SBT の漁獲を示すヒートマップが見えるようにするため、該当する海域において稼働したことが特定された非メンバー船籍はえ縄漁船のサンプル（6 隻のみ）を表示している。

¹² There is only a sample of each fleet that is displayed in this image to ensure that the areas of activity are visible and can be distinguished. 活動海域の視認性を確保するとともに区別しやすいようにするため、この図で表示したのは各船団のうちのサンプルのみである。

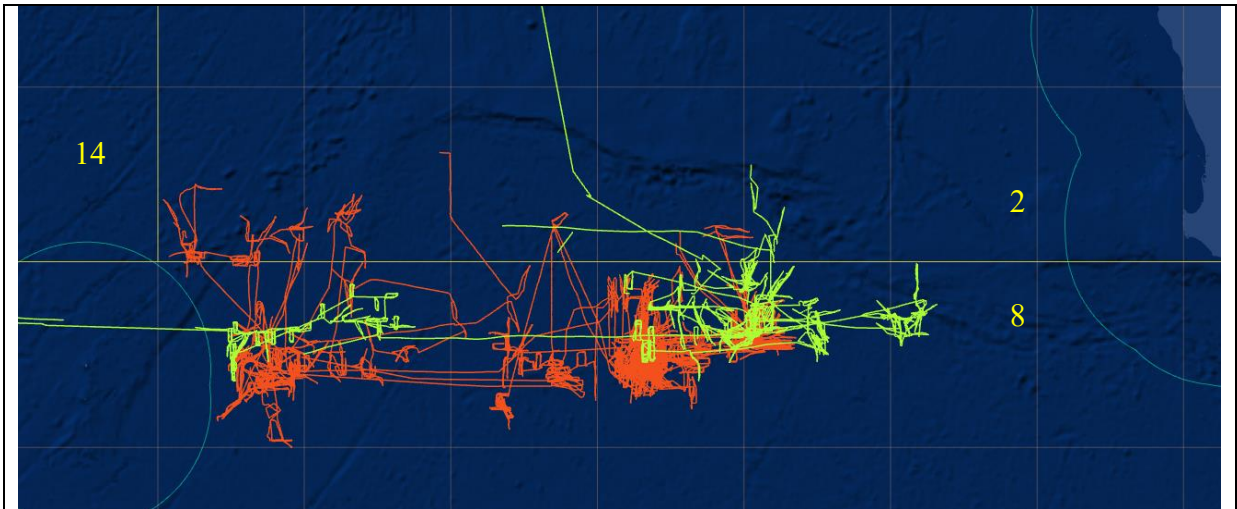


Image 7: AIS reported positions for Non-Member longline vessels (orange) active in areas consistent with SBT catches and CCSBT authorised vessels (Green) that reported SBT catches – May 2023

These Non-Member tuna longline vessels seldom enter port around the period of interest for potential SBT catches, but some of these vessels will return to Port Louis, Mauritius before or after this period and conduct suspected transshipment activities in port.

これらの非メンバーまぐろはえ縄漁船が SBT の漁獲が期待される時期に寄港することは極めて稀であるが、一部漁船は該当する時期の前又は後にモーリシャスのポートルイスに帰港し、港内転載活動が疑われる行動を行った。

The Secretariat has also identified three carrier vessels that appear to be encountering these Chinese flagged tuna longline vessels in the area of interest between March and August (inclusive) and it is suspected that at-sea transshipments are occurring. The carrier vessels are all IOTC authorised but are not CCSBT authorised carrier vessels. The carrier vessel details, as shown on the IOTC Record of Authorised Vessels (RAV), are included in the table below: また事務局は、3月から8月までの期間に当該海域においてこれらの中国船籍まぐろはえ縄漁船と邂逅したと思われる3隻の運搬船を特定した。これらの運搬船はいずれも IOTC において許可されているが、CCSBT 許可運搬船ではない。IOTC 許可船舶記録 (RAV) に記載されている運搬船の詳細情報は下表のとおりである。

CV Name	CV IRCS	CV Flag	CV IMO Number
BAO WIN	H3OD	PANAMA	9109263
FUTAGAMI	3FCH7	PANAMA	9105293
FENG LU	3ERI4	PANAMA	9003158

Table 1: Carrier vessel details from IOTC RAV for vessels identified as conducting encounters with Chinese Longline Vessels in Areas Consistent with SBT Catches.

The locations of suspected encounters between these three carrier vessels and the Non-Member tuna longline vessels in the area of interest over the last three years are shown in the images 8, 9 and 10.

過去3年における同海域でのこれら3隻の運搬船と非メンバーまぐろはえ縄漁船との間の邂逅が疑われる位置を下図8、9及び10に示した。

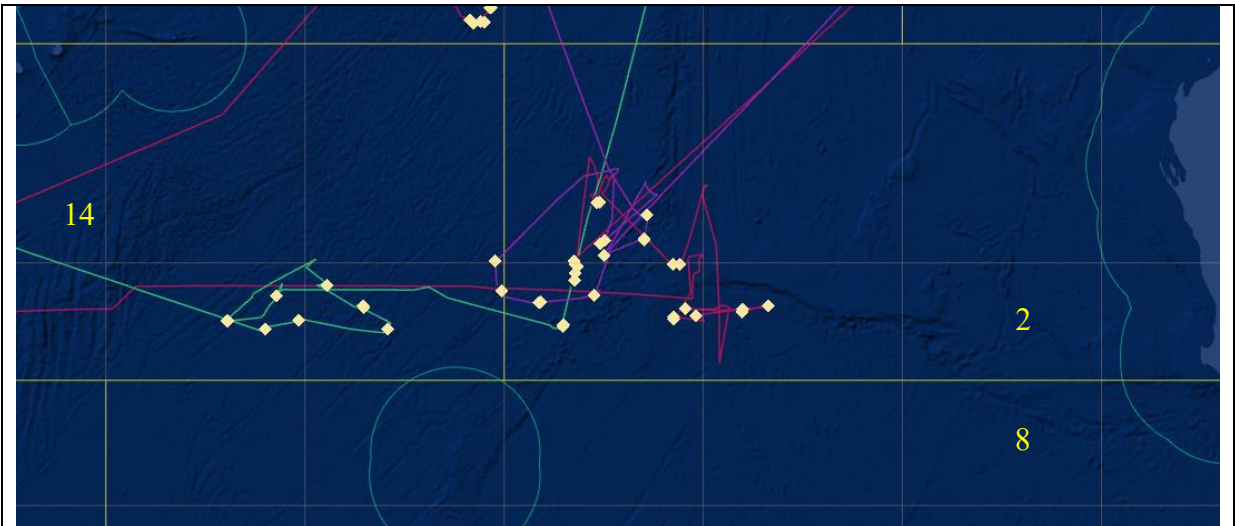


Image 8: Suspected vessel encounters between carrier vessels and Non-Member fishing vessels in area of interest (shown as yellow diamonds) - March to August inclusive 2024. Carrier vessels Bao Win (Purple) Futagami (Green) and Feng Lu (Red).

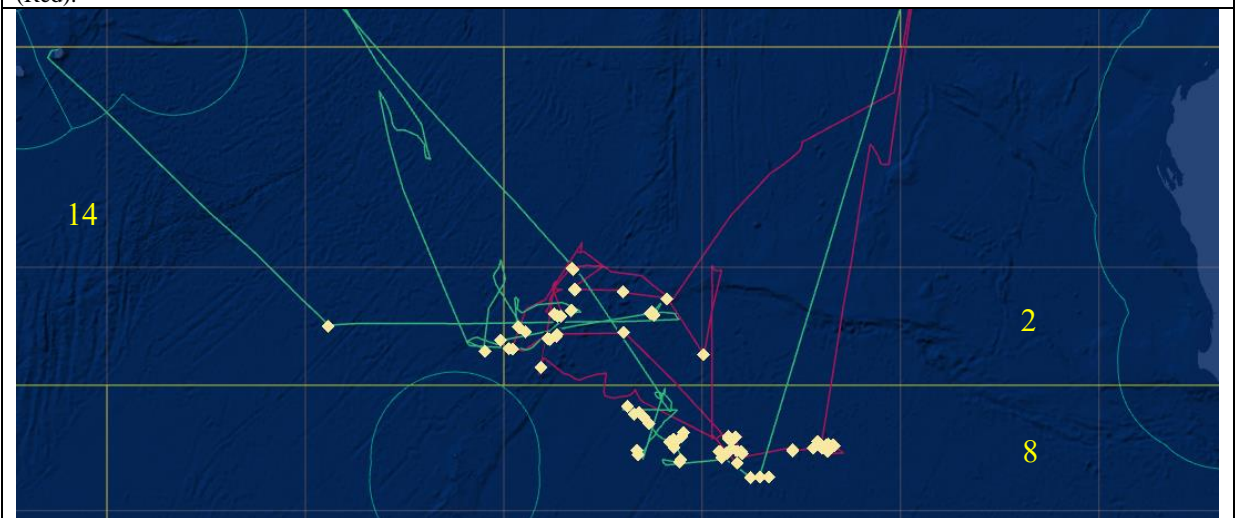


Image 9: Suspected vessel encounters between carrier vessels and Non-Member flagged fishing vessels in area of interest (shown as yellow diamonds) - March to August inclusive 2023. Carrier vessels Futagami (Green) and Feng Lu (Red).

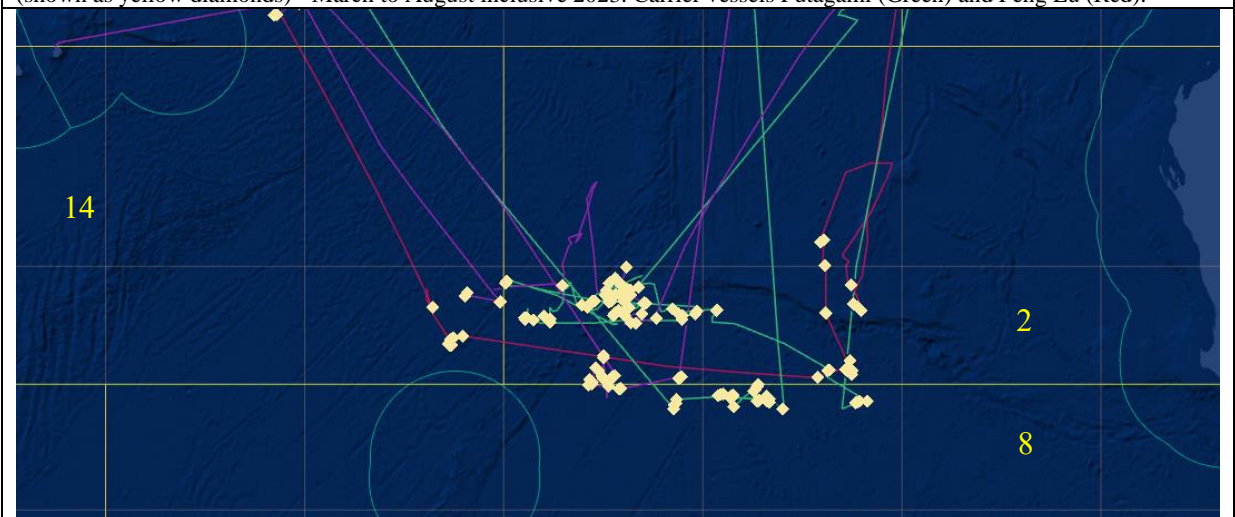


Image 10: Suspected vessel encounters between carrier vessels and Non-Member flagged fishing vessels in area of interest (shown as yellow diamonds) - March to August inclusive 2022. Carrier vessels Bao Win (Purple), Futagami (Green) and Feng Lu (Red).

In the last three years, the carrier vessels have all transited directly back to ports in China¹³ following encounters with these Non-Member longline vessels in the area of interest. So, the

¹³ Ningbo-Zhoushan and Shidao ports. 寧波・舟山港及び石島港

opportunities for Members to inspect the catch onboard these vessels are currently limited. However, following these initial suspected unloading events in Chinese ports, these carrier vessels have also sometimes conducted port calls in Busan, Korea and Shimizu Port, Japan. These port calls may present an opportunity for targeted inspections for possible SBT, noting however that these vessels have likely already unloaded a large proportion of the fish onboard before arriving in these Member ports.

過去3年間において、これらの運搬船はいずれも、当該海域での非メンバーはえ縄漁船との邂逅後、中国の港に直接帰港している。したがって、現状では、これらの船舶が船上に保持する漁獲物をメンバーが検査する機会は限定的である。しかしながら、中国の港での最初の荷下ろしの後、これらの運搬船は釜山（勸告）及び清水港（日本）にも寄港する場合がある。これらの寄港のタイミングが SBT の可能性がある積載物に対象を絞った検査の機会となる可能性があるものの、これらの運搬船は、メンバーの港に到着する前に、船上に保持していた魚の大部分を既に荷下ろししてしまっている可能性が高い。

7. Summary

まとめ

The Secretariat invites Members to:

事務局は、メンバーに対して以下を招請する。

- Note the communication with Non-Members since CC18;
CC 18 以降の非メンバーとの連絡状況について留意すること。
- Discuss the reported SBT catch reported to ICCAT by Brazil;
ブラジルが ICCAT に報告した SBT の漁獲について検討すること。
- Discuss the JAC analysis report provided to CCSBT;
CCSBT に対して提供された JAC 解析報告書について検討すること。
- Note the balance remaining with TMT in the contingency fund for ad-hoc analysis;
TMT によるアドホック解析向けの臨時基金の残額について留意すること。
- Note the increasing activity by Non-Member tuna longline vessels in areas where SBT catches are common;
SBT が一般的に漁獲される海域における非メンバーまぐろはえ縄漁船による活動の増加に留意すること。
- Encourage Members to conduct targeted inspections of the carrier vessels identified in this paper¹⁴, focussing on identifying the presence of SBT, should any of these carrier vessels request entry to a Member's port; and
メンバーに対し、本文書で特定された運搬船のうちいずれかがメンバーの港への寄港を要請した場合、SBT を船上に保持しているかどうかの特定に焦点を置いて、これらの運搬船に対して対象を絞った検査を実施するよう奨励すること。
- Report back to the CC on the result of any such targeted inspection.
上記のような対象を絞った検査の結果を CC に報告すること。

Prepared by the Secretariat

事務局作成文書

¹⁴ BAO WIN, FUTAGAMI and FENG LU

Fisheries Intelligence Report

12 March 2024

Vessel Report - CCSBT vessels of interest

Report number	JAC-014
Report type	Intelligence request
Report subject	Vessels of interest identified by CCSBT - non-CCSBT authorised vessels that have been identified operating close proximity to vessels targeting southern bluefin tuna
Issue date	12 March 2024
Security notes	No confidential information

Summary

Six vessels of interest were identified by CCSBT that are not on the CCSBT Record of Authorised Vessels but have been observed to operate in close proximity to vessels targeting southern bluefin tuna. These include three vessels flagged to Mauritius and three flagged to Seychelles, however two of the Seychelles flagged vessels did not operate in the IOTC / CCSBT area¹ in 2023, so are not included in this analysis.

All four vessels conducted their 2023 operations in the CCSBT area over a single voyage, with duration lasting from 1.5 to 5 months. The majority fished in waters to the south and southeast of

¹ Noting that CCSBT is a species and not an area based RFMO, when the term 'CCSBT area' is used in this report it refers to waters in the CCSBT statistical areas, in this region (the Indian Ocean) between 20 and 60 degrees south. CCSBT primary area refers to waters between 30S and 50S, which is the predominant range of southern bluefin tuna as confirmed by previous CCSBT correspondence with Global Fishing Watch.

Madagascar, with one (NF YUYO NO. 1) fishing as far as 104E. Catch data to 2022 indicates that reported catch levels of southern bluefin tuna are significantly lower in the area / period where NF TUNA PEAK, NF TUNA PEAK NO. 1 and NF YU YO NO. 6 were operating, and higher in the area / period where NF YU YO NO. 1 was fishing. The most likely transshipment or landing points for catch taken in the CCSBT area appear to be either reefer transshipment at sea (a small number of encounters were detected in the CCSBT area, all with reefers operated by the Japanese company MRS Corp), or in Port Louis, Mauritius, which was in all cases the first port visited after fishing in the CCSBT area.

The vessels' AIS coverage was relatively good whilst operating in the CCSBT area, compared to their operations in the northern Indian Ocean, where coverage was generally worse. Two AIS gaps of duration greater than 12 hours were detected - however as the vessels are all authorised to fish and tranship in the area via IOTC authorisation, the motivation for these, if deliberate, is unclear.

All four vessels appear on the official 'FOC list' of Taiwanese-owned, foreign flagged vessels maintained by the Taiwan Fisheries Agency, and sources indicate that they are all under the same beneficial ownership in Taiwan. They are operated through two companies, one registered in Taiwan and one registered in Mauritius.

None of the information identified can indicate definitively whether the vessels are catching southern bluefin tuna, although historic catch data indicates that the risk is significantly higher for NF YU YO NO. 1. States relevant to the operations of these vessels in the CCSBT area that could be engaged in follow-up steps include Mauritius, as a potential point of transshipment or landing (as well as flag State); Taiwan, as beneficial owner State; Japan, as the beneficial owner State of the encountered reefers (and likely market State) and Seychelles, as flag State.

Analysis

Six vessels of interest were identified by CCSBT, that have been observed to operate in close proximity to vessels targeting southern bluefin tuna, but are not themselves on the CCSBT Record of Authorised Vessels. As a result there is potential that these vessels could be engaged in unauthorised fishing for southern bluefin tuna.

Vessel operations

The six vessels include three flagged to Mauritius - NF YUYO NO. 6, NF TUNA PEAK and NF TUNA PEAK NO. 1, all of which are currently authorised to operate in the IOTC area; as well as three flagged to the Seychelles - NF YUYO NO. 1, CHIA and FULL ALWAYS NO. 168 - of which NF YUYO NO. 1 is currently authorised to operate in the IOTC area, CHIA was authorised to end 2022 and FULL ALWAYS 168 was reportedly broken up in late 2022. Full vessel details are provided in the Annex to the report.

AIS data indicates that CHIA departed the Indian Ocean to return to Taiwan in September 2022, with last transmissions received from Kaohsiung, Taiwan in May 2023. On that basis, this analysis will focus primarily on the four vessels that are still operating in the Indian Ocean. Operational analysis is focused on 2023.

Fishing operations

AIS indicates that during 2023, all four vessels operated in the high seas to the south / southwest of Madagascar, and NF YUYO NO. 1 also operated in waters as far east as 104E, with all vessels showing movement patterns consistent with longlining activity. For the purpose of this analysis, operations were considered to be of interest if they took place in the CCSBT primary area, as defined in the Global Fishing Watch Map (through previous consultation with CCSBT), which is a rectangle bounded by 20W to the west, 175W to the east, 30S to the north and 50S to the south.

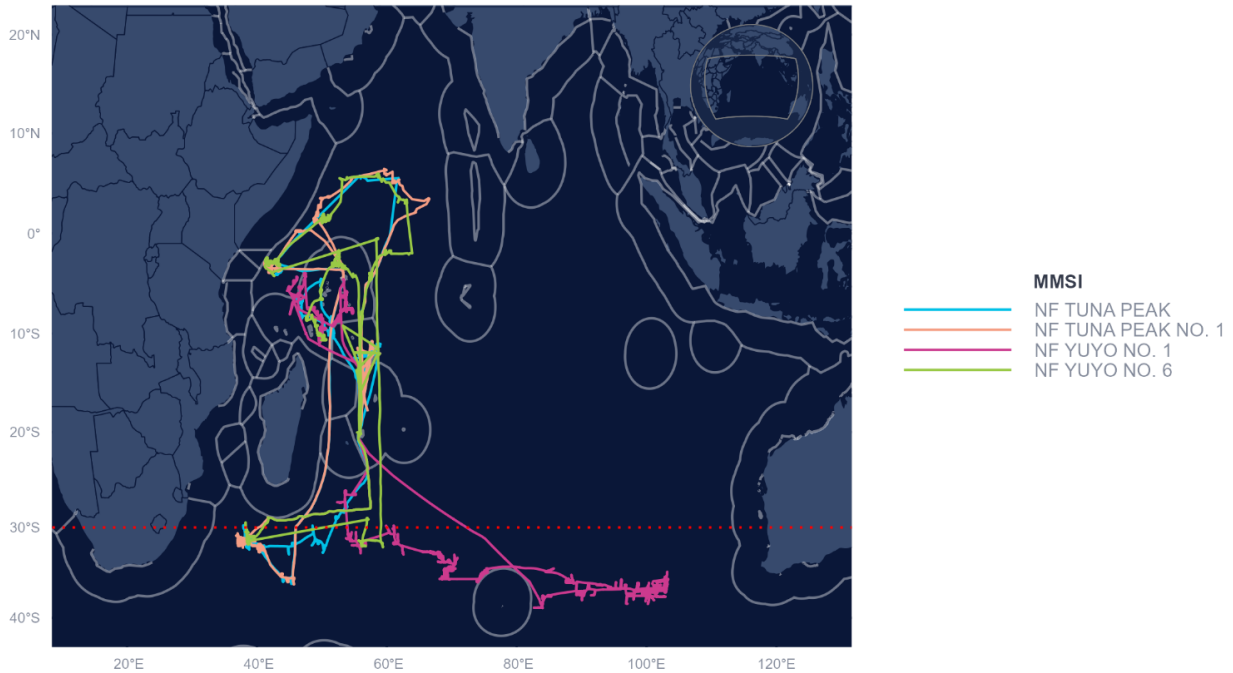


Figure 1: Map of AIS activity of the CCSBT vessels of interest between 1st January 2023 to 31st December 2023. The northern boundary of the CCSBT primary area is shown with the red dashed line.

All four vessels conducted their 2023 fishing operations in the CCSBT area over the course of a single voyage, lasting 1-2 months (during June and July) in the case of NF TUNA PEAK, NF TUNA PEAK NO. 1 and NF YUYO NO. 6. By contrast, NF YUYO NO. 1 operated in the CCSBT primary area over the course of five months (March to August) and fished over a wider area.

Whilst all four vessels had detected fishing operations in the CCSBT primary area, cross-referencing these with available CCSBT catch data indicates that catch rates (number of southern bluefin tuna retained) by longline vessels are significantly higher in the areas / periods where NF YU YO NO. 1 was operating compared to the other vessels. In 2022, no southern bluefin tuna retention was reported in the longitudes where NF TUNA PEAK and NF YU YO NO. 6 were operating during their period of fishing June - July, and a low total of 32 sbt was reported for June in statistical areas bounded by 35 - 30E, where NF TUNA PEAK NO. 1 was operating. By contrast, retention figures >1000 were reported for several of the longitudes / periods where NF YU YO NO. 1 operated. The same pattern is seen when looking at aggregated catch data for the last five years available (2018 - 2022), with the highest retention reported in longitudes/periods where NF YU YO NO. 1 was

operating, low (but not zero) retention in the areas where NF TUNA PEAK and NF YU YO NO. 6 were operating and intermediate rates reported in 35 - 30E where NF TUNA PEAK NO. 1 was operating. However it should be noted that NF TUNA PEAK NO. 1 was only fishing approximately 50nm to the west of NF TUNA PEAK and NF YU YO NO 6, albeit in a different 5° longitude band, so the likelihood of catching southern bluefin tuna may not be significantly different between these three vessels. See tables in Annex for further details.

Encounters and port visits

Global Fishing Watch encounters data and Skylight rendezvous data were utilised to identify at-sea encounters by these vessels either occurring in the CCSBT primary area or directly after periods of operations there during 2023. Two of the four vessels of interest each had one detected encounter with a refrigerated cargo vessel during 2023, with no reefer encounters detected for NF TUNA PEAK or NF TUNA PEAK NO. 1. Both reefer encounters were with the CHITOSE (9666508), flagged to Singapore and operated by MRS Corp (or MRS Co Ltd, part of the Japanese Torei Group²) - currently authorised to IOTC, and authorised to CCSBT by Japan, Taiwan and Korea.

In addition to these reefer encounters, Skylight rendezvous events indicating potential at-sea encounters with tankers or other fishing vessels were also identified. These include a rendezvous between NF TUNA PEAK and NF TUNA PEAK NO. 16, another Seychelles flagged longliner that is not authorised to fish or carry southern bluefin tuna. Like the vessels of interest, this vessel also shows movements consistent with longlining activity, and has fished in waters to the southwest, south and southeast of Madagascar in the CCSBT primary area. A rendezvous event on 20 July 2023 between NF YUYO NO. 6 AND NF TUNA PEAK NO. 1 occurred during an extended period when it appears that the two vessels were travelling in very close convoy over a distance of approximately 1400nm, whilst en route back from fishing grounds in the CCSBT primary area to Port Louis, Mauritius (figure 2). Tracks indicate that this may have been due to mechanical issues on board NF YUYO NO. 6.

² <https://www.toyoreizo.com/english/outline/group.html>

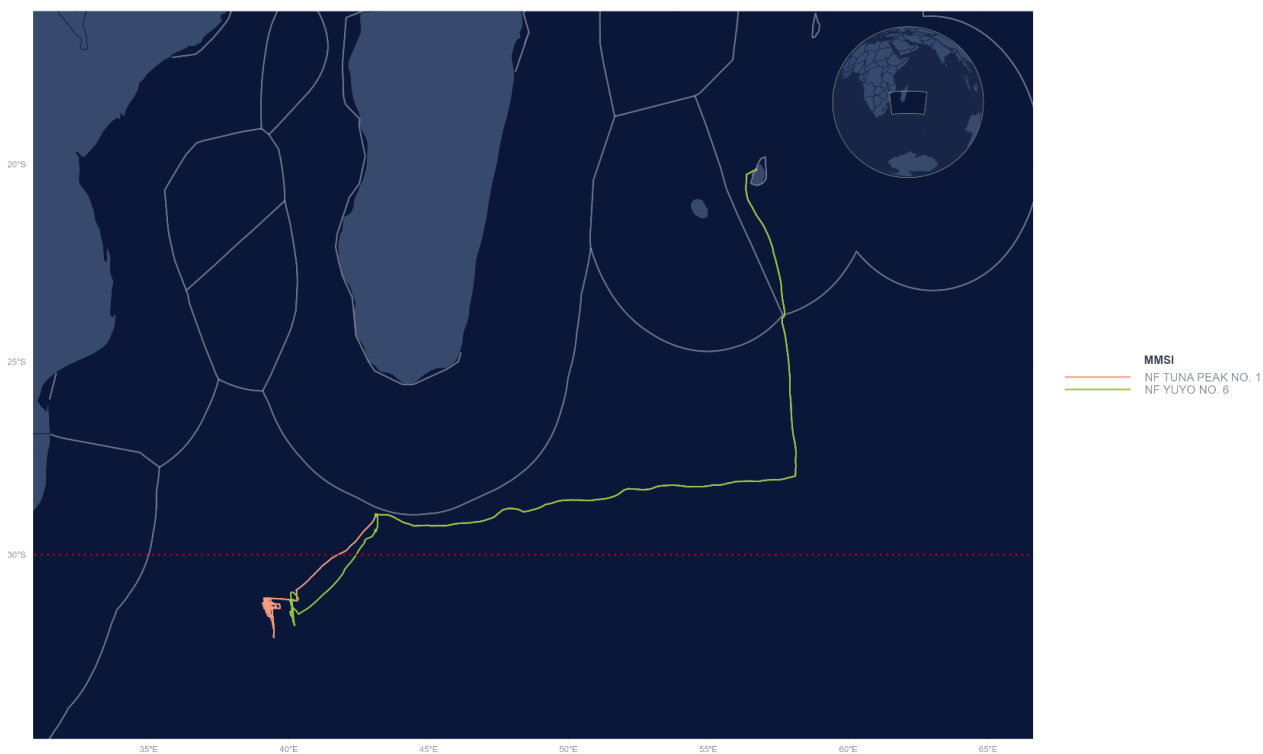


Figure 2: AIS activity of CCSBT Vessels of Interest NF TUNA PEAK No. 1 (MMSI 645659000) and NF YUYO NO.6 (MMSI 645663000) in the southern Indian Ocean between 7th and 25th July 2023. The northern boundary of the CCSBT primary area is shown with the red dashed line.

Due to the low number of events from which to infer operating patterns, encounters and rendezvous data for 2022 were also analysed. This showed a very similar pattern. There were two detected reefer encounters, both with the YACHIYO, flagged to Panama, and also operated by MRS and authorised to IOTC and CCSBT. In addition, two of the vessels had a detected rendezvous with a fishing vessel, involving another of the vessels of interest or the NF TUNA PEAK NO. 16.

VOI name	Partner vessel name	Partner vessel type	Encounter date	Location	Source
2023 encounters					
NF YUYO NO. 6	CHITOSE	Reefer	23/06/2023	40nm north of the primary area	GFW, Skylight
NF YUYO NO. 6	NF TUNA PEAK NO. 1	Fishing vessel	20/07/2023	In close proximity over extended period, north of primary area	Skylight
NF TUNA PEAK	TUNA PEAK NO. 16	Fishing vessel	26/07/2023	CCSBT primary area	Skylight

NF YUYO NO. 1	GLOBAL ACE	Tanker	08/07/2023	CCSBT primary area	Skylight
NF YUYO NO. 1	CHITOSE	Reefer	19/06/2023	CCSBT primary area	GFW, Skylight
NF YUYO NO. 1	FORTUNE 18	Tanker	22/04/2023	CCSBT primary area	Skylight
2022 encounters					
NF YUYO NO. 1	YACHIYO	Reefer	21/06/2022	CCSBT primary area	GFW
NF YUYO NO. 6	HAI SOON 39	Tanker	29/06/2022	CCSBT primary area	Skylight
NF TUNA PEAK	TUNA PEAK NO. 16	Fishing vessel	03/09/2022	40nm north of the primary area	Skylight
NF TUNA PEAK	TUNA PEAK NO. 16	Fishing vessel	29/08/2022	10nm north of the primary area	Skylight
NF TUNA PEAK	YACHIYO	Reefer	22/06/2022	CCSBT primary area	GFW, Skylight
NF TUNA PEAK	NF YUYO NO. 1	Fishing vessel	05/06/2022	CCSBT primary area	Skylight

Table 1: Detected encounters and rendezvous events for the vessels of interest in the CCSBT area 2022-2023. Vessel of interest names indicated in bold in both columns.

The detection of encounters with fishing vessels is a potential point of interest, as cases have been identified of longliners acting as unauthorised carrier vessels ('mini reefers'), sometimes concealing the unauthorised origin of catch by claiming to have caught it themselves. However, in this case all detected fishing vessel rendezvous were with other vessels not authorised to CCSBT, and all vessels involved show tracks consistent with longlining activity, so there are no indications from AIS that these vessels are engaging with mini-reefers. Whilst it is notable that all detected fishing vessel to fishing vessel encounters by these vessels take place while the vessels are operating in the CCSBT area (primary or close to it), this may partly reflect the worse AIS coverage when the vessels are operating north of Mauritius, with greater numbers of AIS gaps meaning that any potential rendezvous are less likely to be detected.

All four vessels made port visits to Port Louis, Mauritius during 2023, and all with the exception of NF YUYO NO. 6 also visited Port Victoria, Seychelles. Port Louis was in all cases the first port visited after fishing operations in the CCSBT area.

Name	Port visited prior	End date of port visit prior	Port visited after	Start date of port visit after
NF YUYO NO. 6	n/k - vessel departed Port Louis on 22/02/2023 but had significant AIS gaps during its operations in the following		Port Louis	25/07/2023

	months, during which a visit to Port Victoria could have taken place			
NF TUNA PEAK	Port Victoria	30/05/23	Port Louis	04/08/2023
NF TUNA PEAK NO. 1	Port Victoria	30/05/2023	Port Louis	25/07/2023
NF YUYO NO. 1	Port Louis	06/03/2023	Port Louis	04/08/2023

Table 2: Voyage details for fishing trips that included operations in the CCSBT area in 2023

These findings indicate that the most likely transshipment or landing point for catch taken in the CCSBT area in 2023 was in Port Louis; and catch from NF YUYO NO. 1 and YUYO NO. 6 could also have been transhipped to the reefer CHITOSE (note that both vessels continued fishing in the CCSBT area after their reefer encounter). No vessel encounters taking place in Port Louis were detected for any of these vessels during 2023, suggesting that catch may have been offloaded in Port Louis, although it is also possible that reefer encounters either in port or at sea were not detected, as machine-learning based events datasets are not expected to be 100% complete, and detection is particularly challenging in ports.

AIS coverage and AIS gaps

Three of the four vessels - NF YUYO NO. 6, NF TUNA PEAK and NF TUNA PEAK NO. 1, had relatively low rates of AIS coverage (defined as the % of at-sea voyage hours that had at least one transmission on AIS). However in each of these cases, the majority or all of the 12hr+ gaps in AIS transmissions occurred during the vessel's period of operations further north, outside the CCSBT area.

Two of the four vessels had one AIS gap of 12 hours or more during their period of operations in the CCSBT area, including a 5 day gap for NF YUYO NO. 6 that started just to the north of the CCSBT primary area, directly after an encounter with the reefer CHITOSE, and ended inside it; and a 16 hour gap for NF YUYO NO. 1 that occurred 100+ miles to the north of the CCSBT primary area after an extended period of operations within it.

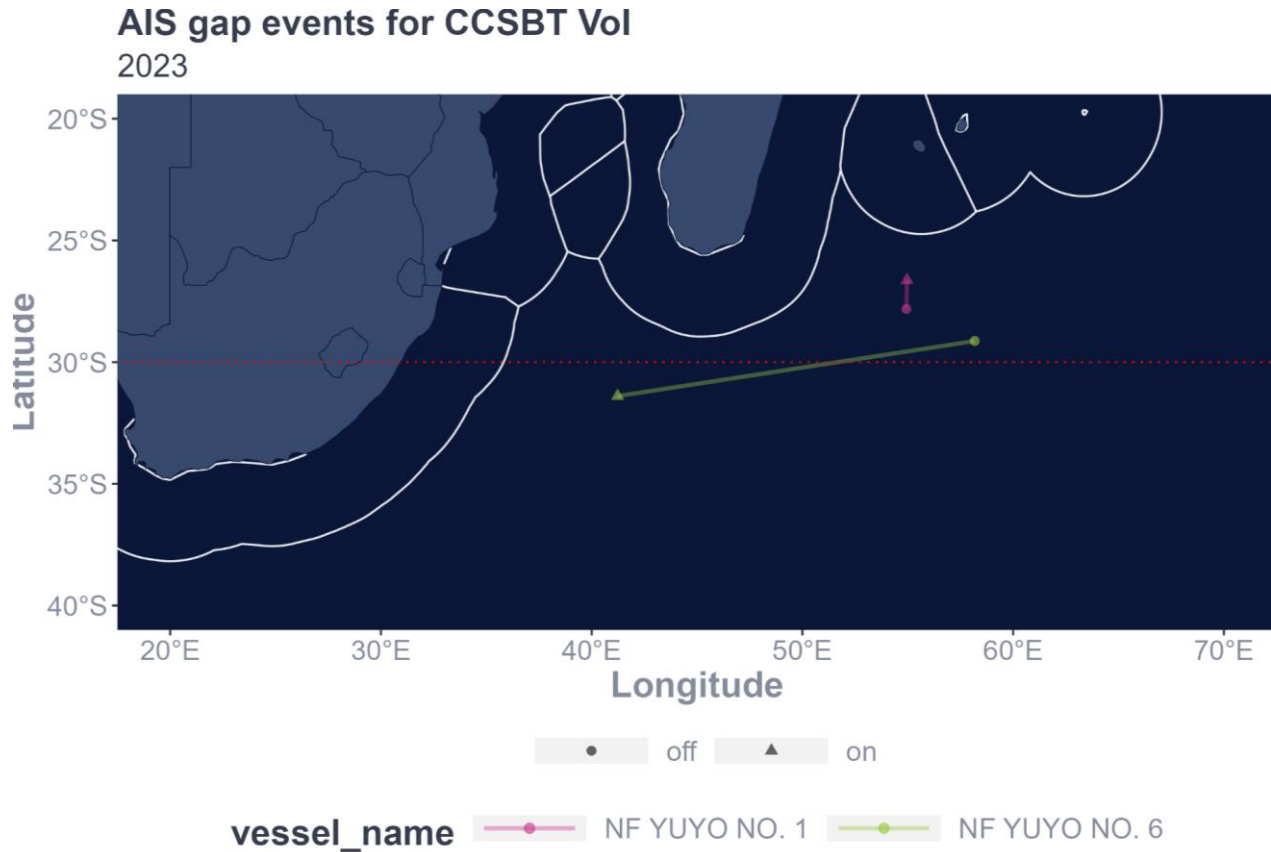


Figure 3: Location of AIS gaps observed by the CCSBT Vessels of Interest between 1st January 2023 and 31st December 2023 within the CCSBT area. The northern boundary of the CCSBT primary area is shown with the red dashed line.

Name	AIS coverage ³	Dates / duration of AIS gaps >12 hrs in the CCSBT area	Distance covered / inferred speed	Identified as a potential AIS disabling event by GFW
NF YUYO NO. 6	42%	23/06/23 - 28/06/23; 5 days	890nm / 7 knots	Yes
NF TUNA PEAK	39%	None		
NF TUNA PEAK NO. 1	27%	None		
NF YUYO NO. 1	87%	30/07/23- 30/07/23; 16 hrs	72nm / 4.5 knots	Yes

Table 3: AIS coverage and details of AIS gaps of 12 hours duration or longer occurring in the CCSBT area during 2023

Both of the AIS gaps in the CCSBT area were identified as potential AIS disabling events by GFW - this means that they are considered likely to result from a pause in AIS transmissions from the vessel, rather than any issue with satellite coverage / reception. There are multiple possible explanations for such a gap, including technical failure of the AIS unit on board the vessel and the possibility that AIS

³ Defined as the portion of at-sea voyage hours during the preceding 12 months (as of 22 November 2023) that had at least one AIS transmission. Note that this is an annual average, and in all cases vessels had better AIS coverage while operating in the CCSBT area compared to fishing grounds further north

was deliberately switched off. As the vessels were fishing in an authorised area at the time (IOTC), the purpose of deliberately disabling AIS is not clear, but it is possible that vessel encounters could have occurred during these periods. Inferred speed during these gaps was not above 7 knots, suggesting that vessels did conduct fishing or other operations during these periods. It seems likely that NF YUYO NO. 1 may have had an encounter with NF TUNA PEAK shortly after its AIS transmissions stopped on 30 July - with a transmission from NF TUNA PEAK (travelling at the low speed of 0.9 knots) detected less than 2 miles from the last pre-gap transmission from NF YUYO NO. 1, just 13 mins after that occurred.

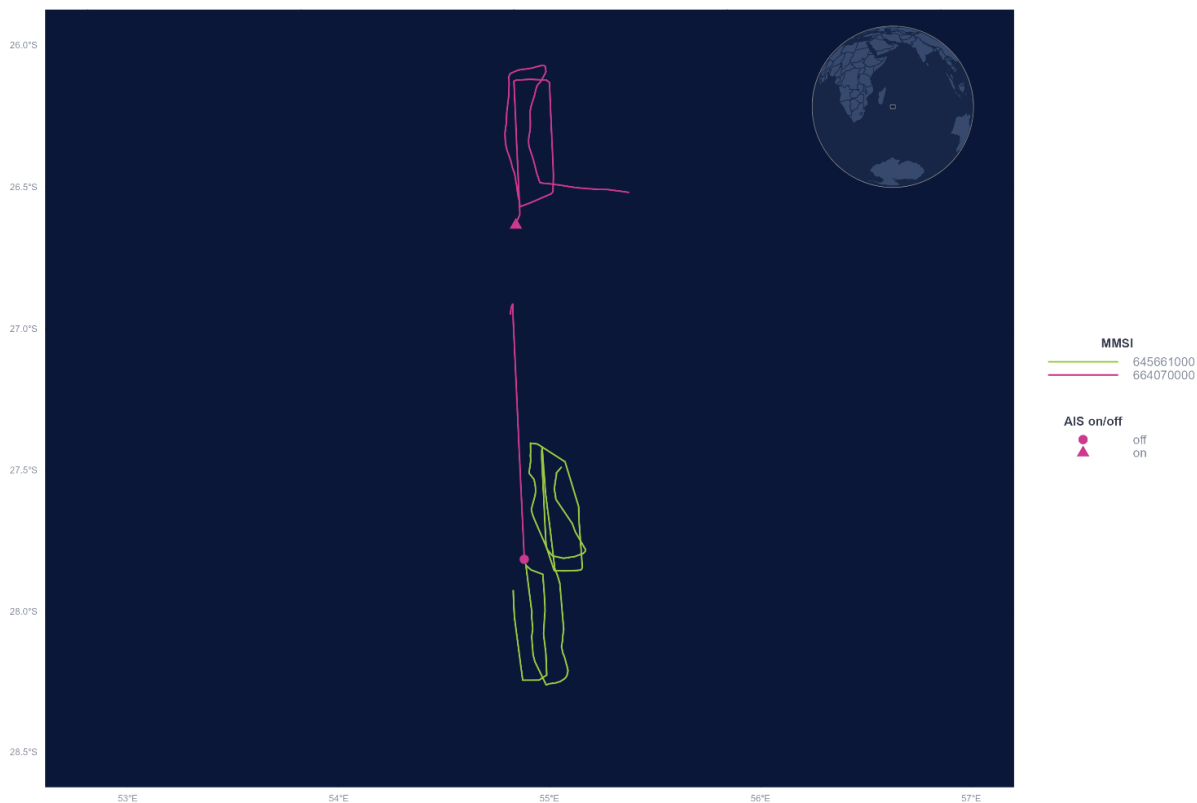


Figure 4: AIS activity of CCSBT Vessels of Interest NF TUNA PEAK (MMSI 645661000) and NF YUYO NO.1 (MMSI 664070000) in the southern Indian Ocean between 30th and 31st July 2023.

Company linkages

All four of the vessels of interest appear on the 'FOC list'⁴ maintained by the Taiwan Fisheries Agency, indicating that they are beneficially owned by Taiwanese nationals. This document includes a partial name value for vessel owner and indicates that all four vessels share an owner or part-owner⁵, named as 柯○○ (Ke XX). The website of Shing Sheng Fa Shipbuilding Co Ltd, where all four of the

⁴ https://www.fa.gov.tw/redirect_file.php?theme=LOCPLBTCOA&id=16088 (latest version at time of writing, dated 17 January 113/2023). See <https://www.fa.gov.tw/list.php?theme=LOCPLBTCOA&subtheme=&page=1&> for all available versions

⁵ TUNA PEAK and TUNA PEAK NO. 1 are listed as owned by this individual 'and two others'

vessels were built, indicates that NF YUYO NO. 1⁶, NF YUYO NO. 6⁷ and NF TUNA PEAK NO. 1⁸ are all under the ownership of a company referred to as Neptune Fishery. While the shipyard website does not include information on the NF TUNA PEAK, which is owned by Lion Peak Neptune Fishery Ltd (registered in the Seychelles), it should be noted that the Taiwanese company registry includes a company named Seychelles Lion Peak Neptune Fishery Ltd (塞席爾商海獅漁業股份有限公司), owned by an individual named Ko Chun Wei Jackson (柯俊璋) - the first Chinese character in this name is a match for the owner name in the FOC list despite different spelling in Latin script. This partial name match across company and individual, suggests that this individual is likely the beneficial owner of the vessels.

All four vessels are listed in the SeaWeb database of vessels with IMO numbers as being operated by Deepsea Fisheries Management Ltd (遠東海洋事務有限公司⁹), a Taiwanese registered company with an office address at Room 418, 4th Floor, 3, Yugang E 2nd Road, Qianzhen District, Kaohsiung City, China, Republic of (Taiwan)¹⁰. The legal representative and controlling shareholder of this company is listed as Haoran Chan (陳浩然)¹¹. Deepsea Fisheries Management Ltd is listed in SeaWeb as the operator of a large number of Taiwanese-flagged or owned vessels that operate in the Indian Ocean, including two with a history of reported or suspected non-compliance with fisheries regulations: POSEIDON and SHUENN PERNG NO. 202, both flagged to the Seychelles, were amongst a number of vessels that were found to have fished illegally in the EEZ of Tanzania in 2011-2012, using fraudulent fishing licenses¹². In addition, POSEIDON was fined in 2017 for having shark fins onboard with no corresponding carcasses¹³. However, there are no indications that vessels operated by Deepsea Fisheries Management are all under the same beneficial ownership and company sources do not indicate that these vessels share ownership with the vessels of interest.

The three vessels flagged to Mauritius are listed in the IOTC authorised vessel list as being operated by Malik Resources Co Ltd, with an office address in St Denis Street G13, St. James Court, Port Louis. ¹⁴ Three individuals are listed as office bearers of Malik Resources Co Ltd, Directors and shareholders Chen George Chia Chi (60% shareholder) and Tahalooa Parmanand (40% shareholder) and secretary Chung Sit Dennis. ¹⁵ Chung Sit Dennis and Tahalooa are also believed to be officers for Port Agency Services (Mauritius) LTD. registered to the same address as Malik Resources Co Ltd. ¹⁶ Based on these findings, Taiwan, Mauritius and Seychelles should all be considered as relevant countries for any follow-up regarding the operations of these vessels, in their roles variously as beneficial owner, operator, flag and port States.

⁶ <https://www.ssf.com.tw/en/news/news-036.html>

⁷ <https://www.ssf.com.tw/en/news/news-038.html>

⁸ <https://www.ssf.com.tw/en/news/news-042.html>

⁹ <https://www.twincn.com/item.aspx?no=50805570>

¹⁰ SeaWeb and other sources

¹¹ Taiwan Company Registry

¹² <https://stopillegalifishing.com/publications/fake-licensing-operation-uncovered-in-tanzania/> - full list of vessels involved is source confidential

¹³ <http://m.seychellesnewsagency.com/articles/8245/Seychelles-flagged+vessel+fined++%2C+for+illegal+shark+fin+haul#sthash.oyhs6cEj.uxf5>

¹⁴ Mauritius official corporate registry <https://onlinesearch.mns.mu/>

¹⁵ Mauritius official corporate registry <https://onlinesearch.mns.mu/>

¹⁶ Mauritius official corporate registry <https://onlinesearch.mns.mu/>

Annex

Details of CCSBT identified vessels of interest:

Name	Flag	IMO	Callsign	MMSI	Gear	Owner	Operator	Authorisations
NF YUYO NO. 6	Mauritius	9820491	3B2439	645663000	Longline	Uni-Neptune Fishery Ltd	Malik Resources Co Ltd / Deepsea Fisheries Management Ltd	IOTC 2022 - present
NF TUNA PEAK	Mauritius	9807504	3B2437	645661000	Longline	Lion Peak Neptune Fishery Ltd	Malik Resources Co Ltd / Deepsea Fisheries Management Ltd	IOTC 2022 - present
NF TUNA PEAK NO. 1	Mauritius	9823900	3B2435	645659000	Longline	JK Neptune Fishery Ltd	Malik Resources Co Ltd / Deepsea Fisheries Management Ltd	IOTC 2022 - present
NF YUYO NO. 1	Seychelles	9813931	S7SH	664070000	Longline	Uni-Neptune Fishery Ltd	Uni-Neptune Fishery Ltd / Deepsea Fisheries Management Ltd	IOTC 2016 - present

2018 - 2022 cumulative:

Month	25	30	35	40	45	50	55	60	65	70	75	80	85	90	95	100	105
1	0			188													
2		0															
3	0	137	379	2338	435	2		2	1778	1944			122	159	619	481	74
4	2672	2314	2038	5298	11656	28	1	28	2408	3746		112	152	251	498	2412	314
5	5941	1865	146	650	9207				377	2641	257	1104	1459	1056	2569	3466	767
6	9087	1213	1257	270	829				248	6447	7750	7027	5247	5075	5793	1663	197
7	7739	1238	1958	494	1	34	224	863	4620	14022	16567	13916	8922	4995	2928	3185	22
8	412	1372	1979	478	33		47	1131	5030	9198	3171	3511	3949	2198	4961	86278	6222
9	210	498	70	66		13		17	630	310	18	193	177		338	31509	4107
10	174	226	160														1359
11	0	0	0														
12	0	0	0														

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JOINT ANALYTICAL CELL



C4ADS



About the Joint Analytical Cell:

The Joint Analytical Cell, or JAC, provides authorities with fisheries intelligence, data analysis and capacity building to help combat illegal, unreported and unregulated fishing. Founded by the International Monitoring, Control and Surveillance Network, Global Fishing Watch and TMT, the initiative's members also include C4ADS and Skylight. By harnessing innovative technology and the complementary expertise of its collaborating organizations, the JAC fosters cooperation among State and non-State actors to build insights and capacity to help enhance fisheries management.

Contact: jac-coord@tm-tracking.org

www.imcsnet.org

www.globalfishingwatch.org

www.tm-tracking.org

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