Preparation of Taiwan's Southern bluefin tuna catch and effort data submission for 2020

Abstract

The Southern bluefin tuna (SBT) fishery data submitted to the Extended Commission of the Commission for the Conservation of Southern Bluefin Tuna (CCSBT) from Taiwan includes total catch by fleet, aggregated catch and effort, catch-at-size, catch-at-age and non-retained catch data. The data submitted is compiled from the electronic logbook (e-logbook) data and catch documentation scheme (CDS) data collected from authorized SBT fishing vessels with cross checking against VMS data, observer data and traders' sales records. No discrepancy found among datasets on catch.

1 Introduction

The Overseas Fisheries Development Council (OFDC) is entrusted by the Fisheries Agency of Taiwan (FA) to compile SBT fishery data, and responsible for providing SBT fishery data to CCSBT as per the Data Exchange Rule.

According to CCSBT Data Exchange Rule, we have submitted 5 fishery data in April 2021, namely:

- Total catch data by fleet for 2019 and 2020 by quota year and by calendar year.
- Aggregated catch and effort data for 2019 and 2020.
- Catch at size data for 2019 and 2020.
- Catch at age data for 2019 and 2020.
- Non-retained catch data for 2019 and 2020.

2 Data Sources

To compile SBT fishery data, our fishery statistics system includes several fishery data, including e-logbook data transmitted daily by fishing vessels, CDS data, observer data and VMS data of authorized SBT fishing vessels.

2.1 E-logbook data

Since April 2015, all SBT authorized fishing vessels have been required to report

their fishing data through e-logbook system and data fields of e-logbook are as the same as paper logbook, in addition, the weekly catch reports of individual fishing vessel is terminated for 100% SBT fishery data being collected in a real time manner. For the quota monitoring, the fish length and weight, and tag number of individual SBT catch retained have been required to report through e-logbook system to the FA since 2016. Appendix A-1, A-2 and A-3 are the forms of the E-logbook, and the data fields in e-logbook include:

(1) General information - information of vessel identification and trip operation.
(2) Fishing effort - information on characters of fishing operations, hooks deployed per set, number of hooks deployed between float etc.
(3) Retained and non-retained catch by species in number and weight.
(4) Length and weight measurement of first 30 fish retained.
(5) Length, weight, and tag number of individual SBT catch retained.

2.2 CDS data

Catch certification is collected from catch monitoring document of CCSBT and traders' sales of SBT. The data fields include:

(1) Vessel identification.
(2) Information on operation date, total number and weight for whole fish of catches.
(3) Intermediate product destination section, including transshipment information or landing in intermediate port for export.
(4) Final product destination information.
(5) Traders' sales information on real weight of SBT catch delivered to buyers.

2.3 Observer data

The data fields collected by observer include:

(1) Vessel identification and trip information.
(2) Gear configuration, location information of setting and hauling, and fishing effort deployed.
(3) Information of individual catch, including length and weight, fate and gender.

2.4 VMS data

All authorized SBT fishing vessels are required to install VMS for monitoring operations.

3 Data compilation

The annual catch estimate of SBT is compiled from CDS data and e-logbook data, which include catch and effort data, catch-at-size data and non-retained catch data.

3.1 Definition of fishing season

The fishing season for Taiwanese SBT fishery is corresponding with the operating information, and the definition of fishing season is based on the detailed information of e-logbook data.

3.2 Spatial Definitions

The spatial division of fishing area is in accordance with the CCSBT statistical area definition, and the VMS data is used to validate fishing location recorded in e-logbook.

4 Data Validation

There are only 2 foreign ports designated by the FA of Taiwan for SBT landing and transshipment of its flagged vessels since March 2010, namely Port Louis, Mauritius and Port of Cape Town, South Africa, and the government officials of the FA stationed at these 2 Port are responsible for inspection and supervising the operations of SBT landing and transshipment. The Cianjhen Fishing Port in Kaohsiung, Taiwan, has been designated for landing SBT by carrier vessels or fishing vessels domestically with 100% inspection of landing operations.

All SBT landing and transshipment declarations are validated with e-logbook and CDS data. The fishing position recorded in e-logbook and CDS is validated with VMS data. In addition, the observer data is included in process of cross-checking to examine the position and catch information recorded in e-logbook of observation fishing vessels. No discrepancy has been observed.

Appendix A-1

Daily fishing record（translated from Chinese）

□Operation □Navigation □Malfunction □Berth in port □Landing □ Transhipment	Registration Number/name	CT□-□□□□/	Date of Set(UTC)	YY/MM/DD	Time of Set(UTC)	
	Main Line material	□Think rope □Thin Rope □Nylon braided □Nylon monofilament	Branch line material	□nylon monofilament line □Wire trace □Other	Length of branch line	M
			No. of branch line (No. of hooks between float)			
	Sea Surface Temperature	℃	Length between Float Line	M	Length of float line	M
Position （at noon） Latitude： Longitude	Bait used		Length between Branch	M	Mitigation measures: □Tori lines □Night setting with minimum deck lighting □Line weighting:Within ___ m of the hook attached ___g	
	No. of light-sticks		Total number of hooks			

Catch detail	Weight Retained(kg)	Number Retained	Weight Discarded (kg)	Number Discarded	Catch detail	Weight Retained(kg)	Number Retained	Weight Discarded (kg)	Number Discarded
Albacore≦10 kg					Longfin mako shark				
Albacore >10 kg					Thresher shark				
Bigeye tuna ≦15kg					Bigeye thresher shark				
Bigeye tuna 16-25kg					Pelagic thresher shark				
Bigeye tuna 26-40kg					Porbeagle shark				
Bigeye tuna >40kg					Winghead hammerhead shark				
Yellowfin tuna ≦15kg					Smooth hammerhead shark				
Yellowfin tuna 16-25kg					Scalloped hammerhead shark				
Yellowfin tuna >25kg					Crocodile shark				
Southern Bluefin tuna ≦15kg					Tiger shark				
Southern Bluefin tuna 16-25kg					Great White shark				
Southern Bluefin tuna 26-40kg					Other shark				
Southern Bluefin tuna >40kg					Kawakawa				
Other tuna					Frigate tuna				
Bonito, skipjack					Bullet tuna				
Swordfish ≦25kg					Longtail tuna				
Swordfish 26-45kg					Indo-Pacific king mackerel				
Swordfish >45kg					Narrow-barred Spanish mackerel				
Striped marlin ≦40kg					Mahi mahi				
Striped marlin >40kg					Oil fish（castor）				
Blue marlin					Oil fish（escolar）				
Black marlin					Wahoo				
Sailfish					Moonfish				
Shortbill spearfish					Pomfret				
Other marlins					Mola Mola				
Blue shark					Other fish				
Silky shark					Sea turtle				
Oceanic whitetip shark					Sea bird				
Shortfin mako shark					Whale and Dolphin				

Appendix A-2

Record on length and weight (Unit: cm in length and kg in weight) Type of Weight Measurement: □ Estimating Onboard □Weighing Onboard □ Ocular Estimation

Species code	Length	Weight	Species code	Length	Weight	Species code	Length	Weight	Species code	Length	Weight	Species code	Length	Weight	Species code	Length	Weight

Captain signature：_____

Species code (Species name)：

1. Albacore 2. Bigeye tuna 3. Yellowfin tuna 4. Bluefin tuna 5. Skipjack 6. Swordfish 7. Striped marlin 8. Blue marlin 9. Black marlin
10. Other marlins 11. Southern Bluefin tuna 13. Other fish 14. Other tuna 15. Sailfish 16. Shortbill spearfish 17. Longbill spearfish
19. White marlin 22. Mahi Mahi 51. Blue shark 52. Silky shark 53. Shortfin mako shark 54.Other shark 55. Longfin mako shark
58.Oceanic white tip shark 59. Bigeye thresher shark 60. Pelagic thresher shark 61.Thresher shark 62. Whale shark 63. Great white shark
64.Tiger shark 65.Porbeagle shark 66. Crocodile shark 67.Winghead hammerhead shark 68. Scalloped hammerhead shark
69. Great hammerhead shark 70. Smooth hammerhead shark 71. Oil fish（castor） 72. Oil fish（escolar）

Appendix A-3

INFORMATION OF SOUNTH BLUEFIN TUNA

Vessel name：　　Registration number：CT　-

Date for report：DD/MM/YYYY

list	TAG Number (TW□□-□□□□□□)	Weight (Gill and Gutted) (unit：Kg)	Lenght (Fork Length) (unit：cm)