

Preparation of Taiwan's Southern bluefin tuna catch and effort data submission for 2019

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. There's 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 collected data, and is responsible for processing SBT fishery data provided annually to CCSBT as part of the annual data exchange.

According to CCSBT Data Exchange Rule, we have submitted 5 fishery data in April 2019, namely:

- Total catch data by fleet for 2017 and 2018 by quota year and by calendar year.
- Aggregated catch and effort data for 2017 and 2018.
- Catch at size data for 2017 and 2018.
- Catch at age data for 2017 and 2018.
- Non-retained catch data for 2017 and 2018.

2 Data Sources

To compile SBT fishery data, our fishery statistics system includes several fishery data, including paper logbook collected from fishing vessels, 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 termination due to the E-logbook system have been conducting routinely. For the quota monitoring, the fish length and weight measurement, 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) SBT Catch information related length, weight and tag number of individual 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.
- (3) Information of individual catch, including length and weight measurements, fate and gender information.

2.4 VMS data

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

operations. The E-logbook data and CDS data collected from authorized SBT fishing vessel with cross checking against VMS data to confirm the operation location information recorded in E-logbook data.

3 Data compilation

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

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 the E-logbook data.

3.2 Spatial Definitions

The spatial division of fishing area is in accordance with the CCSBT statistical area definition, and the operating location information is collected from the E-logbook data with cross checking against VMS data.

4 Data Validation

There are only 2 foreign ports have been designated by 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 Chienchen Fishing Port in Kaohsiung, Taiwan, has been designated for domestic landing of SBT by carrier vessels or fishing vessels. The FA has dispatched officials to supervise all of SBT catch since September, 2009.

All inspection and supervision in each port would make sure the SBT catch to consistent with E-logbook data and CDS data. Besides, the position or catch information recorded of E-logbook data, VMS data and CDS data are cross-checked each other, then any discrepancies would confirmed with original data. In addition, the observer data is included in process of cross-checking to examine the position or catch information recorded. It has not found any discrepancy among datasets on catch.

Appendix A-1

Daily fishing record (translated from Chinese)

<input type="checkbox"/> Operation <input type="checkbox"/> Navigation <input type="checkbox"/> Malfunction <input type="checkbox"/> Berth in port <input type="checkbox"/> Landing <input type="checkbox"/> Transshipment		Registration Number		CT-□□□□		Date of Set		YY/MM/DD		Time		
		Main Line material		<input type="checkbox"/> Think rope <input type="checkbox"/> Thin Rope <input type="checkbox"/> Nylon braided <input type="checkbox"/> Nylon monofilament		Branch line material		<input type="checkbox"/> Nylon <input type="checkbox"/> Other		Length of branch line		M
		Sea Surface Temperature		℃		Length between Float Line		M		Length of float line		M
		Bait used				Length between Branch		M		No. of branch line (No. of hooks between float)		
Position (at noon)		Latitude : Longitude		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						Other marlins						
Albacore >10 kg						Blue shark						
Bigeye tuna ≤ 15kg						Silky shark						
Bigeye tuna 16-25kg						Oceanic whitetip shark	/	/				
Bigeye tuna 26-40kg						Shortfin mako shark						
Bigeye tuna >40kg						Longfin mako shark						
Yellowfin tuna ≤ 15kg						Bigeye thresher shark						
Yellowfin tuna 16-25kg						Thresher shark						
Yellowfin tuna >25kg						Pelagic thresher shark						
Southern Bluefin tuna ≤ 15kg						Porbeagle shark						
Southern Bluefin tuna 16-25kg						Winghead hammerhead shark						
Southern Bluefin tuna 26-40kg						Scalloped hammerhead shark						
Southern Bluefin tuna >40kg						Great hammerhead shark						
Bluefin tuna						Smooth hammerhead shark						
Other tuna						Whale shark	/	/				
Swordfish ≤ 25kg						Crocodile shark						
Swordfish 26-45kg						Tiger shark						
Swordfish >45kg						Great White shark						
Striped marlin ≤ 40kg						Other shark						
Striped marlin >40kg						Bonito, skipjack						
White marlin ≤ 40 kg						Mahi mahi						
White marlin > 40 kg						Oil fish (castor)						
Blue marlin						Oil fish (escolar)						
Black marlin						Other fish						
Sailfish						Sea turtle	/	/	/	/		
Shortbill spearfish						Sea bird	/	/	/	/		
Longbill spearfish						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 : _____ Observer 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 21. Oil fish 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

