

8th MEETING OF THE SCIENTIFIC COMMITTEE

New Zealand, 3 to 8 October 2020

SC8-Doc21

China Observer Implementation Report

China

China Observer Program Implementation Report 2019

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Summary

China Observer Program has been implemented for the pelagic trawl fishery and squid jigging fishery in 2019. Observers are well trained and then deployed to fishing vessels based on scientific sampling design and coverage rate requirements. For the pelagic trawling fishery in 2019, a total of 90 fishing days and 137 tows were observed, which accounted for 41.5% (calculated by fishing days) and 38.5% (calculated by tows) of the total efforts. For the squid jigging fishery in 2019, three observers were deployed on five vessels. In addition, three jigging vessels severed as studying vessels. A total of 726 fishing days including 251 fishing days from the studying vessels were observed. In 2019, no birds were found to be caught by the jiggers or entangled by the lines. In addition, no marine mammals, sharks, or reptiles were recorded to be caught by the observers.

1. *Description of the observer program*

Authorized by the government, Shanghai Ocean University (SHOU) has been responsible for the observer program since 2007. Initially, the program concentrates on placing observers on pelagic trawlers in the SPRFMO Convention area for biological data collection of jack mackerel. In the same year, China Distant Water Fishery Association (CDWFA) cooperated with SHOU to send scientific observers onboard to collect fishery and environmental data to support the scientific research for jumbo flying squid in the Southeast Pacific.

In 2015 the National Data Center for Distant-water Fisheries (NDCDF), located at SHOU, was founded and took full responsibility for fishery data collection and China Distant-water Fishing Observer Programme. The observer program is financed by the government and organized by Shanghai Ocean University's College of Marine Sciences structurally, which are responsible for observer missions onboard the Chinese fishing vessels and scientific data collection. The Chinese squid jigging vessels in the SPRFMO Convention area, as well as the studying vessel, were incorporated into the program in 2018.

2. Observer training

The candidates for the observers are required at least high school pass as a minimum to be eligible and received training. The training courses, including skills on data collection (length measurement, sex and maturity determination, data recording), and management measures, are made of four parts as follow:

- a) Fisheries management and CMMs of SPRFMO;
- b) Skills of data collection, sampling, measuring;
- c) Knowledge of navigation and communication devices operation;
- d) Safety on the sea.

The Certificate received by the observers on their successful completion of all training courses is issued by the Government. Observers were chosen and received special training at SHOU before embarking.

Captains of the studying vessels are also received simple training focused on data recording, sampling skills, method and process of sample preservation and length measurement. Furthermore, data templates on fishing activities and length frequency developed by NDCDF are supplied to the captains.

Trainers are from the highly qualified personal teaching at the College of Marine Science at the Shanghai Ocean University, and most of them had been severed as observers in the past and also have other qualifications of expertise.

3. Program design and coverage

The observer program was designed to collect representative biological data and to meet the requirements of related CMMs of SPRFMO, such as coverage rate. For this purpose, the studying vessels from the squid jigging fishery were designated to collected length data, other than placing observer on board. To reduce the interference to the operations of the vessel and improve the accuracy of data, the mission of studying vessels is to collect and store the samples and ensure that these samples can be delivered to SHOU in good condition.

The details of the 2019 observer program are shown in table 1. An observer embarked on the trawler, KAI FU HAO, at ZHOU SHAN Port on January 18, began to work on 26 February till KAI FU HAO stopped fishing on 31 July. A total of 90 fishing days and 137 tows were observed, accounted for 41.5% (calculated by fishing days) or 38.5% (calculated by tows) of the total effort, and met the 10% observer coverage requirement

of CMM01-2019.

For the squid jigging fishery, three observers were placed on board of five vessels, NING TAI 66, 61, 69, 62, and ZHOU PU 5 respectively in 2019, and there were other three jigging vessels to be observed as the studying vessels. A total of 726 fishing days including 251 fishing days from the studying vessels were observed.

Observer Baolin Wang boarded NING TAI 66 at the Port of Chimbote on June 19 2018 and reached the northern fishing area to work on June 21, 2018. Later he switched to NING TAI 69 on 22 March 2019 and worked until 17 May 2019. In September 2019, Baolin Wang served as observer again and embarked on NING TAI 62 and worked for 50 days. Observer Shixin Liu departed from Shanghai on March 12, 2019, arrived in Lima, and embarked on NING TAI 61 on March 13. He started the observer mission on March 18, worked till November 25 and observed 246 fishing days. Observer Yuehui Cai also left Shanghai by air on October 27, and took a Chinese fishing vessel at Lima to the fishing ground. Yuehui Cai embarked on ZHOU PU 5 on November 2, disembarked on December 23 and observed 48 fishing days.

Table 1 Details of the 2019 observer programme

Trip	Fishery	Period	Observer/ Studying vessel	Observed vessel	Name	Observed fishing days
1	Pelagic trawl	26 Feb – 31 Jul 2019	Observer	KAI FU HAO	Gaoshen Yang	90
2	Squid jigging	18 Mar – 25 Nov 2019	Observer	NIN TAI 61	Shixin Liu	246
3	Squid jigging	1 Jan – Mar 21 2019*	Observer	NINGTAI 66	Baolin Wang	77
4	Squid jigging	22 Mar- 17 May 2019	Observer	NINGTAI 69	Baolin Wang	54
5	Squid jigging	5 Sep – 25 Nov 2019	Observer	NING TAI 62	Baolin Wang	50
6	Squid jigging	2 Nov – 22 Dec 2019	Observer	ZHOU PU 5	Yuehui Cai	48
7	Squid jigging	1 -21 Jan 2019	Studying vessel		NING TAI 61	6
8	Squid jigging	9 Jun – 10 Nov 2019	Studying vessel		NING TAI 62	155
	Squid	1 Oct – 31	Studying		LU YAN	90

	jigging	Dec 2019	vessel		YUAN YU 16	
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Note: the observer embarked NING TAI 66 on 14 Jun 2018 at Chimbote Port.

4. Tpye of data collected

Based on the CMM 02-2019 about data standards, the observer collected catch and effort data, biological data and other relevant information. Furthermore, the observers also monitored and recorded the fishing activities, discards, by-catch species, transshipment.

The observers collected length composition information from the catch, and some specimens were randomly selected to weight and identify sex and maturity; otherwise, the observer collected some extra samples. These extra samples were bagged with waterproof tag (data, latitude and longitude), frozen on board and transported to the lab of SHOU finally to measure mantle length, weight, sex, maturity, stomach fullness and so on. Some hard structures and muscular tissues of jumbo flying squid were extracted for age reading, trace element, isotope testing and genetic study.



Figure 1 Photographs of the sea birds around the vessel taken by the observer.

Table 2 Transshipment operation observed

Date and time	Position	Species	Product type	No of cartons	Total of product	Observer
2019/01/12 09:00	100.4 W 3.30 S	GIS	Frozen in 20 kg	4,000	80,000	Baolin Wang
2019/02/02 02:00	107.9 0W 2.10 S	GIS	Frozen in 20 kg	3,000	60,000	Baolin Wang

2019/02/19 09:00	101.30 W 1.70 S	GIS	Frozen in 20 kg	4,000	80,000	Baolin Wang
2019/05/08 09:00	82.40 W 11.30 S	GIS	Frozen in 20 kg	3,000	60,000	Baolin Wang
2019/10/11 07:30	80.83 W 16.25 S	GIS	Frozen in 20 kg	4,547	90,940	Baolin Wang
2019/11/09 07:30	77.55 W 18.65 S	GIS	Frozen in 20 kg	3,542	70,840	Baolin Wang
2019/11/16 06:15	81.50 W 16.75 S	GIS	Frozen in 20 kg	6,400	128,000	Yuehui Cai
2019/12/13 06:00	77.55 W 19.37 S	GIS	Frozen in 20 kg	4,000	80,000	Yuehui Cai

Table 3 Information of the unloading fishing vessel and receiving vessel

Date	Fishing vessel	Flag	IMO	Master	Receiving vessel	Flag	IMO	Master
2019/01/12	NING TAI 66	China	4124209 55	Lu Zhou	WEI NING	Liberia	906422 9	Jiafeng Le
2019/02/02	NING TAI 66	China	4124209 55	Lu Zhou	POSEIDO	Liberia	636008 972	Shanzhong Zhang
2019/02/19	NING TAI 66	China	4124209 55	Lu Zhou	HE SHUN	Liberia	904435 8	Jinguo Dong
2019/05/08	NING TAI 69	China	4124209 31	Hejun Yin	WEI SHUN	Liberia	831265 5	Hong Chen
2019/10/11	NING TAI 62	China	8778562	Shicheng Chen	TRITON REFFER	Liberia	891110 2	Jinguo Dong
2019/11/09	NING TAI 62	China	8778562	Shicheng Chen	NING TAI YU LENG 7	China	982113 4	Liangjun Zhang
2019/11/16	ZHOU PU 5	China	9883297	Wangxiang Ding	YONG HANG 3	Panama	906712 8	Monicul Islam
2019/12/13	ZHOU PU 5	China	9883297	Wangxiang Ding	YONG XIANG 9	Panama	915853 7	Taiul Islam

Table 4 Results of sea birds' observations in 2019

Date and time (local)	Position	Birds around (Y/N)	No.	Species	Caught/ Entangled (Y/N)	No.	Status (A/D/W)
2019/10/5 22:24	79.90 W 16.87 S	Y	-	Unknown	N	-	-

2019/10/08 15:30	107.9 0W 2.10 S	Y	-	Unknown	N	-	-
2019/10/26 18:13	101.30 W 1.70 S	Y	-	Unknown	N	-	-
2019/10/30 16:13	82.40 W 11.30 S	Y	-	Unknown	N	-	-
2019/11/2 18:23	80.83 W 16.25 S	Y	-	Unknown	N	-	-
2019/11/15 09:24	77.55 W 18.65 S	Y	-	Unknown	N	-	-

During the 2019 observer's mission the observers monitored 8 transshipments of jumbo flying squid at sea in the Convention area, the details of the transshipment operations were listed in Table 2 and 3.

Sea bird observations had been conducted in 2019. The observer in NING TAI 61 recorded sea birds around the vessel in the day and at night (Figure 1), the details are presented in Table 4. No birds were found to be caught by the jiggers or entangled by the lines. In addition, there were no marine mammals, sharks, or reptiles caught during the period of the observations.

5. Problems encountered

The fishing companies took observers very seriously and took effective measures to ensure that the observers perform their duties successfully including the arrangement of boarding timing and placement, requiring full cooperation from captains and crews. The observers reported that the captains and crews were very cooperative and provided necessary support and assistance, and the living conditions were up to the standards of the chief master.