

INTER-AMERICAN TROPICAL TUNA COMMISSION

SCIENTIFIC ADVISORY COMMITTEE

14TH MEETING

La Jolla, California (USA)

15-19 May 2023

DOCUMENT SAC-14 INF-C

IMPLEMENTATION OF THE IATTC REGIONAL OBSERVER PROGRAM FOR
TRANSSHIPMENTS AT SEA IN ACCORDANCE WITH RESOLUTION [C-22-03](#)

1. Introduction	1
2. Implementation and participation	2
3. Results to date.....	5
4. Items for discussion.....	8

The following acronyms are used in this document:

BLZ	Belize	IDN	Indonesia	MHL	Marshall Islands	PYF	French Polynesia
CHN	China	JPN	Japan	PAN	Panama	TWN	Chinese Taipei
EUR	European Union	KOR	Korea	PER	Peru	VUT	Vanuatu
FJI	Fiji	LIB	Liberia	PHL	Philippines	WSM	Samoa
BET	Bigeye	SHK	Sharks	SWO	Swordfish	YFT	Yellowfin

1. INTRODUCTION

The IATTC observer program to monitor transshipments at sea by carrier vessels in the eastern Pacific Ocean (EPO) authorized to receive tuna and tuna-like species and sharks from large-scale tuna longline fishing vessels (LSTLFVs) is regulated by [Resolution C-22-03](#) on Transshipments.

This resolution was recently approved in 2022; the previous resolution was C-12-07, which entered into force in 2012. The main changes established in the current resolution refer mainly to:

- a) To provide the International Maritime Organization (IMO) number of the vessels authorized to receive transshipments at sea.
- b) That every carrier vessel authorized to receive transshipments at sea, regardless of its size, must have an operational Vessels Monitoring System (VMS).
- c) The deadline for the transmission of the transshipment declaration by the master of the fishing vessel to its flag CPC¹ is reduced from 15 to 5 days.
- d) The Secretariat is requested to coordinate with the WCPFC observer program coordinators to encourage increased cooperation between carrier observer programs.
- e) This resolution will be reviewed at the annual meeting in 2023, and if necessary, measures will be adopted for the effective authorization, monitoring and control of transshipments with vessels not included in the IATTC Regional Vessel Register.

¹ IATTC Members and Cooperating non-Members

Paragraph 21 of Resolution C-22-03 establishes that “Each year, the Director shall present a report on the implementation of this Resolution to the annual meeting of the Commission, which shall review compliance (...)”. Three years ago, it was decided that the report would be presented separately to the different Committees of the Commission. Therefore, the financial aspects of the program are presented to the Committee on Administration and Finance (CAF); matters of compliance with the resolution are presented to the Review Committee (COR); and the operational aspects of the program, including catch data, transshipments, areas, etc., are presented to this Scientific Advisory Committee (SAC).

Six IATTC Members fund and participate in the program through their authorized large-scale tuna longline fishing vessels (LSTLFVs): China, Japan, Korea, Panama, Chinese Taipei, and Vanuatu.

With the approval of these participating Members, in 2022 the Secretariat renewed a three-year contract with the Marine Resources Assessment Group (MRAG) consortium to operate the program during 2022-2025. This consortium is responsible for placing and coordinating the assignment of observers on board carrier vessels.

2. IMPLEMENTATION AND PARTICIPATION

2.1. Participation

The Secretariat maintains on the Commission website the [List of carrier vessels](#) authorized to receive transshipments at sea, which is continually updated with information supplied by the participants on additions or removals of carrier vessels or changes in their data. As of 25 March 2023, the list includes 94 vessels from eight CPCs² (Table 1). This list includes carrier vessels from the six participants in the program, plus one from the European Union and 11 from Liberia, the latter as a Cooperating non-Member of the IATTC.

It is important to note that, to date, there are no vessels on the list of authorized carrier vessels that are not under the flag of an IATTC Member or Cooperating non-Member. Recently, the Secretariat received an inquiry from a country that is not a CPC of the IATTC regarding the requirements for registering vessels on the list of carrier vessels authorized to receive transshipments at sea. The response given was that they should first obtain Cooperating non-Member status in accordance with Resolution C-07-02.

CPC ¹	CHN	EUR	JPN	COR	LIB	PAN	TWN	VUT
Number of vessels	17	1	4	11	11	45	4	1

Also, each CPC with longline fishing vessels is required to define the specific carrier vessels to which its fishing vessels are allowed to transship fish at sea. That information is included in the last column of the list (“CPCs that authorizes use of this carrier for transshipment from their longline vessels”).

Resolution C-22-03 specifies that longline fishing vessels that transship at sea must be on the list of longline vessels authorized to fish in the IATTC Convention Area. The list is comprised of the longline vessels participating in the program that are on the IATTC Regional Vessel Register: [List of authorized longline vessels](#).

In July 2022, FAO approved voluntary guidelines for transshipments. These can be found on the following website: [Report of the Technical Consultation on Voluntary Guidelines for Transshipment \(fao.org\)](#). A brief review of these guidelines and comparison with the provisions implemented in the IATTC to regulate transshipments show that there is great convergence and, therefore, it can be considered that the IATTC

² IATTC Members and Cooperating non-Members

program is developed in such a way that it considers general principles and actions that have been approved by the international fisheries community.

2.2. Observers on board

2.2.1. Safety on board

As previously reported, MRAG has provided observers with an emergency alert device, with which they can send an immediate signal to the MRAG office, and there is a protocol to follow in case of emergencies ([MRAG Americas: IATTC Observer Program - Emergency Action Plan](#)).

The reports by observers on carrier vessels include a section for recording situations or incidents that affect the performance of their functions, such as harassment or matters related to their well-being. All information recorded in this section, and any other related to possible non-compliance with working conditions for observers, is reported to the flag CPC for its consideration.

Another issue mentioned in observer reports is that the emergency drills required by the [International Convention for the Safety of Life at Sea](#) (SOLAS Convention, Chapter III Part B-1, rule 19, Points 2.2 and 2.3) are carried out only in very few cases. This requirement, a safety issue both for observers and crews, should be complied with because the Antigua Convention, Article VII (*Functions of the Commission*), paragraph n), lists as one of the functions "*promote the application of any relevant provision of the Code of Conduct and of other relevant international instruments*", which covers not only the SOLAS Convention, but also the [International Convention for the Prevention of Pollution from Ships](#) (MARPOL), which governs situations such as fuel spills at sea.

The annual compliance report includes cases of possible non-compliance by carrier vessels with observers on board.

2.2.2. Procedures and logistics

The procedure for requesting the placement of an observer begins with the corresponding request through the carrier vessel's company and through the Fisheries Agency of the vessel's country. The observer request is sent to the IATTC, who forwards it to the program coordinator at MRAG once it is confirmed that it is eligible for placement, mainly that the vessel is on the list of authorized carrier vessels. The coordinator addresses the request with the deployment of the IATTC observer and coordinates with the carrier vessel's company the place and date of the observer's embarkation or any changes in the schedule.

MRAG also maintains communication with the carrier vessel companies to establish estimates to allow for long-term planning and to ensure that MRAG has enough observers to meet the needs. Of the IATTC deployments during the reporting period, observers were deployed on 18 different carrier vessels.

Sometimes a vessel moves between the WCPFC and IATTC areas and the observer remains on board,

which reduces deployment costs.

The main tasks of the observer, as specified by Resolution C-22-03, are as follows:

- a) Record and report upon the transshipment activities carried out;
- b) Verify the position of the vessel when engaged in transshipping;
- c) Observe and estimate products transshipped;
- d) Verify and record the name of the LSTLV concerned and its registration number;
- e) Verify the data contained in the transshipment declaration;
- f) Certify the data contained in the transshipment declaration;
- g) Countersign the transshipment declaration;
- h) Issue a report of the carrier vessel's transshipping activities every 15 days;
- i) Establish general reports compiling the information collected in accordance with the requirements of the IATTC program and provide the captain the opportunity to include therein any relevant information.

Tasks a and c are the priority tasks performed by the observers and occupy most of their time through counting, identifying and recording the weights of the transshipped species and the movements of the carrier vessel. As agreed with MRAG, reports are submitted every 15 days summarizing the daily transshipment activity.

LSTLV reports including product counts and weights are obtained by the second officer of the CV from the captains of the LSTLV; then, they are made available to the IATTC observer within the first two hours of transshipment. IATTC observers receive a copy of the LSTLV numbers and weights report within the first two hours of transshipment. Transshipment declarations are prepared by the second officer of the CV within the first two hours of transshipment and given to the IATTC observer for signature, certification and verification. A copy of the transshipment declaration is provided directly to the IATTC observer during transshipment.

2.3. Estimation of weight of the transshipped product

Observers are tasked with estimating the weight of the transshipped product by species and species group they count during their observation period(s). The main objective is to verify the weights recorded by the carrier vessel and the LSTLVs on the transshipment declaration. There are five options to perform this task; one of them, which is commonly used, is the following:

Total weight of product = Average weight by species x Total count of species by observer

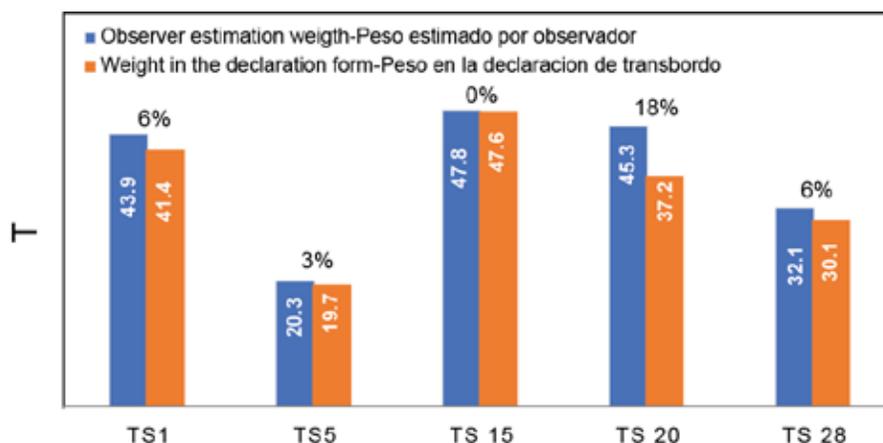
Other options involve electronic hook-scales on the vessels. However, very few carrier vessels are equipped with these devices.



Transshipments in which there is a difference of more than 10% between the amount of tuna calculated

by the observer and the amount reported on the transshipment declaration are forwarded to the flag CPC to investigate whether there could be any possible negligence in completing the declaration or falsification of data. The general response from the CPCs in the Review Committee is that the differences are due to the fact that these are calculations or estimates and therefore it is normal that differences exist.

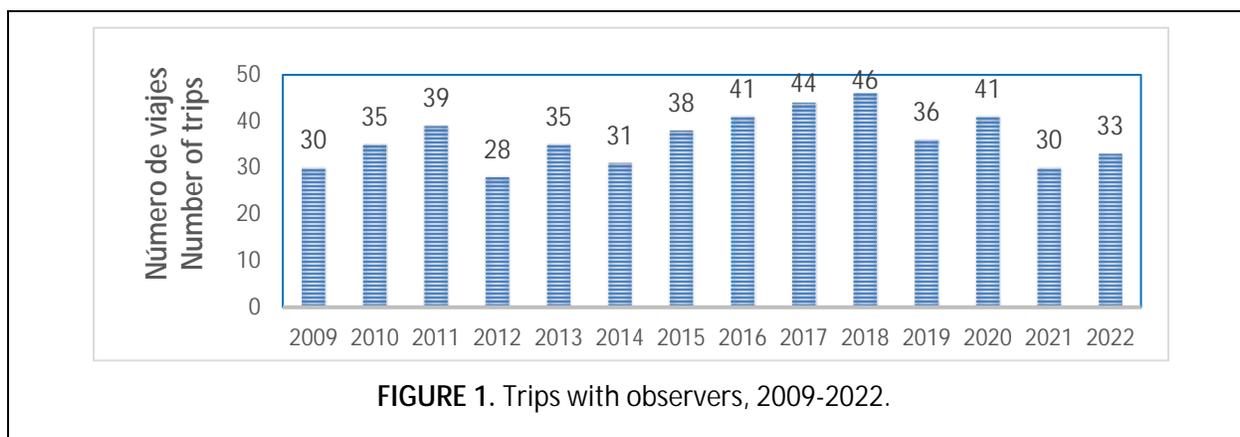
We are requesting observers to submit data on their calculations and those recorded on the transshipment declaration so that we can analyze the differences and have clear information. An example of the type of information requested from all observers is shown in the following chart:



In the previous example, which represents a carrier vessel trip, there was a transshipment with a difference of more than 10% between the observer's calculation and what was recorded on the declaration. When reviewing the 2020 and 2021 data, we observed that 8 and 15 cases, respectively, of transshipments with a difference greater than 10% were forwarded to the participants. Relative to the total number of transshipments for each year, this would imply a rate of 1 and 2.3% of this type of case. These records will be monitored more rigorously in the future.

3. RESULTS TO DATE

In 2022, a total of 587 transshipments were monitored during 33 trips. Through MRAG, observers were placed on 33 trips. From 2020 to 2022, five trips were not covered by an observer due to the COVID-19 pandemic, which represents less than 5% of the total number of trips in those three years. It is important to mention that the trips per year were rearranged considering the date of departure of the vessel; i.e., if the vessel departed in 2021, it is considered as a trip made in that year even if it included in 2022 (Figure 1).



In 2022, the number of transshipments (587) was 8% lower than in 2021 (659) (Figure 2), while the number of days observers spent at sea was 2,900 in 2021 and 2,650 in 2022, i.e., a difference of 8.6%.

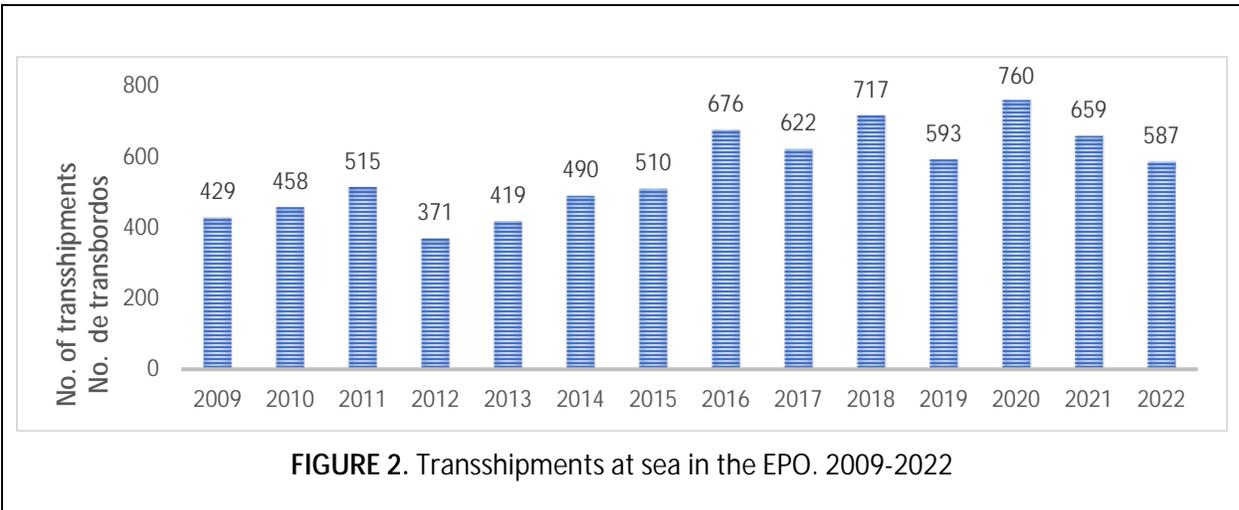
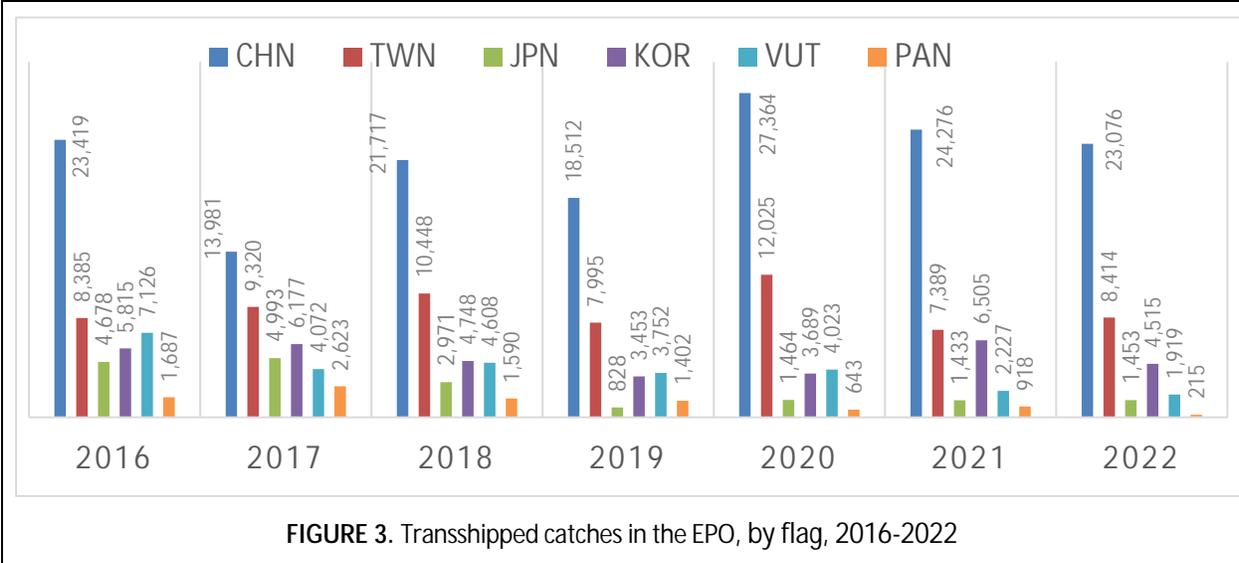
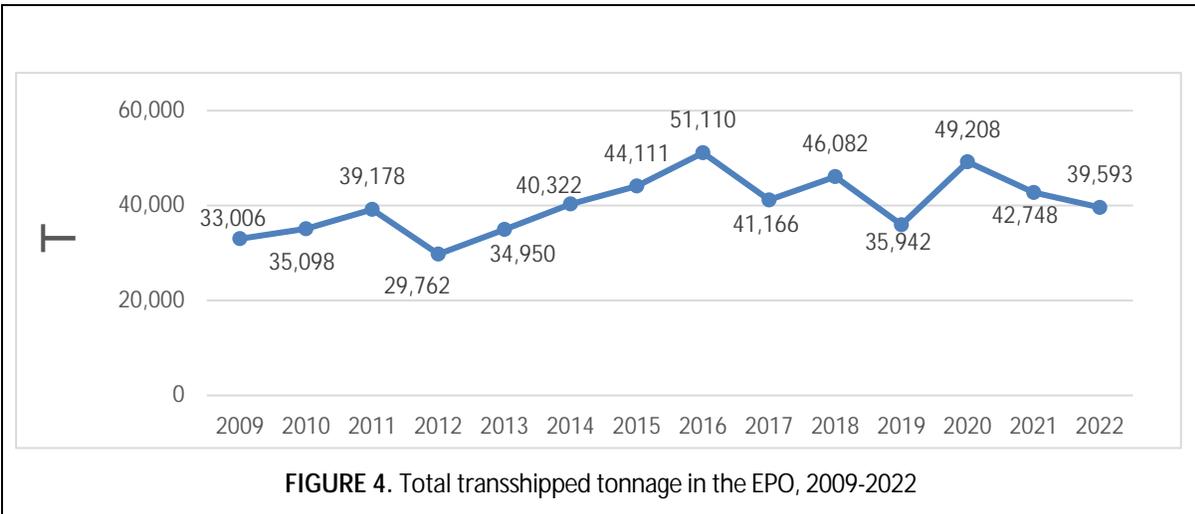


Figure 3 shows the transshipments (total tonnage of the catches) in the EPO from 2016 to 2022, by flag of the fishing vessel. China and Chinese Taipei are the participants with the largest amount of fish transshipped in the EPO. A total of 252 longline vessels participated in transshipments in 2022, of which 48% were from China, 29% from Chinese Taipei, 5% from Japan, 11% from Korea, 2% from Panama and 5% from Vanuatu.



Appendix 1 contains the data on fish transshipped in the EPO from 2009-2022, broken down by species and flag of the fishing vessel. Appendix 2 lists trips by carrier vessels and ports of boarding and disembarkation of observers in 2022.

The total tonnage of the catches transshipped under the program during 2021 (42,748 t) was 13% lower than in 2020 (49,208 t) (Figure 4). Comparing 2022 with 2021, the amount of fish transshipped also decreased by 7.4%, from 42,748 t to 39,593 t.



In terms of the species of fish transshipped, considering the data for 2022, it can be observed that the transshipment of albacore predominates with 52%, followed by bigeye tuna with 24%, yellowfin tuna with 7%, and swordfish with 6%. This is the general pattern observed in the composition of species that are transshipped and registered in the program for transshipments at sea (Figure 5).

Pursuant to Resolution C-12-07, since 2013 transshipments of sharks (476 t in 2022) are itemized separately, which represents 1% of the fish transshipped in that year. In previous years, it has been suggested that the transshipment declaration should include the species of sharks that are transshipped. Some participants in the program have pointed out that the captains of the carrier vessels are not qualified to identify them and that it is very difficult to do so when the fish is frozen and the head and tail have been removed. An attempt should be made to do so through the information provided by longliners, who should be in a better position to identify the species during the fishing operation. However, species identification for several shark species is challenging for fishing crews. This information could potentially be collected by longline observers, but current coverage of observer programs is extremely low (SAC-14 INF-B).

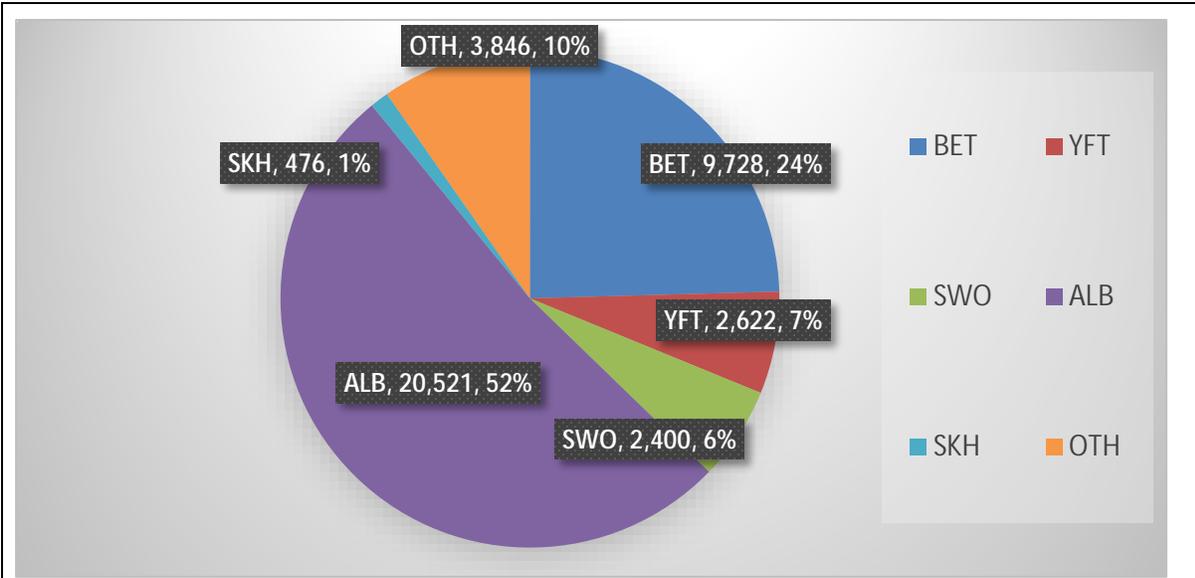


Figure 5. Total tonnage transshipped in the EPO, by species, 2022.

Since 2013, observers record where the transshipped tuna originated: Western Pacific (WPO), EPO or IATTC-WCPFC overlap area. In 2022, about 59% of the transshipped tuna was caught in the EPO, including the overlap area (Table 2), and around 41% in the WPO.

TABLE 2. Tonnage of catches in the Pacific Ocean in 2022 and transshipped in the EPO, by fishing vessel flag and area of origin

Participant	Area of catch				Total
	EPO	Overlap area	WPO	Unknown	
China	20,223	2,394	13,483	0	36,100
Japan	1,444	9	0	0	1,453
Korea	3,232	869	5,590	0	9,691
Panama	215	0	0	0	215
Chinese Taipei	3,154	5,026	6,374	0	14,554
Vanuatu	1,146	1,256	1,951	0	4,354
Total	29,415	9,553	27,399	0	66,368

Table 3 shows the catch limits for bigeye tuna established for 2022 in Resolution C-21-04 and the catches in the EPO recorded by the transshipment program.

There were catch limit transfers to Korea and China by Japan in 2022 for 6,000 and 2,000 metric tons, respectively. Nevertheless, the data from the transshipment program show that the limits were not exceeded even without considering these transfers.

TABLE 3. Bigeye catch limits in Resolution [C-21-04](#) and bigeye catches in the EPO recorded by the transshipment program, in tons, 2022.

CPC	Catch limit (C-21-04)	EPO catches transshipped in the EPO		
		EPO	Overlap area	Total
China	2,507	1,245	567	1,812
Japan	32,732	760	0	760
Korea	11,947	2,030	509	2,539
Chinese Taipei	7,555	1,514	102	1,616
United States	750	Does not make transshipments		

The geographic locations of transshipments made during 2018-2022 in the Pacific Ocean and in the EPO are shown in Appendix 3.

4. ITEMS FOR DISCUSSION

The SAC is encouraged to discuss the following items:

- Is there any other information the SAC would like to receive about the transshipment program?
- Could the transshipment information be used in any other way for scientific purposes?
- Does the SAC consider it appropriate to carry out experimental work with the use of scales?
- Should the possibility of recording transshipped sharks at the species level continue to be pursued?

APPENDIX 1. Fish transshipped in the eastern Pacific Ocean, 2009-2022, by species and flag of fishing vessel, in metric tons.

		Atunes-Tunas			SWO	SKH	OTR	Total
		BET	YFT	ALB				
2009	CHN	6,392	1,281	433	978		502	9,586
	JPN	4,736	1,218	767	627		657	8,004
	KOR	2,460	324	79	323		553	3,739
	PHL	72	34	-	-		-	106
	TWN	2,564	586	1,655	320		363	5,487
	VUT	964	237	3,828	108		1,053	6,190
	Total	17,186	3,679	6,762	2,356		3,128	33,112
2010	BLZ	81	13	10	3		2	110
	CHN	3,674	748	429	583		470	5,902
	JPN	6,623	1,942	819	1,049		1,502	11,935
	KOR	2,957	459	102	372		891	4,781
	PER	80	15	3	7		3	107
	TWN	4,535	987	1,431	539		730	8,223
	VUT	1,321	259	1,963	131		330	4,005
	Total	19,271	4,424	4,756	2,684		3,928	35,063
2011	BLZ	90	9	76	19		17	212
	CHN	5,363	1,157	436	815		755	8,526
	JPN	5,198	1,111	1,819	1,247		1,622	10,997
	KOR	4,263	574	253	486		1,015	6,591
	TWN	2,246	413	3,269	271		1,123	7,323
	VUT	1,160	228	3,609	166		366	5,529
	Total	18,319	3,492	9,463	3,004		4,899	39,178
2012	CHN	3,690	840	389	772		429	6,121
	JPN	5,894	1,359	1,340	1,185		1,162	10,938
	KOR	1,257	130	55	166		257	1,866
	TWN	2,476	395	2,015	398		664	5,949
	VUT	1,226	160	2,996	157		348	4,888
	Total	14,543	2,884	6,796	2,678		2,860	29,762
2013	BLZ	246	40	20	52	16	30	404
	CHN	3,635	798	3,400	583	114	758	9,289
	IDN	102	16	2	16	0	2	138
	JPN	5,756	1,126	735	1,162	9	784	9,571
	KOR	3,947	519	199	487	294	579	6,026
	TWN	1,771	386	1,463	245	335	676	4,876
	VUT	763	160	2,853	161	34	316	4,285
	Total	16,221	3,045	8,672	2,706	801	3,144	34,590
2014	BLZ	38	1	1	5	0	0	45
	CHN	4,418	1,142	8,068	906	115	1,477	16,127
	IDN	18	7	3	1	6	28	62
	JPN	3,850	919	337	858	0	755	6,719
	KOR	2,585	481	118	287	170	391	4,032
	PAN	172	76	13	37	34	56	388

		Atunes-Tunas			SWO	SKH	OTR	Total
		BET	YFT	ALB				
	TWN	2,924	626	3,238	547	258	780	8,373
	VUT	818	269	2,593	142	118	256	4,195
	Total:	14,822	3,521	14,371	2,782	701	3,743	39,941
2015	CHN	5,690	1,897	6,631	888	130	1,323	16,558
	JPN	4,201	766	367	829	0	761	6,925
	KOR	4,347	525	154	545	252	813	6,636
	PAN	522	116	447	17	56	163	1,321
	TWN	2,267	639	1,379	508	215	392	5,400
	VUT	1,381	429	4,249	194	202	620	7,075
	Total	18,407	4,373	13,228	2,982	855	4,072	43,916
2016	CHN	4,572	1,898	14,064	1,169	157	1,559	23,419
	JPN	2,395	581	285	685	61	671	4,678
	KOR	3,661	672	246	524	0	711	5,815
	PAN	463	85	346	320	164	309	1,687
	TWN	2,983	679	2,315	844	445	1,118	8,385
	VUT	1,815	357	3,756	353	334	512	7,126
	Total	15,889	4,272	21,012	3,895	1,160	4,881	51,110
2017	CHN	3,428	899	7,462	693	18	1,481	13,981
	JPN	2,812	546	358	790	0	488	4,993
	KOR	4,073	710	286	517	0	591	6,177
	PAN	640	129	921	109	381	444	2,623
	TWN	4,354	580	1,410	1,160	419	1,343	9,265
	VUT	1,801	429	725	311	322	484	4,072
	Total	17,109	3,292	11,161	3,579	1,140	4,830	41,111
2018	CHN	3,647	1,162	13,247	966	397	2,299	21,717
	JPN	1,531	260	313	477	29	360	2,971
	KOR	2,964	679	228	310	0	567	4,748
	PAN	251	55	924	133	70	157	1,590
	TWN	3,454	780	3,173	1,289	455	1,295	10,448
	VUT	2,237	516	575	547	237	496	4,608
	Total	14,084	3,452	18,461	3,722	1,189	5,175	46,082
2019	CHN	2,327	1,118	11,984	566	160	2,357	18,512
	JPN	518	62	113	38	0	97	828
	KOR	1,941	710	325	158	0	319	3,453
	PAN	191	115	160	725	82	129	1,402
	TWN	2,555	873	2,250	591	395	1,331	7,995
	VUT	1,241	369	782	561	253	548	3,752
	Total	8,773	3,248	15,613	2,639	889	4,780	35,942
2020	CHN	2,031	1,063	20,648	447	234	2,941	27,364
	JPN	837	221	103	139	0	164	1,464
	KOR	2,215	691	248	171	0	364	3,689
	PAN	6	2	610	4	14	8	643
	TWN	3,743	1,164	3,014	1,226	845	1,993	12,025
	VUT	1,551	403	862	691	170	346	4,023

		Atunes-Tunas			SWO	SKH	OTR	Total
		BET	YFT	ALB				
	Total	10,383	3,543	25,485	2,718	1,263	5,815	49,208
2021	CHN	1,691	918	18,702	382	17	2,567	24,276
	JPN	809	284	51	118	0	172	1,433
	KOR	4,028	1,400	349	274	2	452	6,505
	PAN	62	20	698	116	0	23	918
	TWN	2,268	505	2,627	884	140	934	7,359
	VUT	798	127	757	327	50	199	2,258
	Total	9,655	3,254	23,184	2,101	208	4,346	42,748
2022	CHN	1,633	509	18,308	421	0	2,206	23,076
	JPN	760	201	195	111	0	186	1,453
	KOR	2,639	854	481	242	0	298	4,515
	PAN	78	33	0	104	0	0	215
	TWN	3,518	867	1,482	1,262	359	927	8,414
	VUT	1,100	159	54	259	117	229	1,919
	Total	9,728	2,622	20,521	2,400	476	3,846	39,593

APPENDIX 2. Trips by carrier vessels that carried IATTC observers to monitor transshipments in the eastern Pacific Ocean, 2022.

IATTC trip	Name of vessel	Flag	Departure date	Departure port		Arrival date	Arrival port	
474	Shun Tian Fa No.168	TWN	9-Jan-22	at-sea	Sheng Hong	14-Mar22	Kaohsiung	TWN
476	Rising Star	PAN	-	Vacamonte'	PAN	-	Vacamonte'	PAN
477	Ping Tai Rong Leng 1	CHN	10-Jan-22	Busan	KOR	11-May22	Zhoushan	CHN
478	Taiho Maru	PAN	21-Jan-22	Kaohsiung	TWN	10-Apr-22	Shimizu	JPN
479	Shin Ho Chun No.102	PAN	22-Jan-22	Suva	Fiji	17-Mar-22	Suva	Fiji
480	Harima	PAN	18-Feb-22	Cristobol	PAN	9-Apr-22	Shimizu	JPN
481	Heng Hong 5	CHN	21-Feb-22	Busan	KOR	20-Jun-22	Zhoushan	CHN
482	Tenho Maru	PAN	16-Mar-22	Busan	KOR	5-Jun-22	Shimizu	JPN
483	Ping Tai Rong Leng 2	CHN	6-Apr-22	Busan	KOR	27-Jul-22	Zhoushan	CHN
484	Seiyu	KOR	24-Apr-22	Busan	KOR	13-Jul-22	Busan	KOR
485	Mylo	PAN	22-Feb-22	at-sea	Seiyu	29-Apr-22	Busan	KOR
486	Shun Tian Fa No.168	TWN	10-Apr-22	Kaohsiung	TWN	15-Jun-22	Kaohsiung	TWN
487	Full Kuo Shin	PAN	28-Apr-22	Kaohsiung	TWN	10-Aug-22	Kaohsiung	TWN
488	Taiho Maru	PAN	31-May22	Busan	KOR	12-Aug-22	Yokasuka	JPN
489	Shin Ho Chun No.101	PAN	10-Jun-22	Suva	Fiji	5-Aug-22	Suva	Fiji
490	Ping Tai Rong Leng 1	CHN	12-May22	Zhoushan	CHN	22-Sep-22	Busan	KOR
491	Heng Hong 5	CHN	21-Jun-22	Zhoushan	CHN	22-Sep-22	Busan	KOR
492	Tenho Maru	PAN	28-Jun-22	Busan	KOR	22-Sep-22	Busan	KOR
493	Seiyu	KOR	5-Aug-22	Busan	KOR	17-Oct-22	Busan	KOR
494	Full Kuo Shin	PAN	7-Sep-22	Kaohsiung	TWN	8-Dec-22	Kaohsiung	TWN
495	Ping Tai Rong Leng 2	CHN	9-Sep-22	Busan	KOR	24-Nov-22	Apia	Samoa
496	Taiho Maru	PAN	16-Sep-22	Busan	KOR	9-Dec-22	Shimizu	JPN
497	Yu Run 3	PAN	1-Sep-22	Tarawa	KIR	18-Jan-23	Zhoushan	CHN
498	Harima	PAN	11-Sep-22	Balboa	PAN	16-Oct-22	Pohnpei	FSM
499	Heng Hong 5	CHN	20-Oct-22	Busan	KOR	4-Feb-23	Busan	KOR
500	Shun Tian Fa No.168	TWN	7-Oct-22	Kaohsiung	TWN	23-Dec-22	Kaohsiung	TWN
501	Ping Tai Rong Leng 1	CHN	4-Nov-22	Busan	KOR	23-Jan-23	Apia	Samoa
502	Sheng Hong	TWN	26-Oct-22	Kaohsiung	TWN	11-Jan-23	Kaohsiung	TWN
503	Seiyu	KOR	5-Nov-22	Busan	KOR	13-Jan-23	Busan	KOR
504	Bao Win	PAN	14-Nov-22	Busan	KOR	5-Feb-23	Kaohsiung	TWN
505	Oceanus	KOR	23-Dec-22	Tongyeong-si	KOR	20-Mar-23	Busan	KOR
506	Full Kuo Shin	PAN	19-Dec-22	Kaohsiung	TWN	29-Mar-23	Kaohsiung	TWN
509	Ping Tai Rong Leng 6	CHN	18-Jan-22	Busan	KOR	10-Apr-23	Apia	Samoa

APPENDIX 3. Transshipment geographic locations in the Pacific Ocean (top) and in the EPO (bottom), 2019-2022.

