AGREEMENT ON THE INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

49TH MEETING OF THE PARTIES

La Jolla, California (USA)
31 October – 01 November 2024

DOCUMENT AIDCP-49-02

REPORT ON THE INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

1. INTRODUCTION

In the eastern Pacific Ocean (EPO), schools of yellowfin tuna frequently associate with marine mammals, especially spotted, spinner, and common dolphins. When the purse-seine fishery for tunas in the EPO began around 1960, the fishermen found that their catches of yellowfin in the EPO could be maximized by setting these nets around a herd of dolphins and the associated school of tunas. However, releasing the dolphins while retaining the tuna proved more difficult, and in the early years of the fishery many dolphins died during this process. As techniques and equipment to solve this problem were developed, this mortality fell, gradually at first and dramatically in the 1990s, thanks to the combined efforts of the fishing industry, governments, the Inter-American Tropical Tuna Commission (IATTC), non-governmental environmental organizations, and other interested parties.

The 1992 La Jolla Agreement provided a framework for international efforts to reduce this mortality and introduced novel and effective measures as Dolphin Mortality Limits (DMLs) for individual vessels and the establishment of the International Review Panel to monitor the performance and compliance of the fishing fleet. The Agreement on the International Dolphin Conservation Program (AIDCP), which built on and formalized the provisions of the La Jolla Agreement, was signed in May 1998 and entered into force in February 1999. The Parties to the AIDCP committed to *"ensure the sustainability of tuna stocks in the eastern Pacific Ocean and to progressively reduce the incidental dolphin mortalities in the tuna fishery of the eastern Pacific Ocean to levels approaching zero and to avoid, reduce and minimize the incidental catch and the discard of juvenile tuna and the incidental catch of non-target species, taking into consideration the interrelationship among species in the ecosystem."*

As of 1 September 2023, Belize, Colombia, Costa Rica, Ecuador, El Salvador, the European Union, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, the United States, and Venezuela have ratified or acceded to the Agreement. Bolivia and Vanuatu are applying the AIDCP provisionally. At the request of the Parties and in compliance with Article VII, paragraph 1 (t) of the Antigua Convention, the IATTC provides the Secretariat for the AIDCP including support for implementation of the Agreement, which comprises the coordination of the On-Board Observer Program and the Tuna Tracking and Verification System.

2. THE ON-BOARD OBSERVER PROGRAM

The AIDCP On-Board Observer Program is composed of the IATTC observer program and the national observer programs of Colombia (Programa Nacional de Observadores de Colombia, PNOC), Ecuador (Programa Nacional de Observadores Pesqueros de Ecuador; PROBECUADOR), the European Union (Programa Nacional de Observadores de Túnidos, Océano Pacífico; PNOT), Mexico (Programa Nacional de Aprovechamiento del Atún y Protección de Delfines; PNAAPD), Nicaragua (Programa Nacional de Observadores de Nicaragua; PRONAON, administered by the Programa Nacional de Observadores Panameños, (PRONAOP), Panama (PRONAOP), and Venezuela (Programa Nacional de Observadores de Venezuela; PNOV). Additionally, at its 82nd meeting in July 2011, the IATTC agreed on a Memorandum of Cooperation (MOC) with the Western and Central Pacific Fisheries Commission (WCPFC) for cross-endorsement of observers from the IATTC program and the WCPFC's Regional Observer Program to monitor vessels that fish or transit the high-seas or other specified areas in the Convention Areas of both organizations.

2.1. Observer coverage

The AIDCP requires that observers are placed aboard 100% of trips in the Agreement Area by purse-seine vessels of carrying capacity greater than 363 metric tons (Class 6). During the COVID-19 pandemic, some Class 6 vessels made trips without observers consistent with the *COVID-19 Pandemic Exemption Procedure for the Operation of On-Board Observers* that was approved by the Parties. However, the Parties ended the availability of this procedure as of December 31, 2022, and so no exemptions were requested or granted for 2023.

As shown in Table 1, during 2023, observers were placed on 100% of the 869 fishing trips made in the Agreement Area by Class-6 vessels operating under the flags of Colombia, Ecuador, El Salvador, European Union (Spain), Mexico, Nicaragua, Panama, Peru, the United States, and Venezuela (Table 1).There were 17 trips in which observers were deployed on purse-seine vessels smaller than Class-size 6, under the provision of Resolution C-12-08 for vessels with sealed wells, or on a voluntarily basis to maximize its fishing days during its observing closure period according to the provisions of C-21-04.

2.2. Observer training

The IATTC staff conducted an observer training course from 5-22 June 2023 in Panama City, Panama, for 12 candidates for the IATTC program and one observer for PRONAOP. Four of the participants were women; indeed, it was the first time in the history of the IATTC observer program where the training courses resulted in the successful placement of a female candidate on a vessel.

In addition, with financial support from the WCPFC, the staff of the IATTC and WCPFC conducted three training courses for WCPFC ROP observers, qualifying them to serve as Cross Endorsed observers while fishing in ocean waters jurisdiction of both organizations:

- Funafuti, Tuvalu from 15-21 February 2023 (12 attendees)
- Suva, Fiji 16-20 October, 2023 (20 attendees)
- Tarawa, Kiribati from 24-28 October, 2023 (17 attendees)

3. DOLPHIN MORTALITY

3.1. Dolphin Mortality Limits (DMLs)

3.1.1. 2023 DMLs

The overall dolphin mortality limit (DML) for the international fleet in 2023 was 5,000 animals, and the unreserved portion of 4,900 was divided among 113 qualified vessels that requested DMLs.

The distribution of dolphin mortalities in the fishery is shown in Figure 1. The average individual-vessel DML (ADML), based on 113 DML requests, was 43. In accordance with Annex IV, Section II, numeral 1, one vessel that lost its DML on two consecutive occasions (2021 and 2022) was not eligible to receive a DML for 2023. Two vessels renounced their DML. Additionally, 13 vessels that did not utilize their DMLs

prior to 1 April were allowed to keep them for the remainder of the year under the *force majeure* exemption allowed by the AIDCP, but five of these DMLs were not utilized. None vessel lost its full-year DML due to no utilization prior to 1 April. There were no requests for a second-semester DML. Three vessels were assigned DMLs from the Reserve DML Allocation (RDA) managed at the discretion of the Director, in accordance with paragraph 7, Section I of Appendix IV of the AIDCP, and two were utilized and one was forfeited due no utilization prior to October 1st. No vessel exceeded its DML in 2023.

3.1.2. 2024 DMLs

The Parties requested 119 DMLs for 2024 from the unreserved portion (4,900) of the overall fleet mortality limit. As of 26 September, the utilization of these DMLs is as follows:

DML (Limit per vessel)	Assigned	Utilized by April 1 Oct 1	Re-nounced	Lost due to no utilization	Exempt due to *force majeure*
Full year (43)	119	94	3	6	16
Second semester	0	N/A	N/A	N/A	N/A
RDA	3	3	0	0	0

3.2 Estimates of the mortality of dolphins in 2023 due to fishing

The estimate of the mortality of dolphins in the fishery in 2023 is 828animals (Table 2), compared to 965 mortalities recorded in 2022. The mortalities for 1979-2023, by species and stock, are shown in Table 3, and the standard errors of these estimates are shown in Table 4. The estimates for 1979-1992 are based on a mortality-per-set ratio, while the mortalities for 1993-2023 are sums of the observed mortalities recorded by the AIDCP On-Board Observer Program, except where observed mortalities have been adjusted for unobserved trips first in 2001-2003, and more recently starting in 2020-2022 because of the pandemic.

The mortalities of the principal dolphin species affected by the fishery have declined since the early 1990s (Figures 2-3), however the estimated mortality increased in 2022 to the highest levels since 2014. Estimates of the abundances of the various stocks of dolphins and the relative mortalities (mortality/abundance) are also presented in Table 2.

The number of sets on dolphin-associated schools of tuna made by Class-6 vessels was 10,328 in 2023, compared to 10,614 in 2022, and this type of set accounted for 39.1% of the total number of sets made in 2023, compared to 38.6% in 2022. The average mortality per set was 0.08 dolphins in 2023, compared to 0.09 dolphins in 2022. The trends in the numbers of sets on dolphin-associated fish, mortality per set, and total mortality in recent years are shown in Figure 3.

The catches of dolphin-associated yellowfin increased by 13.2% in 2023, as compared to 2022. The percentage of the catch of yellowfin taken in dolphin sets was 69.5% of the total catch in 2023, compared to 65% in 2022 and 62% in 2021. The average catch of yellowfin per dolphin set increased to 19.4 metric tons per set in 2023, compared to 16.6 metric tons in 2022, and 16 metric tons in 2021. The mortality of dolphins per metric ton of yellowfin caught was 0.0041 in 2023, which is about the same rate as in 2022 (0.0054).

Despite yearly fluctuations, the overall, long-term decrease in the mortality per set is the result of efforts by the fishermen to better manage the factors that bring about mortalities of dolphins. Indicative of this effort is the number of sets without mortalities, which has risen from 38% in 1986 to 96.2% in 2023, and the average number of dolphins left in the net after backdown, which has decreased from 6.0 in 1986 to 0.1 or less since 2001and rates of 0.0 for 2020, 2021, 2022 and 2023 (Table 5). The factors under the control of the fishermen which are likely to affect the mortality of dolphins per set include the occurrence of malfunctions, especially those which lead to net canopies and net collapses, and the time it takes to complete the backdown maneuver (Table 5). The percentage of sets with major mechanical malfunctions has decreased from an average of approximately 11% during the late 1980s to less than 5% during 1998-2023; in the same period the percentage of sets with net collapses decreased from about 30% to less than 1%, and that of net canopies from about 20% to less than 1.5%.

Although the chance of dolphin mortality increases with the duration of the backdown maneuver, the average backdown time has changed little since 1986.

3.3. Reports of dolphin mortality by observers at sea

The AIDCP requires the Parties to establish a system, based on real-time observer reporting, to ensure effective implementation and compliance with per-stock, per-year dolphin mortality caps. Observers prepare weekly reports of dolphin mortality, by stock, which are then transmitted to the Secretariat via e-mail, fax, or radio. In June 2003 the Meeting of the Parties adopted Resolution A-03-02, which makes the vessel personnel responsible for transmitting these reports. During 2023 the reporting rate of observed trips was 100% (Table 6).

Since 1 January 2001, the Secretariat has been tracking the cumulative mortality for the seven stocks of dolphins most frequently associated with the fishery. The most recent reported mortalities are shown in Table 7.

4. DISTRIBUTION OF FISHING EFFORT

Figures 4-6 compare the spatial distributions of fishing effort in the Agreement Area by vessels carrying observers, in numbers of sets, by type, in 2022 and 2023. Overall, the distributions across all set types are substantially similar. The density of sets made in association with floating objects in 2023 at the western edge of the Convention Area appear to have shifted slightly from 5˚N to 5˚S. The density of unassociated sets in 2023 appears to have increased off southern Mexico and also more generally west of 120˚W compared to 2022. Finally, the density of dolphin sets around 5˚S between 100˚-120˚W that was present in 2022 was absent in 2023.

5. INTERNATIONAL REVIEW PANEL

The International Review Panel (IRP) follows a general procedure for reporting to the governments concerned non-compliance by their vessels with measures established by the AIDCP. During each fishing trip, the observer prepares a summary of information pertinent to dolphin mortalities, and this is sent by the Secretariat to the government with jurisdiction over the vessel. Several categories of possible infractions are automatically reported to the government with jurisdiction over the vessel in question after each IRP Meeting; the IRP reviews the observer data for other cases at its meetings, and any cases identified as possible infractions are likewise reported to the relevant government. Governments report back to the IRP on actions taken regarding these possible infractions.

The IRP met on 31 July 2023 in Victoria, British Columbia, Canada, and on 19 October 2023 in La Jolla, California, USA. The minutes of IRP meetings are available on the IATTC website, along with the other documents posted for each set of meetings. Tables 8-9 and Appendix A of this report summarize possible infractions identified by the Panel at these meetings and subsequent action taken by the governments.

6. TUNA TRACKING AND VERIFICATION

The System for Tracking and Verifying Tuna, established in accordance with Article V.1.f of the AIDCP, enables “dolphin-safe” tuna, defined as tuna caught in sets without mortality or serious injury of dolphins, to be identified and tracked from the time it is caught through unloading, processing, and sale. The Tuna Tracking Forms (TTFs), completed at sea by observers, designate the tuna caught as dolphin safe (Form ‘A’) or non-dolphin safe (Form ‘B’). This, in turn, allows for the verification of the dolphin-safe status of any tuna caught by a vessel covered by the AIDCP. This framework, administered by the Secretariat, also allows each Party to establish its own tracking and verification program, implemented and operated by a designated national authority. These programs include periodic audits and spot checks for tuna at the points of capture, landing, and processing, and provide mechanisms for communication and cooperation between and among national authorities, and timely access to relevant data. Each Party is required to provide the Secretariat with a report detailing its tracking and verification program.

The 51st meeting of the Permanent Working Group on Tuna Tracking met on 26 August 2024 in Panama City, Panama. The report of the TTFs and Dolphin-safe certificate copies submitted to the Secretariat,

among other matters was presented. A total of 829 trips by vessels fishing in the Agreement Area that arrived between 26 August 2023 and 15 June 2024 with an IDCP observer aboard were issued TTFs. Among these, by 21 August 2024, 829 TTF (100%) were transmitted to the Secretariat by the respective national authority. In addition, during the period of this report the Secretariat received 432 copies of *dolphin safe* certificates, and 398 certificates were considered valid. Finally, in six of the TTFs involved in the certification the certified weight exceeded by 10% the tuna considered as *dolphin safe* in the corresponding TTF. The Secretariat notified the corresponding national authority of this issue. In response to these cases, the respective national authority has provided the Secretariat with the investigation results conducted during this inquiry. Subsequently, the Secretariat confirmed the validity of these certificates.

7. RESOLUTIONS, AMENDMENTS AND OTHER DECISIONS AFFECTING THE OPERATION OF THE IDCP

7.1. Resolution A-23-01 *Ad hoc* WG on the Financial Strengthening of the AIDCP

Resolution A-23-01 establishes an Ad Hoc Working Group on the Financial Strengthening of the AIDCP, chaired by the MOP Chair, to review and provide direction on a wide range of finance and budget related topics, inter alia, financial rules, methodologies and best practices. The Resolution also calls for "a performance review of the processes related to the finance, accounting and budgetary execution, which shall provide technical recommendations for the efficient management of the AIDCP" paid for from the 2024 AIDCP budget. The ad hoc Working Group held an initial meeting in July 2024 and developed the Terms of Reference for the consultancy announcement soliciting proposals to conduct the performance review related to the financial management of the AIDCP funds. To date, only one proposal has been received.

7.2 Resolution A-19-01 on funding of national programs.

This resolution approved during the 39th Meeting of the Parties of the AIDCP in Bilbao, Spain, requires that the AIDCP allocates 10% of the surplus of the observer program as of 31 December 2018, "*to help replace equipment both for observers and for data processing, such as new-generation computer equipment which could not be updated due to lack of financial resources."*

Additionally, this resolution required that the contribution *"be distributed equitably among all national programs".*

The National Programs agreed to an allocation of the total available amount equivalent to US$ 207,269 as follows: Colombia (7.1%); Ecuador (31.7%); European Union (3.3%); Mexico (31.0%); Nicaragua (4.3%); Panama (12.0%); and Venezuela (10.6%). All seven national programs have utilized a portion of the allocated funds since 2022, as reflected in the table below. US$ 50,116 of the allocated funds remain unspent as of September 2024.

Distribution of allocation of funds for national programs, Resolution A-19-01, in US$ through 30 September 2024

National Program	Allocation	Amount Distributed	Purchases			Available
			2022	2023	2024	
Colombia	7%	14,716	1,832	-	-	12,884
Ecuador	32%	65,704	62,226	-	-	3,478
European Union	3%	6,840	4,579	-	-	2,261
Mexico	31%	64,253	-	43,772	11,866	8,615
Nicaragua	4%	8,913	1,868	-	-	7,045
Panama	12%	24,872	16,278	1,038	2,258	5,298
Venezuela	11%	21,971	7,733	-	3,703	10,535
Total	100%	207,269	94,516	44,810	17,827	50,116

8. OTHER FUNCTIONS PERFORMED BY THE SECRETARIAT

8.1. Research projects

a) Scientific experiment to evaluate dolphin cow-calf separation during purse-seine fishing

operations in the eastern tropical Pacific (ETP)

For the past two decades, it has been postulated that one of the potential sources that might be slowing the growth of dolphin populations in the EPO may be mother-calf separation during fishery interactions, leading to calf mortality. For this reason, a field research study is needed to investigate the questions surrounding the hypothesis of dolphin cow-calf separation during tuna purse-seine fishing operations in the ETP. This research has been under consideration on the work plan of the IATTC staff since 2003 (IRP-33-11a, SAB-01-06, MOP-10-07). Two research proposals were submitted by the staff to the Parties of the AIDCP in 2017 and 2018, respectively (see MOP-36-06 and MOP-37-03).

Since the financial resources for a cow-calf separation study were not available through the AIDCP budget process, support for the project was provided by the fishing industry. On May 24, 2022, a Memorandum of Understanding (MOU) between the Pacific Alliance for Sustainable Tuna (PAST) and the IATTC was established for "in-kind and financial support to conduct a research on dolphins cow-calf separation during chasing and backdown" (see MOU PAST-IATTC). The aim of this project is to use unmanned aerial vehicles (UAVs) to determine: (i) if mother-calf pairs become separated during chase, encirclement, backdown, and/or post-release "run" from the net; and (ii) if/how mother-calf separation may be affecting population growth. These results will help to inform population models and management and conservation actions for dolphins in the ETP.

In April 2023, a consortium team, including scientists from University of Alaska Southeast (UAS) and Marine Environment Research Association (AIMM), was selected to conduct the research project in collaboration with the IATTC staff. Co-Principal Investigators Drs. Heidi Pearson (UAS) and Joana Castro (AIMM) attended the 14th Meeting of the IATTC SAC to present the project (SAC-14 INF-K). To date, the pilot study of the scientific experiment has been completed. The first phase of the pilot study occurred from May to July 2023 off the south of Portugal where the UAS-AIMM team developed unmanned aerial vehicle (UAV) protocols by observing common dolphins. The second phase of the pilot study occurred during August 2023 aboard a Mexican-flagged tuna purse-seiner where the team became familiar with fishery operations, tested and refined methods, and collected preliminary data. Calves were followed in eight of the ten fishing sets sampled via UAV. Working definitions for key terms were developed. A progress report was made available at the 15th Meeting of the IATTC SAC (SAC-15 INF-O). The main study started in May 2024 aboard a trip by Mexican-flagged tuna purse-seiner. Currently, the team is analyzing the data collected during the final phase. It is expected that the final report of the project will be presented at SAC-16 in June 2025. At the 9th Meeting of the Scientific Advisory Board of the AIDCP, the staff has requested additional funds to conduct a phase 3 of the cow-calf study (SAB-09 INF-C).

b) Dolphin abundance survey

Due to the hiatus since 2006 in marine mammal surveys conducted by the U.S. National Marine Fisheries Service (NMFS) there is a gap in scientific knowledge about dolphin stock status in the eastern tropical Pacific Ocean (ETP). New abundance estimates are needed to ensure that dolphin mortalities in the purse-seine fishery are both sustainable and insignificant (the AIDCP's Stock Mortality Limit scheme is dependent on such estimates). Hence, particular emphasis has been put on updating the assessments of two of the main stocks that interact with the fishery, the northeastern offshore spotted dolphin and the eastern spinner dolphin.

To fill this gap, and in view of the problematic nature of monitoring stock status from fishery-dependent data, the IATTC, in collaboration with the government of Mexico, the Pacific Alliance for Sustainable Tuna (PAST), and the Centre for Research into Ecological and Environmental Modelling (CREEM) at the University of St Andrews, Scotland, initiated a research project to develop a survey of abundance for dolphin populations in the ETP. The research project, presented in July 2019 (MOP-39-01 Addendum 1), builds on the IATTC workshop in October 2016 (IATTC Special Report 22) and on the survey designs and project specifics presented in August 2018 (MOP-37-02) and in July 2019 (MOP-39-01 Addendum 1). A 14-day sea trial was conducted in November 2019 to run several tests on several aspects of the proposed methodology (IATTC Special Report 24). Among the recommendations of the trial survey is that, prior to a main survey, a second sea trial is needed to test a different drone-camera system with longer endurances and

greater video resolution than the system previously tested. To date, financial resources have not been secured to a second sea trial which, if successful, would potentially lead to the final study.

Taking into consideration the lessons and challenges encountered so far in the dolphin survey project, recent interest has been expressed by some AIDCP Parties for the exploration of alternative tools for abundance estimation. These include the techniques discussed in IATTC workshop in October 2016 (IATTC Special Report 22), with particular interest for mark-recapture surveys based on genetic methods.

On May 9-10, 2024, the IATTC hosted a workshop in Mexico City, Mexico, to continue to discuss methods for estimating abundance and monitoring stock status for dolphins in the ETP (see workshop report). The discussion primarily focused on the potential applicability of close-kin mark-recapture (CKMR) for obtaining demographic parameters of dolphin populations in the ETP, including estimates of absolute abundance. At the 9th Meeting of the Scientific Advisory Board of the AIDCP, the staff has requested funds to conduct a research project on sampling feasibility (Phase I) and genetic panel development (Phase II) for CKMR on dolphins in the ETP.

8.2. Dolphin safety panel alignments

During 2023, the IATTC staff did conduct one alignment of dolphin-safety panels (DSP) and inspection of dolphin rescue gear aboard of a purse-seine vessel.

8.3. Training and certification of fishing captains

The IATTC has conducted dolphin mortality reduction seminars for tuna fishermen since 1980. Article V of the AIDCP calls for the establishment, within the framework of the IATTC, of a system of technical training and certification of fishing captains. Under the system, the IATTC staff is responsible for maintaining a list of all captains qualified to fish for tunas associated with dolphins in the EPO. The names of the captains who meet the requirements are to be supplied to the IRP for approval and circulation to the Parties to the AIDCP.

The requirements for new captains are (1) attending a training seminar organized by the IATTC staff or by the pertinent national program in coordination with the IATTC staff, and (2) having practical experience relevant to making sets on tunas associated with dolphins, including a letter of reference from a captain currently on the List, the owner or manager of a vessel with a DML, or a pertinent industry association. These seminars include AIDCP relevant material and, as well, pertinent IATTC material for the entire EPO fishing industry, and are intended not only for captains, who are directly in charge of fishing operations, but also for other crew members and for administrative personnel responsible for vessel equipment and maintenance. The fishermen and others who attend the seminars are presented with certificates of attendance.

During 2023, three training seminars were held, which were attended by 127 attendees.

Date	Program	Location
17 Jan	IATTC	Manta, Ecuador
16 Jan	PNAAPD	Mazatlán
29 Sep	IATTC	Manta, Ecuador

8.4. Statements of Participation

Statements of Participation are typically issued by the Secretariat on request to vessels that carry observers from the On-Board Observer Program. This statement certifies that the vessel has been participating in the IDCP, and that all its trips have been covered by observers; the second, issued to vessels of non-Parties, certifies only that all the vessel's trips have been covered by observers. During 2023, 158statements of the first type were issued for fishing trips by vessels of Ecuador, El Salvador, Nicaragua, Panama, United States of America and Venezuela.

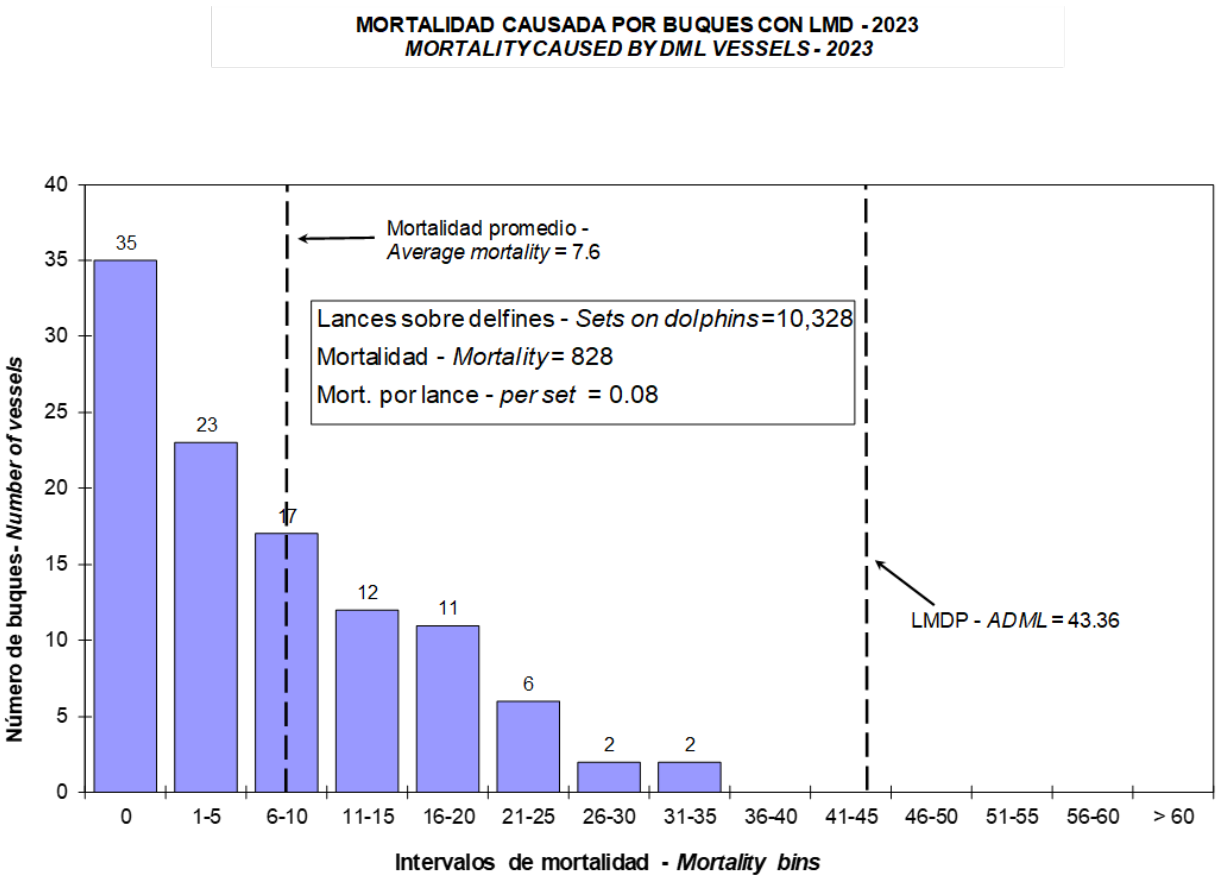

FIGURE 1. Distribution of dolphin mortality caused by vessels with DMLs during 2023.
FIGURA 1. Distribución de la mortalidad de delfines causada por buques con LMD durante 2023.

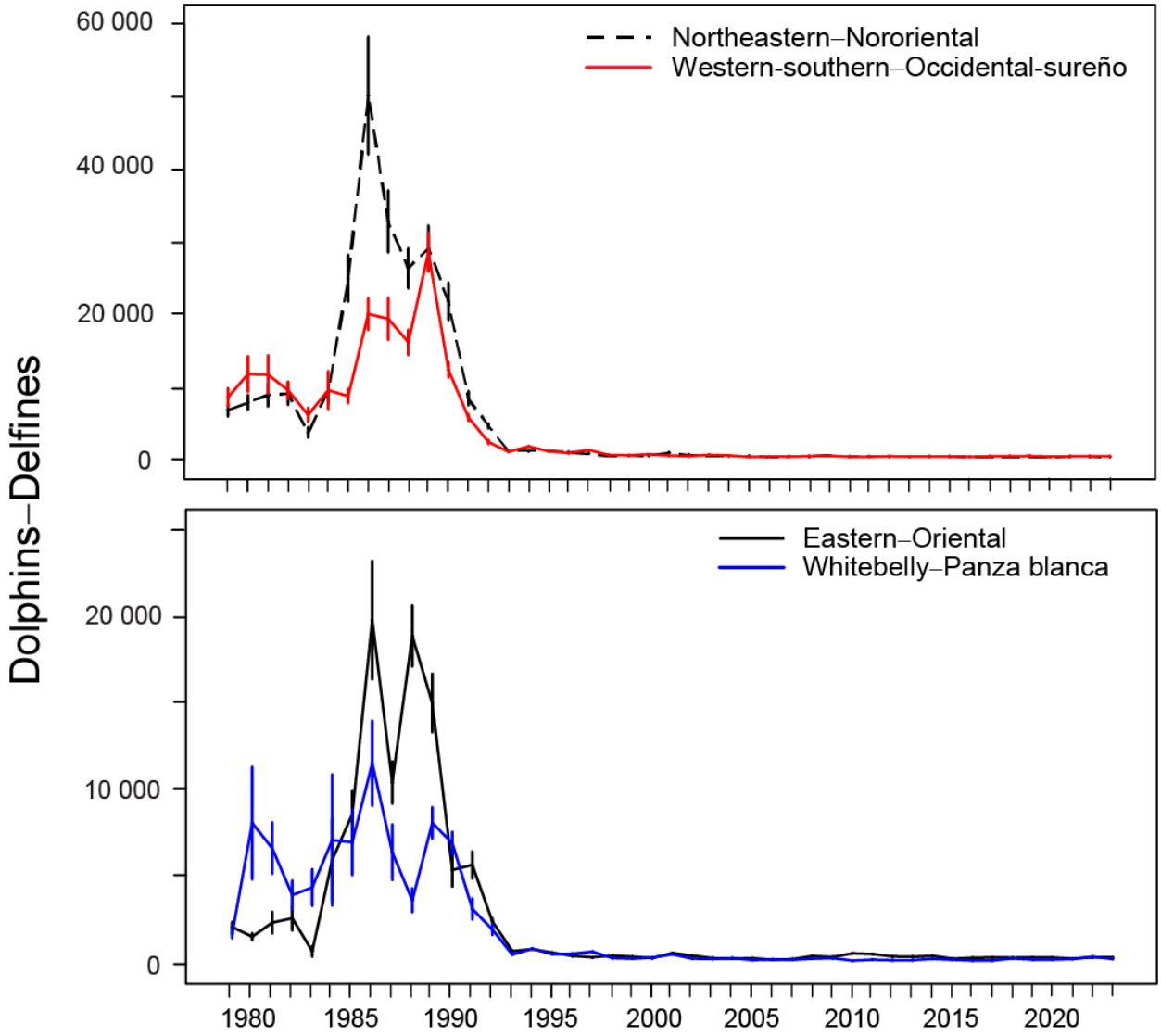

FIGURE 2. Estimated mortalities for the stocks of spotted (upper panel) and spinner (lower panel) dolphins in the Agreement Area, 1979-2023. Each vertical line represents one positive and one negative standard error.

FIGURA 2. Mortalidad estimada de las poblaciones de delfines manchados (panel superior) y tornillo (panel inferior) en el Área del Acuerdo, 1979-2023. Cada línea vertical representa un error estándar positivo y un error estándar negativo.

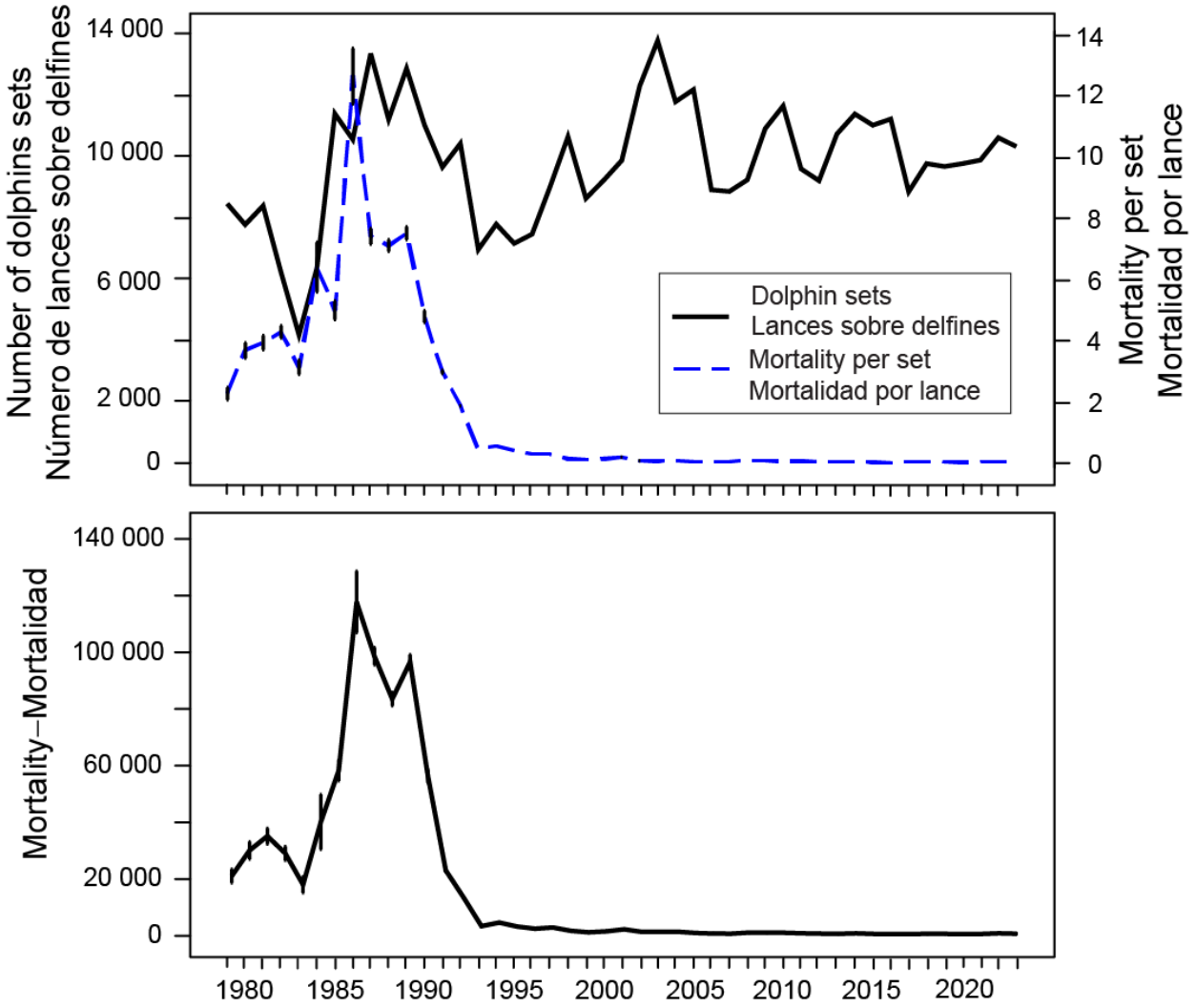

FIGURE 3. Total number of dolphin sets and average mortality per set (upper panel) and estimated total mortality (lower panel) for all dolphins in the Agreement Area, 1979-2023. Each vertical line represents one positive and one negative standard error.

FIGURA 3. Número total de lances sobre delfines y mortalidad media por lance (panel superior) y mortalidad total estimada (panel inferior) para todas especies de delfines en el Área del Acuerdo, 1979-2023. Cada línea vertical representa un error estándar positivo y un error estándar negativo.

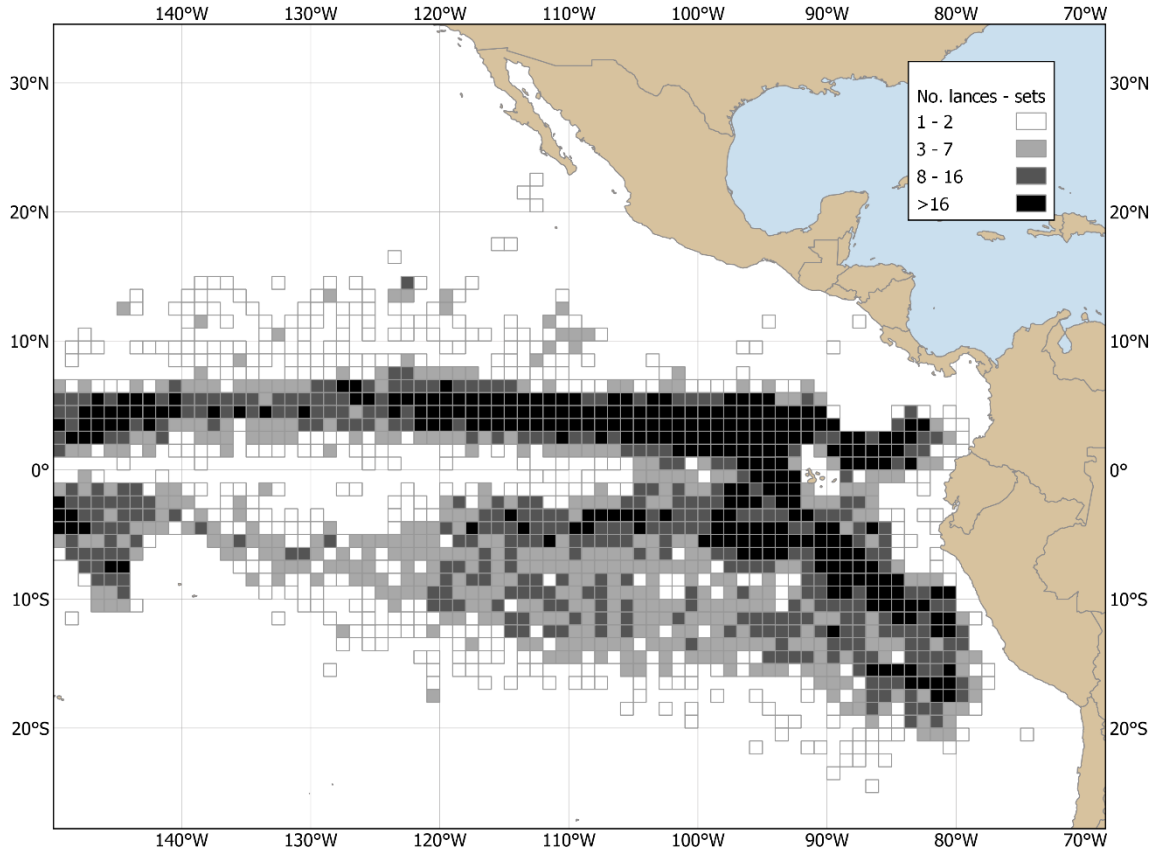

FIGURE 4a. Spatial distribution of sets on tuna associated with floating objects in the Agreement Area, 2022.
FIGURA 4a. Distribución espacial de los lances sobre atunes asociados a objetos flotantes en el Área del Acuerdo, 202**2**.

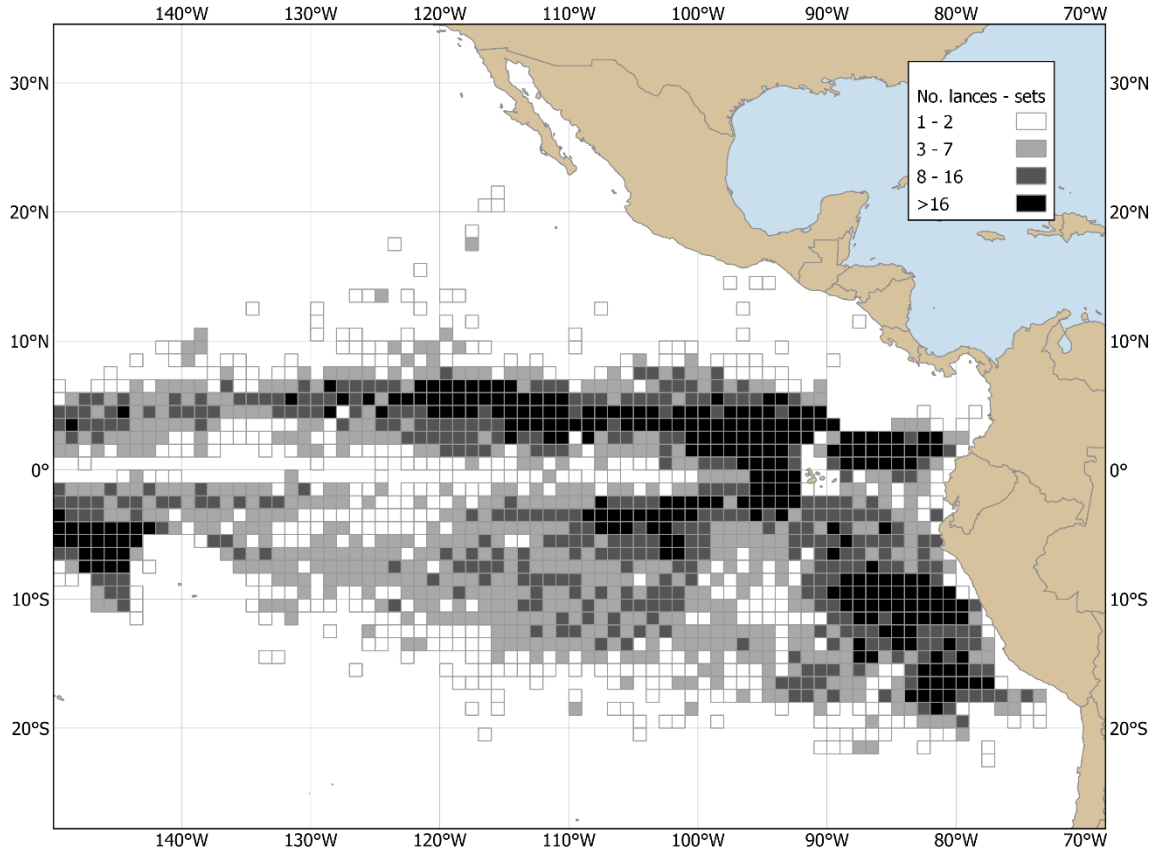

FIGURE 4b. Spatial distribution of sets on tuna associated with floating objects in the Agreement Area, 202**3**.
FIGURA 4b. Distribución espacial de los lances sobre atunes asociados a objetos flotantes en el Área del Acuerdo, 2023.

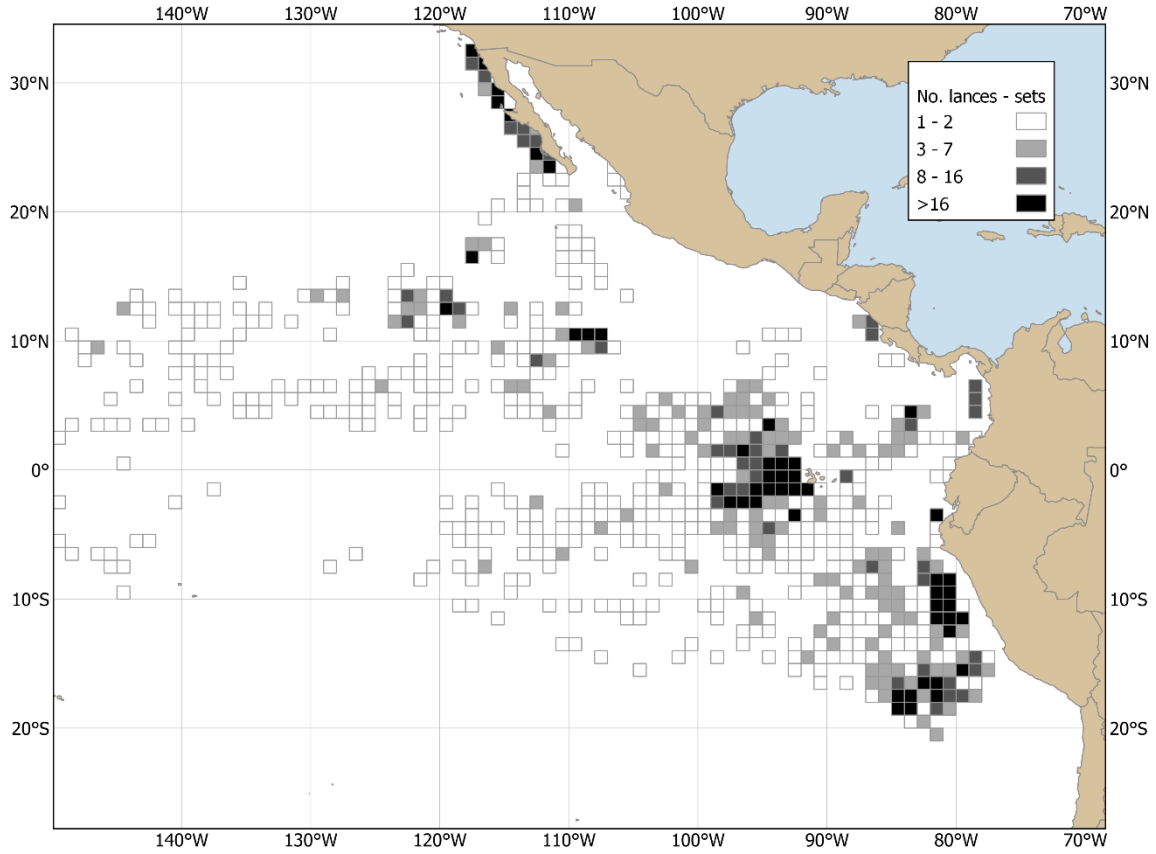

FIGURE 5a. Spatial distribution of sets on unassociated schools of tunas in the Agreement Area, 2022.
FIGURA 5a. Distribución espacial de lances sobre cardúmenes de atunes no asociados en el Área del Acuerdo, 2022.

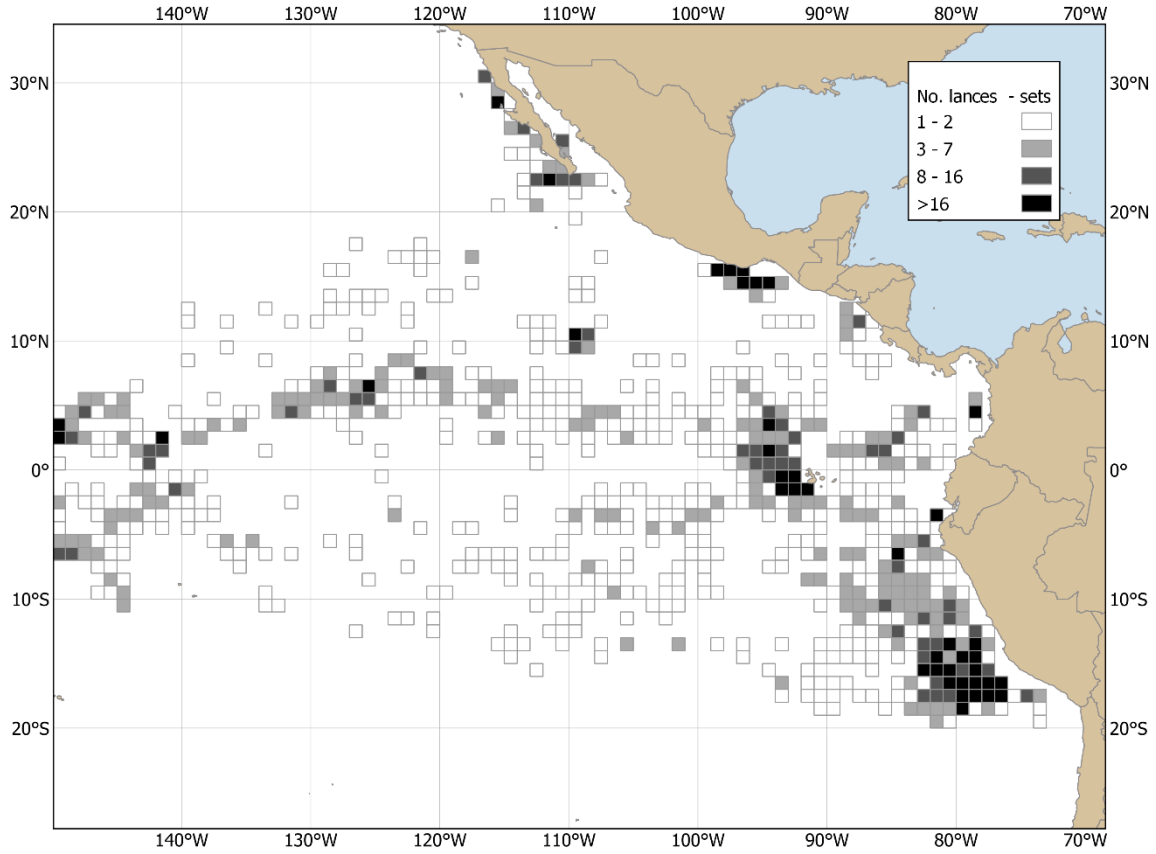

FIGURE 5b. Spatial distribution of sets on unassociated schools of tunas in the Agreement Area, 2023.
FIGURA 5b. Distribución espacial de lances sobre cardúmenes de atunes no asociados en el Área del Acuerdo, 202**3**.

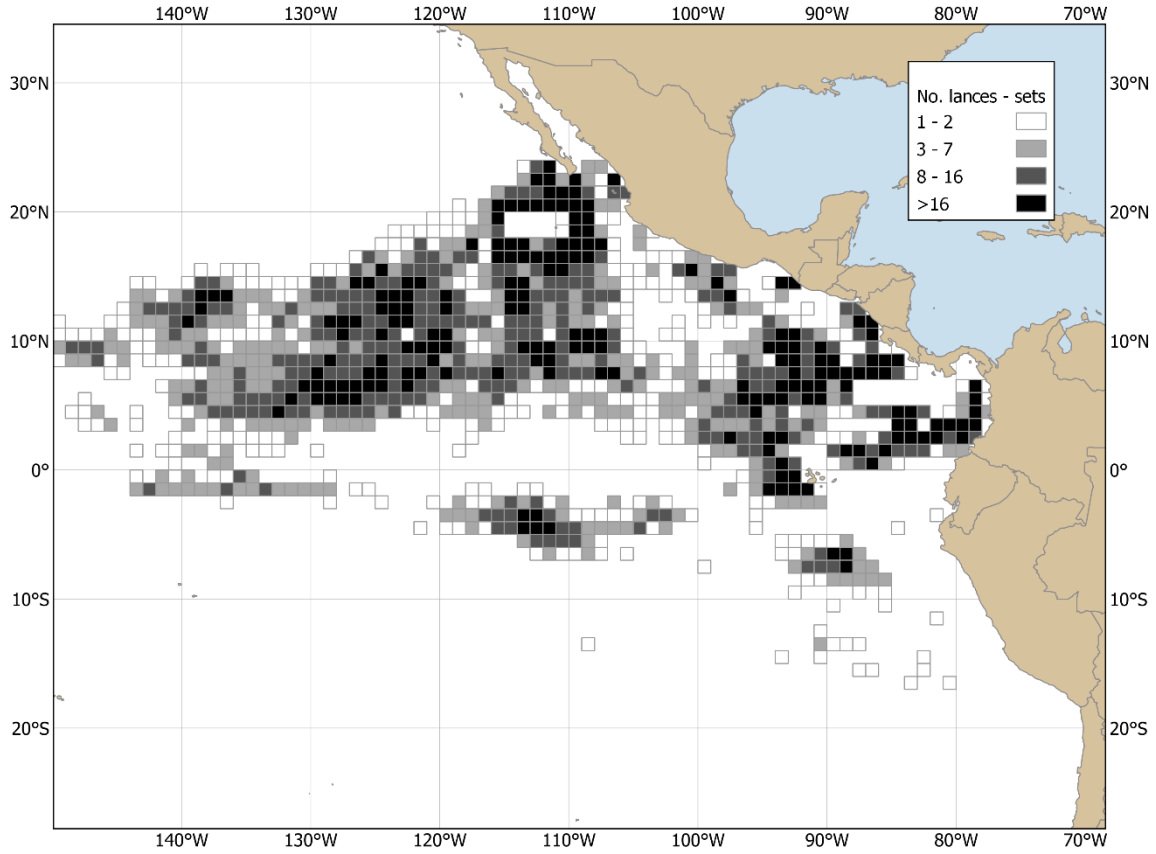

FIGURE 6a. Spatial distribution of sets on tuna associated with dolphins in the Agreement Area, 2022.
FIGURA 6a. Distribución espacial de los lances sobre atunes asociados a delfines en el Área del Acuerdo, 2022.

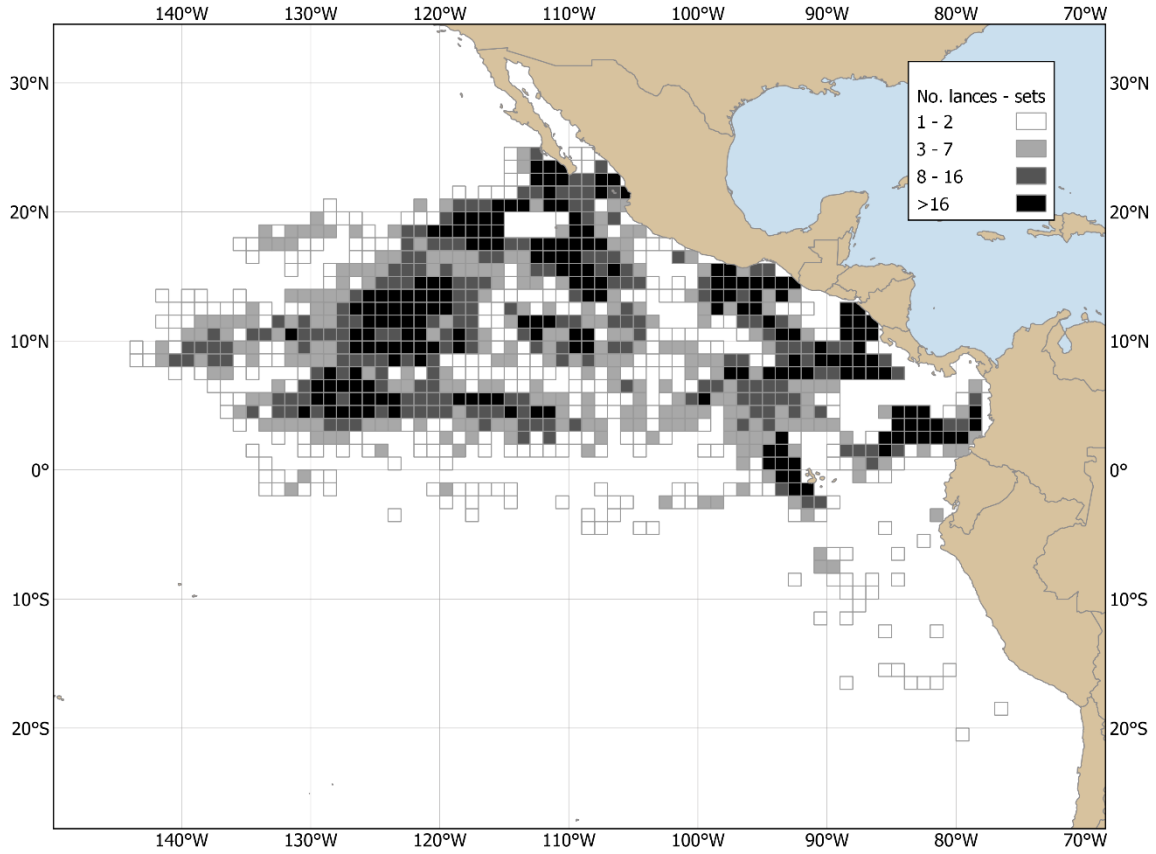

FIGURE 6b. Spatial distribution of sets on tuna associated with dolphins in the Agreement Area, 2023.
FIGURA 6b. Distribución espacial de los lances sobre atunes asociados con delfines en el Área del Acuerdo, 2023.

TABLE 1. Coverage of vessels by the On-Board Observer Program of trips initiated during 2023with activity in the Agreement Area. Percentage in parenthesis, unless otherwise noted
TABLA 1. Cobertura de buques por el Programa de Observadores a Bordo de viajes iniciados durante 2023 con actividad en el Área del Acuerdo. Porcentaje en paréntesis a menos que se indique de otra manera.

	Clase 6 – Class-6 por/by prog.				
Pabellón - Flag	**Viajes/Trips**	**Nac./Nat**	**CIAT/IATTC**	**None - Ninguno**	**% obs.**
Colombia	48	25(52)	23(48)	-	100
Ecuador	382	126(33)	256(67)		100
El Salvador	15	-	15(100)	-	100
European Union (ESP) – Unión Europea (ESP)	18	6 (33)	12 (67)	-	100
México	195	102(52)	93(48)	-	100
Nicaragua	21	9(43)	12 (57)	-	100
Panamá	102	46(45)	56(55)	-	100
Perú	3	-	3 (100)	-	- 00
United States – Estados Unidos	49	29 (59)	20(41)	-	100
Venezuela	36	18(50)	18(50)	-	100
Subtotal	**869**	**332(42)**	**508(58)**	**-**	**100**
	Buques de clase <6 – Class <6 vessels				
Ecuador	17	4	13		
Todas las clases – All classes	**886**	**336**	**521**		

TABLE 2. Estimates of mortalities of dolphins in 2023, population abundance, and relative mortality, by stock.
TABLA 2. Estimaciones de la mortalidad de delfines en 2023, la abundancia de las poblaciones, y la mortalidad relativa, por población.

Species and stock	Mortality	Population abundance	Relative mortality (%)
Especie y población	**Mortalidad**	**Abundancia de la población**	**Mortalidad relativa (%)**
Offshore spotted dolphin—Delfín manchado de altamar[1]			
Northeastern—Nororiental	115	911,177	0.01
Western/southern—Occidental y sureño	195	911,830	0.02
Spinner dolphin—Delfín tornillo[1]			
Eastern—Oriental	274	790,613	0.03
Whitebelly—Panza blanca	178	711,883	0.025
Common dolphin—Delfín común[2]			
Northern—Norteño	29	449,462	< 0.01
Central	26	577,048	<0.01
Southern—Sureño	7	1,525,207	<0.01
Other dolphins—Otros delfines[3]	4		
Total	**828**		

[1] Logistic model for 1986-2006 (IATTC SAB-07-05);
[1] Modelo logístico para 1986-2006 (CIAT SAB-07-05)
[2] Weighted averages for 1998-2003 (IATTC Special Report 14: Appendix 5)
[2] Promedios ponderados para 1998-2003 (Informe Especial de la CIAT 14: Anexo 5)
[3] "Other dolphins" includes the following species and stocks, whose observed mortalities were as follows: Central American spinner dolphin (*Stenella longirostris centroamericana*) 6, striped dolphin (*Stenella coeruleoalba*) 3, roughtoothed dolphin (*Steno bredanensis*) 2, and unidentified dolphins, 1.
[3] "Otros delfines" incluye las siguientes especies y poblaciones, con las mortalidades observadas correspondientes: delfin tornillo centroamericano (*Stenella longirostris centroamericana*) 6, (*Steno bredanensis*) 2, y delfines no identificados, 1.

TABLE 3. Annual estimates of dolphin mortality, by species and stock since 1979.
TABLA 3. Estimaciones anuales de la mortalidad de delfines, por especie y población desde 1979.

	Offshore spotted[1]		Spinner		Common			Others	Total
	Northeast-ern	Western-southern	Eastern	White belly	Northern	Central	Southern		
	Manchado de altamar[1]		Tornillo		Común			Otros	Total
	nor-oriental	Occidental y sureño	Oriental	Panza blanca	Norteño	Central	Sureño		
1979	4,828	6,254	1,460	1,312	4,161	2,342	94	880	21,331
1980	6,468	11,200	1,108	8,132	1,060	963	188	633	29,752
1981	8,096	12,512	2,261	6,412	2,629	372	348	367	32,997
1982	9,254	9,869	2,606	3,716	989	487	28	1,347	28,296
1983	2,430	4,587	745	4,337	845	191	0	353	13,488
1984	7,836	10,018	6,033	7,132	0	7,403	6	156	38,584
1985	25,975	8,089	8,853	6,979	0	6,839	304	1,777	58,816
1986	52,035	20,074	19,526	11,042	13,289	10,884	134	5,185	132,169
1987	35,366	19,298	10,358	6,026	8,216	9,659	6,759	3,200	98,882
1988	26,625	13,916	18,793	3,545	4,829	7,128	4,219	2,074	81,129
1989	28,898	28,530	15,245	8,302	1,066	12,711	576	3,123	98,451
1990	22,616	12,578	5,378	6,952	704	4,053	272	1,321	53,874
1991	9,005	4,821	5,879	2,974	161	3,182	115	990	27,127
1992	4,657	1,874	2,794	2,044	1,773	1,815	64	518	15,539
1993	1,112	773	725	437	139	230	0	185	3,601
1994	847	1,228	828	640	85	170	0	298	4,096
1995	952	859	654	445	9	192	0	163	3,274
1996	818	545	450	447	77	51	30	129	2,547
1997	721	1,044	391	498	9	114	58	170	3,005
1998	298	341	422	249	261	172	33	100	1,876
1999	358	253	363	192	85	34	1	62	1,348
2000	295	435	275	262	54	223	10	82	1,636
2001	592	315	470	374	94	205	46	44	2,140
2002	435	203	403	182	69	155	3	49	1,499
2003	288	335	290	170	133	140	97	39	1,492
2004	261	256	223	214	156	97	225	37	1,469
2005	273	100	275	108	114	57	154	70	1,151
2006	147	135	160	144	129	86	40	45	886
2007	189	116	175	113	55	69	95	26	838
2008	184	167	349	171	104	14	137	43	1,169
2009	266	254	288	222	109	30	49	21	1,239
2010	170	135	510	92	124	116	8	15	1,170
2011	172	124	467	139	35	12	9	28	986
2012	151	187	324	107	49	4	30	18	870
2013	158	145	303	111	69	0	8	7	801
2014	181	168	356	183	49	13	9	16	975
2015	191	158	196	139	43	21	12	5	765
2016	127	111	243	89	82	36	9	5	702
2017	92	178	266	98	26	9	16	3	688
2018	99	197	252	205	41	1	18	6	819
2019	104	220	270	142	25	3	2	12	778
2020	105	154	251	138	1	17	3	20	689
2021	167	174	195	173	3	6	5	6	729
2022	147	197	271	300	23	2	20	5	965
2023	115	195	274	178	29	26	7	4	828

[1] Estimates for offshore spotted dolphins include mortalities of coastal spotted dolphins.
[1] Las estimaciones de delfines manchados de altamar incluyen mortalidades de delfines manchados costeros.

TABLE 4. Standard errors of annual mortality estimates of dolphins, by species and stock, for 1979-1994. There are no standard errors for 1995-2000 and after 2003 because the coverage was at or nearly at 100% during those years.
TABLA 4. Errores estándar de las estimaciones anuales de la mortalidad de delfines, por especie y población, para 1979-1994. No se cuenta con errores estándar para 1995-2000 y después de 2003, porque la cobertura fue de 100%, o casi, en esos años.

	Offshore spotted		Spinner		Common			Other
	North-eastern	Western-southern	Eastern	Whitebelly	Northern	Central	Southern	
	Manchado de altamar		Tornillo		Común			Otros
	Nor-oriental	Occidental y sureño	Oriental	Panza blanca	Norteño	Central	Sureño	
1979	817	1,229	276	255	1,432	560	115	204
1980	962	2,430	187	3,239	438	567	140	217
1981	1,508	2,629	616	1,477	645	167	230	76
1982	1,529	1,146	692	831	495	168	16	512
1983	659	928	284	1,043	349	87	-	171
1984	1,493	2,614	2,421	3,773	-	5,093	3	72
1985	3,210	951	1,362	1,882	-	2,776	247	570
1986	8,134	2,187	3,404	2,454	5,107	3,062	111	1,722
1987	4,272	2,899	1,199	1,589	4,954	2,507	3,323	1,140
1988	2,744	1,741	1,749	668	1,020	1,224	1,354	399
1989	3,108	2,675	1,674	883	325	4,168	295	430
1990	2,575	1,015	949	640	192	1,223	95	405
1991	956	454	771	598	57	442	30	182
1992	321	288	168	297	329	157	8	95
2001	3	28	1	6	7	7	-	1
2002	1	2	1	1	1	1	1	1
2003	1	1	1	1	-	1	1	-

TABLE 5. Percentages of sets with no dolphin mortalities, with major gear malfunctions, with net collapses, with net canopies, average times of backdown (in minutes), and average number of live dolphins left in the net at the end of backdown. 1986-2008 data are from trips observed by the IATTC program only; data after 2008 include trips covered by national programs.
TABLA 5. Porcentajes de lances sin mortalidad de delfines, con averías mayores, con colapso de la red, con abultamiento de la red, duración media del retroceso (en minutos), y número medio de delfines en la red después del retroceso. Los datos de 1986-2008 provienen de viajes observados por el programa de la CIAT solamente; los datos posteriores a 2008 incluyen viajes observados por los programas nacionales.

	Sets with zero mortality (%)	Sets with major malfunctions (%)	Sets with net collapse (%)	Sets with net canopy (%)	Average duration of backdown (minutes)	Average number of live dolphins left in net after backdown
1986	38.1	9.5	29.0	22.2	15.3	6.0
1987	46.1	10.9	32.9	18.9	14.6	4.4
1988	45.1	11.6	31.6	22.7	14.3	5.5
1989	44.9	10.3	29.7	18.3	15.1	5.0
1990	54.2	9.8	30.1	16.7	14.3	2.4
1991	61.9	10.6	25.2	13.2	14.2	1.6
1992	73.4	8.9	22.0	7.3	13.0	1.3
1993	84.3	9.4	12.9	5.7	13.2	0.7
1994	83.4	8.2	10.9	6.5	15.1	0.3
1995	85.0	7.7	10.3	6.0	14.0	0.4
1996	87.6	7.1	7.3	4.9	13.6	0.2
1997	87.7	6.6	6.1	4.6	14.3	0.2
1998	90.3	6.3	4.9	3.7	13.2	0.2
1999	91.0	6.6	5.9	4.6	14.0	0.1
2000	90.8	5.6	4.3	5.0	14.9	0.2
2001	91.6	6.5	3.9	4.6	15.6	0.1
2002	93.6	6.0	3.1	3.3	15.0	0.1
2003	93.9	5.2	3.5	3.7	14.5	<0.1
2004	93.8	5.4	3.4	3.4	15.2	<0.1
2005	94.9	5.0	2.6	2.7	14.5	<0.1
2006	93.9	5.7	3.3	3.5	15.8	<0.1
2007	94.2	5.1	1.6	3.4	15.2	<0.1
2008	92.4	4.9	2.9	3.7	16.1	0.1
2009	93.3	5.2	1.8	3.1	16.7	<0.1
2010	94.1	4.7	1.3	2.4	16.2	<0.1
2011	94.0	4.1	1.9	2.1	16.3	<0.1
2012	94.5	4.3	1.9	1.5	16.5	<0.1
2013	95.4	4.2	1.3	1.3	15.4	<0.1
2014	95.5	3.7	1.3	1.3	16.2	<0.1
2015	96.4	4.3	1.1	1.2	15.4	<0.1
2016	96.4	3.8	0.9	0.9	15.2	<0.1
2017	96.2	3.6	1.0	1.0	15.9	<0.1
2018	95.8	3.3	0.8	1.5	17.3	<0.1
2019	95.8	4.1	1.1	1.1	16.6	<0.1
2020	96.5	3.9	0.3	0.9	17.0	0
2021	96.5	3.5	0.7	0.8	17.0	0
2022	96.0	3.3	0.3	1.3	18.1	0
2023	96.2	3.4	0.5	1.1	17.4	0

TABLE 6. Weekly reports of dolphin mortality received, 2023.
TABLA 6. Informes semanales de mortalidad de delfines recibidos, 2023.

Flag	Program	Required	Received	%
Colombia	CIAT - IATTC	198	198	100
	Nal.-Nat.	207	207	100
Ecuador	CIAT - IATTC	1,511	1,511	100
	Nal.-Nat	719	719	100
El Salvador	CIAT - IATTC	111	111	100
EU (ESP)	CIAT - IATTC	88	88	100
	Nal.-Nat	61	61	
Mexico	CIAT - IATTC	502	502	100
	Nal.-Nat.	555	555	100
Nicaragua	CIAT - IATTC	83	83	100
	Nal.-Nat.	44	44	100
Panama	CIAT - IATTC	352	352	100
	Nal.-Nat.	291	291	100
Peru		6	6	100
USA	CIAT - IATTC	109	109	100
	WCPFC	103	103	100
Venezuela	CIAT - IATTC	133	133	100
	Nal.-Nat.	139	139	100
Total		**5,212**	**5,212**	**100.0**

TABLE 7. Preliminary reports of the mortalities of dolphins in 2024, to 22 September.
TABLA 7. Informes preliminares de las mortalidades de delfines en 2024, hasta el 22 de septiembre.

Species and stock Especie y población	Total mortality Mortalidad total	Limit Límite	Used (%) Usado (%)
Offshore spotted dolphin – Delfín manchado de altamar			
Northeastern—Nororiental	136	793	17.2
Western-southern--Occidental-sureño	114	881	12.9
Spinner dolphin – Delfín tornillo			
Eastern—Oriental	216	655	33.0
Whitebelly--Panza blanca	121	666	18.2
Common dolphin – Delfín común			
Northern—Norteño	86	562	15.3
Central	26	207	12.6
Southern—Sureño	0	1,845	0
Others and unidentified--Otros y no identificados	7		
Total	**706**	**5,000**	**14.1**

TABLE 8. Summary of possible infractions identified by the International Review Panel at its 71st and 72nd meetings, **July** and October 2023.
TABLA 8. Resumen de posibles infracciones identificadas por el Panel Internacional de Revisión en su 71ª y 72ª reuniones, **julio** y octubre de 2023.

INFRACCIONES MAYORES / MAJOR INFRACTIONS:	
Viaje sin observador Trips without an observer	0
Viajes con lances en delfines sin LMD asignado Trips with dolphin sets but no DML assigned	0
Viajes con capitanes no incluidos en la lista del APICD Trips with captains not on the AIDCP list – see corrective note in Appendix 1	1
Viajes sin paño de protección de delfines Trips without a dolphin safety panel	1
Lances intencionales después de alcanzar el LMD Intentional sets made after reaching the DML	0
Lances o cazas con uso de explosivos Sets or chases with use of explosives	0
Lances sobre stocks o tipos de manadas prohibidas Sets on banned stocks or school types	0
Lances sin retroceso Sets without a required backdown	0
Lances con embolsamiento o salabardeo de delfines Sets with dolphin sack-up or brail	0
Lances sin evitar herir o matar delfines Sets with unavoided dolphin injury or mortality	0
Total	**2**
OTRAS INFRACCIONES / OTHER INFRACTIONS:	
Viajes sin balsa Trips without a required raft	2
Viajes con < 3 lanchas rápidas y/o sin bridas de remolque Trips with < 3 speedboats and/or missing towing bridles	0
Viajes sin reflector de alta intensidad Trips without a required high-intensity floodlight	3
Viajes sin máscaras de buceo Trips without required facemasks	0
Lances nocturnos (ocurrieron en dos viajes) Night sets (occurred in two trips)	0
Lances sin rescate adicional Sets without required deployment of rescuer	0
Lances sin rescate después del retroceso Sets without continued rescue effort after backdown	0
Viajes con lances sobre delfines antes de la notificación del LMD Trips with dolphin sets before the DML notification	0
Total	**5**
Casos de interferencia al observador Cases of observer interference	0
Viajes revisados en estas reunions Trips reviewed in these meetings	865
Lances sobre delfines revisados en estas reuniones Dolphin sets reviewed in these meetings	10,444
Lances accidentales revisados en estas reuniones Accidental sets reviewed in these meetings	1

TABLE 9. Responses for six types of possible infractions identified by the International Review Panel at its 71st and 72nd meetings.
TABLA 9. Respuestas para seis tipos de posibles infracciones identificadas por el Panel Internacional de Revisión en su 71ª y 72ª reuniones.

No. de casos	Sin respuesta	Respuestas					
		Bajo investigacion	No hubo infracción	Infracción: sin sanción	Infracción: aviso	Infracción: sanción	Total
No. of cases	No response	Responses					
		Under investigation	No infraction	Infraction: no sanction	Infraction: warning	Infraction: sanction	Total
HOSTIGAMIENTO AL OBSERVADOR – OBSERVER HARASSMENT							
Ningún caso identificado durante el periodo de este informe *No identified cases during this report period*							
USO DE EXPLOSIVOS – USE OF EXPLOSIVES *Ningún caso identificado durante el periodo de este informe* *No identified cases during this report period*							
LANCES NOCTURNOS– NIGHT SETS *Ningún caso identificado durante el periodo de este informe* *No identified cases during this report period*							
PESCAR SIN OBSERVADOR – FISHING WITHOUT AN OBSERVER *Ningún caso identificado durante el periodo de este informe* *No identified cases during this report period*							
PESCAR SOBRE DELFINES SIN LMD – FISHING ON DOLPHINS WITHOUT A DML *Ningún caso identificado durante el periodo de este informe* *No identified cases during this report period*							
LANCES SOBRE DELFINES DESPUÉS DE ALCANZAR EL LMD-- SETS ON DOLPHINS AFTER REACHING DML *Ningún caso identificado durante el periodo de este informe* *No identified cases during this report period*							

Appendix 1.

POSSIBLE INFRACTIONS IDENTIFIED BY THE IRP

Brief descriptions of government actions taken, as reported to the Secretariat by September 26, 2024, are included. If no action is listed for a possible infraction, the Secretariat has not received a response from the government.

Abbreviations: DSP = Dolphin Safety Panel

COLOMBIA

Vessel	*IRP recno*	*Review date*	*Identified infractions*
COL 1	2023-502	2023/10	1) 1 Trip without a required high intensity floodlight

ECUADOR

Vessel	*IRP recno*	*Review date*	*Identified infractions*
ECU 1	2022-892	2023/07	1) 1 Trip without a dolphin safety panel

Action taken: 1) The government determined that there was no infraction according to its national legislation.

ECU 2	2023-141	2023/07	1) 1 Trip without a required raft

Action taken: 1) The government verified that all required dolphin safety gear was onboard, so it was determined that no infraction occurred.

ECU 3	2023-125	2023/07	1) 1 Trip without a required high intensity floodlight

Action taken: 1) The government verified that all required dolphin safety gear was onboard, so it was determined that no infraction occurred.

ECU 4	2023-532	2023/10	1) 1 Trip with captain not on the AIDCP list
2023/10			2) 1 Trip without a required high intensity floodlight

Action taken: 1), 2) The case was turned over to the government's legal department for the application of the corresponding sanction.

VENEZUELA

Vessel	*IRP recno*	*Review date*	*Identified infractions*
VEN 1	2023-281	2023/10	1) 1 Trip without a required raft