AGREEMENT ON THE INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

38TH MEETING OF THE PARTIES

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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), 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 created 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 June 2018, 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. In accordance with Article XIV of the AIDCP and Article VII, paragraph 1 (t) of the Antigua Convention , the IATTC provides the Secretariat for the AIDCP, including coordination of the On-Board Observer Program and the Tuna Tracking and Verification System.

2. THE ON-BOARD OBSERVER PROGRAM

The IATTC observer program, along with 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) compose the AIDCP On-Board Observer Program. 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 Convention Areas of both organizations.

2.1. Observer coverage

In 2017 the Program placed observers aboard 100% of the trips by purse-seine vessels of carrying capacity greater than 363 metric tons (Class 6) in the Agreement Area, as required by the AIDCP.

In 2017, the Ecuadorian national program had a goal of sampling approximately one-third of the trips by its fleet, and the Colombian, European Union, Mexican, Nicaraguan, Panamanian, and Venezuelan national programs each had a goal of sampling approximately half of the trips by their respective fleets. The IATTC program covered the remainder of the trips of vessels from these seven fleets, plus all trips by vessels of other fleets, except for the one noted above, for a total of 59% of all trips.

During 2017, AIDCP observers departed on 864 fishing trips made in the Agreement Area by vessels operating under the flags of Colombia, Ecuador, El Salvador, European Union (Spain), Guatemala, Mexico, Nicaragua, Panama, the United States, and Venezuela (Table 1). Of these, 18 trips were by vessels of less than 363 tons capacity required to carry observers during closure periods, or as required by IATTC Resolution C-12-08, and 14 were by Class-6 vessels monitored by WCPFC cross-endorsed observers. An additional 4 trips were accompanied by AIDCP observers but did not have any fishing activity in the Agreement Area; these trips are not included in Table 1.

2.2. Observer training

The IATTC staff conducted an observer training course from 13-20 November in Manta, Ecuador, with 12 attendees from the Ecuadorian national program. The cost for this training session was covered by the Ecuadorian national program.

In addition, the staffs of the IATTC and WCPFC conducted an observer training course for 18 trainees of WCPFC regional observer programs under the MOC described above. The session took place in Pohnpei, Federated States of Micronesia, from 30 January to 3 February. The training and travel costs were funded by the WCPFC.

3. DOLPHIN MORTALITY

3.1. Dolphin Mortality Limits (DMLs)

3.1.1. 2017 DMLs

The overall dolphin mortality limit (DML) for the international fleet in 2017 was 5,000 animals, and the unreserved portion of 4,900 was divided among 100 qualified vessels that requested DMLs. The average individual-vessel DML (ADML), based on 100 DML requests, was 49. No vessels renounced their DMLs. Five 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 only two of those utilized them. Six vessels lost their DML due to no utilization prior to 1 April. No vessels were granted a second-semester DML. No vessels were assigned a DML from the Reserve DML Allocation (RDA) managed at the

discretion of the Director of the IATTC. One vessel exceeded its DML during a set made on 27 April, and the flag Party reallocated 18 dolphins to the vessel from the DML it had available for reallocation, arguing that this was permissible since the set occurred after the 1 April deadline for DML utilization. This caused a significant discussion during the subsequent 61st Meeting of the IRP, and in October 2017 the 36th Meeting of the Parties approved an amendment to Annex IV.III.5 of the AIDCP to ensure that the established limitations in terms of DML reallocation are applied to all vessels that exceed their DMLs, regardless of the date on which this happened.

The distribution of dolphin mortalities in the fishery is shown in Figure 1.

3.1.2. 2018 DMLs

The Parties requested 103 DMLs for 2018 from the unreserved portion (4,900) of the overall fleet mortality limit. The utilization of the DMLs for the unreserved portion, as of 18 September, is as follows:

DML (Limit per vessel)	Assigned	Utilized by April 1	Renounced	Lost due to no utilization	Exempt due to *force majeure*
Full year (47)	103	95	1	5	2
Second semester	-	-	-	-	-
RDA	1	-	-	-	-

3.2. Estimates of the mortality of dolphins in 2017 due to fishing

The estimate of the mortality of dolphins in the fishery in 2017 is 683 animals (Table 2), compared to 702 mortalities recorded in 2016. The mortalities for 1979-2017, 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 1993-2017 are sums of the observed mortalities recorded by the IATTC and national programs, although estimates for 2001-2003 had to be adjusted for unobserved trips.

The mortalities of the principal dolphin species affected by the fishery have declined since the early 1990s (Figures 2-3). Estimates of the abundances of the various stocks of dolphins and their 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 8,863 in 2017, compared to 11,219 in 2016, and this type of set accounted for 35% of the total number of sets made in 2017, compared to 42% in 2016. The average mortality per set was 0.077 dolphins in 2017, compared to 0.063 dolphins in 2016. 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 decreased by 24% in 2017, as compared to 2016. The percentage of the catch of yellowfin taken in dolphin sets was 58% of the total catch in 2017 compared to 65% in 2016, and the average catch of yellowfin per dolphin set was 12.4 metric tons in 2017, compared to 12.8 metric tons in 2016. The mortality of dolphins per metric ton of yellowfin caught was 0.0062 in 2017, compared to 0.0049 in 2016.

The 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% in 2017, 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 2001 (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 1998-2017; in the same period the percentage of sets with net collapses decreased from about 30% to less than 2% on average, and that of net canopies from about 20% to less than 2% on average. 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 on at-sea reporting, which makes the vessel personnel responsible for transmitting these reports. During 2017, the reporting rate averaged 99.9% (Table 6).

Since 1 January 2001, the Secretariat has been reporting weekly to the Parties 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. INTERNATIONAL REVIEW PANEL

The International Review Panel (IRP) follows a general procedure for reporting compliance by vessels with measures established by the AIDCP to the government with jurisdiction over the vessel concerned. 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. Certain possible infractions are reported automatically; 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. In turn, the governments report back to the IRP on actions taken regarding these possible infractions.

In 2017 the IRP met in Mexico City, Mexico, on 17 July, and in La Jolla, California, USA, on 23 October. At the 61st Meeting in July, 15 members participated, including 13 representing Parties, 1 representing non-governmental environmental organizations, and 1 representing the tuna industry. 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.

5. 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 also 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.

All trips by vessels fishing in the Agreement Area that began in 2017 with an IDCP observer aboard were issued TTFs.

6. AMENDMENTS AND RESOLUTIONS AFFECTING THE OPERATION OF THE IDCP

No new resolutions were adopted by the 35th or 36th Meetings of the Parties, held in 2017. However, the 36th Meeting of the Parties amended section III.5 of Annex IV of the AIDCP to prevent a vessel that exceeds its DML from receiving any additional DML in that same year (see Section 3.1.1).

7. OTHER FUNCTIONS PERFORMED BY THE SECRETARIAT

7.1. Dolphin safety panel alignments

During 2017, the IATTC staff conducted four alignments of dolphin-safety panels (DSP) and inspections of dolphin rescue gear aboard purse-seine vessels.

7.2. 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 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 2017, four training seminars were held, which were attended by 229 fishermen.

Date	Program	Location
10-Jan	IATTC	Manta, Ecuador
11-Jan	PNAAPD (Mexico)	Mazatlán, Mexico
7-Aug	PNOV (Venezuela)	Panama City, Panama
4-Oct	IATTC	Manta, Ecuador

7.3. Statements of Participation

Statements of Participation are 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 2017, statements of the first type were issued for 139 fishing trips by vessels of Ecuador, El Salvador, the European Union, Guatemala, Mexico, Nicaragua, Panama, United States, and Venezuela.

8. RESEARCH

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 2016 and 2017. The pattern of floating-object sets was similar in both years (Figure 4), while the concentration of unassociated sets in the far west of the Agreement Area reported in 2016 was not observed in 2017 (Figure 5). For dolphin sets, there is an unusual dearth of sets in the middle of the fishing grounds in 2017, centered at about 10ºN and 100ºW (Figure 6).

A Workshop on Monitoring Dolphin Population Status in the Eastern Tropical Pacific Ocean was held in La Jolla on 18-20 October, 2016. The Report of the Workshop, authored by Kelli Johnson, André Punt, and Cleridy Lennert-Cody will be published as an IATTC Special Report. Three background documents have been published or are in the process of being published. André Punt wrote a Review of Contempory Stock Assessment Models, which was published in the Journal of Cetacean Research and Management (Punt 2017). Cleridy Lennert-Cody and co-authors have written a Review of Potential Line-Transect Methodologies for Estimating Abundance of Dolphin Stocks in the Eastern Tropical Pacific, which has been accepted for publication in the same journal. Michael Scott has edited another review, Data Available

for Assessing Dolphin Population Status in the Eastern Tropical Pacific Ocean, co-authored by scientists from the NMFS, IATTC, the Institute of Marine Research of Norway, and the Scripps Institution of Oceanography which will be published as an IATTC Special Report.

Cornelia Oedekoven, Stephen Buckland, and Laura Marshall, of the Centre for Research into Ecological and Environmental Modelling, University of St Andrews, United Kingdom, and Cleridy Lennert-Cody, of the IATTC, have developed design options for future dolphin abundance surveys (MOP-37-02). The designs, which are based on line-transect methodology, address two new issues: 1) the potential use of tuna vessels as survey vessels, and 2) estimation of the probability of detecting dolphin herds on the trackline, which Barlow (2015) suggested is less than the assumed value of 1.0. Several survey design options were presented, covering different objectives (estimate relative abundance only, or both absolute and relative abundance) and different dolphin stocks that might be of interest. The research was funded by the Pacific Alliance for Sustainable Tuna, of Mexico.

Caitlynn Birch, of the University of San Diego, and Michael Scott are currently studying how environmental change – seasonal, El Niño/La Niña, and long-term climate trends – affects the distribution and prevalence of the tuna-dolphin bond.

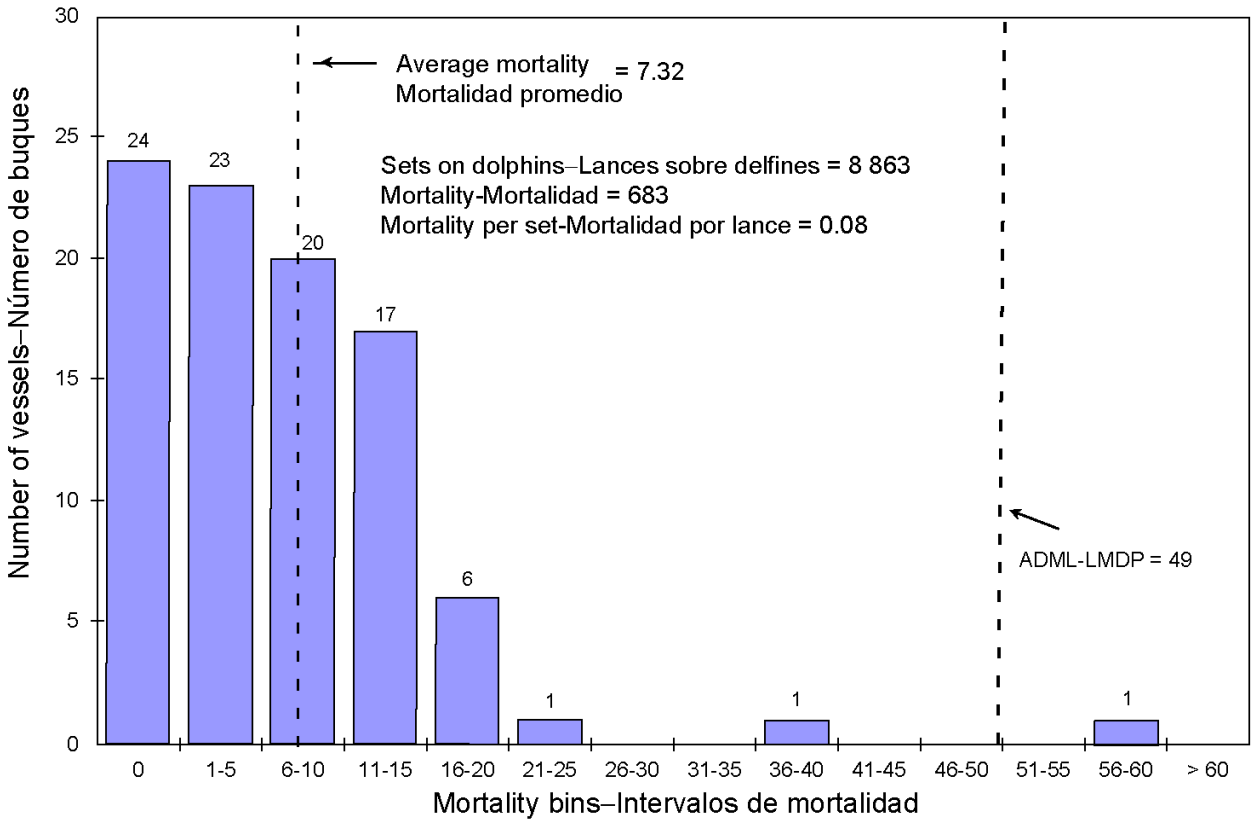

FIGURE 1. Distribution of dolphin mortality caused by vessels with DMLs during 2017.
FIGURA 1. Distribución de la mortalidad de delfines causada por buques con LMD durante 2017.

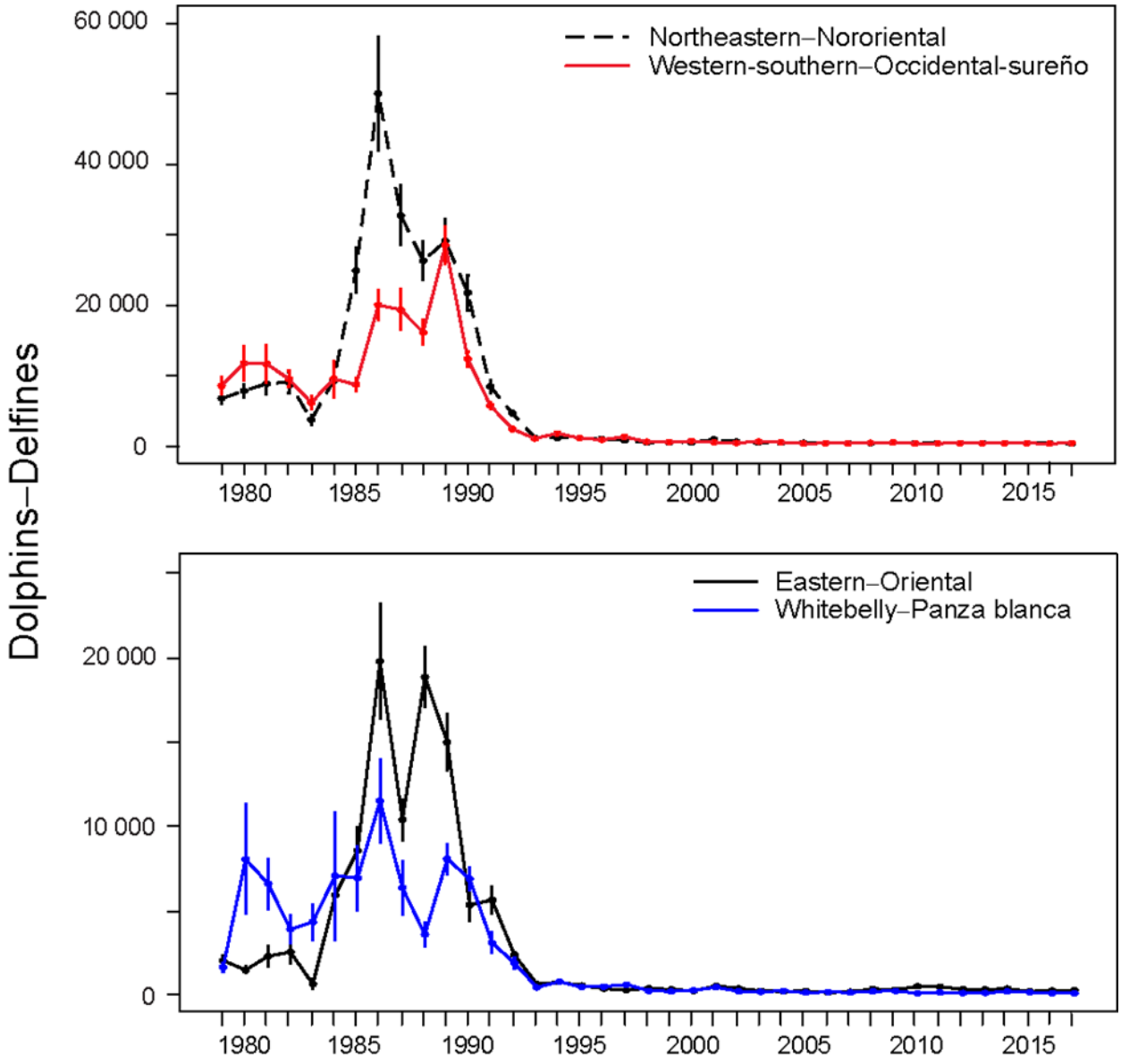

FIGURE 2. Estimated mortalities for the stocks of spotted (upper panel) and spinner (lower panel) dolphins in the eastern Pacific Ocean, 1979-2017. Each vertical line represents one positive and one negative standard error.

FIGURA 2. Mortalidad estimada de las poblaciones de delfines manchados (panel superior) y tornillo (panel inferior) en el Océano Pacífico oriental, 1979-2017. Cada línea vertical representa un error estándar positivo y un error estándar negativo.

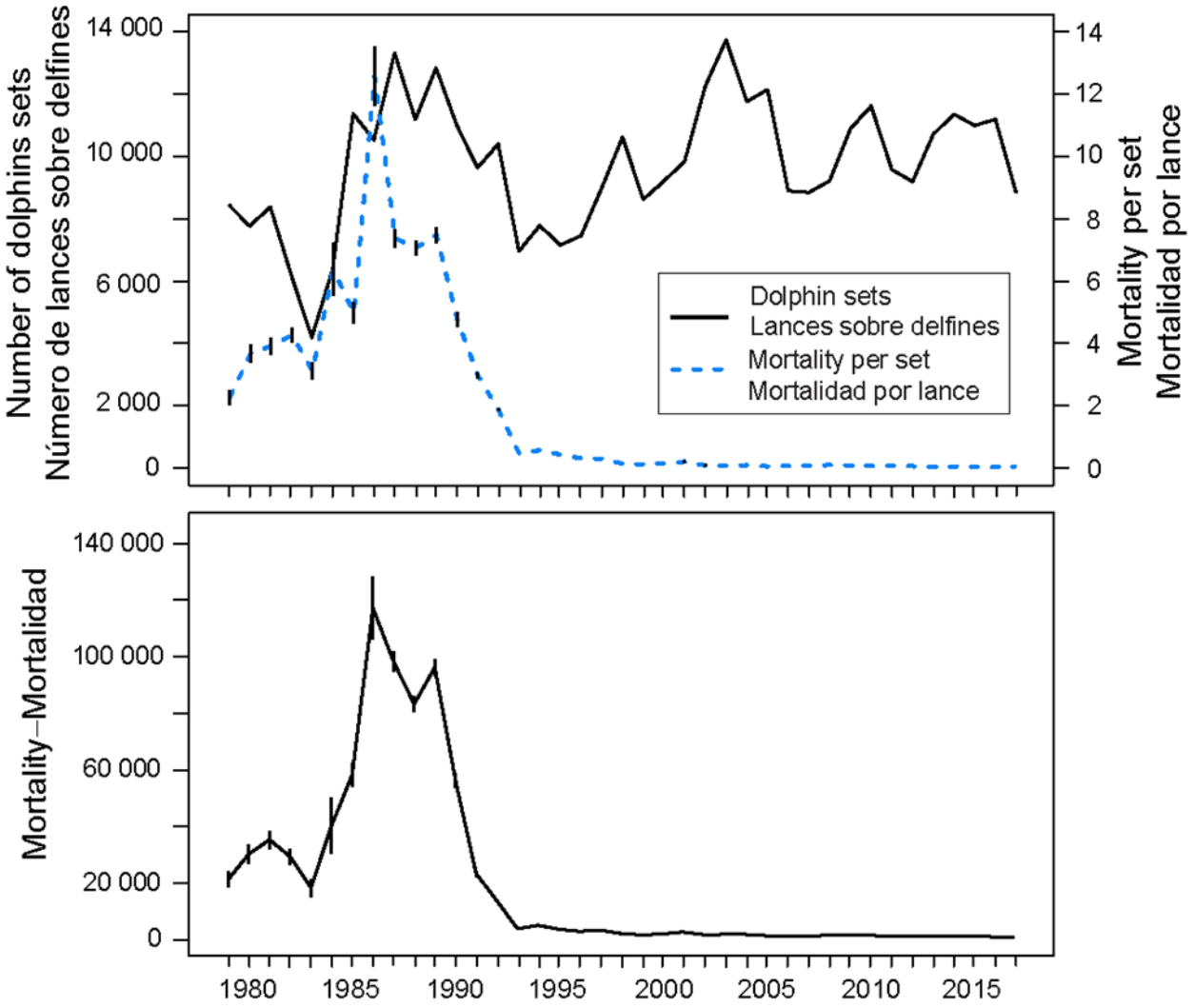

FIGURE 3. Total number of dolphin sets and average mortality per set (upper panel) and estimated total mortality (lower panel) for all dolphins in the EPO, 1979-2017. Each vertical line represents one positive and one negative standard error.

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 OPO, 1979-2017. Cada línea vertical representa un error estándar positivo y un error estándar negativo.

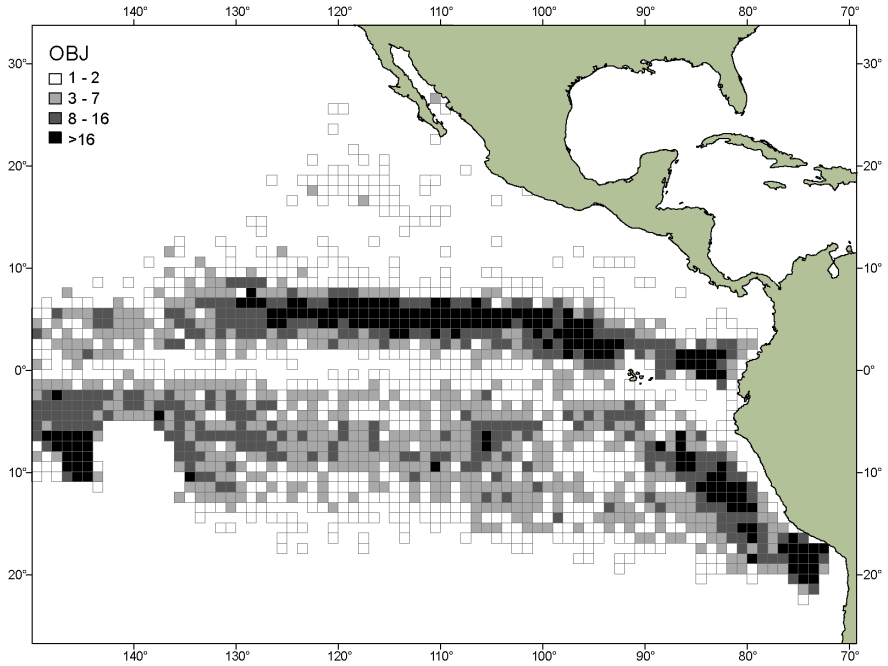

FIGURE 4a. Spatial distribution of sets on tuna associated with floating objects in the Agreement Area, 2016.
FIGURA 4a. Distribución espacial de los lances sobre atunes asociados con objetos flotantes en el Área del Acuerdo, 2016.

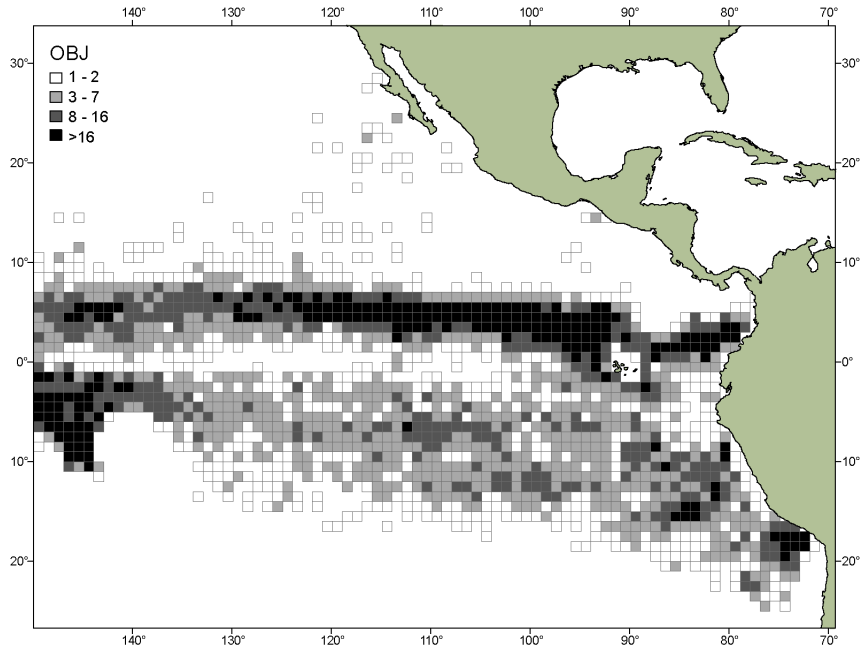

FIGURE 4b. Spatial distribution of sets on tuna associated with floating objects in the Agreement Area, 2017.
FIGURA 4b. Distribución espacial de los lances sobre atunes asociados con objetos flotantes en el Área del Acuerdo, 2017.

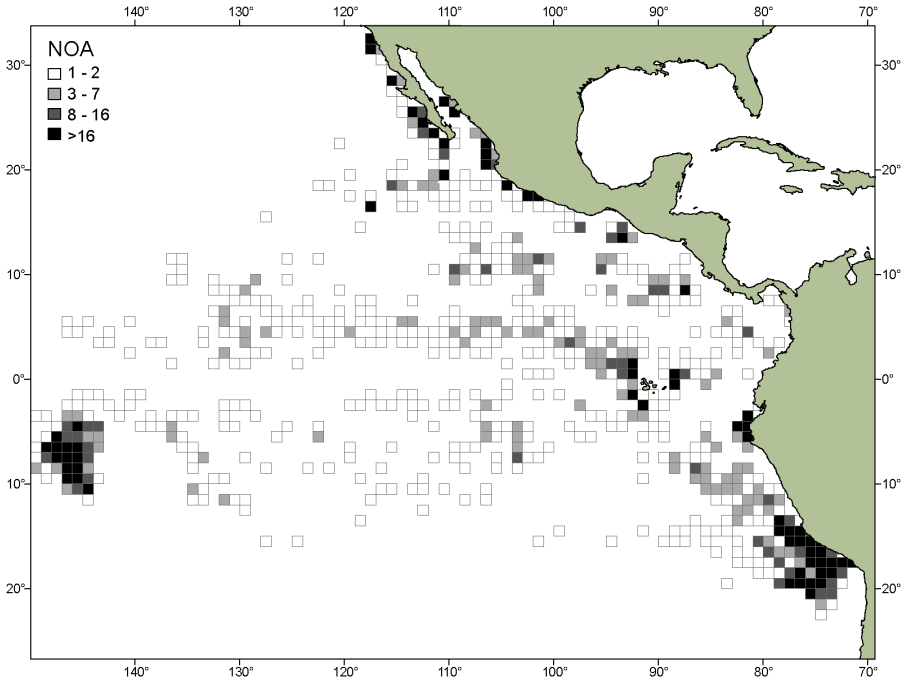

FIGURE 5a. Spatial distribution of sets on unassociated schools of tunas in the Agreement Area, 2016.
FIGURA 5a. Distribución espacial de lances sobre cardúmenes de atunes no asociados en el Área del Acuerdo, 2016.

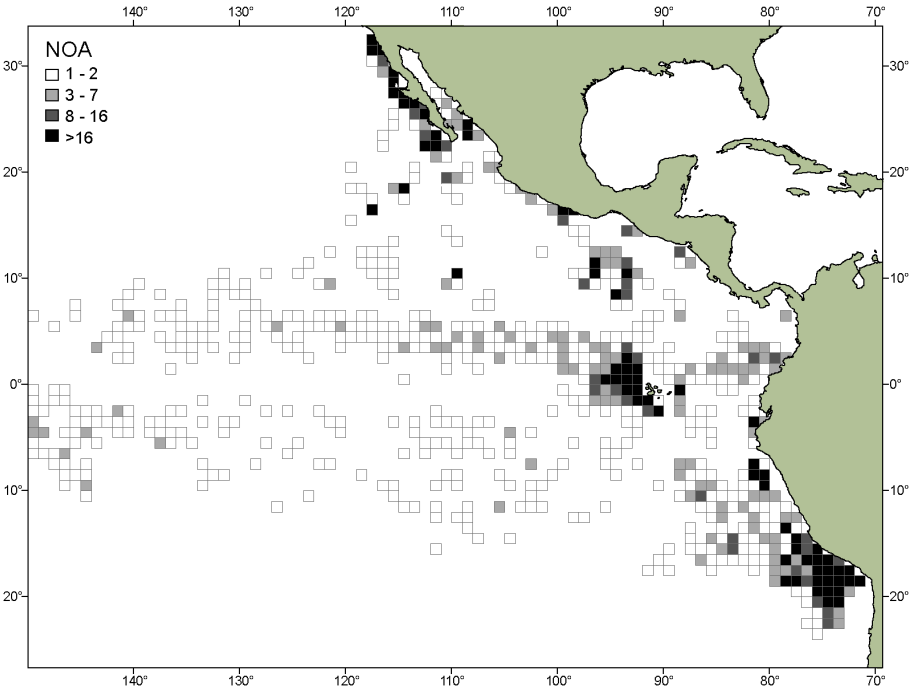

FIGURE 5b. Spatial distribution of sets on unassociated schools of tunas in the Agreement Area, 2017.
FIGURA 5b. Distribución espacial de lances sobre cardúmenes de atunes no asociados en el Área del Acuerdo, 2017.

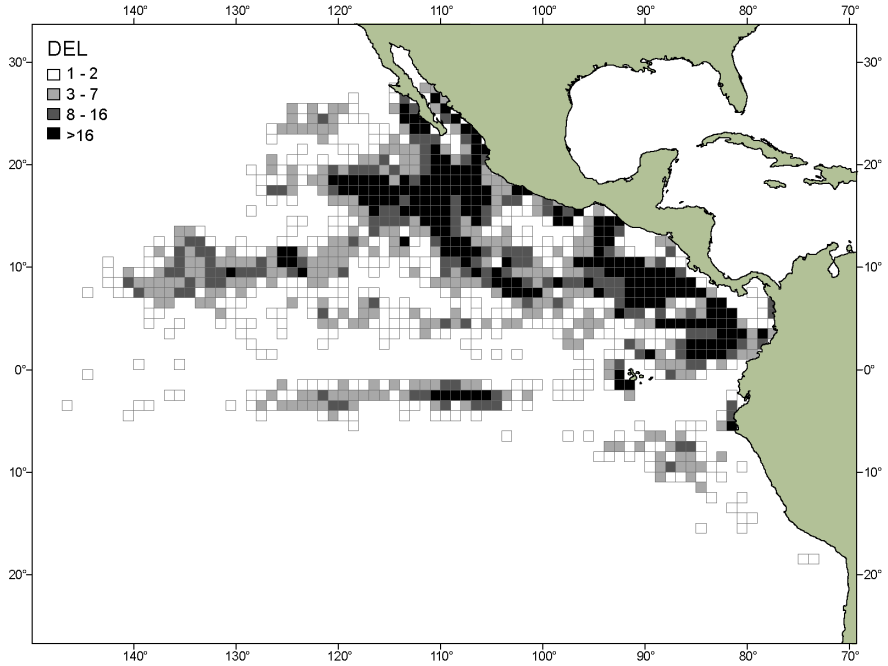

FIGURE 6a. Spatial distribution of sets on tuna associated with dolphins in the Agreement Area, 2016.
FIGURA 6a. Distribución espacial de los lances sobre atunes asociados con delfines en el Área del Acuerdo, 2016.

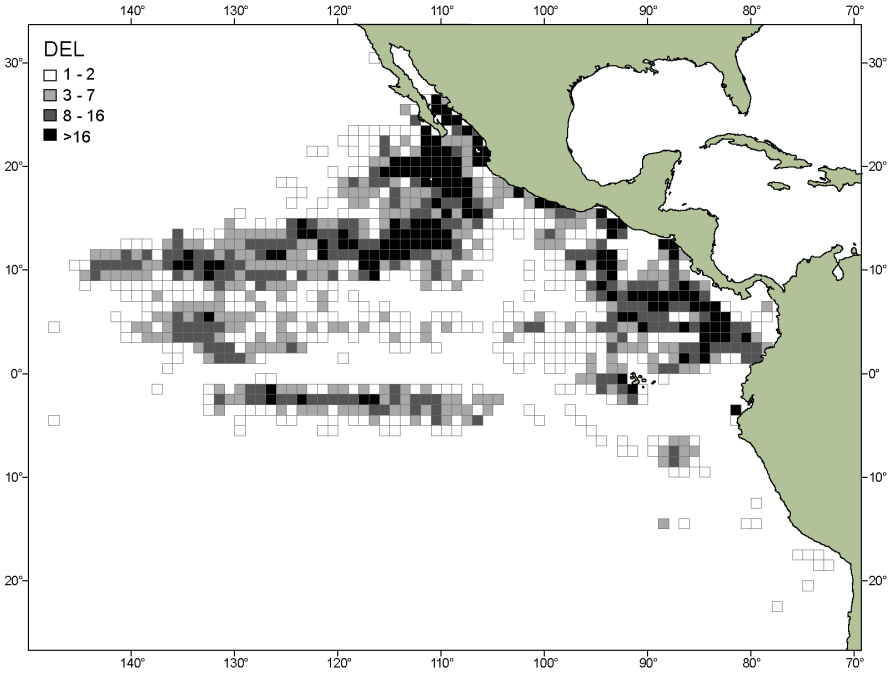

FIGURE 6b. Spatial distribution of sets on tuna associated with dolphins in the Agreement Area, 2017.
FIGURA 6b. Distribución espacial de los lances sobre atunes asociados con delfines en el Área del Acuerdo, 2017.

TABLE 1. Coverage of vessels by the On-Board Observer Program of trips initiated during 2017 with activity in the Agreement Area.
TABLA 1. Cobertura de buques por el Programa de Observadores a Bordo de viajes iniciados durante 2017 con actividad en el Área del Acuerdo.

Pabellón - Flag		Viajes/Trips	Nac./Nat	CIAT/IATTC	% obs.
			Clase 6 – Class-6[1]		
Colombia	COL	43	20	23	100
Ecuador	ECU	366	123	243	100
El Salvador	SLV	12	-	12	100
EU–UE (España – Spain)	ESP	11	5	6	100
México	MEX	198	94	104	100
Nicaragua	NIC	30	15	15	100
Panamá	PAN	80	42	38	100
Perú	PER	18	-	18	100
United States	USA	47	14[2]	33	100
Venezuela	VEN	41	21	20	100
Subtotal		**846**	**334**	**512**	**100**
			Clase 4 – Class-4		
Colombia	COL	1		1	-
Ecuador	ECU	17	5	12	-
Subtotal		**18**	**5**	**13**	**-**
			Todas las clases – All classes		
Total		**864**	**339**	**525**	**-**

[1] The AIDCP requires 100% coverage only on Class-6 vessels – El APICD requiere 100% de cobertura solamente para buques de clase 6
[2] Sampled by cross-endorsed observers of the WCPFC – Muestreados con observadores homologados de la WCPFC

TABLE 2. Estimates of mortalities of dolphins in 2017, population abundance, and relative mortality, by stock.
TABLA 2. Estimaciones de la mortalidad de delfines en 2017, 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	85	911,177	0.01
Western/southern—Occidental y sureño	183	911,830	0.02
Spinner dolphin—Delfín tornillo[1]			
Eastern—Oriental	266	790,613	0.03
Whitebelly—Panza blanca	95	711,883	0.01
Common dolphin—Delfín común[2]			
Northern—Norteño	26	449,462	0.01
Central	9	577,048	<0.01
Southern—Sureño	16	1,525,207	<0.01
Other dolphins—Otros delfines[3]	3		
Total	**683**		

[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: striped dolphin (*Stenella coeruleoalba*), 1 and unidentified dolphins, 2.
[3] "Otros delfines" incluye las siguientes especies y poblaciones, con las mortalidades observadas correspondientes: delfín listado (*Stenella coeruleoalba*), 1 y delfines no identificados, 2.

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	85	183	266	95	26	9	16	3	683

[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 estimates of dolphin species and stock mortality for 1979-1994, and 2001-2003. There are no standard errors for 1995-2000 and after 2004, 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, y 2001-2003. No se cuenta con errores estándar para 1995-2000 y después de 2004, 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
	Lances sin mortalidad (%)	Lances con averías mayores (%)	Lances con colapso de la red (%)	Lances con abultamiento de la red (%)	Duración media del retroceso (minutos)	Número medio de delfines en la red después del retroceso
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

TABLE 6. Weekly reports of dolphin mortality received, 2017.
TABLA 6. Informes semanales de mortalidad de delfines recibidos, 2017.

	Program	Required	Received	%
COL	IATTC	246	244	99
	National	174	174	100
ECU	IATTC	1,560	1,557	99
	National	1,134	1,134	100
EU-UE	IATTC	40	40	100
	National	32	32	100
MEX	IATTC	755	755	100
	National	675	675	100
NIC	IATTC	109	108	99
	National	108	108	100
PAN	IATTC	249	249	100
	National	293	293	100
PER	IATTC	54	54	100
SLV	IATTC	85	85	100
USA	IATTC	252	252	100
	National	86	86	100
VEN	IATTC	203	203	100
	National	206	206	100
Total		**6,261**	**6,255**	**99.9**

TABLE 7. Preliminary reports of the mortalities of dolphins in 2018, to 2 September.
TABLA 7. Informes preliminares de las mortalidades de delfines en 2018, hasta el 2 de septiembre.

Species and stock	Total mortality	Limit	Used (%)
Especie y población	**Mortalidad total**	**Límite**	**Usado (%)**
Offshore spotted dolphin – Delfín manchado de altamar			
Northeastern--Nororiental	71	793	9.0
Western-southern--Occidental-sureño	134	881	15.2
Spinner dolphin – Delfín tornillo			
Eastern--Oriental	172	655	26.3
Whitebelly--Panza blanca	158	666	23.7
Common dolphin – Delfín común			
Northern--Norteño	42	562	7.5
Central	0	207	0.0
Southern--Sureño	6	1,845	0. 3
Others and unidentified--Otros y no identificados	28		
Total	**611**	**5,000**	**12.2**

TABLE 8. Summary of possible infractions identified by the International Review Panel at its 61st and 62nd meetings, July and October 2017.
TABLA 8. Resumen de posibles infracciones identificadas por el Panel Internacional de Revisión en su 61ª and 62ª reuniones, julio y octubre de 2017.

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	0
Viajes sin paño de protección de delfines Trips without a dolphin safety panel	0
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	1
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	**1**
OTRAS INFRACCIONES / OTHER INFRACTIONS:	
Viajes sin balsa Trips without a required raft	0
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	4
Viajes sin máscaras de buceo Trips without required facemasks	0
Lances nocturnos Night sets	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	**4**
Casos de interferencia al observador Cases of observer interference	0
Viajes revisados para estas reuniones Trips reviewed for these meetings	940
Lances sobre delfines revisados para estas reuniones Dolphin sets reviewed for these meetings	9,845
Lances accidentales revisados para estas reuniones Accidental sets reviewed for these meetings	3

TABLE 9. Responses for six types of possible infractions identified by the International Review Panel at its 61st and 62nd meetings.
TABLA 9. Respuestas para seis tipos de posibles infracciones identificadas por el Panel Internacional de Revisión en su 61ª y 62ª reuniones.

No. de casos	Sin respuesta	Respuestas					Total
		Bajo investigación[1]	No hubo infracción	Infracción: sin sanción	Infracción: aviso	Infracción: sanción[2]	
No. of cases	No response	Responses					Total
		Under investigation[1]	No infraction	Infraction: no sanction	Infraction: warning	Infraction: sanction[2]	
HOSTIGAMIENTO AL OBSERVADOR – OBSERVER HARASSMENT							
USO DE EXPLOSIVOS – USE OF EXPLOSIVES							
LANCES NOCTURNOS– NIGHT SETS							
PESCAR SIN OBSERVADOR – FISHING WITHOUT AN OBSERVER							
PESCAR SOBRE DELFINES SIN LMD – FISHING ON DOLPHINS WITHOUT A DML							
LANCES SOBRE DELFINES DESPUES 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 A.

POSSIBLE INFRACTIONS IDENTIFIED BY THE IRP

Brief descriptions of government actions taken, as reported to the Secretariat by September 20, 2018, 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

ECUADOR			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
ECU 1	2016-787	2017/07	1) 1 Trip without a required high intensity floodlight **Action taken:** 1) The government indicated that no infraction occurred.
ECU 2	2016-681	2017/07	1) 1 Trip without a required high intensity floodlight **Action taken:** 1) The government indicated that no infraction occurred.
ECU 3	2016-828	2017/07	1) 1 Trip without a required high intensity floodlight **Action taken:** 1) The government initiated the proper administrative process.
PANAMA			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
PAN 1	2017-449	2017/10	1) 1 Trip without a required high intensity floodlight
VENEZUELA			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
VEN 1	2016-761	2017/07	1) 1 Set without a required backdown