AGREEMENT ON THE INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

21ST MEETING OF THE PARTIES

LA JOLLA, CALIFORNIA (USA)
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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 caught without losing the tuna proved more difficult, and in the early years of the fishery many dolphins became entangled in the nets and 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 IATTC, environmental organizations, and other interested parties.

The 1992 La Jolla Agreement provided a framework for the international efforts to reduce this mortality, and introduced such novel and effective measures as Dolphin Mortality Limits (DMLs) for individual vessels and 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 this agreement 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; 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 31 December, 2008, Costa Rica, Ecuador, El Salvador, the European Union, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, United States, Vanuatu, and Venezuela have ratified or acceded to the Agreement, and Bolivia and Colombia are applying the AIDCP provisionally. The IATTC provides the Secretariat for the IDCP and its various bodies and coordinates the On-Board Observer Program and the Tuna Tracking and Verification System.

2. The On-Board Observer Program

The AIDCP international 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) constitute the AIDCP On-Board Observer Program. In addition, observers from the international observer program of the Forum Fisheries Agency (FFA) are approved by the Parties to collect information for the On-Board Observer Program on vessels that fish in the Agreement Area without setting on dolphins if the Secretariat determines that the placement of an IDCP observer is not practical. `

2.1. Observer coverage

The AIDCP mandates 100% coverage by observers of fishing trips by purse seiners of carrying capacity greater than 363 metric tons (t) in the Agreement Area. In 2008, the Ecuadorian 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 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 by these five fleets, plus all trips by vessels of other fleets.

During 2008, observers from the On-Board Observer Program departed on 780 fishing trips, which included 7 trips by one vessel of less than 363 t capacity that was required to carry an observer on all trips made while being investigated for a possible AIDCP infraction (Table 1). In addition, 52 vessels whose last trip of 2007 carried over into 2008 had observers aboard, bringing the total to 832 trips observed in 2008 by the Program. The Program covered vessels operating under the jurisdictions of Colombia, Ecuador, El Salvador, Guatemala, Honduras, Mexico, Nicaragua, Panama, Peru, Spain, the United States, Vanuatu, and Venezuela.

In 2008 the Program sampled 100% of trips by large purse-seine vessels, as required by the AIDCP, and the IATTC program sampled 61% of all trips.

2.2. Observer training

One training course was held in 2008, in Manta, Ecuador, from 11 to 28 February, with 18 Ecuadorian and 10 Panamanian participants.

3. DOLPHIN MORTALITY

3.1. Dolphin Mortality Limits (DMLs)

3.1.1. 2008 DMLs

The overall dolphin mortality limit (DML) for the international fleet in 2008 was 5,000 animals, and the unreserved portion of 4,900 was allocated to 100 qualified vessels that requested DMLs. The average individual-vessel DML (ADML), based on 100 DML requests, was 49. A total of 92 vessels utilized their full-year DMLs. Fourteen vessels did not utilize their DMLs prior to 1 April, but nine were allowed to keep them for the remainder of the year under the *force majeure* exemption allowed by the AIDCP; four vessels renounced their DMLs, and one vessel forfeited its DML. Exemptions were requested for the vessel that lost its DML and for one that had renounced its DML. A DML redistribution was approved for the pertinent Parties by the 19th Meeting of the Parties in June 2008. There were no second-semester DMLs requested and there have been no requests and assignments for DMLs from the Reserve DML Allocation. No vessel exceeded its DML in 2008. The distribution of the mortality caused in 2008 by vessels with DMLs is shown in Figure 1.

3.1.2. 2009 DMLs

The Parties requested and received 92 DMLs for 2009, but only 89 eligible vessels have been allocated from the unreserved portion (4,900) of the overall fleet mortality limit. The ADML is 53.26. One vessel forfeited its DML by not utilizing it prior to April 1; six were allowed to keep their DMLs for the remainder of the year under the *force majeure* exemption allowed by the AIDCP, but two of these six made dolphin sets prior to the deadline. The Parties did not allocate DMLs to three vessels. There are two second-semester DML requests, and as of 1 April there have been no requests for DMLs from the Reserve DML Allocation.

3.2. Preliminary estimates of the mortality of dolphins in 2008 due to fishing

The preliminary estimate of the incidental mortality of dolphins in the fishery in 2008 is 1,171 animals (Table 2), a 39.7% increase over the 838 mortalities recorded in 2007. The mortalities for 1979-2008, by species and stock, are shown in Table 3, and the standard errors of these estimates are shown in Table 4. The mortalities of the principal dolphin species affected by the fishery show declines since the early 1990s (Figure 2) similar to that for the mortalities of all dolphins combined (Figure 3). Estimates of the abundances of the various stocks of dolphins and the relative mortalities (mortality/abundance) are also shown in Table 2. The stock with the highest level of relative mortality (0.06%) was the eastern spinner dolphin.

The number of sets on dolphin-associated schools of tuna made by vessels over 363 t increased by 3.7%, from 8,871 in 2007 to 9,201 in 2008, and this type of set accounted for 42% of the total number of sets made in 2008, compared to 40% in 2007. The average mortality per set increased from 0.09 dolphins in 2007 to 0.13 dolphins in 2008. 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 23% in 2008, as compared to 2007. The percentage of the catch of yellowfin taken in sets on dolphins increased from 61% of the total catch in 2007 to 70% of the catch in 2008, and the average catch of yellowfin per set on dolphins increased from 11.7 to 13.9 metric tons. The mortality of dolphins per metric ton of yellowfin caught increased from 0.0081 in 2007 to 0.0092 in 2008.

The above figures are based on data from trips covered by observers from all components of the On-Board Observer Program. The comparisons in the next paragraph are based on the IATTC data bases for 1986-2008 only.

The decrease in the mortality per set is the result of actions by the fishermen to better manage the factors that bring about incidental mortalities of dolphins. Indicative of this effort is the number of sets in which no mortalities occurred, which has risen from 38% in 1986 to 92% in 2008, and the average number of animals left in the net after backdown, which has decreased from 6.0 in 1986 to 0.1 in 2008 (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 6% during 1998-2008; in the same period the percentage of sets with net collapses decreased from about 30% to less than 5% on average, and that of net canopies from about 20% to less than 5% 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. Also, the mortality of dolphins per set increases with the number of animals in the encircled herd, in part because the backdown maneuver takes longer to complete when larger herds are encircled. The fishermen can reduce the mortalities per set by encircling schools of fish associated with fewer dolphins.

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 2008, the reporting rate averaged 97% (Table 6).

Since January 1, 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 for 2009 are shown in Table 7.

4. INTERNATIONAL REVIEW PANEL

The International Review Panel (IRP) follows a general procedure for reporting the compliance by vessels with measures established by the AIDCP for minimizing the mortalities of dolphins during fishing operations to the governments concerned. During each fishing trip, the observer prepares a summary of information pertinent to dolphin mortalities, and this is sent to the government with jurisdiction over the vessel by the Secretariat. Certain possible infractions are automatically reported to the government with jurisdiction over the vessel in question; 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. The governments report back to the IRP on actions taken regarding these possible infractions.

During 2008, the IRP consisted of 20 members: the 14 participating member governments, and six representatives of non-governmental organizations (NGOs), three from environmental organizations and three from the tuna industry.

The IRP held the following meetings during 2008:

Meeting	Venue	Dates
45	Panama, Panama	17 June
46	La Jolla, California, USA	3 November

The minutes of these meetings are available on the IATTC's website. 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 Form (TTF), completed at sea by observers, identifies the tuna caught as dolphin safe (Form 'A') or non-dolphin safe (Form 'B'); with this document, the dolphin safe status of any tuna caught by a vessel covered by the AIDCP can be determined. Within this framework, administered by the Secretariat, each Party establishes its own tracking and verification program, implemented and operated by a designated national authority, which includes periodic audits and spot checks for caught, landed, and processed tuna products, 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 that departed in 2008 with an IDCP observer aboard were issued TTFs.

6. AMENDMENTS AND RESOLUTIONS AFFECTING THE OPERATION OF THE IDCP

During 2008, the Parties agreed to reduce the total duration of the AIDCP meetings held each year from

5.5 days to 3.5 days. Also, the Parties adopted Resolution A-08-01 on vessel assessments and financing, to update and improve the previous resolution on these matters.

7. OTHER FUNCTIONS PERFORMED BY THE SECRETARIAT

7.1. Dolphin safety panel alignments

During 2008, the IATTC staff conducted one alignment of a dolphin-safety panel (DSP) and inspection of dolphin rescue gear aboard a vessel registered in Mexico. A trial set, during which an IATTC technician observes the performance of the net from an inflatable raft during backdown, is made to check the alignment of the DSP. The technician provides his observations, comments, and suggestions to the captain of the vessel, and attempts are made to resolve any problems that may arise. Afterward a report is prepared for the vessel owner or manager. This report contains a summary of the technician's observations and, if necessary, suggestions for improving the vessel's dolphin-safety gear and/or procedures.

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 2008, the following three training seminars were held, which were attended by 74 fishermen.

Date	Program	Location	Attendees
7 April	IATTC	Manta, Ecuador	16
16 December	Mexico	Mazatlan, Mexico	22
18 December	Mexico	Ensenada, Mexico	36

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. There are two types: the first, issued to vessels of Parties to the AIDCP only, 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 2008, statements of the first type were issued for 151 fishing trips by vessels of Ecuador, El Salvador, Guatemala, Nicaragua, Panama, the United States, Vanuatu, and Venezuela. None were issued of the second type.

8. RESEARCH

Figures 4-6 compare the spatial distributions fishing effort in the Agreement Area by vessels carrying observers, in numbers of sets, by type, in 2007 and 2008. Continuing a trend from previous years, the distribution of floating-object sets expanded westward in 2008, well beyond the 150°W longitude boundary of the Agreement Area. The patterns of dolphin sets and unassociated sets were largely similar in 2007 and in 2008.

In collaboration with scientists from several research institutions and national observer programs, the IATTC staff continues to work on developing statistical techniques to be used to screen for data quality. These techniques can be applied to past years' data as one of several tools used by the IATTC staff to ensure data quality.

In collaboration with scientists from NMFS and the University of Hawaii, the IATTC staff has been testing hypotheses about the association of tuna and dolphins. Combining the results of a simultaneous tracking study of yellowfin tuna and spotted dolphins, of food habits studies of tunas and dolphins, and of a spatial study of relating the occurrence of the tuna-dolphin association with oceanographic features, allowed these researchers to test whether the association was based on feeding advantages or on reducing the risk of predation. They found that the feeding-benefits hypothesis was not a likely explanation for the association, and that the predation-risk hypothesis was the most likely explanation.

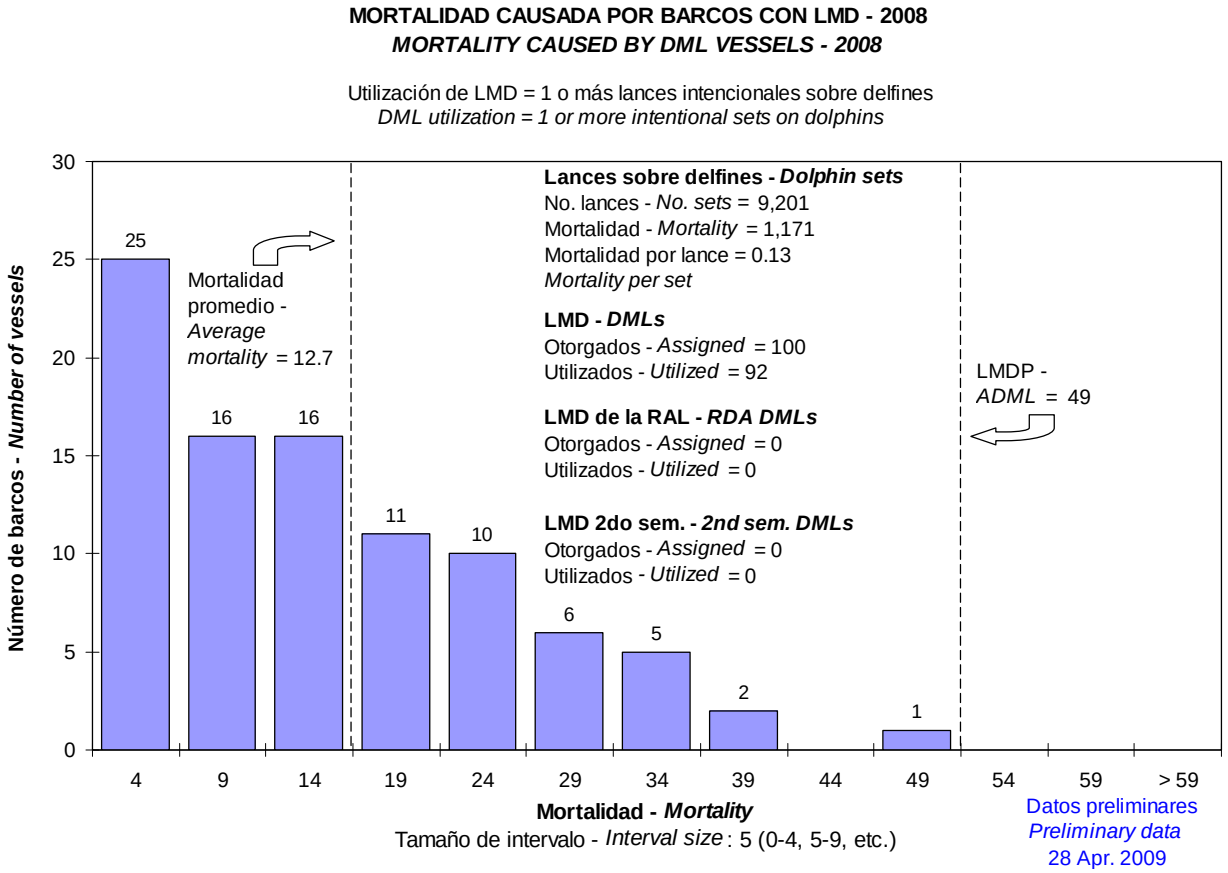

FIGURE 1. Distribution of dolphin mortality caused by vessels with DMLs during 2008.
FIGURA 1. Distribución de la mortalidad de delfines causada por buques con LMD durante 2008.

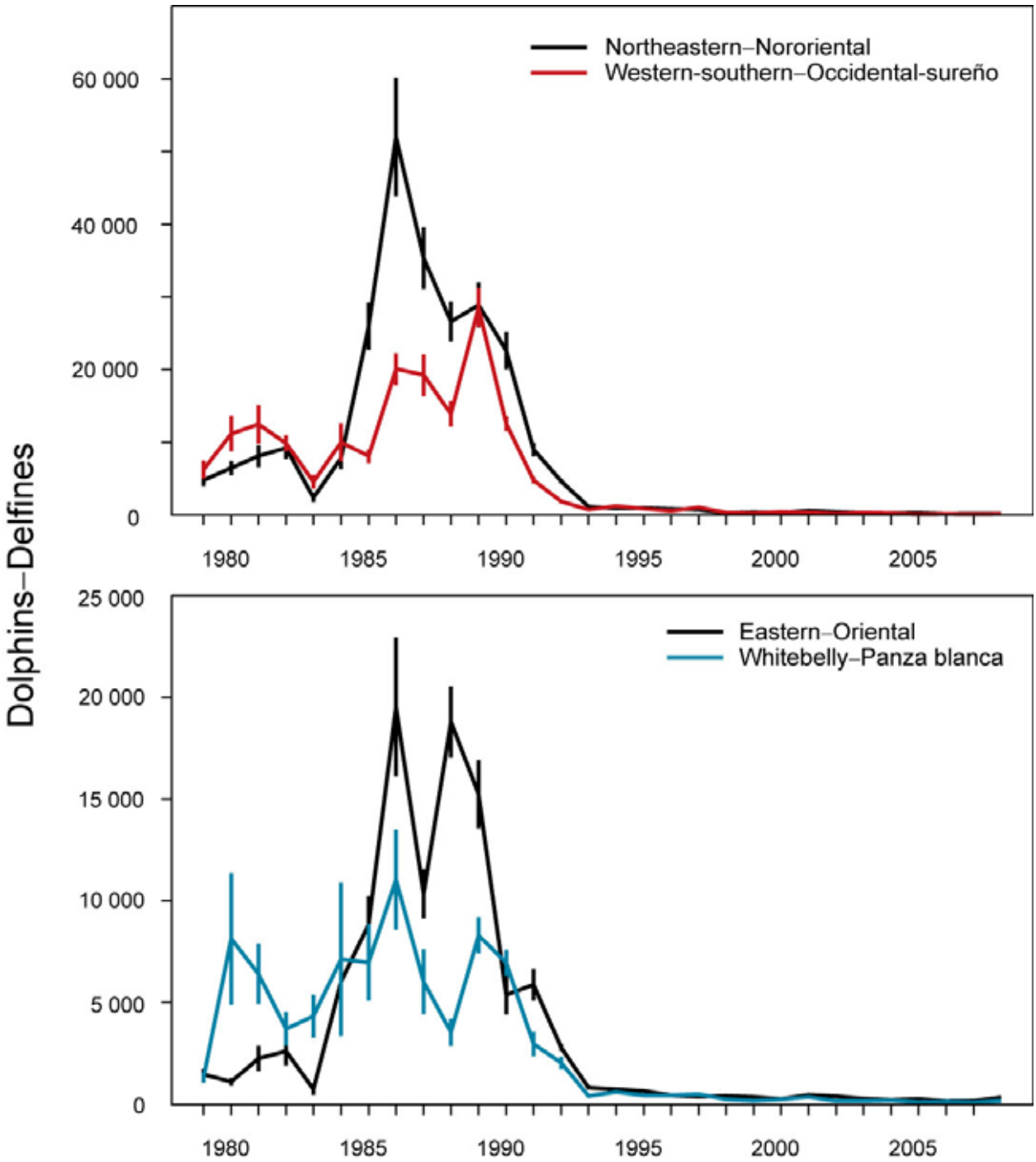

FIGURE 2. Estimated mortalities for the stocks of spotted (upper panel) and spinner (lower panel) dolphins in the eastern Pacific Ocean, 1979-2008. Each vertical line represents one positive and one negative standard error.

FIGURA 2. Mortalidad estimada de las poblaciones de delfines manchados (panel superior) y tornillo (panel inferior) en el Océano Pacífico oriental, 1979-2008. Cada línea vertical representa un error estándar positivo y un error estándar negativo.

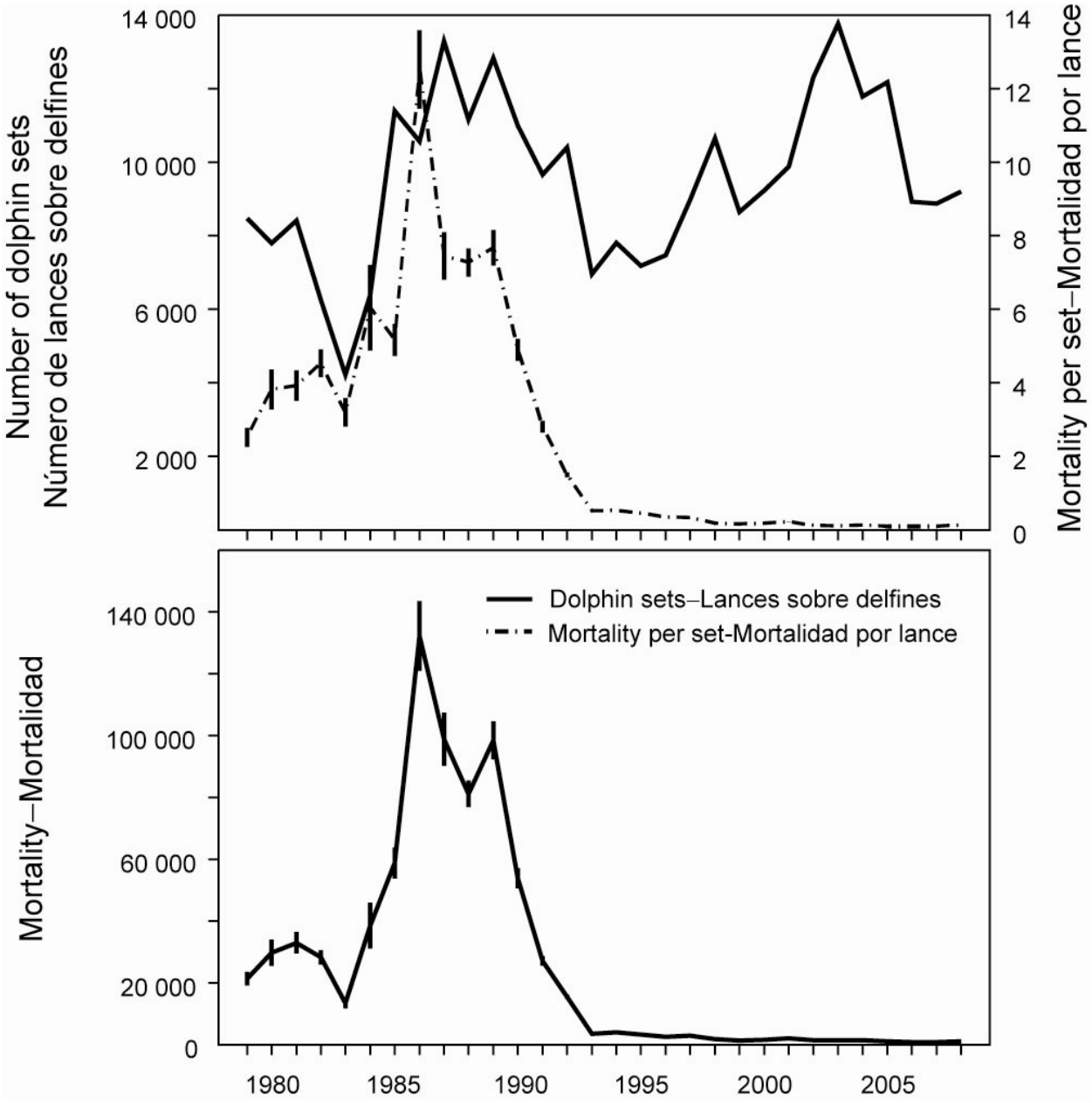

FIGURE 3. Total number of dolphin sets and average mortality per set (upper panel) and estimated total mortality (lower panel) for all dolphins in the EPO, 1979-2008. Each vertical line represents one positive and one negative standard error.

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, 1979-2008. Cada línea vertical representa un error estándar positivo y un error estándar negativo.

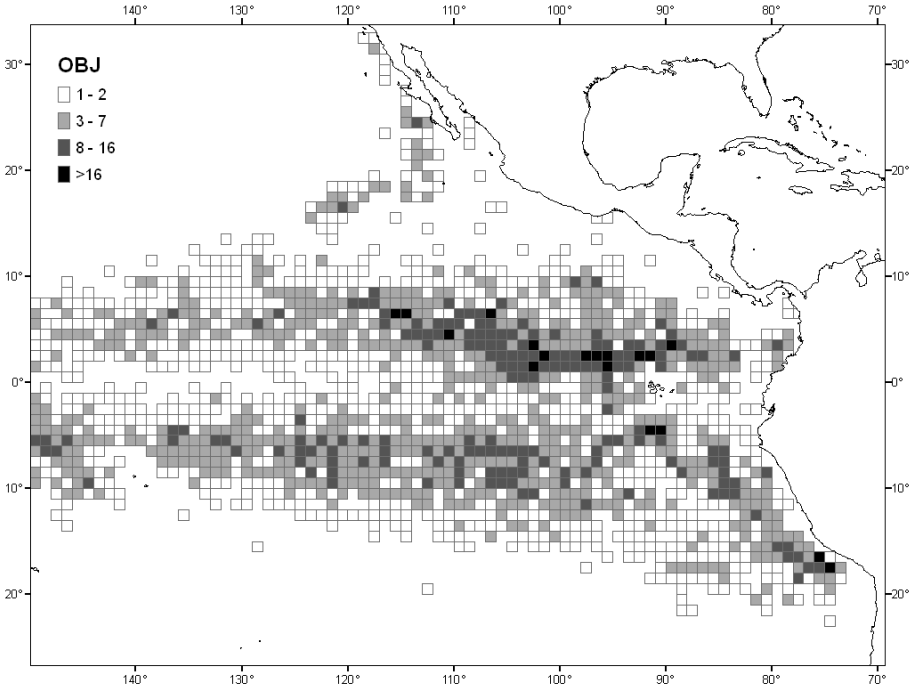

FIGURE 4a. Spatial distribution of sets on tuna associated with floating objects in the Agreement Area, 2007.

FIGURA 4a. Distribución espacial de los lances sobre atunes asociados con objetos flotantes en el Area del Acuerdo, 2007.

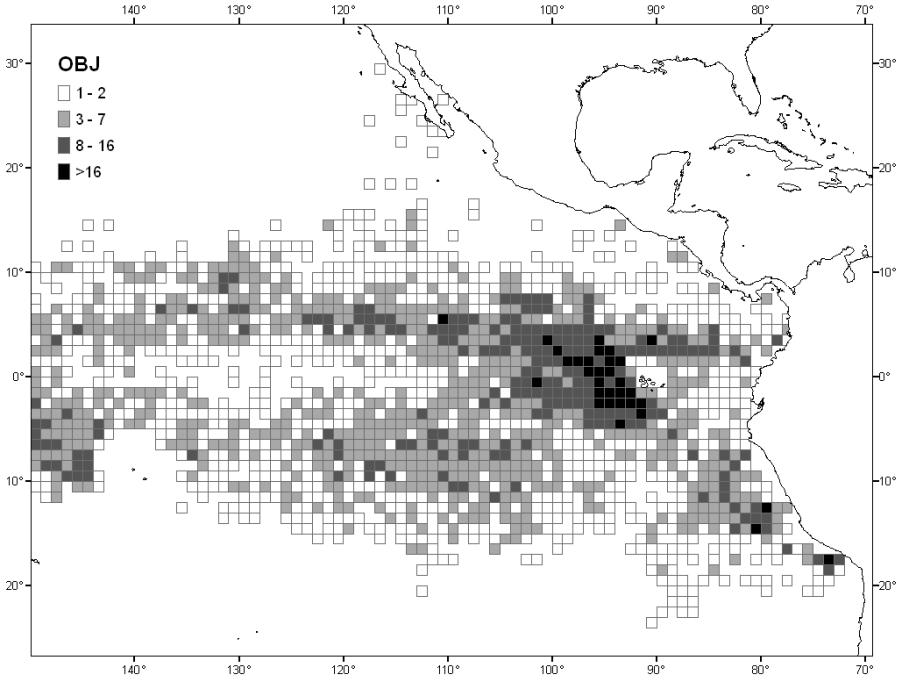

FIGURE 4b. Spatial distribution of sets on tuna associated with floating objects in the Agreement Area, 2008.

FIGURA 4b. Distribución espacial de los lances sobre atunes asociados con objetos flotantes en el Area del Acuerdo, 2008.

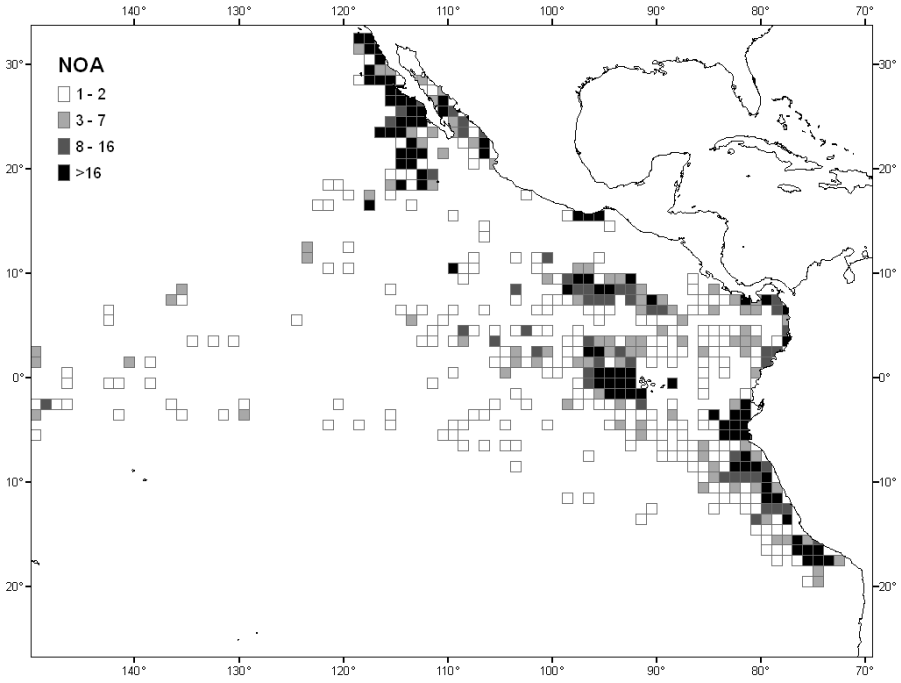

FIGURE 5a. Spatial distribution of sets on unassociated schools of tunas in the Agreement Area, 2007.
FIGURA 5a. Distribución espacial de lances sobre cardúmenes de atunes no asociados en el Area del Acuerdo, 2007.

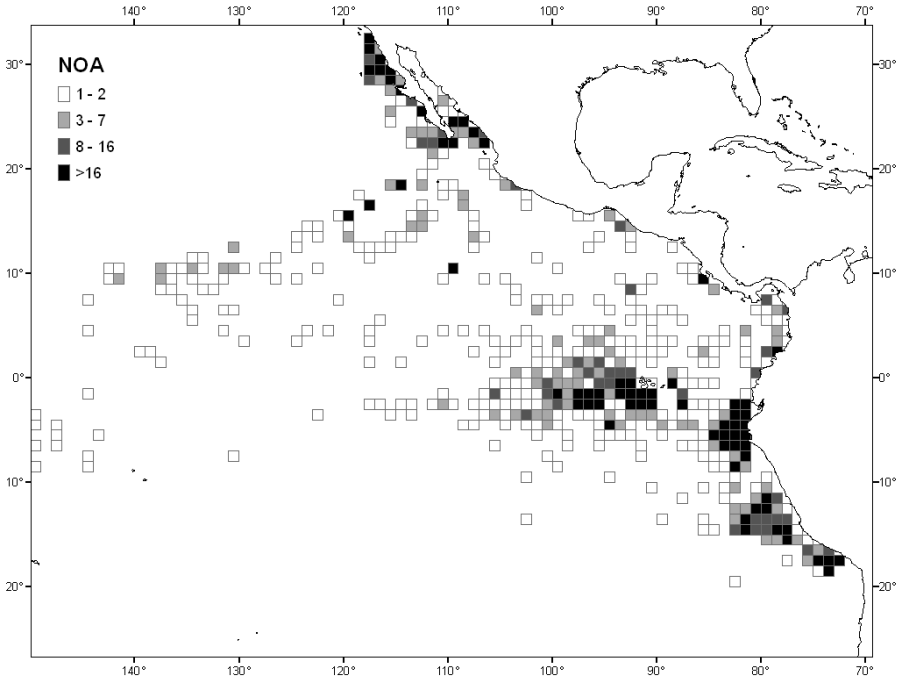

FIGURE 5b. Spatial distribution of sets on unassociated schools of tunas in the Agreement Area, 2008.
FIGURA 5b. Distribución espacial de lances sobre cardúmenes de atunes no asociados en el Area del Acuerdo, 2008.

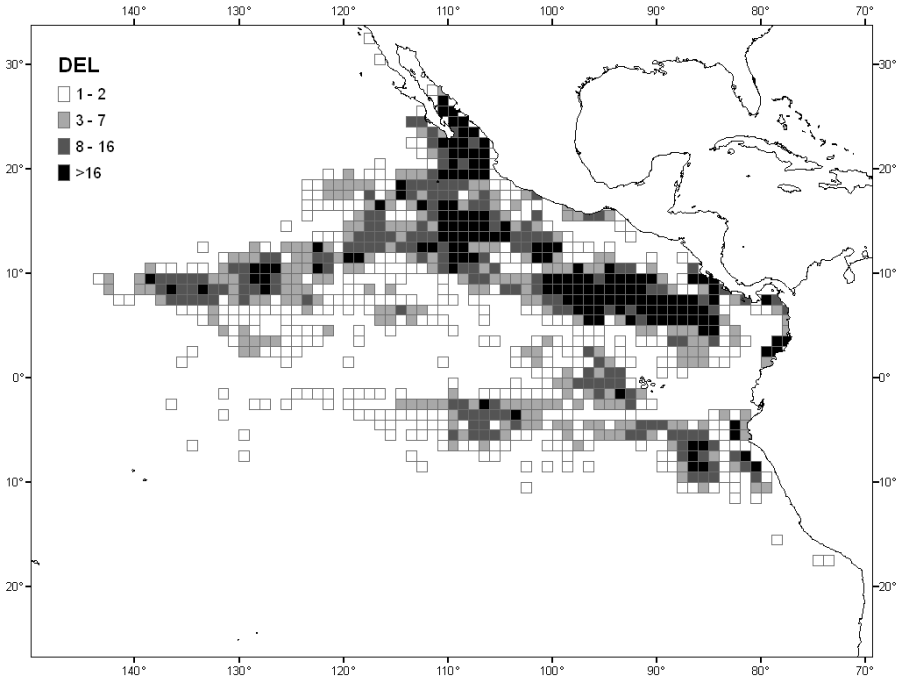

FIGURE 6a. Spatial distribution of sets on tuna associated with dolphins in the Agreement Area, 2007.
FIGURA 6a. Distribución espacial de los lances sobre atunes asociados con delfines en el Area del Acuerdo, 2007.

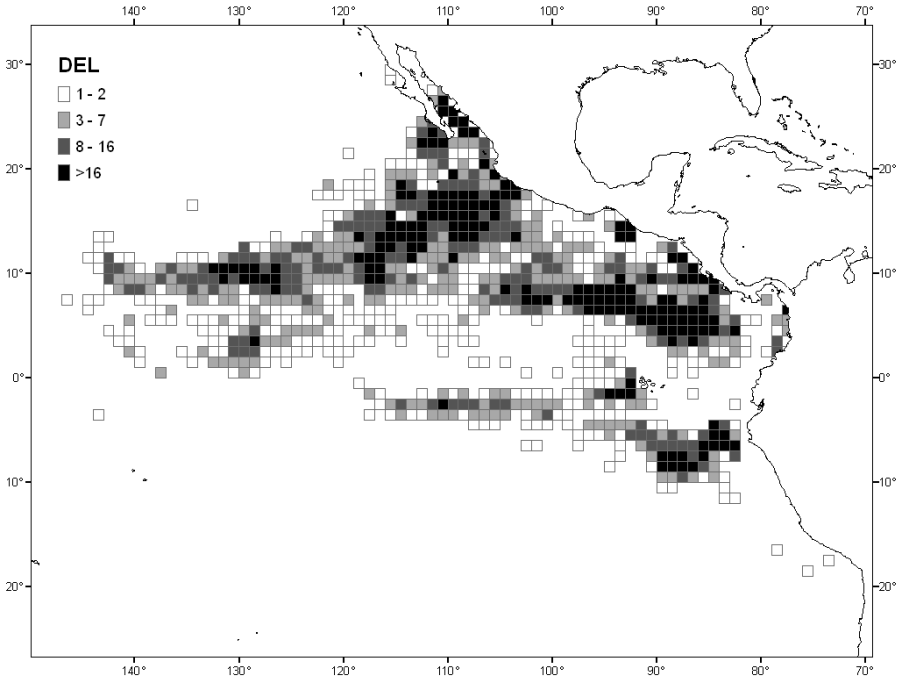

FIGURE 6b. Spatial distribution of sets on tuna associated with dolphins in the Agreement Area, 2008.
FIGURA 6b. Distribución espacial de los lances sobre atunes asociados con delfines en el Area del Acuerdo, 2008.

TABLE 1. Sampling coverage by the On-Board Observer Program during 2008.
TABLA 1. Cobertura por el Programa de Observadores a Bordo durante 2008.

Flota nacional		Viajes	Observado por programa:			% observado
			CIAT	Nacional	Total	
National fleet		**Trips**	**Observed by program:**			**%**
			IATTC	**National**	**Total**	**observed**
Buques de capacidad de acarreo ≥ 363 t – Vessels of ≥363 t carrying capacity[1]						
Colombia	COL	**50**	**24**	**26**	**50**	**100**
Ecuador	ECU	**282**	**191**	**91**	**282**	**100**
España—Spain	ESP	**19**	**9**	**10**	**19**	**100**
Guatemala	GTM	**10**	**10**	**-**	**10**	**100**
Honduras	HND	**14**	**14**		**14**	**100**
México	MEX	**190**	**95**	**95**	**190**	**100**
Nicaragua	NIC	**19**	**10**	**9**	**19**	**100**
Panamá	PAN	**117**	**58**	**59**	**117**	**100**
Peru	PER	**7**	**7**	**-**	**7**	**100**
El Salvador	SLV	**27**	**27**		**27**	**100**
Venezuela	VEN	**72**	**40**	**32**	**72**	**100**
Vanuatu	VUT	**18**	**18**	**-**	**18**	**100**
Subtotal[1]		**825**	**503**	**322**	**825**	**100**
Otros buques – Other vessels[2]						
		7	**5**	**2**	**7**	
Total		**832**	**508**	**324**	**832**	

[1] Includes 52 trips that began in 2007 and ended in 2008. Does not include two observed trips that fished outside the Agreement Area - Incluye 52 viajes iniciados en 2007 y terminados en 2008**.** No incluye dos viajes observados en los que se pescó fuera del Area del Acuerdo

[2] One vessel of less than 363 t capacity was required to carry an AIDCP observer on all trips made while being investigated for a possible AIDCP infraction – Se exigió a un buque de menos de 363 t de capacidad llevar observador del APICD en todos sus viajes mientras estaba bajo investigación por una posible infracción del APICD.

TABLE 2. Estimates of mortalities of dolphins in 2008, population abundance, and relative mortality, by stock. Data for 2008 are preliminary.
TABLA 2. Estimaciones de la mortalidad incidental de delfines en 2008, la abundancia de poblaciones, y la mortalidad relativa, por población. Los datos de 2008 son preliminares.

Species and stock	Incidental mortality	Population abundance	Relative mortality (%)
Especie y población	**Mortalidad incidental**	**Abundancia de la población**	**Mortalidad relativa (%)**
Offshore spotted dolphin—Delfín manchado de altamar[1]			
Northeastern—Nororiental	179	782,900	0.02
Western/southern—Occidental y sureño	165	892,600	0.02
Spinner dolphin—Delfín tornillo[1]			
Eastern—Oriental	349	592,200	0.06
Whitebelly—Panza blanca	170	617,100	0.03
Common dolphin—Delfín común[2]			
Northern—Norteño	107	449,462	0.02
Central	14	577,048	<0.01
Southern—Sureño	138	1,525,207	<0.01
Other dolphins—Otros delfines[3,4]	49	2,802,300	<0.01
Total	**1,171**		

[1] Logistic model for 1986-2003 (IATTC Special Report 14: Appendix 7);
[1] Modelo logístico para 1986-2003 (Informe Especial de la CIAT 14: Anexo 7)
[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] Pooled for 1986-1990 (Report of the International Whaling Commission, 43: 477-493)
[3] Agrupados para 1986-1990 (Informe de la Comisión Ballenera Internacional, 43: 477-493)
[4] "Other dolphins" includes the following species and stocks, whose observed mortalities were as follows: striped dolphins (*Stenella coeruleoalba*), 24; coastal spotted dolphin (*Stenella attenuata*), 4; Central American spinner dolphin (*Stenella longirostris centroamericana*) 9; bottlenose dolphin (*Tursiops truncatus*) 4; and unidentified dolphins, 8.
[4] "Otros delfines" incluye las siguientes especies y poblaciones, con las mortalidades observadas correspondientes: delfín listado (*Stenella coeruleoalba*), 24; delfin manchado costero (*Stenella attenuata*), 4; delfin tornillo centroamericano (*Stenella longirostris centroamericana*) 9; tonina (*Tursiops truncatus*) 4; y delfines no identificados, 8.

TABLE 3. Annual estimates of dolphin mortality, by species and stock, 1979-2008. The data for 2008 are preliminary. The estimates for 1979-1992 are based on a mortality-per-set ratio. The estimates for 1993-1994 are based on the sums of the IATTC species and stock tallies and the total dolphin mortalities recorded by the Mexican program, prorated to species and stock. The mortalities for 1995-2008 represent the sums of the observed species and stock tallies recorded by the IATTC and national programs. Mortalities for 2001-2003 have been adjusted for unobserved trips of vessels over 363 t carrying capacity. The sums of the estimated mortalities for the northeastern and western-southern stocks of offshore spotted dolphins do not necessarily equal those for the previous stocks of northern and southern offshore spotted dolphins because the estimates for the two stock groups are based on different areal strata, and the mortalities per set and the total numbers of sets vary spatially.

TABLA 3. Estimaciones anuales de la mortalidad de delfines, por especie y población, 1979-2008. Los datos de 2008 son preliminares. Las estimaciones de 1979-1992 se basan en una razón de mortalidad por lance. Las estimaciones de 1993-1994 se basan en las sumas de las mortalidades por especie y población registradas por la CIAT y las mortalidades totales registradas por el programa mexicano, prorrateadas a especies y poblaciones. Las mortalidades de 1995-2008 son las sumas de las mortalidades por especie y población registradas por los programas de la CIAT y nacionales. La mortalidad de 2001-2003 fue ajustada para viajes no observados de buques de más de 363 t de capacidad de acarreo. Las sumas de las mortalidades estimadas para las poblaciones nororiental y occidental y sureño del delfín manchado de altamar no equivalen necesariamente a las sumas de aquéllas para las antiguas poblaciones de delfín manchado de altamar norteño y sureño porque las estimaciones para los dos grupos de poblaciones se basan en estratos espaciales diferentes, y las mortalidades por lance y el número total de lances varían espacialmente.

	Offshore spotted[1]		Spinner		Common			Others	Total
	North-eastern	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	1,139	757	821	412	81	230	0	161	3,601
1994	935	1,226	743	619	101	151	0	321	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	183	165	349	170	107	14	138	45	1,171

[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 2004-2007, 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 hay errores estándar para 1995-2000, y 2004-2007, 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
1993	89	52	98	33	27	-	-	29
1994	69	55	84	41	35	8	-	20
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.
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.

	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

TABLE 6. Weekly reports of dolphin mortality received, 2008.
TABLA 6. Informes semanales de mortalidad de delfines recibidos, 2008

Fleet	Program	Weeks	Reports	%
Flota	**Programa**	**Semanas**	**Informes**	**%**
COL	IATTC--CIAT	193	184	95.3
	National--Nacional	218	213	97.7
ECU	IATTC--CIAT	1,031	1,031	100.0
	National--Nacional	512	491	95.9
EUR	IATTC--CIAT	62	62	100.0
	National--Nacional	55	55	100.0
GTM	IATTC--CIAT	64	62	96.9
HND	IATTC--CIAT	55	47	85.5
MEX	IATTC--CIAT	660	647	98.0
	National--Nacional	670	556	83.0
NIC	IATTC--CIAT	81	81	100.0
	National--Nacional	61	55	90.2
PAN	IATTC--CIAT	431	430	99.8
	National--Nacional	407	407	100.0
PER	IATTC	36	36	100.0
SLV	IATTC--CIAT	158	158	100.0
VEN	IATTC--CIAT	284	284	100.0
	National--Nacional	277	270	97.5
VUT	IATTC--CIAT	117	117	100.0
Total		**5,372**	**5,186**	**96.5**

TABLE 7. Preliminary reports of the mortalities of dolphins in 2009, to April 26.
TABLA 7. Informes preliminares de las mortalidades de delfines en 2009, hasta el 26 de abril.

Species and stock	Total mortality	Limit	Used (%)
Especie y población	**Mortalidad total**	**Límite**	**Usado (%)**
Offshore spotted dolphin – Delfín manchado de altamar			
Northeastern--Nororiental	109	648	16.8
Western-southern--Occidental-sureño	37	1,145	3.2
Spinner dolphin – Delfín tornillo			
Eastern--Oriental	69	518	13.3
Whitebelly--Panza blanca	54	871	6.2
Common dolphin – Delfín común			
Northern--Norteño	64	562	11.4
Central	4	207	1.9
Southern--Sureño	38	1,845	2.1
Others and unidentified--Otros y no identificados	20		
Total	**395**	**5,000**	**7.9**

TABLE 8. Summary of possible infractions identified by the International Review Panel at its 45th and 46th meetings.
TABLA 8. Resumen de posibles infracciones identificadas por el Panel Internacional de Revisión en sus reuniones 45ª y 46ª.

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	5
Lances intencionales después de alcanzar el LMD Intentional sets made after reaching the DML	0
Lances o cazas con uso de explosivos (ocurrieron en 2 viajes) Sets or chases with use of explosives (occurred in 2 trips)	2
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	1
Lances sin evitar herir o matar delfines Sets with unavoided dolphin injury or mortality	1
Total	**9**
OTRAS INFRACCIONES / OTHER INFRACTIONS:	
Viajes sin balsa Trips without a required raft	9
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	5
Viajes sin máscaras de buceo Trips without required facemasks	0
Lances nocturnos (ocurrieron en 1 viaje) Night sets (occurred in 1 trip)	4
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	**18**
Casos de interferencia al observador **Cases of observer interference**	**5**
Viajes revisados en estas reuniones **Trips reviewed in these meetings**	**787**
Lances sobre delfines revisados en estas reuniones **Dolphin sets reviewed in these meetings**	**9,368**
Lances accidentales revisados en estas reuniones **Accidental sets reviewed in these meetings**	**9**

TABLE 9. Responses for six types of possible infractions identified by the International Review Panel at its 45th and 46th meetings.
TABLA 9. Respuestas para seis tipos de posibles infracciones identificadas por el Panel Internacional de Revisión en sus reuniones 45ª y 46ª.

	No. de casos	Sin respuesta		Respuestas					
				Bajo investigación[1]	No hubo infracción	Infracción: sin sanción	Infracción: aviso	Infracción: sanción[2]	Total
	No. of cases	No response		Responses					
				Under investigation[1]	No infraction	Infraction: no sanction	Infraction: warning	Infraction: sanction[2]	Total
HOSTIGAMIENTO AL OBSERVADOR – OBSERVER HARASSMENT									
COL	1	0	-	1	0	0	0	0	1 (100%)
ECU	3	0	-	2	0	0	0	1	3 (100%)
NIC	1	0	-	1	0	0	0	0	1 (100%)
Total[3]:	**5**	**0**	**-**	**4**	**0**	**0**	**0**	**1**	**5 (100%)**
USO DE EXPLOSIVOS – USE OF EXPLOSIVES									
NIC	1	0	-	1	0	0	0	0	1 (100%)
PAN	1	1	(100%)	0	0	0	0	0	0 -
Total:	**2**	**1**	(50%)	**1**	**0**	**0**	**0**	**0**	**1 (50%)**
LANCES NOCTURNOS – NIGHT SETS									
VEN	4	0	-	4	0	0	0	0	4 (100%)
Total	**4**	**0**	**-**	**4**	**0**	**0**	**0**	**0**	**4 (100%)**
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 DESPUES DE ALCANZAR EL LMD-- SETS ON DOLPHINS AFTER REACHING THE DML									
Ningún caso identificado durante el periodo de este informe									
No identified cases during this report period									

[1] Incluye casos sujetos a litigio administrativo – Includes cases subject to administrative litigation
[2] Una sanción fue o será aplicada – Sanction was or will be applied
[3] Se redondean los porcentajes, y no suman necesariamente 100 - Percentages are rounded and may not sum to 100

Appendix A

POSSIBLE INFRACTIONS IDENTIFIED BY THE IRP

Brief descriptions of government actions taken, as reported to the Secretariat by April 21, 2009, 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	2008-206	2008/06	1) 1 Trip without a required raft **Action taken:** 1) After investigating, the government decided that no infraction occurred.
COL 2	2007-633	2008/06 2008/06	1) 1 Trip without a required raft 2) 1 Trip without a required high intensity floodlight **Action taken:** 1), 2) After investigating, the government decided that no infraction occurred.
COL 3	2007-705	2008/06	1) 1 Trip without a required raft **Action taken:** 1) After investigating, the government decided that no infraction occurred.
COL 4	2008-384	2008/11	1) 1 Case of observer interference **Action taken:** 1) The government is investigating the possible infractions.
COL 5	2008-242	2008/06	1) 1 Trip without a required raft **Action taken:** 1) After investigating, the government decided that no infraction occurred.
COL 6	2007-555	2008/06	1) 1 Trip without a required raft **Action taken:** 1) After investigating, the government decided that no infraction occurred.

ECUADOR			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
ECU 1	2008-428	2008/11 2008/11	1) 1 Set with dolphin sack-up or brail 2) 1 Set with unavoided dolphin injury or mortality **Action taken:** 1), 2) The government is investigating the possible infractions.
ECU 2	2007-599	2008/06	1) 1 Case of observer interference **Action taken:** 1) The vessel owner was fined, and the fishing captain and vessel owner were warned that the vessel's fishing permit will be suspended if there is a reoccurrence.
	2008-309	2008/06	1) 1 Case of observer interference **Action taken:** 1) The government initiated the proper administrative process to investigate the possible infractions.
ECU 3	2008-094	2008/06	1) 1 Case of observer interference **Action taken:** 1) The government initiated the proper administrative process to investigate the possible infractions.

MEXICO			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
MEX 1	2007-662	2008/06	1) 1 Trip without a required high intensity floodlight **Action taken:** 1) The government initiated the proper administrative process.
	2008-061	2008/06	1) 1 Trip without a required high intensity floodlight **Action taken:** 1) The government initiated the proper administrative process.
MEX 2	2008-255	2008/11	1) 1 Trip without a required raft

NICARAGUA			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
NIC 1	2007-614	2008/06 2008/06	1) 1 Case of observer interference 2) 1 Set or chase with use of explosives **Action taken:** 1), 2) The government initiated the proper administrative process.

PANAMA			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
PAN 1	2007-757	2008/06	1) 1 Trip without a required high intensity floodlight
PAN 2	2008-070	2008/06	1) 1 Trip without a required high intensity floodlight
PAN 3	2007-713	2008/06	1) 1 Set or chase with use of explosives **Action taken:** 1) None Reported.

EL SALVADOR			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
SLV 1	2007-635	2008/06	1) 1 Trip without a dolphin safety panel
		2008/06	2) 1 Trip without a required raft **Action taken:** 1), 2) The government issued a waiver for the dolphin safety gear requirement as the vessel was not fishing for tunas associated with dolphins.
	2007-722	2008/06	1) 1 Trip without a dolphin safety panel **Action taken:** 1) The government issued a waiver for the dolphin safety gear requirement as the vessel was not fishing for tunas associated with dolphins.
SLV 2	2007-546	2008/06	1) 1 Trip without a dolphin safety panel **Action taken:** 1) The government issued a waiver for the dolphin safety gear requirement as the vessel was not fishing for tunas associated with dolphins.
	2007-695	2008/06	1) 1 Trip without a dolphin safety panel **Action taken:** 1) The government issued a waiver for the dolphin safety gear requirement as the vessel was not fishing for tunas associated with dolphins.
SLV 3	2008-555	2008/11	1) 1 Trip without a dolphin safety panel
SLV 4	2008-388	2008/11	1) 1 Trip without a required raft

VENEZUELA			
Vessel	*IRP recno*	*Review date*	*Identified infractions*
VEN 1	2007-601	2008/06	1) 1 Trip without a required raft **Action taken:** 1) The government is investigating the possible infractions.
VEN 2	2008-466	2008/11	1) 4 Night sets **Action taken:** 1) The government is investigating the possible infractions.