INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

INTERNATIONAL REVIEW PANEL

MINUTES OF THE 29TH MEETING (REVISED)

La Jolla, California (USA)
31 January – 2 February 2002

Presider: Jim Lecky (USA)

AGENDA

1. Opening of the meeting
2. Election of the Presider
3. Adoption of the agenda
4. Approval of the minutes of 28th Meeting
5. Review of list of qualified captains
6. Review of Dolphin Mortality Limits (DMLs) for 2001
7. Revision of system for training and identification of fishing captains qualified to fish on vessels under the AIDCP
8. Determination of a pattern of violations (Annex IV (I) 7)
9. System to measure DML utilization to deter frivolous requests (Annex IV (II) 2)
10. Legal requirements for observer data
11. Analysis of differences among components of the On-Board Observer Program
12. Examination of trends in the mortality of dolphins during 1999-2001 and identification of causes of any increases
13. Technical guidelines to prevent high mortality in sets on large dolphin herds
14. Mechanism to trigger measures and sanctions provided by the AIDCP
15. Review of observer data
16. Review of initial assignments of DMLs for 2002
17. Review of actions by Parties on possible infractions reported by the IRP
18. Analysis of budget for AIDCP
19. Report of the Permanent Working Group on Tuna Tracking
20. Other business
21. Place and date of next meeting
22. Adjournment

DOCUMENTS

IRP-29-09	Determining a pattern of infractions
IRP-29-12	Comparison of observer programs
IRP-29-13	Proposals for reducing the costs of the IDCP
IRP-29-14	Possible causes of the increase in the mortality of dolphins in the purse-seine fishery for tunas in the eastern Pacific Ocean, 1999-2001
IRP-29-15	Technical guidelines to prevent high mortality during sets on large dolphin herds

APPENDICES

1. List of attendees
2. Dolphin mortality and utilization of DMLs in 2001
3. Proposals by the United States regarding modification of observer data
4. DMLs for 2002
5. Responses by governments to possible major infractions reported by the IRP

The 29th Meeting of the International Review Panel (IRP) was held in La Jolla, California (USA) on -31 January – 2 February 2002. The attendees are listed in Appendix 1.

1. Opening of the meeting

Dr. Robin Allen, Director of the Inter-American Tropical Tuna Commission (IATTC), which provides the Secretariat for the Agreement on the International Dolphin Conservation Program (AIDCP), declared the meeting open.

2. Election of the Presider

Mr. Jim Lecky, of the United States, was elected Presider of the meeting.

3. Adoption of the agenda

The provisional agenda was adopted with a change in the order of two of the items.

4. Approval of the minutes of 28th Meeting

With modifications proposed by Mexico and the United States under Item 9, *Comparison of Observer Programs*, the minutes of the 28th Meeting of the IRP were approved.

The United States asked the Secretariat to present again all the information on trip 2001-375, considered under Item 11 of the minutes of the 28th Meeting, to allow it to be examined anew, since there appeared to be some doubt about the number of dolphins killed during the set in which there was high mortality and the vessel exceeded its Dolphin Mortality Limit (DML). The Secretariat noted that the matter had been forwarded to the 6th Meeting of the Parties for analysis and action. The Panel agreed that the issues surrounding this trip would be addressed again during the discussion of Item 16, *Review of initial assignments of DMLs for 2002*.

5. Review of list of qualified captains

The Panel reviewed the current list of qualified captains presented by the Secretariat, including changes occurred since the last meeting of the IRP.

The Secretariat noted the case of a captain who apparently completed two registration forms in two different names, his own and that of another captain, when attending a required training course. After discussion, the Panel agreed that the responsible government should investigate the case and report back to the Panel at its next meeting.

6. Review of Dolphin Mortality Limits (DMLs) for 2001

The Secretariat presented information on the DMLs for 2001 (Appendix 2). The average DML was 59.75, and the average mortality per vessel was 29.49 dolphins.

7. Revision of system for training and identification of fishing captains qualified to fish on vessels under the AIDCP

The Panel discussed the document *Training and Identification of Fishing Captains Qualified to Fish under the AIDCP*, approved by the Parties in 1998, and noted that some of its provisions and requirements needed to be modified or updated. The Panel asked the Secretariat to present recommendations on the matter to its next meeting.

8. Determination of a pattern of violations (Annex IV (I) 7)

The Secretariat presented Document IRP-29-09, prepared in accordance with the request of the 28th meeting of the Panel. This document included a specific proposal and two confidential appendices, one showing captains with two or more violations during 2000-2001, and the other showing vessels with two or

more infractions during 2000-2001.

The Panel once again discussed this issue at length, and particularly the central question of how many infractions of what type over what period should be considered a "pattern of violations". Mexico and the United States made written proposals which were considered along with the Secretariat's proposal, but no agreement could be reached that was satisfactory to all. Noting the importance of resolving this issue in order to implement the Agreement fully, the Panel agreed to continue its efforts at its next meeting in order to reach agreement on a proposal that it could forward to the Meeting of the Parties for consideration.

9. System to measure DML utilization to deter frivolous requests (Annex IV (II) 2)

The Panel discussed this issue at length. As on previous occasions, some members argued that a system for deterring frivolous requests was necessary to protect those vessels that depended on the fishery on dolphins, while others maintained that such requests were infrequent and no action was necessary.

Mexico proposed that in order to qualify for a DML, a vessel must, during the previous year, have made at least 10 sets on dolphins in which at least 100 tons of tuna were taken. Vanuatu pointed out that such a proposal would require an amendment to the AIDCP.

The Ocean Conservancy asked that the Secretariat analyze the data on vessels with DMLs that made less than three sets on dolphins in a year to see if there is any pattern, and the European Union asked that the percentage of sets made on dolphins by each vessel be examined to see if this shed light on the extent of frivolous requests.

The Secretariat was asked to analyze these three proposals and report the results to the next meeting of the IRP.

10. Legal requirements for observer data

The Panel discussed the proposal presented by Mexico at the 28th meeting of the IRP to establish criteria that would allow the Parties, within their respective national legislations, to lend greater legal formality to the observers' reports. The discussion covered the question of the public nature of the reports, the potential problem in having witnesses involved, and the potential effect of the proposal on observers. Several delegations expressed the opinion that this was not a matter for the AIDCP but one that each country should resolve in accordance with its domestic legislation.

Mexico agreed to prepare a draft form to be attached to the observers' reports that would fulfil the requirements of its national legislation and send it to the Secretariat for presentation at the next meeting of the IRP.

11. Analysis of differences among components of the On-Board Observer Program

The Panel discussed Document IRP-29-12, prepared and presented by the Secretariat. It was agreed to keep this matter as a continuing agenda item to allow a systematic monitoring of the functioning of the On-Board Observer Program and to detect and resolve any differences or problems that might arise.

12. Examination of trends in the mortality of dolphins during 1999-2001 and identification of causes of any increases

In Document IRP-29-14 the Secretariat presented its analysis of the principal causes of dolphin mortality in the fishery. The Secretariat noted that, while dolphin mortalities have increased since 1999, they are well within the limits that are sustainable by the populations. Nonetheless, the more restrictive stock mortality limits (SMLs) now in effect provide special impetus to determine the causes of high-mortality sets and to prevent them.

The Secretariat identified several reasons why high dolphin mortality could occur, such as the size of the herd set upon, gear malfunctions, and changes in the distribution of fishing effort.

It was noted that the issue of sets made on large herds of dolphins would be addressed in the next agenda item.

The United States proposed that consideration be given to amending the AIDCP to limit future DMLs to no more than 50 and to establish a schedule to reduce dolphin mortalities. These proposals were not discussed, and the United States indicated that it would raise them at a future meeting.

13. Technical guidelines to prevent high mortality in sets on large dolphin herds

Dr. Allen presented Document IRP-29-15, *Technical guidelines to prevent high mortality during sets on large dolphin herds* (attached), prepared by the Secretariat at the request of the 28th Meeting of the Panel. The Panel discussed whether the Secretariat's proposals should be guidelines or rules, the level at which any limit on the size of herds set upon should be established, and the need to have the guidelines reviewed by experts.

The Panel agreed that the proposals should be adopted initially as guidelines, and their effectiveness reviewed before consideration is given to making them rules. It was agreed that sets on herds of more than 2,000 dolphins should be avoided, and that experts should be consulted before adopting the technical guidelines regarding actions to be taken before setting the net and after encirclement in the event that a large number of dolphins was encircled. Finally, it was agreed that the guidelines should be incorporated into all relevant training programs.

14. Mechanism to trigger measures and sanctions provided by the AIDCP

The United States, which had requested this agenda item, explained that it was concerned by recent actions by some Parties to challenge or unilaterally revise estimates of dolphin mortality made by the onboard observer, and presented two proposals to amend Annex II of the AIDCP to ensure that an observer's mortality estimates could only be modified with the approval of the IRP (Appendix 3). Under these proposals, any Party wishing to contest and/or modify dolphin mortality data recorded by observers during the course of an investigation of possible infractions would have to present compelling information to substantiate that challenge to the IRP for its review, and the IRP would be responsible for reviewing the case and approving of any modifications by the Parties, if warranted.

During the discussion of these proposals, the importance of relying on observer data was recognized by all, and no delegation disagreed with the basic premise of the proposals. It was agreed to forward this matter to the Meeting of the Parties for consideration, and the United States offered to present a formal proposal to amend the AIDCP, taking into account the Panel's discussion.

15. Review of observer data

The Secretariat presented the data reported by observers of the On-Board Observer Program relating to possible infractions that had occurred since the Panel's previous meeting. Each case was discussed, and the Panel decided to forward those that indicated possible infractions of the AIDCP to the responsible government for investigation and possible sanction.

16. Review of initial assignments of DMLs for 2002

The Secretariat reported that 91 vessels had requested full-year DMLs for 2002 and 2 vessels had requested second-semester DMLs. However, one vessel that requested a full-year DML and one vessel that requested a second-semester DML did not qualify for a DML by the deadline of December 31 established by the IRP at its 28th meeting. The average DML (ADML) for 2002 is 53.846 (Appendix 4).

The Panel received an update on case number 2001-375, which had been addressed at the 28th meeting of the Panel and the 6th Meeting of the Parties in October 2001. The Meeting of the Parties had decided, *inter alia*, that if the relevant government determined that the vessel continued to set on dolphins after the set in which it had exceeded its DML for 2001, this would be considered to constitute a pattern of

violations pursuant to the AIDCP, and in accordance with Annex IV (I) 7 of the Agreement, the vessel would not be eligible to receive a DML for 2002. The government had determined that the vessel did not fish in a manner that constituted a pattern of violations, and therefore the vessel had been assigned a DML for 2002.

Many delegations expressed serious concern over this result, especially in light of the wide discrepancy between the observer's estimate of the mortality in one set and the level accepted by the government, and some participants suggested that the DML be withdrawn. After extensive deliberation, the Panel agreed that the vessel's DML for 2002 should be reduced by 40% below the ADML.

17. Review of actions by Parties on possible infractions reported by the IRP

The Secretariat presented three tables (Appendix 5) detailing the responses received from the Parties in cases of possible infractions identified by the previous three meetings of the IRP of observer interference, use of explosives and night sets reported by the Panel. It was agreed that responses to three other major infractions – fishing on dolphins without a DML, fishing on dolphins after the DML has been reached, and fishing without an observer - should also be reported, and that this information should be presented at every meeting of the Panel.

It was also agreed that the Secretariat would report on all previous unresolved possible major infractions.

It was proposed that the agendas for all future meetings of the IRP should include an item for reporting on the status of cases that the Panel identified as requiring further monitoring.

18. Analysis of budget for AIDCP

The Secretariat presented Document IRP-29-13, which outlines several options for reducing costs that would mitigate the shortfalls in the budget of the AIDCP. Dr. Allen noted that none of these options would cover the shortfall, and without additional income the only solution would be to stop placing observers on vessels at some point during the year. The Panel decided to consider this issue again at its next meeting.

19. Report of the Permanent Working Group on Tuna Tracking

The Chair of the 9th Meeting of the Permanent Working Group on Tuna Tracking presented a report of the meeting.

The Panel endorsed the Working Group's recommendation to forward to the Meeting of the Parties a proposal to amend Part 3 (Verification) of the Resolution to establish procedures for *AIDCP Dolphin Safe* Tuna Certification to add:

> "Parties that do not submit their Tuna Tracking and Verification Plans to the IRP shall not be eligible to use the *AIDCP Dolphin Safe* Tuna Certification."

20. Other business

It was agreed by the Panel that the agenda for the next meeting of the IRP should include an item on sets with high mortality ("special problem sets"), and that the discussion should include a review of the procedure previously developed by the IRP for addressing this matter.

The matter of the method used by the Secretariat to classify vessels was raised, and it was agreed that the Secretariat should be prepared to describe this at the next meeting of the IRP.

21. Place and date of next meeting

The Panel agreed that its next meeting would be held in conjunction with the meeting of the IATTC in Mexico in June 2002.

22. Adjournment

The meeting was adjourned on February 2, 2002.

Appendix 1.

INTERNATIONAL DOLPHIN CONSERVATION PROGRAM
PROGRAMA INTERNACIONAL PARA LA CONSERVACIÓN DE LOS DELFINES

PANEL INTERNACIONAL DE REVISION
INTERNATIONAL REVIEW PANEL

29ª REUNION – 29TH MEETING

31 de enero-2 de febrero de 2002– January 31-February 2, 2002
La Jolla, California, USA

ASISTENTES - ATTENDEES

BOLIVIA

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Ministerio de Agricultura, Ganadería y Desarrollo Rural

COLOMBIA

FABIO ÁVILA ARAUJO
Instituto Nacional de Pesca y Acuicultura
IVÁN DARIO ESCOBAR
Ministerio de Agricultura
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Ministerio de Comercio Exterior
ARMANDO HERNÁNDEZ
Camara de la Industria Pesquera
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Seatech International

COSTA RICA

ASDRÚBAL VÁSQUEZ
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ECUADOR

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Ministerio de Agricultura, Pesca y Alimentación
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VENEZUELA

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Programa Nacional de Observadores

ORGANIZACIONES NO GUBERNAMENTALES--NON-GOVERNMENTAL ORGANIZATIONS

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The Ocean Conservancy

KATHLEEN O'CONNELL
Whale and Dolphin Conservation Society

INDUSTRIA ATUNERA -TUNA INDUSTRY

GABRIEL SARRÓ

SECRETARIADO – SECRETARIAT

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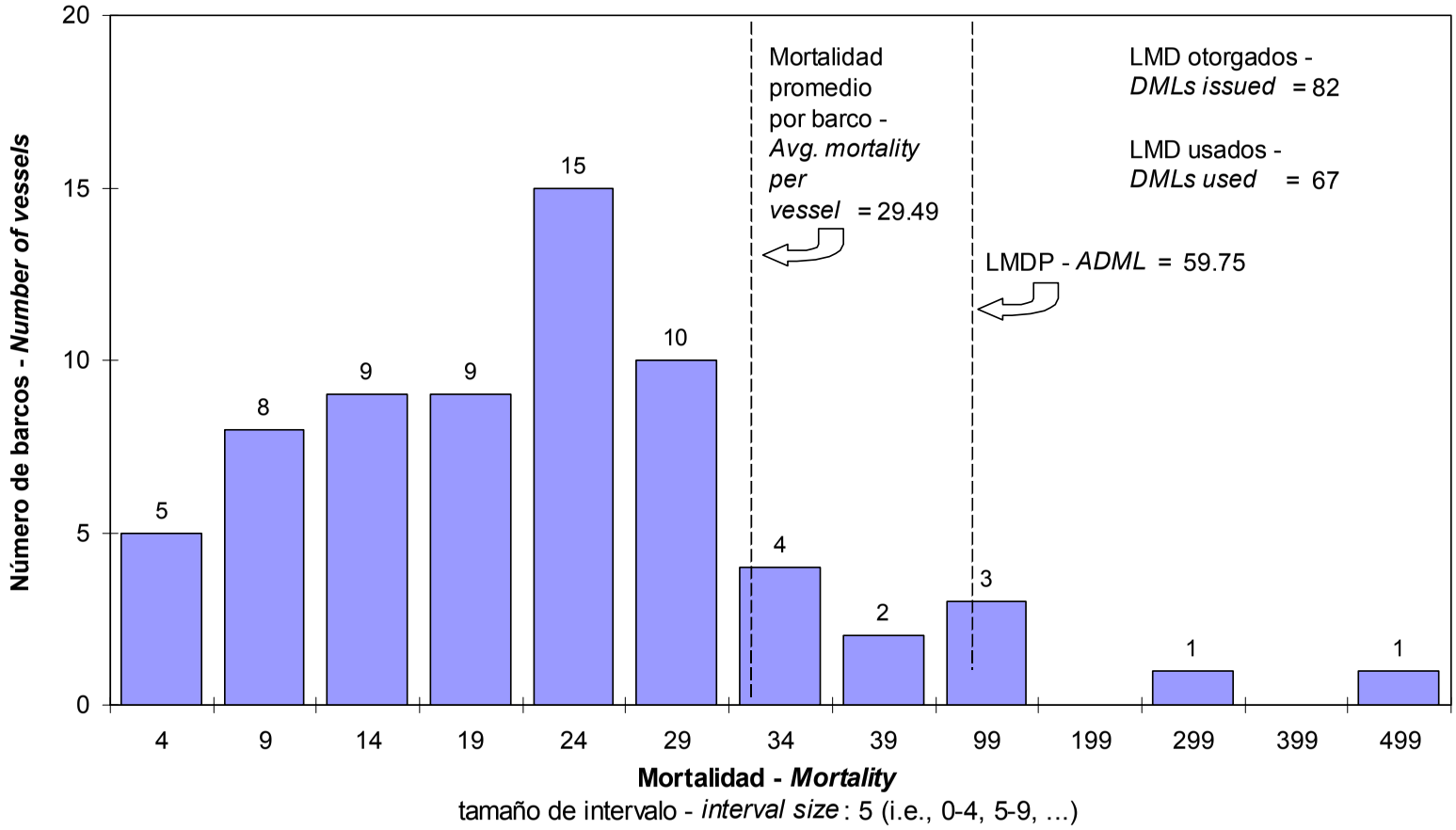
JOSHUE GROSS
MARTÍN HALL
BRIAN HALLMAN
BERTA JUÁREZ
MARLON ROMAN
ENRIQUE UREÑA
NICHOLAS WEBB

Appendix 2.

MORTALIDAD CAUSADA POR BARCOS CON LMD - 2001
MORTALITY CAUSED BY DML VESSELS - 2001

(Uso de LMD = 1 o más lances intencionales sobre delfines; mortalidad en lances experimentales excluída
DML use = 1 or more intentional sets on dolphins; experimental set mortality excluded)



Appendix 3.

PROPOSALS BY THE UNITED STATES TO STRENGTHEN THE AIDCP

29th IRP, La Jolla, January 31-February 1, 2002

One of the most troubling problems for the United States is the recent actions taken by Parties, during the course of their investigation of possible infractions, to challenge or actually unilaterally revise the mortality estimates in the observer data from the incidents. Parties taking such action circumvent the procedures the Parties have put in place in the IRP to address such cases, and in doing so weaken the foundation of the AIDCP and undermine the validity of the observer program and its data. All Parties should recognize this as a serious threat to the Agreement. The United States offered at the Cartagena meeting to provide options to address these cases. The concept in the following proposals is that any Party that wishes to contest and/or modify the observer data must present compelling information to substantiate that challenge to the IRP for its review, and the IRP would be responsible for reviewing the case and approving of any modifications by the Parties if warranted.

PROPOSED ACTION:

OPTION 1

Amend Annex II to add a new paragraph 12 as follows:

"12. Observer Data

a. Observer data shall be the trigger to determine if: (i) a vessel has met or exceeded its DML, (ii) a Party has met or exceeded its national DML; or (iii) the fleet has met or exceeded a per-stock, per year dolphin mortality cap;

b. Any Party wishing to contest the observer data must provide to the IRP the reasons for and the evidence to support such challenge;

c. The IRP will review the evidence provided by the Party and provide a recommendation to the Meeting of the Parties for their consideration;

d. The Parties will review the evidence and the recommendation of the IRP and make a decision as to the merits of the challenge and whether the observer data should be revised."

OPTION 2

Amend Annex II to add a new paragraph 12 as follows:

"Notwithstanding the provisions of the AIDCP relating to investigations of possible infractions of the Agreement, the determinations made by observers with respect to dolphin mortality shall be accepted by the Parties for the purposes of the Agreement, unless the IRP decides to modify any such determinations, based on any pertinent information presented to it."

Appendix 4.

ASIGNACIONES INICIALES DE LMD PARA 2002
INITIAL ASSIGNMENTS OF DMLS FOR 2002

Solicitudes totales – Total requests	
Año completo – Full year:	91
Segundo semestre – Second semester:	2
LMDP – ADML:	53.846

Buques no calificados para recibir un LMD al 31 DIC 2001 – Vessels not qualified for DML by 31 DEC 2001	
Año completo – Full year:	1
Segundo semestre – Second semester:	1

LMD distribuidos por las Partes - DMLs distributed by the Parties	
Año completo – Full year:	90

Asignaciones a buques que excedieron su LMD en 2001 – Assignments to vessels that exceeded their 2001 DML

No.	Exceso Excess	LMD asignado DML assigned	Reducción – Reduction	
			Requerida - Required	Real – Actual
1	**6**	**43**	**9**	**10/11**
2	**5**	**45**	**7.5**	**8/9**

Appendix 5.

RESPONSES FOR THREE TYPES OF POSSIBLE INFRACTIONS IDENTIFIED AT THE 26TH, 27TH, AND 28TH MEETINGS OF THE IRP

OBSERVER HARASSMENT / INTERFERENCE

	No. of cases	No response		Responses											
				Under investigation		No infraction		Infraction: no sanction		Infraction: warning		Infraction: sanction*		Total	
Colombia	1	0	-	1	(100%)	0	-	0	-	0	-	0	-	1	(100%)
Ecuador	1	1	(100%)	0	-	0	-	0	-	0	-	0	-	0	-
Mexico	5	0	-	2	(40%)	3	(60%)	0	-	0	-	0	-	5	(100%)
Total:	**7**	**1**	**(14%)**	**3**	**(43%)**	**3**	**(43%)**	**0**	**-**	**0**	**-**	**0**	**-**	**6**	**(86%)**

EXPLOSIVES USE

	No. of cases	No response		Responses											
				Under investigation		No infraction		Infraction: no sanction		Infraction: warning		Infraction: sanction*		Total	
Bolivia[1]	15	N/A		N/A		N/A		N/A		N/A		N/A		N/A	
Colombia	24	0	-	24	(100%)	0	-	0	-	0	-	0	-	24	(100%)
Ecuador	1	1	(100%)	0	-	0	-	0	-	0	-	0	-	0	-
Mexico	29	1	(3%)	28	(97%)	0	-	0	-	0	-	0	-	28	(97%)
Venezuela	106	2	(1%)	51	(48%)	0	-	0	-	0	-	55	(34%)	106	(100%)
Total:[2]	**160**	**2**	**(1%)**	**103**	**(64%)**	**0**	**-**	**0**	**-**	**0**	**-**	**55**	**(34%)**	**158**	**(99%)**

NIGHT SETS

	No. of cases	No response		Responses											
				Under investigation		No infraction		Infraction: no sanction		Infraction: warning		Infraction: sanction*		Total	
Colombia	2	0	-	2	(100%)	0	-	0	-	0	-	0	-	2	(100%)
Mexico	17	7	(41%)	6	(35%)	4	(24%)	0	-	4	(31%)	0	-	10	(59%)
Venezuela	33	0	-	22	(67%)	0	-	0	-	0	-	11	(33%)	33	(100%)
Total:	**52**	**7**	**(13%)**	**30**	**(58%)**	**4**	**(8%)**	**0**	**-**	**0**	**-**	**11**	**(21%)**	**45**	**(87%)**

*Sanction was applied or will be applied

[1] Se notifica a las no Partes de las posibles infracciones pero no se exige una respuesta - Non-parties are advised of possible infractions but no response is requested

[2] El total no incluye los casos de buques bolivianos - Totals does not include cases by Bolivian vessels

INTERNATIONAL DOLPHIN CONSERVATION PROGRAM
PROGRAMA INTERNACIONAL PARA LA CONSERVACION DE LOS DELFINES

INTERNATIONAL REVIEW PANEL

29TH MEETING

LA JOLLA, CALIFORNIA (USA)
JANUARY 31-FEBRUARY 1, 2002

DOCUMENT IRP-29-09

DETERMINING A PATTERN OF INFRACTIONS

Annex IV (I)(7) of the AIDCP states that "no DML shall be assigned to a vessel which has been determined by the Parties to have engaged in a pattern of violations, as confirmed through enforcement actions taken against such vessel by the Party under whose jurisdiction it operates, which diminish the effectiveness of the [IDCP]." Similarly, the system for *Training and Identification of Fishing Captains Qualified to Fish under the AIDCP* provides that, to remain on the list of qualified captains, a captain must not have a record of infractions which are determined by the IRP to have formed a pattern. The IRP has thus been working to develop a definition of what is meant by "a pattern of violations which diminish the effectiveness of the IDCP."

During the past year the Secretariat has presented three different approaches for consideration as possible ways to address this matter, but none have proven to be completely satisfactory to the Parties. The aim is to establish a system that balances the need stressed by some Parties for objective parameters or criteria to assist in making the determination and the concern of other Parties that any such formula could be too inflexible and not take into account all the circumstances of individual cases.

One possible solution could be to establish simple criteria which could trigger a closer examination of the compliance history of individual vessels and/or captains. The Parties could then decide, based on this closer examination, whether a determination of engagement in a pattern of violations is warranted. If the Parties did not believe that a particular case justified such a determination, it would be possible to decide on a less severe course of action, such as a warning.

The Secretariat's specific proposal for consideration of the Parties is as follows:

1. The beginning date for the implementation of the system to be adopted shall be January 1, 2000 .
2. The compliance record of any vessel or captain with two confirmed "major" infractions during any two consecutive calendar years shall be examined in detail for the purpose of deciding if there is a pattern of infractions pursuant to Annex IV (I) (7) of the AIDCP.
3. In considering a possible pattern of infractions, the Parties may take into consideration, *inter alia*, the nature of the infractions committed; any special circumstances relevant to the cases; the severity of the sanctions imposed; the vessel and/or captain's record of compliance with the AIDCP since January 1, 2000, including "other" infractions and whether compliance was improving; and whether the vessel and/or captain had received any prior warnings or been the subject of any other investigations.
4. The Parties may decide, following the detailed examination of the compliance record: (1) that the vessel shall not receive a DML for the year following the determination that it has engaged in a pattern of violations; (2) to issue a warning that the vessel and/or captain has been investigated with respect to a determination of a pattern of infractions and that this will be taken into account in the event of a reoccurrence.

NTERNATIONAL DOLPHIN CONSERVATION PROGRAM
PROGRAMA INTERNACIONAL PARA LA CONSERVACION DE LOS DELFINES

INTERNATIONAL REVIEW PANEL

29TH MEETING

LA JOLLA, CALIFORNIA (USA)
JANUARY 31-FEBRUARY 1, 2002

DOCUMENT IRP-29-13

PROPOSALS FOR REDUCING THE COSTS OF THE INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

At the 27th meeting of the IRP in June 2001, the Secretariat indicated that the current level of vessel assessments will not be enough to cover the costs related to the AIDCP for 2002, and proposed an increase in these assessments to US$13.60 per cubic meter ($m^3$) of well volume, assuming that vessels of non-IATTC members paid at a higher rate. The IRP did not support the proposed increase.

At its 5th meeting, held in August 2001, the IATTC Working Group on Finance addressed the shortfall in the IATTC general budget and was advised of the expected deficit related to the AIDCP. The Working Group agreed that the IATTC should pay no more than 30% of the costs associated with the AIDCP On-Board Observer Program for vessels of member states.

At the 28th meeting of the IRP in October 2001, the matter of how to cut the costs incurred by the Secretariat to carry out its functions without reducing the level of support it provides to the Parties and the Agreement was discussed with the presentation of Document IRP-28-10 (*Proposals for funding the AIDCP On-Board Observer Program*). At the end of the discussions the Panel did not agree to recommend an increase in the vessel assessments as proposed by the Secretariat. The Secretariat was asked to prepare another paper for consideration by the IRP, with a more detailed subdivision of the line items in the budget for the On-Board Observer Program and with estimates of the savings resulting from reducing the number of meetings and holding as many meetings as possible in La Jolla.

As previously presented to the IRP, the estimated costs incurred for IATTC activities related to the implementation of the IDCP in 2000 and 2001 have been greater than the revenue from vessel assessments, and are also expected to be greater in 2002 and 2003. This paper presents further detail of the estimated future costs, and provides some sugestions for cost reductions.

Detail of estimated future costs

Detailed estimates of the income and expenditure for the IDCP in 2002 and 2003 are shown in Table 1. The estimates for both years assume that inflation will increase general costs and salaries by 4% each year. The forecast expenditure and revenue shown here differ from those presented at the 28th meeting: costs have been reassessed using more recent information, and the forecast income from vessel assessments has been reduced to reflect the decision to charge IATTC member and non-member vessels the same rate of US$12.552/$m^3$.

The allocation of costs in the table depends largely on the estimation of the time individual staff members are occupied in various duties. This is the first time such a detailed estimate has been made, so the estimates are provisional and may change in future as estimating techniques improve. The estimates are given to the nearest dollar; but this should not be taken as an indication of their precision.

1. Options for reducing costs

Several options are presented here to reduce costs that would mitigate the budget shortfalls. The secretariat costs of the AIDCP are primarily the employment of observers and the costs associated with

preparation of, facilities for, and participation in meetings of the Parties, the IRP, and the Permanent Working Group on Tuna Tracking (TTWG). In addition there are smaller costs associated with extension work such as trial sets and captain seminars. In preparing the options it has been assumed that observer coverage will continue at existing levels, that there is a continued need for information such as analysis of possible infractions and the type of information and advice presented by the Secretariat at the various meetings, and that simultaneous translation is required at meetings. Given those assumptions, the options for cost reduction presented here are insufficient to cover the shortfall forecast for this year.

In some cases the proposals are for a transfer of costs from the Secretariat to the industry participants in the program. While there is no immediate saving for the industry, it is possible that paying directly for some services may result in them being used more efficiently.

Finally, implementing some of the options could result in staff reductions for the Secretariat. There would be costs involved in doing that and net reductions in cost would not be achieved immediately and in fact may require initial expenditure. Further, any rearrangements of work within the Secretariat would require some internal consultation, and any decisions on this matter should allow a reasonable implementation period.

a. Observer program

i. Rationalize data capture between logbook and observer data

Potential savings: $15,000

The IATTC staff copy captains' logbooks from all trips by purse-seine vessels, including those for which observer data are available. It would be possible to rationalize the system by (a) not copying logbooks for fishing trips with observers and/or (b) copying logbooks, but only entering that information if there are no observer data available. While the availability of sufficient funds to continue the observer program is in doubt, it would be unwise for the IATTC to discontinue copying logbooks, so the estimated savings are based on option (b). While any saving would be made by the IATTC, the charges for the AIDCP should be adjusted to reflect the use of data collected through the IDCP.

b. Meetings

i. Reduction in meeting schedule

Reduce the annual schedule of meetings to two IRP/TTWG meetings, with a single one-day meeting of the Parties. Further savings of $8,133 may be attained by further reducing the duration of the IRP/TTWG meetings to two days.

Potential savings: $24,399

The potential savings are calculated on the basis of the average daily cost of the IRP/TTWG meetings.

There are currently three two-day IRP meetings, and normally two 1-day meetings of the Parties each year. Recently there has also been a one-day meeting of the TTWG in conjunction with the IRP. Three IRP meetings per year means that observer data are reviewed no more than 4 to 5 months after a trip is completed; two meetings per year could extend that to six to seven months, with a corresponding delay between a possible infraction and its investigation by the government concerned. The Parties meet twice a year: once in June, in conjunction with the annual meeting of the IATTC, as provided for in the AIDCP, and once in October, when the DMLs for the coming year are assigned. Eliminating the former would ignore the preference in the AIDCP to holding the ordinary annual meeting in conjunction with a meeting of the IATTC, and eliminating the October meeting would require amendment or interpretation of Annex IV of the AIDCP, which requires that the IRP provide a list of qualified vessels to the Meeting of the Parties. Since no action by the Meeting of the Parties on this list is required, it would be possible to carry

out this function by correspondence. In each case, reducing the number and duration of meetings would mean either that business would have to be handled more efficiently or that fewer decisions could be made.

If extraordinary meetings were called for by certain Parties, those Parties could be required to pay all the costs involved, including travel expenses for the Secretariat.

ii. **Holding meetings in La Jolla**

Assuming the previous option has been adopted, hold the meetings of the IRP, and the TTWG in La Jolla, except for meetings held in conjunction with the IATTC annual meeting.

Potential savings: $12,000

The potential savings are calculated by taking into consideration both the cost of holding meetings at a hotel in La Jolla and travel expenses for the Secretariat.

In addition to the savings from this and from reducing the number of meetings, further savings of $7,400 might be possible by holding the meetings of the IRP and TTWG in the IATTC headquarters building instead of at a hotel. However, the meeting room is much smaller, and total attendance would be limited to 42: two from each Party (30), eight NGO and industry representatives, and four from the Secretariat.

c. Extension

i. **Recover costs for trial sets**

Potential savings $20,000

Individual vessels would be charged the full cost of of IATTC staff attending a trial set.

ii. **Recover costs for captain seminars**

Potential savings $6,200

A fixed fee would be charged for each captain attending a seminar.

TABLE 1. IDCP: Allocation of costs, 2002-2003.

TABLA 1. PICD: Distribución de costos, 2002-2003.

COSTS-COSTOS (US$)	2002 (projected—proyectados)	2003 (projected—proyectados)
Covered at 70% -Cubiertos al 70%		
Observer expenses-Gastos de observadores		
Wages & benefits—Sueldos y prestaciones	1,175,918	1,196,701
Travel--Viajes	100,360	104,375
Equipment and supplies—Equipo y pertrechos	14,070	14,633
Subtotal	1,290,348	1,315,709
IATTC scientific staff (AIDCP allocation) **Personal científico de la CIAT (asignado al APICD)**		
Extension--Extensión	27,448	28,992
Database maintenance/reporting—Mantenimiento de base de datos e informes	375,531	397,316
Meeting preparation and reporting—Preparación para reuniones e informes	68,300	72,035
Meeting attendance—Asistencia a reuniones	15,652	16,417
Tuna tracking/Dolphin safe certificates—Seguimiento de atún/Certificación *dolphin safe*	17,140	18,276
Observer training/Manual—Capacitación de observadores/Manual	14,326	15,052
Correspondence/Translations—Correspondencia/Traducciones	60,797	63,852
Subtotal	579,194	611,940
IATTC administration (AIDCP allocation) **Administración CIAT (asignado al APICD)**		
Meetings and minutes—Reuniones y actas	28,716	30,409
Meeting preparation and reporting—Preparación reuniones e informes	114,840	120,857
Correspondence/Translations—Correspondencia/Traducciones	93,353	98,684
Computing/Data entry—Computación/Captura de datos	41,463	43,491
Subtotal	278,372	293,441
IATTC field office staff and facilities (AIDCP allocation) **Personal e instalaciones de las oficinas regionales de la CIAT (asignado al APICD)**		
Observer training/trip logistics/debriefing—Capacitación de observadores/logística/revisión de datos	323,507	339,326
Correspondence/liaison—Correspondencia/coordinación	80,877	84,832
Tuna tracking /Dolphin safe certificates—Seguimiento de atún/Certificación *dolphin safe*	15,948	16,727
Subtotal	420,332	440,885
Contract services for data entry--Servicios por contrato para captura de datos	14,612	15,197
Training courses--Cursos de entrenamiento	5,693	5,920
SUBTOTAL	**2,588,551**	**2,683,092**
70% of/del subtotal	1,811,986	1,878,164
Covered at 100%-Cubiertos al 100%		
AIDCP certification costs—Costos certificación APICD	30,000	30,000
Meetings of Parties and IRP--Reuniones de las Partes y del PIR	52,866	54,981
Trial sets—Lances de prueba	11,044	11,485
Total direct costs—Total de costos directos	93,910	96,466
TOTAL	**1,905,896**	**1,974,630**
Total vessel assessments paid--Total de cuotas de buques pagadas	1,669,397	1,669,397
Surplus (deficit) – Superávit (déficit)	(236,499)	(305,233)

INTERNATIONAL DOLPHIN CONSERVATION PROGRAM
PROGRAMA INTERNACIONAL PARA LA CONSERVACION DE LOS DELFINES

INTERNATIONAL REVIEW PANEL

29TH MEETING

LA JOLLA, CALIFORNIA (USA)
JANUARY 31-FEBRUARY 1, 2002

DOCUMENT IRP-29-14

POSSIBLE CAUSES OF THE INCREASE IN THE MORTALITY OF DOLPHINS IN THE PURSE-SEINE FISHERY FOR TUNAS IN THE EASTERN PACIFIC OCEAN, 1999-2001

Preliminary estimates of dolphin mortalities in the fishery in 2001 are presented in Table 1. The estimates of observed mortality are incomplete because of a lack of 100% real-time reporting, so an extrapolation has been applied to account for non-reporting vessels or data not yet received from national programs. The total observed mortality (2,073 as of 25 January 2002) accounts for most vessels which fished in 2001, and the total mortality (based on the extrapolations) is not likely to exceed 2,300 dolphins. The observed mortality, even though probably an underestimate, showed an increase of 27% over 2000 (1,636) and of 54% over 1999 (1,348). These mortalities, while increasing, are well within the limits that are sustainable by the populations. Starting in 2001, the stock mortality limits (SMLs) were lowered from 0.2% N_{min} to 0.1% N_{min}. The extrapolated mortalities for two stocks, the northeastern spotted and central common dolphins, exceeded the SMLs for 2001 (Table 1).

The Secretariat has conducted an analysis of potential reasons for the increase in total mortality since 1999. Although in absolute numbers the increases are small relative to historical mortalities, and although one would expect fluctuations in the mortality from year to year, the more-restrictive SMLs now in effect provide special impetus to determine the causes of high-mortality sets and to prevent them. For example, the increase in 2001 was largely due to one set with a reported mortality of 470 northeastern spotted and eastern spinner dolphins, and another set with a mortality of 186 whitebelly spinner dolphins.

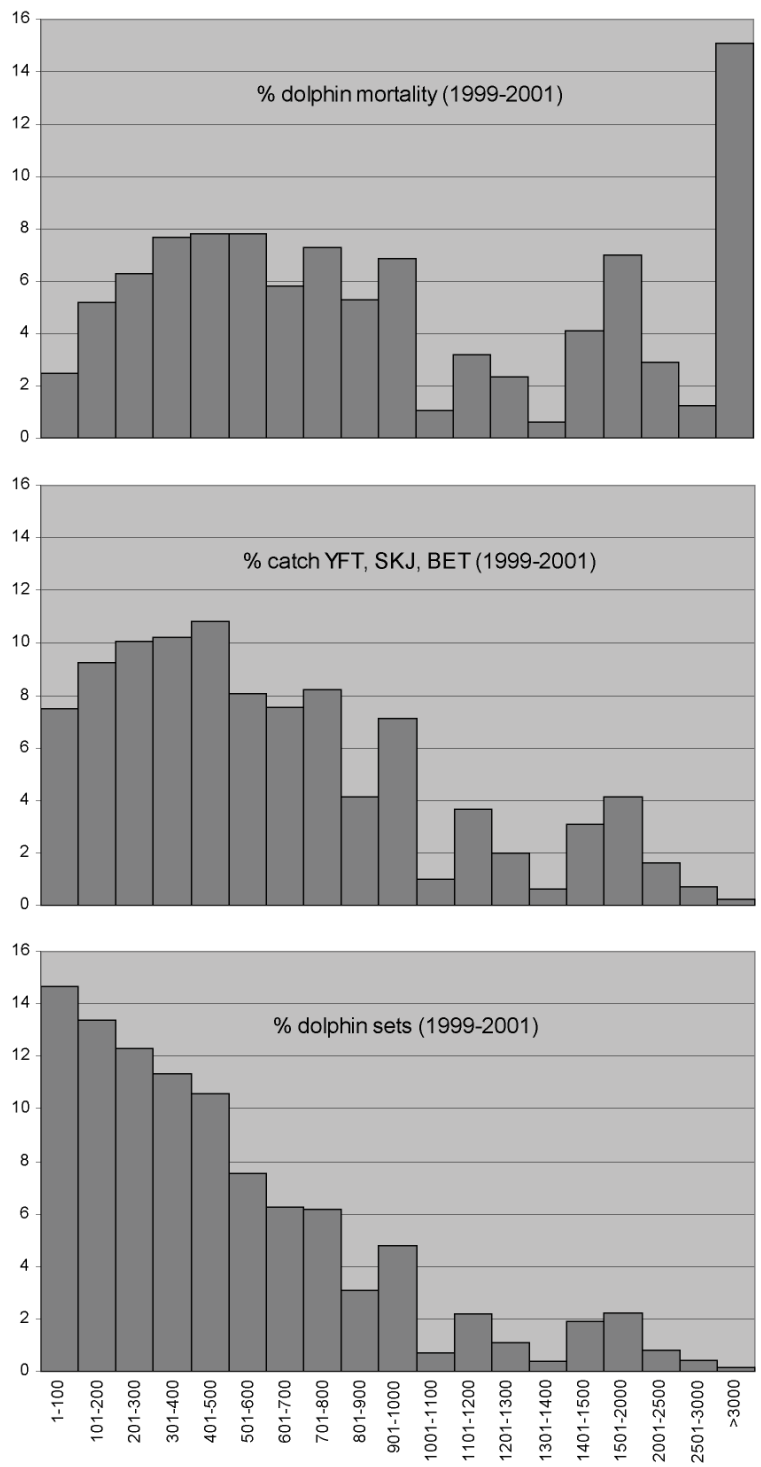
The size of the dolphin herd captured is known to be correlated with the tonnage of tuna caught, but is also correlated with dolphin mortality. Sets on large dolphin herds are riskier than sets on smaller herds. For example, the three sets with high mortality (47, 31, and 470 dolphins) recorded in the IATTC database in 1999-2001 encircled 2,000, 2,500, and 4,000 dolphins, respectively. During 1999-2001, herds of more than 3,000 dolphins accounted for less than 0.2% of the sets and catch of yellowfin tuna, but for 16% of the mortalities (Table 2, Figures 1-4). Herds of more than 2,000 dolphins accounted for less than 2% of the sets and less than 3% of the catch of yellowfin tuna, but over 20% of the mortalities.

Gear malfunctions, net collapses, and net canopies are also well-known causes of dolphin mortality. For example, one or more of these factors were implicated in all three of the high-mortality sets mentioned above. The percentages of the total mortality attributed to these causes have all declined over time (Figure 5) and the trend does not suggest that the 1999-2001 increase in mortality is correlated with an increase in problems during set operations. These problems do persist, however, and can still contribute to high-mortality sets (Table 3). Currently, mortality is relatively high when canopies occur, particularly in combination with gear malfunctions and/or net collapses. More detailed analyses will examine the interactions amongst different causes of mortality.

Changes in the distribution of fishing effort appear to have affected the mortalities of some stocks. Typically the axis of the fishery extends westward along 10°N (Figure 6), but in 2000-2001 the main fishing area has shifted to the south, between 0° and 10°N, and contracted towards the east, between approximately 80° and 100°W (Figures 7-8).

This shift in the fishery has focused more effort within the boundaries of the central common dolphin

stock. This shift, in combination with a recent increase in the percentage of sets on common dolphins, has resulted in an increase in mortalities of the central stock (Figure 9). The recent years with the greatest numbers of sets and catches of tuna on common dolphins (1998, 2000, and 2001) coincide with years with higher mortalities (Table 4) and appear to have contributed to the increase in mortality during 1999-2001. Even though the mortalities of common dolphins have declined dramatically over the last 15 years with improvements in fishermen's performance, common dolphins are still more difficult to manage in the nets, and their mortality per set is higher than the average for all dolphins (Table 4). In recent years, the number of sets and the amount of yellowfin tuna caught on common dolphins have fluctuated greatly. While the mortalities for the three stocks of common dolphins have declined 99% since 1986, sets on this species are still riskier than most other sets.



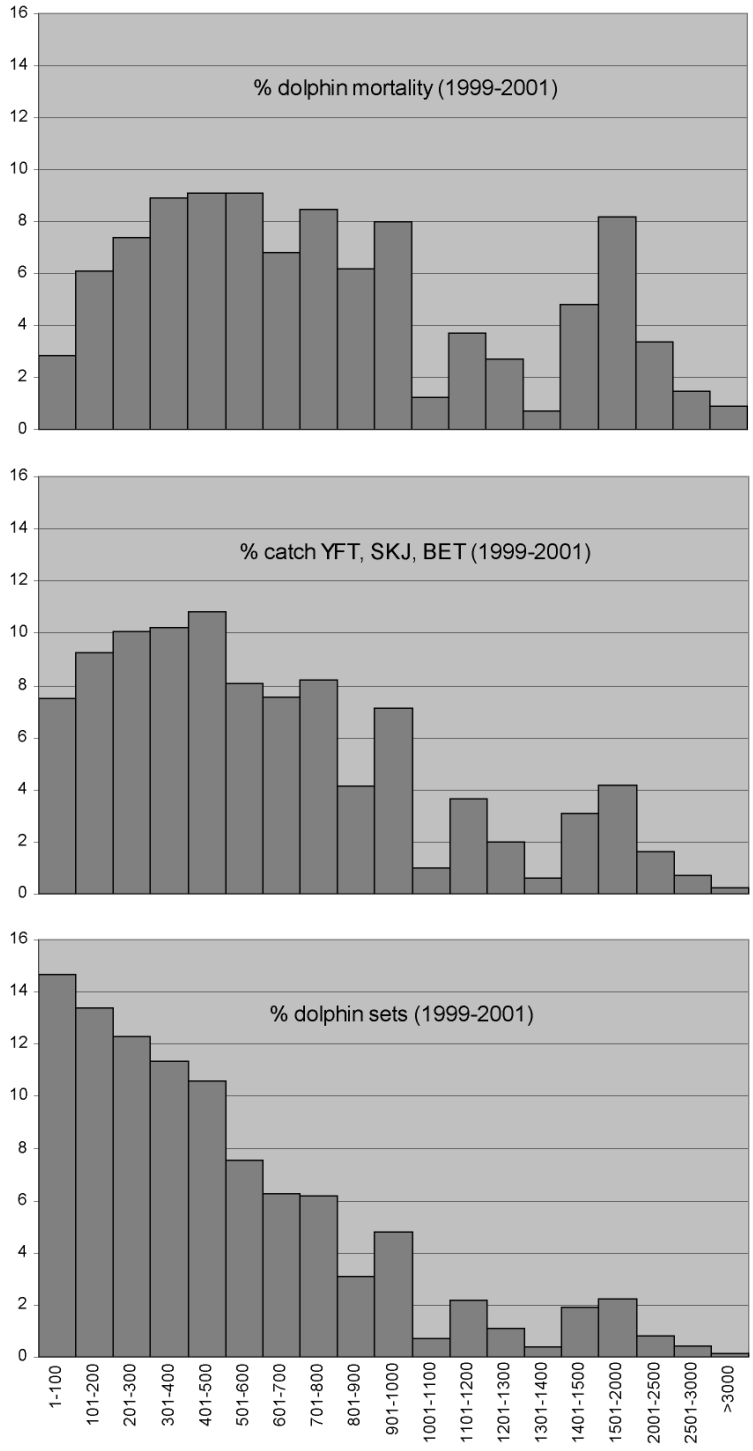
Dolphin capture	% Kill
1-100	2.5
101-200	5.2
201-300	6.3
301-400	7.6
401-500	7.8
501-600	7.8
601-700	5.8
701-800	7.3
801-900	5.3
901-1000	6.9
1001-1100	1.1
1101-1200	3.2
1201-1300	2.3
1301-1400	0.6
1401-1500	4.1
1501-2000	7.0
2001-2500	2.9
2501-3000	1.2
>3000	15.1

Dolphin capture	% Catch
1-100	7.5
101-200	9.3
201-300	10.0
301-400	10.2
401-500	10.8
501-600	8.1
601-700	7.6
701-800	8.2
801-900	4.1
901-1000	7.1
1001-1100	1.0
1101-1200	3.7
1201-1300	2.0
1301-1400	0.6
1401-1500	3.1
1501-2000	4.2
2001-2500	1.6
2501-3000	0.7
>3000	0.3

Dolphin capture	% Sets
1-100	14.7
101-200	13.4
201-300	12.3
301-400	11.3
401-500	10.6
501-600	7.5
601-700	6.3
701-800	6.2
801-900	3.1
901-1000	4.8
1001-1100	0.7
1101-1200	2.2
1201-1300	1.1
1301-1400	0.4
1401-1500	1.9
1501-2000	2.2
2001-2500	0.8
2501-3000	0.4
>3000	0.1

FIGURA 1. Porcentajes de la mortalidad de delfines, captura de atún, y lances sobre delfines graficados contra tamaño creciente de la manada, 1999-2001, incluyendo lances con mortalidad alta (mortalidad $\geq$ 30 delfines. Los datos de 2001 son preliminares.

FIGURE 1. Percentages of dolphin mortalities, tuna catches, and dolphin sets plotted against increasing herd size, 1999-2001, including high-mortality sets (mortality $\geq$ 30 dolphins). Data for 2001 are preliminary.

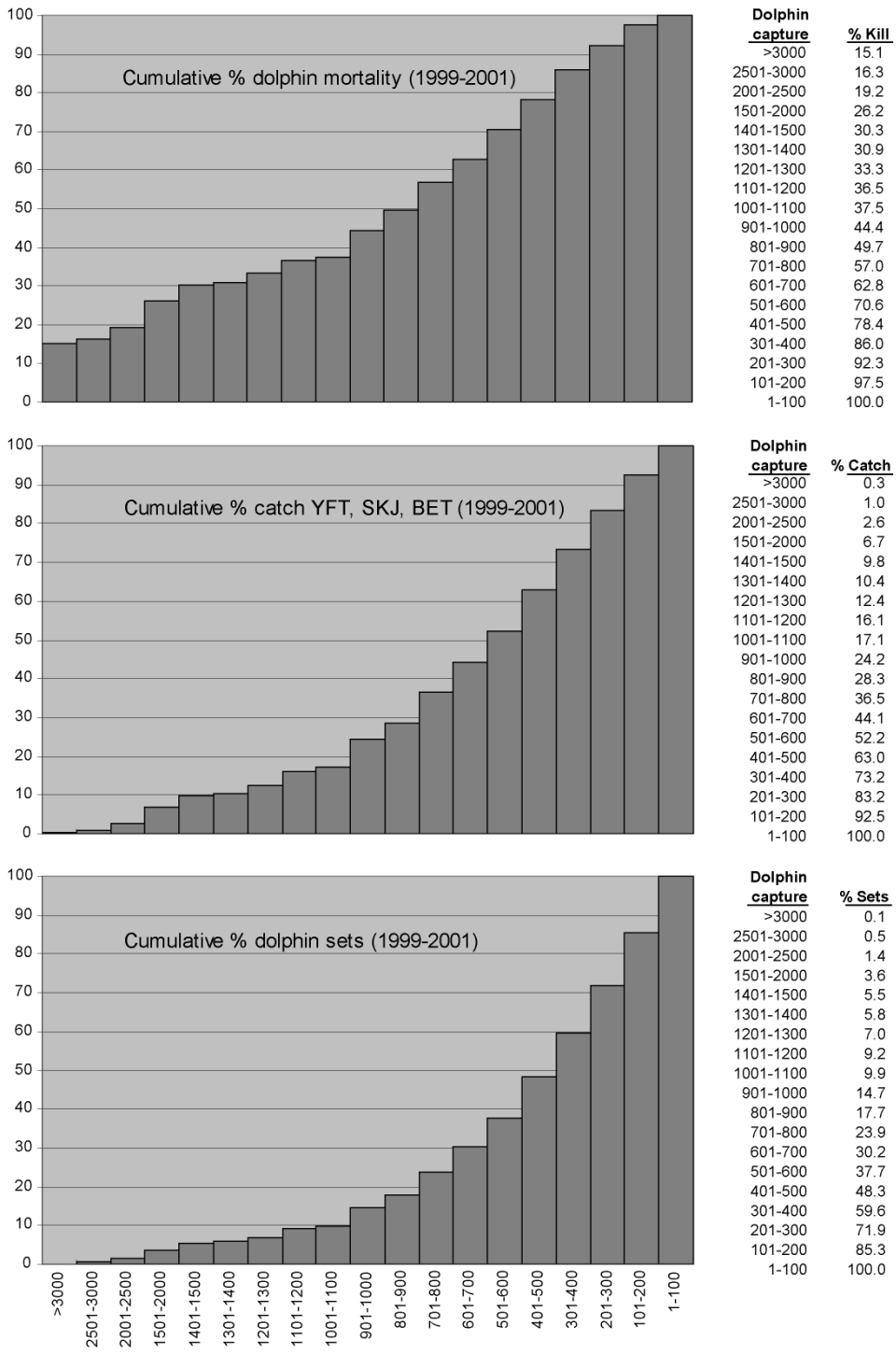


Dolphin capture	% Kill
1-100	2.9
101-200	6.1
201-300	7.4
301-400	8.9
401-500	9.1
501-600	9.1
601-700	6.8
701-800	8.5
801-900	6.2
901-1000	8.0
1001-1100	1.2
1101-1200	3.7
1201-1300	2.7
1301-1400	0.7
1401-1500	4.8
1501-2000	8.2
2001-2500	3.4
2501-3000	1.5
>3000	0.9

Dolphin capture	% Catch
1-100	7.5
101-200	9.3
201-300	10.1
301-400	10.2
401-500	10.8
501-600	8.1
601-700	7.6
701-800	8.2
801-900	4.1
901-1000	7.1
1001-1100	1.0
1101-1200	3.7
1201-1300	2.0
1301-1400	0.6
1401-1500	3.1
1501-2000	4.2
2001-2500	1.6
2501-3000	0.7
>3000	0.2

Dolphin capture	% Sets
1-100	14.7
101-200	13.4
201-300	12.3
301-400	11.3
401-500	10.6
501-600	7.5
601-700	6.3
701-800	6.2
801-900	3.1
901-1000	4.8
1001-1100	0.7
1101-1200	2.2
1201-1300	1.1
1301-1400	0.4
1401-1500	1.9
1501-2000	2.2
2001-2500	0.8
2501-3000	0.4
>3000	0.1

FIGURA 2. Porcentajes de la mortalidad de delfines, captura de atún, y lances sobre delfines graficados contra tamaño creciente de la manada, 1999-2001, excluyendo lances con mortalidad alta (mortalidad $\geq$ 30 delfines. Los datos de 2001 son preliminares.
FIGURE 2. Percentages of dolphin mortalities, tuna catches, and dolphin sets plotted against increasing herd size, 1999-2001, excluding high-mortality sets (mortality $\geq$ 30 dolphins). Data for 2001 are preliminary.



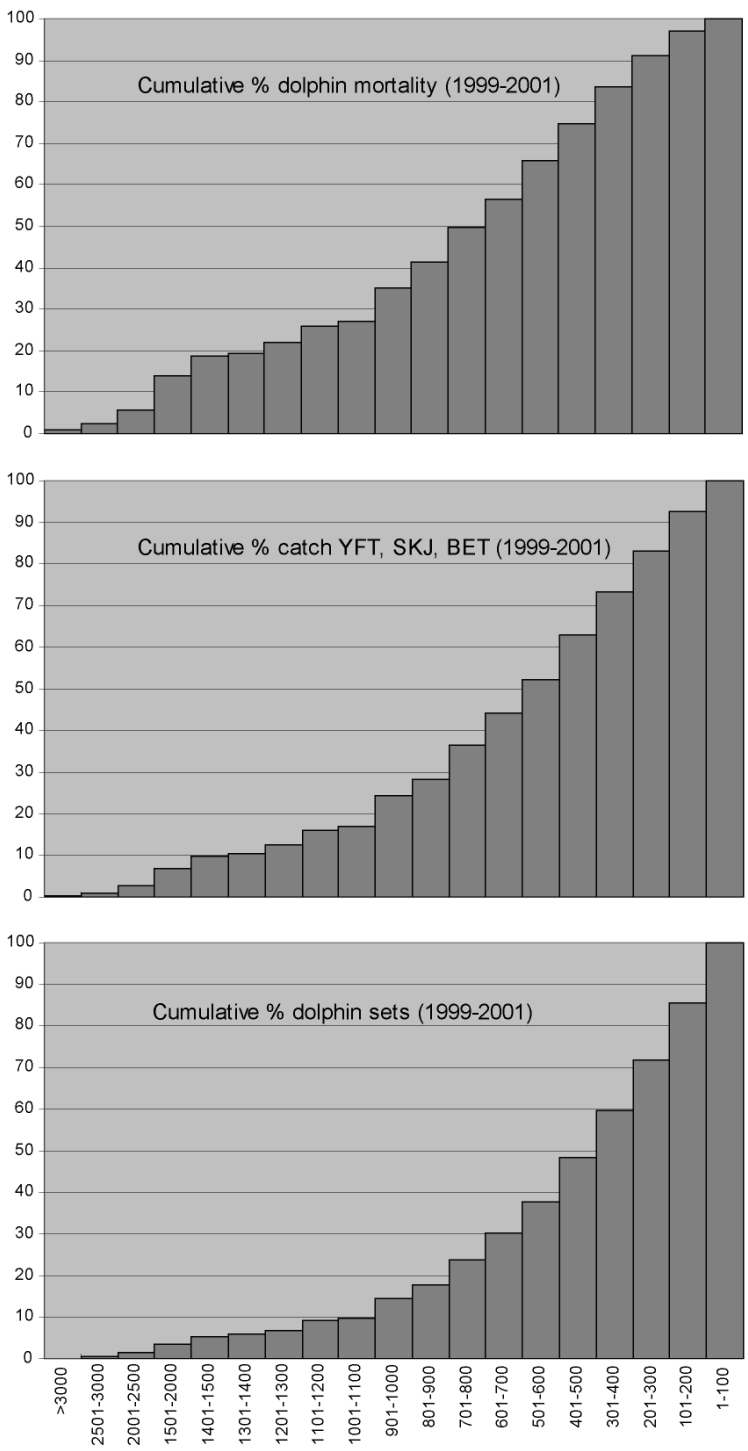
Dolphin capture	% Kill
>3000	15.1
2501-3000	16.3
2001-2500	19.2
1501-2000	26.2
1401-1500	30.3
1301-1400	30.9
1201-1300	33.3
1101-1200	36.5
1001-1100	37.5
901-1000	44.4
801-900	49.7
701-800	57.0
601-700	62.8
501-600	70.6
401-500	78.4
301-400	86.0
201-300	92.3
101-200	97.5
1-100	100.0

Dolphin capture	% Catch
>3000	0.3
2501-3000	1.0
2001-2500	2.6
1501-2000	6.7
1401-1500	9.8
1301-1400	10.4
1201-1300	12.4
1101-1200	16.1
1001-1100	17.1
901-1000	24.2
801-900	28.3
701-800	36.5
601-700	44.1
501-600	52.2
401-500	63.0
301-400	73.2
201-300	83.2
101-200	92.5
1-100	100.0

Dolphin capture	% Sets
>3000	0.1
2501-3000	0.5
2001-2500	1.4
1501-2000	3.6
1401-1500	5.5
1301-1400	5.8
1201-1300	7.0
1101-1200	9.2
1001-1100	9.9
901-1000	14.7
801-900	17.7
701-800	23.9
601-700	30.2
501-600	37.7
401-500	48.3
301-400	59.6
201-300	71.9
101-200	85.3
1-100	100.0

FIGURA 3. Porcentajes de la mortalidad de delfines, captura de atún, y lances sobre delfines graficados contra tamaño descendente de la manada, 1999-2001, incluyendo lances con mortalidad alta (mortalidad $\geq$ 30 delfines. Los datos de 2001 son preliminares.

FIGURE 3. Cumulative percentages of dolphin mortalities, tuna catches, and dolphin sets plotted against decreasing herd size, 1999-2001, including high-mortality sets (mortality $\geq$ 30 dolphins). Data for 2001 are preliminary.



Dolphin capture	% Kill
>3000	15.1
2501-3000	16.3
2001-2500	19.2
1501-2000	26.2
1401-1500	30.3
1301-1400	30.9
1201-1300	33.3
1101-1200	36.5
1001-1100	37.5
901-1000	44.4
801-900	49.7
701-800	57.0
601-700	62.8
501-600	70.6
401-500	78.4
301-400	86.0
201-300	92.3
101-200	97.5
1-100	100.0

Dolphin capture	% Catch
>3000	0.3
2501-3000	1.0
2001-2500	2.6
1501-2000	6.7
1401-1500	9.8
1301-1400	10.4
1201-1300	12.4
1101-1200	16.1
1001-1100	17.1
901-1000	24.2
801-900	28.3
701-800	36.5
601-700	44.1
501-600	52.2
401-500	63.0
301-400	73.2
201-300	83.2
101-200	92.5
1-100	100.0

Dolphin capture	% Sets
>3000	0.1
2501-3000	0.5
2001-2500	1.4
1501-2000	3.6
1401-1500	5.5
1301-1400	5.8
1201-1300	7.0
1101-1200	9.2
1001-1100	9.9
901-1000	14.7
801-900	17.7
701-800	23.9
601-700	30.2
501-600	37.7
401-500	48.3
301-400	59.6
201-300	71.9
101-200	85.3
1-100	100.0

FIGURA 4. Porcentajes de la mortalidad de delfines, captura de atún, y lances sobre delfines graficados contra tamaño descendente de la manada, 1999-2001, excluyendo lances con mortalidad alta (mortalidad $\geq$ 30 delfines. Los datos de 2001 son preliminares.

FIGURE 4. Cumulative percentages of dolphin mortalities, tuna catches, and dolphin sets plotted against decreasing herd size, 1999-2001, excluding high-mortality sets (mortality $\geq$ 30 dolphins). Data for 2001 are preliminary.

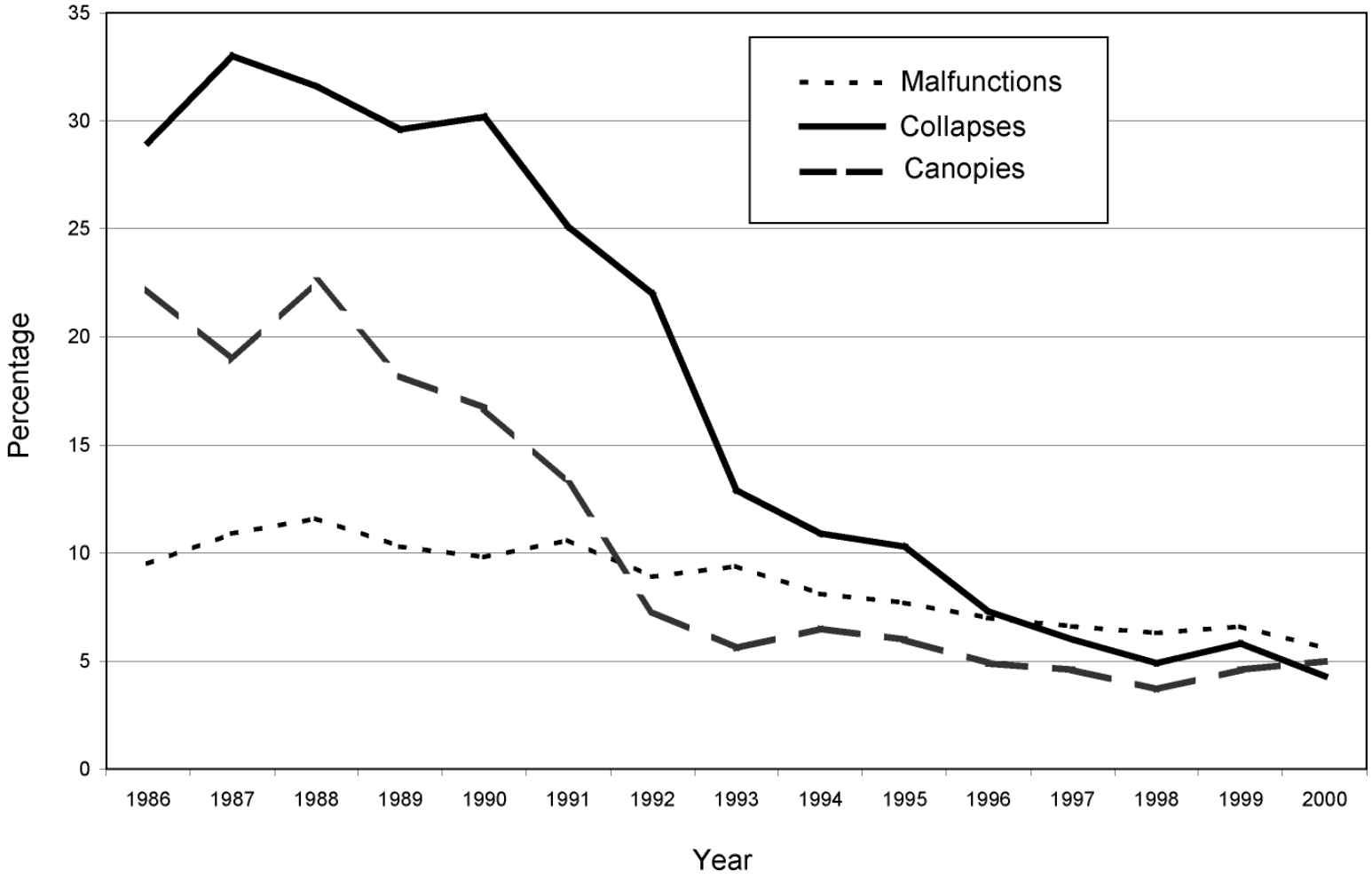


FIGURA 5. Tendencias en problemas que contribuyen a la mortalidad de delfines, 1986-2000.
FIGURE 5. Trends in problems that contribute to dolphin mortality, 1986-2000.

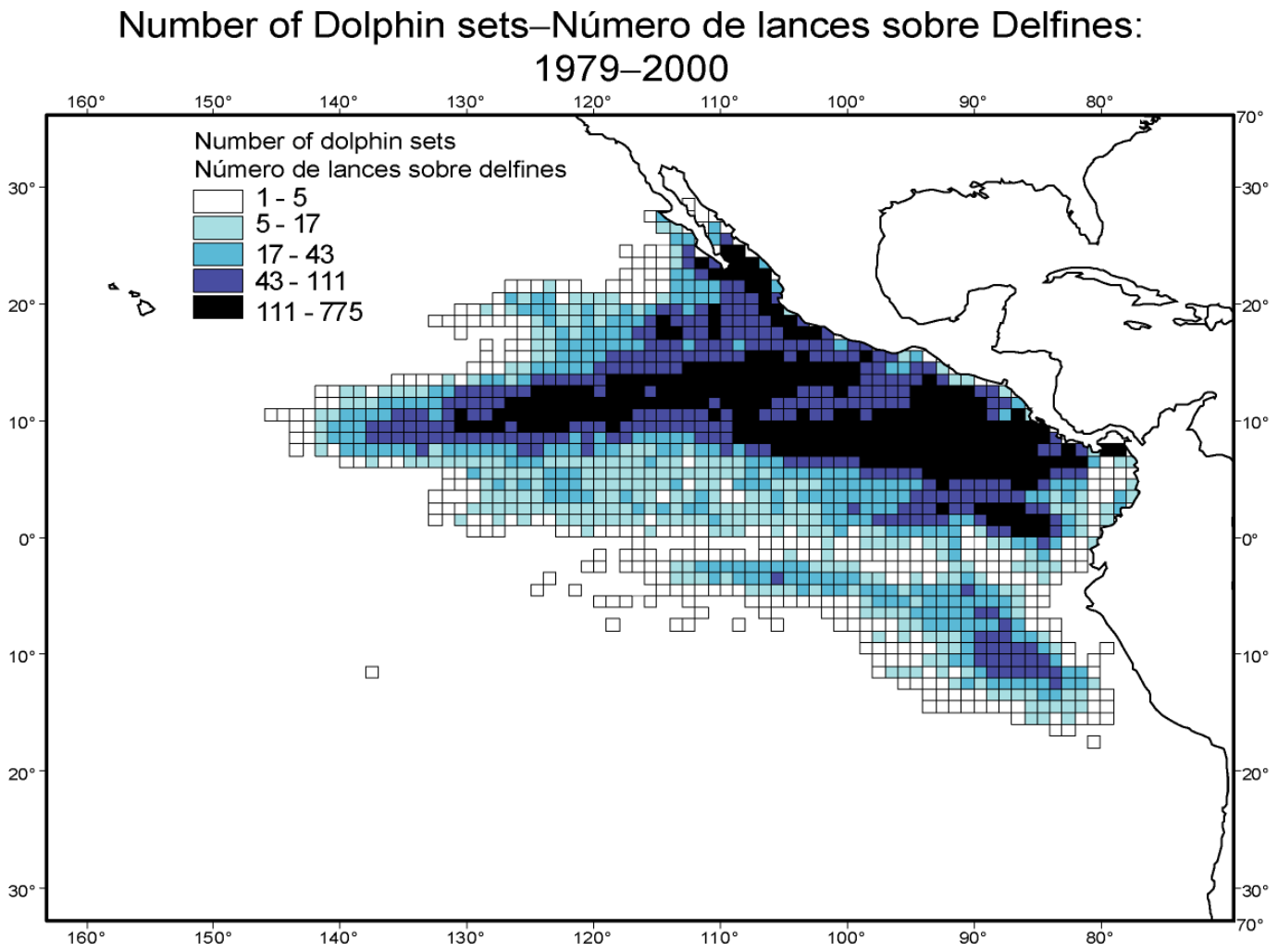


FIGURA 6. Lances sobre delfines por cuadrángulo de 1°, 1979-2000.
FIGURE 6. Sets on dolphins by one-degree quadrangle, 1979-2000.

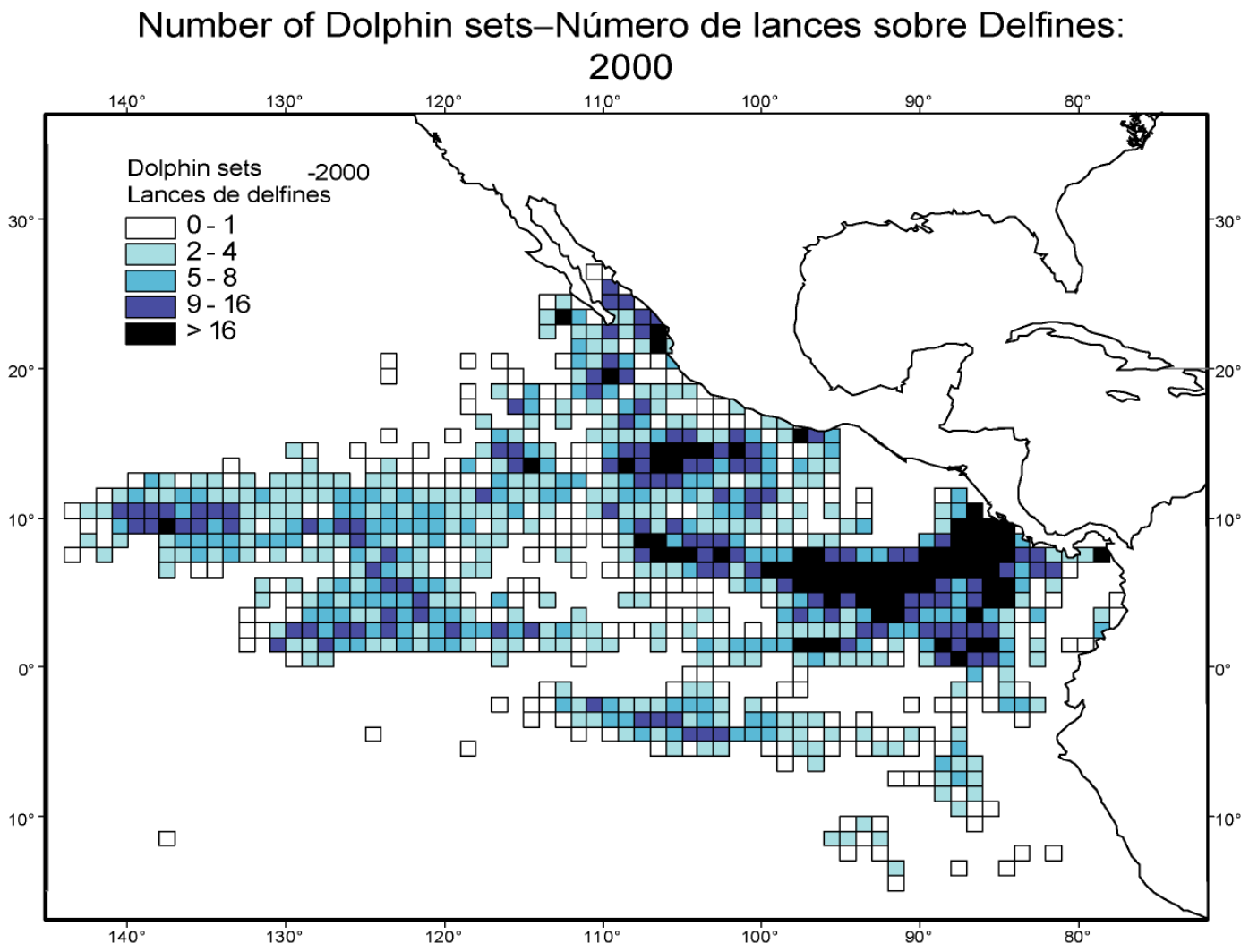
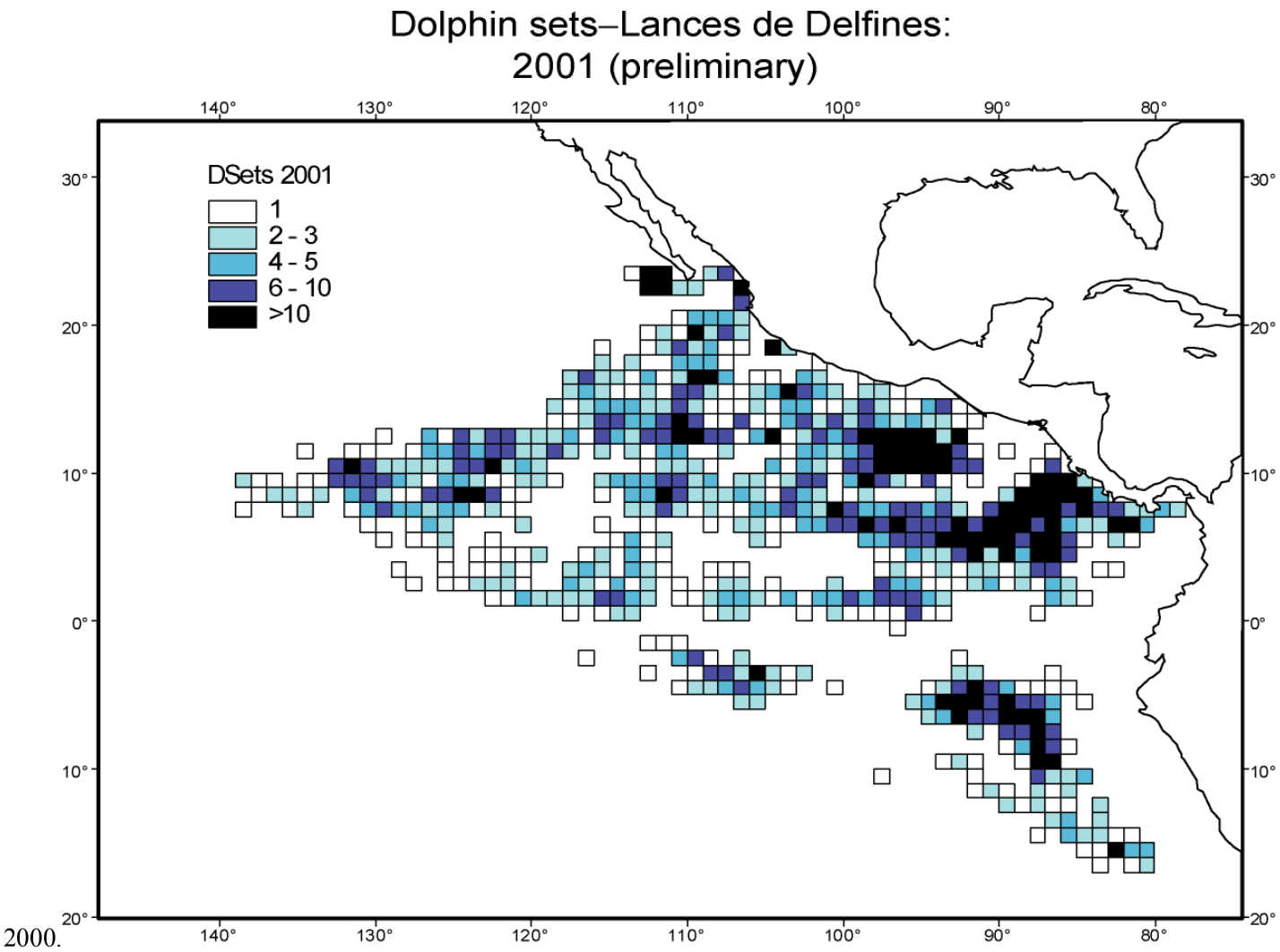


FIGURA 7. Lances sobre delfines por cuadrángulo de 1°, 2000.
FIGURE 7. Sets on dolphins by one-degree quadrangle,



2000.

FIGURA 8. Lances sobre delfines por cuadrángulo de 1°,, 2001 (datos preliminares).
FIGURE 8. Sets on dolphins by one-degree quadrangle, 2001 (preliminary data).

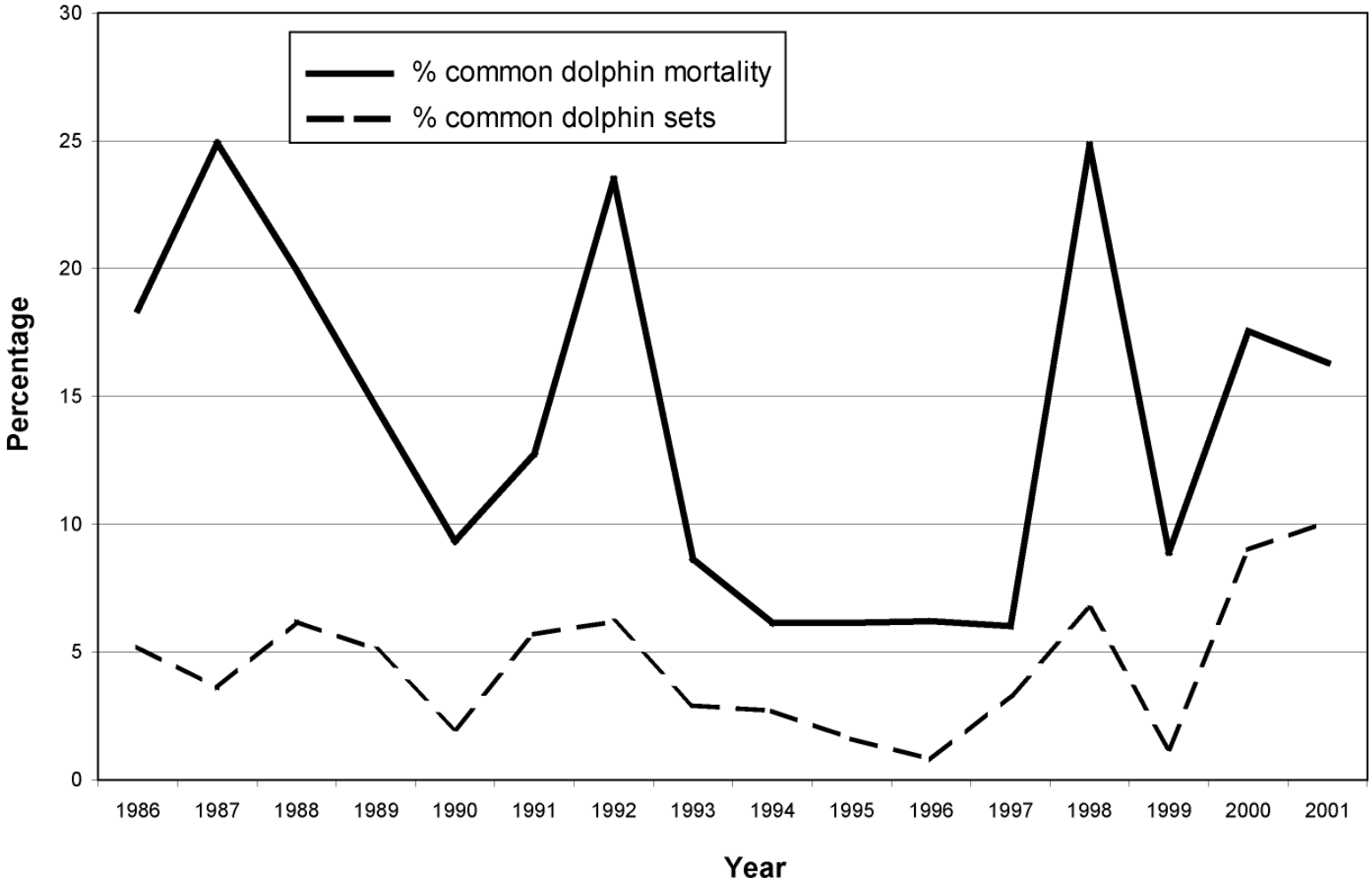


FIGURA 9. Tendencias en los lances sobre delfines comunes y porcentaje de la mortalidad total de delfines identificada como de delfines comunes, 1986-2001. Los datos de 2001 son preliminares.
FIGURE 9. Trends in sets on common dolphins and percentage of total dolphin mortality identified as common dolphins, 1986-2001. Data for 2001 are preliminary

TABLA 1. Mortalidad estimada de delfines en 2001 por stock, basada en datos preliminares recibidos al 25 de enero de 2002. La mortalidad observada incluye solamente animales identificados positivamente por el observador. La mortalidad extrapolada es la mortalidad adicional que se estima ocurrió en buques de los que no se recibió informe o en datos todavía no recibidos de los programas nacionales. La mortalidad estimada es la suma de las dos columnas previas. No se prorrateó la mortalidad de delfines no identificados a los varios stocks, ni se extrapoló la mortalidad en la categoría de *Otras especies*..

TABLE 1. Estimated dolphin mortalities in 2001 by stock, based on preliminary data received as of 25 January 2002. The reported mortality includes only animals positively identified by the observers. The extrapolated mortality is the additional mortality estimated to have taken place on non-reporting vessels or data not yet available from national programs. The estimated mortality is the sum of the reported and extrapolated mortalities. No attempt has been made to prorate mortality of unidentified dolphins to a specific dolphin stock or extrapolate the mortalities in the *Other species* category.

Especie y stock	**Mortalidad observada**	**Mortalidad extrapolada**	**Mortalidad estimada**	**LMS 2001**	**LMD**
Species and stock	**Observed mortality**	**Extrapolated mortality**	**Estimated mortality**	**2001 SML**	**DML**
Delfín manchado--Spotted dolphin					
Nororiental--Northeastern	646	10	656	648	
Occidental/sureño--Western/southern	209	24	233	1145	
Delfín tornillo--Spinner dolphin					
Oriental--Eastern	462	8	470	518	
Panza blanca--Whitebelly	351	11	362	871	
Delfín común--Common dolphin					
Norteño--Northern	94	2	96	562	
Central	195	13	208	207	
Sureño--Southern	41	1	42	1845	
Otras especies--Other species	6				
No identificados--Unidentified	69				
TOTAL	**2,073**				**5,000**

TABLA 2. Porcentaje de la mortalidad de delfines, captura de atún (aleta amarilla, barrilete y patudo), y número de lances y mortalidad por 1000 toneladas de atún capturado, por tamaño de la manada de delfines capturada, 1999-2001. Se presenta la información con y sin los tres lances con mortalidad de más de 30 delfines. Los datos de 2001 son preliminares (datos recibidos al 8 de enero de 2002).

TABLE 2. Percentages of dolphin mortality, tuna catch (YFT, SKJ, and BET), and dolphin sets and mortality per 1000 tons of catch that occurred in each school size category during 1999-2001. Data are presented with and without the three sets with mortality of 30 dolphins or more. Data for 2001 are preliminary (data entered as of 8 January 2002).

	Incluyendo lances con alta mortalidad				Excluyendo lances con alta mortalidad			
Número de delfines capturado	% de la mortalidad total de delfines	% de la captura de atún	% de lances sobre delfines	Mortalidad/ 1000 toneladas de atún	% de la mortalidad total de delfines	% de la captura de atún	% de lances sobre delfines	Mortalidad/ 1000 toneladas de atún
	Sets with high mortality included				Sets with high mortality excluded			
Number of dolphins captured	% of total dolphin mortality	% of tuna catch	% of dolphin sets	Mortality/ 1000 mt tuna	% of total dolphin mortality	% of tuna catch	% of dolphin sets	Mortality/ 1000 mt tuna
1-100	2.5	7.5	14.7	3.2	3.0	7.5	14.7	3.2
101-200	5.2	9.3	13.4	5.6	6.3	9.3	13.4	5.6
201-300	6.3	10.0	12.3	6.2	7.6	10.1	12.3	6.2
301-400	7.6	10.2	11.3	7.4	9.2	10.2	11.3	7.4
401-500	7.8	10.8	10.6	7.1	9.4	10.8	10.6	7.1
501-600	7.8	8.1	7.5	9.5	9.4	8.1	7.5	9.5
601-700	5.8	7.6	6.3	7.6	7.0	7.6	6.3	7.6
701-800	7.3	8.2	6.2	8.8	8.7	8.2	6.2	8.8
801-900	5.3	4.1	3.1	12.7	6.4	4.1	3.1	12.7
901-1000	6.9	7.1	4.8	9.5	8.2	7.1	4.8	9.5
1001-1100	1.1	1.0	0.7	10.6	1.3	1.0	0.7	10.6
1101-1200	3.2	3.7	2.2	8.5	3.8	3.7	2.2	8.5
1201-1300	2.3	2.0	1.1	11.6	2.8	2.0	1.1	11.6
1301-1400	0.6	0.6	0.4	10.1	0.7	0.6	0.4	10.1
1401-1500	4.1	3.1	1.9	13.2	4.9	3.1	1.9	13.2
1501-2000	7.0	4.2	2.2	16.6	6.7	4.1	2.2	13.3
2001-2500	2.9	1.6	0.8	17.7	2.3	1.6	0.8	11.9
2501-3000	1.2	0.7	0.4	17.2	1.5	0.7	0.4	17.2
>3000	15.1	0.3	0.1	574.0	0.9	0.2	0.1	34.4

TABLA 3. Mortalidad media de delfines por lance por categoría de problema.

TABLE 3. Average mortality of dolphins per set by category of problem.

	Ningún problema	Avería del aparejo de pesca	Avería + colapso de la red	Avería + abultamiento de la red	Avería + colapso + abultamiento	Colapso de la red	Colapso + abultamiento	Abultamiento de la red
	No problems	Gear malfunction	Malfunction + net collapse	Malfunction + net canopy	Malfunction + collapse + canopy	Net collapse	Net collapse + canopy	Net canopy
1986	5.6	4.5	2767	35.1	54.7	11.0	45.9	26.5
1987	2.7	3.4	11.3	10.8	49.3	7.8	27.1	16.6
1988	3.2	3.6	6.7	23.0	36.0	6.6	39.0	18.1
1989	3.5	4.5	12.7	26.8	52.0	5.8	29.8	24.3
1990	1.7	1.8	5.1	22.8	18.2	4.8	30.5	12.9
1991	1.1	1.1	3.1	7.9	20.2	3.0	16.4	11.3
1992	0.7	0.6	1.9	8.9	15.4	1.8	15.6	9.3
1993	0.3	0.3	0.6	5.0	12.8	0.7	4.2	3.9
1994	0.3	0.3	0.6	5.1	68.7	0.6	5.0	2.8
1995	0.2	0.3	1.2	6.7	3.1	0.6	3.5	3.7
1996	0.2	0.4	1.2	11.2	6.4	0.3	2.2	2.4
1997	0.2	0.4	0.6	4.9	3.2	0.4	3.4	3.2
1998	0.1	0.1	0.1	3.9	3.0	0.4	2.2	1.6
1999	0.1	0.1	0.3	1.1	1.2	0.3	1.7	1.2
2000	0.1	0.3	0.4	3.8	0.5	0.2	2.4	1.4

TABLA 4. Estimaciones de la mortalidad anual de delfines comunes, total y por stock (extrapolada de todas las mortalidades observadas), más el número de lances sobre delfines comunes, mortalidad por lance (MPL), captura de atún aleta amarilla (toneladas), y captura de atún aleta amarilla por lance en esos lances (basado en datos de observadores de la CIAT). Los datos de 2001 son preliminares e incompletos. Se incluye la MPL de todas las especies de delfines (*Todas especies*) para fines de comparación. NOTA: ya que los datos de lances, MPL, y captura se basan en datos de observadores de la CIAT solamente, el número de lances y las capturas son subestimaciones en aquellos años en los que la cobertura par observadores de la CIAT no fue al 100%. Las tendencias en las estimaciones de razón (*MPL* y *Captura por lance*) son válidas, pero las tendencias en los lances y las capturas reflejan tendencias en la cobertura por observadores de la CIAT.

TABLE 4. Annual estimates of common dolphin mortalities, total and by stock (extrapolated from all observed mortalities), plus numbers of sets on common dolphins, mortality per set (MPS), catch of yellowfin tuna (mt), and catch of yellowfin tuna per set for those sets (based on IATTC observer data). Data for 2001 are preliminary and incomplete. The MPS for all dolphin species (*All species*) is presented for comparison. NOTE: since the data on sets, MPS, and catches are based on IATTC observer data only, the number of sets and the catches are underestimated for years in which there is not 100% IATTC observer coverage. Trends in the ratio estimates (*MPS* and *Catch per set*) are valid, but apparent trends in sets and catches reflect trends in IATTC observer coverage.

Stock	1986	1987	1988	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001
Mortality--Mortalidad																
All—Todos	24,307	24,634	16,176	14,353	5,029	3,459	3,652	311	252	201	158	181	466	120	287	
Northern—Norteño	13,289	8,216	4,829	1,066	704	161	1,773	81	101	9	77	9	261	85	56	
Central	10,884	9,659	7,128	12,711	4,053	3,183	1,815	230	151	192	51	114	172	34	222	
Southern—Sureño	134	6,759	4,219	576	272	115	64	0	0	0	30	58	33	1	9	
Sets--Lances																
All—Todos	180	175	257	331	128	346	478	170	190	116	61	269	657	100	667	602+
MPS--MPL																
All—Todos	32.5	32.9	22.6	18.7	18.8	6.0	5.6	1.5	1.1	1.7	2.4	0.6	0.5	0.7	0.3	0.3
All species—Todas especies	9.6	5.7	7.1	6.0	3.9	2.3	1.3	0.4	0.5	0.4	0.3	0.3	0.1	0.1	0.2	0.2
Yellowfin catch—Captura de aleta amarilla																
All—Todos	2,285	1,794	3,245	5,057	1,466	5,187	4,739	2,053	3,235	1,984	698	4,237	10,471	1,468	10,840	15,620+
Catch of yellowfin per set—Captura de aleta amarilla por lance																
All--Todos	12.7	10.3	12.6	15.3	11.5	15.0	9.9	12.1	17.0	17.1	11.4	15.8	15.9	14.7	16.3	25.9

INTERNATIONAL DOLPHIN CONSERVATION PROGRAM
PROGRAMA INTERNACIONAL PARA LA CONSERVACION DE LOS DELFINES

INTERNATIONAL REVIEW PANEL

29TH MEETING

LA JOLLA, CALIFORNIA (USA)
JANUARY 31-FEBRUARY 1, 2002

DOCUMENT IRP-29-15

TECHNICAL GUIDELINES TO PREVENT HIGH MORTALITY DURING SETS ON LARGE DOLPHIN HERDS

Encircling large herds of dolphins adds an additional risk factor to dolphin sets, and fishing captains must be aware that sets on large herds can result in disproportionately high dolphin mortality. Sets on herds of more than 3,000 dolphins comprise less than 0.2% of the total number of sets and catch of yellowfin tuna, but result in 16% of the mortalities, while sets on herds of more than 2,000 dolphins comprise less than 3% of the total number of sets and catch of yellowfin tuna, but result in over 20% of the mortalities (see Document IRP-29-14). This means that if captains avoided making sets on herds of 2,000 dolphins or more, dolphin mortality would be reduced by 20%, while catches would be reduced by only 3%. Setting on large herds should particularly be avoided when other risk factors are present, such as spinner or common dolphins in the herd and difficult environmental conditions (currents, wind, sea state) that can lead to a net collapse or gear malfunctions.

The Secretariat proposes the following guidelines for sets on large herds of dolphins:

Sets on herds of more than 2,000 dolphins should be avoided. Also, even with smaller herds, if there are other risk factors present, such as spinner or common dolphins in the herd, or difficult environmental conditions, the additional problems that might result should be carefully considered before the set is made.

d. Before setting the net

i. As with any set on tunas associated with dolphins, the set should be made with the wind on the vessel's port side.

ii. The captain, using visual observations and any electronic equipment that is available on board the vessel, should determine if a strong current is present in the vicinity. If so, it should be borne in mind that this could cause problems with the net and result in high mortality of dolphins, and the captain should consider abandoning the set.

iii. During the chase and encirclement, the size of the portion of the herd associated with the tuna should be reduced as much as possible in order to minimize the number of dolphins encircled.

In the event a large number of dolphins are encircled, captains should be particularly diligent in following these guidelines for avoiding potential dolphin mortality.

e. After encirclement

i. If not done prior to the set, the captain, using visual observations and any electronic equipment that is available on board the vessel, should determine if a strong current is present in the vicinity immediately after the herd is encircled. If a strong current is evident, the captain should consider aborting the set by releasing the bow ortza (see (e) below).

ii. The captain should monitor the remainder of the set from the crow's nest.

f. During pursing and/or net roll

i. Throughout pursing at least one manned speedboat, equipped for net towing and with a 2-way radio, should be stationed in the water outside the net.

ii. Throughout pursing and net roll, the skiff and the bow thruster should be used to maintain the wind on the vessel's port side in order to keep the net open.

iii. Any gear malfunctions that delay pursing or net roll should be repaired with urgency.

iv. Throughout net roll, at least two manned speedboats, each equipped for net towing and with a 2-way radio, should be stationed in the water outside the net. If the vessel carries a jet-type watercraft (*Waverunner* or similar), this should be manned and in the water during net roll.

v. If captured dolphins swim within close proximity to the net, one or more speedboats should circle outside the net to herd the dolphins towards the center of the net.

vi. Net roll should be carried out as quickly as possible in order to reach the tie-down point for backdown as soon as possible.

g. Prior to backdown

i. Two manned speedboats should attach their towlines to the corkline, one on the stern side and the other on the bow side of the backdown channel. Also, a third manned speedboat, similarly equipped, should be stationed outside the net in the general area of the backdown channel apex.

ii. Rescuers, with at least one manned inflatable raft, should be deployed into the net. If the vessel is equipped with two inflatable rafts, both should be deployed with occupants.

h. During backdown

i. The two speedboats should tow on the stern and bow sides of the backdown channel in order to keep it open. The third speedboat should monitor the release of the dolphins at the channel apex.

i. Aborting sets

If at any point during the set circumstances such as a net collapse or canopy threaten to entangle or trap large numbers of dolphins, all available speedboats equipped for towing the net should be deployed, and the captain should consider the option of aborting the set by releasing the bow ortza. When aborting the set, the bow ortza should be towed as far away from the vessel as possible and a sufficient number of purse rings should be detached from the purse cable to provide a wide and deep opening for the dolphins to escape. One or more speedboats (and the jet craft, if present) should circle on the stern side of the net to herd the dolphins towards the opening. An additional rescuer in the raft should be deployed near the bow ortza in the event that dolphins become entangled in the large mesh in that part of the net.

(Note: If the ortza is released at any time during the set with the intention of releasing live dolphins, it is strongly recommended that the captain explain his reasons for aborting the set in this manner on the observer's data forms.)