INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

SCIENTIFIC MEETING

La Jolla, California (USA)
9 May 2002

CHAIR'S REPORT (REVISED[1])

Chair: Robin Allen

AGENDA

1. Welcome, introductions, consideration of agenda
2. Allocation of per-stock, per year mortality caps
3. Summary and recommendations
4. Adjournment

DOCUMENTS

MOP-6-06   Allocation of per-stock, per year dolphin mortality caps

APPENDICES

1. List of attendees

1. Welcome, introductions, consideration of agenda

Dr. Robin Allen, Director of the Inter-American Tropical Tuna Commission, explained that the 6th Meeting of the Parties to the AIDCP had decided to convene an *ad-hoc* scientific group to review the proposals contained in Document MOP-6-06, *Allocation of per-stock, per year dolphin mortality caps*, prepared by the Secretariat for that meeting, and to recommend a system to be adopted by the Parties. The participants, listed in Appendix 1, asked Dr. Allen to serve as Chairman of the meeting.

2. Allocation of per-stock, per year mortality caps

Dr. Allen described the options and examples contained in Document MOP-6-06 (attached), an updated version of the document presented at the 6th Meeting of the Parties showing the allocations that would be produced by the system with 2002 DMLs, which details the advantages and disadvantages of each of the following options:

Option 1: a system of global allocation, where the stock mortality limits (SML) are not allocated to countries or vessels, but are available to all.

Option 2: a system that allocates SMLs for each stock to each country in the same proportion as the country's dolphin mortality limits (DML).

Option 3: a system that allocates a SMLs to each country based on the proportions of sets on dolphin

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[1] References to Document MOP-7-07 corrected to Document MOP-6-06

stocks in the previous year and the number of vessels with DMLs requested for the current year.

The group's discussion focused on Option 3, and centered initially on the ability of the system to produce a balanced allocation of SMLs, given the geographical distribution of the stocks and the particular experience of a given fleet. The group also considered the weighting system of Option 3, and especially the time period for establishing the previous set history of each fleet. A system based on just the previous year's set proportions by stock may not reflect appropriately the performance and experience of the fleets, especially given the unusual pattern of the fishery associated with dolphins in 2000-2001. Accordingly the Secretariat was asked to show examples using periods of one, two and three years as a basis for the proportion of sets on stocks. The group also concluded that it would be useful to examine the effects of allocating SMLs over a period of ten years using Option 3.

The issues of assigning the fleet average proportion of sets by stock to Parties whose vessels did not set on dolphins during the previous year or years was also discussed, as well as the as yet unresolved problem of frivolous requests for DMLs and its potential impacts on the allocation of SMLs. It was also suggested that the system should be able to recognize the contribution of fleets that have a history of setting on dolphins in compliance with the AIDCP.

3. Summary and recommendations

The group generally considered that Document MOP-6-06 would provide a good basis for deciding amongst the three different options. Most participants favored Option 3, as it would produce an efficient utilization of the SMLs by allocating a larger proportion of a particular stock to fleets that have a history of setting on that stock, while the same time providing for fleet mobility and the flexibility for vessels of Parties not currently fishing for tunas associated with dolphins to enter the fishery. However, some believed that it was worth keeping all three options open.

4. Adjournment

The meeting was adjourned without further business.

Appendix 1.

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

SCIENTIFIC MEETING – REUNION CIENTIFICA

9 May 2002 – 9 de mayo de 2002
La Jolla, California, USA

ASISTENTES - ATTENDEES

GLADYS CARDENAS
  Instituto del Mar del Perú
GUILLERMO COMPEAN JIMENEZ
LUIS FLEISCHER
PEDRO ULLOA RAMIREZ
  Instituto Nacional de la Pesca - México
MICHEL DREYFUS
  FIDEMAR - México

PETER MIYAKE
  Federation of Japan Tuna Fisheries Co-operative Associations
STEVEN REILLY
ALLISON ROUTT
  National Marine Fisheries Services - USA
CHI-LU SUN
  National Taiwan University
REN-FEN WU
  Overseas Fisheries Development Council - Taiwan

SECRETARÍA - SECRETARIAT

ROBIN ALLEN, Director
PABLO ARENAS

MARTIN HALL
MICHAEL SCOTT

AGREEMENT ON THE INTERNATIONAL DOLPHIN CONSERVATION PROGRAM
ACUERDO SOBRE EL PROGRAMA INTERNACIONAL PARA LA CONSERVACION
DE LOS DELFINES

6TH MEETING OF THE PARTIES

CARTAGENA (COLOMBIA)
OCTOBER 29, 2001

DOCUMENT MOP-6-06

ALLOCATION OF PER-STOCK, PER-YEAR DOLPHIN MORTALITY CAPS

During the 1st Meeting of the Parties, held in July 1999, two proposals for the allocation of stock mortality limits (SMLs) were presented, one for a global allocation for the year 2000, and the other for national limits based on past fishing on the various stocks. It was agreed to adopt a global allocation method for the year 2000. During the 3rd Meeting of the Parties, held in June 2000, it was agreed that "until a new system for addressing the per-stock, per-year mortality caps is established, the global system in effect for 2000 would continue to be used" and that the matter would be discussed in future meetings of the Working Group on Per-stock, Per-year Dolphin Mortality Caps and the Parties.

In this paper, three options are presented for the consideration of the Parties for allocation of stock mortality.

The first option is the current system of global allocation of SMLs, in which the SMLs are not assigned to countries or vessels but are available to all (Table 1).

A second option is to allocate to each country an SML for each stock in the same proportion as the country's DMLs. Thus, if a country's fleet had applied for 15 DMLs out of a total of 100 DMLs requested for the international fleet, then that country would be allocated 15% of the SMLs for each of the seven major stocks. Table 2 shows the number of SMLs that would be allocated to each country based on the number of DMLs that were assigned for 2001 at the October 2000 meetings. Second-semester DMLs are considered as one-half of a full-year DML. As with DMLs, SMLs not utilized by 1 April would be redistributed amongst the international fleet. Flag changes by vessels would result in a redistribution of the SMLs in accord with the changed distribution of DMLs.

The third option takes account of the number of sets made on a particular stock by a country's fleet during the previous year and its DMLs in the following year. The allocation is weighted by a) the proportion of of the overall DML for the following year issued to that country's fleet; b) the proportion of of the total number of sets on dolphins made by that country's fleet on that particular stock in the previous year; and c) a specified proportion assigned to the national and global portions. The equations for calculating the SMLs for a given country and a given stock are:

$$R_c = (DML_C + \tfrac{1}{2}\, DML_{C2})/(DML_T + \tfrac{1}{2}\, DML_{T2})$$

where:

R_c is the ratio of DMLs for that country compared to all DMLs,

DML_C is the number of vessels of country C with full-year DMLs,

DML_{C2} is the number of vessels of country C with second-semester DMLs ,

DML_T is the total number of vessels in the international fleet with full-year DMLs ,

DML_{T2} is the total number of vessels in the international fleet with second-semester DMLs,

and

$$P_{CS} = S_{CS}/S_{TS}$$

where:

P_{CS} is the proportion of sets made by vessels of country C on stock S,

S_{CS} is the number of sets made by vessels of country C on stock S during the previous year,

S_{TS} is the total number of sets on stock S made by the international fleet during the previous year.

With a weighting of 75% national and 25% global, the SML for each country is allocated in proportion to R_c x ((0.75 x P_{CS}) + 0.25). Other weights could be used: the closer the national weighting is to 1, the more weight is given to the number of sets on that stock during the previous year. Again, SMLs not utilized by 1 April would be redistributed amongst the international fleet. Flag changes by vessels would result in a redistribution of the SMLs in accord with the changed distribution of DMLs.

The DMLs assigned for 2001 and the number of sets made in 2000 by each fleet requesting a DML are shown in Table 3. The proportion of sets made by the fleets of each country on each stock are shown in Table 4. The proposed SMLs for each country based on this scheme are presented in Table 5. The proportion of sets on each stock is based on 2000 data. For countries whose vessels made less than 30 sets on dolphins in 2000, the international fleet averages of the proportions of sets by stock were used. In practice, if this system were being used in October of any year to assign SMLs in the next year, the weighting for sets on a particular stock would have to be calculated from the last 12 months for which data were available.

Discussion

The main advantages of the current system of global allocation of SMLs are that it is relatively simple to implement and that it avoids partitioning relatively small SMLs among countries. However, it exposes all countries to the risk that a high mortality within one fleet may restrict the activity of the others, a problem which the more complex systems of national allocations avoid.

The second option provides a larger allocation to those countries with larger fleets of vessels with DMLs. By allocating SMLs solely on the current capacity to fish on dolphins (based on the number of DMLs issued), it allows flexibility to change fishing areas, and for new fleets to enter the fishery. However, it would not be efficient in the sense that countries which habitually fished on particular stocks might be assigned SMLs which are too small in some cases and too large in others.

The third option provides a larger allocation to those countries that have made a greater number of sets on a given stock in the recent past and have a greater number of vessels with DMLs. This may produce a more-efficient utilization of the SMLs by allocating a larger proportion of a particular stock to fleets that have a history of setting on that stock. At the same time, it would allow countries the opportunity to enter the fishery, allow vessels to change fishing areas, and allow countries to increase their allocation over time as the numbers of DMLs and sets on a given stock increase.

TABLE 1. Option 1: Current SMLs for 2001 for the seven major stocks and incidental dolphin mortality in 2000. Abundance estimates (*N*) and coefficients of variation (CV) from Wade and Gerrodette (1993; unpub. data for northern and central common dolphins). Minimum abundance estimates (*N_{min}*) based on Potential Biological Removal guidelines described in Wade and Angliss (1997).

Option 1		Current SMLs for 2001				
Stock		N (x 1000)	CV	N_{min} (x 1000)	0.1% N_{min}	2000 mortality
Northeastern spotted	NES	730.9	0.142	648.9	649	298
Western/southern spotted	WSS	1,298.4	0.150	1,145.1	1,145	427
Eastern spinner	ESD	631.8	0.238	518.5	518	272
Whitebelly spinner	WBS	1,019.3	0.187	871.9	872	262
Northern common	NCD	713.7	0.367	562.7	563	56
Central common	CCD	239.4	0.383	207.3	207	222
Southern common	SCD	2,210.9	0.217	1,845.6	1,846	9

TABLE 2. Option 2: Numbers of DMLs allocated to national fleets in October 2000 and number of SMLs allocated to each country requesting DMLs for 2001. Second-semester (SS) DMLs are considered as one-half of a full-year (FY) DML. The DMLs in this table do not reflect changes of flag or other changes in the fleets that may have occurred after October 2000.

Option 2		National SMLs in proportion to 2001 DMLs								
		2001 DMLs		SMLs						
				Spotted		Spinner		Common		
		FY	SS	NES	WSS	ESD	WBS	NCD	CCD	SCD
Colombia	COL	5		37	65	29	50	32	11	106
Mexico	MEX	44	2	335	592	267	451	291	107	954
Panama	PAN	2		14	26	11	20	12	4	42
Peru	PER		1	3	6	2	5	3	1	10
El Salvador	SLV	1		7	13	5	10	6	2	21
United States	USA	1	1	11	19	8	15	9	3	31
Venezuela	VEN	24		179	315	142	240	155	57	509
Vanuatu	VUT	5		37	65	29	50	32	11	106
RDA		3		26	44	25	31	23	11	67
Total		**85**	**4**	**649**	**1,145**	**518**	**872**	**563**	**207**	**1,846**

TABLE 3. Numbers of DMLs allocated to national fleets in October 2000 and the numbers of sets made in 2000 on each of the seven major dolphin stocks by each country requesting DMLs for 2001. Second-semester (SS) DMLs are considered as one-half of a full-year (FY) DML. The DMLs in this table do not reflect changes of flag or other changes in the fleets that may have occurred after October 2000.

		2001 DMLs		Spotted		Spinner		Common			Total
		FY	SS	NES	WSS	ESD	WBS	NCD	CCD	SCD	
Colombia	COL	5		213	378	40	182	1	1	1	**816**
Mexico	MEX	44	2	2,482	1,144	916	667	66	53	0	**5,328**
Panama	PAN	2		23	29	2	2	0	1	0	**57**
Peru	PER		1	0	0	0	0	0	0	0	**0**
El Salvador	SLV	1		0	0	0	0	0	0	0	**0**
United States	USA	1	1	0	0	0	0	0	0	0	**0**
Venezuela	VEN	24		906	1,039	301	416	0	831	8	**3,501**
Vanuatu	VUT	5		167	210	24	65	0	18	5	**489**
RDA		3									
Total		**85**	**4**	**3,791**	**2,800**	**1,283**	**1,332**	**67**	**904**	**14**	**10,191**

TABLE 4. Proportions of the total number of sets on the seven major dolphin stocks made by each national fleet. For countries with national observer programs for which set data by stock were not available, the totals were extrapolated from data from trips by vessels of that country covered by the IATTC program. For countries whose vessels made less than 30 sets on dolphins in 2000, the international fleet averages of the set proportions (P_{CS}) were used.

		Spotted		Spinner		Common			Total
		NES	WSS	ESD	WBS	NCD	CCD	SCD	
Colombia	COL	0.261	0.463	0.049	0.223	0.001	0.001	0.001	1.00
Mexico	MEX	0.466	0.215	0.172	0.125	0.012	0.010	0.000	1.00
Panama	PAN	0.404	0.509	0.035	0.035	0.000	0.018	0.000	1.00
Peru	PER	-	-	-	-	-	-	-	-
El Salvador	SLV	-	-	-	-	-	-	-	-
United States	USA	-	-	-	-	-	-	-	-
Venezuela	VEN	0.259	0.297	0.086	0.119	0.000	0.237	0.002	1.00
Vanuatu	VUT	0.342	0.429	0.049	0.133	0.000	0.037	0.010	1.00
Average		0.372	0.275	0.126	0.131	0.007	0.089	0.001	1.00

TABLE 5. Option 3: National SMLs for the seven major dolphin stocks (rounded down to the nearest whole number).

Option 3		National SMLs for 2001						
		Spotted		Spinner		Common		
		NES	WSS	ESD	WBS	NCD	CCD	SCD
Colombia	COL	30	86	24	60	31	9	106
Mexico	MEX	375	533	293	448	295	89	950
Panama	PAN	15	36	9	16	12	4	42
Peru	PER	3	6	2	5	3	1	10
El Salvador	SLV	7	13	5	10	6	2	21
United States	USA	11	19	8	15	9	3	31
Venezuela	VEN	148	327	129	235	152	78	510
Vanuatu	VUT	35	82	24	50	31	10	108
RDA		25	43	24	33	24	11	68
Total		**649**	**1145**	**518**	**872**	**563**	**207**	**1846**