INTERNATIONAL DOLPHIN CONSERVATION PROGRAM

SCIENTIFIC ADVISORY BOARD

1ST MEETING

LIMA (PERU)
12 JUNE 2004

MINUTES OF THE MEETING

AGENDA

	Documents
1. Opening of the meeting	
2. Election of Chairman	
3. Adoption of the agenda	
4. Consideration of research regarding:	SAB-1-00
a. modification of current purse-seine technology to make it less likely to cause dolphin mortality;	SAB-1-04
b. alternative means of capturing large yellowfin tuna	
5. Calculation standard for Minimum Estimated Abundance for each stock of dolphins, and consideration of a standard of calculation for the annual mortality cap for each stock	SAB-1-05
6. Future work plan, taking account of the program of work for the SAB proposed in Document IRP-33-11a	SAB-1-06
7. Other business	
8. Place and date of next meeting	
9. Adjournment	

APPENDICES

1. List of attendees

The first meeting of the Scientific Advisory Board (SAB) was held in Lima, Peru, on 12 June 2004. The attendees are listed in Appendix 1.

1. Opening of the meeting

Dr. Allen, Director of the IATTC, welcomed the participants and explained the responsibilities of the SAB. The main objectives of the SAB are to provide direction for modifying current fishing methods to reduce dolphin mortality, finding alternative means of fishing, and identifying possibilities for research on other topics.

2. Election of Chairman

It was agreed that Dr. Allen would serve as Chairman.

3. Adoption of the agenda

The provisional agenda was adopted as presented. Dr. Reilly clarified that the abundance topic encompassed two distinct issues: one is the definition of N_{min}, and the other is the review of the procedure that produced the abundance estimates.

4. Consideration of research

4.1. Modification of current purse-seine technology to make it less likely to cause dolphin mortality

Document SAB 01-04 (part 1) provided a background to the item. Dr. Dreyfus discussed Mexican experiments with panels sewn into the backdown channel to help keep the channel open, but the sample size is still too small to evaluate. Dr. Compean stated that the incentive to improve techniques is lacking because the mortality is so low. For example, a jet-drive boat was useful in rescuing dolphins, but the prototypes were not replaced when they eventually broke down. He recommended that more effort be invested in encouraging the use of successful or promising techniques. Dr. Hall suggested making the use of jet skis and other rescue craft manadatory. Mr. Delgado and Dr. Compeán said their experiences with these craft have been positive. Ms Young cautioned that one potential drawback to the use of jet skis is that there is concern that the sound input into the water may be harmful, and Dr. Compeán cautioned about the fragility of the jet skis. The Board recommended that existing data about the use of jet skis be analyzed, and that more testing of the jet skis be conducted in regards to the amount of noise produced. Dr. Compeán recommended that net profilers be placed on the purse seines to more accurately monitor the behavior of the net and proposed that this be testing be initiated. Dr Ariz mentioned the research on net performance being conducted by the Spanish national program.

The Board recommended the continuation of the Commission's current analyses of mortality causes being done by the, and also wider testing of promising gear modifications and other equipment, particularly net profilers, and jet skis and other dolphin rescue craft.

4.2. Alternative means of capturing large yellowfin tuna

Dr. Allen reviewed Document SAB-01-04 (part 2). Previous tuna and dolphin tracking data have showed that large tuna were not always associated with dolphins, and that LIDAR and sonar have been proposed to detect tuna. Dr. Hall presented data showing the areas where large yellowfin have been caught while not in association with dolphins. Dr. Ariz mentioned that, in the Atlantic and Indian Oceans, there are fisheries for large yellowfin in certain areas and seasons. Dr. Reilly reviewed the NMFS studies on LIDAR, noting that, although the research was abandoned due to logistical problems, particularly the size of the units there have been advances in LIDAR since then. Dr. Dreyfus recommended using longline data, or a longline vessel in a designed experiment, to determine the vertical and spatial distribution of large yellowfin, or the development of a new longline fishery in certain areas using live bait.

The Board recommended that the LIDAR technology be explored further. The group also recommended further tagging and tracking (both archival and real-time) of large yellowfin, further simultaneous tracking studies of dolphins and tuna, and development of acoustic detection techniques.

5. Calculation standard for Minimum Estimated Abundance (N_{min}) for each stock of dolphins, and consideration of a standard of calculation for the annual mortality cap for each stock

NMFS has produced new abundance estimates based on surveys carried out during 1998-2000. Dr. Reilly reviewed the US marine mammal mortality standards using the Potential Biological Removal (PBR) system which uses N_{min} and serves as the basis for the SMLs. He stressed that the N_{min} is closely tied to the objectives that one wishes to achieve and that this is a policy question for the Meeting of the Parties. Dr. Allen stated that the SAB should provide the Meeting of the Parties with the background of N_{min} so that the Parties can provide guidance on how N_{min}.should be calculated to meet their conservation objectives.

There was general agreement that the recent surveys should be considered in reassessing N_{min} and that the Board could recommend a new N_{min} if there is a better scientific rationale for it. It was recommended that the SAB bring in an expert familiar with the research to help explore alternate calculations of N_{min}.

The Board discussed the issue of whether the recent results should be used on their own or together with

results of previous surveys. Dr. Reilly believed that the SMLs should be based on the most recent estimates rather than relying on 15-year old data. Dr. Hall said the model that is used depends on whether or not the populations are assumed to be stable. Dr. Reilly cautioned about the number of assumptions inherent in population models, and has less confidence in such models than in the abundance estimates. He stated that the environment can change over the course of 15 years, which would caution against using a long time series or relying solely on older data. Dr. Compeán expressed concern with the variation in population estimates that have been published over time.

The Board agreed that a working group under the aegis of the SAB should review the data and explore different methods and different time spans for producing estimates of N_{min}. The SAB would maintain its responsibility for making its recommendations to the Meeting of the Parties. The Board recommended that the working group meet in early October 2004 so that it can examine the preliminary results of the 2003 surveys and still be able to report its conclusions at the Meeting of the Parties in October.

6. Future work plan

Document SAB-01-06 was used as the basis of the discussion.

a. Dr. Scott reviewed the topic of cow-calf separation.

Dr. Reilly described current NMFS studies on hydrodynamics, the behavior of cow-calf pairs in captivity, and a continuation of the research of Dr. Archer *et al*. These studies could be presented at the next Meeting .

The Board agreed to include in its work plan studies of the separation of dolphin cows and calves, including an examination of the long series of aerial photos of dolphin schools and conducting field work to find evidence of calf dropout during chase, and examining the distribution of chase times by area.

b. The NMFS CHESS and necropsy studies were reviewed. The Board did not support further CHESS studies. The necropsy study was discussed along with the life history studies, due to the logistic similarities of the two studies (see section e).

c. The Board discussed the ecosystem effects and changes over time. NMFS is attempting to restore the old EASTROPAC atlas data to determine the environmental conditions in the 1960s. Dr. Compeán recommended continued monitoring of tuna recruitment and trends in abundance in species. Dr. Young expressed concern about the effect on the ecosystem of the removal of bycatch species in sets on floating objects. Dr. Hall noted that the increases in stocks of pilot whales and common dolphins constitute a significant ecosystem change.

Dr. Reilly suggested a presentation of the the IATTC's ecosystem simulation work. Dr. Hall recommended updating the bibliography on ecosystem change since the last NMFS review, and contact the NMFS Ecosystem expert panel for additional input in light of any new data.

The SAB agreed to maintain all the ecosytem topics listed in Document SAB-01-06 in its Work Plan, although some were more near-term than others.

d. Dr. Scott discussed the historical mortality estimates. Dr. Reilly said that, since the historical estimates had been published, the appropriate way to express disagreement with them would be to publish an alternative. Dr. Compeán believed that the data could be improved by incorporating more-detailed fishery effort data, and Dr. Hall mentioned an integrated approach that would involve an improved estimation of sets by stock, using geographic distribution of the sets, and changes in the size of tuna caught to monitor the relative frequency of dolphin sets vs. other sets that take smaller tunas.

The issue of any unobserved dolphin mortality in the fisheries could be addressed by reviewing and modeling the comparison of national and IATTC observer programs, monitoring the sizes of the tunas caught by IATTC size class 5 vessels (well volume 320-425 m^3), and reviewing the potential for mortality in other fisheries, such as coastal gillnet and longline fisheries. Dr. Allen noted the need to discuss these

plans with the Parties to resolve confidentiality issues.

It was agreed that the simulation modeling done by NMFS could be extended to address possible contributions of those sources of additional mortality to help prioritize research efforts.

The SAB decided it would review the historical mortality estimates. The Parties and the IRP will be informed of the SAB's interest in pursuing the unobserved mortality issue.

e. Dr. Scott discussed the proposed life history and necropsy studies. Dr. Compean thought the life history studies were possible, while the necropsy study would not be feasible with the current number of sampling kits without more resources. Drs. Young and Reilly supported the life history study, and argued that a modified necropsy program could be designed that required less equipment.

The Board agreed that the life history and necropsy studies should be resumed, and that a small group (Compeán, Delgado, Reilly, and Scott) begin discussions about the logistics of carrying out such studies.

f. Dr. Reilly discussed the stock structure of coastal spotted dolphins. Recent genetics data suggest at least six separate stocks, but estimates of abundance, historical and current mortality are required to assess the populations. Drs. Compeán and Ariz emphasized the need to focus on how the stocks can be differentiated, particularly by the onboard observers, either on a geographic or morphological basis. Dr. Hall noted that research on the abundance and stock structure of coastal stocks may not be a high priority, because of the low number of sets on these stocks and their low mortality.

The SAB agreed to maintain this topic on its long-term agenda.

g. Dr. Scott discussed the issue of population modeling. This topic had been discussed within the previously mentioned topics.

The SAB agreed to maintain this topic on its long-term agenda.

7. Other business

There was no other business.

8. Place and date of next meeting

The next meeting should be scheduled after the meeting of the working group on N_{min} but just prior to the Meeting of the Parties in either October 2004 or 2005. The topics will be a discussion of the workshop results, presentation of research reports, and, if available, an update on the logistics for the life history studies.

9. Adjournment

The meeting was adjourned.

Appendix 1.

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

SCIENTIFIC ADVISORY BOARD - CONSEJO CIENTÍFICO ASESOR

1ST MEETING – 1ª REUNION

June 12, 2004– 12 de junio de 2004
Lima, Peru

ATTENDEES – ASISTENTES

JAVIER ARÍZ TELLERÍA
Instituto Español de Oceanografía
GUILLERMO COMPEÁN
MICHEL DREYFUS
Instituto Nacional de la Pesca de Mexico
ALVIN DELGADO
Programa Nacional de Observadores de Venezuela
RAMÓN MONTAÑO
Asociación de Atuneros del Ecuador
STEVE REILLY
U.S. National Marine Fisheries Service
NINA YOUNG
The Ocean Conservancy

OBSERVERS - OBSERVADORES

GLADYS CÁRDENAS
Ministerio de la Producción del Perú
JEREMY RUSIN
U.S. National Marine Fisheries Service
LUIS TORRES
Ministerio de Comercio Exterior, Industrialización,
Pesca y Competitividad del Ecuador

SECRETARIAT – SECRETARÍA

ROBIN ALLEN, Director
ERNESTO ALTAMIRANO
MARTIN HALL
BRIAN HALLMAN
MICHAEL SCOTT