

**MEETING OF THE PACIFIC SCIENTIFIC REVIEW GROUP  
NATIONAL MARINE MAMMAL LABORATORY, SEATTLE WA  
15 APRIL 1999**

The ninth meeting of the Pacific Scientific Review Group (SRG) was held at the National Marine Mammal Laboratory in Seattle, WA on 15 April 1999. All Pacific SRG members were in attendance with the exception of Doyle Hanan and John Heyning. Other participants included Jay Barlow and Barbara Taylor from the NMFS Southwest Fisheries Science Center, Marcia Muto and Robert DeLong from the National Marine Mammal Laboratory, Joe Scordino of the NMFS NW Regional Office, Tina Fahy of the NMFS SW Regional Office, Paul Wade and Tom Eagle of the NMFS Office of Protected Resources, Phil Clapham of the NMFS Northeast Fisheries Science Center, and invited expert John Calambokidis of Cascadia Research. Michael Scott served as rapporteur. Participants and observers are listed in Appendix 1, background documents provided to the groups are listed in Appendix 2, and the agenda of the meeting is in Appendix 3. The meeting was chaired by Robin Brown.

#### **GENERAL COMMENTS**

The SRG requested that NMFS provide the rankings and funding levels of the RPS (Recover Protected Species) project proposals so that the SRG can review NMFS funding priorities.

The SRG suggested that members Michael Scott and John Heyning serve as Pacific SRG representatives on the Working Group on Changing Recovery Factors. A progress report of the Working Group was requested when it is appropriate.

The SRG discussed briefly its role in the reauthorization of the MMPA. In the absence of a NMFS request for advice from the SRGs, the Pacific SRG did not provide any recommendations about the reauthorization.

#### **SEA OTTERS**

Kathy Ralls reviewed the current status of sea otters. She noted that the latest abundance estimates indicate that the CA population may be declining. The decline is likely due to mortalities, rather than problems with fecundity. The Monterey Bay set-net fishery and the live-trap fishery are now being observed. Discussions are continuing on the formal determination of whether the Channel Island translocation experiment is a failure, and the consequences of this action.

Steve Jeffries reported that surveys of Washington sea otters produced estimates of 503 otters in 1997 and 450 in 1998.

The SRG will request from USFWS a copy of the translocation failure document and an updated and finalized SAR for sea otters.

### **CA DRIFT-NET FISHERY**

Chuck Janisse and Jay Barlow reviewed the CA drift-net fishery. The 1998 mortality for all marine mammals is down to a quarter of that in 1997 and pingers appear to have worked for 8 of 10 species. Sperm whales continue to be a problem because one mortality in 1996 and one in 1998 were observed in partially pingered nets and PBR was exceeded in 1998. The SRG discussed the implications for the fishery.

One approach would be to put more effort into enforcing compliance with regulations regarding pingers so that all nets are fully pingered. Efforts should also be made to reach the observer coverage target of 20% and to attempt to sample each boat participating in the fishery.

Another approach is to derive a less-conservative PBR, which has been discussed at length over the last couple years by the Pacific SRG. Much of the discussion has been focussed on changing the Recovery Factor because:

- 1) The worldwide and Pacific Ocean abundances of sperm whales are relatively large compared to endangered species that are facing immediate extinction (*e.g.*, right whales and vaquita) and thus the Recovery Factor could be increased to reflect the lower risk of extinction.
- 2) The abundance estimates are negatively biased due to underestimation of herd sizes.
- 3) The abundance estimates are also likely negatively biased because the stock range is limited to the waters within 300 miles of California, Oregon, and Washington, although it is known that sperm whales range widely, particularly during their seasonal migrations.

The background paper by Taylor *et al.* on changing Recovery Factors for endangered species helped refocus the discussion to changing  $N_{min}$  rather than  $F_R$  because:

- 1) The factors that are negatively biased primarily affect  $N_{min}$  and thus adjustments to account for these biases should ideally be made in  $N_{min}$ .
- 2) Given the relatively low abundance estimate for the sperm whales within the current stock boundaries, the  $F_R$  may not be justified without expansion of the stock boundaries, which, again, involves an increase in  $N_{min}$ .

Some of the options for expanding the stock boundaries, and their potential consequences are as follows.

Estimates of sperm whales from the SWAPS cruise ranged from 24,000 (visual observations) to 39,000 (visual and acoustic observations). Expansion of the current CA/OR/WA boundary (the approximate extent of the California Current system) westward would increase the current  $N_{min}$  of 995 (Barlow *et al.* 1998). Arguments in favor of expanding the boundary westward are that the densities are relatively uniform out to Hawaii and that no gaps in the distribution were observed. Preliminary genetic information (Mesnick *et al.*) suggested, however, some east-west separation that would limit expansion of the stock boundary to the west.

Results of tagging experiments would support expansion of the stock boundaries northward. However, this expansion is problematic because of our limited understanding about seasonal migrations and because no abundance estimates are available for this area. One possibility would be to extrapolate the observed sperm whale density from the SWAPS area to the waters off British Columbia.

A similar expansion to the south could also be made, as preliminary genetic evidence has failed to show a separation between Baja California and California sperm whales. Population estimates are available for the eastern tropical Pacific, but estimating fisheries mortalities in drift gillnets off Mexico would also be problematic.

## **HUMPBACK AND BLUE WHALES**

John Calambokidis reviewed his mark-recapture studies for large whales. Preliminary analyses indicate that the humpback whales were increasing at a rate of 6%. The whales from the CA feeding area migrate southward to off Mexico and Latin America. There are high resighting rates between CA and Costa Rica. As Phil Clapham reported for the Atlantic, there appears to be little interchange among feeding areas (in CA and AK), but there is mixing on the breeding grounds. The percentage of calves (4%) off California is less than in other areas which may be due to sampling bias or higher predation.

For the next SAR, these results will likely result in a higher  $N_{min}$  and a higher  $R_{max}$ , and possibly a higher  $F_R$ .

Calambokidis also presented a comparison of 1991-1993 estimates for blue whales from line-transect surveys ( $N = 1771$ ,  $CV = 0.3$ ) and mark-recapture studies ( $N = 1997-2038$ ,  $CV = 0.42-0.33$ ).

NMFS should attempt to define and manage different stocks consistently, whenever possible, with respect to feeding and breeding grounds. This point was also recommended in the joint SRG meeting,

### **HARBOR SEALS**

The SRG reviewed evidence that the harbor seals residing in San Francisco Bay may comprise a separate stock. The SRG briefly discussed the implications for managing a series of small resident seal populations, but did not make any specific recommendations about separating this stock. This was discussed in more detail in a presentation made to the Alaska SRG (and attended by members of the Pacific SRG) by Barbara Taylor on Alaska harbor seal genetics.

### **TOPICS FOR NEXT MEETING**

The next Pacific SRG meeting is scheduled to take place in Maui, Hawaii (in conjunction with the Marine Mammal Conference) during 5-7 December 1999. Some of the suggested topics are:

SAR reviews  
Harbor porpoise stock structure  
CA driftnet fishery update  
Hawaiian aerial surveys (Daniela Feinholz)  
Update on Hawaii longline fishery mortality data  
Recommendations

## RESEARCH AND MANAGEMENT RECOMMENDATIONS Pacific Scientific Review Group - April, 1999

Sperm whales continue to be a major management and research concern because the current mortality in the CA drift-net fishery exceeds PBR, while the PBR may be overly conservative due to multiple negative biases in the abundance estimates. Despite the intensive sperm whale research efforts conducted by NMFS in recent years, more research is needed to:

- 1) improve sperm whale group size estimates from past and future surveys;
- 2) determine stock structure and boundaries by:
  - a) increasing tissue sample collection for genetic analysis (particularly in the waters off California, Oregon, and Washington and in the Gulf of Alaska) and intensify efforts to acquire genetic samples from formalin-preserved specimens;
  - b) expanding future surveys offshore and northward through the Gulf of Alaska;
  - c) examining movements via telemetry studies.

*The SWFSC has received a few more genetic samples. An offshore survey was completed in 1997 and reported to the SRG in 1998.*

The Pacific SRG recommended conducting a comprehensive survey of the Hawaiian archipelago as there are known marine mammal-fishery interactions and yet little or no information about the abundance and status of Hawaiian cetacean stocks. Because Congress has mandated that intensive dolphin surveys be conducted in the eastern tropical Pacific during 1998-2000, neither NOAA ship time, funding for suitable charter vessels, nor SWFSC personnel has been available to conduct surveys in Hawaii. At the conclusion of the eastern tropical Pacific surveys, the SRG recommends that:

- 1) adequate funding and ship time be allocated for a survey to fill the large gap in our knowledge of Hawaiian cetaceans.

In addition, the SRG recommended that smaller-scale research projects be initiated to assist in monitoring dolphin mortality and trends in abundance, such as:

- 2) Support a more-comprehensive marine mammal stranding program to collect life history and pathology data, and evidence of fisheries interactions.
- 3) Conduct photo-identification and biopsy studies of cetaceans to monitor abundance using mark-resight methods, to acquire genetic samples, and to monitor evidence of gunshots or fishery interactions.

- 4) Conduct radio- or satellite-tracking studies of cetaceans to determine home ranges and to infer population structure.
- 5) Update assessments of fisheries interactions with marine mammals. This could be aided by coordination with the monk seal program to obtain observer mortality data from domestic and foreign fisheries operating near Hawaii.

*No progress has been made on the recommendation that comprehensive surveys be undertaken for the Hawaiian archipelago because the surveys have been delayed until at least the year 2001. Little progress has been made on the alternate studies recommended above. It was reported, however, that NMFS had updated mortality estimates for the Hawaii longline fishery. Jay Barlow reported on a NMFS-funded pilot study of Hawaiian cetaceans by Daniela Feinholz, a graduate student at U.H., who conducted four aerial surveys around Oahu in 1998-99. These data may be useable for making line-transect or minimum abundance estimates for the next Stock Assessment Report.*

Observer data from the Hawaiian longline fishery indicate that there is more than a remote likelihood of serious injury and mortality (Category III) for cetaceans in this fishery. The SRG recommended that:

- 1) mortality estimates for the entire fleet be extrapolated from the observed entanglement and mortality;
- 2) this estimated fishery mortality data be incorporated into the next SAR revisions;
- 3) this Hawaiian fishery, and the California offshore longline fishery that uses the same fishing methods and sometimes shares the same fishing grounds, be reclassified as Category-II fisheries.

*This recommendation was not received in time for the classification of fisheries proposed for 1999. It is being considered by NMFS for the list of fisheries for 2000.*

The stock structure and status of harbor porpoise stocks in Washington and Oregon remains unclear. Stock structure and monitoring research on these stocks should continue and stock boundaries should be re-evaluated and presented to the Pacific SRG at its Fall 1999 meeting. Continued satellite tracking and genetic sampling of harbor porpoises could help determine stock structure.

*Genetics sampling has also continued to elucidate the stock structure of harbor porpoises in Washington and Oregon, but more samples are required to identify appropriate boundaries between inland and coastal stocks.*

It is unknown whether the virtual disappearance of pilot whales from the California coast is a natural phenomena due perhaps to changing environmental conditions or due to fishery interactions (possibly by the squid purse-seine fishery). Because the California Dept. of Fish and Game plans to institute a new research program on market squid, it would be useful for researchers aboard squid purse seiners to document any incidental or directed mortality that may be occurring. Research into the current distribution and migration patterns may shed light on these questions. Satellite-tracking of pilot whales that are captured and released from purse-seine nets could be attempted on an opportunistic basis.

*The market squid research program to be conducted by the California Dept. of Fish and Game with NMFS funding has not yet begun. However, when initiated, it could provide opportunities to apply satellite tags to whales that are captured and released (this effort would require additional resources)*

The SRG recommends that the USFWS update and finalize its Stock Assessment Report on sea otters so that the SRG can meet its responsibility to review annually the Stock Assessment Reports of strategic stocks.

*The last SAR on sea otters reviewed by the SRG was a draft version updated in 1997.*

## APPENDIX 1

### Scientific Review Group - Pacific Region

Hannah Bernard

Hawaii Wildlife Fund

Robin Brown

Oregon Department of Fish and Wildlife, Marine Region

Mark Fraker

Terramar Environmental Research

Doyle Hanan (not attending)

California Department of Fish and Game, Marine Resources Division

John Heyning (not attending)

Natural History Museum of Los Angeles County

Chuck Janisse

Federated Independent Seafood Harvesters

Steve Jeffries

Washington Department of Fish and Wildlife, Marine Mammal Investigations

Katherine Ralls

Department of Zoological Research, National Zoological Park, Smithsonian Institution

Michael Scott

Inter-American Tropical Tuna Commission

Terry Wright

Manager of Enhancement Services, Northwest Indian Fisheries Commission

### Invited Participants and Observers:

NMFS Southwest Fisheries Science Center

Jay Barlow

Barbara Taylor

National Marine Mammal Laboratory

Marcia Muto

Bob DeLong

NMFS SW Regional Office

Tina Fahy

NMFS NW Regional Office

Joe Scordino

NMFS Office of Protected Resources

Paul Wade

Tom Eagle

Cascadia Research

John Calambokidis

NMFS Northeast Fisheries Science Center



Phil Clapham  
**APPENDIX 2**

**Pacific SRG Document List: April 1999 Meeting**

Clapham, Phil. A proposal for categorization of scientific information for its inclusion by NMFS in management documents.

Earthlaw letter to Ms. Donna Wieting, Acting Chief Marine Mammal Division, Office of Protected Resources regarding "Comment on renewal of incidental harassment authorization for San Francisco Bay harbor seals in connection with the Richmond-San Rafael Seismic Retrofit Project". [including unpublished report on genetic evidence for stock status for harbor seals in San Francisco Bay].

Taylor, B. L., P. R. Wade, D. P. Demaster, and J. Barlow. Recovery factors for endangered marine mammals: a discussion paper for the joint SRG meeting.

## APPENDIX 3

### AGENDA PACIFIC SCIENTIFIC REVIEW GROUP 15 April 1999 National Marine Mammal Lab, Seattle, WA

- 0830** Introduction  
Update on sea otter status  
Update on CA driftnet fishery  
Large whale mark-recapture study (Calambokidis)  
Update and prioritize recommendations  
Preparations and topics for next meeting
- 1230** Lunch
- 1330** Comments on Joint Meeting  
Recovery factor discussion  
Joint recommendation #7 - working group members  
Request for RPS project funding information  
MMPA amendment proposals by NMFS  
E-mail list for SRG information distribution  
San Francisco harbor seal "stock"
- 1430** Adjourn
- 1500** AK harbor seal genetics (jointly with AKSRG)