MEETING OF THE PACIFIC SCIENTIFIC REVIEW GROUP
INN BY THE SEA, LA JOLLA, CA
1-2 JULY 1996

The fourth meeting of the Pacific Scientific Review Group (SRG) was held at the Inn By The Sea in La Jolla, California on 1-2 July 1996. All current Pacific SRG members were in attendance with the exception of Steve Jeffries and Mark Fraker (who reviewed the group's report and provided comments by mail). Also participating were Jay Barlow, Joyce Sisson, Karin Forney, Andy Dizon, Barbara Taylor from the NMFS Southwest Fisheries Science Center in La Jolla, Paul Wade of the NMFS Office of Protected Resources (Seattle). Other observers included Sara Meznick of the University of Arizona, Steve Brown of Scripps Institution of Oceanography, and Marilyn Beeson of the California Department of Fish and Game. Joyce Sisson and Michael Scott served as rapporteurs. 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 main objectives of this meeting were to review significant new data on abundance estimates, to review the draft revised PBR guidelines of the Second PBR Workshop (referred to as GAMMS - Garbled Anagrams to Make Management Simpler), and to discuss PBR calculations for sperm whales.

TAKE REDUCTION TEAM - CALIFORNIA GILLNET FISHERY

Hannah Bernard summarized the actions of the Take Reduction Team for the California gillnet fishery. The Team reached a consensus on a mortality reduction plan because of the willingness of the fishery and environmental interests to compromise. The plan consists of several elements: 1) a voluntary experiment with pingers, 2) a voluntary lowering of the net to at least 6 fathoms below the surface, 3) formation of a Skippers Panel to promote fishermen education, and 4) retirement of lapsed permits. Evaluating the net effect of all these changes will require increased observer coverage to monitor mortality and the results of the gear experiments. In the event that these measures do not reduce mortalities below PBR, the Team will reconvene to consider other alternatives, particularly effort reduction. There is concern about the potential for increased effort because some permits that have been issued are not currently being utilized. Current California law does not allow the reissuance of lapsed permits, although California also reserves the right to allow effort to increase if the PBR goals are met. The SRG will be asked to review the experimental designs and results.

PINNIPED TASK FORCE

Doyle Hanan reviewed the activities of the Pinniped Task Force, which was mandated by Congress to review and study the interactions between pinnipeds, salmons, and the environment. Hanan reported that all three states (California, Oregon, and Washington) have collected new data, as previous information was rather dated. The report of the Task Force will identify all interactions on the west coast. The Pacific States Marine Fisheries Commission has reviewed a draft report and the final report is nearly complete. The SRG will

be asked to comment on the final report when it goes out for public comment next year.

GAMMS WORKSHOP ON PBR GUIDELINES

Paul Wade summarized the changes in PBR guidelines recommended by the GAMMS Workshop (SRG-5, SRG-7), the proposed annual schedule for review of new SARs (SRG-6), and the future role of the SRGs (SRG-4). The major changes included a more-explicitly defined discussion of stock structure, changing the manner in which PBR incorporates the increasing uncertainty about aging abundance estimates, and incorporating the number of seriously injured animals into the mortality estimates.

Because of the different interpretations that have been inferred from the previous stock definitions, they have been rewritten for better clarity. The SRG agreed with the revised text with some wording changes for added clarity.

The GAMMS Workshop abandoned the previous method of ratcheting down the recovery factor when abundance estimate are more than 5 years old. The new method would maintain the PBR (in the absence of new abundance estimates) for 8 years and then there would be no PBR thereafter unless there is compelling evidence that the population has not declined or a new abundance estimate is made. It should be pointed out that no PBR is not the same as a zero PBR. One question posed was whether there was a cost-benefit analysis involved in this process (for example, would a 10-million dollar survey be conducted to collect data important for managing a 2-million dollar fishery); there is currently no such analysis made.

Definitions of "serious injury" will need to be specified. Definitions may require fishery-specific research on the fate of injured marine mammals. It is envisioned that the observers aboard fishing vessels would merely describe injuries and not determine their seriousness or the likelihood of mortality. The SARs would describe those injuries which were considered to be fatal. It is anticipated that the injury category would only be considered for those stock slightly below PBR.

The SRG approved the revised guidelines with some wording changes (these changes were given directly to Paul Wade). Michael Scott pointed out that the suggestion by the workshop majority to define ZMRG as a percentage of Nmin has been proposed as goal for the eastern tropical Pacific purse-seine tuna fishery. In a document called the Declaration of Panama, environmentalists and fishermen agreed to reach a goal of 0.1% of Nmin by the year 2001. This agreement is currently being considered in Congress.

The SRG recommended that changes to the next round of SARs be redlined so as to facilitate review of new information. SRG recommendations for future research by NMFS must be made by spring to be considered for the following fiscal year.

CENTRAL CALIFORNIA HARBOR PORPOISE

Karin Forney reviewed recent abundance trends in the central California stock of harbor porpoise (SRG-1). Previous surveys had indicated a significant decline in the population, even after fishery mortality had been essentially eliminated. The current survey still shows a decreasing trend, but the trend was no longer a significant one. The surveys also show an inverse relationship between porpoise abundance and water temperature. The SRG recommended continued monitoring of this stock because it may provide some answers about broader questions:

1) Will this population recover? Other harbor populations that have been reduced by fishery mortality have failed to recover.

2) Is there an inherent lag time between cessation of fishery mortality and evidence of population recovery?

3) Is the apparent decline due to a distributional shift caused by short-term environmental changes such as El Niño events. This could be related to the distributional shifts observed by other surveys that indicate that some warm-water species have become more abundant off California and some cold-water species have become less abundant (i.e. is the decline due to potential negative effects caused by the northward shift of bottlenose dolphin populations observed since early 1980's?).

4) Is the apparent decline due to long-term environmental changes? For example, long-term changes in zooplankton abundance has been detected which could effect the abundance of higher-trophic level organisms.

Andy Dizon reviewed recent genetics studies of Pacific stocks of harbor porpoise by NMFS. Since the last review, the sample size has doubled to about 150, although the geographic areas sampled have remained the same: Puget Sound, Spike Rock, and central California.

Two approaches were suggested by SRG members: one is to conduct studies on a coastwide basis to fill gaps in our knowledge about stock structure (*e.g.*, tracking or genetic studies), the other is to focus on areas where the fisheries operate and mortality may be occurring (*e.g.*, surveys to better estimate abundance and determine trends). NMFS has proposed that the aerial surveys of California harbor porpoises continue, but time-correlated oceanographic information is needed as well. Aerial surveys are also planned for the inland Washington and Canadian waters. There is another proposal for a coastwide aerial survey for harbor porpoise. Barb Taylor noted that a study of porpoises off the San Juan Islands was recently completed and a NMFS radiotracking study had been started in Washington waters. Andy Dizon anticipated that a report on the genetics study would be completed by October.

SPERM WHALES

The sperm whale is a species of special concern to the SRG because the mortality from the California gillnet fishery is several times the PBR, and because the PBR is set conservatively because of the whales's endangered status and a lack of data. Some of the questions that have been raised are:

1) What is the true stock structure in the North Pacific? The area covered by the NMFS current surveys likely causes the true population size to be underestimated. The abundance estimate would obviously be higher if the survey area covered the entire west coast or extended into the North Pacific beyond U.S. waters.

2) Is an increase in the Recovery Factor warranted (currently at 0.1 due to this species listing under the ESA). While the PBR guidelines do allow such changes, careful consideration and a scientific justification are required of the SRG before such a recommendation can be made.

3) Are the abundance estimates biased low due to the long dives that sperm whales are known to make? (This question will be discussed in the following section.)

4) Is the abundance underestimated because the time of year that the area was surveyed did not match the time of year when the whales are most abundant and when most fishery mortality occurred.

5) If the stock boundaries are expanded beyond U.S. waters, are there mortality data available from other fisheries that may operate in non-U.S. waters?

6) About half of the sperm whales entangled and included in the mortality were actually released alive. Is it appropriate to consider all large whales released alive as mortalities?

7) Sperm whales were most heavily exploited in North Pacific waters during the past 40 years. There are also concerns regarding the under-reporting of the true catch. The history of exploitation needs to be carefully considered prior to a change in status.

Barbara Taylor reviewed the whaling history and stock structure of North Pacific sperm whales. The evidence suggests that discrete stocks are present, but that the IWC data based on CPUE data are unreliable. NMFS is planning several research projects to study sperm whale stock structure. Shiptime has been allocated for March-May 1997 for a survey between California and Hawaii. There is likely to be funding for a radiotracking study of sperm whales in the Pioneer Sea Mount area. Photo-identification and photogrammetry (fluke morphology), and biopsy (genetics) studies have also been proposed. The SRG recommended that research on sperm whale stock structure and abundance be given a high priority.

The SRG briefly discussed the comments in the letter from the Pacific Offshore Fisherman's Association (SRG-12). It was decided that a background document would be prepared by John Heyning, Jay Barlow, and Barbara Taylor to assemble the best scientific information available so as to better inform the SRG on these issues. Paul Wade suggested that such a document should be written for other high-profile strategic stocks as well. Because the SRG will not be able give informed advice prior to the drafting of a new SAR, it was suggested that the SAR state that the SRG and NMFS were considering changing the Recovery Factor above the default level because the estimate of Nmin may be overly conservative. Such a statement may generate information from the public that could help in judging whether such a change is justified at this time or not. The SRG would also need to review other stocks to ensure that a consistent approach is taken.

REVISED ABUNDANCE ESTIMATES

1993 Survey Data

Jay Barlow reviewed pooled abundance estimates from cruises undertaken in 1991 and 1993 for cetaceans in California waters (SRG-2, SRG-3). Some significant changes in abundance were apparent between the previous estimates made from only the 1991 cruise data. There appears to have been some distributional shifts due to environmental changes because the warm-water species (*e.g.*, common and striped dolphins) increased in abundance while the cool-water species (*e.g.*, Dall's porpoise and northern right whale dolphin) decreased. The SRG did not have substantive comments or criticisms regarding the new abundance estimates [Did we want to say something more positive here?].

Dive Time Correction

Barlow also reviewed the preliminary results of a study to determine the g(0) for long-diving cetaceans (SRG-11). The SRG recommended that correction factors based on these g(0) values be incorporated into abundance estimates for beaked whales, kogiid whales, and the sperm whale. The SRG emphasized the importance of using dive data to calculate correction factors from the same population being surveyed, and preferably with data gathered during the same survey. Incorporation of these factors will greatly increase the abundance estimates for most stocks of beaked whales and kogiids.

The SRG discussed what an appropriate g(0) for sperm whales should be, given the difference in diving times of large males *vs.* groups of females or females with calves. Paul Wade suggested that a stratification based on group size or animal length may be possible to differentiate the large males and thus apply different correction factors. Karin Forney pointed out that most groups sighted were female groups. The SRG recommended that a g(0) in the range of those found for female groups (0.88 - 0.94, based on an assumed 30-minute average dive time) be used for the next SAR until more data become available. The SRGs commented Jay Barlow for this important new research.

PRORATION OF UNIDENTIFIED BEAKED WHALES

The advice of the SRG was requested by Jay Barlow on the best way to prorate the sightings of unidentified beaked whales (in this case, to distinguish between *Ziphius* and *Mesoplodon* species). Two possible methods suggested by Barlow were a simple proration (using the ratio of identified sighting to prorate the unidentified ones) and a nearest-neighbor approach to classify unidentified sightings based on the geographically and temporally closest identified sightings. The disadvantage of the first approach is that it would likely overestimate the proportion of *Ziphius* because this species is easier to identify and thus less likely to be classified as unidentified. The disadvantages of the second method are that these species inhabit the same areas and thus may not show genus-specific clumping patterns, and that the number of identified sightings are too few to produce a meaningful proration.

The SRG suggested that one method that could be explored is to use the best guess of the observer to prorate the unidentified sightings. While this may not be possible for every sighting, the observers often indicate the likely identification of sightings that they cannot positively identify. By reviewing the observer opinions on the existing data forms and soliciting such opinions in future surveys, the most informed guess could be employed in any proration. Additionally, a conservative proration could be used for each stock to determine whether the PBR or ZMRG goals would be met even under such risk-averse assumptions. In the case of *Ziphius*, it could be assumed that this species is never classified as unidentified and therefore no prorated sightings would be added to the abundance estimate. For *Mesoplodon* spp., the simple proration presented above would be a conservative proration for this stock. The SRG did not recommend using the nearest-neighbor method. The SRG supported a suggestion by Paul Wade that a more-detailed observer manual be compiled to improve the identification of these species.

TREATY RIGHTS

Terry Wright reviewed the proposal presented at the IWC for the Makah tribe to take five grey whales from their migratory corridors (not resident whales). The proposal, supported by the U.S. government, was withdrawn because there were insufficient votes supporting the proposal (3/4 majority was required). The tribe will begin to gear up for whaling next year, resubmit the proposal at next year's IWC meeting, and work with Australia and New Zealand to overcome their objections. It is unclear what will happen if the proposed take is rejected again in the IWC. A resolution has been introduced in the U.S. Congress opposing Makah whaling by Rep. Metcalfe. Wright also noted that an animal rights group (PAWS) had also paid a few Makah elders to express their opposition to whaling,

Another potentially controversial issue is the recent movement of sea otters into tribal waters. In November-April, a large raft of sea otters was thought to have reduced the local sea urchin population in tribal waters, resulting in a closure of the fishery, resulting in a one million dollar loss. Wright did not know what the tribe would do, but it would explore non-

lethal means to deter the otters. Kathy Ralls pointed out that non-lethal means had been ineffective in the past.

The tribe has also set regulations for its seal harvest of 10-25 harbor seals or California sea lions. About 6 have been taken so far. No markets have been established yet for harvested pinnipeds.

REVIEW OF ACTIONS TAKEN ON PREVIOUS SRG RECOMMENDATIONS

The SRG was concerned about the lack of feedback from NMFS headquarters about SRG recommendations. The SRG needs to know whether it's recommendations have been considered or not, and what priority they have received. For those recommendations that are not followed, NMFS should adhere to the PBR guidelines which require that NMFS provide a justification in such cases.

The SRG reviewed NMFS activities in response to a list of the previous major recommendations listed in the report of the 3rd meeting of the SRG.

Highest Priority

The Pacific SRG recommends that a Take Reduction Team be formed to evaluate the driftnet fishery for shark and swordfish off California. This fishery is involved with all the species in which the PBR is exceeded except two (California sea otters and Hawaiian monk seals), which already have recovery teams under the ESA. Because this one fishery is involved with so many stocks, the SRG recommends that one take team for the fishery be established, rather than separate ones for each stock.

Take Team was formed and a Take Reduction Plan agreed to in May, 1996.

The Pacific SRG recommends conducting a comprehensive survey of the Hawaiian archipelago to fill the large gap in our knowledge about the abundance and status of Hawaiian cetacean stocks. Examining any survey data from the ATOC experiments may provide additional information for these assessments. Although fishery mortality has not been estimated, available information suggests that instituting observer programs to estimate mortalities would be problematic because of the small-scale nature of the local fisheries. The problem of dolphins that may be shot at to discourage them from stealing fish from fishing lines was thought to be a law enforcement and education issue rather than one requiring an observer program.

A NMFS survey of Hawaiian is being planned for 1998.

The Pacific SRG recommends that monitoring of the central California harbor porpoise stock be continued. Although the almost total closure of the coastal drift-net fishery has apparently reduced mortality, recent data by the NMFS suggest that the population still may be declining at a rate of 9-10% per year. Monitoring of this stock should continue to determine whether it is truly

declining, and whether the decline is due to environmental or human-caused factors, and to document the population growth rate in the wake of fishery mortalities and population decline.

Monitoring of the central California stock has continued, and future surveys are being planned.

The Pacific SRG recommends that the stock structure of West Coast harbor porpoise be studied in greater detail. This species appears to be particularly vulnerable to interactions with fisheries.

Samples are being collected and analyzed.

The Pacific SRG recommends research into developing correction factors to obtain better population estimates for both cetaceans and pinnipeds. For deep-diving cetaceans, such as ziphiid and kogiid whales, research should be conducted into devising correction factors for submerged animals during surveys. For pinnipeds that are counted while hauled out on land, more stock-specific correction factors for estimating the proportion at sea are needed. Demographic models could be developed to estimate the total minimum population size from pup counts.

Field studies have collected significant new data for deep-diving cetaceans and harbor seals. These correction factor will be used in the next SARs. Proportion of animals hauled out will be available for harbor seals (Hanan's work). No new correction factors available for other pinnipeds.

The Pacific SRG strongly supports the role of a NMFS liaison to promote consistency among the SRGs. The group notes the lack of consistency among SRGs for such issues as defining stocks and in the criteria for adopting recovery factors. The group recommends that the NMFS liaison distribute a list of stocks for which non-default values in the PBR calculations have been used, and the rationale for those deviations, to provide guidance and promote consistency among the groups in dealing with diverse management situations. The SRG recommends increased communication among the SRGS and within NMFS to maintain consistent application of the PBR concept, and increased cooperation with international, state, and other agencies to promote co-management plans.

Paul Wade of the Office of Protected Resources has been serving as a liaison between the different SRGs, which has better informed the SRGs and helped promote consistency among the groups.

The Pacific SRG recognizes the problems of increasing pinniped populations in some areas, particularly where pinniped predation on threatened and endangered salmonid species may be an issue. The literature review being conducted by the Pinniped-Fishery Interaction Task Force was not thought to be sufficient for answering the critical fisheries-interaction questions for California sea lions and harbor seals along the Northwest Pacific coast, and the SRG recommends region-wide research be conducted, particularly into the food habits of these species.

A report of the team is being finalized. The recommended research has not been done.

SECOND PRIORITY

The SRG recognizes the problems inherent in defining ZMRG, and the group could not provide a viable alternative. The group recommends that the NMFS assess the performance of the ZMRG guidelines in its third-year report to Congress.

GAMMS workshop dealt with this issue and NMFS is considering a final position

The SRG recommends that the use of fishermen logbook data for monitoring marine mammal mortality be discontinued. Such data are not reliable and the program is a drain of resources from more effective programs.

[Help! I have one note that says the data were not being collected as of April 1995, and another note that says something is still being collected?]

The Pacific SRG recommends research into non-fishery human-caused mortality. Specifically, how to quantify such mortality, and how to incorporate this mortality into the PBR process. Such research should be given a higher priority as the fishery mortality approaches the PBR.

No progress has been made on this. Paul Wade suggested a more specific recommendation could be made to encourage further research.

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. Research into the current distribution and migration patterns on an opportunistic basis may shed light on these questions. Broad-scale ecosystem studies may suggest reasons for these changes, as well as recent changes in the distribution and abundance of other pinniped and cetacean species in the North Pacific.

No progress has been made on this item.

The Pacific SRG recommends monitoring the west coast squid purse-seine fishery with an observer program because of the lack of current information about marine mammal mortalities in this fishery and the previous interactions thought to occur with the southern California pilot whale population that has since declined in the area.

This fishery is being proposed as a Category II fishery in the 1997 List of Fisheries based in part on the SRGs recommendations.

FUTURE ROLE OF THE SRG

The general role of the SRGs outlined in the background document (SRG-4) was accepted by the group. The Chairperson, John Heyning, suggested that the section on rotation of SRG members be amended to include rotation of the Chairpersons.

It was suggested that the communication between the SRG and agencies within NMFS be improved by directly informing some individuals in the regional offices and the National Marine Mammal Laboratory, and authors of background documents about SRG activities. It was suggested that the current SRG mailing list be expanded to directly contact these individuals rather than depending on word to filter down through their agency to them.

The Pacific and Alaska SRG will also need to coordinate their activities more closely. A joint meeting of the two SRGs has been recommended to discuss species and issues common to both regions. Paul Wade informed the group that the Alaska SRG had recommended that review of resident killer whale stocks be split between the two groups, with the Pacific SRG reviewing the Puget Sound stock (i.e. southern residents). The Alaska SRG had also recommended management of three harbor porpoise stocks, a similar stock structure to that recommended by this SRG for west coast stocks. The Alaska group is planning a meeting on 11-13 September to review SARs and a joint meeting with the Pacific group in October-November. The Pacific SRG recommends that it jointly review with the Alaska SRG the stocks of eastern Stellar sea lions, grey whales, and humpback whales.

It was noted that the NMFS had not replaced SRG members that have resigned. The SRG will submit a revised list of candidates to the NMFS. The SRG could also obtain a broader range of views and backgrounds by inviting more experts to its meetings as was done during the meeting on Hawaiian stocks and issues.

The agenda for the next meeting should include a continued review of the Take Reduction Team's activities, review of new draft Stock Assessment Reports, and discussion of harbor porpoise stock structure if new data are available. In addition, the group would also meet jointly with the Alaska SRG to discuss stocks and issues of concern to both groups. The possible locations for this meeting are Seattle, Hawaii, Juneau, or Anchorage; the likely time of the meeting will be in October or November.

Appendix 1

Scientific Review Group - Pacific Region

Hannah J. Bernard
Hawaii Wildlife Fund
Robin Brown
Oregon Department of Fish and Wildlife, Marine Region
Mark Fraker (unable to attend)
Terramar Environmental Research
Doyle A. Hanan
California Department of Fish and Game, Marine Resources Division
John Heyning, Ph. D.
Curator of Mammals, Section of Mammals, Natural History Museum of Los Angeles County
Steve Jeffries (unable to attend)
Washington Department of Fish and Wildlife, Marine Mammal Investigations
Katherine Ralls Ph.D.
Department of Zoological Research, National Zoological Park, Smithsonian Institution
Michael Scott, Ph. D.
Inter-American Tropical Tuna Commission
Terry E. Wright
Manager of Enhancement Services, Northwest Indian Fisheries Commission

Invited Participants and Observers:

Jay Barlow, Ph. D.
NMFS Southwest Fisheries Science Center
Marilyn Beeson
California Department of Fish and Game
Steve Brown
Scripps Institution of Oceanography
Andrew Dizon, Ph.D.
NMFS Southwest Fisheries Science Center
Karin Forney
NMFS Southwest Fisheries Science Center
Sara Meznick
University of Arizona
Joyce Sisson
NMFS Southwest Fisheries Science Center
Barbara Taylor, Ph.D.
NMFS Southwest Fisheries Science Center
Paul Wade, Ph.D.
NMFS Office of Protected Resources

Appendix 2

Pacific Region Scientific Review Group Meeting
July 1-2, 1996
Inn-By-The-Sea, La Jolla, California
Background Documents

SRG-1 Forney, K. Trends in Harbor Porpoise Abundance off Central California, 1986-95: Evidence for Interannual Changes in Distribution

SRG-2 Barlow, J. and T. Gerrodette. Abundance of Cetaceans in California Waters Based on 1991 and 1993 Ship Surveys.

SRG-3 Barlow, J. 1995. (Errata - table 3) Fishery Bulletin 93:1-14.

SRG-4 Wade, P. Scientific Review Group Plan.

SRG-5 Guidelines for Preparing Stock Assessment reports Pursuant to the 1994 Amendments to the Marine Mammal Protection Act.

SRG-6 Wade, P. and R. Angliss. Annual Schedule for the Stock Assessment Process.

SRG-7 GAMMS Workshop Summary.

SRG-8 Taylor, B.L., R.L. Brownell, W.F. Perrin, D.P. DeMaster and K. Lankaster. .1996. Consideration of the hypotheses concerning the O and W stocks of North Pacific minke whales. IWC Working Paper SCWP7.

SRG-9 Rosel, P., C.S. Baker, and B. Taylor. .1996. .Lethal takes are not required for genetic studies of stock identity. .IWC Working Paper SCWP18.

SRG-10 Report of the Subcommittee on Small Cetaceans. 1996 IWC Annual Meeting, Aberdeen Scotland.

SRG-11 Barlow, J. and S. Sexton. 1996. The effect of diving and searching behavior on the probability of detecting track-line groups, $g_{(0)}$, of long-diving whales during line-transect surveys. (In preparation).

SRG-12 LMR Letter to Chuck Janisse regarding sperm whale stocks.

SRG-13 Sperm Whale Figures prepared by B. Taylor.

SRG-14 Swenson, E. 1996. California Netters Seek Whale Solution. Pacific Fishing July.

SRG-15 Borodin, R.G. 1996. Some data on Russian whaling for gray whales in 1995. Submitted to the IWC Scientific Committee SC/48/AS22.

SRG-16 Atlantic Scientific Review Group Meeting Summaries: 12-14 December 1995 and 9-10 May 1996.

SRG-17 Final List of Fisheries for 1996. Federal Register Vol. 60 No. 249, Thursday, December 28, 1995, Rules and Regulations pages 67063-67090 (50CFR Part 229).

SRG-18 Gearin, P.J., M.E. Gosho, L.Cooke, R. DeLong, and J. Laake. 1996. Acoustic alarm experiment in the 1995 northern Washington marine setnet fishery: methods to reduce by-catch of harbor porpoise. Report to the International Whaling Commission Scientific Committee SC/48/SM10.

SRG-19 Clapham, P.J., S. Leatherwood, I. Szczepaniak and R.L. Brownell, Jr. 1996. Catches of humpback whales from shore stations at Moss Landing and Trinidad, California 1919-1996. Report to the International Whaling Commission Scientific Committee SC/48/NP2.

SRG-20 Earth Island Institute Letter to Bill Fox from Mark Berman.

Appendix 3

Pacific Region Scientific Review Group Meeting
July 1-2, 1996
Inn-By-The-Sea, La Jolla, California

AGENDA

Monday, July 1

Meeting Objectives

Review of California Gillnet Take Reduction Team

Review of Pinniped Task Force

Harbor Porpoise Abundance Trend

Sperm Whales

Review of Revised PBR Guidelines

Tuesday, July 2

Revised Abundance Estimates
- 1993 Cruise Data
- Dive Time Corrections
- Proration of Unidentified Beaked Whale Sightings

Review of Treaty Rights Issue

Review of Previous SRG Recommendations

Future SRG Goals and Directions