

Minutes for the 17th Pacific Scientific Review Group Meeting **Seattle, Washington, 16-17 November 2006**

The seventeenth meeting of the Pacific Scientific Review Group (SRG) was held at the Watertown Hotel in Seattle, WA from 16-17 November 2006. All SRG members were present except for John Heyning. Karin Forney and Jim Carretta served as rapporteurs. Michael Scott served as chairman of the SRG. The SRG members and other participants are listed in Appendix 1, review documents are listed in Appendix 2, and the agenda of the meeting is in Appendix 3.

General Topics

MMPA reauthorization. Tom Eagle provided an update on the MMPA reauthorization. New considerations include 1) Section 109, allowing states limited authority to pass laws or regulations to protect marine mammals, 2) an OR/WA bill introduced to allow takes of California sea lions on the Columbia River, but not limited to Bonneville Dam area, and 3) a review of MMPA regulations that can be implemented or improved without Congressional input/action.

List of Fisheries. Melissa Andersen reviewed the List of Fisheries for 2006, and the proposed LOF for 2007, due to be published Nov 2006. In the 2006 LOF, the CA sardine purse-seine fishery was elevated from Category III to Category II by analogy with other purse-seine fisheries and documented interactions with California sea lions. The Draft 2007 LOF included the addition of two Category III fisheries: WA/OR sardine purse-seine and CA halibut bottom-trawl, and the removal of the Category III CA herring purse-seine fishery to reflect elimination of the fishery by CDFG. California purse-seine fisheries were re-organized into two separate fisheries, the CA anchovy, mackerel, sardine purse-seine and the CA tuna purse-seine.

Serious injury workshop. Melissa Andersen informed the SRG that NMFS workshop on serious injury determination for marine mammals has been delayed due to funding concerns, and that it will likely be tentatively rescheduled for February 2007 in Seattle.

CA/OR/WA Fisheries and Management

Observer Programs. Monica DeAngelis provided an update on current observer programs.

Observer program activities included renewed observer effort in the halibut set gillnet fishery in 2006 (4 trips, 12 sets, 1 harbor seal mortality). The drift gillnet fishery was observed at a 21% level in 2005. The pilot observer program for purse seines continued in 2006, with 6 vessels active in tuna purse-seine fishery. Crab pot gear continues to be a common source of humpback entanglements. Lillian Carswell asked if there was any way to observe the crab-pot fishery, because of concerns over potential sea otter mortalities, but this is a Category III fishery, so it is not subject to an observer program.

Tina Fahy discussed a pilot video-monitoring program to provide data on unobservable vessels in the drift gillnet fishery (25% of effort). Archipelago Marine Research Ltd. has the contract and five vessels are currently fishing with electronic monitoring. Observers are on board to ground truth the video data. The goal is to monitor 60 gillnet sets.

Mortality Estimates. Jim Carretta reviewed marine mammal mortality and interactions in California commercial fisheries for 2005. There was a recommendation to remove language on ‘entanglement’ and repackage the text to reflect ‘interactions’ in Table 3 of document PSRG-2006-07.

Driftnet Exempted Fishery Permits. Tina Fahy reviewed the leatherback closure history, the decline in effort, and the Exempted Fishing Permit (EFP) application for the California drift gillnet fishery. The EFP would involve 300 sets and a cap on leatherback takes, plus 100% observer coverage. The Council is considering the DGN EFP for 2007. An EFP application for an experimental EEZ longline fishery (one vessel targeting swordfish) is going forward as suggested by Council.

TRT Update. Monica DeAngelis noted that the Pacific Take Reduction Team did not meet during 2006 due to NMFS personnel changes. The next meeting is planned for April 2007. Kathy Fosmark (Industry, Council) and Steve Wertz (CDFG) are new TRT members.

Large Whale Recovery Plans. Monica DeAngelis summarized the recent completion of recovery plans for sperm and fin whales. Revised plans went out for public review, and comments have been received. Final recovery plans are expected by spring 2007.

CA/OR/WA Research

Expanding Pinniped Populations. Rogue River fishermen reported up to 70% of hooked catch lost due to California and Steller sea lions. Deterrents have helped considerably in this area, but there have been an increased number of human-related injuries due to seal bombs, *etc.* Monica DeAngelis discussed California sea lion and harbor seal deterrence, reviewed the non-lethal deterrence workshop in La Jolla in 2005, and gave an overview of the pinniped haulout GIS database under construction. The SWR website has some guidelines and lists caveats that using deterrence methods can still put you in danger of violating the MMPA if a serious injury or mortality results. A Federal Register Notice of deterrence guidelines will be published.

Harbor Seal Correction Factors. Jay Barlow explained that NMFS would be looking for guidance from the SRG to arrive at an appropriate correction factor for harbor seals. The correction factor of 1.3 has been used for past assessments. Invited experts Harriet Huber, Peter Boveng, Doyle Hanan, and Jim Harvey, who all have experience with harbor seal haulout studies and correction factors, participated in these discussions. Harvey presented data from aerial surveys and telemetry studies in northern and central CA, and outlined plans to conduct similar studies for southern California. In the completed study, sampling targeted males vs. females and central vs. northern California seals in proportion to the overall population. The study found that there was no statistical difference in time spent ashore between males and females, northern and central CA, or between year classes. Additional assumptions were tested to evaluate whether body mass and movements of tagged animals were representative of the population. The data indicate that harbor seals tagged in estuaries use offshore sites and vice versa, and there was no body mass difference between tagged animals and a larger sampled population of untagged harbor seals. Mark-recapture methods were used for tagged animals, taking into account tag loss between the four aerial surveys along the coast.

The mean correction factor across all four surveys was 1.54 (± 0.38), which compares favorably to the 1.53 correction factor previously estimated for OR/WA determined by Huber. The greatest correction factor (1.65) was obtained during the first survey, for which uncertainties related to tag loss or tag failure were lowest. Peter Boveng suggested some alternative ways to estimate the variance of the correction factor. Jason Baker discussed issues of heterogeneity in the probability of capture among individuals and the possibility of missing tagged animals that were hauled out beyond the range of a particular survey flight. Doyle Hanan also reviewed his methods for determining a correction factor. Correction factors represent approximately a 30-minute window of animals hauled out, based on the ability to pick up radio signals at monitoring stations. Thirty-eight percent of the seals available to be counted were hauled out according to the data, which reflects a correction factor of 2.6 (SE = 0.2). This compares with a correction factor of 2.5 obtained by Gilbert for seals hauled out in Maine.

There was some discussion about the variability in correction factors. Harvey pointed out that his surveys are basically an instantaneous rate, because surveys occur during a 5-minute period over a given haulout site, which is shorter than the 30-minute window reported by Hanan. The correction factor discussion led to a longer discussion of PBR for any given stock being dynamic. The SRG recommended increasing the correction factor to 1.65 for California harbor seals.

Southern Resident Killer Whales. Brad Hanson summarized current information on southern resident killer whales. There are 89 animals in 2006, down from 91 animals in 2005. Since July 1st there were 2 births and 4 deaths, but the reproductive population of around 30 females and 10 males is small. Maximum net productivity level is 3.5%/year for 2001 to 2005. The PBR is unchanged at 0.18. There are no new data on fisheries interactions, and one vessel mortality (L98). The Northwest Region published a draft Critical Habitat Designation for comment in June 2006. Southern resident killer whales were found at Cape Flattery, WA in spring 2005, Pt. Reyes, CA in February 06, and Brooks Peninsula, BC in May 06. Continued research into risk factors includes vessel/noise interactions, prey relationships (fecal/prey samples, primarily Fraser River Chinook), contaminants (6 biopsies, toxicology analyses ongoing).

Garth Griffin summarized the regulations on the listing of southern resident killer whales. The final designation will be published before the end of the year. A recovery plan draft will be out for review within about a month. Staff is working on ESA consultations regarding vessel traffic and shoreline development related to southern resident killer whales.

Blue/Humpback Whale Research. Blue and humpback whale research (PSRG-2006-12) has continued to have two complementary components: line transect and mark-recapture. The line-transect cruises provides additional photographs for the mark-recapture effort. John Calambokidis reviewed the range and movements of blue whales found along the CA coast. There have been matches of these whales to areas farther north, including Gulf of AK (1) and Queen Charlotte Islands (2). Mark-recapture estimates have been stable from 1991 through 2002 at 1,700 to 2,000 whales. Blue whales tagged near San Miguel Island in September 2006 moved off Baja California, Oregon, and Washington by October. By November, animals moved south to Baja or other areas off Mexico. During 2005, blue whales were largely absent from areas

where they are traditionally found (Farallones, Monterey, Channel Islands), but they were found farther south near San Diego. A higher frequency of emaciated blue whales was observed compared with previous years; a health assessment workshop will discuss this in February. Humpback whale mark-recapture estimates continue to increase. Central America/Mexico animals go to California primarily; some Revillagigedos animals go to the Aleutians, with little exchange between feeding areas.

CSCAPE Survey. Karin Forney reviewed the preliminary abundance analysis (PSRG-2006-11) for the 2005 CSCAPE cruise off California, Oregon and Washington. Species highlights include a decline in blue whale abundance, which may reflect the southward redistribution of animals in 2005 in response to low krill abundance along the CA coast. Forney noted that the inverse variance penalizes larger estimates; she and Jeff Laake will re-examine the abundance weighting formulae before finalizing average estimates for the Stock Assessment Reports. Issues regarding complete surveys of a given stock's entire range were also discussed.

The SRG noted that the abundance of long-beaked common dolphins was now low enough to reduce the PBR below the estimated mortality. However, this lower abundance is most likely due to a shift in distribution and not a population decline. While the lower abundance estimate is likely part of a pattern of historical distribution shifts and not currently a concern, the SRG supports the placement of observers in all fisheries in the Southern California Bight with recent takes of this species to obtain current mortality estimates

OR/WA harbor porpoises. Garth Griffin gave an update on harbor porpoise mortalities during an 'unusual mortality event'. There were over 65 strandings this year, double those in previous years.

Karen Martien reviewed additional genetic analysis results for Oregon and Washington, based on increased in sample sizes and revised strata (PSRG-2006-15). The 2002 stock boundaries were supported, and a new Sekiu River stratum was differentiated. Proposed new stock boundaries (PSRG-2006-16) would move the Cape Blanco boundary northward to the boundary between survey strata C and D in Oregon. The results also suggest population structure within Washington inland waterways, although data are insufficient to determine where to put stock boundaries. The proposed stock boundary change would greatly increase the size of the 'northern CA/southern OR' stock area. NMML would continue to survey the OR coast and share their data for the purpose of estimating abundance in the northern CA/southern CA stratum.

Sea Otters

Southern Sea Otters. Lilian Carswell presented an update on the southern sea otter population. The population has been increasing at 6% year since 2001, and counts for the last three years have been between 2,600 and 2,800 animals. Annual strandings represent ~10% of the population count. Several infectious diseases are known to affect sea otters, and other sources of mortality include white shark predation, net entanglement, oil spills, shootings, and organic pollutants. Human-caused mortality during 2001-2005 included 13 shootings, 16 boat strikes, 6 recreational hook and line, 1 plastic debris and 3 research-related deaths. A final Environmental Impact Statement for the translocated stock should be out in spring 2007.

Washington sea otters. Deanna Lynch reviewed the status of sea otters off Washington. A stranding network is now up and running, with 15-20 strandings recovered each year. They are finding diseases in WA that are not found in CA or AK. Leptosporosis is seen in WA otters, as well as canine morbillivirus, which river otters also have. The SAR has been revised with updated northern WA marine set gillnet fisheries information. Since otters are not ESA-listed in WA, there is no state authority to observe fisheries where sea otter mortality is suspected. The new PBR is 41 animals.

CA/OR/WA SARs. Jay Barlow reviewed revised SARs for humpback and blue whales, and Jim Carretta reviewed all other revised CA/OR/WA cetacean SARs. Long-beaked common dolphins are, for the first time, a strategic stock, because of evidence of fishery mortality from strandings and a decrease in the average abundance estimate. There was discussion about the dramatic decrease in estimated long-beaked common dolphin abundance, as averaged for 2001 and 2005 surveys. It is likely that this reflects a combination of interannual variability in abundance, high uncertainty in estimates, and the 'retiring' of a very high estimate for 1996. The weighted averaging problem described above also contributed to the sharp drop, and the correct weighting formula will likely increase the estimate somewhat. There is a need for more accurate fishery mortality information through an observer program in the setnet fishery. Marcia Muto presented revised SARs for OR/WA coast stock of harbor seals, including information that the stock is within OSP, new fishery mortality, and other human-caused mortality information.

Protected Species Management Issues

Monk seals. Chris Yates reviewed Hawaiian monk seal management efforts (PSRG-2006-20). The island coordinator program is active on the Main Hawaiian Islands. There were 12 pups born on the main Hawaiian Islands in 2006. A monk seal pup born on the north shore of Oahu died in a lay gillnet. This 'fishery' is not a commercial fishery, occurs in state waters, and is unregulated. There was some discussion of how the fishery could be legally managed. The monk seal recovery team will meet in November 2006 and will have two new members, one recreational fishery representative and one native Hawaiian representative. Michelle Yuen reviewed the monk seal recovery plan, which has been revised for the first time since 1982 and is in review at PIRO. It may be released for public comment in December.

Spinner dolphin-human interaction. Lisa Van Atta informed the group that the NMFS is considering a new MMPA regulation to address human interactions with spinner dolphins in the main Hawaiian Islands (PSRG-2006-20). PIRO received approximately 200 public comments in response to its Advanced Notice of Proposed Rulemaking, published in December 2005. The currently proposed action is to implement time/area closures for certain spinner dolphin resting habitats in the main Hawaiian Islands. An education campaign will accompany whichever alternative is ultimately chosen.

High-speed ferry. A new high-speed ferry is due to come on line next year. Concern over potential humpback whale ship strikes is high because the ferries will be passing through Sanctuary waters. There is no requirement for the ferry company to consult under Section 7 of the ESA because there is no associated Federal action. PIRO has advised the company that ESA and MMPA authorizations could be obtained, and if such authorizations are not granted, the company is liable under the ESA and MMPA should they take a listed species.

Navy Sonar updates. Lisa Van Atta reviewed the Navy's 2006 mid-frequency active Rim of the Pacific (RIMPAC) sonar activities. NMFS found that impacts from those activities would be negligible, and issued an Incidental Harassment Authorization to the Navy. The next RIMPAC exercise is scheduled for 2008; the Navy intends to prepare an EIS for that and other similar sonar activities.

Hawaii and American Samoa Observer Program updates. Adam Bailey reviewed Hawaii and American Samoa longline activities and marine mammal interactions for 2006. In the Hawaii fishery, deep-set longline takes included false killer whales, short-finned pilot whales, Risso's dolphins and bottlenose dolphins. Takes in the shallow set component included bottlenose dolphin, Risso's dolphin, and humpback whale; one Risso's dolphin was killed. No marine mammal interactions occurred in the American Samoa fishery in 2006.

2005 HI longline mortality and serious injury estimates. Karin Forney reviewed Hawaii longline serious injury and mortality for 2005 (PSRG-2006-18). Interactions included serious injuries of Risso's dolphin (2); short-finned pilot whale (1); false killer whale (1); bottlenose dolphin (1); and one unidentified cetacean (either a pilot whale or false killer whale). Mortalities included one false killer whale within the Hawaii EEZ. Other interactions that resulted in injuries which were not considered serious included one Bryde's whale; one Blainville's beaked whale; and one unidentified whale. False killer whale serious injury/mortality averages were 7.2 in international waters and 5.0 in EEZ water for 2001-2005.

Other Hawaiian fisheries. Chris Yates provided updates on other Hawaii fisheries. After some delays Hawaii Sea Grant will begin their study of cetacean interactions with Hawaii nearshore fisheries.

Pacific Islands Cetacean Research

Pacific Islands cetacean research updates. Dave Johnston provided updates on research since last SRG meeting. The Cetacean Research Workshop Report, which develops recommendations for research priorities in the PIR, is in draft form. The NOAA ship Oscar Elton Sette is now outfitted for oceanographic and marine mammal line and acoustic surveys. An American Samoa survey was conducted in cooperation with Dave Mattila using both large and small vessels. Initial results include sighting of dwarf sperm whales, sperm whales, and bottlenose, spinner, and rough-toothed dolphins. Biopsy samples were collected from spinner dolphins, rough-toothed dolphins and false killer whales. Spring 2006 atoll surveys included Hawaii, Johnston, and American Samoa. Acoustic detections of minke whales were made. During a longline set experiment, 10 or more false killer whales interacted with gear. A March 2007 cruise is scheduled in the Northwestern Hawaiian Islands. Photo ID work on spinner dolphins has been integrated with monk seal field camp work. A bottom hydrophone package was deployed at Cross Atoll and another at Palmyra. Sperm whales, 'blackfish', and beaked whales were detected at Cross Atoll, and melon-headed whales were detected at Palmyra.

Preliminary PICEAS false killer whale analysis results. Jay Barlow reported on results for false killer whales during the 2005 PICEAS cruise (PSRG-2006-10). There were only 7 detections of false killer whales: 4 within the Palmyra EEZ, none within the Johnston EEZ, and three in

international waters. Jay re-analyzed the 2002 HICEAS data as well, using the new covariate method also used for CSCAPE 2005. Revised abundance estimates are 484 for the Hawaiian EEZ; 1,300 for the Palmyra EEZ; and 900 for the remainder of the PICEAS survey area. Jay also summarized those false killer whale sightings that were missed by the visual team and detected acoustically. Methods are not yet in place to generate an estimate of abundance from acoustics. The density of false killer whales in the Palmyra area is the highest of any of the areas surveyed by SWFSC and the lowest in the Hawaii EEZ. False killer whales known to frequent nearshore waters around the main Hawaiian Islands were not detected during the large-scale ship surveys however.

HI bottlenose dolphin stock structure. Karen Martien presented data on Hawaii bottlenose dolphin stock structure, based on 127 samples (Hawaii = 11; 4-Island Region = 26; Oahu = 30; Kauai/Ni'ihau = 40; Palmyra = 11). Genetic and photo-ID results agree that there appears to be no inter-island exchange.

Hawaii contract research updates. Robin Baird provided updates on Hawaii research on stock structure, population assessment, behavior and ecology, and fishery/human interactions of Hawaiian cetaceans. Approximately 36,000 km of trackline have been surveyed around the main Hawaiian Islands, with almost all effort on the westward (lee) side of islands during 2000-2006. About 20,000km of the survey effort has been around Hawaii (Big Island). Over 850 genetic samples have been collected from a variety of odontocete species. Spotted dolphin, pilot whale, and bottlenose dolphin are the top three in genetic sample sizes. Identification photos include most species (top three are pilot whales, rough-toothed dolphin, and melon-headed whale). *M. densirostris* (97) and *Ziphius* (40) individuals have been identified. False killer whales were recorded 39 times, with most encounters off the 4-Islands area and Hawaii, with many re-sightings of the same individuals. In 2005, there were 76 distinctive individuals. All total, there have been 124 individual false killer whale identified through November 16, 2006. Movement of false killer whales has been documented frequently between Hawaii and Oahu and between Hawaii and the 4-island area, but infrequently between Oahu and the 4-island area. A group of 17 animals that appeared further offshore of Hawaii in 2006 had not been previously seen before, suggesting this group may be part of an offshore population that does not mix with nearshore animals. An effort to apply satellite and/or VHF tags to false killer whales will be made.

Hawaiian SARs

Monk seals. Jason Baker reviewed the Hawaiian monk seal SAR, which reflects a decline in abundance. The population high mortality at Laysan in 2005/2006, with extremely high mortality for 1-3 year olds (less than 20% survival). Food limitation seems to be the main cause of death. The number of hookings is also up compared with previous years. Genetic results will be included in the next SAR and a photo-ID database is being created. This research will address the possibility that the main Hawaiian Islands animals represent a separate stock. .

False killer whales - 'Stocklet' case study. Karin Forney reviewed the false killer whale SAR, which combines two regional stocks into one SAR. Results from additional genetic samples, suggesting that there are two stocks of false killer whales in the Hawaiian EEZ (a nearshore and an offshore), were included in the new SAR. New abundance information includes the mark-recapture estimates for the nearshore population and an update of the PICEAS/HICEAS

estimates that Jay Barlow presented. The Hawaiian EEZ $N_{\min} = 249$, the Palmyra EEZ $N_{\min} = 806$, and the international waters $N_{\min} = 539$. Although estimates have increased, PBR is still being exceeded for the Hawaiian EEZ stock, (and for the international waters as well), while the PBR for the Palmyra EEZ is not exceeded. The SRG discussed the problem of transboundary problem of animal movement between EEZ and international waters when little or nothing is known about human-caused mortality in international waters. This issue was proposed for discussion at a future joint SRG meeting.

Topics for Next Meeting

The next meeting should be a joint SRG meeting to discuss transboundary and international issues, serious injury determinations, and stock structure issues.

Review of Previous Research and Management Recommendations

The SRG recognizes that the Pacific Islands Fisheries Science Center (PIFSC) Protected Species program has focused largely on monk seals and sea turtles. The SRG recommends that additional focus be placed on developing a full cetacean research program to address pressing questions of abundance, stock structure, and fishery interactions of cetaceans in the Pacific Islands region.

A large amount of work has been completed with a small number of people by effectively collaborating with other agencies.

With the increased concern about marine mammal populations in U.S. jurisdictions throughout the Central Pacific, it is important to continue expanding the stranding program to other islands such as American Samoa and Guam. This will help define stock structure and monitor for potential interactions with fisheries, naval sonar operations in the area, and other anthropogenic activities.

No progress. Prescott grant proposals will be submitted to initiate stranding programs for Guam and the Marianas Islands.

The SRG recommends that studies on the loss of monk seal habitat due to beach erosion in the Northwest Hawaiian Islands be continued with additional experts in geomorphology and coastal processes and improved and expanded mapping of terrestrial habitat to understand the processes related to rising sea levels and to allow development of potential mitigation measures

This work is continuing. Research has been published, and a proposal to expand the research will be submitted.

The Southern Resident stock of killer whales has been listed under the ESA. Despite the long-term studies on this population, significant gaps in our information hinder our ability to fully identify critical habitat, determine population discreteness, and assess the potential for Allee effects and inbreeding. The SRG recommends that the following studies be conducted to fill these gaps in our knowledge.

- 1) Satellite tagging of Southern Resident killer whales, in addition to acoustic and visual surveys, to determine their habitat and movements during the seasons when they are not in Puget Sound.
- 2) Biopsy sampling of all individuals to determine population discreteness, genetic relationships, and genetic diversity within these pods.
- 3) Obtaining tissue samples for contaminant studies.

The SRG realizes the sensitivity of conducting this type of research in this area, but the research needs are critical and the ESA listing makes the filling of these needs urgent. These methods have proven to be the most effective for providing the required information and the SRG stresses that these studies should be conducted soon. The opportunity to sample older members of the population is limited, and delaying biopsy studies may result in irretrievable loss of data.

Tag development research is being conducted to begin satellite tracking, and biopsy sampling has begun for genetics and contaminants studies.

The SRG continues to recommend that observers be placed aboard vessels in the southern California setnet fishery to monitor marine mammal mortality.

Observers are being placed for this fishery.

The SRG continues to recommend that the USFWS finalize its Stock Assessment Report on Washington and southern sea otters so that the USFWS can meet its statutory responsibilities under the MMPA. At the least, already-public information could be posted on an agency website in a format similar to the Stock Assessment Report.

Recent SARs were prepared for the SRG meeting, and progress is being made in publishing the SARs.

RESEARCH AND MANAGEMENT RECOMMENDATIONS

Pacific Scientific Review Group – November, 2006

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With the increased concern about marine mammal populations in U.S. jurisdictions throughout the Central Pacific, it is important to continue expanding the stranding program to other islands such as American Samoa and Guam. This will help define stock structure and monitor for potential interactions with fisheries, naval sonar operations in the area, and other anthropogenic activities.

The recent entanglement of a Hawaiian monk seal in a “recreational” set net illustrates the increased potential for fishery mortality in the main Hawaiian Islands. The State of Hawaii is proposing to regulate this fishery and the SRG recommends that the NMFS work with the State to better manage the fishery to minimize the entanglement of Hawaiian monk seals and other marine mammals.

It has been a number of years since the last pup survey of Hawaiian monk seals in the main Hawaiian Islands. The SRG recommends a new survey be conducted, particularly on the island of Niihau, to update abundance estimates.

The SRG is concerned about the lack of meetings of the California driftnet TRT, and recommends that it meet soon to review the fishery.

The SRG recommends that the NMFS initiate a status review of large whales. Increasing trends in humpback and blue whale abundances indicate that these species are recovering sufficiently well that downlisting under the ESA may be warranted.

The SRG continues to recommend that the USFWS publish its Stock Assessment Report on Washington and southern sea otters so that the USFWS can meet its statutory responsibilities under the MMPA.

The SRG recommends continued studies of harbor porpoise movements and genetics to better understand the stock structure and identify stock boundaries.

The SRG supports continued studies of movements and genetics of false killer whales and other cetaceans around Hawaii and in the Central Pacific to better understand stock structure.

Appendix 1

Attendees at the 17th Meeting of the Pacific Scientific Review Group

Scientific Review Group - Pacific Region:

Hannah Bernard	Hawai'i Wildlife Fund
Robin Brown	Oregon Department of Fish and Wildlife
Mark Fraker	Terramar Environmental Research
Doyle Hanan	Hanan & Associates, Inc.
Chuck Janisse	Federated Independent Seafood Harvesters
Steve Jeffries	Washington Department of Fish and Wildlife
Katherine Ralls	Smithsonian Institution
Michael Scott	Inter-American Tropical Tuna Commission
Terry Wright	Northwest Indian Fisheries Commission
John Heyning	Natural History Museum – Los Angeles County (<i>Not attending</i>)

Invited Participants and Observers:

NMFS Southwest Fisheries Science Center

Jay Barlow
Jim Carretta
Karin Forney
Karen Martien

NMFS Southwest Region

Melissa Andersen
Monica DeAngelis
Tina Fahy

NMFS Pacific Islands Fisheries Science Center

Bud Antonelis
Jason Baker
David Johnston

NMFS Pacific Islands Region

Adam Bailey
Erin Moreland
Lisa Van Atta
Chris Yates
Michelle Yuen

NMFS Northwest Fisheries Science Center

Brad Hanson
Michael Ford

NMFS National Marine Mammal Laboratory

Peter Boveng
Garth Griffin
Harriet Huber
Jeff Laake
Marcia Muto

NMFS Office of Protected Resources

Tom Eagle

USFWS

Deanna Lynch
Lilian Carswell

Marine Mammal Commission

Lloyd Lowry

Cascadia Research

Robin Baird
John Calambokidis

Moss Landing Marine Laboratories

Jim Harvey

Invited Expert Fisherman

David Haworth

Hawaii Longline Association

Svein Fougner

Appendix 2

Pacific SRG Meeting November 16-17, 2006 Document List - Nov 8, 2006

- PSRG-2006-01 CA/OR/WA SARs
- PSRG-2006-02 OR/WA Coast Harbor Seal SAR
- PSRG-2006-03 Southern Resident Killer Whale SAR
- PSRG-2006-04 HI Monk Seal SAR
- PSRG-2006-05 Sea Otter SARs
- PSRG-2006-06 Pacific Islands Complex - False Killer Whale SAR
- PSRG-2006-07 Marine mammal bycatch and estimated mortality in California commercial fisheries during 2005.
- PSRG-2006-08 Exempted Fishing Permits for Driftnet and EEZ Longline fisheries
- PSRG-2006-09 2006 Final List of Fisheries
- PSRG-2006-10 False killer whale abundance and density: Preliminary estimates for the PICEAS study area south of Hawaii and new estimates for the US EEZ around Hawaii
- PSRG-2006-11 Preliminary Estimates of Cetacean Abundance along the U.S. West Coast and within four National Marine Sanctuaries during 2005
- PSRG-2006-12 CA/OR/WA Large Whale Research Update
- PSRG-2006-13 Determining a correction factor for aerial surveys of harbor seals in California
- PSRG-2006-14 Correction factors for aerial counts of molting Pacific harbor seals (*Phoca vitulina richardsi*) in California
- PSRG-2006-15 Additional genetic evidence for population structure of *Phocoena phocoena* off CA/OR/WA
- PSRG-2006-16 A proposal for revising stock boundaries for harbor porpoise inhabiting coastal waters off OR/WA
- PSRG-2006-17 Population structure of bottlenose dolphins around the main Hawaiian Islands.
- PSRG-2006-18 Summary of 2005 Cetacean Injury and Mortality in the Hawaii-based Longline Fishery
- PSRG-2006-19 ~~Guam/NMI USN updates~~ (not presented)
- PSRG-2006-20 NMFS Pacific Islands Regional Office Management Summaries
- PSRG-2006-21 HLA Comments on Draft 2006 Hawaii False Killer Whale SAR

Informational Papers

- PSRG-2006-B1 Taylor et al. 2006. Lessons from monitoring trends in abundance of marine mammals
- PSRG-2006-B2 Baker 2006. Evaluation of closed capture-recapture methods to estimate abundance of Hawaiian monk seals
- PSRG-2006-B3 Baird et al. 2005 A survey for odontocete cetaceans off Kaua'i and Ni'ihau, Hawai'i, during October and November 2005: evidence for population structure and site fidelity
- PSRG-2006-B4 Baird et al. 2006 Studies of beaked whale diving behavior and odontocete stock structure in Hawai'i in March/April 2006
- PSRG-2006-B5 Chivers et al. 2002. Small-scale population structure of eastern North Pacific harbour porpoises (*Phocoena phocoena*) indicated by molecular genetic analyses
- PSRG-2006-B6 Chivers et al (Submitted) Genetic variation and evidence for population structure in eastern North Pacific false killer whales (*Pseudorca crassidens*)

Appendix 3

Agenda for Pacific Scientific Review Group Meeting 16 - 17 November 2006 Watertown Hotel, Seattle, WA

Introduction

General Topics

MMPA updates (Eagle/Fahy/Yates)
List of Fisheries (Andersen)
Serious Injury Workshop Update (Andersen)

CA/OR/WA Fishery and Management Updates

Observer programs: gillnet, longline, purse seine (DeAngelis/Fahy)
2005 marine mammal mortality estimates (Carretta)
Driftnet Exempted Fishing Permit Program (Fahy)
Video monitoring contract (Fahy)
TRT updates (DeAngelis)
Draft recovery plans for sperm whales and fin whales (DeAngelis)
Expanding pinniped populations & deterrence issues (Griffin)
Dec 2005 Pinniped Deterrence Workshop summary (DeAngelis)

CA/OR/WA Research

Southern resident killer whale updates and SAR (Hanson/Griffin)
Blue/humpback whale research 2005 (Barlow/Calambokidis)
Preliminary CSCAPE abundance estimates (Forney)
Harbor seal correction factors (Hanan, Harvey)
OR/WA harbor porpoise (Griffin, Martien)

Sea Otters

Southern sea otter updates, and SAR (Carswell)
Washington sea otter updates and SAR (Lynch)

CA/OR/WA SAR reviews

CA Pinnipeds (Barlow)
Humpback & blue whales (Barlow)
All Other Cetaceans (Carretta)
OR/WA Coast harbor seals (Muto)

Protected Species Management Issues

MHI monk seal management update (Yates/Yuen)
Spinner dolphin-human interaction update (Van Atta)
Hawaii SuperFerry & ship strike update (Van Atta)
Navy Sonar update (RIMPAC, request for IHA, etc.) (Yates/Van Atta)

Hawaii Fishery Updates

Hawaii longline fishery management update (Bailey)
American Samoa Observer Program update (Bailey)
2005 HI longline mortality and serious injury estimates (Forney)
Other Hawaiian fisheries (Yates)

Pacific Islands Cetacean Research

Pacific Islands Cetacean Research updates (Johnston)
Preliminary PICEAS false killer whale analysis results (Barlow)
Updates on HI bottlenose dolphin stock structure (Martien)
Hawaii contract research updates (Baird)

Hawaiian SARs

Monk seal research updates and SAR (Baker)
False killer whales - 'Stocklet' case study (Forney/Johnston)

Discuss recommendations**Topics, timing, and location for next meeting****Adjourn**