UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

OCT 24 2012

Michael Scott, Ph.D.
Chair, Pacific Scientific Review Group
Inter-American Tropical Tuna Commission
c/o Scripps Institution of Oceanography
La Jolla, CA 92037

Dear Dr. Scott:

Thank you for your recommendations from the November 2011 meeting of the Pacific Scientific Review Group (SRG). The SRG made a number of valuable comments and recommendations to help guide science in NOAA's National Marine Fisheries Service (NMFS).

The SRG recommendation for NMFS to conduct harbor porpoise assessment surveys in Oregon and Washington is particularly important given that abundance estimates for these animals are greater than eight years old. This year, NMFS' Southwest Fisheries Science Center is planning to analyze data from 2010/2011 aerial surveys that were conducted for leatherback sea turtles to try to estimate harbor porpoise abundance in waters offshore of Washington and Oregon.

The SRG also recommends that new surveys be conducted for harbor seal stocks in Oregon and Washington. NMFS' Northwest Regional Office and the U.S. Navy have provided funds for a NMFS/Washington Department of Fish and Wildlife collaborative survey for harbor seals in the inland waters of Washington to be completed by February 2014. At this point, funding is not available to conduct harbor seal abundance surveys in Oregon.

NMFS agrees with the SRG's statement that there is a need to study the effect of Hawaii's near-shore fisheries on marine mammals, and we continue to work cooperatively with the State of Hawaii and other partners to assess and address marine mammal interactions in state-managed fisheries. NMFS currently works with the State of Hawaii through an Endangered Species Act (ESA) Section 6 cooperative agreement, and corresponding Species Recovery Grant funding, to document and mitigate near-shore fishery interactions with Hawaiian monk seals and sea turtles. The State is also developing a pilot reporting and monitoring system for interactions, and assessing current and future regulatory and non-regulatory alternatives for fishery take reduction and monitoring. Additionally, NMFS' Pacific Islands Regional Office and Fisheries Science Center coordinate with the State to provide education and outreach to Hawaii's fishermen about protected species, which helps improve relationships and build trust with Hawaii's sport and commercial fishing sectors. Should NMFS list Hawaiian insular false killer whales under the ESA, there is the potential to expand the scope of Hawaii's ESA Section 6 cooperative agreement to include these animals.

Your letter encourages NMFS to use emerging technologies to gather marine mammal acoustic data. The Pacific Islands and Southwest Fisheries Science Centers have recently conducted

research using acoustic gliders and buoy-mounted acoustic devices to detect marine mammals. In addition, the Science Centers are continuing to pursue funding opportunities to expand cetacean assessment capabilities to include passive acoustic data, such as detections from autonomous gliders, profiles, and stationary sensors.

Regarding the SRG recommendation that NMFS work with the U.S. Navy in Hawaii area, NMFS has recently received a request from Navy for an MMPA incidental take authorization that would cover Phase 2 of their activities in Hawaii and Southern California. They are currently operating in Hawaii under existing MMPA regulations (effective 2009), and the new proposed regulations, if issued, would be effective from January 2014 to January 2019. The MMPA requires that when issuing an authorization, NMFS work closely with the applicant to determine ways of reducing impacts to marine mammals, while considering the practicality of any mitigation we may require. We will explicitly consider the SRG recommendation as we work with Navy to identify appropriate mitigation measures for the new application we are currently processing.

NMFS appreciates the SRG's review of the agency's research planning and will provide the schedule of shipboard marine mammal surveys to you to further facilitate this review.

Sincerely,

Helen M. Golde
Acting Director
Office of Protected Resources

PACIFIC SCIENTIFIC REVIEW GROUP

A Regional Advisory Group to the National Marine Fisheries Service

Michael Scott
Inter-American Tropical Tuna Commission
c/o Scripps Inst. of Oceanography
La Jolla, CA 92037
PH: (858) 546-7045
FAX: (858) 546-7133
e-mail: mscott@iattc.org

Hannah Bernard
Hawai'i Wildlife Fund

Robin Brown
Oregon Dept. of Fish and Wildlife

John Calambokidis
Cascadia Research

Mark Fraker
TerraMar Environmental Research, Ltd.

Doyle Hanan
Hanan & Associates, Inc.

Jim Harvey
Moss Landing Marine Laboratories

Chuck Janisse
Fisheries expert

Steve Jeffries
Washington Dept. of Fish & Wildlife

Katherine Ralls
Smithsonian Institution

Terry Wright
Northwest Indian Fisheries Commission

August 3, 2012

Eric C. Schwaab
Assistant Administrator for Fisheries
National Marine Fisheries Service
1335 East-West Highway
Silver Spring, Maryland 20910

Dear Dr. Schwaab,

We would like to provide you with the minutes and recommendations from the most recent meeting of the Pacific Scientific Review Group held 7-9 November 2011.

The SRG understands the budgetary constraints that the NMFS is under, but we have strong concerns about the ability of NMFS to conduct surveys at timely intervals to manage marine mammal populations. The PBR management scheme requires regular estimates of abundance to function properly and many of our recommendations focus on the need for more-current surveys and abundance estimates. The SRG is particularly concerned about the lack of abundance estimates for harbor seals and harbor porpoises off Washington and Oregon and the recent cancellation of the ORCAWALE surveys which is the main source of abundance information for most West Coast cetacean stocks.

Once again, the SRG compliments your NMFS staff for their excellent presentations, outstanding research, and support of the SRG.

Sincerely,

Michael Scott

Michael Scott
Chairman, Pacific Scientific Review Group

cc: Shannon Bettridge

Minutes for the Pacific Scientific Review Group Meeting
Watertown Hotel, Seattle, Washington
November 7-9, 2011

The 22nd meeting of the Pacific Scientific Review Group (SRG) was held at the Watertown Hotel in Seattle, Washington from 7-9 November 2011. All SRG members were present. 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

List of Fisheries. Monica DeAngelis reviewed LOF changes, including a re-categorization of the driftnet fishery to Category II because a 2009 humpback take caused takes to exceed 1% of the stock's PBR. The highly migratory portion of this fishery was also changed to Category 2. Lisa Van Atta reported that the HI charter vessel and HI trolling, rod and reel fisheries were elevated to Category II based on a suite of qualitative information, including fishing techniques.

Serious Injury Policy. Karin Forney presented an update on the serious injury policy, which is expected to be finalized in early 2012. Key questions revolved around post-interaction disentanglement and how these count for the List of Fisheries, SARs, and Take Reduction Plans.

GAMMS III workshop summary. Jeff Moore presented an overview of the GAMMS III workshop report. Guideline changes were proposed for issues of outdated abundance, stock ID, assessing small endangered stocks, apportioning PBR across feeding aggregations, allocating mortality for mixed/transboundary stocks, alternative strategic designations, assessing stocks without abundance estimates, characterizing uncertainty, and potential inclusion of non-serious injuries in SAR.

The SRG discussed at length the proposal to begin discounting N_{min} every year, beginning the year after a survey is completed to account for increasing uncertainty about abundance. Jay Barlow explained that the current system is not meeting MMPA requirements and this is what motivated the GAMMS III workshop. The SRG generally believed this is a science-based way to meet the MMPA definition of N_{min} while taking into account uncertainty that results from aging abundance estimates. However, SRG members expressed concerns about making assumptions about a trend after 8 years based on a worst-case scenario and that without adequate funding and timely surveys, fisheries will be penalized by declining PBRs due to the inability of NMFS to conduct surveys. The SRG stressed that it is necessary to schedule a regular rotation of surveys to ensure that estimates are available in a timely manner. Lisa Ballance explained that NMFS is working on setting up a national rotation schedule for surveys.

As part of a discussion on improving stock identification, the SRG reviewed their previous recommendation to identify uncertainties and research priorities. Prioritization should include whether a human-interaction problem exists or not. The SRG believed that a workshop should develop guidelines for reviewing and defining stocks, considering a range of population structure from subspecies to matrilines. The SRG expressed concern that stocks that are defined too

broadly can pose conservation risks, but, conversely, stocks that are defined too finely can be difficult to manage. The need to deal with small-sample size bias was also recognized. The SRG again expressed concern about SARs becoming too lengthy.

For areas where multiple stocks co-occur, mortality and serious injury should be allocated in proportion to stock mixture if this can be estimated. Similarly, in transboundary situations, if mortality estimates are available, abundance and PBR can be calculated to include those other areas.

The GAMMS workshop participants proposed more consistency in reporting mortality and injury in fisheries and other unknown or underestimated sources. These proposals include a section summarizing potentially important mortality sources not quantified, and qualifying statements for information that underestimates true mortality. SRG members believed that brief caveats about uncertainty are useful, but that detailed and repetitive boiler-plate language is not.

The SRG's recommendations regarding the GAMMS III proposed guidelines follow the Research and Management Recommendations section.

Eastern Pacific Gray Whales

This is the first Pacific SRG meeting to review the gray whale SAR since the SWFSC took over preparing this SAR. Participating via conference call were Dave Weller, Donna Darm, Steve Stone, Barbara Taylor, and Robyn Angliss.

Alaska Scientific Review Group background. Lloyd Lowry summarized the history of the Alaska SRG's reviews of the gray whale SAR. Coastal state-managed fisheries are poorly understood and observer programs are expensive and difficult to implement. Issues of concern are incidental fishery takes and potential habitat alteration within areas of oil and gas development and exploration. The Alaska SRG has not discussed the status of the Pacific Coast Feeding Group yet.

Evidence for structure in the southern feeding range. John Calambokidis provided background on eastern gray whale stock structure. There are indications of a distinct feeding population of eastern Pacific feeding gray whales – currently called the Pacific Coast Feeding Group (PCFG). The PCFG does not have specific geographic boundaries but the core area used in summer and fall extends from northern California through British Columbia. PCFG whales have been identified in summer months with lower sighting rates outside this region from central California into Alaskan waters. Collaborative photo identification conducted from 1998-2010 from Kodiak, AK to northern CA indicates that resighting rates after 1 June can be used to distinguish the animals in the PCFG. Although some non-PCFG animals can be seen in this area in the summer months, these individuals tend to transit through the area or are short-term stragglers staying shorter periods than PCFG animals. While PCFG whales can move over a large region, most are concentrated in smaller areas. Results from 17 gray whale telemetry deployments in Fall 2009 by Oregon State University showed that most whales whose tags continued to transmit moved to Baja, and the few tracked into the next season returned to the tagging area although in one case as far north as Icy Bay, AK. Mark-recapture estimates from the photo-IDs for northern California to Southeast AK were about 200-250 animals.

Aimee Lang summarized background information on genetic studies for animals sampled Jun-Nov from northern California to southeast Alaska. Previous research suggested that the PCFG was part of the eastern North Pacific stock. In 2010, the IWC reviewed gray whales and examined new information on photo-ID, genetics, and telemetry. Frasier et al. (2011) found high levels of genetic diversity within the PCFG, and significant mtDNA differentiation between the PCFG and other eastern Pacific animals. The IWC suggested that it is plausible that the PCFG is a separate management unit. Lang *et al*. (PSRG-2011-13) compared samples from animals in different feeding areas in the eastern North Pacific to test three hypotheses including 1) no population structure (no difference in mtDNA or microsatellites), 2) utilization of feeding areas is influenced by internal recruitment (calves follow mothers) with random mating, or 3) utilization of feeding areas is influenced by internal recruitment and mating is not random with respect to feeding ground affiliation. The PCFG was compared to Chukotka-harvested animals (n=71 in each). Results showed 1) high haplotypic diversity, without clear phylogeographic pattern, 2) high diversity of nuclear markers, 3) small but significant differences in mtDNA but not nuclear markers. Use of the PCFG seasonal range appears influenced by internal recruitment with calves following mothers to feeding areas, but results suggest that animals from different feeding areas may interbreed. This is similar to humpback whales in the North Atlantic. Potential explanations for high haplotypic diversity despite low abundance could be a recent colonization and/or some recruitment into the PCFG.

Summary of PCFG Stock Status Memo from Makah Indian Tribe. Jonathan Scordino summarized a memo provided by the Makah Tribe and pointed out that the PCFG would not qualify as a population stock under the MMPA definition of a "group of animals of same species or smaller taxa that interbreed when mature." Although gray whales may learn from their mothers, they have plasticity in feeding areas used, as shown by Moore and Grebmeier (2002) for Alaska feeding areas. The migratory pathways also provide opportunity to feed in different areas. There are records of animals that appear to have been recruited into the PCFG, especially after the die-off in 1999. About half of new recruits currently may be coming in from outside. There are also sighting gaps for some individuals in some years and it is not known where they were feeding when not photographed in the region. Looking at mtDNA genetics, F_{st} values are small compared to other populations, despite statistical significance. Kathy Ralls cautioned that it is not appropriate to compare F_{st} values among species, populations, or studies, because they are not measuring the same thing. Wright's F_{st} depends on diversity: the more diversity there is, the lower the maximum F_{st} can be.

The SRG discussed the analogous situation with humpbacks. Jay Barlow explained that in the Atlantic there is a Gulf-of-Maine feeding stock. In Alaska, there is a prospective stock for a Southeast AK feeding area because of the localized fishery mortality in that feeding area. John Calambokidis contrasted a number of things between humpback and gray whales. Among regions, there is little haplotypic overlap for North Pacific humpbacks, weaning is similar to gray whales, humpbacks are also subject to ESA language. Jim Harvey inquired about possible upward bias in the measure of relatedness because of rapid weaning if calves are sampled with their mothers and if some calves are never seen with their mother and could falsely be considered outside recruits. Scordino inquired about the potential to use Amanda Bradford's barnacle scarring method to assess whether 'new' animals are calves. Lang plans to look at mother-offspring relationships, but needs more samples and more microsatellite markers.

Calambokidis cautioned that individual gray whales are particularly difficult to identify when there is a multiyear gap in the photo record because their appearance can change markedly. From year to year changes can be monitored, but longer gaps can be problematic. Terry Wright noted the difficulty in managing feeding stocks when the animals are moving long distances to find food.

The SRG also discussed new evidence from the putative western Pacific gray whale stock. Information from satellite tagging, photo-id, and genetics studies suggest that some whales which feed off Sakhalin Island, Russia migrate to the eastern Pacific to breed. Bruce Mate and colleagues have tracked a few satellite-tagged animals across the Pacific to the same southward migration paths used by eastern Pacific and PCFG animals. Some of these western animals have also been observed within the PCFG area during migration, complicating management.

Gray Whale SAR. Aimee Lang presented the proposed changes to the 2012 Eastern North Pacific gray whale SAR. The revisions included substantial edits, reorganization, and new information on the PCFG. SRG members discussed at length the level of support for making the PCFG a prospective stock, a stock, or neither. The SRG suggested several changes to the draft SAR. The SAR should be shortened considerably, particularly the Introduction. The Population Size section is out of date. The SAR used the 0.04 default for R_{max} rather than the 0.062 estimate that should be used according to the PBR guidelines. The abundance estimates should be updated with the 2009-2010 data, if possible. More detail about the sources of mortality in the tables was also requested.

The SRG suggested that the last two sentences of the Introduction that read

"Recent research by Lang et al. (2011b) supports the conclusion of the IWC. Therefore, the PCFG is identified as and included in this Report as a 'prospective stock', as prescribed by the NMFS guidelines for assessing marine mammal stocks (NMFS 2005)."

be replaced with

"Lang *et al*. support the conclusion of genetic differentiation of the PCFG and other feeding areas. Because the PCFG appears to be a distinct feeding aggregation and may warrant being considered as a distinct stock in the future, separate PBRs are calculated for the PCFG within this report."

It was suggested that the Pacific SRG participate in the March 2012 review of gray whales sponsored by the IWC.

The AK SRG will also be reviewing this SAR. The Pacific SRG wants to review the revised SAR when it is completed.

CA/OR/WA Management

SWR Management. Monica DeAngelis summarized recent management and monitoring activities. The SWR is becoming more involved with Southern Resident killer whales, given their range into California. A humpback whale, sperm whale, and leatherback turtle were

reported taken in CA/OR driftnet fishery, triggering a reexamination of observed *vs*. unobserved vessels. The Pacific Fishery Management Council has requested a review and potential changes to the current gillnet closure. The ESA take authorization for humpback, sperm whale, fin whale lapsed in 2010, and the SWR is now working on updating the permit to cover these species. Recent efforts to implement leatherback critical habitat may also affect marine mammal issues, and the region is also working on loggerhead and black abalone critical habitat. Efforts to reduce human-pinniped conflicts included research on halibut trawl gear to deter harbor seals. The SWR is now working on a new small-mesh design and testing underwater speakers.

In June 2011 a gray whale cow/calf pair entered the Klamath River; the female was a PCFG animal that previously was seen off Kodiak and Vancouver. The female's behavior was abnormal (turning in circles) and a decision was made to intervene because of the calf's deteriorating health. The calf left the river, but the female eventually died; a necropsy revealed no serious health issues other than an empty stomach and a necrotic leading edge of her pectoral fin.

The SWR has been working on a gear guide to aid in management of entanglements. They also modeled risk of co-occurrence of whale species with various fisheries. DeAngelis also presented a gray whale GIS mapping project for CA/OR/WA, in which migration routes are digitized and swim speeds are modeled to estimate movement rates and distribution relative to fishing gear along the coast.

Large whale ship strikes. Monica DeAngelis noted that a SWR workshop on large whale ship strikes was held in May 2010, and a report is available. Because shipping lane changes are being considered, Jessica Redfern, SWFSC, developed a model of whale distribution and shipping traffic. Models showed that fin whales and humpbacks have different 'hotspot' patterns and different risks while blue whale patterns are more complex. John Calambokidis also noted that the new area where lanes come together off Palos Verdes has been heavily used by blue whales this past year. In this area ships have slowed to <10 kts and he has used this opportunity to study impacts on whales in slower traffic areas. This should help inform the petition to require slower speed in areas with whales. There is a ship-strike working group involving NMFS, the Sanctuaries, Coast Guard, and private groups. They have had three meetings designed to provide input for central California.

CA/OR/WA Research and SARs

CA/OR driftnet and CA setnet fisheries bycatches. Jim Carretta presented the 2010 bycatch estimates for two gillnet fisheries. Effort continues to decline in the CA/OR drift gillnet fishery. Two sperm whales were caught (one killed and one seriously injured, resulting in a 5-yr average of 3.4/yr). The PBR is 1.5 so there is now a question of reconvening the TRT. The setnet fishery for halibut and seabass had 12% observer coverage, and bycatch estimates were all well below PBR.

Cetacean Behavioral Response Study. Jay Barlow described the Biological Response Study, a study prompted by the co-occurrence of beaked whale strandings and loud sound sources. The 2011 study included targeted tagging/behavioral studies when sound was present or absent. John Calambokidis summarized the results: combined with last year, there have now been 46

playbacks on five species, which is above the project's 5-yr target. Analysis of the 2010 data is proceeding and will be presented at the November 2011 Marine Mammal Conference.

Southern sea otters and SAR. Lilian Carswell (via conference call) provided an update of southern sea otter research and management. The FWS is developing a new assessment method that uses correction factors for covariates such as weather (previous methods are no longer sustainable due to expanding otter ranges and declining budgets). A comparison of otter mortality in Big Sur *vs*. Monterey found different causes of mortality but similar survival rates. A draft SEIS is currently in the public comment period and a final rule should be issued during 2012. The SAR includes past SRG recommendations to use the lower of a current count or 3-yr average as N_{min}.

WA sea otters. Deanna Lynch (via conference call) provided an update on WA sea otters, but there is no new SAR at this time. Strandings were at a high (29) this year with mortality associated with protozoal diseases.

Southern resident killer whales and SAR. Brad Hanson presented an update and gave an overview of biopsy and satellite tag studies. There is concern that there are relatively few subadult females in the population which could lead to a demographic bottleneck. The biopsy data have shown that the largest males (J1, L41) have sired 50-60% of the recent calves. Inbreeding may be occurring within J Pod, but apparently not within matrilines. Satellite dart tags deployed on transient killer whales have resulted in 25 tracks; a permit modification to allow tagging of southern resident killer whales was expected soon [granted in December 2011]. The SRG had no comments on the SAR, but commended the progress made in conducting biopsy and tracking studies.

WA Harbor seals. Harriett Huber presented results of a study on harbor seal genetics based on sampling of unweaned pups from nine areas along the Washington coast. Results indicate structure among the regions. Marcia Muto presented information on mortality and serious injury (from strandings or reports; no observer program) for each genetically distinct population. The SRG discussed the need for updated abundance surveys, but funding has been limited and may continue to be so in the future. The SRG suggested using trend sites or alternate approaches for population monitoring. Long-term studies are being conducted in some areas but these are optimized for life history studies. It is not clear whether reproductive parameters for these sites could be used as an alternate measure of trends, although stranding data could also be informative. There is potential to rotate and do single stock assessments every few years.

Inland waterways harbor porpoise. John Calambokidis presented evidence showing that harbor porpoises have returned to areas of Puget Sound where they had been absent for many decades (for unknown reasons, possibly including fisheries, vessel traffic, pollutants). This area has not generally been part of aerial surveys, but public reports have increased and WA Dept. of Fish & Wildlife aerial bird surveys also showed an increase in animals. Systematic small-boat surveys conducted by NWFSC in the main Puget Sound basin during 2009-2010 indicate about 380-1530 are present, but analyses are still ongoing. Jeff Laake's previous estimate based on San Juan densities indicated that there 'should be' about 700 animals. The NWFSC also has deployed porpoise click detectors in the northern Puget Sound to assess seasonality. Potential causes of

the increase could include recovery of some prey species, decreased bycatch, lower contaminant levels, population expansion from other regions, or unfavorable conditions in other areas. Vessel traffic probably was not responsible for the previous decline, because traffic is still increasing. There is some evidence of a population increase and influx from the eastern Strait of Juan de Fuca area. The unusual mortality event in 2006-07 has been followed by continued high levels of strandings, and there are some fishery interactions in Puget Sound. There were also unusual strandings of 2 bottlenose dolphins (both died), 2 Bryde's whales (both died, one was a ship-strike) and 2 long-beaked common dolphins (both alive) in Puget Sound during 2010-2011. Interestingly, harbor porpoises have also started showing up again inside San Francisco Bay, CA, within the last few years. NMFS is considering new porpoise surveys in the Inland waterways.

West coast harbor porpoise surveys. Karin Forney presented a update on aerial surveys for harbor porpoise on the outer coast. The standard California to Southern Oregon surveys are ongoing this year, and leatherback aerial surveys completed by Scott Benson during 2010 and 2011 provide additional data for estimation of OR/WA outer coast abundances. An analysis of these aerial survey data, in collaboration with Jeff Laake, is planned for the coming year. Jay Barlow reported that the west coast survey of all offshore cetaceans (planned for summer and fall of 2012) is likely to be cancelled due to lack of funds and ship time. This survey was last conducted in 2008 and has been conducted at 4-year intervals since 2001. [The survey was in fact cancelled after the SRG meeting. The earliest possible survey would now be in summer/fall of 2013].

Common dolphin and sperm whale SARs. The SRG reviewed the long-beaked common dolphin and sperm whale SARs. The new common dolphin SAR includes updated estimates of abundance from a 2009 survey. There has been a marked increase in long-beaked common dolphin abundance, likely related to an influx from waters to the south. The sperm whale SAR reflects the updated bycatch estimate with the 2 sperm whales taken in a single net in the driftnet fishery. The proposed GAMMS III guidelines would suggest that a longer period of averaging mortality might be warranted. A skipper workshop was held instead of a TRT meeting as it is not clear what the Take Reduction Team would be able to do, as the recent takes are consistent with a low probability event and not necessarily indicative of any fundamental change in the fishery or bycatch rates.

Pacific Islands Region Management

PIRO Observer Program. Jamie Marchetti presented an update of HI and American Samoa longline observer program data covering Nov 2010-Oct 2011. Observer coverage for Hawaii-based fisheries remains at 100% for shallow-set and 20% for deep-set fisheries. Coverage in American Samoa has increased to 37%. There were 4 false killer whales reported taken in the deep-set fishery, 1 in the shallow-set fishery, and 3 in the American Samoa fishery. Key changes in fishing effort include an earlier closure of areas west of 150ºW longitude because the bigeye tuna quota was met, and a greater number of trips arriving in or departing from California.

Insular false killer whale ESA listing. Lisa Van Atta provided an update on the false killer whale listing petition. The proposed listing was published in November 2010 and the agency is reviewing public comments received before issuing a final rule (expected by Nov 17, 2011).

False killer whale Take Reduction Plan. Lisa Van Atta explained that, after the Draft Take Reduction Plan was submitted to NMFS by the TRT, the team reconvened in July 2011 to discuss the proposed rule, followed by an October teleconference call. The public comment period closed on 17 Oct 2011. NMFS is currently considering public comments, and may revise management measures before drafting a final rule and entering the clearance and publication process. The final rule is due 17 Dec 2011. The proposed rule includes eight regulatory measures: revised hook requirements and minimum branchline and leader diameters for the deep-sea fishery proposed by the TRT, year-round implementation of the larger Main Hawaiian Islands longline exclusion instead of a seasonal contraction, additional training requirements for marine mammal interaction mitigation, and a southern exclusion zone in which deep-set longline fishing would be prohibited if a certain number of false killer whale deaths or serious injuries are observed. Proposed non-regulatory measures included a change in observer coverage to increase precision (instead of the observer coverage increase recommended by the TRT), and several procedural changes including serious injury determinations and observer training. Several of the TRT's research recommendations were also proposed by NMFS, funding permitting.

Hawaiian monk seals. Lisa Van Atta distributed a monk seal update report and summarized monk seal regional trends, which are decreasing in the northwestern Hawaiian Islands (NWHI) and show slight growth in the Main Hawaiian Islands (MHI). The MHI increase is due to higher survival. New research and enhancement activities are proposed, and an EIS is under development. Plans are to continue to monitoring populations, while new steps include seal behavior modification activities to decrease human-seal and fishery interactions, and to chemically alter aggressive male behavior. Also health and disease research would be expanded to study and potentially implement vaccination, antibiotics, de-worming, and supplemental diet using feeding stations.

The most controversial measure involves translocations of problem seals from the MHI to the NWHI, and bringing some post-weaning animals <3yrs old to MHI for a few years to allow better juvenile survival (up to 20 seals/year). Supplemental feeding will be done by hand, while a 5-10 year program to reduce male aggression is planned. Mark Fraker noted there was a reproductive inhibitor Gonacon that might be worth considering. A petition to designate critical habitat resulted in a June 2011 proposed rule; and the public comment period was re-opened in Nov 2011 for 60 more days. A final rule expected in June 2012.

Hawaiian spinner dolphins. Lisa Van Atta described recent actions to study and reduce human disturbance of spinner dolphins. A research project has begun by Duke University at four resting habitats on the Big Island. NMFS is proceeding with a DEIS and proposed rule to address disturbance impacts, and plans to monitor effectiveness of the current plan. A full-time staff person is now available to complete this and implement the Dolphin SMART program, a voluntary education and recognition program for tour operators aimed at reducing activities that cause harassment, and to aid in dolphin conservation. The cooperating operators get recognition, and there are undercover spot checks. Staff and initial training were on Oahu, but they plan to expand the program to other islands soon.

Hawaii State/DLNR. Elia Herman provided an overview of marine mammal activities by the Hawaii Department of Land and Natural Resources (DLNR). There are changing circumstances within the State, including new staff, new issues, and a renewed awareness that the SRG exists. Governor Abercrombie is promoting natural resource management, and William Aila is the new chair of DLNR (a native Hawaiian, lifelong fisherman, community organizer, and harbormaster). Past vacancies are now being filled, including two positions with the sanctuary (Herman as state co-manager of humpback whale sanctuary and Sarah Courbis as the operations coordinator).

There is interest in expanding the sanctuary program beyond humpbacks to ecosystem-based management. Through the ESA, states can get Section 6 grants to work on listed species, and the intent is to expand the staff from 3 to 5 as activities increase on Maui and the Big Island. The State is seeking to improve collaborations and partnerships with NOAA and other partners, and they are eager to re-engage on protected species issues. The governor seeks to restore the capabilities of DLNR, including a watershed initiative to improve coastal water quality and coral reef health. Recently created fisheries enforcement units, a partnership with Conservation International, Castle Foundation, and DLNR, will pilot a program to increase the presence of the enforcement staff on the water. The State has also applied for [and was granted in 2012] funding to make a public service announcement about responsible marine wildlife viewing practices and promote programs such as Dolphin SMART.

The participants discussed how the state and SRG can best support each other. The DLNR would be interested in having a briefing on the SRG by NMFS or SRG staff to raise awareness and keep the State engaged. Chuck Janisse inquired about the coastal zone management plan and whether this was within the same program. Herman explained that the Ocean Resources Management Plan is overseen by a separate department but they coordinate closely. The SRG was interested in keeping abreast on information about the fishery enforcement unit (starting on Maui), whether locations have been settled on, and whether the enforcement units will have any role in obtaining information on unobserved nearshore fisheries.

Pacific Islands Region research

Hawaiian monk seal SAR. Jason Baker summarized the Hawaiian monk seal SAR. The SRG did not recommend any changes.

Cetacean serious injury determinations in Pacific longline fisheries. Karin Forney summarized serious injury determinations for cetaceans caught in Hawaii-based deep-set and shallow set fisheries between November 2010 and October 2011, and in the American Samoa longline fishery since the observer program began in 2008. In the deep-set fishery, there were 5 serious injuries (including 2 false killer whales and 1 'blackfish'), 1 non-serious injury (false killer whale), and 3 injuries with insufficient information for a determination. In the shallow-set fishery, there were 8 serious injuries (including 4 Risso's dolphins and 1 'blackfish'), 4 non-serious injuries (including 1 false killer whale), and 1 dead striped dolphin. Interactions in the American Samoa fishery since 2008 have involved 5 false killer whales (4 seriously injured, and 1 killed), 6 rough-toothed dolphins (3 seriously and 3 non-seriously injured), and 1 injured 'blackfish' with insufficient information for a serious-injury determination. The new serious injury policy is expected to be implemented next year, and a preliminary evaluation indicates the

determinations would not change except for large whale injuries scored as "cannot be determined," which will now be prorated.

Marine mammal interactions in Hawaii-based longline fisheries. Based on Marti McCracken's analysis of marine mammal interactions in the Hawaii-based longline fisheries, Karin Forney presented a summary of the most recent results, including 5-year average estimates. The analysis included prorating of false killer whales taken within the pelagic/insular overlap zone to these two stocks, and prorating of 'blackfish' as either short-finned pilot whales or false killer whales, following the recommendations made at the 2010 Pacific SRG meeting. The estimated 5-yr average mortality and serious injury of false killer whales was 13.8 (13.6 in deep-set fishery and 0.2 in shallow-set fishery) for the pelagic stock and 0.5 (deep-set fishery) for the insular stock.

Kathy Ralls inquired whether methods had converged on a methodology we were comfortable with. Karin Forney replied that there still were some variance issues to be resolved, and that after implementation of the TRT we will have fewer years to estimate prorating parameters so the methods might require some adaptation.

False killer whale critical habitat. Brad Hanson presented an assessment of critical habitat using telemetry (2007-2010), and photo ID data (2000-2010). Telemetry data were derived from 27 tags with various duty cycles and TDR configurations, with multiple animals tagged within several groups. Four animals that were spatiotemporally linked to other tagged animals were excluded when estimating density to reduce pseudo-replication problems. Density estimates were based on 5x5km cells, with several measures calculated: # records per cell, total time in cell, total visit duration in cell (excluding initial period after tagging), and # unique tags. John Calambokidis commented that it was impressive that the high-density areas were not just mirroring tagging locations. High-density areas tended to be in shallow waters, closer to shore, and with higher chlorophyll concentrations, including extensive use of the windward sides. Individuals tagged repeatedly did different things in each deployment. One limitation of the present study is the relatively short tagging durations. There is also a gap in April-June without tag data. Photo ID data were used to identify the numbers of clusters and members within each cluster based on association patterns. One cluster has been seen disproportionately off the Big Island but has not had any animals tagged. The other two clusters have different spatial patterns of high density. Feeding has been documented off all islands.

False killer whale genetics. Karen Martien summarized two documents on false killer whale genetics in Hawaii incorporating the new HICEAS 2010 samples. Martien suggested that designation of a separate NWHI stock may be warranted. A new haplotype in one individual NWHI animal was identified, while all others sampled in the NWHI had the most common haplotype for the MHI. The two groups are significantly differentiated for both mtDNA and nuclear DNA (based on 16 microsatellites) as the second-most common MHI haplotype was not observed in NWHI. Assignment tests strongly assign animals to their correct populations. Looking more broadly at false killer whales in comparison with ETP data, the NHWI whales are more closely related in mtDNA to MHI whales than either group is to the other areas. For nuclear DNA, NWHI whales are as different from MHI as they are from other populations. Clustering analysis for nuclear DNA shows that MHI whales are distinct from all other populations, including NWHI whales. The conclusions are that the NHWI and MHI populations

are significantly differentiated. The NWHI population was probably founded by individuals closely related to MHI founders, but now the population has more gene flow with pelagic animals than with MHI.

The MHI sample has 3 main clusters of individuals, comprised of 12-30 animals. Haplotype 1 is common in all 3 clusters, while Haplotype 2 only occurs in Clusters 1 and 2. Cluster 3 is also significantly different from the other two in the nuclear genome. Parentage analysis was performed to identify putative parent-offspring pairs; female-female pairs were all from same cluster; male-male pairs are split about 50/50 between the same or a different cluster. Male-female pairs indicate females and males stay within clusters, but that some mating occurs across clusters. Haplotype 5 (observed once in 2005 in Cluster 2), was identified as the father of another male from Cluster 2 (identified in 2009 as a subadult), suggesting male-mediated gene flow. All parent-offspring pairs were entirely within the MHI or within the NWHI, with none that crossed populations. Both sexes stay with their natal cluster, but mating can occur within or between clusters.

Paul Wade inquired about inbreeding depression and potential founding effect purging of deleterious alleles, if this population went through a bottleneck. Karen Martien indicated there is some evidence that the population was historically much larger. Kathy Ralls pointed out that the purging of deleterious alleles in small populations is less effective than previously assumed because selection is not strong enough to eliminate many deleterious alleles with non- lethal effects.

False killer whale research and SAR. Erin Oleson reviewed recent research on false killer whales in Hawaii. During the HICEAS 2010 survey, weather was better than during 2002 and there were generally more sightings, particularly for false killer whales, striped dolphins, Longman's beaked whales, and sei whales. HICEAS focused on false killer whales, including acoustic monitoring, photo ID, genetics, and tagging efforts. There were 11 encounters with photos resulting in 91 IDs (including 28 high-quality IDs in 8 encounters). Some individuals were resighted in 3 encounters within the NWHI. Four NWHI animals were matched to 'mystery' Kauai animals previously photographed but not associated with the main Hawaiian Islands insular stock. All other animals were new to the catalog. Two satellite tag deployments in the NWHI yielded 5 and 52 days of telemetry data. Animals remained largely in waters of the monument east of Gardner Pinnacles. Based on all available data, the NWHI animals are being designated as a new stock in the draft SAR, which overlaps spatially with the Pelagic and MHI Insular stocks.

Based on the available on-effort visual sightings, analyses are ongoing to estimate abundance of all NWHI and pelagic stocks within the HI EEZ. The cruise implemented a new group-size estimation protocol that included acoustic information to obtain better data on the number of clusters and total group size. However, the protocol could not be implemented for all sightings because of animal behavior, technical difficulties, or other logistical constraints. This has created difficulties during the line-transect analysis, particularly because the clusters within some groups were spread out over tens of kilometers violating some assumptions of line-transect theory. Because of these difficulties, three alternate methods of estimating group size for the

analysis have provisionally been applied. Each has biases and uncertainties that need to be evaluated further.

The corresponding SAR changes include a separate NWHI stock, new abundance estimates, PBRs, and mortality information. The three HI EEZ stocks are now included in a single report; the Palmyra stock assessment has been moved to a separate report. The Pelagic and MHI Insular stocks are strategic, while the NWHI stock is not.

Paul Wade pointed out that a simple line-transect analysis, rather than a multiple covariate framework, would probably give the same result and be a lot simpler to explain. Erin agreed, and emphasized that analyses will continue and final results may differ. The SRG noted the preliminary nature of these results and asked to review future updated results (expected by Feb/Mar) and review the updated SAR at that time. Chuck Janisse asked for clarification whether the problems in the analysis were a result of the acoustic protocol and whether these were anticipated. Jay Barlow, Karin Forney and Erin Oleson clarified that previous cruises showed clusters had been missed, but the protocol to address this using acoustics ended up introducing other unexpected problems. Terry Wright inquired what the expectation for acoustics is in the future. Erin Oleson explained that acoustics efforts will continue and ultimately the hope is to incorporate acoustics and visual information together (like the sperm whale estimate). Karen Martien wondered whether subgroup information could be used to do an acoustic line-transect survey, with visual subgroup size estimates. Wright asked that 'social cluster' be defined in the SAR.

Hawaiian spinner dolphin abundance and SAR. Erin Oleson presented the results of a photo-ID study on Hawaiian spinner dolphins, including patterns of movement and mark-recapture estimates of abundance. Abundances were estimated by season to meet closed population assumptions. The Big Island had a markedly higher population in summer, which is consistent with seasonal movements identified by Norris in the 1970s. Efforts are planned to continue photo ID work in a more systematic way.

Major changes to the SAR include separate sections for each stock, including abundance estimates from the mark-recapture analyses. Pearl and Hermes Reef, Midway/Kure Atoll, and pelagic spinner stocks have no current abundance estimate (no sightings were made during HICEAS 2010). None of the stocks are strategic. Terry inquired about the potential to put out satellite tags. Erin indicated it would be technically feasible, but given that anthropogenic impacts are on the leeward side where other studies are taking place and estimates are available, this is not the highest priority compared to other cetacean research needs. Also, this year, the priority was on false killer whales, but revisions to SARs are expected to other stocks next year, including some with new stock structure information (*e.g.*, melon-headed whales, rough-toothed dolphin, Blainville's beaked whales).

Other PIFSC research. Erin Oleson described surveys conducted in Guam and the Marianas, and that are underway at Palmyra Atoll. Small boat surveys were conducted in the southern part of Guam and the Marianas during Aug-Sep 2011, and there was also a brief Feb-Mar 210 survey in poor weather. The focus has been on photo-ID and biopsy, and involves local researchers with funding by the US Navy. Species observed are consistent with expectations: primarily

spinner dolphins, bottlenose dolphins, pilot whales, sperm whales. The Palmyra survey is aboard the NOAA ship *Sette* and involves standard multi-disciplinary data collection (habitat, acoustic, seabirds, photo-ID, and biopsy); the cruise is split into two legs: Oct-Nov 2011 and May 2012. The false killer whale protocol has been modified to address the problems encountered during the HICEAS 2010 analysis. Modifications include an initial pass through the group in passing mode with visual and acoustics working independently, recording locations and (visual) group size estimates for subgroups. Then a second pass is conducted to obtain matched subgroup information for acoustic and visual detections. So far there has been one on-effort false killer whale sighting with successful implementation of new protocol for passing mode pass, but animals proved difficult to approach during the second pass. There has also been one off-effort sighting of false killer whales while working at Palmyra Atoll.

Additional Pacific Islands research includes acoustic recordings in various locations. Analyses have focused on species identification based on echolocation clicks. False killer whales and pilot whales are similar, but pilot whales have peaks at 15 and 17 kHz that false killer whales do not have. Risso's dolphins off California have different clicks. NMFS has also started a collaborative project with the Hawaii Longline Association in 2010 to acoustically monitor false killer whales during longline operations, addressing several research recommendations of the TRT. Initial funding came from the Marine Mammal Commission, and it is now funded by the NMFS bycatch reduction engineering program. Two experimental configurations are planned: 1) easily-deployable individual hydrophones, and 2) a dense array of nine hydrophones deployed along the entire ~40 mi longline. The past SRG recommendation to investigate gliders is under development. Three missions had visual observers in the area, and cetaceans were detected, including false killer whales. Finally, a new acousonde was deployed on a spotted dolphin and stayed on for >12 hrs. Within an hour after deployment, fishing (trolling) vessels appeared and their echo sounders were recorded by the acousonde for several hours. The tag collects 3-D acceleration and time-depth data so dives can be reconstructed, in hopes of shedding light on dolphin behavior around vessels.

Rough-toothed dolphin genetics. Renee Albertson described a world-wide phylogeographic assessment of rough-toothed dolphins, and provided an overview of her preliminary results for Hawaii. Baird *et al*.'s studies showed site fidelity around Hawaii, and there are fishery interaction records of this species. Albertson compared within Hawaii (Big Island, Kauai/Niihau, Gardner Pinnacles) and between Hawaii and Tahiti/Society Islands (about 4300 km away). Results for a single mtDNA marker indicated significant differentiation between the island groups. Within the island groups, there was also significant differentiation. Gardner Pinnacles, however, was not different from Kauai/Niihau (although sample size was small for Gardner Pinnacles, n=11). The results support genetically differentiated populations around islands. Future plans include adding microsatellite analyses and adding further samples from Hawaii, Society Islands, and other areas within the central Pacific, including American Samoa.

Topics, Timing, and Location of Next Meeting

The SRG discussed the possibility of moving the next meeting to a later date to align more closely with the Atlantic and Alaska SRG schedules and allow the SAR publication schedule to work better. January-March did not work for some SRG members, but early April 2013 could be feasible. Shannon Bettridge, Michael Scott, and Karin Forney will coordinate to see if this might

work within the planned SAR drafting and publication schedule. No specific date was set, but there was general agreement that it would be best to meet in Hawaii, budget permitting, because of the ongoing management and research issues in this region.

Some potential agenda items are:

1) Hawaii species SARs
2) Harbor porpoise SARs
3) Gray whale status and SAR
4) North Pacific humpback whale SAR
5) Global genetics of fin whales
6) GAMMS III guidelines
7) False killer whale status
8) Hawaii sanctuary management plan
9) Hawaiian ship strikes of large whales
10) Review of bycatch estimation methods

Meeting Adjourned

Review of Previous Research and Management Recommendations

The SRG recommends continued studies of movements, abundance, genetics, and depredation behavior on fishing gear of false killer whales and other cetaceans around Hawaii and in the Central and Western Pacific. This information is needed to better understand stock structure, population trends, and potential fisheries takes. For the insular stock of false killer whales, additional tagging could help determine differences in ranging patterns on windward and leeward sides of the islands and additional nearshore surveys could help monitor the population trends. The use of emerging technologies (such as gliders) may allow the more-economic collection of oceanographic data to elucidate distribution patterns and habitat use.

Much progress has been made. Satellite tagging of false killer whales has resulted in tracks on both the windward and leeward sides of the main Hawaiian Islands. Gliders and acousondes are being tested and have successfully collected data.

The SRG recommends that the NMFS, in cooperation with the State of Hawaii, collect more information about Hawaiian near-shore fisheries to determine whether fishery takes of marine mammals are significant and how they can be reduced. Additional partners (such as sport and commercial fishing organizations and environmental groups) could also help explore ways that hook-and-line fishing gear and practices can be modified to reduce marine mammal takes.

Cooperation has increased as the State of Hawaii became newly involved with a new Governor, Head of the DLNR, and staff at the Humpback Whale Sanctuary.

The SRG supports NMFS' initial efforts to address conflicts between spinner dolphins and human swim-with-wild-dolphin activities off Hawaii and develop new regulations to address these conflicts. While the SRG recognizes the limited resources available for MMPA enforcement, it also notes that such activities are well-advertised and openly conducted. The SRG recommends the expeditious enforcement of existing regulations to encourage compliance and better protect spinner dolphins and other Hawaiian cetaceans.

The Dolphin Smart program for reducing the impact of marine tourism on dolphins has been initiated on Oahu but should expand throughout the state.

The SRG recommends that the U.S. Fish and Wildlife Service calculate corrected-count abundance estimates for southern sea otters and present these at the 2011 meeting of the SRG. If this is not possible, the SRG requests the rationale why counts cannot or should not be corrected.

The survey for 2011 could not be completed and a new survey method will be developed.

The SRG recommends that NOAA include the need for acoustic detections of marine mammals in the design and deployment of buoys and ocean gliders. Recent increases in placement of ocean buoys and utilization of ocean gliders by NOAA and NOAA partners is creating potential opportunities to gather much needed acoustic signals from marine mammals. NOAA's recent request for proposals stated that "A central tenet of the NMFS Advanced Sampling Technology Working group is to promote collaboration within NOAA, particularly among NMFS Science Centers."

Promising technologies are being tested.

The SRG recommends continued efforts to document and study ship strikes of large whales. Ship-strike mortality has increased to the point where it may impact whale populations. Whales

suspected of being ship struck should be 1) examined by marine mammal experts as soon as possible to identify species, 2) determine the cause and time of death, 3) collect life history information, and 4) provide photographic documentation of the event. The SRG also recommends that NMFS partner with the U.S. Coast Guard to consider potential impacts to whales when modifying patterns of shipping traffic.
Much progress has been made. At the next meeting of the Pacific SRG Hawaiian ship strikes will be discussed.

The SRG recommends that NMFS work with the U.S. Navy to establish the area off the NW side of the Island of Hawaii and the Alanuihaha Channel as an exclusion area for mid-frequency sonar use. This area appears to include the range of a resident group of melon-headed whales as well as those of resident populations of Cuvier's and Blainville's beaked whales. All three of these species are known to be sensitive to naval mid-frequency sonar.
Not done.

The SRG recommends that harbor porpoise assessment surveys be conducted off Oregon and Washington and in Washington inland waters in light of 1) the long interval since the last surveys, 2) the Unusual Mortality Event that occurred in this region since the last surveys, and 3) the evidence for recent ecosystem changes and changes in distribution of harbor porpoise into Puget Sound. This is particularly important given that PBRs can no longer be calculated because abundance estimates are greater than 8 years old.
New harbor porpoise estimates for the outer coast (from the 2010-2011 leatherback sea turtle surveys), and for Puget Sound (from NMML surveys) should be available for next year's meeting. The rest of the inland waterways still need to be resurveyed.

The SRG recommends that new surveys be conducted for harbor seal stocks in Oregon and Washington. There are no current abundance estimates, and thus no PBRs, for these stocks.
Not done.

RESEARCH AND MANAGEMENT RECOMMENDATIONS
Pacific Scientific Review Group – 7-9 November, 2011

The SRG recommends that the NMFS cooperate with the State of Hawaii to collect more information about Hawaiian near-shore fisheries. Published observations have documented small-scale fishery takes of marine mammals, but it still must be determined whether these fishery takes are significant and how they can be reduced or avoided. Additional partners (such as sport and commercial fishing organizations and environmental groups) could also help explore ways that hook-and-line fishing gear and trolling practices can be modified to reduce marine mammal takes.

The SRG recommends that NOAA include the need for acoustic detections of marine mammals in the design and deployment of buoys and ocean gliders. The recent increase in the use of this technology by NOAA and NOAA partners is creating potential opportunities to gather much needed acoustic signals from marine mammals.

The SRG recommends that NMFS work with the U.S. Navy to establish the area off the NW side of the Island of Hawaii and the Alanuihaha Channel as an exclusion area for mid-frequency sonar use. This area appears to include the range of a resident group of melon-headed whales as well as those of resident populations of Cuvier's and Blainville's beaked whales. All three of these species are known to be sensitive to naval mid-frequency sonar.

The SRG recommends that harbor porpoise assessment surveys be conducted off Oregon and Washington and in Washington inland waters in light of 1) the long interval since the last surveys (2002 for the outer coast, 2002-2003 for inland waters), 2) the Unusual Mortality Event that occurred in this region since the last surveys, and 3) the evidence for recent ecosystem changes and changes in distribution of harbor porpoise into Puget Sound. This is particularly important given that PBRs can no longer be calculated because abundance estimates are greater than 8 years old.

The SRG recommends that new surveys be conducted for harbor seal stocks in Oregon and Washington. There are no current abundance estimates, and thus no PBRs, for these stocks.

The SRG recommends that a schedule of shipboard marine mammal surveys, with cost estimates, be provided to aid in the SRG's review of NMFS research planning.

GAMMS III Recommendations by the Pacific SRG
Pacific Scientific Review Group – 7-9 November, 2011

Topic 1: PBR calculations with outdated abundance estimates
The SRG believes that the scientific underpinnings of the proposed methods for adjusting PBR are sound. These methods for adjusting PBR when abundance estimates become outdated represent an improvement over the initial "ratcheting-down" method that was used in the PBR process before being replaced by the current system.

The SRG has concerns about the complexity of this approach, the lack of clarity of the explanations given in the guidelines, and the practical effects of how this guideline will be perceived and implemented. Fisheries are best managed with clear and consistent goals. Under this guideline however, fishermen will see their PBR diminish even one year after a survey has been completed and see their Zero Mortality Rate Goal become harder to attain with each passing year without a survey. The proposed guideline makes the difficult-to-defend assumption that an N_{min} based on a 1-year-old abundance estimate no longer provides a "reasonable assurance" that the population is above this conservative estimate that the MMPA requires. Members of the PSRG fear that, after the progress that has been made by the TRTs and the efforts of the fishermen to reduce mortality, the proposed change will breed distrust and resentment by the fishermen. Distrust, if the agreements hammered out in the TRT and subsequent efforts to achieve the ZMRG are negated by the proposed changes. Resentment, when the fishermen bear the brunt of the consequences when NOAA does not conduct surveys in a timely manner.

Topic 2: Improving stock identification
The SRG supports having a systematic review on population structure as recommended by the GAMMS III. In light of the increasing use of genetics information to differentiate marine mammal populations, the SRG recommends that the NMFS focus on the role of genetics in determining marine mammal stock structure and in defining the terms 'stock' and 'population.' The workshop should provide guidance and consistency for deciding how much genetic differentiation justifies defining a stock and conversely, how much represents normal heterogeneity. The SRG would like to have the following questions be addressed: How do we mesh the MMPA's goal of maintaining a population as a functioning part of the ecosystem (that emphasizes the replaceability of the populations) with the statute's definition of a stock (that emphasizes breeding interchange)? In a continuum of levels of genetic exchange (for example, the continuum in killer whale populations from matriline, to subpod, to pod, to clan, to population), where does one draw the line between what is a stock and what is not? How will the proposed use of eco-regions be practically implemented in stock determination and how will migratory stocks that feed in one region and breed in another be treated under this proposal? How do we balance the conservation concerns resulting from stocks being defined very broadly *vs.* the costs and practical management concerns resulting from stocks being defined very finely?

In the SARs, a concise statement concerning uncertainty in stock structure could be included in the section on uncertainty discussed under Topic 8. If a citation is available, it should be used in lieu of lengthy detail; details should be provided only when publications are not yet available. The PSRG questions, however, the usefulness of repeating in nearly every SAR the sentence "It is plausible that there are multiple demographically independent populations within this stock."

Topic 3a: Assessment for very small stocks
The SRG supports the use of an average of a time series of mortality estimates longer than five years, particularly when there are rare takes of stocks with low abundances. The SRG cautions against doing this when significant changes in the fishery have occurred. For example, mortality estimates from a fishery that currently uses pingers should not include data from the period prior to the adoption of pingers.

Topic 3b: Assessment of small, endangered stocks
This topic explicitly allows the authors of the monk seal SAR to not report PBR as it makes no sense to calculate an allowable take for a species that is endangered and declining. The allowable take should be zero. The SRG continues to support a decision not to report a PBR in the monk seal SAR.

Topic 4: Apportioning PBR among feeding aggregations, mixed stocks, and trans-boundary stocks
This topic does not provide clear guidance for cases like eastern Pacific gray whales and whether the Pacific Coast Feeding Group is a stock or not, a case where there may be mitochondrial differences between feeding areas but all animals go to a common breeding area.

Topic 5: Making reporting of mortality more consistent
The Pacific SRG's approach has been to work with the NMFS and USFWS to condense and clarify the SARs rather than expand them. Additions such as points of contact could be placed in an appendix to each set of SARs, but not be placed in each individual SAR.

Topic 6: When does a stock decline merit a strategic designation?
GAMMS III proposes two recommendations to streamline the process to get to a "strategic" stock designation. One is to argue that evidence of a 50% decline in a stock's abundance as *prima facie* evidence that the population abundance is below OSP, and that the stock therefore should be designated as "depleted" and then "strategic." The SRG supports this revision to the guideline with the following changes to the wording:

> "First, under the MMPA, one definition of a 'strategic' stock is a stock which the Secretary determines to be below its Optimum Sustainable Population (OSP). However, there is no formal process to periodically evaluate the depleted status of non-ESA listed marine mammal stocks, and the current Report guidelines (NMFS 2005) do not provide any guidance for the recommending a stock be designated as depleted. The workshop participants therefore agreed that a 50% decline in stock abundance could be sufficient to recommend that a stock be considered depleted, and as a result, the stock could be considered to be strategic. This was not meant to provide a *de facto* definition of OSP but rather represents the un-arguable case in which a population that had declined by 50% would certainly be below OSP. Arguments could be made to list a stock as depleted that had not declined by as much 50%. "

These changes are suggested because the SRG believes that NMFS should not be locked

into a decision about strategic status in cases where we may not have much confidence in a particularly high or low survey estimate that may create a declining trend, and because the last sentence is unnecessary. The SRG believes that although this definition facilitates the ability to list a stock as depleted, it does not relieve NMFS of the obligation to determine a stock is depleted prior to classifying it as strategic. While the MMPA allows a "strategic" designation in advance of a likely ESA listing of "threatened," it has no such provision in advance of a likely MMPA listing of "depleted." The SRG recommends that the NMFS regularly review whether a "depleted" status is warranted for 1) unlisted stocks of marine mammals that are declining, and 2) stocks listed as depleted that are recovering.

The second GAMMS III proposal would allow a strategic designation based on an observed decline of 5% per year and a projection based on an assumption that this stock will fall below OSP after declining for 15 years and may become listed under the ESA after declining for 50 years. The SRG does not recommend the adoption of this proposal because it sees no authority in the MMPA to do so. The proposal relies on the "likely to be listed under the ESA within the foreseeable future" criteria; however, it mixes in an approximation of the MMPA's depleted status (50% of OSP) as the trigger rather than the ESA's "about to become extinct" or "about to become endangered" language.

Topic 7: Assessment of stocks without abundance estimates or PBRs
This change was proposed by the Alaska SRG and is supported by the Pacific SRG.

Topic 8: Reporting uncertainty in the SAR
The recommendation to include statements regarding uncertainty about parameters affecting PBR has been made by the SRG previously. The SRG envisioned a brief separate "*Uncertainties"* section summarizing significant sources of uncertainty in the stock assessment. Lengthy discussions of uncertainty embedded in each SAR section reduce clarity and readability.

Topic 9: Including non-serious injuries and disturbance in the SARs
The SRG supports the inclusion of this information but the statements should be concise and reference other studies rather than providing lengthy details.

General comment
Several of the GAMMS III recommendations require more explanations and verbiage to be added to the SARs (*e.g.*, Topics 2, 5, 8, and 9). The SRG has strived over the years to make the SARs models of conciseness, and the proposed guidelines could reverse these efforts. SARs should be summaries of significant results and conclusions and not lengthy discussions including detailed descriptions of methods and repetitive collections of caveats.

Appendix 1

Attendees
Pacific SRG Meeting, Nov 7-9, 2011 (Seattle, WA)

Scientific Review Group - Pacific Region:

Hannah Bernard	Hawai'i Wildlife Fund
Robin Brown	Oregon Department of Fish and Wildlife
John Calambokidis	Cascadia Research
Mark Fraker	Terramar Environmental Research
Doyle Hanan	Hanan & Associates, Inc.
Jim Harvey	Moss Landing Marine Laboratories
Chuck Janisse	Fisheries expert
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

Invited Participants and Observers:

NMFS Southwest Fisheries Science Center
Lisa Ballance
Jay Barlow
Bob Brownell
Jim Carretta
Karin Forney
Aimee Lang
Karen Martien
Jeff Moore

NMFS Southwest Region
Monica DeAngelis
Penny Ruvelas

NMFS Pacific Islands Fisheries Science Center
Jason Baker
Erin Oleson
Frank Parrish

NMFS Pacific Islands Region
Jaime Marchetti
Lisa Van Atta

NMFS Northwest Fisheries Science Center
Brad Hanson

NMFS Northwest Region
Lynne Barre
Brent Norberg

NMFS Alaska Fisheries Science Center
Dee Allen
Harriet Huber
Marcia Muto
Paul Wade

NMFS Office of Protected Resources
Shannon Bettridge
Kristy Long

USFWS
Deanna Lynch
Lilian Carswell (via telephone)

Alaska SRG
Lloyd Lowry

Marine Mammal Commission
David Laist
Samantha Simmons

HI Dept. of Land and Natural Resources
Sarah Courbis
Elia Herman

Makah tribe
Brian Gruber
Jon Scordino
Mark Sloan

Western Pacific Fisheries Management Council
Asuka Ishizaki

Hawaii Longline Association
Svein Fougner
Ryan Steen

Oregon State University
Renee Albertson

Natural Resources Defense Council
Michael Jasny

Appendix 2

Document List
Pacific SRG Meeting, Nov 7-9, 2011 (Seattle, WA)

Documents for Pacific SRG review		Submitted by
PSRG-2011-01	West Coast cetacean SARs (*Delphinus capensis*, sperm whale)	Carretta
PSRG-2011-02	Gray whale SAR	Lang
PSRG-2011-03	Southern Resident killer whale SAR	Hanson
PSRG-2011-04	Monk seal SAR	Baker
PSRG-2011-05	Southern sea otter SAR	Carswell
PSRG-2011-06	Pacific Islands false killer whale SARs	Oleson
PSRG-2011-07	GAMMS III Draft Report	Moore
PSRG-2011-08	Marine mammal bycatch in CA fisheries	Carretta
PSRG-2011-09	Fixed Gear Guide: CA, OR and WA Commercial Fisheries	DeAngelis
PSRG-2011-10	Pacific Islands Management Updates	Van Atta
PSRG-2011-11	Serious injury determinations for marine mammals caught in U.S. longline fisheries in Hawaii and American Samoa	Forney
PSRG-2011-12	Assessment of Incidental Interactions with Marine Mammals in the Hawaii Longline Deep and Shallow Set Fisheries from 2006 through 2010	McCracken
PSRG-2011-13	Genetic analysis of the Pacific Coast Feeding Group of eastern gray whales	Lang
PSRG-2011-14	Genetic structuring of false killer whales within the Hawaiian archipelago	Martien
PSRG-2011-15	Genetic divergence of Hawaiian insular false killer whales relative to the rest of the eastern North Pacific (an update of last year's Tech Memo that will include the HICEAS samples)	Chivers
PSRG-2011-16	Photo-identification and satellite tagging of false killer whales during HICEAS II: evidence of an island-associated population in the Papahānaumokuākea Marine National Monument	Baird
PSRG-2011-17	Assessment of range and primary habitats of Hawaiian insular false killer whales: a scientific basis for determination of "critical habitat"	Baird
PSRG-2011-18	Assessment of re-sighting rates of previously dart-tagged false killer whales and short-finned pilot whales in Hawai'i: a preliminary report taking into account re-sightings of social groups	Baird
PSRG-2011-19	Preliminary abundance estimates for Hawaii false killer whales based on the 2010 HICEAS cruise	Oleson
PSRG-2011-20	Hawaiian spinner dolphin abundance and SAR	Oleson/Hill
PSRG-2011-21	Sample GAMMS III-based SAR (fin whale)	Moore
Background Papers - FYI only		
PSRG-2011-B01	Huber et al. - harbor seal population structure	Huber
PSRG-2011-B02	Aschettino et al. - melon-headed whales	Baird
PSRG-2011-B03	Baird et al. - Mesoplodon population structure	Baird
PSRG-2011-B04	Fulling et al. - CNMI abundance paper	Oleson
PSRG-2011-B05	Moore and Barlow - fin whale trends paper	Moore
PSRG-2011-B06	Forney et al. - Hawaii longline depredation and bycatch analyses	Forney
PSRG-2011-B07	Carretta et al. - pinger study	Carretta
PSRG-2011-B08	Baker et al. - monk seal translocation	Baker
PSRG-2011-B09	Baker et al. - NWHI vs MHI	Baker
PSRG-2011-B10	Schorr et al. - fin whale tagging report	Schorr
PSRG-2011-B11	Carretta et al. - Delphinus abundance	Carretta
PSRG-2011-B12	Ford et al. 2011 - killer whale parentage	Hanson
PSRG-2011-B13	Pacific Coast Feeding Group Stock Status Memo from Makah Indian Tribe	Gruber
PSRG-2011-B14	Letters from Makah Tribe to SRG Chairs Michael Scott and Robert Suydam	Gruber
PSRG-2011-B15	Calambokidis et al. 2011 - Abundance and population structure of seasonal gray whales in the Pacific Northwest, 1998-2008	Gruber
PSRG-2011-B16	Frasier et al 2011 - Assessment of population substructure in relation to summer feeding ground use in the eastern North Pacific gray whale	Gruber
PSRG-2011-B17	Laake 2011 - Abundance Estimates, Immigration, Non-PCFG Whales	Gruber
PSRG-2011-B18	Mate et al 2010 - Feeding habits, migrations and winter reproductive range movements of eastern North Pacific gray whales	Gruber
PSRG-2011-B19	Weller et al. 2011 - Western gray whale movements	Weller

Appendix 3

Pacific SRG Meeting Agenda
Watertown Hotel, Seattle, WA
7-9 November 2011

MONDAY, 7 NOVEMBER 2011

Welcome and Introductions - *M. Scott, Pacific SRG Chair*

General Topics
List of Fisheries – *Long/DeAngelis/Van Atta*
Serious Injury Policy updates – *Bettridge/Forney*
GAMMS III workshop summary – *Moore*

Eastern Pacific Gray Whales
Alaska SRG background – *Lloyd Lowry*
Evidence for structure in the southern feeding range – *Lang/Calambokidis*
Summary of PCFG Stock Status Memo from Makah Indian Tribe – *Scordino*
Gray whale SAR – *Lang*

CA/OR/WA Management
SWR management – *DeAngelis*
Large whale ship strikes – *DeAngelis/Calambokidis*

CA/OR/WA Research and SARs
2010 CA/OR driftnet and CA setnet fisheries bycatches – *Carretta*
Cetacean Behavioral Response Study - *Barlow/Calambokidis*

TUESDAY, 8 NOVEMBER 2011

CA/OR/WA Research and SARs
Southern sea otters and SAR - *Carswell*
WA Sea otters – *Lynch*
Southern resident killer whales and SAR – *Hanson*
WA Harbor seals – *Muto/Huber*
Inland waterways harbor porpoise – *Hanson/Calambokidis*
West coast harbor porpoise surveys – *Forney*
Common dolphin and sperm whale SARs - *Barlow/Carretta*

Pacific Islands Management
PIRO Observer Program – *Marchetti/Van Atta*
Insular false killer whale ESA listing– *Van Atta*
False killer whale Take Reduction Plan – *Van Atta*
Hawaiian monk seals - *Van Atta*
Hawaiian spinner dolphins - *Van Atta*
Hawaii State/DLNR – *Herman*

Pacific Islands Research
Hawaiian monk seal SAR – *Baker*
Cetacean serious injury determinations in Pacific longline fisheries – *Forney*
Marine mammal interactions in Hawaii-based longline fisheries – *Marchetti*
False killer whale critical habitat – *Hanson/Baird*
False killer whale genetics – *Martien*
False killer whale research and SAR – *Oleson*
Hawaiian spinner dolphin abundance and SAR– *Oleson*
Other PIFSC research – *Oleson*
Rough-toothed dolphin genetics – *Albertson*

WEDNESDAY, 9 NOVEMBER 2011

Discuss Recommendations

Topics, Timing, and Location Of Next Meeting

Adjourn meeting