Minutes for the Pacific Scientific Review Group Meeting
Honolulu, Hawaii, 16-17 November 2005 (Revised)

The sixteenth meeting of the Pacific Scientific Review Group (SRG) was held at the Outrigger Reef Hotel in Honolulu, HI from 16-17 November 2005. All SRG members were present except for John Heyning and Chuck Janisse. Karin Forney and Jay Barlow 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. A version has passed a committee vote in the House that includes recreational fisheries, changes the definition of harassment, and makes some changes to the grants program. The Senate has not acted on a bill yet. Another bill was introduced in the House to delete ZMRG from MMPA. This would not result in any change in management, but it would delete the ZMRG deadline and replace it with a goal to reduce mortality to the extent that is technologically feasible.

Serious injury workshop. Tom Eagle discussed the upcoming NMFS workshop on serious injury determination for marine mammals, planned for March/April 2006. The workshop will include NMFS and external experts, who will update guidelines based on new data, especially for large whales.

List of Fisheries. Monica DeAngelis and Chris Yates reviewed the List of Fisheries for 2005 and proposed for 2006. The CA/OR driftnet fishery was changed from Category II to Category I. Proposed changes for the 2006 LOF include recategorizing the CA sardine purse-seine fishery from Category III to II, because marine mammal takes have been recorded by onboard observers since 2004, and because gear is similar to other Category-II fisheries. In the Pacific Island Region, there are also extensive updates to remove fisheries that no longer exist, update fleet sizes, update species documented interacting with fisheries, and include fisheries in American Samoa.

Monitoring Trends. Jay Barlow presented a paper (Taylor *et al*., PSRG-15) that examines how well existing monitoring programs for marine mammals can detect precipitous declines. After obtaining estimates of abundance, precision, and survey frequency from past stock assessment reports, they analyzed how often a decline of 50% over 15 yrs (equivalent to a depleted status under MMPA) would be detected. The ability to detect such a change is quite poor for virtually all cetaceans, reasonably good for most pinnipeds, and very poor for ice-hauling seals. The PBR approach was designed to try to achieve management objectives while recognizing the reality of limited funding. Solutions will require policy decisions on potential funding increases. SRG members noted that it would he helpful to have an illustrative example showing how much effort would be required to achieve the desired ability to detect population declines.

Michael Scott provided an overview of a PBR-based scheme that is being proposed for ETP management. Currently, stock mortality limits are based on a simplified ZMRG ($0.01 \times N_{min}$)

based on surveys conducted in 1986-90. A recent workshop examined more-recent abundance estimates, and it recommended including both old and recent data using a logistic model, because the method uses all the data, including information on trends. It was suggested that the NMFS consider using a similar approach for those populations that have a long history of abundance surveys. It would be necessary to do simulations to evaluate effectiveness of such an approach.

CA/OR/WA Fisheries

TRT Update. Monica DeAngelis noted that the Pacific Take Reduction Team did not meet during 2005 due to funding limitations. Funds have been allocated for meeting in 2006, preferably before the August 15th start of the fishing season. NMFS is continuing to review observer data, and 1993-2003 data indicate two stocks are above ZMRG: short-finned pilot whales (83% of PBR) and northern right whale dolphins (12% of PBR). There is still concern about the large percent of unobservable vessels, and a pilot program planned for 2006 to use onboard video surveillance system to monitor protected species takes. It was noted that takes and sightings may be more frequent in warm-water years.

HMS Fishery Management Plan. Monica DeAngelis reviewed the Highly Migratory Species Fisheries Management Plan. Most of the current issues involved turtles, but there are marine mammal implications regarding the Aug 15-Nov 15 closure for the driftnet fishery. The Fisheries Management Council is currently considering several alternatives to allow limited driftnet fishing in the area closed to avoid leatherback takes. The area would be opened through exempted permits or through FMP regulatory permits, and any driftnet fishing would require 100% observer coverage and a cap on leatherback takes. A limit on the number of sets was also proposed to limit impacts on other species. In March 2006, the Council will propose preferred alternatives and the areas may be re-opened in August 2006. Council also approved public consideration of an application to test economic viability to fish with modified shallow longline gear in west coast EEZ, and a final decision on this is proposed for March 2006.

California Marine Life Protection Act. Doyle Hanan discussed the Marine Life Protection Act (MLPA), a law that passed in California several years ago that could affect commercial fisheries because it mandates a network of protected marine areas. The Governor appointed a group of diverse stakeholders and a science advisory team to make recommendations on reserves along coast. Three categories were defined: commercial, but no recreational; state marine parks; and recreational, but no commercial. The plan is to have reserves set up by November 2006, based on recommendations from the science advisory team on reserve size and spacing, as determined by dispersal distances of key species. The area under consideration is from south of San Francisco to Pt. Conception, with 25-30 proposed Marine Protected Areas covering 17-20% of the coastline, in varying distances alongshore and extending out to up to 3 miles. The program has a monitoring and funding component. It is now funded through the Packard Foundation in Monterey (~$10M). This has resulted in a lawsuit because the State is not funding a state regulation, which is not legal under California laws. CDFG will only recommend an area if it is sufficiently funded to be more than just a paper reserve, but the law does not specify where funds are to come from.

CA/OR Driftnet Fishery. Jim Carretta reported that 1 northern right whale dolphin, 6 California sea lion, and 7 common dolphin mortalities were observed during 2004, with 20% observer

coverage of the fleet (PSRG-11; PSRG-12). One California sea lion and one humpback whale were released alive. Mortality rates of common dolphins continue to be variable since implementation of the pinger requirement. The increase in California sea lions in recent years may be because the leatherback closure is concentrating effort where there are more sea lions, or the sea lions are now attracted to the pingered nets instead of avoiding them. Removing the leatherback closure may result in higher mortalities of northern right whale dolphins and sperm whales, however.

Other Observer Programs. Monica DeAngelis provided and update on current observer programs (PSRG-29). About 70 vessels are involved in the coastal purse-seine fishery, which has not completed one full year of observations. Ports include Monterey, Moss Landing, Ventura, Port Hueneme, and San Pedro. In 73 trips with 160 sets, the observers documented 131 California sea lions, 1 harbor seal, and 1 sea otter, all caught and released alive. One unidentified common dolphin and one California sea lion were observed killed. The sea otter requires a Section-7 consultation. The coverage goal for this fishery is 5%.

The southern California tuna purse-seine fishery has about six vessels, which responded quickly when tunas came north into this region during late August/September. Sets targeted primarily yellowfin and skipjack. Three sets were observed, and no marine mammals, seabirds, or sea turtles were taken. Target coverage is 33%.

Over 700 vessels are involved in the North Pacific albacore fishery. Three trips were observed, and no marine mammals, seabirds, or sea turtles were taken. Target coverage during the pilot period is 1%; but the actual coverage has been <1%.

Sea Otters

Southern Sea Otters. Greg Sanders and Lilian Carswell reported on the spring 2005 survey that counted 2,735 animals along central coast, including one large group south of Pt Conception. The 3-year average is now 2,688 animals, and the trend continues to be upwards (at 8% using 3-year average; 5-8% for last 3 years). The dip in 1995-2000 is still not adequately explained. Recovery emphasis is looking at mortality of prime age animals as main cause. The sea otter range has been discussed recently regarding setting the southern boundary at Pt. Conception *vs*. Santa Barbara.

The Draft EIS with an evaluation of the translocation was released October 7, 2005 for public comments. There is a proposal to terminate the translocation program, eliminate the no-otter zone, and change management. Virtually all San Nicolas Island animals are recruits (~30 animals), and moving them would likely cause mortality.

The last two Stock Assessment Reports have not made it out of DOI legal review, and no new SAR has been submitted this year as a result. Participants discussed the requirement for legal review, because the SARs just compile published/reviewed data. NMFS only reviews the notice of availability, not the SARs, but FWS does not find that acceptable (although AK region of FWS does not require review). Given that most of the information in the SAR is on FWS web sites, excluding the PBR calculation, which is sensitive, perhaps a SAR-like document could be posted on the web. There is interest in having the most current information available, because the

last available SAR (1995) is outdated. For WA sea otters, however, the numbers are not widely available, fishery information is difficult to obtain, and there may be legal issues because of the tribal fishery involvement. It was suggested that Washington State might be able to publish the SAR instead of FWS to get around these problems. Nathan Pamplin pointed out that the tribes submit annual reports and are willing to share the data as long as they know how they will be used, but they prefer having FWS do the SARs.

Washington sea otters. Deanna Lynch reported by phone that there is no new survey information for Washington sea otters at this time. Surveys were completed in July 2005, but numbers are not yet available. Aerial counts were a little higher than last year, consistent with the previous 8-12% trend. There are probably now around 800 animals. They are also initiating a stranding program. Preliminary finding are interesting and similar to what was reported last year, although most carcasses are not fresh. Diseases (*Sarcocystis, Leptospirosis*) are a cause of death throughout year, but probably not a big issue for the population. Kathy Ralls cautioned that stranded carcasses can be a biased representation of causes of death.

CA/OR/WA Research

SPLASH Project. Jay Barlow reviewed the SPLASH (Structure of Populations, Levels of Abundance and Status of Humpbacks) project. Its objectives relate to determining abundance and trends, population structure, and human-caused injuries. Preliminary sampling indicates a lot of interchange among the wintering grounds in the Hawaiian Islands, and between the Revillagigedos and Baja California and mainland Mexico. Russian animals winter in the Western Pacific, Hawaiian whales go mainly to SE Alaska with some going to Kodiak and the Aleutians, and the Revillagigedos whales go primarily to Kodiak and near Unimak Pass, with some going to the Bering Sea. Northern British Columbia is linked with SE Alaska, while Southern British Columbia is linked to WA/OR/CA, with a stock boundary around the middle of Vancouver Island. Patterns appear to be integrated over a long time.

The remainder of SPLASH is funded only for winter 2006 and field efforts will begin in Japan and Mexico in January 2006. US West Coast surveys may remain funded from the Sanctuary Program, and other sources may provide some funding. The mark-recapture analysis is pre-funded, but funding is still required for the genetic analysis. The Large Whale Initiative survived the conference markup for the 2006 budget.

Long-term products are expected to include estimates of population size, trends, and structure, the identification of trouble areas and human impacts, and a data archive at SWFSC (tissues and photographs). SRG members noted that it is unusual for so many divergent people to cooperate, and that this project is a good model for other research. Key to the process were involving everyone at all stages, developing trust, and establishing joint protocols.

The results are expected to change humpback whale stock structure to one based on feeding areas. This is more appropriate, because there is more structure on the feeding grounds and if there were a localized impact it would take a long time to re-colonize these areas. This was previously not possible because we could not estimate abundance for all feeding areas. This approach has been used in the Atlantic.

Results are also intended to provide a basis for status evaluation mandated every 5 years (but not done in recent times) under ESA, and the endangered status will be reviewed. There are no quantitative listing criteria, and it is likely that humpbacks will continue to be threatened in some areas and not in others. Before down-listing could proceed, however, NMFS would need to define Evolutionary Significant Units (ESUs) and do a Population Viability Analysis (PVA). A failure to recover species has been noted by Congress as a reason to re-write the ESA, and it is important to down-list where there are successes.

John Calambokidis has revised the 2004 abundance estimates for CA/OR/WA humpbacks (PSRG-25). There was a multi-year dip, but the recent estimate is back on the previous trend line and the proportion of new whales in population is very high (30%). This could reflect an influx of different stocks into the area, or shifts in distribution. Genetics may shed light on this, and some samples were obtained during 2001 ship surveys. Interestingly, the British Columbia humpback populations were leveling off at the same time that the CA/OR/WA population was temporarily declining. Domoic acid effects were documented during the dip, but this cannot explain the pattern.

CSCAPE Survey. Karin Forney reviewed the preliminary results of the CSCAPE cruise, a marine mammal and ecosystem survey along the U.S. West Coast currently being conducted through early December. Blue and fin whales appeared to be distributed further north than in previous years. Humpback whales were highly concentrated within the Sanctuary strata. Higher numbers of beaked whales were seen than in the 2001 survey. A single group of short-finned pilot whales was sighted near the southern border of the study area. Line-transect data from the cruise will be analyzed to produce new abundance estimates for all west-coast cetaceans which will be incorporated into revised stock assessment reports for review by the next SRG meeting.

Harbor seals. Doyle Hanan presented a paper on harbor seal correction factors (PSRG-24) based on work during early 1990s, estimating proportion of seals on land during daylight aerial surveys. The number of seals on the beach was much lower than previously, so the correction factor increased from 1.3 to 2.6. Results are similar to those published by Jim Gilbert for Maine (2.58), but higher than instantaneous factors developed by Robin Brown and Harriet Huber (1.5). Jim Harvey and Harriet Huber are working on updated estimates as well. The SRG decided to review this issue in more detail at the next meeting, inviting researchers such as Jim Harvey, Harriet Huber, and Jim Gilbert.

Guadalupe fur seals. Jay Barlow noted recent papers on Guadalupe fur seals by Gallo-Reynoso *et al*. (2004, 2005) that suggested continued increases in population size, but the papers did not contain enough detail to evaluate methods and compare with earlier estimates. Mark Lowry will try to obtain additional information so we can revise the stock assessment (PSRG-01b) next year.

Short-beaked common dolphin. Susan Chivers noted that the previous short-beaked common dolphin genetic results, indicating differences between offshore Southern CA and offshore central CA had been puzzling, but in fact this represents a boundary between water masses and it does makes ecological sense. The ongoing CSCAPE cruise will add samples in this region to better define stocks in next year's SARs.

Bottlenose dolphins

Jim Carretta reported that Kimberly Dudzik and colleagues have completed a mark recapture estimate of California coastal bottlenose dolphins, resulting in an estimate of the marked population in the low 300's (PSRG-10). About 35% of animals have no distinguishing marks, so the true population size is probably around 500 animals. Estimates are consistent with past ones, and populations seem stable based on photo-ID in 1987-89, 1996-98, 2004-05.

Bottlenose dolphin SAR. For the SAR (PSRG-1b), there is an issue of how to deal with a trans-boundary range that includes Mexico. Animals have little site fidelity; San Diego animals are seen as far north as Monterey Bay and as far south as Ensenada. There is about 700 km of linear habitat from San Francisco to San Quentin (18% of known range is south of border, but we don't know how much time dolphins spend there). If one assumes a random distribution, PBR could be prorated to 82% of estimate. Although we know their distribution is not random along coast, we cannot refine this without additional data.

Options for pro-rating PBR were discussed, including the use of the 20^{th} percentile of the higher estimate (500) if an estimate of variance can be derived for the percentage unmarked. This percentage seems consistent between an older study by Defran and the current Dudzik study, but neither reported variances. Variance could possibly be estimated from different within-year estimates of the percentage unmarked. However, if the resulting CVs are much higher, this approach could actually yield a lower N_{min}. There are also biopsy samples (~35 individuals), and a genetic mark–recapture is another option. The SRG requested that various methods for N_{min} be explored and communicated to SRG by e-mail.

Harbor porpoises

Susan Chivers reviewed harbor porpoise stock boundaries (PSRG-6) based on new genetic samples. Presently six harbor porpoise stocks are recognized, based on genetic samples and density lows from aerial surveys. Unresolved issues were the outer coast OR/WA stock structure, and whether Cape Flattery was a good boundary. The revised strata include: Monterey Bay, San Francisco, Northern CA; Southern OR, Central OR, Columbia River, Spike Rock (PSRG-06: Figure 2); Neah Bay, San Juan, Puget Sound, West Vancouver, Strait of Georgia. Based on the results of the expanded analysis, a boundary change seems warranted in Oregon, and in the Strait of Juan de Fuca based on additional samples. Otherwise, all previous boundaries have been confirmed. Puget Sound animals fit with inland waterways, but cannot differentiate in detail; nuclear genetic markers would be helpful. There was general agreement among participants that the southern boundary change, off Oregon, is appropriate based on the current analyses. The SRG discussed the WA Spike Rock & Columbia River results, and the relationship of those animals to porpoises off Vancouver Island. It is possible that analysis of nuclear DNA could help resolve some of these questions, but increasing sample sizes for some of these strata has been difficult.

Brad Hanson presented tracking results from four animals, including one that lasted 19.5 months. Porpoises caught east of Neah Bay moved inside the Strait of Juan de Fuca, but there were no movements north of the San Juan Islands or to the outer coast. Porpoises caught north of the San Juan Islands remained there in an area of high density. These animals showed no evidence of

migration as with harbor porpoise on east coast and in Europe, possibly indicating that these animals are inshore residents. It was also interesting that no movement took place into the eastern Strait of Juan de Fuca, although animals are known to occur there. The eastern area is all shallow water.

There are no contradictions between the telemetry and genetics results; however, uncertainty remains about where to draw stock boundaries within the Washington Inland Waters stock. Brad Hanson requested input on holes that need to be filled to resolve stock structure. Robin Brown noted that, from a management perspective, one might look at where there are human activity problems. There are gillnet fisheries off the San Juan Islands; and tribal gillnets in the Strait close to shore. Participants discussed boundary options within the Strait and recommendations for future steps to resolve structure . The current Cape Flattery boundary is well supported by the genetic and telemetry studies, but additional work is needed to resolve structure in the Strait. The SRG agreed that continued tagging and genetic studies are needed to help resolve the issues, and discussed what priority to give the research.

Harbor porpoise SARs. Marcia Muto discussed new abundance estimates from 2002 surveys along OR/WA outer coast, and in WA Inland waters during 2002-03 (PSRG-02). Trends for OR/WA coast in 1991, 1997, and 2002 suggest a stable population, although re-analysis will be required because of regional mismatches for the different surveys. Inland waters indicate a significant increase. New PBRs are higher than the average 5-yr fishery mortality for the Inland WA and outer coast areas. Future plans include a trend analysis for 1991-2003 aerial surveys with John Calambokidis. The aerial surveys seem better suited than boat surveys in 1999, 2002, 2003. Anna Hall is creating predictive habitat models for harbor porpoise, Dall's porpoise and killer whales. The next aerial surveys are planned for 2007 or 2008.

The question of whether a trend method be used in place of PBR approach to monitor population status was discussed. Aerial surveys are much cheaper than observer programs ($60K *vs*. $1M). It would be important to establish what properties would be desirable (power, alpha, beta, percent decline). If populations are growing, then there is no need for an expensive observer program. However, a distributional shift could mask the loss of a stock, and it might be difficult to distinguish movement from impacts and account for stock structure? Karin Forney noted that this approach would only work if CVs on abundance estimates are low and power is sufficient. For central CA harbor porpoise, this would not be a viable option, because sample sizes (and precision) cannot be increased given limited weather opportunities. Jay Barlow added that the MMPA may not allow replacing the PBR approach with the trend analysis, a fundamentally different approach. SRG members suggested such an approach could be incorporated in MMPA reauthorization; however, this would first require simulations to examine levels of power, declines, and time frames. A policy decision on the acceptable risk/probability of detecting a decline would also be required.

Southern Resident Killer Whales

Brad Hanson discussed the recent NMFS rule to list this stock as endangered. There were sufficient concerns about the pervasive and changing nature of risk factors to warrant endangered rather than threatened status, and extinction probabilities indicated risk even in optimistic scenarios. The Conservation Plan (PSRG-09) went out for public review in October. The

Recovery Plan and critical habitat proposal will be available for public comments soon.

A number of calves were born again this year, slightly increasing the population to 91 in 2005 (2-3% rate of increase). But 2-3 animals appear to have disappeared, including one adult female that had not been biopsied. One animal previously disappeared for 2 years and then reappeared, so the significance of these disappearances is unclear.

The SAR changes include an updated abundance estimate; but the declaration of endangered status will need to be factored in. Contaminants could be examined, but biopsies must be obtained from wild animals. Other research priorities include long-term monitoring of population and habitat use, winter distribution, and other risk factors such as vessel/noise interactions, and declining prey stocks.

Monk seals

Chris Yates discussed current monk seals issues: pupping on the main Hawaiian Islands, seals getting hooked, and diseases. PIRO, working with State and other local partners, has built networks on all islands to respond to and mitigate human-seal interactions. Barbless hook experiments are being conducted for longline fishing. NMFS is encouraging owners of a proposed high-speed inter-island ferry to engage in ESA consultations regarding its potential effects on monk seals and humpback whales. Under the state NEPA, harbors have some exemptions, and the state is using this to get the project moving forward. They are currently reviewing the potential effects of introduced species and other impacts.

Bob Braun discussed the incidence of disease in monk seals in the MHI, where seal numbers are increasing (10 seals born last year). There is concern over human-related diseases and potential to transfer diseases to NWHI. Focus is on collecting specimens and data, with five components: public outreach, characterization of haulouts, obtaining baseline data (sampling and satellite-monitored movement and dive data), conduct health assessments, and archive for future investigations. One satellite-tagged animal was relocated after it had been hooked; it was recaptured and the hook surgically removed. After recovery, it was tagged and released, yielding good before & after dive data. The tracked animals stayed close to shore (within the 200-m isobath) and there was some inter-island movement. Serology shows exposure to protozoan pathogens, and 4 deaths attributable to toxoplasmosis or leptospira. No clear data on what exposure levels are detrimental to seals; only one animal diagnosed with clinical toxoplasmosis has survived, so it seems to be fatal in most cases. The project is funded for one more year, but without satellite tagging (just flipper and PIT tags).

Jason Baker discussed current NMFS research. A MHI monk seal coordinator was hired (Erin Moreland), the sightings database is being brought up to speed, and PIFSC is working with PIRO to build a monk seal network. Photo-ID database is underway, and there were tagging/training/photo trips on Maui, Kahoolawe, and Molokai. The number of hookings reported per year is increasing in MHI to 5/yr for the last 3 years.

A study was completed to look at habitat loss at a few sites as global sea levels rise. Examined low, medium, and high (up to 88 cm) sea-level-rise scenarios to estimate the losses in area on Pearl and Hermes, Lisianski, and French Frigate Shoals (FFS). Lisianski would have little loss,

but some FFS islands would lose significant area. Overall, the 2100 estimates are for 3-65% losses under medium rise level and for 5-75% under maximum rise scenarios. Most of the major haulout sites have already been reduced by 50% during last 40 years, and two sites are gone entirely. Additional research needs to focus on this to understand other factors such as the ability of coral to grow quickly enough to compensate for higher sea levels, or changes in storm patterns. Further studies are needed, including feasibility study for restoration options. This would require a hydrologist or coastal geo-morphologist, and also need to incorporate advances in remote sensing capabilities to improve mapping.

Monk seal SAR. Jason Baker presented the current SAR which uses 2003-2004 numbers, PBR is undetermined (would be 4.5). The abundance is up because of the number of pups born, but a new method involving mark recapture and analysis of discovery curves to estimate abundance of non-pups (back to 1988) results in steeper decline. There was some discussion of having undefined PBR, negative growth rates, MMPA/ESA authority, and observed mortality but no annual estimate of mean takes.

NWHI Sanctuary. Malia Chow discussed the Northwestern Hawaiian Islands Sanctuary that was recently given reserve status, and is undergoing sanctuary designation process. Reserve field operations include two cruises per year, partnering with the State and coral disease researchers. The goal is to build a scientific basis for ecosystem management. The ecosystem approach has 3 sub-areas: characterization of what is there, examination of ecological connectivity (molecular and tagging studies), and monitoring to detect changes over time for indicator species. There is also an education and outreach component, given the large number of visitors.

When NOAA evaluated fishing regulations to see if they were consistent with NWHI goals, they realized they were not. A Draft EIS is currently undergoing internal review, and will go to NOAA in mid-January. The management plan has five key priorities: understanding the ecosystem, reducing threats, managing human activities, coordinating conservation and management, and achieving effective operations.

HI state regulations. Athline Clark described recent State protection measures. State waters include 2-3 miles around all islands except Midway and the State is interested in having State waters included in the proposed sanctuary. They are working on set of protection measures for state waters so they would be in place if state waters are included in sanctuary. There was considerable public input, and State regulations were signed into law recently, setting 0-3 miles around all islands/atolls as 'no extractive activity' zones, except for native Hawaiian uses. Permitting by Board of Land and Natural Resources allows for management activities to continue, scientific collection and research, native HI traditional activities, and some educational activities if geared towards conserving resources. Clark clarified that native takes are for cultural and traditional practices only (constitutionally required), but 'native' is not clearly defined by the State. There is also interest in having all federal waters in NWHI receive similar protection and designating the area as a World Heritage site.

Clark continued that the MHI initiatives has resulted in not only improved partnerships and communication, but also a better process of letting general public know how to react to marine mammals. With monk seal sightings increasing, this is important and communities are

'adopting' seals to take responsibility for making sure regulations are followed.

State and federal staff are now working together to coordinate permitting and regulations. One problem is that the MMPA prohibits states from enforcing the MMPA, so the State does not have authority to regulate jet skis, parasailing etc. when humpbacks were around. This was the subject of a recent court case, and has profound implications for all states. The State of Hawaii has been working with congressional delegation on this issue. Steve Jeffries noted that Washington has also struggled with MMPA/state enforcement restriction. Washington wants the authority to prohibit approaching marine mammals within 100 ft, and until the Hawaii court case, the state was enforcing this. There is interest in having the MMPA changed to allow state involvement.

There was some discussion of problems obtaining data for unobserved, nearshore fisheries, (bottom-fish, and recreational fisheries). Data on mortality and injury of marine mammals is not available, in part because it is illegal to take mammals in state waters, so there cannot be a reporting program. There are some fishery surveyors who look at catch, but not interactions. NMFS is now working cooperatively with state to evaluate nearshore fisheries, but the lack of licensing for recreational fishery is a challenge.

Central Pacific fisheries

Chris Yates provided an update on the HI longline fishery. During 2004 there were 1344 longline trips, 330 observed, including 100% of swordfish sets, resulting in 8 marine mammal interactions, one leatherback and one loggerhead (in shallow sets). During 2005 (as of Nov 10th) there were 1052 trips; 285 deep-set and all 88 shallow sets were observed, resulting in takes of one short-finned pilot whale, one Risso's dolphin, two false killer whales, one unidentified cetacean, seven leatherbacks, and 10 loggerheads. There is a cap of 16 leatherbacks or 17 loggerhead turtles before fishery is closed. A Take Reduction Team has not yet been formed because of funding constraints, but PIRO and PIFSC are working on ways to address the marine mammal interaction issue. Dave Johnston and Chris Yates have attended the Atlantic longline fishery TRT, which is struggling with same issues of infrequent takes that are hard to predict, and lack of knowledge on the process of hookings (although depredation is involved). PIRO co-sponsored a workshop in Borneo to address bycatch across species and foster communication and sharing of knowledge. PIRO also funded an analysis of nearshore fisheries and a stable isotope analysis of false killer whales. The Council convened the first meeting of the Marine Mammal Advisory Committee (MMAC) to look at patterns and recommend research and other activities (PSRG-30). The SRG noted that is important to have stakeholders involved in the process to find solutions and suggested that a fishing representative be added to the MMAC.

Karin Forney summarized her updated paper on Hawaii longline mortality (PSRG-07), which includes complete data through the end of 2004, and clarified the methods. There were two additional false killer whale takes within the HI EEZ (one injured and one dead), increasing the false killer whale take estimates. One of the entangled humpback whales was reclassified as not seriously injured based on a review of the observer's written documentation. Forney summarized the information on these three other humpback whale interactions with longline gear (PSRG-16). All were classified as likely to be non-serious injuries but additional review and suggestions by the PSRG are welcome. PIRO is looking into the ESA and MMPA requirements

to deal with this situation, including the drafting of an MMPA negligible impact determination.

Dave Johnston, Chris Yates, and Jeremy Bisson discussed the new American Samoa observer program. PIRO is working on improving observer forms for marine mammals to be more efficient and effective and to make sure observers record sufficient detail for serious injury determination.

Central Pacific Cetacean Research and Assessments

Beaked whale strandings. Bob Brownell reported that beaked whale mass strandings worldwide have increased 10-fold since the 1960s; prior to 1960 there were none. *Ziphius* is of particular interest and strandings are clustered around Japan, Puerto Rico, Bahamas, and the Canaries Islands – areas near naval bases or exercises where mid-frequency tactical sonar is used. Puerto Rico, Italy, and Japan simultaneously started seeing mass strandings during 1960s when this sonar started to be used. Of further concern is a naval build-up in Guam which may increase anti-submarine exercises in this region. There is also an underwater testing range right off the coast of Maui where a beaked whale came up recently. Other deep-diving species, such as *Kogia*, should also be evaluated.

Jay Barlow reported that this sonar is now used primarily for training, and training activities could be restricted to a few Navy ranges to limit damage to a few areas rather than impacting beaked whales everywhere. For Hawaii, there is a need to increase the capacity to record strandings and establish a baseline, especially with respect to bubbles and lesions. The SRG discussed the need to establish a stranding network in Guam to obtain baseline data and to establish necropsy protocols to detect impacts. Dave Schofield is the new strandings coordinator and is currently gathering information and establishing contacts to develop a stranding network.

PICEAS update. Jay Barlow described the PICEAS (Pacific Islands Cetacean and Ecosystem Survey) cruise that surveyed a region from Hawaii to the EEZs of Palmyra Atoll and Johnston Atoll where cetacean takes are documented in the longline fishery. These are two of the remaining un-surveyed U.S. EEZs. During 120 sea days from late July through late November, standard visual and acoustic line-transect methods were used for abundance. Genetic sampling and photo-ID for stock structure studies was also a priority, and the survey included ecosystem studies (oceanography, net tows, and seabird and flying fish surveys). Results included 13 sightings of false killer whales, compared to one on-effort sighting in the Hawaiian EEZ during 2002. Average encounter rate in the study area was <1 sighting per day, with higher densities around Palmyra. This probably reflects patterns of ocean productivity, as most of the study area is highly oligotrophic. Weather was poor in parts of the study area, but effort was reasonable in the EEZs, with higher coverage around Palmyra. There appear to be endemic spinner dolphins, bottlenose dolphins and melon-headed whales at Palmyra.

Genetic studies. Susan Chivers discussed genetics for bottlenose dolphins and *Pseudorca*. NMFS collected 132 bottlenose dolphin samples from Hawaii and Palmyra/Kingman. Genetic diversity is high with many distantly related haplotypes. Preliminary results support that there is no interchange among the four MHI strata (Hawaii, Four-Islands, Oahu, and Kauai/Niihau), and Palmyra is different as well. NMFS collected 108 *Pseudorca* samples from Hawaii, Palmyra, and the eastern tropical Pacific. Results suggest 2 stocks in HI EEZ – insular and non-insular

with a possible boundary coinciding with the 75-mi fishery restriction zone.

Cetacean Studies - Robin Baird. Karin Forney summarized Robin Baird's recent research in the Main Hawaii Islands on false killer whales and other species (PSRG-18-23). Baird works primarily by small boat in the lee of the Islands. Survey effort covered over 30,000 km and covered all months except Jul-Aug. Sightings and genetic samples were obtained from a wide diversity of cetacean species. Bottlenose dolphins and rough-toothed dolphins showed no photo-matches between Islands. Melon-headed whales and false killer whales were documented to have moved between islands. Robin has compared photographs taken on the PICEAS cruise to his catalog of false killer whales from the Main Hawaiian Island area. None of the four photo-IDs from the Palmyra EEZ matched his catalog, whereas two of the six photo-IDs from the lee of the Big Island matched is catalog. Robin plans to continue his studies in 2006, and fishery observers are now trying to obtain digital photos to share with Robin.

Jay Barlow reviewed Robin Baird's false killer whale mark-recapture study, based on 2000-2004 photos of 76 reliably identifiable individuals, collected by Baird and other investigators and funded by PIFSC (PSRG-18). Baird teamed up with John Durban, who has methods of handling social structure in mark-recapture. The Bayesian mark-recapture analysis estimated 93 distinctive animals, with a 77% probability of being marked, so the total estimate is around 123 animals (compare to Joe Mobley's aerial-survey estimate of 121 animals).

Spinner Dolphin Interagency Working Group. Chris Yates reported that swim-with-dolphin interactions are growing and there is a need to monitor and regulate these activities because they are getting more and more invasive. NMFS is looking into Hawaii-specific federal regulations under the MMPA to further define 'take' with respect to spinners and to establish rules. The State is also trying to minimize impacts, educate the public, and provide justifications for the need for regulations.

Stranding Program. Dave Schofield was hired to coordinate Central Pacific stranding networks. The Stranding Program efforts currently include an assessment of LOA holders and their continued involvement. Also looking retrospectively and filling out level A data forms for past strandings. Milestones for the future include a January meeting with stakeholders (State, PIFSC, and other local groups) to discuss and set up priorities. Also looking to enable parties to identify and apply for other funding, as the stranding network is quite dependent on annual Prescott funding. The program is funded for 2006.

Hawaii Cetacean Research Workshop. Dave Johnston was hired to coordinate cetacean research for the Pacific Islands Region. Initial tasks included holding a workshop to develop a research plan, assessing resources, and initiating research. Vessel resources include the *Oscar Elton Sette* which is being retrofitted for marine mammal surveys and is suitable for acoustic and ecosystem studies. Partners include SWFSC, UH, PIFSC and SIO oceanographers (Cross Seamount HARPs), Cascadia Research Collective (Baird surveys & sampling), HI Sea Grant (nearshore fisheries), and PIRO (links to management). Dedicated and collaborative ship time has been scheduled during 2006, 2007, and 2008. Plans include 2005 PICEAS; January 2006 survey to American Samoa, 2006-2008 piggyback cetacean surveys on monk seal provisioning cruises, and possibly a CNMI survey during 2007.

The research workshop in June 2005 included representatives from American Samoa and Guam, and other science stakeholders. Generic priorities were identified to include species inventories, fishery characterization, training and capacity building in other EEZs. There were also specific recommendations to improve stock assessments for false killer whales, bottlenose dolphins, spinner dolphins, and humpback whales. Interest was expressed in conducting another HICEAS survey, assessing mortality in other fisheries, improving stranding network. There are currently no dedicated funds for cetacean work, and Dave is paid on SAIP money and Pacific Islands transition funds and prospects for increased funding are poor.

Hawaii SARs

Karin Forney summarized three SARs (PSRG-03) for false killer whales, bottlenose dolphins, and short-finned pilot whales. Changes include updated fishery mortality and serious injury estimates for all species. Average false killer whale takes are back up to 4.3, with a PBR around 1. Based on genetic results, two false killer whale stocks will be recognized within the Hawaiian EEZ for next year: an insular and non-insular stock. The relationship of Palmyra stock is not yet clear, but abundance estimates from PICEAS will be included. Short-finned pilot whale changes included a provisional Johnston Atoll EEZ stock, based on an observed take there. The bottlenose dolphin SAR primarily included updates about stock structure within the Hawaiian Islands. Jay Barlow noted that the 2002 HICEAS abundance estimates were revised based on reviews (PSRG-26), and sei/fin whale abundance was not estimated because the survey was during the wrong season for these species. The manuscript is now in press, and the draft 2006 SARs will be updated to reflect the final estimates before they go out for public review. Karin Forney noted that the revised false killer whale PBR will be <1.

There was some discussion about having SARs for stock complexes rather than individual stocks. In the Atlantic they are doing single report for *Tursiops* stock complex because cannot separate mortality. Karin Forney noted as an author that this may be confusing and create a report that is difficult to follow. In cases where stocks can be cleanly separated it would be cleaner to write separate reports. But where there is confusion or overlap it may be better to have a table summarizing mortality, PBR, and abundance for each 'stocklet'. The group thought this approach was worth experimenting with to streamline the SAR process.

The SRG noted how much progress has been achieved on Hawaii issues: the hirings of a research coordinator and a stranding coordinator and the subsequent initiation of research planning for the Central Pacific and stranding networks, the establishment of local networks to deal with human-monk seal interactions, the small-scale survey and photo-id research around the MHI that has produces so much data on abundance and movements, the studies into the loss of monk seal habitat in the NWHI and the expansion of populations into the MHI, the expansion of research around Palmyra Island with the PICEAS surveys, and PIRO activity extending to American Samoa and other Pacific islands, and the increased involvement of the State involving marine mammal management and protection.

Topics for Next meeting

The next meeting will likely be in Seattle or Santa Cruz during November 2006. Topics for discussion at the next meeting should include killer whales, harbor seal correction factors,

expanding pinnipeds populations, human disturbance and non-lethal deterrence issues, new Pacific Islands SARs, and the ‘stocklet’ concept.

Review of Previous Research and Management Recommendations

With the completion of the ship surveys for marine mammals in Hawaiian EEZ waters, gaps in scientific knowledge about population size, distribution, and discreteness that are necessary for marine mammal management have become apparent. The SRG recommends the following studies.

1) Mark-recapture, biopsy, and tracking studies of false killer whales and other cetaceans around the main Hawaiian Islands.

These studies are ongoing and have yielded significant new information.

2) Aerial surveys within 25 nm of the Hawaiian Islands to estimate abundance in close-inshore waters that could not be covered by the 2002 shipboard surveys.

Not done.

3) Regular censusing of monk seal haulouts in the main Hawaiian Islands to monitor population status, movements of marked animals, and human interactions.

An island coordinator program has been initiated.

Also, there is increasing concern that habitat loss at French Frigate Shoals (FFS) due to beach erosion has dramatically reduced the pupping beaches for Hawaiian monk seals. The NMFS is planning feasibility studies to examine the causes, to assess the loss of habitat, and to assess potential mitigation measures. The SRG is concerned about the loss of beach habitat at FFS and the possibility that this problem may be more widespread in the NWHI and recommends that these studies be initiated.

This study has been initiated, with three of the islands being mapped, and the extent of potential loss of beach habitat due to projected rising sea levels has been estimated.

The Southern Resident stock of killer whales has been proposed for an ESA listing. Despite the long-term studies on this population, significant gaps in our information exist that 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 these methods have proven to be the most effective for providing the required information. 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.

Studies are being considered, but the apparent loss of one adult in the past year emphasizes the urgency of quick action.

Assigning fishery mortality in the EEZs of US territories to individual marine mammal stocks is problematic because of the lack of population estimates for these areas (and the associated lack of a calculable PBR) and the likelihood of separate island stocks. Cetacean mortalities associated with the Central Pacific tuna longline fishery have been documented in the US EEZ around Palmyra Atoll and Johnson Atoll; research in these waters should include surveys for abundance estimation, and biopsy and tracking research for study of population discreteness and movements.

A ship survey of the area (PICEAS) to estimate abundance and obtain biopsy samples is nearly complete.

The SRG recommends that observers should be placed aboard vessels in the southern California setnet fishery to monitor marine mammal mortality. Too many years have passed since this fishery was last observed for the NMFS to have much certainty about extrapolating mortality rates to the present.

Funding has been requested for 2006.

Identification of marine mammal incidental takes to species and population within a species is critical for management of marine mammal stocks. The Pacific SRG recommends that the NMFS implements a standard protocol of photo documentation of each take and biopsy sampling whenever possible.

Observer protocols now include biopsy sampling and photography. Observers aboard recent Hawaii-based longline vessels are issued digital cameras and all takes have been biopsied, but observers aboard California driftnet vessels do not carry cameras because of objections by fishermen.

The SRG recommends 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.

Not done.

RESEARCH AND MANAGEMENT RECOMMENDATIONS
Pacific Scientific Review Group – November, 2005

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.

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 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

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.

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

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.

Appendix 1

Attendees at the 15th 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.
John Heyning (not attending)	Natural History Museum –Los Angeles County
Chuck Janisse (not attending)	Federated Independent Seafood Harvesters
Steve Jeffries	Washington Department of Fish and Wildlife
Katherine Ralls	Department of Conservation Biology, Smithsonian's National Zoological Park
Michael Scott	Inter-American Tropical Tuna Commission
Terry Wright	Northwest Indian Fisheries Commission

Invited Participants and Observers:

NMFS Southwest Fisheries Science Center
Jay Barlow
Robert Brownell
Jim Carretta (via conference call)
Susan Chivers
Karin Forney

NMFS Southwest Region
Monica DeAngelis

NMFS Pacific Islands Fisheries Science Center
Bud Antonelis
Jason Baker
Bob Braun
John Henderson
David Johnston

NMFS Pacific Islands Region
Jeremy Bisson
Dave Schofield
Lisa Van Atta
Chris Yates

National Marine Sanctuary Program
Malia Chow

NMFS Northwest Fisheries Science Center
Brad Hanson

NMFS National Marine Mammal Laboratory
Marcia Muto

NMFS Office of Protected Resources
Tom Eagle

USFWS
Deanna Lynch (via conference call)
Greg Sanders (via conference call)

Marine Mammal Commission
Lloyd Lowry

Hawaii State Department of Land and Natural Resources
Athline Clark

Makah Tribe
Nathan Pamplin

U.S. Navy
Julie Rivers

Appendix 2

Pacific SRG Meeting November 16-17, 2005
Final Document List

Revised Stock Assessment Reports:

PSRG-01a	Guadalupe fur seal research update
PSRG-01b	California coastal bottlenose dolphins draft 2006 SAR
PSRG-02	Harbor porpoise, northern fur seal Stock Assessment Reports
PSRG-03	HI cetaceans draft 2006 Stock Assessment Reports
PSRG-04	HI monk seal draft 2006 Stock Assessment Report
PSRG-05	Southern Resident Killer Whale Stock Assessment Report

Background Documents

PSRG-06	Population structure analyses of OR/WA harbor porpoise using mtDNA
PSRG-07	Updated HI longline mortality/injury estimates
PSRG-08	Genetic variation in false killer whales sampled around Palymra Atoll and implications for management.
PSRG-09	Puget Sound Orcas Proposed Conservation Plan
PSRG-10	Mark-recapture abundance estimate of CA coastal stock bottlenose dolphins
PSRG-11	2004 Preliminary drift gillnet mortality estimates
PSRG-12	1996-2002 Driftnet mortality paper
PSRG-13	Southern sea otter translocation evaluation - Executive Summary & TOC
~~PSRG-14~~	~~Southern Sea Otter Spring census/SAR update~~ *(Not presented)*
PSRG-15	Draft paper on Monitoring population trends
PSRG-16	Hawaii longline / humpback whale interactions - Serious Injury Determination
PSRG-17	Update on Hawaiian bottlenose dolphin stock structure
PSRG-18	Hawaii False Killer whale photo-ID and movements
PSRG-19	Hawaii Beaked Whale Diving Behavior and Ecology
PSRG-20	Hawaii odontocete survey biases
PSRG-21	Hawaii rough-toothed dolphin site fidelity
PSRG-22	Hawaii pygmy killer whale conservation
PSRG-23	Hawaii melon-headed whale movements
PSRG-24	Correction factors for harbor seal aerial surveys
PSRG-25	Humpback whale mark-recapture abundance estimates ENP stock
PSRG-26	HI Cetacean Abundance Updates
PSRG-27	MMC Letter to PIFSC
PSRG-28	MMC Letter to PIRO
PSRG-29	SWR Observer Program Updates
PSRG-30	Marine Mammal Advisory Committee recommendations, May 2005

Information papers

Hawaii Administrative Rule on Northwestern Hawaiian Islands Marine Refuge
Brown *et al*. 2005 - paper on harbor seal abundance trends and status in Oregon
Marine Mammal Commission review of 2005 SARs (Letter to Michael Payne)

Appendix 3

Agenda for Pacific Scientific Review Group Meeting
Honolulu, Hawaii 16-17 November 2005

WEDNESDAY, 16 November 2005 (0830) ----------

Introduction

General Topics
MMPA Reauthorization updates (DeAngelis/Eagle)
Serious Injury workshop updates (Eagle)
List of Fisheries 2005 (DeAngelis)
Paper on SARs and ability to monitor cetacean trends (Barlow)
Update on ZMRG-based Stock Mortality Limits for ETP dolphins (Scott)

CA/OR/WA Fishery Updates
TRT update (DeAngelis)
HMS Fishery Management Plan update (DeAngelis)
Observer programs (gillnet, longline, purse seine) (DeAngelis)
1996-2002 driftnet mortality paper (Carretta/Barlow)
2004 Gillnet mortality estimates (Carretta/Barlow)

Sea Otters
Southern sea otter updates and SAR (Sanders)
Washington sea otter updates (Lynch)

CA/OR/WA research & stock assessments
SPLASH project updates (Barlow)
Calambokidis blue/humpback whale research 2004 (Barlow)
Preliminary CSCAPE cruise results (Forney)
Harbor seal correction factors (Hanan)
Status of resolving OR/WA harbor porpoise stock boundaries (Chivers)
Harbor porpoise movements (Hanson)
Delphinus stock structure update (Chivers)
CA/OR/WA SARs
- Bottlenose dolphins, Guadalupe fur seals (Caretta/Barlow)
- OR/WA harbor porpoise, WA Inland harbor porpoise (Muto)
- San Miguel Northern fur seals (Muto)

Southern Resident Killer Whales (Hanson)
Puget Sound Orcas Proposed Conservation Plan
Southern Resident Killer Whale updates & SAR

Review Recommendations

THURSDAY, 17 NOVEMBER 2005 (0830) ----------

Monk Seals
MHI monk seal management (Yates)
Status of the NWHI Sanctuary designation (Chow)
Update on the HI State closure of NWHI waters to fishing (Clark)
Monk seal Prescott grant results (Braun)
Update & SAR review (Baker)

Hawaii Fishery Updates
Hawaii longline fishery update (Yates)
LOF changes for 2006 (Yates)
Hawaii longline take reduction planning (Yates)
HI longline mortality estimates (Forney)
Humpback whale interactions and serious injury determination (Forney/Yates)
Other Hawaiian fisheries (Johnston)
American Samoa Observer Program (Yates/Johnston)

Central Pacific Cetacean Research and Assessments
Preliminary PICEAS results (Barlow)
HI genetic studies of stock structure (Chivers)
False killer whale mark-recapture and other studies (Barlow/Forney/Baird)
Beaked whale strandings (Brownell)
Hawaiian Spinner Dolphin Interagency Working Group (Yates)
Stranding network development (Yates)
Hawaii Cetacean Research Workshop results (Johnston)
PIFSC research plans for Central Pacific cetaceans (Johnston)
Hawaiian Cetacean SARs (Forney)
False killer whales
Short-finned pilot whale
Bottlenose dolphins

Discuss recommendations

Topics, timing, and location for next meeting

Adjourn

Conference call attendees:

Jim Carretta	Entire meeting
Greg Sanders	Sea otters (Wednesday morning)
Deanna Lynch	Sea otters (Wednesday morning)