

**Meeting of the Pacific Scientific Review Group
Hawaiian Islands Humpback Whale National Marine Sanctuary Headquarters, Maui, HI
12-14 November 2002**

The thirteenth meeting of the Pacific Scientific Review Group (SRG) was held at the Hawaiian Islands Humpback Whale National Marine Sanctuary Headquarters, Maui, HI from 12-14 November 2002. All Pacific SRG members attended with the exceptions of Michael Scott and Robin Brown. Jenna Borberg served as rapporteur. In the absence of Michael Scott, Doyle Hanan stood in as chairman. 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

The SRG discussed whether to have one or two meetings per year. Potentially, there could be a meeting in spring if required by ZMRG issues, but the next scheduled meeting will be in November 2003.

Doyle Hanan briefed the group on a proposal for term limits for SRG members that was discussed at the recent Alaska SRG meeting.

The SRG expressed concern that the several SARs had not been completed (monk seals, blue whales, humpback whales, CA harbor seals, and sea otters), making it difficult for the group to adequately serve their role in the review process.

ZMRG

Cathy Campbell briefed the group on the status of the Zero Mortality Rate Goal (ZMRG) definition and a lawsuit brought by Oceana against the NMFS due to the agency's failure to define ZMRG. The MMPA requires that the ZMRG be met by April 30, 2001; however, NMFS has yet to officially define what ZMRG is. There has been a renewed effort for defining both ZMRG and serious injury and NMFS has proposed to publish a Technical Memorandum defining ZMRG, along with posting the definition on the Federal Registry Notice to solicit public feedback on this issue.

Jay Barlow will notify the SRG of any settlement that is reached and will send out a copy once finalized. The SRG requested that it be involved in the process of defining ZMRG and be allowed to review the Technical Memorandum prior to its release for public comments. The SRG recommends that NMFS convene another workshop to update the recommendations of the GAMMS report. This workshop could discuss the definition of ZMRG, the application of the recovery factor guidelines presented in PSRG-10, re-evaluating protocols for dealing with species/stocks which reside intermittently in the US EEZ, and allowing longer time series for abundance estimates.

Southern Resident Killer Whales

Marcia Muto presented information on the ESA listing process for Southern Resident killer whales (PSRG 9, 13, 14). In 2001, NMFS received a petition from the Center for Biological Diversity requesting that these killer whales be listed as threatened or endangered under the ESA.

NMFS responded by forming a Biological Review Team (BRT) to review the status of the stock (PSRG-9). In accordance with the conclusion of the BRT that the available scientific information on S. Resident killer whales does not support classifying them as an ESA species, sub-species or distinct population segment (DPS), NMFS published its finding in 2002 that a listing under the ESA was “not warranted.” However, NMFS decided that research should continue, particularly on taxonomy, biology, ecology and potential threats, and that this group of killer whales should be reassessed under the ESA in four years. The Center for Biological Diversity filed a 60-day notice of intent to sue based on the “not warranted finding” under the ESA. In 2002, NMFS also published an advance notice of proposed rulemaking in the Federal Register that proposed to give the stock depleted status under the MMPA. John Heyning and Tim Ragen noted that the BRT lacked input from a taxonomist and that the taxonomy on global animals can be complex and confusing. The SRG recommends that a cetacean taxonomist participate in the next ESA assessment of S. Resident killer whales.

Muto briefed the group on work currently underway or proposed for FY03 to improve the understanding of the taxonomy of killer whales, including genetic analyses of archeological samples of killer whales from different regions, and measurements of museum skulls. Additional proposed research includes determining the winter range, studying food habits, prey availability and contaminants, modeling the relationship of the whales’ contaminant loads to their life-history, and determining the effects of vessel noise. The SRG suggested looking into the ecosystem aspect of killer whales and salmon to assess distribution and abundance, carrying capacity, and genetic diversity.

Steve Jeffries said that Washington was also petitioned to list the Southern Resident killer whales under State endangered species laws, and they are currently reviewing information.

NMFS Reorganization

Jay Barlow presented information on several recent and proposed changes/reorganizations within NMFS, including: (1) a national separation of science and management centers, (2) creating a new Hawaii Region, and (3) personnel changes. NMFS is in the process of dividing science and management so that Fishery Centers would no longer report to the Regional Offices. NMFS has been divided this way in the past, and a recommendation to return to this arrangement is expected in a Pew Foundation report. The Hawaii Region will be split off from the SW Region within the next year. The Hawaii research lab does not currently have a cetacean biologist; therefore, SWFSC will continue to carry out most of the cetacean research in this region. Robert Brownell has stepped down as director of the SWFSC Protected Resources Division and Steve Reilly has replaced him. Mike Laurs is the new head of PFEL and Sam Pooley has replaced him as acting director of the Honolulu lab.

MMPA Reauthorization

Tim Ragen presented an update on the MMPA reauthorization. The MMPA is two years overdue for reauthorization by Congress. The Administration has proposed a bill that would re-define harassment. The current definition has two types of harassment: level A, potential to injure; and level B, potential to disturb. The proposed change, supported by the US Navy, is to eliminate

“potential to disturb” harassment, so that activities that caused non-harmful behavioral changes would not be considered harassment. Cathy Campbell provided the group with a handout of MMPA changes proposed by the Administration (PSRG-19).

NMFS Oversight of Non-Fishery Marine Mammal Interactions

Doyle Hanan and Mark Fraker described a recent project in which they placed observers aboard two cable-laying ships. Hanan asked for clarification on how NMFS determines the mitigation measures required for such non-fishery enforcement of the MMPA. Cathy Campbell explained that NMFS gives recommendations for observers on cable-laying ships, but does not require them. The CA Coastal Commission often incorporates NMFS’ recommendations as terms for their permit.

Working Group on Recovery Factors

The SRG’s experience with the PBR guidelines has suggested the need for a gradation in recovery factors for endangered species that better reflects the gradation in risks these populations face. At the April 1999 joint meeting of the SRGs in Seattle, Taylor *et al.* presented a hierarchical decision tree to provide a consistent method for changing recovery factors from the default value of 0.1. After discussions during the meeting, a hierarchy of three factors was proposed: 1) the vulnerability of the population to human-related mortality, 2) the population level, and 3) the population trend. The joint SRGs did not formally adopt the revised scheme, but the Pacific SRG viewed the decision tree favorably and urged that further work be done to implement it. Barbara Taylor and a small working group (Barlow, Heyning, and Scott) revised the original proposal for consideration by the full SRG (PSRG-10). If PSRG-10 is adopted by the Pacific SRG, it could result change of recovery factor for the CA/OR/WA stock of fin whales from 0.1 to 0.3, but no other immediate changes are expected for stocks reviewed by the Pacific SRG.

Kathy Ralls suggested strengthening the basis of using N_{\min} of 1500. It was emphasized that this process would only be applied to endangered species; it does not apply to populations that are naturally small. Another point brought up that could be cause for future concern is in quantifying vulnerability. The SRG agreed that PSRG-10 is a good starting point of guidelines to be incorporated into upcoming SARs. The SRG recommended that (1) the report be appended to the federal registry notice, (2) the title be changed to “guidelines” and (3) in the introduction, mention that the report was in response to requests from the Pacific SRG.

Low Frequency Sonar

Jay Barlow described a recent beaked whale stranding event in the southern Gulf of California that may have been associated with active acoustic research being conducted by Columbia University and funded by the National Science Foundation. There is currently a lawsuit pending against Columbia University on this issue. There were marine mammal observers on the ship; however, Jay summarized based on previous research that 1) no visual survey could reliably detect more than a small fraction of beaked whales, 2) no acoustic alternative exists, and 3) there is no practical mitigation. The Navy is currently funding acoustic research on beaked whales.

HAWAII ISSUES

Hawaiian Monk Seals

Jason Baker reviewed efforts of the monk seal recovery team, but a revised SAR was not available for this SRG meeting (it was sent to SRG members for comments in December 2002). A new monk seal recovery team met late last year to draft a new recovery plan. The minimum population estimate in 2001 was 1,437 animals and in 2002 was 1,378 animals, with PBR declining from 5 to 4.8. The population has been relatively stable since 1993, with an estimated population decline of -0.7/year. Aerial surveys were conducted over the main Hawaiian Islands and significant numbers of monk seals were seen on unpopulated beaches of the main Hawaiian Islands ($N_{\min} = 52$). This segment of the population may be growing.

There are several issues inhibiting monk seal recovery including fishery entanglements, marine debris, unusual mortalities, and shark predation. There has been little change in the fisheries, and the lobster fishery is still closed. Derelict fishing gear is a large cause for concern and debris cleanups were undertaken from 1996 to 2001. There was an unusual mortality event in 2001 with deaths of four yearlings at Laysan Island in 9 days and at least 11 deaths in the northwest Hawaiian Islands. Necropsy results from six seals revealed emaciation, but no infectious diseases or toxicosis. Additionally in 2001, the yearling age class at Laysan declined significantly. Another contributor to monk seal mortality is predation by Galapagos sharks on pups at Trig Island, French Frigate Shoals. This is a growing problem with approximately 11 deaths in both 2001 and 2002. Shark removal and tagging projects were initiated. Hubbs-Sea World Research Institute was contracted for satellite telemetry work and tagged 42 seals from 2000 to 2001 and 54 from 2001 to 2002.

Hannah Bernard briefed the group on a meeting convened in Kauai by the Marine Mammal Commission (MMC) to discuss issues of monk seal management in the main Hawaiian Islands. Monk seal counts have been conducted in the past by the state and volunteers, but no coordination existed between different agencies. There was additionally pup monitoring being conducted and mothers were growing more aggressive towards people. Bernard indicated that coordination of monk seal research, with standardized data collection, is needed and suggested that NMFS provide funding to carry this out.

Hawaii Stranding Network

Paul Nachtigall presented information on the recently established Hawaiian Island stranding response group. Their goals are to better respond to marine mammal strandings, improve communication among interested people, and to rehabilitate stranded animals. Their work to date has included removing hooks from animals for immediate release, removing carcasses from beaches, and rehabilitating animals. Hearing studies have also been conducted on animals being rehabilitated. Cathy Campbell informed the group that there will be an international stranding workshop scheduled for 2004 to standardize data collection and methods.

The Hawaiian Island Stranding response group applied for a Prescott grant for FY02 and still has not been informed if they will receive funding. Cathy updated the group on Prescott funding and said that applications were sent to headquarters but lack of staff has delayed processing. All applicants should be informed by the end of the year. The SRG acknowledged the progress made,

but thought that there is need for further improvement of the stranding network.

Hawaiian Spinner Dolphins

Marc Lammers presented information collected since 1996 on the occurrence and behavior of spinner dolphins off Oahu. A resident population of spinners occurs near shore during the day and moves offshore to forage in the afternoon/evening. Research was conducted due to concern over the high numbers of dolphin-watching boats in this area. The research objectives were to estimate how the spinners use the near-shore environment. Vessel-based transects with visual tracking and behavioral sampling found that animals aggregate in the morning and then fragment into resting units, with their peak rest time being 1300-1500. The greatest cause for concern seemed to be when human encroachment affects them during their resting period, potentially affecting their energy budget. It was suggested that coming up with guidelines for observers (*i.e.*: only morning trips) could help alleviate the impact on the dolphins. It was noted that education is the key solution to this problem.

Jan Östman-Lind presented information on spinner dolphins from the Big Island, focusing on population estimates, movement and habitat. The population was estimated to be 2,334 (based on data from 1989 to 1991) with approximately 29% of the dolphins identified from each school. The Big Island population, like Oahu, has potential human impacts in their critical resting habitat threatening to cause long-term changes in their movement and habitat use. Östman-Lind currently has a grant to provide a training program to educate commercial captains about how to approach dolphins without disturbing their rest behavior. Östman-Lind's plans to update population estimates based on a photo-identification.

Hawaiian Bottlenose Dolphins

Research was conducted by Robin Baird and presented by Jay Barlow on bottlenose dolphins from the Big Island, Maui, Lanai and Molokai. A photo-id study in this region (PSRG-7) found that approximately 82% had distinctive markings. The population size was estimated to be around 134 animals. This would be considered a relatively small population if it was a pelagic population, therefore, a follow-up study was done to determine if this population of dolphins were resident or pelagic (PSRG-8). This latter study showed no evidence of any movement between the islands and it appears that they don't cross deep channels. Robin Baird's future work (funded by SWFSC) includes a spring trip around the main Hawaiian Islands to increase the bottlenose photo-id catalog and to increase biopsy sampling of all species.

Hawaii Longline Fishery

Karin Forney presented information from the Hawaii longline fishery observer program (PSRG-15). Observer coverage has increased in the past couple of years, from 4% during 1994-98 to 20-30% in 2001-2002. There were 44 marine mammal interactions recorded from 1994-2001, with an interaction rate (entanglements and hookings) of approximately 1 in 20 trips. Fishing effort has switched from swordfish north of Hawaii to tuna south of Hawaii, due to turtle regulations. It has been noted that marine mammals are persistently observed near fishing vessels eating fish off the lines, but they get caught only occasionally. Doyle Hanan mentioned the possibility of doing a bootstrap analysis on the data. In the mortality table, Forney pointed out that there are large

numbers of “unknown” and “unidentified cetacean” that she suspects that are often due to confusion between *Pseudorca* and *Globicephala*. Species identification could be improved with better observer training, photographs, and skin biopsies. The SRG noted the discrepancy of the California-based longline fishery being a Category 2 fishery, while the Hawaii-based longline fishery is Category 3 and reiterated its recommendation that the Hawaii longline fishery be recategorized.

The SRG continues to recommend that the Hawaii longline fishery be reclassified from its current Category III classification to Category II. The California-based longline fishery is classified Category II, even though this fishery has no observed takes of marine mammals. The Hawaii longline fishery has observed takes of marine mammal stocks in excess of PBR that could warrant Category I classification. It is inconsistent for this fishery to remain Category III.

Chuck Janisse reported that the Western Pacific Fishery Management Council's most recent pelagic fisheries report identifies 164 longline fishery permits for Hawaii, 63 for American Samoa, 5 for Guam, and 1 for the Northern Mariana Islands. Of the 164 Hawaii longline permits, 26 of these do not have vessels attached to the permits, suggesting that these 26 permits most, if not all of the California based longline fishery, operating outside of the EEZ. There is also at least 1 vessel participating in this fishery that is not a Hawaiian longline fishery permit holder. The California-based fishery is proposed to be regulated under an FMP developed by the Pacific Fishery Management Council, and submitted to NMFS for adoption. Because of the increasing focus on marine mammal interactions with Pacific pelagic longline fisheries, the SRG noted that it was important to have a longline fisheries expert involved in its work and proposed that the Hawaiian Longline Association be invited to participate at the next SRG meeting.

***Pseudorca* and *Globicephala* Genetics**

Susan Chivers gave a presentation on the genetics of *Pseudorca* and *Globicephala*. There are 63 *Pseudorca* samples (37 ETP, 19 HI, 3 W. Pacific, 2 Central Indian Ocean, and 2 from W. Atlantic) that have been analyzed. Low genetic diversity was found amongst all of them, but the authors could distinguish between the Pacific and Atlantic stocks. There were 15 haplotypes found and there was no overlap from the different regions. Results showed evidence for population structure for the Hawaii animals, with their haplotypes being quite different from the ETP samples, although there is a gap in sampling between the ETP and Hawaii. The SRG recommended collecting biopsies from the fishery and this could help find possible intermediary haplotypes between those two regions.

Analyses of the 52 *Globicephala* samples (37 ETP, 13 HI, and 2 from W. Atlantic) showed similar results to the *Pseudorca*. Of the 9 haplotypes found, 6 were from the ETP, 1 from Hawaii, and 2 from the Western Atlantic. Again, there were no shared haplotypes amongst the different regions sampled. The results suggested a sub-population of *Globicephala* in Hawaii; however, there were no biopsies taken between these widely separated different areas.

Hawaiian Island Ecosystem and Abundance Survey

Jay Barlow updated the group on the Hawaiian Island Ecosystem and Abundance Survey

(HICEAS) which began in July 2002 and will end in early December. It is a line transect survey using the *David Starr Jordan* for the entirety and the *McArthur* for the last two months. In addition to observers, an acoustic survey is being conducted on the *Jordan* with a towed hydrophone array. The survey is confined to the Hawaiian EEZ due to limited resources and the MMPA requirement for SARs in U.S. waters. The area has proved to be relatively barren, averaging only two sightings per day. Some notable preliminary results from the cruise: there have been no sightings of *Pseudorca* in Beaufort <6; there have been several sightings of Bryde's whales in the western area of the survey; sperm whales have been fairly prevalent acoustically and visually throughout the area. It is possible that Hawaiian cetaceans will be surveyed every four or five years and, NMFS plans to fund aerial surveys of spinner dolphins around the main islands next year.

Review of Hawaiian Marine Mammal SARs

Karin Forney discussed changes to previous SARs for Hawaiian marine mammals (PSRG-1B and 15). John Heyning positively identified one unidentified beaked whale that was killed in the long-line fishery in 2002 as *Mesoplodon densirostris* based on photographs taken by the on-board observer. This stock may be categorized as strategic next year after complete mortality data for 2002 can be included in calculations. Doyle Hanan pointed out that all of the SARs for this region say that gillnets are used, but they are actually a near-shore recreation/subsistence fishery that can sell the products. This fishery has never been observed. Because by-catch is not allowed by law, no bycatch is reported. Hannah Bernard informed the group that there has been a recent revision of lay net fisheries (set gillnet fisheries) by the state (PSRG-20). The group agreed that all relevant SARs should mention that there are near-shore gillnets that are not observed.

Hawaiian spotted dolphins

For spotted dolphins there was 1 mortality outside of the EEZ that was added in the text.

Hawaiian sperm whales

There were 2 sperm whale interactions added (1 inside of and 1 outside of the EEZ) and in both cases they were freed and had no serious injury or mortality. It was suggested to change the text to, "although there have been entanglements, there are no known mortalities or serious injuries".

Bottlenose dolphins

Robin Baird's photo ID work was added to this SAR and an abundance estimate will be added later.

Pseudorca

For this species a table of takes was included because they were complicated. All years were included in the table and 1997 through 2001 were used for mortality estimates. The group concluded that the table should remain, but the data from outside of the EEZ should be removed and included in the text of the caption. Tim Price noted that the SARs are inconsistent in this regards.

Short-finned pilot whales

The group recommended that the first paragraph state that these whales may be genetically

distinct, that the human-caused mortality section be clarified, and that the Status section should include PBR.

REVIEW OF WEST COAST FISHERIES

California Drift Gillnet Fishery

Cathy Campbell presented information for the drift gillnet fishery in 2002 through 8 November. Only four species have takes greater than 10% of PBR (northern right whale dolphins, short-finned pilot whales, sperm whales and fin whales). They are proposing to change this fishery to Category 2 because takes of all species are no longer greater than 50% of PBR (it is now at 47% of PBR for sperm whales). This change is supported by the take reduction team (TRT). Campbell reminded the group of closures due to sea turtles. The TRT recommended: having June, July and August closed but leaving January open or alternatively to move the boundaries during El Niño years; maintain requirements for extenders and pingers; explore other pinger frequencies; hold workshops only for new skippers; have dockside enforcement of unobservable boats; hold special workshops for violators; and observe the small-mesh drift gillnet fishery (currently being done).

Central California Gillnet Fishery

Karin Forney reported that the gillnet closure inside of 60 fathoms from Point Arguello to Point Reyes has been made permanent by California regulations.

Review of Other Fisheries

Doyle Hanan presented information on a groundfish plan being proposed for the fishery management council. The plan proposes significant reductions in the groundfish fishery and Hanan prepared information for the council on protected species which looked at alternatives in the plan and how they may affect marine mammals. There has been a proposed closure for trawling in California and Washington from 50 to either 150 or 250 fathoms (depending on the area). Additionally, the spot prawn fishery was closed due to bycatch of overfished rockfish.

New California Legislation

Dale Sweetnam presented information on new California legislation. On 23 October 2002, the California Fish and Game Commission declared area closures for Marine Protected Areas which includes 25% of the area around the Channel Islands and is now closed. The Xantus' murrelet was accepted for threatened candidacy by the state. On 15 February 2002, a ban on the use of light- and audio-generating equipment within 1 mile of Anacapa and Santa Barbara Islands was instituted while the proposed Xantus' murrelet listing is being evaluated. A near-shore fishery management plan was adopted, although final regulations are not yet implemented. This plan has gear regulations and allocates 80% of the catch to the recreation fishery. The proposed squid fishery management plan was put off until next year due to the groundfish closure.

Highly Migratory Species Fishery Management Plan

Chuck Janisse briefed the group on the Highly Migratory Species Fishery Management Plan. The plan was approved by the Pacific Fishery Management Council in November. The intent was

to incorporate all west coast highly migratory species fishery regulations now located in the section of the Code of Federal Regulations (CFR) reserved for regulations promulgated under the MMPA, or located in the section of the CFRs reserved for regulations promulgated under the ESA into the section of the CFRs reserved for regulations promulgated under the Magnuson-Stevens Fishery Conservation and Management Act.) The result will be that the Council will now become involved in MMPA and ESA regulatory processes for west coast fisheries targeting highly migratory species (swordfish, tuna, dorado, pelagic sharks). Cathy Campbell thought that the MMPA will be left separate. Janisse noted that the commercial fishing industry representatives on the HMS advisory sub-panel did not to support the plan adopted by the Council.

Small-Mesh Fishery

Cathy Campbell briefed the group on the small-mesh drift gillnet fishery which came up as an issue at the January SRG meeting. The fishery is defined as mesh size greater than 3.5 inches and less than 14 inches. It is currently a Category 2 fishery and the start of the fishery coincided with the closure of the halibut fishery. Fishermen are using small mesh to target tuna off Central California and yellowtail and white sea bass off Southern California. They have lumped the two fisheries because they overlap. The Central Coast will be affected by the Highly Migratory Species Fishery Management Plan. There is a low level of observer coverage for this fishery, and there is one documented take of a CA sea lion in the yellowtail component of the fishery. Pingers and extenders are not currently required for the fishery.

ORCAWALE 2001 SURVEY RESULTS

Jay Barlow summarized the results of the line-transect survey off Oregon, California and Washington (ORCAWALE) in 2001(PSRG-4). The 2001 abundance estimates were combined with data from 1991 and 1996 surveys to improve detection functions. The SARs are limited to 1996 and 2001 data due to the 8-year rule. The data are spotty for some species (*i.e.*: Dall's porpoise, beaked whales, and *Kogia*) because of limited effort due to vessel breakdowns and bad weather in some areas. Three aerial surveys are planned for 2003 to estimate the abundance of the California coastal stock of bottlenose dolphins.

REVIEW OF SARs

Jay Barlow, Karin Forney, and Marcia Muto summarized the remainder of the SARs (PSRG-1a, 2). The SRG made two general suggestions for SARs: to be consistent in mentioning fishery mortalities and when the SAR contains a section on noise being implicated in deaths or injury, it should be included in the "human-caused mortality" section. Noise pollution would still be in the section on habitat concerns.

Fin whales

Following the recovery factor guidelines (PSRG-10) the recovery factor for fin whales should be changed from 0.1 to 0.3 (because the minimum population size is now above 1500).

Pilot Whales

Pilot whales currently have an abundance estimate of zero due to truncation of data, following the method used on other species falling in the “large delphinid” category. Karin suggested extending the time period to get an average abundance over a longer span, though Chuck pointed out that it would then also be necessary to extend the years for which mortality is estimated. The group recommended lumping pilot whales with “medium sized whales”, which could be justified based on the GAM coefficient. This would prevent truncation of sightings made during the most recent survey, and would eliminate the abundance estimate of zero when it is known that animals are there.

California sea lions

There was a recommendation that the human caused mortality section of the SAR should contain a brief summary of the historical depletion of the species.

Harbor porpoise

There are three new stocks of California harbor porpoise (Morro Bay, Monterey Bay, and San-Francisco-Russian River stocks) and the two southern stocks are in the range of the set gillnet fishery. In September of 2002, there was a permanent ban out to 60 fathoms which should eliminate harbor porpoise takes from the Morro Bay and Monterey Bay stocks (an emergency closure in 2001 that had since lapsed). The SAR for the San Francisco-Russian River stock will be updated to include a mortality estimate based on fishery-related strandings

Blue and humpback whales

The draft SARs had not yet been completed for blue or humpback whales (it was sent via email to individual SRG members for comments in December 2002). Initial results from John Calambokidis showed that humpback whale abundance has decreased about 30% and blue whale abundance has stayed about the same. John Heyning reported that they found high concentrations of domoic acid in blue whales and in humpbacks in 2000 and 2002, however the sample sizes were low.

Northern fur seals

It was suggested that self reports from the gillnet fishery be removed from Table 1.

Harbor seals - OR/WA coast stock and WA inland waters stock

Harbor seals were surveyed in Oregon and Washington waters and several recommendations were given by the group: (1) use old entanglement records but recent fishing effort to estimate mortality, (2) include recent information on the Columbia River test fisheries, (3) state that the Washington inland waters “stock is at OSP”, citing S. Jeffries *et al.*, in press.

Harbor porpoise - OR/WA coast stock and WA inland waters stock

For both of these, it was suggested that Table 1 include the fishing area locations, and that the last paragraph for the WA inland waters stock be removed.

Killer whales

For the Eastern North Pacific Southern Resident stock, it was recommended that the table be removed because there were no mortalities.

Harbor Seal Surveys

Dale Sweetnam of the California Department of Fish and Game (CDFG) gave a presentation of preliminary results from the 2002 harbor seal aerial survey (PSRG-5 and 6). Aerial surveys have been conducted on harbor seals since 1982, covering 1,100 miles of coastline with a goal to include the Channel Islands. In 2001 they found a 50% reduction in harbor seal counts, so in 2002 there was additional effort with CDFG flying two surveys and Mark Lowry of NMFS flying one (PSRG-11). Despite surveying the same areas just a day apart, there were major discrepancies in the results, with NMFS data being almost twice as high as CDFG. This could be due possibly to weather, missing important beaches, potential method biases, and/or differences in levels of experience between surveys. Tim Ragen pointed out that this direct comparison study exemplifies the inaccuracies in abundance estimates and CV's that are often just accepted. Jay mentioned that when comparing trend sites (PSRG-11), there was a flat trend which is reassuring. The SRG agreed that for the harbor seal SAR, N_{\min} should be based on the NMFS survey. Future research should investigate how the numbers from both CDFG and NMFS can be used to improve trends and variance.

Harbor Porpoise Survey

Marcia Muto presented results of a harbor porpoise survey flown off Oregon, Washington, and southern British Columbia in 2002. There are no new abundance estimates for the harbor porpoise SARs this year. Jeff Laake has preliminary numbers, but wants to repeat the survey next year before updating the SAR abundance estimates. Laake calibrated aerial and small vessel surveys. He is also investigating the potential to use trends in abundance as an alternative to the PBR approach to determine the sustainability of harbor porpoise bycatch in the Puget Sound fisheries. Terry Wright and Steve Jeffries questioned this method, pointing out that it is indirect.

One problem brought up is the difficulty of getting permits in National Marine Sanctuaries to fly aerial surveys and this is inhibiting research. Steve Jeffries has had this problem in Northern Washington, and one section of the 2002 harbor porpoise survey in Washington could not be completed because of overflight restrictions. Karin Forney mentioned that SWFSC has also had some problems with restricted areas in Monterey Bay and Channel Islands National Marine Sanctuaries. Jeffries has gotten around this problem by flying surveys in enforcement planes because they are exempt from permits. The SRG expressed the need for aerial research in these areas and for solving the permit problems.

Domoic Acid

John Heyning presented results of research on an unusual mortality event in Southern California in the Spring of 2002 (PSRG-17). There was an increase in mortalities that was first noted in common dolphins. The number of species affected and mortalities from the domoic acid were high; including 90 cetaceans and thousands of pinnipeds. Essentially all large animals, including seabirds, that washed ashore had been exposed to domoic acid. In sea lions, it can be determined if domoic acid was the cause of death because they get lesions on their hippocampus, but

it is more difficult to tell in cetaceans. They also looked into morbillivirus for the stranded animals and found one animal had been exposed.

Update on Biopsy Sampling

Susan Chivers summarized the stock structure of common dolphins determined from biopsy samples. Animals taken from the fishery were sequenced and pooled in three strata off California: 1) northern CA (Russian River to the CA/OR border), 2) central CA (Pt. Conception to the Russian River), and 3) southern CA (Mexico to just south of the Channel Islands). Additionally, there was an ETP stratum. Results showed that only the southern California stratum was genetically distinct. If supported by larger samples, these results will likely result in the designation of two stocks of shortbeaked common dolphins along the west coast. Gulf of Alaska/Bering Sea cruises led to an increase in the number of samples of killer and sperm whales, but they have not been analyzed yet. Tim Ragen said that he has biopsy samples from Shumagin Island that could be added to the database.

Blue and Humpback Whales

Jay Barlow presented on the work of John Calambokidis (PSRG-16) on blue and humpback whales, with combing data from SWFSC line transect work. Data included line-transect, photo ID, and biopsy sampling. There was additional mark recapture research done on humpbacks and resulted in abundance estimates going down between 1999 and 2000. John Heyning mentioned that there was domoic acid present in the spring of 2000 and this is known to effect humpbacks. Barlow solicited the SRG's input on abundance for the SAR: if the decrease in humpbacks is due to emigration, then it would make sense to include more years to average the abundance over, but if the number of humpbacks actually decreases, averaging wouldn't be the best method. The SRG recommended using the mark-recapture data for humpback abundance estimates because of the better precision.

Blue whales surveyed in 2001 on the ORCAWALE cruise, had a low sample size and resulted in an abundance estimate of about 1000 (from 2000 previously). In the past they have averaged line-transect and mark-recapture data which would result in about 1,600 blue whales, a slight decline from previous estimates. TDRs and acoustic recorders have been attached to blue whales and will help with the correction factor on aerial surveys. John Calambokidis has been funded for another year of research. The SRG recommended estimating blue whale abundance using the same methods used in the past to be consistent.

Washington Sea Otters

Steve Jeffries gave a presentation on the status of Washington sea otters. The population is estimated to be approximately 550 animals. The SARs are expected to get through Fish and Wildlife (FWS) in January. There are three new SARs for Alaska and a revision of the California SAR is planned. The FWS wants a connection with the revision of SARs and ESA status reviews. For the Alaska SARs, $R_{\max} = 20\%$ (based on growth of sea otters in that area). Washington has previously used a default R_{\max} of 12% for the SARs, but this may be changed in the next revision (to 20%) because they are currently growing at 17-19%. For the British Columbia population, the estimated population is 2000 animals. This population is growing geographically close to the Washington

stock and it looks like the pups are starting to intermingle.

Next Meeting

The group scheduled the next meeting for 17-20 November 2003 in Seattle. It was decided that it will be three and a half days of meetings. The SRG particularly wants to devote time for an in-depth examination of Pacific longline fisheries under U.S. jurisdiction. A long-line fisherman should be invited to this session. Topics covered should be:

- 1) Hawaii issues (Review new abundance and bycatch estimates and review changes in the long-line fishery.
- 2) SARs (mainly for Hawaiian species with new abundance estimates and strategic stocks)
- 3) ZMRG

Review of Previous Research and Management Recommendations

Previously, the SRG has recommended that the Pacific pelagic longline fishery (based in Hawaii and the West Coast) be recategorized from a Category-III to a Category-II fishery because observer data indicated serious injuries have occurred to marine mammals. Even stronger evidence of marine mammal serious injury and mortality is now available to support reclassification and the SRG recommends again that it be reclassified as a Category-II fishery.

The NMFS has not reclassified this fishery.

The Southern Resident stock of killer whales is being considered 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 to determine their habitat and movements during the seasons when they are not seen in Puget Sound.
- 2) Biopsy sampling to determine population discreteness, genetic relationships, and genetic diversity within these pods.

The SRG also recommends that management, enforcement, and education activities be conducted in concert by the NMFS, Washington State Dept. of Fish and Wildlife, and Canadian agencies to reduce the harassment of killer whales by boats.

None of these recommendations have yet been initiated.

The SRG notes that the small-mesh gillnet closure within 60 fathoms proposed by the State of California for their central coast will likely reduce mortalities of harbor porpoises and sea otters in an area of concern. In the event that any gillnet fisheries continue operating within the proposed closure area, the SRG recommends that NMFS promptly initiate an observer program to monitor mortality of marine mammals.

The state of California has closed this area for fishing.

The SRG notes that management of marine mammal-fisheries interactions have often been complicated by management and legal decisions concerning other protected species such as sea turtles and sea birds. The SRG recommends that Take Reduction Teams include members with expertise in all protected species affected by the fishery, and that the Team consider these multiple-species problems in its recommendations.

Peter Dutton of the SWFSC has provided his expertise as a turtle biologist to the TRT.

The SRG recommends that the California small-mesh driftnet fishery for albacore be monitored,

when it occurs, by observers to characterize the fishery and gather information about marine mammal mortality.

Currently this fishery is high priority to be observed, and NMFS plans to place observers on board vessels as soon as fishing takes place again; however, there has not been any activity so far in 2002. Dale Sweetnam indicated that this fishery is not currently a permitted fishery in CA waters.

The SRG recommends that priorities for Prescott Grant funding for stranding programs take into account specific needs identified through Scientific Review Group and Take Reduction Team processes, recognizing that the data needs for health assessment are broad, requiring information on such topics as life history, food habits, and population structure.

Due to manpower limitations, applications have not been processed for Prescott funds, although this should be completed before the end of the year.

The SRG recommends that the USFWS update and finalize its Stock Assessment Report on southern sea otters so that the USFWS and the SRG can meet their statutory responsibilities under the MMPA to review annually the Stock Assessment Reports of strategic stocks. The last SAR on southern sea otters reviewed by the SRG was a draft version updated in 1997.

No SAR has been completed yet for this stock.

RESEARCH AND MANAGEMENT RECOMMENDATIONS
Pacific Scientific Review Group – November, 2002

The SRG has repeatedly recommended that the Hawaii pelagic longline fishery be recategorized from a Category-III to a Category-II fishery because observer data indicated serious injuries have occurred to marine mammals and the take of one species (the false killer whale) is still above PBR, and to make this fishery consistent with other U.S. longline fisheries, including the California-based fishery whose fishing grounds overlap those of the Hawaii-based fishery.

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 NMFS implements a standard protocol of photo documentation of each take and biopsy sampling whenever possible.

The SRG recommends that the USFWS update and finalize its Stock Assessment Report on southern sea otters so that the USFWS and the SRG can meet their statutory responsibilities under the MMPA to review annually the Stock Assessment Reports of strategic stocks. The last SAR on southern sea otters reviewed by the SRG was a draft version updated in 1997.

Appendix 1

Attendees at the 13th Meeting of the Pacific Scientific Review Group

Scientific Review Group- Pacific Region:

Hannah Bernard

Maui Ocean Center

Robin Brown (not attending)

Oregon Department of Fish and Wildlife, Marine Region

Doyle Hanan

Hanan & Associates, Inc.

Mark Fraker

Terramar Environmental Research

John Heyning

Natural History Museum of Los Angeles County

Chuck Janisse

Federated Independent Seafood Harvesters

Steve Jeffries

Washington Department of Fish and Wildlife, Marine Mammal Investigations

Katherine Ralls

Department of Zoological Research, National Zoological Park, Smithsonian Institution

Michael Scott (not attending)

Inter-American Tropical Tuna Commission

Terry Wright

Manager of Enhancement Services, Northwest Indian Fisheries Commission

Invited Participants and Observers:

NMFS Southwest Fisheries Science Center

Jay Barlow

Jenna Borberg

Susan Chivers

Jason Baker

Karin Forney

NMFS SW Region

Cathy Campbell

National Marine Mammal Laboratory

Marcia Muto

Marine Mammal Commission

Tim Ragen

California Department of Fish and Game

Dale Sweetnam

Tara Cox

University of Hawaii

Marc Lammers

Wild Dolphin Research Foundation, Inc.

Jan Östman-Lind

Hawaii Stranding Network

Paul Nachtigall

Interested Public

Chris John

Marlee Breese

Appendix 2

SRG Documents

- 1a) SWFSC Revised SARs
- 1b) SWFSC Revised Hawai'i SARs
- 2) NMML Revised SARs
- 3) Preliminary estimates of cetacean mortality in CA gillnet fisheries for 2001. (Carretta 2002)
- 4) Preliminary estimates of Abundance of Cetaceans along the U.S. West Coast: 1991-2001 (Barlow, manuscript)
- 5) Survey results from SWFSC harbor seal survey (Mark Lowry)
- 6) Survey results from CDFG harbor seal survey (handout from Dale Sweetnam)
- 7) Mark-recapture abundance estimate of bottlenose dolphins (*Tursiops truncatus*) around Maui and Lana'i, Hawai'i, during the winter of 2000/2001. (Baird *et al.*, contract report, 2001)
- 8) An examination of movements of bottlenose dolphins between islands of the Hawaiian Island Chain. (Baird, contract report, 2002)
- 9) Summary of Biological Review Team finding on listing Southern Resident killer whales
- 10) Report of working group on Recovery Factor (Barb Taylor *et al.*)
- 11) Report of the CA Harbor Seal Abundance Workshop, March 28-29, 2002. (SWFSC Admin Report LJ-02-02)
- 12) 2003 Draft SAR "Appendix 1: Description of U.S. Commercial Fisheries" (Carretta).
- 13) Southern resident killer whale. Not warranted finding under ESA (67 FR 44133; July 1, 2002)
- 14) Southern resident killer whale. Advance Notice of Proposed Rulemaking, depleted stock under MMPA (67 FR 44132; July 1, 2002).
- 15) Hawai'i longline fishery information (Forney)
- 16) Research on humpback and blue whales off California, Oregon and Washington in 2001. (Calambokidis *et al.* 2002).
- 17) Draft report on unusual mortality event along the southern California coast, 2002 (J.E. Heyning 2002).
- 18) Examination of population size, population structure and habitat use of insular cetaceans in Hawai'i (R.W. Baird 2002)
- 19) MMPA reauthorization : DOC/DOI Bill
- 20) Hawai'i Division of Aquatic Resources summary of proposed lay net regulations, July 2002

Appendix 3

Agenda for Pacific SRG Meeting Maui, Hawaii November 12-14, 2002

12 November

General topics

- Update on lawsuit and on the definition of ZMRG (Cathy Campbell)
- Update on ESA listing process for S. resident killer whales (Marcia Muto)
- Update on NMFS reorganization (Jay Barlow)
- Update on MMPA /Magnuson Act reauthorization (Tim Ragen)
- NMFS oversight of non-fishery marine mammal interactions (Doyle Hanan)
- Report by the Working Group on Recovery Factors (Heyning/Barlow)

Lunch

Hawaii Issues

- Monk seals -Recovery Team status/MMC meeting
(Jason Baker/Tim Ragen/Hannah Bernard)
- Review SAR
- Update on Hawaii longline fishery (Karin Forney)
- Pseudorca* and *Globicephala* genetics (Susan Chivers)
- Preliminary report on HI abundance cruise (Jay Barlow)
- Hawaii stranding network (Hannah Bernard)
- Low Frequency Sonar and potential for human-related mortality (Jay Barlow)
- Update on Hawaii research
 - Oahu spinner dolphins and humpbacks (Marc Lammers)
 - Big Island spinner dolphins (Jan Ostman-Lind)
 - Maui/Big Island bottlenose dolphins (Jay Barlow)
- Review HI SARs (1b)

Review day's recommendations

13 November

Review of West Coast fisheries

Update on CA driftnet fishery (Chuck Janisse)

Update Central California set gillnet fishery (Karin Forney)

Review of other fisheries

New CA legislation (Dale Sweetnam)

Highly Migratory Species Fishery Management Plan (Doyle Hanan)

ORCAWALE survey results (Jay Barlow)

Update on blue/humpback mark re-capture estimates (Jay Barlow)

Update on biopsy sampling in the Gulf of AK (Susan Chivers)

Lunch

Harbor seal census (Dale Sweetnam/Jay Barlow)

Review SAR

Domoic acid mortalities (John Heyning)

Review of SARs

Review day's recommendations

14 November

Review of SARs (1a,2,12)

Update on WA sea otters (Steve Jeffries)

Review progress on previous SRG recommendations

Current recommendations

Agenda items and timing for next meeting