

Minutes of the Atlantic Scientific Review Group Meeting

LSU, Baton Rouge, LA, 3-4 February 2010

Wednesday, 3 February 2010

1. Introduction

Chairman Joe DeAlteris called the meeting to order at 09:50. Introductions were made around the room, and Dr. Christopher D'Elia, Dean of School of the Coast and Environment welcomed the SRG to Louisiana State University (LSU).

2. Caribbean Membership Status

Gordon Waring (NEC) reviewed the history of recommendations for a Caribbean representative on the SRG. He reviewed the justification for not appointing an individual recommended by the SRG. NMFS staff presented a list of criteria which will be used to select a Caribbean member. This included the following: PhD or MA, scientific publications, well versed on Caribbean issues, actively working in the Caribbean, and previous involvement in working groups. Laura Engleby (SERO) provided a list of potential candidates to the SRG. Sharon Young said a consideration should be (gender) diversified membership and agreed that the SRG should be involved in the decision process. Tom Eagle (F/PR) indicated NMFS is looking for balance, and recognized that Gulf of Mexico issues may warrant additional expertise for this SRG, which was lost when Bill Lang retired from the group.

3. Manatee Stock Assessments and Updates

USFWS Participants: Jim Valade (Florida) and Jan Zegarra (Puerto Rico) via conference. After introductions, presentations were made on significant issues facing the Florida and Antillean Manatee Stocks. Valade discussed the ongoing Florida manatee mortality event in which a total of 248 carcasses have been documented since the first of the year; of these, 162 are preliminarily attributed to the cold (through February 8, 2010). For updates, see: <http://research.myfwc.com/manatees/>. A total of 16 rescues have taken place since the first of the year; of these, 9 are preliminarily attributed to cold stress. A total of 33 manatee carcasses are typically salvaged in the month of January, based on a five-year average for this time of year; an average of 7 deaths would have been expected due to cold.

A state-wide synoptic survey was flown on January 14, 2010. Observers counted at least 5,067 manatees, a record count for the Florida manatee. Twenty one observers from 10 organizations were involved in the count. They counted 2,779 manatees on Florida's East Coast and 2,288 on the West Coast.

Regarding the status of the Critical Habitat petition, the Service published a Federal Register Notice on January 12, 2010. It concluded: that “. . . revising critical habitat for the Florida manatee is needed, but the revision process is precluded by higher priority listing-related actions and funding constraints . . .”

The Service's Federal Register Notice on Manatee Stock Assessment Reports (SARs) was published on December 30, 2009, advising the public of the availability of the 2009 revised stock

assessment reports. (See: <http://www.fws.gov/northflorida/> and <http://www.fws.gov/caribbean/ES/>)

On the Antillean Manatee Stock, Zegarra said the FWS does not yet have a final mortality count for 2009. They know of at least five manatee deaths that occurred in Puerto Rico during 2009. The cause of those deaths could not be determined. The most recent manatee death was that of an emaciated, orphaned calf that was rescued and died shortly thereafter. The Service, in a collaborative effort with North Carolina State University, is developing aerial survey methods and models that should provide a better population estimate of manatees in Puerto Rico. The methodology will address improved detection probabilities.

In Rehab Program updates, the Caribbean Field Office submitted a MMPA/ESA Marine Mammal Enhancement Permit Application to the Service's Division of Management Authority (DMA) in 2009 to support manatee rescue and rehabilitation efforts in Puerto Rico. DMA is currently reviewing the application. The Service plans to release the captive-reared manatee "Tuque" soon. The manatee soft-release pen, to be used in the process, should be finished within the next month and the animal will then be staged for release.

The Service has communicated with the Puerto Rico Department of Natural and Environmental Resources (PRDNER) to identify areas in coastal Puerto Rico where manatee protected areas can be created. The Service's Caribbean Field Office has identified the Antillean manatee as one of its priority species this year.

Andy Read asked about the status of efforts to revise the State's synoptic survey methodology. Valade replied that the State of Florida proposed a new survey methodology a few years ago that was designed to provide more meaningful population estimates. The Commission tested the new method in the southwest Florida region; the data have yet to be analyzed and it's not known whether or not this will provide a better survey and modeling method to more accurately assess the Florida manatee population. (Methods include overlaying a grid over maps of manatee habitat. Each grid square is numbered and then squares to be surveyed are identified using a random number generator. Identified squares are then surveyed intensely. Proposed methods include surveying both the randomly selected squares and warm-water sites during the winter.)

Young asked if there are any updates on Service efforts to develop OSP for manatees. Valade said he has no details at present, although he has heard that Michael Runge and his collaborators have concluded their analyses and are looking to publish very soon.

Valade was asked for thoughts on why there was such a high manatee count in Florida and what the political ramification would be. He said it's been suggested that the count may, in part, be attributed to the extended, very cold weather event that occurred just prior to the count, as well as to excellent survey conditions. (Given the cold weather extremes, most manatees sought out the warm-water sites to buffer the effects of the cold. As such, there were probably fewer manatees outside of the warm-water sites where they have historically been difficult to detect.). Some people believe that, with this high number, the boating restrictions (slow speed and no entry restrictions) should be relaxed. Others say that, given PBR, it is obvious that we still haven't got a good handle on threats and that the agencies need to do even more. State

politicians have commented that, since manatees are doing better, manatee funds might be better used elsewhere.

Valade was asked for an explanation of the spike in the number of rescued animals. He said it was his understanding that the number of rescues occurring each year is increasing, although he's unaware of any "spike" in that number. There was a record number of manatee rescues last year (96), including 37 assist and release events and 54 animals brought into captivity. The increase is consistent with overall abundance trends and does not appear to be remarkable. Primary causes of rescue include natural causes and entanglements (entanglement rescue numbers are skewed by a small number of individuals that entangle repeatedly each year).

Dave Gouveia (NERO) asked about survival rates of treated animals that are subsequently released. Valade replied that evaluations of the success of treated, high-risk animals (that is, captive born animals, hand-reared orphans, and long term captives) that are tagged at release are on-going. Preliminarily, over half of the high risk animals that retain their tags seem to do okay. The amount of wild experience an animal had prior to rehab seems to be a significant indicator of whether or not the animal will survive. (This is a small sub-set of the total number of animals released during the 37 year duration of this program.) Overall, they believe that treated animals that have been released generally do pretty well. FWS has been releasing animals since the 1970s and has learned a lot about improving the odds that a released animal will survive.

Valade was asked what plans the Service had to revise the manatee SARs? He said the Service has not decided if the manatee SARs will be revised this year. It's possible that the Service will review the SARs and conclude that no revisions are necessary. Or, in light of plans to update population assessments, any updated findings may justify revisions. FWS would like to coordinate very closely with NMFS and their timeline in hopes that they can produce revisions in a timely fashion consistent with the timing of NMFS' efforts.

Waring said NMFS revises its SARs consistent with the revision requirements identified in the MMPA. NMFS SARs are reviewed annually to see if a revision is warranted; if the review concludes that no revision is warranted, the SAR is not revised. However, revisions will be made if significant events occur that may affect the status of a species (e.g., mortality events, new population estimates or counts, significant modeling results, etc.). The SRG said they believe that the mortality event that's currently taking place would warrant a revision; similarly, the new synoptic count is also of such significance that a revision is warranted.

Read also commented that the Florida stock has not been split up, so that is inconsistent with NMFS SARs.

4. Proposed List of Fisheries

Engleby presented updates on the southeast fisheries sections of the 2009 LOF. SERO does not expect any major changes for 2010, but will look at stranding data for other potential gear conflicts. It also expects to place some observers on Gulf of Mexico menhaden fishing trips.

Allison Rosner (NERO) provided similar information for the northeast fisheries sections in the 2009 LOF. The purse seine fishery description will be updated. Cat II mixed trap/pot and Cat III eel trap/pot descriptions will be clarified. American eel (*Anguilla rostrata*) was listed on two fisheries; NMFS will be requesting public comments on including it as a Cat III fishery. NERO

also plans to incorporate the mid-Atlantic flynet fishery into mid-Atlantic bottom trawl. DeAlteris agreed that flynet should be considered as bottom trawls.

Dave Gouveia (NERO) said they are investigating how to improve their estimates of potentially active participants in each fishery. Rich Seagraves asked if NMFS utilizes the FMP data when they estimate participation. Gouveia said that they do utilize FMP data but noted that the problem is that the estimate of participation provided in FMP data is commonly based on specific fisheries not specific gear types as needed for the annual LOF and SAR processes. He stated that NERO wants to know how best to represent that number for the purposes of stock assessment reports. Seagraves said those numbers are also used to place observers and in the TRT process. Gouveia further explained that currently NMFS provides data by gear type for active and non-active participants. However, the state data is collected differently by each state. A single fishery permit may allow a fisherman to fish with multiple gear types, making estimates of active and non-active participation by a specific gear type difficult. Seagraves also suggested looking at trends as well as number of participants, as given new fisheries management activities, the agency should see a trend toward reduced effort.

5. Stranding Program / Events

Gouveia reviewed issues relative to the NER. Pinniped strandings have been on a decreasing trend since 2004 and were significantly low in 2009, especially harbor seals. There is a decreasing/stable trend for small cetaceans, with bottlenose dolphins, common dolphins, white-sided dolphins and harbor porpoises being the most frequent in that order. The National Strandings Database still does not support the entry of supplemental Human Interaction (HI) data collected by the stranding network. An HI Evaluation Protocol was developed by Sue Barco, Virginia Aquarium and Marine Science Museum, and Katie Touhey Moore, Cape Cod Stranding Network / IFAW. Along with this protocol, more detailed data sheets were developed and Network Members in the NER are utilizing the data sheets to collect more HI data. The NER does not have a database set up to support the HI data, therefore, in 2008, supplemental HI data are being keyed into an excel spreadsheet allowing the HI data to be in a useable format compared to hard copy files. This data is not currently being utilized for serious injury and mortality determinations or for any other research data request we receive. Of 420 strandings in 2009 ~60 were HI. Rehab = ~150, around half of which were successful. There were 23 draft confirmed mortalities of large cetaceans in 2009. Maybe 3 were ship strike, 4 fishery interaction (preliminary data). There were 26 Prescott proposals submitted, of which 12 were funded. Prescott is being expanded, and the focus expanded into disentanglement. A new Unusual Mortality Event (UME) was initiated in July off VA, triggered by 41 bottlenose dolphin mortalities in May, June and July. The UME is not closed yet. There were 29 new entanglement cases—7 right whale, 14 humpback, 3 fin, 1 unk, 4 minke. 12 animals were completely disentangled. 5 out of 7 right whales were completely disentangled giving a 70% disentanglement rate for right whales. In the disentanglement of right whale #3311, the team successfully used a new sedation gun and thinks they have determined the proper sedation dosage for right whales. 400 feet of rope were removed from that animal, however, sightings since show the animal in serious decline.

Jim Gilbert pointed out that when talking about stranding trends for pinnipeds, it is useful to separate pups from adults. Trends in adults will give a better idea of actual stranding trends.

Young said the largest number of large whale serious injury and mortality cases are in the “could not be determined” (CBD) category. She questioned how many of these were examined. Gouveia said he did not have the exact figure but recalled that the majority were not likely examined. Young expressed concern about whether the response rate to floaters is going to go down with reduced funding. Failure to examine floaters puts them as CBD which has management implications because they are not applied against PBR. It is important to necropsy as many of these animals as we possible. Gouveia agreed and recognized that it is a big information gap. Gouveia stated that we do try to get to them – when we have money and platforms – but often can’t relocate the carcass due to poor weather. The highest priority is responding to right whale floaters. NERO, SERO, and HQ have obtained a pool of funds dedicated to responding to floaters. However, additional funding is needed in this area.

David Laist (MMC) asked what efforts are made to retrieve the gear from entanglements, for example the right whale that was disentangled off Jeffrey’s Ledge in which the gear sank. Gouveia said NMFS makes every attempt to retrieve the gear. NOAA secured some funding to convene a workshop in August 2010 on how to mark the gear so later recovery can confirm that it was the gear on the animal.

Read asked about the anticipated timeline on the national strandings database. Gouveia said he did not know at this point. The database is developed but it is not usable for several reasons; Data Quality Assurance is not yet in place, the platform is not very user friendly, and there are structural complications. Dan Odell said part of the problem is that the data structure of the level A datasheets has changed over the years.

Regarding large whale disentanglement, Gouveia explained that in the past NOAA funded the Provincetown Center for Coastal Studies (PCCS) to disentangle animals, but due to funding constraints the Agency was forced to re-evaluate its Disentanglement Program and consider a more cost effective program. As such, NMFS developed a new approach for its Disentanglement Program that now forges partnerships with state agencies. PCCS is still involved but its scope has been narrowed from the entire Atlantic Coast to waters in and around Massachusetts. Rather than receiving funding directly through NMFS, PCCS now receives its funding through funds provided by NMFS to the state of Massachusetts. This change has resulted in a more efficient and cost effective program. Doug Nowacek said one thing to watch out for is when the whale moves between states. Figuring out which state to bill might add a layer of complexity which will hamper response. Engleby replied that they haven’t seen this funding situation unfold in cases of multi-state disentanglement responses. Gouveia added that a new NERO disentanglement & stranding hotline number has been launched.

Engleby presented southeast stranding updates. She reported on the stranding coverage changes & capacity building in the SEUS stranding network. The network is comprised of 18 stranding agreement holders, 4 designees, ~23 109h organizations, and 12 facilities that are authorized to perform rehabilitation. A total of 3,063 strandings occurred in the SER from 2005 through 2009. On average, there are 612 strandings/year in the SER, with the majority occurring in FL, NC, and TX. The most commonly stranded species in the SER are bottlenose dolphins (avg. = 463/year) and *Kogia* (avg.= 28/year). There were no UMEs in 2009.

Engleby gave an update on the Lake Pontchartrain, LA bottlenose dolphins. Since early spring 2007, a group of approximately 30-40 dolphins has been observed in Lake Pontchartrain.

NMFS/LADWF/Audubon Aquarium continue periodic monitoring of the dolphins. The salinity in the lake is 5-9 ppt and freshwater lesions are seen on the dolphins. A total of 9 dead dolphins have been recovered from Lake Pontchartrain since 2007. Keith Mullin (SEC) said he can post the NMFS SEFSC report to the Army Corps on the Lake Pontchartrain dolphins

There was a live stranded right whale first reported on 26 Jan 2009 on Cape Lookout Shoals, NC. It was a 2 year old previously entangled male with severe scoliosis, 975 cm in length. After an extremely challenging response effort, including partners from UNC Wilmington, NC State, NC Maritime Museum, National Park Service, Duke, NMFS Beaufort, and the USCG, the whale was euthanized.

There were 2 bottlenose dolphin disentanglements from recreational fishing gear in 2009, both successful. There were also 2 hurricane displaced dolphin rescues, one in Mud Lake, LA, and one in Clam Lake, TX. There were four other out-of-habitat dolphin responses. Other cases of interest include a dead Bryde's whale (*B. edeni*) found in Tampa Bay with strong evidence of antemortem blunt force trauma consistent with a ship/vessel strike.

Nowacek commented that he has a grad student from Trinidad and Tobago who wants to do stranding efforts there.

DeAlteris asked about scientific sampling takes in Texas. Stacey Horstman (SERO) replied that there was one take but it was released without serious injuries. DeAlteris also asked about crab pot depredation interactions. Nowacek indicated he has seen it, but that this doesn't apparently get reported to SERO as a potential problem. Don Baltz said they don't see these types of interactions in the murky waters of LA.

6. Take Reduction Plan Updates

Bottlenose Dolphin Take Reduction Team: Horstman presented an overview of the current status of the BDTRT. In 2009 the team convened a webinar covering stock structure revisions, evaluation of bias in estimating bycatch rates, a fishery update, a gear research update, and planning for the next meeting. Following the webinar, an in-person planning meeting was held Sept 9-11 in Wilmington, NC. The purpose of the meeting was to 1) review coastal stock structure revisions and mortality estimates and new BSE stocks, and 2) evaluate current BDTRP conservation measures given new stocks. A mortality estimate approach was discussed in which a range of mortality estimates is presented given the minimum and maximum of bycatch model scenarios. To help determine effectiveness of management measures and additional causes of mortality for unobserved fisheries, SEC completed a review of all *Tursiops* stranding data along the Atlantic coast from New Jersey through Florida's east coast from January 2002-April 2009.

Consensus recommendations were reached on both regulatory and non-regulatory measures. Regulatory measures included regulations pertaining to Virginia pound nets as follows: 1) extend current modified leader requirements; 2) extend time requirements for modified leader to year-round; 3) change the definition of inshore pound net from what is now defined in sea turtle regulations; 4) include the same pound net certifications and inspection program as in sea turtle regulations; and 5) maintain consistency between sea turtle regulations and forthcoming BDTRP regulations. A recommendation pertaining to the spiny dogfish fishery was to adopt permanent medium mesh gillnet nighttime restrictions in NC during the winter by removing the sunset

clause. The TRT identified research priorities as: 1) determine stock identity of bottlenose dolphin observed takes or strandings with evidence of fishery interaction (FI), by matching dorsal fin images to the mid-Atlantic Bottlenose Dolphin Catalog or obtaining genetic samples (provided from observers and stranding responders); 2) obtain reliable abundance estimates for each stock to ensure PBR is accurately determined and to place animals in correct stock; and 3) refine understanding of Northern North Carolina Estuarine Stock (NNCES) distribution in Pamlico Sound during summer using genetics and in ocean waters where there is an overlap with other stocks. Recommendations for the observer program were that there should be more documentation of dorsal fin images and biopsy samples, with whole carcasses collected if possible; and that observer coverage is needed for the NC inshore Spanish mackerel fishery in Pamlico Sound. Finally, recommendations were made for the blue crab pot fishery: to better characterize, understand, and potentially mitigate interactions in the crab trap fishery (4-tiered approach); and to recommend all states develop programs to remove derelict gear.

Potential BDTRP amendments are: 1) gear research exemption for stocks meeting long-term goal, 2) update affected fisheries to include Category II: Mid-Atlantic Menhaden Purse Seine Fishery, 3) update stock structure and stock names, and 4) update geographic scope/area of the plan.

The next steps for 2010 are to implement BDTRT's consensus recommendations from 2009 meeting and to prepare a proposed rule to amend the BDTRP.

DeAlteris asked if they had seen a difference in strandings after implementation of the modified leaders. Horstman said they haven't looked at that yet but will.

Read said he would like to discuss further the min-max approach to bycatch estimation. He explained that there is mixing with this stock and others, so analysts have conducted best and worst-case scenarios for stock assignment of bycatch. The weakness of this approach is where to assign mortality and how this affects PBR. He questioned whether a regulation can be proposed if one of two stocks (or models) is under PBR, and stressed the need for better information on these stocks. Debi Palka (NEC) said knowing the proportion of the overlapping animals would help the modeling. Read noted that the modeling could be improved, and he has talked with Lance Garrison (SEFSC) and Patty Rosel (SEFSC) about some ideas. The SRG will make a recommendation. Read also mentioned that NC is proposing seasonal large-mesh gillnet closures in estuary areas because of sea turtle bycatch.

Pelagic Longline Take Reduction Team: Engleby presented the updates to the PLTRT. On May 19, 2009 the final rule was published in the *Federal Register* (74 FR 23349) and became effective June 18, 2009. NMFS made minor changes between the proposed and final rules. These include clarifying that: 1) vessels must call in at least 48 hours, but no more than 96 hours, prior to departing on a fishing trip to the Cape Hatteras Special Research Area (CHSRA), 2) fishing vessels may depart immediately for a fishing trip in the CHSRA if no observer will be available, and 3) a vessel may transit through the CHSRA with pelagic longline gear onboard without meeting the observer and research requirements if that gear is stowed. The Platforms of Opportunity Program (POP) has been monitoring compliance with the CHSRA call-in requirement using vessel monitoring system (VMS), with the most recent assessment on 1/27/10. Compliance with the call-in requirement appears high.

Duke University is conducting research on interactions between pilot whales and PLL fishing gear in the mid-Atlantic bight (MAB) as recommended by the PLTRT. Kerstetter (NOVA Southeastern) is performing an evaluation of variable strength hooks to reduce serious injury pilot whale interactions in the PLL fishery.

In outreach efforts NMFS created a compliance guide for the rule, updated the PLTRP material used in the HMS protected species workshops, and coordinated a meeting in Manteo, NC on 9/15/09 to review the rule, discuss the POP in the MAB and CHSRA, and address fishermen's concerns.

For 2010, plans include monitoring compliance with the rule in coordination with the POP, Office of Law Enforcement (OLE), and US Coast Guard, continuing research efforts (funds to Sea Grant), and continuing quarterly bycatch updates to the PLTRT. A teleconference is planned with the PLTRT in 2010 to review stock changes, research, rule implementation and monitoring.

Atlantic Trawl Take Reduction Team: Gouveia stated that the TRT is currently in a monitoring mode. He noted that the Atlantic Trawl Gear Take Reduction Plan is actually considered a Take Reduction Strategy rather than a Take Reduction Plan. This is based on a legal opinion that determined that, at the time of its development, white sided dolphins, common dolphins, and pilot whales were not classified as strategic under the Marine Mammal Protection Act and because these species did not interact with a Category I Fishery. Gouveia stated that the strategy has both research and outreach components. NERO developed a placard about voluntary bycatch reduction measures which will be distributed to industry. Bycatch is being monitored and if required NERO will reconvene the team. DeAlteris said there is probably a bigger problem than the Agency is aware of because anecdotal information suggests that bycatch is going unreported. There is interest on the industry's part to solve the bycatch problem, but fishers are worried about the Agency looking over their shoulders. Read said the same thing happens in the longline fishery. Fishers are changing fishing practices when observers are on board. There was a suggestion made that one could look at catch rate differences between observed and non-observed trips to look for an "observer effect". Seagraves agreed that this problem exists in other fisheries as well. It is a big problem. The only real solution is pushing close to 100% observer coverage. He mentioned that this may be the cost of doing business to fish. Jack Lawson said they are running into the problem in Canada with smaller vessels that can't take observers. They are looking into video coverage. Read said the Alaska SRG would to be talk about that the following day. DeAlteris said the Cape Cod Hook Fisherman's Association was doing something with that. He thought that the project had not worked out but another SRG member drew attention to the CCHFA's website that showed they are still utilizing this technology. Seagraves pointed out that even with the technology, people need to plan in advance for the increase in the amount of the data stream, which means there would be a need for an increase in infrastructure funding for staff to filter and analyze the data.

Harbor Porpoise Take Reduction Team: Gouveia stated that this TRP is a good example for illustrating that the TRP/TRT process works. He specifically noted that there is good observer coverage for the affected fisheries but did mention that there is frustration from TRT members concerning the slowness of the rule making process. The plan went into place in 1998 and immediately reduced takes, but then takes started to increase. There was a compliance issue as

well as increased takes outside management areas. Accordingly, in the final rule, areas were added and expanded to address takes that occur outside of the current management areas, and new consequence closure areas were introduced to increase compliance with the pinger regulations. The consequence closure areas will only go into effect if specified bycatch rates are exceeded. The takes that could trigger the consequence areas won't be looked at until a full fishing season has been complete. The HPTP final rule has had three 90 day reviews and published the last day of the SRG meeting. Work is being conducted on a monitoring plan, a component that was originally lacking. Palka detailed takes in 2009. Young said it is disconcerting that the industry doesn't seem to be complying until they need to. Gouveia said they are working with NMFS enforcement to help increase enforcement of pinger requirements. Now that observers have pinger testers that information will be more readily available to enforcement. Nowacek said new pingers right out of the box are not doing what they are supposed to be doing; their signal variability is all over the place. Read said there is ongoing effort to develop higher tech high-output pingers, which will be used in depredation situations. Laist asked Gouveia about harbor porpoise takes in Canada. Read said we should at least ask DFO for numbers of vessels fishing gillnets, specifically in the Bay of Fundy. Lawson said he would help NMFS obtain those data but that DFO will most likely not go down the pinger requirement road. Gouveia said NMFS has funded 2 harbor porpoise projects, one looking at hanging ratios and the second looking at the conservation benefit of the tie down requirement, which as it turns out, might be bad for sturgeon.

Large Whale Take Reduction Team: Gouveia said the team met in March/April 2009. A rule regarding groundlines was finalized in Oct 2007 with a one year grace period to Oct 2008, which was then extended to April 2009. NMFS initiated a gear buyback program in Maine. The next issue is vertical lines and NMFS has hired a contractor to develop a vertical line (end line) model. The goal is to obtain better assessments of regions where whale and gear co-occurrence is highest. NMFS requested the states & industry to assist in the gear configuration collection. Several states have already provided the data. Once the data are available, the team will view the model to look at the areas of highest overlap, and then decide how to deal with each region. A 5-year schedule was established to obtain the data, build the model, and have the team evaluate the data. Monitoring of the plan as required by the General Accounting Office (GAO) is also ongoing.

Gear marking was also discussed; the focus was on end lines and the team will develop a white paper on the process (where, when, how). The next meeting is scheduled for autumn 2010, which may be two separate meetings (northeast & mid-Atlantic), as opposed to one large meeting. NER/SER received additional funds for large whale gear research (i.e., marking tape, better weak link). The consortium for gear research received some funds for their efforts. DeAlteris recommended including fishermen in the projects.

Young asked if NMFS has considered acoustic monitoring of large whales in inshore Maine waters. Gouveia said expanding the acoustic monitoring system would be cost prohibitive. However, NERO has recommended that the states apply for Section 6 funds to expand the passive acoustic buoy network. As an example, Young suggested placing buoys in parts of Maine where sighting data is poor. Gouveia mentioned that the next Section 6 application opening will be July –October. It was suggested that NMFS put together a list of areas where data on sightings is lacking, or put together priorities for acoustic buoy placement.

NMFS has also funded several types of research including the use of “smart tape”, galvanized release mechanism, and ropeless fishing. It was suggested that younger fishermen will be the future of implementing new technologies. DeAlteris mentioned that he has several extra pop up buoys that might be helpful for the gear research. Gouveia said he would have John Kenney (NMFS gear researcher) contact him with regards to possibly using the buoys.

Nowacek asked, pending energy exploration in offshore areas, how will these activities be handled. The agency should be considering these impacts to large whales. Gilbert noted that in Maine most of the wind power proposals are for state waters, thus avoiding federal requirements. Young reiterated the fact that little is known regarding the impact of these activities on large whales and that lack of data on impacts is often translated into “no impact”. But there may be risk, for example, offshore wind turbines require anchor cabling that could result in habitat exclusion.

Tre Glenn (MMS) said he thinks we will see more in-state waters utilized for energy development. Gouveia noted that the NERO and SERO may not have the expertise to evaluate Section 7 / EIS issues pertaining to acoustics, construction etc., from wind farm proposals at this time because there does not appear to be adequate acoustic baseline information to compare against any proposed action. He wondered if the SRG would raise this issue of how lack of data does not necessarily mean there is a lack of impact from these types of activities in their recommendations. Nowacek said the SRG can write to the NMFS Office of Science and Technology. Glenn said MMS has a study right now off NJ/Delaware to obtain an acoustic baseline. Young said there is inter-annual variability in habitat use so multiple years of monitoring are important.

7. Budget

Eagle said the few increases in NMFS protected species funding in FY 2010 were for ice seals, Cook Inlet beluga, Hawaiian monk seals, and Pacific Island cetaceans. Also, 1.5 million was approved for assessment and follow-up of take reduction plans. Some of those funds were utilized for staff time at a couple of offices. Another 1.1 million is still held at headquarters for allocation to field projects annually. There is a fairly large increase in the Section 6 program. There are no increases for the marine mammal program in the President’s 2011 budget request.

8. NEC Updates.

Passive Acoustics: Denise Risch (NEC) summarized the acoustic program at the NEC. The three main research areas are the Stellwagen Sanctuary Ocean Noise Project (2007-2010), the acoustic behavior of marine mammals and fish (2007 – ongoing), and the acoustic abundance estimation of marine mammals (2007 – ongoing). The objectives of these projects were: Stellwagen Bank - map the ocean noise budget within the sanctuary, characterize various contributing noise sources (biological and anthropogenic), and evaluate the noise impact, masking and shrinkage, on the communication area; acoustic behavior project - understand basic acoustic behavior of different species, validate passive acoustic results with respect to other monitoring platforms, and evaluate the effectiveness of passive acoustics as a tool for both monitoring and mitigation; and acoustic abundance estimation project - develop protocols for monitoring spatial and temporal trends in relative abundance, work towards absolute acoustic abundance estimates for cetaceans, and integrate acoustic abundance estimates with visual abundance estimates. Towed array work was performed during a small-scale marine mammal abundance survey in August 2009 in preparation for a comprehensive 2010 abundance survey off

the northeast US coast. Equipment, software programs, detectors and classifiers were tested and baseline vocalization data was collected for lesser known species. NMFS is also evaluating the impact of active acoustics on detection capabilities.

In 2010, the NEC acoustics program will continue the Ocean Noise Project with two more 3-month deployments, ocean noise modeling and passive acoustic data analysis. They will continue analysis of passive acoustic data — building automatic detectors, understanding species-specific acoustic behavior, and evaluating results. They will deploy a towed array in the 2010 marine mammal abundance survey with the aims of developing a robust passive acoustics protocol for abundance surveys, generating the first acoustic abundance estimates (sperm whales), and collecting more visually verified acoustic data.

Read asked how soon we can realistically obtain acoustically-derived abundance estimates. Risch replied that we can do it now for sperm whales and harbor porpoise will be next. Estimates for additional species are planned but we need to do more visual ground truthing.

Right whale aerial surveys: – Tim Cole (NEC) summarized the aerial survey program at NEC. They have been flying systematic surveys from the Gulf of Maine to south of Cape Cod for the past 6 years. In colder months right whale sightings are mostly in the northern part of the Gulf of Maine. They have been seeing lots of whales in the Jordan Basin area in winter months. They are seeing surface active groups (SAGs) year round – even in the winter. The observations suggest that Jordan Basin could be a mating ground for this species. Gilbert asked about coverage in summer in the northern Gulf of Maine. Palka responded that aerial and shipboard abundance surveys cover that area. Gilbert asked if those data are included in the wind farm studies. Palka said no, but Cole pointed out that those data are submitted to Ocean Biogeographical Information System (OBIS). There was some discussion of the efficiency and cost of ship vs. aerial platforms. Nowacek mentioned float or glider platforms as a way to increase coverage at low cost.

Thursday, 4 February 2010

8. NEC updates cont.

Surveys: Palka provided an update on the NEC research. A two-week survey was conducted in August 2009 generally in the slope and offshore shelf waters of the mid-Atlantic north to the edge of Georges Bank. Visual and acoustic surveys were conducted, to test hardware and software systems, in preparation for the 2010 extensive Atlantic seaboard surveys. A new device installed in the bigeyes for electronic distance determination was tested. Bongo tows and video plankton recorder (VPR) data were collected at night along the survey transect lines to gain information about fish and plankton layers on which marine mammals may be feeding. EK60 data were also collected to help verify fish and plankton layers.

Several aerial surveys were also conducted from the shore out to 6 nautical miles in the Mid-Atlantic region for sea turtles. An experiment was done during aerial surveys in the Long Island Sound to determine what size turtle models could be detected.

The 2010 summer ship survey will cover waters from Florida to the Bay of Fundy. NEC will cover the northern portion of this area on the R/V *Bigelow*, while the SEC will cover the area south of Delaware on the R/V *Pisces*, funding permitting. The 2010 aerial surveys will be

conducted from June through August, and will cover the shelf waters in the northern portion of the survey region.

A joint NEC / SEC pilot whale biopsy study is proposed for October and November 2010 in the area of overlap for the long-finned and short-finned pilot whales, which coincides with the pelagic longline special fishing area. Read cautioned that October is still fairly warm in these waters, and the long-finned pilot whales may not have migrated to this area yet. Duke University will also be working in this area during this time, so coordination with them is encouraged, as they may be able to help with some boat time. Read also indicated his lab has a catalog of hundreds of pilot whales in the waters off North Carolina and requested that the Centers take photographs for inclusion in this catalog. They have also collected around 60 biopsies.

Richard Pace (NEC) joined the group via teleconference from Florida and provided an update about the summer 2009 biopsy cruise. The focus was obtaining white-sided dolphin genetic samples, but the cruise was hampered by poor weather. However, white-sided dolphin samples were obtained from four areas within US waters, and samples were collected from spotted dolphins in warmer waters south of Georges Bank.

Pace also summarized ongoing winter 2010 research on the right whale calving grounds off FL/GA. This is the 4th consecutive year that NEC has been involved with this effort to obtain calf biopsies. These data will be incorporated into the right whale identification catalog. 2010 has been a low calf year, with only 9 calves identified to date. Weather has been bad and not a lot of flying has been done. They have also been putting some effort into trying to get samples from animals that have not already been sampled.

9. SARs

Right whales—Kenney had minor editorial comments. Young expressed support for adding a section in the SARs on habitat impacts. She has concerns about the increasing interest in offshore energy generation. There is currently some narrative discussion on seismic impacts in the reports, but this could be expanded.

There was discussion about the need to account for animals which are never seen again after having been seen entangled. These animals may never show up as SI or mortalities and they should be mentioned. Pace said they are included in the minimum number alive calculations. There are animals in the SI and M table that are never seen again. We have to be careful because there might be a bit of redundancy there. Young said she appreciates the new language in the right whale SAR about minimum detected and this should be added to other reports. Right whales now have a PBR above zero so she is concerned that we can't necropsy all dead animals. There are right whales that have been seen floating offshore that nobody can get to. We end up with a lot of unknowns. She is worried that those 'couldn't be determined' animals don't count against PBR, so right whale mortality estimates can potentially go below PBR even if anthropogenic impacts are the cause of death. Pace said there is no potential to overestimate mortality with the way we do things now. Despite an unknown negative bias in mortality confounding the PBR approach, the agency still has to adhere to the ESA regulations. We have no way to estimate the unknowns. Laist brought up examples of 3 animals that had disappeared and were presumed dead. There should be a way of calculating the proportion of animals that have disappeared last seen entangled, and applying that ratio to observed deaths. Pace said that the count against PBR is not based solely on observed

deaths but includes entangled animals whose injuries are judged to be serious regardless of whether or not they are seen again. Some of those do show up in the SI and Mortality table. Laist said if an animal that disappeared is not already counted, then the proportion of those animals based on past comparisons with SI and M estimates could be added to subsequent SI and M estimates. Nowacek said he has the same concern. Some analysis of last known status *vis a vis* mortality could be done. Susceptibility to disease or infection after entanglement could also be factored into a model. It would be a useful exercise. Pace agreed. *See SI discussion below for follow on email discussion on this point.*

Nowacek also supported Young's comment that it is necessary and appropriate to have a habitat issues section in the SAR. Waring said he would like to leave that discussion for the general SAR review.

Humpback whale –Kenney asked when more results are coming from MONAH. Pace said NMFS is now trying to get more samples to the geneticist to estimate error rates. Maybe that will be done within a month. By end of summer 2010 they will have all analyses completed. There will be abundance estimates as well as survival estimates for the West Indies breeding group. Young suggested that some of the language in the right whale SAR (caveats that numbers are minimum detected) be put in the section on human related SI and mortality. The stock is over PBR and there are a large number of unexamined carcasses. Also, there are an increasing number of reports of humpbacks towing monofilament; it seems worth putting in a discussion of that. Pace agreed about the language, but regarding the animals towing line, if they are not SIs, he doesn't know how we should include those. Cole said there does seem to be an increasing trend of tuna fishermen targeting bubble-feeding humpbacks. Young said there are increasing interactions in this fishery. Gouveia asked if the agency should think about reclassifying that fishery. Young also pointed out that there are a large number of entangled humpbacks in offshore Canadian waters (according to a discussion she had had with Lawson). There was some discussion of what should be included for the Gulf of Maine stock and Lawson said he can ask his colleagues if there is fishery interaction information in the Gulf of Maine area. Nowacek asked about the study of health implications of entangled large whales. Is it funded by the center? Gouveia explained that the work is funded by gear research money that was reprogrammed to support TRTs.

Fin whale –Lawson said he could add an update on Table 1; he will have a revised (higher) number on the fin whale abundance estimate from the Trans-North Atlantic Sighting Survey (TNASS). The estimates are close to being finished and might be done in a month. Nowacek pointed out that the status of the recovery plan shouldn't be listed as 'draft available for review'. It was suggested that it be changed to read "A revised recovery plan has been published". Young said the caveats about minimum detected should be added.

Sei whale–Kenney and Nowacek reviewed this, with minor editorial edits noted. Young pointed out that the stock is over PBR. Pace said sei whales could be added to the large whale TRT. The status of the recovery plan was questioned. Kenney said there was a combined fin and sei recovery plan but that was pulled and the sei whale portion taken out. It was noted that a recovery plan for sei whales is on the back burner.

Minke- Young noted that on the posted spreadsheet containing details on entanglements there are 18 unexamined minke whales. There may be an observed mortality (the northeast bottom

trawl animal) in the SAR counted twice. NEC will double check that it isn't counted twice. Lawson can provide updates to the TNASS numbers.

Blue whale –Nowacek asked how much genetic work has been done. Pace replied that there has been some corroboration done, but it is photo-ID work, not genetics. It would be good to get the genetics to corroborate this.

10. SEC updates

The SEC conducted a shipboard survey of Gulf oceanic waters from 10 June – 13 August 2009 that included a pilot study to learn more about sperm whale prey. The cruise objectives included: 1) Conduct a broad-scale visual and passive acoustic survey of oceanic waters from 200m to the U.S. EEZ of the northern Gulf of Mexico to quantify cetacean habitat, abundance and spatial distribution; 2) Collect biopsy samples from cetacean species; 3) Collect hydrographic profiles, scientific echo-sounder & Acoustic Doppler Current Profiler (ADCP) data to quantify the distribution of prey resources associated with cetacean concentrations; 4) Conduct targeted studies of the prey fauna near feeding sperm whales using localized surveys of acoustic backscatter and collection of prey with a mid-water trawl; and 5) Conduct 90-minute counts of sperm whales for more accurate estimation of group size and dive interval. Forty-six hundred kilometers of trackline were surveyed, and 17 species of marine mammals were observed. Ten species were biopsied, accounting for 158 samples. Sixteen squid taxa were caught in 25 trawls.

Abundance estimates of oceanic stocks will be updated from the 2009 shipboard survey throughout the oceanic waters of the Gulf of Mexico, and habitat models from summer surveys will be developed. A variety of challenges and opportunities were discussed including conducting planned and additional surveys to allow for effective and comprehensive habitat modeling; improve stranding coordination and response; and forge regional collaborations and partnerships.

The SEC also continued to monitor the bottlenose dolphins in Lake Pontchartrain. Three surveys were conducted in 2009. Since 2007, 30-40 dolphins have been observed in Lake Pontchartrain, some with calves, and 9 dead dolphins have been recovered. Seasonal salinities of less than 5 ppt have been recorded. Mullin indicated that his group has catalogued the dorsal fins of these dolphins. Some of the live dolphins in two distinct areas of the Lake (i.e., a pass near Lake Borgne and well into the lake) have a skin condition, while others do not. NMFS is not going to intervene to relocate these dolphins at this point, as they seem to be doing fine.

It was noted that in other parts of Louisiana, during levee restoration projects, dolphins can become trapped. Note was made of a situation where 6 dolphins became trapped during such restoration efforts after Hurricane Katrina. The levee had to be breached to let the trapped dolphins out. The SER has made it clear that this is viewed as a take, and the restoration project is responsible for any trapped dolphins.

In 2009, the Miami Lab continued to conduct bottlenose dolphin Photo-ID surveys in Biscayne Bay, to estimate abundance and study dolphin ranging patterns.

For FY10, the SEC is conducting a sperm whale and mesopelagic prey study cooperatively with MMS. The cruise began 21 January 2010 and will run through 25 March. Cruise objectives are to: 1) quantify the relative biomass and taxonomic composition of potential sperm whale prey in

the deep scattering layer using echo sounder data and mid-water trawling data from fixed stations; 2) identify trophic linkages between sperm whales and mesopelagic species through collection and analyses of tissue samples from sperm whales and potential prey taxa, and collection of sperm whale scat; 3) collect hydrographic profile data to better characterize the oceanic habitat of both sperm whales and their potential prey; 4) characterize the spatial distribution of sperm whales and other cetaceans with visual and passive acoustic monitoring; and 5) survey Bryde's whale habitat and collect biopsy samples for genetic analyses.

In 2010, the SEC also plans on conducting a large-vessel survey from mid-June to mid-August, to complement the survey the NEC is proposing, to collect data on abundance and distribution of marine mammals in U.S. Atlantic EEZ waters south of Maryland to the Florida Keys. The Center will also collaborate on the pilot whale habitat and biopsy survey along the shelf break between 36°N and 40°N in October and November, described above. Support for Stefanie Gazda to conduct bottlenose dolphin biopsy sampling off Cedar Key, Florida is planned, and continued monitoring of bottlenose dolphins in Lake Pontchartrain and Biscayne Bay is proposed.

Mullin indicated they plan to continue to conduct seasonal mark-recapture studies for BSE stocks to obtain population estimates as resources allow. This may involve initiating a Gulf-wide collaboration with others performing research on marine mammals in the area. An improvement in stranding data collection through training programs and coordination is ongoing, and support has been obtained for UME investigations and data analyses.

Over the next 2-3 years, studies will be completed to delineate stock structure of bottlenose and Atlantic spotted dolphins in Gulf shelf waters. Updating abundance estimates for shelf stocks using the 2007 vessel survey will be problematic because, due to a number of unforeseen factors, the survey was only carried out in the western Gulf continental shelf waters from 20m to 200m. Winter and summer aerial surveys are proposed for FY11 to estimate abundance for western Gulf coastal and continental shelf stocks. Winter and summer aerial surveys are proposed to calculate western Gulf coastal and continental shelf stock abundance estimation. Improvement of the assessment of fishing-related mortality using the recently expanded shrimp trawl observer program will be carried out.

There was considerable discussion from the ASRG members expressing concern that the SEC should be spending resources studying the Bay, Sound and Estuary stocks. Mullin agreed, but indicated that the Center is doing what it can with all the species it must monitor on very constrained budgets. The ASRG questioned whether ship time could be given up to focus resources on the BSE areas. Mullin responded that we are responsible for the BSE out to oceanic waters and all areas need to be covered to keep abundance estimates current. (In most all cases, ship surveys are conducted with funds that are specifically for that purpose. In the past these funds have come from collaborations with MMS and/or the Navy. Therefore, these funds could not be diverted to BSE projects. Previously, the SEFSC received funds that were specifically for bottlenose dolphin research. Most of the progress that has been made with the Atlantic coastal and BSE stocks was accomplished with these funds. The SEFSC plan was to begin to use these funds for Gulf coastal and BSE work. This plan could not be initiated because the bottlenose dolphin funds are no longer provided.) Read and Nowacek indicated their students have conducted capture-recapture studies for around \$25K, and the SEC might be able to leverage funds through state and university collaborations. It was also suggested that NMFS draw up a five year plan and at least get into the budget cycle. Mullin replied that we always do this but

never gets funded. The concern is that the Agency may be very vulnerable to PBR and take issues in these areas. Eagle indicated that the only realistic mechanism to put more monetary resources in the Southeast is to take it from someone else. Wells suggested that we may be able to dovetail into the marine mammal health and response program to reach our goals. Engleby indicated that the BSE stocks are the most important concern for the SER.

Mullin stated that SEC received TRT funds to hire additional staff to help with abundance estimates and mortality analyses. They hope to hire that person this year. Palka said the TRT funding also was used to increase observer coverage in the mid-Atlantic. Staff changes at the NEC include Richard Merrick now moving to Resource and Evaluation and Assessment Division Chief at NEC and Sofie Van Parjis acting as Protected Species Branch Chief.

Palka also reported that NMFS, MMS and the Navy are working together to increase assessments of marine mammals, sea turtles and seabirds in the Atlantic from Florida to Maine. This initiative is still under development, but the first proposal was to conduct surveys in the Atlantic in year one and the subsequent year in the Gulf of Mexico, but MMS and the Navy are more interested in just the Atlantic at this point.

Rosel's presentation was given by Keith Mullin, as she could not make the meeting at the last minute. She proposed adding subspecies names in the appropriate SARs, after being involved in similar discussions as a member of the Society for Marine Mammalogy's ad hoc Committee on Taxonomy. The following SAR chapter titles should be modified for national consistency: *B. a. acutorostrata*; *D. d. delphis*; *H. g. grypus*; *B. b. borealis*; *G. m. melas*; *P. v. concolor*; *B. m. musculus*; *P. p. phocoena*; *B. p. physalus*; *S. a. attenuata*; *S. longirostris*; *T. t. truncatus*. Read supports doing this for consistency, and indicated that Bill Perrin, who is chairing this committee, can be contacted for additional information or with questions.

Finally, Mullin provided a review of the Gulf of Mexico stocks and some associated risks. There are 33 strategic bay, sound and estuary (BSE) stocks, initially based on "community" analyses supported by limited directed stock structure studies. The most recent abundance estimates for most of these stocks were calculated from sightings data from the 1992-1994 aerial surveys. There are also 3 coastal stocks and one continental shelf stock of bottlenose dolphins and one stock of Atlantic spotted dolphins in continental shelf waters. The coastal stock boundaries were inferred from habitat breaks as the working hypotheses. Abundance estimates for the eastern and northern coastal stocks were updated based on 2007 aerial surveys. The western coastal bottlenose dolphin stock is considered to be strategic because PBR is unknown due to the age of the abundance estimate. Rosel's lab is currently working up the genetics of all shelf stocks. In the oceanic waters, there are 20 marine mammal stocks with a diverse community of tropical and sub-tropical delphinids. Two large whale species occur, including a strategic stock of ESA-listed sperm whales and a stock of Bryde's whales, the latter of which is routinely seen in the northeastern Gulf of Mexico near the 200-m isobaths from DeSoto Canyon southwest of Tampa. This stock of Bryde's whales, estimated to be approximately 15-40 whales, has been seen during every survey in that area since 1990. Limited Bryde's whale biopsies have indicated low genetic diversity suggestive of a small isolated stock. The shelf break is associated with several species including bottlenose and Risso's dolphins, the short-finned pilot whale, and the spinner dolphin. Deep-water species in the slope waters include the pantropical spotted, striped, Clymene and rough-toothed dolphins. It has been difficult to calculate abundance estimates for the 3 species of beaked whales (Cuvier's, Blainville's and Gervais'), and dwarf and pygmy sperm whales, all

of which are deep divers that may be susceptible to the effects of ocean noise. These cryptic species are difficult to observe and identify at sea, limiting the capability for precise abundance estimates. A stock of between 50-250 killer whales is consistently seen in the oceanic waters of the western Gulf of Mexico since the early 1990's. Recognizable individuals have been resighted multiple times, and work is ongoing to increase our limited understanding of its range and population and to determine how this stock relates to other the killer whales populations observed throughout the world. There was a recent killer whale entanglement in the U.S. pelagic longline fishery, which Read asked to have more information on this sent to the SRG.

Many of the BSE bottlenose dolphin abundance estimates are very old and expired (1992-1994 aerial surveys), or more recent (2001 mark-recapture study) but still expired. Recent abundance estimates from a mark recapture study in St. Joseph Bay in 2005-2006 and St. Vincent Sound 2008 were estimated from research performed by Nowacek's students. It has been suggested that updates may be available for five of the BSE where Wells's students have been working, including Sarasota Bay, Little Sarasota Bay, Lemon Bay, Pine Island Sound including Charlotte Harbor and Gasparilla Sound, and Caloosahatchee River.

All the oceanic stock's abundance estimates are valid, having been collected on shipboard surveys from 2003-2004. These will be updated using the recent 2009 survey data. All the shelf stocks abundances, estimated from data collected from 1998 to 2001, are more than 8 years old, and thus have expired. Two of the 3 coastal stocks are current, calculated from surveys completed in 2007. The western coastal Gulf stock estimates have expired. There are plans underway with MMS to conduct a summer 2011 aerial survey in the western Gulf of Mexico.

Primary risk factors faced by cetacean stocks in the Gulf of Mexico include oil and gas development, fishery interactions, and habitat degradation. There are 40,000km of oil and gas pipelines and 4,000 oil platforms in the Gulf of Mexico, which produces 30% of the US oil and 31% of its natural gas. This results in significant seismic activity. A coastal wind farm off the Texas coast is in the planning stages. One quarter of the U.S. commercial fish landing occurs in the Gulf of Mexico, where 3 of the top 6 commercial fishing ports are located. Forty percent of the U.S. recreational fishing landings also occur in this area. Collapsed or overexploited fish stocks now account for over 70% of all commercially exploited stocks in the Gulf of Mexico. There are 5 Category I-III fisheries in the Gulf of Mexico, including the pelagic long line, menhaden, gillnet, shrimp trawl and crab/lobster pot fisheries. Some of these fisheries, where observer coverage is low, could interact with several strategic stocks of bottlenose dolphins. Illegal dolphin feeding, depredation of fish from fishing lines, and harassment of marine mammals are all problems observed in the Gulf of Mexico.

Habitat degradation is, and will likely continue to be a problem, as a human population increase of nearly of 40% in the 5 Gulf of Mexico states is projected; 44.2 million people in 1995 to 61.4 million in 2025, with Texas and Florida being the most rapidly growing states. Loss of wetlands is a very big problem. Louisiana holds 40% of all U.S. coastal wetlands and 80% of coastal wetland loss in the U.S. wetland occurs in Louisiana. Seagrass bed loss in the northern Gulf of Mexico over the past 50 years ranges from 20-100% for most of the estuaries. As a result of climate change, sea levels are forecast to rise 13 inches (range of 8-20) in the Gulf of Mexico by 2100 resulting in salt water intrusion and sediment diversion also is causing salt-water incursion, and these problems are greatest in Louisiana and Mississippi. Impacts of such a rise on habitat and food availability for dolphins and their prey is unknown. There is a dead zone in the Gulf of

Mexico off the Mississippi-Atchafalaya Basin which was estimated in the summer of 2008 to be 8,000 mi², which is the largest zone of anthropogenic coastal hypoxia in the Western Hemisphere. There is substantial shipping traffic, with New Orleans and Houston being classified as 2 of the ten busiest cargo ports in the world. Seven UMEs have occurred in the Gulf of Mexico since 1993, with bottlenose dolphins being the most severely impacted. Increased SSTs due to global warming could influence the number and strength of harmful algal blooms in the Gulf of Mexico.

11. Serious Injury and Mortality

Eagle said in 1995, in the process of writing the regulations for section 118, serious injury was defined as an injury that could lead to mortality. The first SI workshop was held in 1997 and since then the agency has recognized that there are inconsistencies in interpretation between the regions. Therefore, in 2007, Melissa Anderson (F/PR) chaired a second workshop to develop more consistent national SI guidelines. Workshop results were published as a tech memo (available at: http://www.nmfs.noaa.gov/pr/pdfs/interactions/serious_injury_techmemo2008.pdf). Subsequently, NMFS leadership directed F/PR to develop a national policy to interpret “any injury that is *likely* to result in mortality” (regulatory definition of “serious injury”) as “more likely than not” to result in death, and to revisit the process by which successful disentanglement events are enumerated and considered for the purposes of the LOF and its associated management measures (e.g., take reduction planning). F/PR established three groups with some overlapping membership to work simultaneously, with different but somewhat overlapping objectives, to create a nationally consistent policy that incorporates appropriate flexibility for regional and species differences. There is a process group (convened July 2009) with the tasks of developing a process for making and documenting injury determinations, addressing large policy issues surrounding injury determinations, and writing a policy document. There also is a determination group (convened September 2009), which consists of the 4 Science Center staff members that make serious injury determinations, and the colleagues in each Center that assist with these determinations. The determination group will assess draft injury criteria from the 2007 workshop (Table 1) and recommend edits to finalize these injury criteria. The third group is a veterinarians & pathobiologists group (convened January 2010) who will work both separately and with determination staff to recommend edits to finalize the injury criteria.

The timeline for completion is: late 2009/early 2010 updates to be presented at SRG meetings; April/May 2010 working groups to complete objectives and review products of the other groups; June 2010 draft policy and process documents to be completed and informally reviewed by Regional, Center, and HQ leadership; summer/fall 2010 formal review by NMFS, NOAA, SRG and public; and early 2011 the policy to be made final.

Decisions have been made to: 1) develop regional (Alaska, Atlantic, Pacific) reports documenting injury evaluations, 2) institutionalize and improve coordination and communication among regional determination staff, and 3) consider revising review of injury determination reports (SRG and Regional Offices). In addition, the groups have decided that, 1) “more likely than not” to die means anything greater than a 50% chance that the animal will die, 2) there is a need to clarify MMPA mandates vs. policy interpretations, 3) the policy and injury criteria table should be reviewed on a cycle similar to the SARs, and 4) that a pro-rating method is needed to assign “Cannot Be Determined” injury events (as possible) to either “serious” or “non-serious”

injury based on the percentage of all assignable cases in the database of similar injuries for the same or similar species whose fate is known.

Yet to be worked out is how to apply the “more likely than not” interpretation with qualitative data and/or non-observer program data (stranding data; disentanglement network data), the process by which successful mitigation activities are enumerated for the purposes of the List of Fisheries and associated management measures, and a process for settling and/or documenting disagreements between determination staff on a particular injury case.

Nowacek asked about how the SRG review will be conducted. Eagle said an email or conference call will be made. Don Baltz commented that the breakpoint is 50%. Would it be more prudent to have 2 breakpoints, so cases could be black, gray or white? Eagle that the way NMFS currently estimates serious injuries, any “gray” do not appear in the mortality and serious injury summaries in SARs. Accordingly, we need to minimize the number that fall in the gray area, find a way to prorate or allocate the unknowns, and also to take a more precautionary approach. Read asked about the process by which data on animals that survive is fed back into the assessment. Eagle said that they want to periodically revisit the criteria. Read asked if there would be a retroactive reassessment of past injuries. Eagle said that there was some disagreement on that and it hadn’t been resolved and that they will end up looking at the consequences. Gouveia asked if the policy will allow anyone to go back and make adjustments. Eagle said that they will probably continually update what is known. Nowacek said a mechanism for re-evaluation should be explicitly incorporated. Right whales have lots of resight data but wondered if there are efforts to do that for other species. Eagle said he was not sure there is much effort for other species other than a few site-specific studies (e.g., Sarasota Bay). There are a lot of considerations. The Pacific SRG will probably recommend investigation of methods to monitor long-term survivability. The SRG said they would think about comments.

Cole also presented an overview of how NEC makes its SI determinations and summarized the criteria used for entanglement SI as well as for ship-strike injuries. He also presented a comparison that had been made between NEC and New England Aquarium (NEAq) determinations. He stressed that the annual Serious Injury and Mortality numbers are just minimums. There is no way to get at population impact with anecdotal data. Read said estimates of impacts to populations are what is needed. Cole described an approach developed by Robbins et al. (2009) to estimate population impacts using scarification data. Bob Kenney said it would be interesting to use the scarification formula to apply to the entangled animals that disappeared. There was some discussion of the Robbins formula which extended into an email conversation held in the following weeks. To summarize here, since it is part of this discussion, the equation was $((Nt * E) / S) - (Nt * E)$ (Robbins *et al.* 2009 SMM Conference) where Nt = total population, E = proportion of the population with new entanglement scars each year, and S = the proportion of whales that survive entanglement (taken from another source). Cole’s suggestion was to apply the NEC’s determination process to get S , using the number of verified entanglement SI and Mortality events divided by the total number of sufficiently documented events. Another way to get S is from mark-recapture survival estimates of entangled whales. After initially questioning the approach, Gilbert confirmed in an email that the formula was correct, but pointed out that the biggest issue is how to estimate “ S ”.

The discussion on the comparison between NEC and NEAq determinations was also extended into an email discussion after the meeting. Cole said the NEC criteria would 'back out' disentangled whales. From reading Knowlton et al. 2001 in the JCRM, he suspects these cases would not be backed out, but rather counted as SI to account for long-term impacts. Laist wrote (paraphrased here) that as he reads the serious injury guidance in the 2007 workshop report, animals that were disentangled and left in good condition were not to be considered serious injuries. This policy seemed to include any disentangled animals regardless of how severely entangled they were. Thus whale # 1151 (Mayvene), found almost immobilized on 9/4/09 but successfully released, would not be considered a serious injury. If the purpose of the serious injury accounting is to serve as a gauge of the fishery's effectiveness at avoiding such incidents, it doesn't seem right to consider such a case as something less than a serious injury. What he was suggesting is that we look back to see that, if successful disentanglement efforts were the reason for an entanglement not to be classified as a serious injury, these animals should not be considered "survivors" for purposes of the calculations.

He also was concerned that some mortalities that seem apparent now based on lack of resightings may not have been accounted as mortalities in the SI/M table. With the lack of sightings for 6 or more years the criterion for considering an animal to be dead, whale 1130 (Zebra) which was seen entangled on 3/1/00 and never resighted could now be considered an entanglement mortality. Similarly whale 1815 was sighted entangled on 8/22/02 and has never been resighted, whale #1430 seen entangled on 5/20/03 and resighted only once more on 6/7/03, and whale #3170, seen with severe entanglement scars on 3/6/03, was never resighted. It was not clear whether all these animals were considered serious injuries at the time they were seen entangled. If not, past serious injury and mortality totals should be adjusted accordingly and might provide a basis for calculating a mortality correction factor that accounts for serious injury or mortalities that may be missed.

Amy Knowlton (NEAq) added that any animal that is carrying gear or has deep cuts from entanglement should be considered SI, regardless of the outcome (but this depends on the question being asked of the data - is it to see if fisheries changes are effective at reducing/eliminating these nasty entanglements or whether animals are surviving in the short or long term because of our efforts to disentangle them). Knowlton and Robbins will be investigating this topic in much more depth - the goal for right whales and similar for humpbacks is to see how entanglement severity (even if no gear still on the animal) is affecting survival and reproduction. These sublethal impacts may be a huge issue that we haven't yet been able to quantify. Hopefully we can do so with these more in-depth evaluations.

12. Alaska Fisheries Bycatch Issues

A break from the regular meeting was made to teleconference with the Alaska SRG, to discuss bycatch estimates in AK and discuss alternative approaches for estimating and mitigating bycatch. Beth Mathews coordinated the session. The AK SRG has been looking at fisheries mortality done on a stock-by-stock basis in the past and is concerned it may be missing something. They reviewed the summary of estimated bycatch in the U.S. from 1990-1999, and the AK bycatch appeared to be significantly lower than the other regions. Fisheries in AK and the Atlantic are very different, but can we learn from each other? Most bycatch of marine mammals occurs in gill-net fisheries, accounting for 84% of cetacean bycatch and 98% of

pinniped bycatch (from Read *et al.* 2005). In AK, however, there has been very little monitoring of gill-net fisheries. There is no observer coverage of fisheries interactions within inside waters of southeast AK. Some AK SARs list “0 estimated fisheries mortality’ in situations with very little or no data, whereas they should instead state there is little or no data. So AK is likely underestimating bycatch. CVs are currently reported in stock summary tables only in the Atlantic SARs. Should this be standardized across regions? Should the same measure of uncertainty be used to estimate mortality? Should a target maximum C.V. be used when calculating bycatch data (e.g. GAMMS – 0.30)?

Read reviewed similar issues faced in the Atlantic, with a focus on harbor porpoise, which historically have been caught in gillnets. He thinks there is no substitute for an effective observer program. He feels it is critical for estimating bycatch rates; is an essential resource for evaluating mitigation strategies when dealing with PBR - for both spatial and seasonal variation in bycatch rates, time-area restrictions and variation in bycatch rates due to gear modifications and gear characteristics. Other monitoring methods, such as voluntary reporting (logbooks) or monitoring strandings are negatively biased.

Even with this it is difficult to estimate total fishing effort, especially for gillnet fisheries. It is often difficult or impossible to place observers on small vessels, and observers can be distracted by multiple tasks. Bycatch of large whales are not observed, and it can be difficult to obtain precise estimates of bycatch rates when entanglements are rare events. Bycatch is most prevalent in gillnets – particularly with large mesh size and long soak times. Small marine mammal species are prone to bycatch in gillnet fisheries. Depredation and associated bycatch is a growing problem. Effective stranding programs can identify bycatch hot spots, particularly in areas not uniformly covered by observers. It is increasingly challenging to manage small stocks like bottlenose dolphins, where exceeding PBR is a challenging management issue.

The TRTs are mostly effective at finding solutions when they exist. Mitigation measures that entail a cost (such as acoustic alarms and time-area closures) require enforcement and are more readily monitored, whereas changing soak time, doesn’t allow for ease of enforcement in same way. Representatives of enforcement must be at the table when coming up with mitigation methods to make sure they are realistic.

Harbor porpoise had a large bycatch of up to 1,667 initially, but after the TRT was convened, the bycatch dropped to 53 but then after 9/11 the Coast Guard had to essentially stop doing enforcement and bycatch went back up. Due to a big problem with compliance, the TRT was reconvened in December 2007. All members agreed there were takes due to non-compliance with pinger requirements as well as takes occurring outside established management areas requiring pingers. The TRT created a series of consequence actions (large time-area closures) that would come into effect if certain performance triggers were not met.

The AK SRG questioned the suggestion to use a small independent monitoring boat. This has been tried in AK but they felt the sample size was problematic in that a large area could not be covered. Palka emphasized that an alternative boat could actually have a larger sample size, as more than one boat could be observed than if an observer was put on one dedicated boat. The haul is typically the unit of measure in Alaska, and they questioned whether alternative units of measure could be used. It was explained that a NOAA Tech Memo describing alternative methods of observing bycatch is available on the SEC website (Kolkmeier, T., B. Guthrie, B. L.

Byrd, and A. A. Hohn. 2009. Report on the Alternative Platform Observer Program in North Carolina: January 2007 to May 2009. Beaufort, NC. NOAA Technical Memorandum NMFS-SEFSC-592, 31 p.). Alaska has problems in fisheries where marine mammals are attracted to gear, resulting in a small bycatch. Palka suggested using some factor that is pertinent to a particular fishery as unit of effort, such as tonnage of haul. This is obtained when an observer approaches the fishing boat being monitored to get variables, such as tonnage of haul. Even though the total fish catch is not weighed, the fishers put the haul into bins, so one knows almost exactly how much has been caught. There was also discussion on the use of pingers. The typical cost to put on one pinger is \$40, and pingers have to be spaced between nets in string about every 100 yards. Finn Larsen (Denmark) did some work to show that one may be able to increase this spacing but U.S. regulations require pingers every 100 yards. Palka indicated that there is no evidence that shows having porpoise in the net reduces bycatch. The Atlantic and AK SRGs have a lot of things in common, so there was an agreement that both would like to sort things out more in the future.

If an abundance estimate is more than 8 years old, the stock may be listed as strategic in AK, but Palka indicated that stocks may also be listed as strategic due to the possibility of a take or analogy with other similar fisheries, which the Atlantic SARs take into consideration. She suggested they do not base the listing only on the basis of estimates older than 8 years.

13. IACUC – NMFS process

Dr. David Baker and Dr. Rhett Stout from LSU sat in on this discussion. Waring stated that NMFS now has an internal Institutional Animal Care and Use Committee. If a NMFS person is PI on a project it has to go through NMFS IACUC review. Young said she had been strongly suggesting that the agency hold itself to the same standards as they hold others. Dr. Janet Whaley (F/PR) contributed to this discussion from teleconference. She gave some of the history of the process; which was initiated because NMFS was out of compliance with the Animal Welfare Act. NMFS established a task force which set up 3 IACUCs between the 6 science centers. The committees are in compliance with the Animal Welfare Act. Gilbert asked if this IACUC process applies to all vertebrates. Whaley said right now it applies to sea turtles and mammals. In the future it will also apply to birds and fish. Gilbert said we need resolution to the question of euthanasia. It is not permitted under the MMPA, but is required as an option by IACUC. Read asked how out of habitat animals will be dealt with. Whaley said stranding response and rehab is not the same as research. The IACUC requirements only affect research. Odell asked about the membership composition. Waring read the list of members. There are no non-federal members because of FACA rules. Young asked what FWS does about the FACA conflict. Whaley said they have not done it on a national scale. Young said it is important that NMFS make it a legitimate process with input from non-agency personnel. Wells said the NMFS' IACUC on a Georgia research project was thorough and asked detailed questions of the investigators. It was very rigorous. Read said he sat on the Duke IACUC for years and would second Young's point of view. Whaley said they didn't want to hold up the process by getting FACA exemption. She said the American Society for Mammalian is interested in us working on Marine Mammal guidelines. Gilbert said he thinks it is a great first step, past due. Read asked if NMFS personnel have to go through training. Whaley replied that most training is geared toward lab animals. The agency should have training geared toward wildlife. Nowacek said the protocol gets changed every time a new person gets added, if they are from different institutions that have different IACUC requirements. Gilbert said questions come up when there are

multiple institutions involved. One of the LSU veterinarians said they generally recognize IACUC from other institutions but they get a copy of the protocol on file. There should be a memorandum of understanding so your program IACUC recognizes other IACUCs and you don't need to go through two processes. Waring will send out the final policy when it is approved. Read said at the next ASRG meeting he would like to see a summary of how many protocols have been put into place.

9. SARs Continued

Risso's dolphin – Young said she was unclear on human interaction (HI) and fishery interaction (FI) numbers and it was discussed that numbers are reported for human and fisheries interactions, but these data are not necessarily cause of death. That can be clarified in the text. Kenney said the report should be checked that all years got updated.

Pilot whales – All year ranges are not updated. Lawson has new TNASS abundance estimate numbers. Read said it is great to finally see the two species separated, and the SRG should see Garrison's modeling approach when it is completed. Bycatch should be separated as well. He suggested including a figure showing the locations of the biopsies. Palka explained that the species split is good for summer but Garrison didn't have confidence in the model to apply it to the other months. Read said don't go to a knife-edged approach, there must be some overlap. A probabilistic approach would be appropriate. Young said there should be explanation, maybe the addition of a footnote, of how there can be bycatch estimates with observed mortality of zero. Palka pointed out that the PBR will go up when we add the increased TNASS numbers. Read said he would do the PBR calculations using just US waters data. Engleby asked if there is a good model for using the probabilistic approach. Read yes, there have been things published. Lawson said Canada is working on some habitat modeling. Read said there is more work on the short-fin pilot whale life history that should be included, for instance, Kasuya and Marsh. There is detailed info on the UME - he can provide text and references.

White-sided dolphin – All year ranges are not updated. The text on sand lance distribution in relationship to white-sided dolphin abundance should be clarified. Palka pointed out that the 2008 gillnet bycatch estimates, as with all species in mid-Atlantic gillnet, are slightly modified.

Common dolphin – Should add a footnote about observed mortality zeros turning into real bycatch estimate numbers. Read said the report should say the recovery factor is 0.5 not only because the CV of the average mortality estimate is less than 0.3 but also because OSP is unknown.

Harbor porpoise – Palka mentioned that the mid-Atlantic gillnet bycatch estimates have changed. Read said NMFS should ask DFO about numbers of active vessels in the Bay of Fundy for as many years back as possible. Lawson said there is no new info except the Benjamins et al. paper but maybe we could modify Canadian bycatch when we know the number of vessels. In Table 2 there is a year missing for observed mortalities. Young pointed out a missing number for Canadian strandings. There is some bad generic text in the status of stock section. It should not say "not less than 10%...", it is over PBR. Jack Lawson said they have seen a change in the distribution of capelin, seabirds, and harbor porpoise and it was confirmed that NMFS also we saw low abundance numbers for 2007. Read said harbor porpoise are good at staying on top of the prey. They would be with the capelin, wherever they are. Read said it would be worthwhile for the SRG to make a comment about the high takes.

Bottlenose Dolphin

Five new Atlantic coastal bottlenose dolphin stocks have been delineated from what was formerly treated as a stock complex: Northern Migratory Stock, Southern Migratory Stock, South Carolina/Georgia Coastal Stock, Northern Florida Coastal Stock and Central Florida Coastal Stock. Reports for the 2 migratory stocks were not completed in time for this meeting, but the 3 remaining SARs were reviewed.

Read said some of the estuarine bottlenose dolphin stocks are very small (<150 dolphins), so a single take can put the stock close to PBR. He supports these new SARs, as he feels they represent the “real” biological information, but cautioned the Agency that it makes management issues very difficult and suggested the Agency may need to do some more strategic thinking about how to deal with this complex potential issue. Eagle said the ability to assign mortality and abundance is critical. Engleby said there is interbreeding and so stock separation is a problem. Therefore, the SER may need to revisit the definition of stocks in the MMPA on a national level, bringing in ecologists and geneticists. There is some interest in defining functioning stocks that may be on time scales which do not leave a genetic footprint, and we may need to take this into consideration in management issues.

Bottlenose dolphin, South Carolina/Georgia coastal – Read commended the Agency on working so hard to split these up. Abundance is estimated for ‘02 and ‘04 but ‘02 will be outdated soon. Someone asked if the depleted status is inherited? Engleby replied that once they feel confident on the stock separation they will review the depleted status with general counsel. Seagraves had some general question about methods. There are 2 surveys with estimates which are prorated and PBR is calculated from those. Is the error involved in assignment of morphotype brought forward? Palka said she thinks Garrison added the CV of the stock division. Also on some of the stocks there is a big difference in the two abundance estimates. Palka said they are inverse weighted by variance. Seagraves recommended that the procedure used be described in the SAR. Seagraves also asked what is ‘n’ in the abundance estimate CV. Palka said you don’t need n to get the CV of these numbers. CV is variance divided by the point estimate squared. We can double check that that was done (inverse weighting).

Young asked how they know about interactions if there is no coverage. The SAR should say ‘may interact with’ instead of ‘interacts with’.

Bottlenose dolphin, Northern Florida Coastal – Wells pointed out that this is one stock with a big difference between the two abundance estimates and the 2002 estimate will be outdated next year. There was a question about the rope marks seen on a stranded animal. Horstman said they could clarify that they couldn’t tell what kind of rope.

Bottlenose dolphin, Central Florida Coastal – Wells asked how was the southern boundary identified and noted that Marathon is a city not a Cay. It’s on Cay Vaca. This stock also has big variability in its estimates. Palka said that raises the general issue about variability in estimates. Read said a conservative approach should be used to select the best estimate. Young pointed out another inconsistency re crab pot interactions.

Harbor Seal – Gilbert said stranding mortality for pups and for adults should be separated out. Because the abundance is unknown, the status should be unknown. There is no evidence to believe it is low. Language should be consistent. Waring said he will look at what we have done in the past with other stocks. Young said NMFS might mention that harbor seals are known to be shot. The subspecies name should be used in the title.

Gray seal – Young asked why there are aerial surveys for gray seals and not harbor seals. Waring explained that NEC can use the twin otter opportunistically between Oct and April and so does monitoring surveys from Plymouth to Nomans Island. They have also started monitoring gray seal pup production as a follow on to Brault's previous grad students' work. Young also asked about hunt numbers in Canada. Lawson said he could get those. She also noted that trawl bycatch estimates are still not being generated.

Harp seal – Young said would be nice to get a bycatch estimate. Lawson said updated abundance numbers are coming soon. Read said he would be interested in a revision with the new numbers. There is a mistake in a number in the Nmin section.

Gulf Stocks:

Bottlenose dolphin - BSE –Wells said Lemon Bay can be subsumed under Charlotte Harbor. Young observed that the SAR says the effects of 'swim-with' activities are "under review". This should be revised to say it is considered harassment.

Bottlenose dolphin - Eastern Coastal –Wells said his comments were mostly editorial. He liked the discussion on criteria used to split up the stocks.

Bottlenose dolphin - Northern Coastal – No additional comments.

Bottlenose dolphin - Western Coastal – Same comments, mostly editorial. Young asked if there was any chance of getting observers on the menhaden fishery? Engleby said efforts are underway to try to do that.

Sperm Whale– Young said there is now documentation of longline interaction. Is there some reason there are now observed interactions? Engleby said yes, they ramped up observer coverage. They can add a sentence to the report to clarify that.

Killer whales – No comment.

Risso's dolphin – There are two cases of satellite-tracked animals. Gilbert pointed out that old abundance should not be in table 1. Young said it would be useful to put observer coverage in.

Sperm whale Puerto Rico –Read approved of the addition of a Caribbean stock. Mullin said the plan is to do pilot whales and bottlenose dolphins next.

Habitat Issues – Young had comments earlier. She thinks it would be useful to have in each report. The section should discuss the increase in seismic exploration, runoff, forage, pollutants, harmful algal blooms, acidification, etc. DeAlteris said it would be a way to organize bits and pieces. Waring suggested we can pick one or two to try first; maybe one with industrial activity, one with natural phenomena.

14. ASRG Business & Wrap-Up

The next meeting will be February 2011. Possible venues are Portland, Maine, or Duke University.

APPENDIX I

Atlantic Scientific Review Group

Final Meeting Agenda – February 3-5

LSU, Baton Rouge, LA

Wednesday, 3 February, 2010 (0830)

1. Introduction (DeAlteris, Waring)

- Welcome, housekeeping
- Travel reimbursement
- Introductions
- Appointment of rapporteurs; Minutes deadline
- Agenda review and schedule

2. Caribbean Membership status

- Update on decision process (NEC/SEC/SER)

3. Manatee Stock Assessments

- USFWS – Jacksonville/Boqueron ES FOs

4. Proposed List of Fisheries

- Regional changes (SER/NER)

5. Stranding Program / Events

- Northeast region (NER)
- Southeast region (SEC/SER)

6. Take Reduction Plan Updates

- BDTRP (SER)
- PLTRT (SER/SEC)
- ATTRP (NER/NEC)
- HPTRP (NER)
- ALWTRP (NER)

7. FY10 Budget status

- Updates (F/PR)

8. NEC Updates

- Acoustic research and applications
- NEC staff changes

Thursday 4 February, 2010 (0830)

8. NEC Updates cont.

- NEC 2009 fieldwork
- NEC 2010 fieldwork plans

9. NMFS Stock Assessments

- Large whale SARs

10. SEC Updates

- 2009 SEC fieldwork
- 2010 SEC fieldwork plans
- SEC staff changes

11. Serious Injury and Mortality

- Status of Serious Injury & Mortality guidelines (F/PR)
- Serious Injury and Mortality Determination Process (NEC /F/PR)

12. Alaska Fisheries Bycatch Issues

- Joint conference call and presentation (ASRG/AKSRG)

13. IACUC – NMFS process

- Review of NMFS new IACUC protocol (NEC/F/PR)

9. SARs cont.

- Status of 2009 SARs (NEC/SEC)
- Puerto Rico and U.S. Virgin Islands SARs
- Review draft 2010 SARs (NEC/SEC)
 - pilot whale abundance/bycatch estimation based on stock separation studies
 - revisions to bottlenose dolphin coastal morphotype SARs for the western North Atlantic
 - habitat issues section

14. ASRG Business & Wrap-Up

- Venue and timing for 2011 meeting

Appendix II. Meeting Attendees (bold names are ASRG members, those marked with an asterix were phone-ins)

Firstname	Lastname	Organization	StreetAddress	City	State	Zip	email	Phone
Donald	Baltz	LSU	Department of Oceanography and Coastal Studies	Baton Rouge	LA	70803	dbaltz@lsu.edu	225-578-8203
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