

Atlantic Scientific Review Group

February 18-20 2015

FWS, Jacksonville, FL

Wednesday, 18 February, 2015 (0830)

Present: Doug Nowacek (SRG), Richard Seagraves (SRG), Buddy Powell (SRG), Randy Wells (SRG), Jack Lawon (SRG), Shannon Bettridge (OPR), Debi Palka (NEFSC), Gordon Waring (NEFSC), Beth Josephson (NEFSC), Peter Corkeron (NEFSC), Laura Engleby (SERO), Stacey Horstman (SERO), Lance Garrison (SEFSC), Patty Rosel (SEFSC), Keith Mullin (SEFSC), Deborah Fauquier (OPR), David Laist (MMC), Randy Reeves (Independent Advisory Team - IAT), Paula Moreno (IAT), John Brandon (IAT), Allison Rosner (GARFO), Jim Valade (FWS), Catherine Langtimm (USGS), Bob Bonde (USGS), Ron Dean (OPR), Nadia Gordon (FFW), Beth Casoni (Massachusetts Lobstermen's Assoc.), Patrice McGarron (Maine Lobstermen's Assoc.)

On phone: Bob Kenney (SRG), Sharon Young (SRG), Jim Gilbert (SRG), Andy Read (SRG), Jenny Litz (SEFSC), Dan Slone (USGS) and others.

1) Introduction

Chairman Doug Nowacek welcomed everyone and thanked NOAA and the Fish and Wildlife Service for hosting the meeting.

Documents were discussed and the SRG said they will review the Lyssikatos bycatch paper that was recently posted on the documents site.

Nowacek announced that this was Waring's last SRG meeting as SRG liaison and that Peter Corkeron (NEFSC) would be taking over.

2) Special Topic - Bottlenose Dolphins

A) Effects of morbillivirus epizootic in Atlantic

Deborah Fauquier, of Marine Mammal Health and Stranding Response Program, NMFS Office of Protected Resources, presented a summary of the bottlenose dolphin mid-Atlantic Unusual Mortality Event (UME). She said NOAA Fisheries is continuing to investigate and the marine mammal stranding network is continuing to respond to the UME for bottlenose dolphins along the Atlantic coast. The event was first declared on August 8, 2013 after consultation with the Working Group on Marine Mammal Unusual Mortality Events (WGMMUME). Results presented are preliminary since the UME is still on-going. The event began in July 2013 and to date bottlenose dolphin strandings are >1,590 animals. The NOAA website lists current bottlenose dolphin strandings by state from 2007-2012 for comparison, (see <http://www.nmfs.noaa.gov/pr/health/mmume/midatldolphins2013.html>).

The peak of strandings occurred between July 2013 and March 2014 as dolphins migrated south during the winter, with Virginia, North Carolina and Florida having the most strandings to date. Strandings have just recently started to slow down. In general, average strandings for most states for the months of December and January were below average plus 2 standard deviations for the first time during the UME.

There are five potential coastal dolphin populations that may be impacted by UME-related strandings at this time. These bottlenose dolphin populations include the migratory populations of the Northern Migratory Coastal and the Southern Migratory Coastal stocks, and resident populations of the South Carolina/Georgia Coastal, North Florida Coastal and Central Florida Coastal stocks. Additionally, several Bay, Sound, Estuary (BSE) stocks may also be impacted; however, it is still unknown which particular population or populations are being affected.

At this time, all age classes of bottlenose dolphins are involved in the event. The majority of animals are stranding dead (96%), with some carcasses found fresh dead (14%) but the majority of carcasses found on the beach are moderately to severely decomposed. Many dolphins have presented with lesions on their skin, mouth, joints, lungs or brain and ranged in body condition from good to thin. Approximately 4% of the dolphins in this event have stranded live which is about 2-3 times above normal for this geographic area. The live animals stranding in this event have been ill and most have died shortly after stranding.

The preliminary cause of the UME is being attributed to a cetacean morbillivirus, specifically dolphin morbillivirus, based upon diagnostic testing and discussion with disease experts. However, not all other diagnostics have been completed at this time, so any additional co-infections or contributing factors to this UME are not yet known. Dolphin morbillivirus (DMV) primarily affects the lungs, brain and immune system of dolphins, causing illness and death. Because morbilliviruses suppress the immune system, many animals may die from secondary infections such as bacterial, fungal and parasitic infections. Many but not all dolphins exposed to morbillivirus will die from these infections. Testing to date has focused on fresh carcasses and 93% of dolphins tested (272/294) are either suspect or confirmed positive for DMV. Samples have been tested via polymerase chain reaction (PCR) and immunohistochemistry staining (IHC). Veterinary pathologists have also detected changes in dolphin tissues that are consistent with morbillivirus infection. Preliminary whole genome sequencing of the dolphin morbillivirus genome by researchers at UC Davis and UF from 8 bottlenose dolphins (NJ, VA, FL), 2 humpback whales (MA, VA), 1 pygmy sperm whale (NC) and 1 striped dolphin (NC) from this UME have found the sequences to be 99.9% similar to each other.

DMV positive bottlenose dolphins have been found in all states from New York to Florida. As the strandings spread south morbillivirus was detected in Florida by October 2013 and reached its farthest southern point around Vero Beach, Florida in December 2013. The southern extent of this UME remained in the Vero Beach area until November 2014 when we had a positive DMV stranded dolphin in the Florida Keys. Based upon the finding of a DMV-positive dolphin in the Florida Keys, stranded animal surveillance now includes the Southwest Florida Gulf of Mexico network from the Keys to north of Tampa Bay. NMFS has been testing tissue samples from any fresh and moderately decomposed animals and currently none of the dolphins stranding in southwest Florida since December 2014 have been positive for morbillivirus via PCR testing.

However, NMFS will continue to test samples from dolphins stranding in this area for the foreseeable future.

Additionally, starting in June 2014 there were increased strandings occurring in North Florida specifically in the BSE populations of the St. Johns River (Jacksonville Estuarine System Stock) and northern Indian River Lagoon (IRL) estuaries between June and October 2014. During this time over 64% (n=28) of the animals tested from these estuaries were positive for morbillivirus. However, current strandings during the fall in this area have decreased and are now back to normal. To date these are the only known BSE populations impacted by the UME although more research is continuing to evaluate all BSE strandings during the event.

Additional studies are underway to better understand the pathogenesis of DMV, the risk factors for infection in dolphins, and potential impacts of DMV on dolphin stocks. These studies are in collaboration with several NOAA laboratories and science centers, stranding network members, non-profit research organizations and academic partners, and include evaluating the genetics of stranded dolphins to determine if they are coastal or offshore ecotypes, aging teeth of sub-adult and adult animals to understand age structure of stranded animals, and matching dorsal fins to the Mid-Atlantic Bottlenose Dolphin Catalogue to determine if stranded animals are from known populations.

With the reoccurrence of increased strandings in North Florida this summer and the new positive dolphin in the Florida Keys, NMFS is proceeding cautiously regarding closure of any state at this time. In general, to consider closure of the UME strandings in a state should be below the historical average plus 2 standard deviations for 3 consecutive months and documentation must be submitted to the WGMMUME for approval of closure. Based upon recent stranding data from November to January, NMFS is submitting a Closure Request for the GARFO states (New York-Virginia) to the WGMMUME for consideration. Also based upon recent morbillivirus-positive animals in Georgia and Florida the need for continued UME sampling for North Carolina to Florida will be evaluated monthly and request for closure of some of these southern states may occur over the next several months. Additionally, NMFS will still continue to do some level of post-UME surveillance sampling of strandings of live and fresh dead bottlenose dolphins in each state including scheduled live-capture health assessments in the summer and fall of 2015 in the IRL and coastal Georgia.

Wells asked how long it takes for the animals to succumb to the viral infection. Fauquier said death can occur within 2 weeks in acute cases, others take 4-6 weeks, but there are also chronic cases. Read asked about abundance estimate updates for bottlenose dolphins. Garrison (SEFSC) replied that the estimates derived from the 2013 survey will be available next year.

B) Bottlenose dolphin stock structure in Atlantic and Gulf of Mexico

Patricia Rosel (SEFSC) presented SEFSC genetic research on bottlenose dolphin stock structure. She explained that the first bottlenose dolphin stocks were delimited in 1994-1995 with the first stock assessment reports (SARs). In the Atlantic 2 stocks were delimited—an offshore stock and a coastal stock, both of which were thought to be distributed along the entire eastern seaboard. The delineations were based on hematological differences, distributional differences, as seen in CETAP data in particular, and morphological differences. Delineation of the coastal stock was

based primarily on the pattern of strandings seen during the 1987-1988 bottlenose dolphin die-off. Since 1995, a progression of changes to stock structure has led to the single coastal stock being split now into 5 different stocks for which independent SARs were first written in 2009. Data used to split the stock included telemetry data, photo-ID data, genetics, and management considerations. In addition, 9 estuarine stocks were delimited in the Atlantic in 2009 to cover resident estuarine populations. An additional estuarine stock was added in 2013 and another in 2014. A stock assessment report was written for the Puerto Rico and US Virgin Islands stock in 2011. For the Gulf of Mexico, the original treatment of stock delineation was quite the opposite of what was done in the Atlantic. In the Gulf, 38 stocks were delineated in 1995—33 bay, sound and estuary (BSE) stocks, 3 coastal, 1 shelf and 1 oceanic stock. Recently, two BSE stocks were individually subsumed into neighboring stocks (*i.e.*, Little Sarasota Bay was combined with Sarasota Bay and Lemon Bay was combined with the Charlotte Harbor/Pine Island Sound stock) based on photo-ID data. Research is ongoing in both the Atlantic and Gulf of Mexico to further refine understanding of stock structure. In the Atlantic, examination of the degree of genetic exchange between coastal and estuarine waters through analysis of estuarine and coastal biopsies collected in Georgia and South Carolina continues as does analysis of stock structure in offshore waters south of Cape Hatteras. Biopsy sampling continues to collect samples representative of particular stocks, through collaborative efforts with researchers at other institutions, to fill in gaps and to aid understanding of what stocks have been affected by the 2013 bottlenose dolphin UME. In the Gulf of Mexico, an ongoing project funded by BOEM is examining stock structure in coastal and estuarine waters of central Texas, as well as stock structure among estuaries throughout the Gulf. This project has also developed and applied a new threat assessment method to help prioritize which of the many BSE stocks should be targeted next for fieldwork for stock assessment. Another study has focused on population structure in non-estuarine waters of the Gulf and suggests that there may be 7 rather than 5 stocks in these waters. Finally, ongoing work associated with the NRDA is focused on examining stock structure in estuaries of the northern Gulf.

Nowacek asked what threats were being assessed in the Gulf of Mexico. Rosel said she sent out a document on that last spring—SEFSC has been doing a risk assessment, prioritizing threats and stocks. It has since come out as a Tech Memo. Wells said he has a current proposal for work in Apalachicola Bay; if Rosel needs samples there she should send a request, which would strengthen his proposal. Rosel continued by saying boundaries are the next step for the non-estuarine Gulf of Mexico delineations. Fauquier asked about snips vs. microsatellites. Rosel said she had hoped to shift to relying more on snips but experiments they did showed that microsatellites have more power. Bonde asked if the snips are in coding regions. Rosel replied that some were and some were not. Lawson asked if anyone was working on fatty acid or stable isotopes to look at the niche separation. Rosel said they have done some, as well as some contaminants work. Read said that his group is starting to put satellite tags on bottlenose dolphins off Cape Hatteras. Hatteras is looking like a dolphin stock break in distribution. They are also recording dives up to 1,000 m.

C) Gulf of Mexico UME and DWH

Jenny Litz (SEFSC) presented on the status and findings from the Northern Gulf of Mexico UME investigation. The northern Gulf of Mexico UME has been the largest and longest-lasting die-off of bottlenose dolphins in the Gulf of Mexico. The UME was initially declared for the FL

Panhandle, AL, MS, and LA with a start date Feb 2010. So far it has included ~1,300 cetacean strandings through January 2015. Eighty-seven percent of those were bottlenose dolphins and 94% of cetaceans stranded dead. The UME overlaps with the Deepwater Horizon oil spill response area and the Natural Resource Damage Assessment. So far both morbillivirus and biotoxins have been ruled out as causes of the event and the role of *Brucella* in this event is under investigation. A negative binomial regression model was developed using historical bottlenose dolphin stranding data from 1990 – 2009 to further define baseline strandings in the region and identify spatial and temporal clusters of high mortalities within the larger event. The model provides a mean expectation of the monthly number of bottlenose dolphin strandings within regions of the Gulf of Mexico (spanning from Texas through Monroe County, FL). Observed stranding values that exceed the upper 95% confidence limit of this prediction may be described as “outliers”. The goal was to account for some of the variability in the stranding data to the extent possible and identify clusters of strandings that were outside of the expected range. The northern Gulf UME had multiple clusters of bottlenose dolphin mortalities, most of which overlap in time and space with the DWH spill. The largest most prolonged cluster was in Barataria Bay (Aug 2010 – 2011) followed by MS and AL in 2011, consistent with timing and level of exposure to oil. The Florida Panhandle was not consistently high for *Tursiops*, nor were Texas or the west coast of Florida. The next steps of the ongoing UME investigation will focus on comparing the histopathology and other test results within and between these clusters to further understand the potential causes of the mortalities. Evidence from this study suggests that DWH is likely a contributing factor to post-spill mortalities in the northern Gulf of Mexico.

Nowacek asked about comparison or extension to offshore stocks. Garrison said the strandings are not as informative for the offshore cetaceans because the carcasses don't make it to the beach.

Garrison provided an update on the status of DWH injury assessment. The Oil Pollution Act of 1990 requires that the responsible party funds cleanup, assessment, and restoration after an oil spill event. State, federal and tribal trustees conduct natural resource damage assessments (NRDAs) and develop and implement a plan to restore, rehabilitate, replace or acquire the equivalent of the damaged resources. The NRDA is restoration-focused, is to be a cooperative process among co-trustees and the responsible party, and is a legal process wherein Trustees are required to demonstrate causality between the release and resource injury/lost use. Damage encompasses direct and indirect effects of oil exposure, as well as negative impacts of response activities. The damage assessment for cetaceans includes quantifying the abundance and spatial distribution of species within the impacted area through use of aerial and vessel surveys, and passive acoustic monitoring for some offshore species. Four health assessment captures have been performed in 2 estuarine areas. The 2011 health assessment in Barataria Bay, LA, an area that experienced significant and prolonged oiling, revealed that 25% of the captured dolphins were significantly underweight and the dolphins were 5 times more likely to have moderate to severe lung disease than dolphins from Sarasota Bay, an area that did not experience any oiling. Nearly half the Barataria Bay dolphins examined were given a guarded or worse prognosis, compared to only 4% in Sarasota Bay. Ongoing work continues to assess injury, analyze tissues from stranded animals to verify the types of pathologies seen in the stranded animals, and synthesize all the information for scaling injury and restoration projects.

Garrison said there is a large overlap between the NRDA process and the UME process. The injury assessment phase is flowing into a restoration phase. Sarasota Bay and St. Joseph Bay are good reference/control sites, with lots of data and low exposure.

Nowacek asked if they had done any prey sampling. Garrison replied that SEFSC did deep water sampling early in 2010, pre-spill, and then again later, but most of those species don't retain polyaromatic hydrocarbons, and it is hard to quantify abundance differences. Lawson asks what will happen when this funding ends. Garrison replied there might be a lull between assessment and restoration. There is a lot of planning that is going to be going on. Lawson said Canada is doing risk analysis on what happens when you can't do research. David Laist (MMC) asked if many of the health-assessed animals died. Garrison said yes, some of them disappeared, including one of the tagged animals. Peter Corkeron (NEFSC) asked if SEFSC has looked at how the extinction probability changed as a result of the spill. Moreno asked if it is off the table to look at productivity and PBR. Garrison said PBR is a different question. A take in an MMPA framework and a take in a NRDA framework are different.

Garrison presented the schedule for updating abundance estimates of BSE stocks. There are 22 BSE stocks in the Gulf of Mexico with abundance estimates from 1994 or earlier. Two stocks (West Bay and Barataria Bay) have abundance estimates from 2000-2001 and 5 stocks (Choctawhatchee, St. Joseph Bay, Charlotte Harbor/Pine Island Sound, Sarasota Bay, and St. Vincent Sound) have estimates from 2005-2008. Two stocks (MS Sound, and MS River Delta) have estimates from 2011-2012 (aerial survey estimates). For Barataria Bay, Mississippi Sound, and St. Joseph Bay, estimates from photo-ID capture mark-recapture studies should be forthcoming from NRDA at some point. Ongoing work in 2014 and 2015 will focus on obtaining estimates for West Bay and St. Andrews Bay. Future work will establish priority stocks based upon the Phillips and Rosel (2014) framework and will have to work with partners to implement well designed photo-ID capture mark-recapture estimates. Field studies must cover the appropriate spatial/temporal scales, use standardized photo-quality/scoring methods (see Melancon et al. 2011) and common analytical methods (i.e., robust design).

Nowacek asked why NRDA studies are not already incorporated into SAR abundance estimates. Garrison said that was because they are not published yet. Wells mentioned the Gulf of Mexico Dolphin Identification System as a good tool. Young said she has seen the permits coming through for some of the groups and hoped NMFS is keeping quality control. Garrison agreed that it is a concern to have new inexperienced groups coming into the field. NMFS is not going to be able to exert absolute control, it just hopes to set standards, and give feedback if the work is not of a quality that can be used in SARs.

Keith Mullin (SEFSC) presented NMFS's plan for follow-up research (beyond stock assessments) post DWH. He said the SEFSC would like to do more assessment work (i.e. stock structure, abundance estimation, etc.), but currently has nothing planned for oil spill follow-up work. They would also like to do follow-up health assessments in Barataria Bay but nothing specific is planned right now. An important thing coming up is that the Marine Mammal Commission will host the "Gulf of Mexico Marine Mammal Research and Monitoring Meeting" on 7-8 April 2015 in New Orleans. Invited participants include principal investigators that conduct marine mammal research in the Gulf of Mexico (e.g., federal, state and academic), managers from federal and state agencies and other stakeholders (e.g., NGOs). The objectives of

the meeting are to: provide an overview of marine mammal stocks and human activities; review marine mammal research and monitoring projects/programs; identify high priority, overarching marine mammal data needs for the next 5-15 years; identify potential funding sources/opportunities for marine mammal research and monitoring; and discuss options for collaborations to facilitate long-term research planning, information sharing, and capacity building. Corkeron said instead of seeing this as a set of replicate populations, and just focusing simply on stock assessments for each separate stock, one could frame the problem as one of conservation triage. This would involve recognition that different populations have different likelihoods of survival (based on levels of anthropogenic impact) and building thinking toward ensuring that those with the best likelihood of survival have that likelihood enhanced using a marine protected area approach. The need is to come up with a way to use science to prevent these animals from going extinct, instead of just figuring out how to best document their demise. Garrison said this might be the first step in building the consortium. Engleby added that we also need to incorporate human threats and more understanding of how human threats impact the populations. Corkeron said he sees the management piece as absolutely central if we are to understand process. Engleby said there are all sorts of ecosystem-wide entities in the Gulf but marine mammals and large marine predators don't really have a voice.

3) Special Topic – Manatees

Jim Valade (FWS) opened up the session. He introduced Catherine Langtimm, Bob Bonde, and Dan Slone (on phone) from the Sirenia Project with the USGS Southeast Ecological Research Center in Gainesville, FL.

Catherine Langtimm made a presentation on the manatee individual photo-identification system, demography models, and their application to management issues. The presentation provided an overview of the current status of the Manatee Individual Photo-identification System (MIPS), (a multi-agency collaboration of USGS, the Florida Fish and Wildlife Conservation Commission's Fish and Wildlife Research Institute and Mote Marine Laboratory), new mark-recapture demography models, and how these new models can be applied to management issues. Publications on the development of the Barker Robust Design model and a new application of the Multi-state Open Robust Design were highlighted. These new modeling applications show promise to address management issues such as the effects of recent UMEs on manatee survival, effects of power plant repowering on Atlantic Coast manatees, development of a future warm-water network without power plant effluents, and manatees as indicators of ecosystem change.

The immediate management need is for information from these data and models for FWS assessments to review the status of the West Indian manatee under the ESA. MIPS data are now processed through winter 2012-13 for three regions and through 2013-14 for the fourth. These data will be used to provide estimates of survival and breeding probabilities in an update to the manatee Core Biological Model and threats analysis expected to be completed by the end of the year.

Lawson asked about strategies to deal with the quantity of photos. Langtimm said Lawson should talk to the database managers. Lawson said that the Department of Fisheries and Oceans are looking into crowd sourcing as an additional source of marine mammal photographs for marine mammal species of conservation interest, and putting these catalogues online. Langtimm

said there could be better quality control if you have a consistent, experienced group of people making matches.

Ron Dean (OPR) asked if the EPA rule 316(b) will have an impact. Valade said that may force the shutdown of older plants but not the new plants that the manatees rely on.

Bob Bonde (USGS) explained that he was also part of the Sirenia Project. He made a presentation on manatee health assessments and genetic analyses. Health assessments have been performed on 201 manatees since 2006. They are interested in creating legacy datasets to establish baselines. Assessments performed include heart rate, temperature, body mass index, and respiration rate. Samples taken include feces, urine, milk, parasites, blood, and tissue, and the animals are PIT tagged. Studies of physical condition, clinical health, photo-ID, genetics, stable isotopes, contaminants, biomarkers/stressors, and radio tracking are being carried out. Health assessment studies are ongoing in Florida, Cuba, and Belize. Genetic studies are underway in Florida, Puerto Rico, Belize, Brazil, Africa, and Mexico. Bonde presented some results on genetic diversity and stock structure in manatees from Florida and Puerto Rico.

Dan Slone (USGS; on phone) presented a PowerPoint about the manatee behavioral research with which he is involved. This research focuses on where the manatees go, what they do, and how they interact. Projects and partners are tracking manatees in the western Gulf of Mexico, Florida's Indian River Lagoon and western Everglades, the Bahamas, Guantanamo, Cuba, and Puerto Rico.

Valade noted that manatee research activities have been and are a collaborative effort between many agencies and organizations, including USGS and the Florida Fish and Wildlife Conservation Commission. (Nadia Gordon from the State's Jacksonville Field Office was in attendance.) He had some important manatee updates to share with the group. One of the updates was that the Service had received a petition from the Pacific Legal Foundation on behalf of Save Crystal River to delist the manatee. Service field offices are drafting a 12-month finding; regional leadership Atlanta will review the draft and will make their recommendation to Service headquarters where a final decision will be made. Service staff will revise the current manatee SARs.

Powell asked how the Service was able to get information from manatees all over their range. Valade said they did a thorough literature search, and reached out to other countries' researchers. There has been some good genetics work that has been done, so that kind of approach has been considered. Powell said the Core Biological Model (CBM) will be made public in 2015, and therefore would it not be better to wait to make your recommendation until after that comes out? Young said sometimes the agency can discuss with the litigants that it needs extra time. It would behoove the agency to explore the idea to delay until after the CBM comes out so they can use the best available science. Powell asked if any counter-suits have been generated. Valade said no.

Valade also presented an update on recent manatee deaths and rescues. There is an ongoing UME in the Indian River Lagoon. There was an algal bloom that killed off seagrass. The number of deaths has now slowed down significantly. Powell asked what the hypothesis is on cause of death. Bonde said they have identified a suspect microbe. Fauquier said the presumption as of

last April was dysbiosis, where bacterial flora in the manatees' hindgut became dysfunctional after they ate algal species they wouldn't normally eat. It affected about 120-150 animals, or approximately 5% of the east coast population. Nowacek asked if those numbers were taken into account in the Core Biological Model. Langtimm said the CBM did include red tide events, increasing frequency of cold, and catastrophic events, so it was accounted for. Laist said the seagrass beds are bouncing back unexpectedly fast in the past year, although Dan Slone noted that almost all of the recovery is in one species of seagrass. Bonde said there was a small area in the Indian River Lagoon, the Banana River, where sea grass persisted and few carcasses were recovered, the only location where this occurred.

Powell observed that human-related mortality that we can control seems to be stable or declining but that currently factors we can't control seem to be driving the system, and that is worrying. Young asked if the mortality data that will be fed into the model will be more current than last time. Langtimm said the data that the Service have available go through last year for the southwest animals, and the remaining three groups have data through 2012-2013. However, there will be wide confidence intervals on the last couple of estimates.

Corkeron asked to what extent are red tide events driven by nitrogen loading. Langtimm said she believed excess nutrients allow the red tide to persist. Powell said watercraft issues are direct but environmental issues are more complex. Valade said there were 54 rescues in 2014. The State of Florida did a synoptic survey on Monday and will put out counts soon. The State of Florida has developed a new aerial survey methodology and plans to publish the methodology soon.

Nowacek said the SRG will look forward to the new SARs next year and the new CBM.

4) AMAPPS Program Updates

Debra Palka (NEFSC) presented updates on the ongoing Atlantic Marine Assessment Program for Protected Species (AMAPPS). She explained the project is funded by inter-agency agreements with BOEM and the US Navy, and that while the bulk of the work is conducted by NEFSC/SEFSC and FWS, it is a collaborative effort involving many other organizations. Data collection for AMAPPS I took place during 2010-2014 and density models and maps are expected to be completed in the summer of 2015. The second phase of the project, AMAPPS II, will involve data collection and analysis taking place during 2015-2019. She outlined the objectives of the project and some of the initial products and publications completed as well as analyses and publications in the works. Collaboration and data sharing is being carried on with many other institutions.

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5) Take Reduction Plan Updates

Bottlenose dolphin take reduction plan (BDTRP) - Stacey Horstman (SERO) said the Virginia pound net fishery final rule was published on February 9 and takes effect March 11, 2015. It includes requirement for year-round use of a modified pound net leader on offshore nets in the bottlenose dolphin pound net regulated area, compliance training for fishermen, and requires that

all sections of gear are fished at the same time. The last BDTRT meeting was in March 2014 where the team supported several steps to reduce risk to the two estuarine stocks in North Carolina from the stop net fishery and small mesh gillnet activity. The state of North Carolina has enacted the Team's recommendations. A webinar meeting is planned for summer 2015.

Nowacek asked if there are lengths of time the weir gear is allowed to be in the water. Horstman said the poles are permanently placed. Peak activity is May-Aug.

Waring asked how the recommendations align with Rosel's priorities. Horstman said overall they align, but just hone in on certain stocks.

Pelagic longline take reduction plan (PLTRP) - Engleby explained that the goals of the PLTRP are not being achieved. Compliance with the 20 nautical mile mainline length was not being met and so letters were sent to remind fishermen of the regulation. Violations have since decreased but now it appears multiple 20nmi mainlines are being set in close proximity to one another. Lawson asked if anyone had done a study to see if the "gaps" between these mainlines were sufficient to function as passages for animals, or were the gaps so small that the "effective" length of the mainlines were additive – as if they were a single long string. Engleby said the impacts of this new practice are currently unknown. However, short-finned pilot whales may be above PBR because a low bycatch estimate from 2009 will soon drop out of the 5-year annual average. Currently, workshops are being held to engage fishermen and search for ways to reduce serious injury and mortality. A webinar meeting of the team is planned for March 2015 and an in person meeting in December 2015.

Seagraves asked about the qualification required for fishing in the Cape Hatteras gear restricted area. Read wondered what will happen when we go above PBR. Engleby said that will be the main topic of the December in-person meeting. Read said there is a lot of skepticism about terminal tackle. Engleby said SERO is sensitive to that. Nowacek asked if there is any way to look at the length of gear in the water from a density perspective. Garrison said another problem is the cyclic pattern in the bycatch. There isn't much data to evaluate the effect of the shortened lengths. Read asked if there is any evidence that the number of hooks decreased. Garrison said he didn't think they had. Read said there is effectively no change in effort. Laist asked about the weak hook research. Engleby said that showed some promise but research is still under way. Weak hooks will also be a big topic at the December meeting. The in-person meeting will focus, in part, on what will happen if PBR is exceeded for short-finned pilot whales.

Atlantic Large Whale Take Reduction Plan - Allison Rosner (GARFO) discussed the background for the vertical line strategy. She said GARFO utilized a different management approach to address vertical line entanglements. The approach for the vertical line rule addresses the data limitations encountered during the development of the sinking groundline rule. The vertical line management scheme focuses on small, high impact areas rather than wide-scale, broad management used in the sinking groundline rule. The Take Reduction Team agreed to use the co-occurrence layer to guide the development of the vertical line strategy. Public scoping meetings were held in the summer of 2011. Stakeholders submitted proposals outlining what to do in their area. The proposed rule and DEIS were developed and published in July 2013. Public hearings were held in the summer of 2013. The rule was published rule in June 2014.

The vertical line strategy included a June 2014 vertical line rule with staggered implementation dates—Mid Atlantic in August, Southeast in November, and Northeast in June 2014. It also included gear marking—now three 12” marks as opposed to one 4” mark; minimum number of traps per trawl requirements—with differences based on area fished and distance to shore; new trap/pot closures—MA Bay, CCB, Outer Cape; and weaker weak links and breaking strength of vertical line measures in the southeast.

Since the June 2014 rule GARFO has had proposals from States for exemptions or changes to the Plan. MA requested a change to the trap/pot closure. The request was to change the start date to Feb 1st in return for making the area bigger. This was discussed with the TRT in October and rulemaking went forward to change the time/area of closure. The closure now begins Feb.1st and encompasses a larger area. MA also requested certain state waters be exempt from the minimum number of traps per trawl requirement that effectively banned singles. Rhode Island had the same request. In the June 2014 rule GARFO created a ¼ mile buffer around a few Maine islands. Maine requested NMFS create this buffer around a few more islands. The TRT met in January to discuss the proposals. The Team recommended to the Agency they proceed with rulemaking to adopt the state’s proposals as presented but include gear marking in the newly exempt areas as well as Jeffrey’s Ledge and Jordan Basin.

Nowacek expressed concern about the time for area swap. Rosner (and Beth Casoni, MA Lobstermen’s Association) said that was initiated because of the time necessary to get traps out of the water. Laist added more clarification, explaining that there was a closure expansion that included important lobster fishing areas in Cape Cod Bay. The fishermen asked for a month extension (Feb instead of Jan) and in exchange they proposed expanding the area southward, into waters that are high use areas for right whales. The co-occurrence model showed that the swap would result in protecting the same number of whales. Nowacek wondered why April in the Great South Channel wasn’t already included in the closure. Young said the one point that the Humane Society had made in their comments was that there are a lot of other risk-prone fisheries coming on-line that are not included in this closure or plan. Rosner pointed out that the whelk fishery is included in the plan. Young said the number of lines was not included. Nowacek added that it is difficult to get a good understanding of the changing distribution of the whales.

Harbor porpoise take reduction plan (HPTRP) - Rosner said there is nothing new to report for the HPTRP. It is currently in monitoring mode. GARFO is working with law enforcement to make sure there is sufficient enforcement. Laist asked about the implementation of expanded enforcement efforts using the observers to identify non-compliers. Rosner said GARFO is going forward with that. Young asked if overall compliance has improved and if updates were being sent out to the team. Palka pointed out that the Hatch *et al.* gillnet bycatch manuscript has compliance information. Compliance was quite high.

Critical Habitat Revisions - Rosner explained that on February 20, 2015, NMFS published a proposed rule in the Federal Register to replace the 1994 designation of critical habitat for Northern right whales in the North Atlantic Ocean with critical habitat for the North Atlantic right whale (*Eubalaena glacialis*). The existing 1994 critical habitat designation includes portions of Cape Cod Bay and Stellwagen Bank, the Great South Channel (each off the coast of

Massachusetts), and waters adjacent to the coasts of Georgia and the east coast of Florida. The proposed action will replace the existing right whale critical habitat that was designated in 1994 with two new (or expanded) areas. The two proposed new areas will result in a significant expansion of critical habitat in the northeast feeding area (Gulf of Maine/Georges Bank region) and the southeast calving area (North Carolina to Florida). The areas under consideration cover approximately 29,945 square nautical miles (nm²) of marine habitat in the Gulf of Maine/Georges Bank region and Southeast U.S.

The essential features of right whale foraging habitat essential to the conservation of the North Atlantic right whale are a combination of both biological and physical oceanographic features. These are as follows:

1. The physical oceanographic conditions and structures of the Gulf of Maine and Georges Bank region that combine to distribute and aggregate *Calanus finmarchicus* for right whale foraging, namely prevailing currents and circulation patterns, bathymetric features (basins, banks, and channels), oceanic fronts, density gradients, and temperature regimes;
2. Low flow velocities in Jordan, Wilkinson, and Georges Basin that allow diapausing *C. finmarchicus* to aggregate passively below the convective layer so that the copepods are retained in the basins;
3. Late stage *C. finmarchicus* in dense aggregations in the Gulf of Maine and Georges Bank region; and
4. Diapausing *C. finmarchicus* in aggregations in the Gulf of Maine and Georges Bank region

The essential features of right whale calving habitat crucial to the conservation of the North Atlantic right whale are a combination of both biological and physical oceanographic features. The essential calving features are:

1. Calm sea surface conditions of Force 4 or less on the Beaufort Wind Scale,
2. Sea surface temperatures from 7°C to 17°C, and
3. Water depths of 6 to 28 m

Public comments will be accepted through April 21, 2015. The press release, with maps, can be accessed online:

<http://www.greateratlantic.fisheries.noaa.gov/stories/2015/february/RightWhaleCriticalHabitat.html>

Nowacek asked Lawson about what is going on in Canadian waters. Lawson said Canada is working on vessel exclusion zones, as well as critical habitat designations for a variety of marine species, including mammals. Randy Reeves (IAT) asked if there is critical habitat for right whales in Canada. Lawson described the Roseway Basin area which has been designated as Critical Habitat by DFO for feeding right whales. Nowacek asked if the border in Maine is the 3-mile line. Patrice McGarron (Maine Lobstermen's Association) said it includes 70% of state waters. Nowacek asked what triggers consultation. Engleby said the primary constituent elements are temperature and depth. Activities that alter temperature or depth trigger consultation. Young added that activities that would substantially increase risk are given a harder

look. Ron Dean said if an action is likely to adversely affect the species it would trigger a section 7 consultation. Laist said anything that impedes free movement of the animals can be considered adverse. Rosner said GARFO looked at things that might restrict the movement of *Calanus*. Nowacek said it is interesting that essential elements in the NE include biotic things but don't in the SE. Nowacek asked about wind development. Ron Dean said if it is likely to affect the species it will trigger consultation. Engleby added that April 21 is comment deadline for critical habitat.

6) Stranding Program – UMEs only

a) Northeast region (NERO/NEFSC) – Nothing to report.

b) Southeast region (SEFSC/SERO) – Engleby said the mid-Atlantic UME and the Northern Gulf UME were discussed earlier. The 2013 UME for the Indian River Lagoon was recently closed. It involved 79 dead dolphins, 83% of which were emaciated. Cause of the event is thought to be prey-related due to sea grass loss in preceding years.

Nowacek thought it curious that animals so mobile would be affected by seagrass loss in the Indian River Lagoon. Wells said it is not unprecedented. Lawson said it happens with resident killer whales, which feed only on certain salmon species to the exclusion of other prey, as well. Fauquier said NMFS is doing some follow-up with stable isotope analysis.

7) OPR Updates

Shannon Bettridge (NMFS OPR) reported that the draft 2014 SARs are now out for public comment (until April 29). She apologized for the delay on that. Next year will be back on track with regular timing. There is a statement in the Federal Register notice about humpback whales. The Agency initiated a global status review. While conducting the review, NMFS received a few petitions to delist some stocks (in Hawaii and Alaska) and declare them as Distinct Population Segments (DPSs). The Agency issued positive 90-day findings, meaning that the petitions presented sufficient information to warrant consideration. That review has been concluded, and NMFS is in the process of developing a 12-month finding/proposed rule. Four humpback whale stocks are currently designated as depleted due to being ESA listed; any potential changes in ESA status may have an impact on the depleted status down the road. There will likely be a 90-day public comment period for the proposed rule. Young said HSUS litigated against the finding on wolf listings and in that case the court stated you can't create a DPS for the sole purpose of downlisting. Young said this precedent should be a consideration of the Agency as it also pertains to manatees. Bettridge added that it would also pertain to sea turtles. Corkeron said DPSs are based on breeding areas, but stocks are based on feeding areas. Bettridge said the WNA is the only stock based on feeding areas, but that is a good point to consider. The Alaska SRG has recommended that NMFS take another look at MMPA stock delineation. There is an issue of some stocks not being aligned. Laist asked when the global analysis and proposed rule will be out. All Bettridge could say was it will be in the near future. Bettridge also mentioned that the Federal Register notice soliciting new SRG members did go out, and she will be talking more about that tomorrow under new business.

8) NMFS Stock Assessments

Appendices and SI determinations – There was discussion about the timing of the SRG review. Engleby put an idea on the table for the SAR Appendix III to be replaced by a link to the List of Fisheries (LOF). Rosner said the SAR could link to the fishery fact sheets that live on the Office of Protected Resources site and it seemed like that would satisfy the requirements specified in the GAMMS. Bettridge said the SRG would be expected to click on that link and review those. Nowacek said that should go into a master spreadsheet so it gets review. Waring asked about the timetable for LOF updates. Lisa White (OPR) said they are ahead of the SARS and become final in December. Nowacek agreed we can move forward with that. Young said NMFS should feel free to nag if reviews are late. Waring said we try to go through the chair. Nowacek suggested that something like a Google doc with tasks and deadlines would be helpful.

GMx Atlantic Spotted Dolphin – Young asked if the new GAMMS III guidelines were being followed for these SARs. She was informed that NMFS had not yet adopted the new GAMMS III guidelines. Nowacek asked for the timeline on implementation. Bettridge explained that NMFS is working on that and it is a nationwide issue. NMFS is trying to finalize the majority of it by pulling out the controversial parts to introduce separately.

Wells had only minor edits for this SAR. The “estimates of immigration rates...” text should have a citation for the 10% threshold, as well as some clarification that animals may be transboundary. Under habitat issues, it should be dwarf/pygmy sperm whales, not dwarf/pygmy killer whales. In the status section old data was invoked, yet all old data were taken out. Also, he wondered about the impact of DWH. Shouldn’t the default be for impacted stocks to be considered strategic? Waring said the language in the MMPA says we can designate status on the recommendation of the SRG. Bettridge read from GAMMS II about strategic designations. Garrison said this might be an issue to think about for next year when the injury assessment reports are out. Wells agreed.

GMx Bryde’s Whale – Moore had a comment that there does not appear to be a separate SAR for Atlantic Bryde’s whales. He suggested one SAR could cover both. Rosel said there have been no sightings in the Atlantic and just a handful of strandings. The strandings could be strays from the Gulf of Mexico. Moore also suggested using a different number of barrels involved in the BP Gulf spill. Rosel said the number Moore is citing is what a judge decided, and she would prefer to cite published scientific reports. It could be revised to say “...up to xxx barrels”. Reeves asked about Brydes whales in the Caribbean. Rosel said she couldn’t find any confirmed record in the northern Caribbean, and southern Caribbean records would be different Bryde’s whales. Corkeron said Joel Ortega-Ortiz may have had one sighting. Powell said he can make some inquiries in Cuba. (He later heard back from his contact who referred to a stranding on the south coast which was documented in Mead 1977).

Another comment from Moore was that this species should be listed under the ESA. Engleby said that the Agency was petitioned to list it as endangered and they will have the 90-day finding (finding on whether there is enough information to conduct a review) out in March. Nowacek wondered how did we not get there before this. Rosel said the taxonomic uncertainty in the group plays a role, as did the fact that we did not until recently know they were genetically distinct. The Society for Marine Mammology’s Taxonomy Committee has not listed them yet, but there will be an effort to list them as a subpopulation on the IUCN Redlist. Corkeron said the

circuit breaker on this is Rosel's paper – it is wonderful that she brought it out. Reeves said the Redlist process will probably be able to happen fairly quickly.

GMx Pantropical Spotted Dolphin – Powell commented that the statement about the percent of waters inside and outside the US EEZ was confusing. Seagraves asked if there has been any attempt to look at habitat models. Garrison replied that Duke University is testing tools to expand estimates beyond range of data collection. Seagraves said he would like to see what the rest of the Gulf looks like in the map. Nowacek suggested that something could be done with the EEZ line so it doesn't look like a bathymetry line. Seagraves asked if there is any timetable for trend analysis. Garrison said he thought there would be some progress on this. Seagraves said it was unclear whether the presence of these animals coincides with the more intensive fishery observation. Garrison said the bycatch analysis is done separately by season, so that would not be a problem.

GMx Risso's Dolphin – Read said SARs should be more consistent about including stranded and rehabilitated animal information. Rosel asked if it should be removed from the SARs. Read said it is just not done consistently and is maybe not informative. Wells said it can fill in gaps when there is no better information. The caveat that is in there is a reasonable one. Read said there are a lot of other rehabilitated animals that are never mentioned. Also, the Fisheries Information section is a bit confusing. Are there two different pelagic fisheries? The text on the number of serious injuries is confusing. The point about enhanced observer coverage should go above the fishery interactions section. Wells said he was glad to see more information in the trend sections but further clarification is needed there regarding trends. Also, the sentence about not being able to detect shifts in US versus non-US waters was confusing. Rosel said she thought that text was added because of a comment from the SRG. Wells said maybe making the new text clearer by indicating that it is just a snapshot would be sufficient.

GMx Short-finned Pilot Whale – Seagraves said the surveys are getting stale. In this and in the Risso's dolphin report there was one observed serious injury, but the multipliers must be very different. Garrison said the takes were probably just in different quarters, but he will double check. Young had no comments.

GMx Sperm Whale – Moore and Read reviewed this SAR. Bettridge said at some point we should remove the text about new guidelines. Lawson provided some information on cases of sperm whale depredation in Canadian longline fisheries. One of Moore comments was that in the fisheries section, the report should say what the level of observer coverage was since 2008. Garrison said he should clarify this – the increased coverage is actually during this period every year.

GMx Baratavia Bay Bottlenose Dolphin – Wells said that in general these SARs are well done. He just had some editorial comments. Laist made the suggestion to say in the SAR that it is important to review DWH information as soon as possible. Nowacek said maybe something like that could go in the introduction. Rosel felt that this seems more like a recommendation than something that belongs in the SARs. Bettridge agreed, saying it would be better as an SRG recommendation.

GMx BSE Bottlenose Dolphin – Read commented that the menhaden takes did not seem consistent, and the first 2 paragraphs in that section (Menhaden Purse Seine) seem contradictory. Kenney also had a comment about animals being included more than once.

GMx Choctawhatchee Bay Bottlenose Dolphin – Wells and Kenney had only editorial comments.

GMex Eastern Coastal Bottlenose Dolphin – Read said the shrimp trawl estimate was not integrated in to the total and that was not very clear. Garrison will go back and look at it. Read asked if this is the stock that interacts with bottom longline fishery. Horstman said there may have been some past interactions but nothing recent. Powell had no comments.

GMx Mississippi Sound Bottlenose Dolphin – Wells referred to the long section on earlier abundance estimates, saying he likes seeing it there for perspective. Under habitat issues, Wells suggested inserting a paragraph on health assessment adapted from another SAR. Nowacek said the reference to the shrimp trawl fishery being calculated at state level was not clear and that it was not clear what the “see below” referred to.

GMx Northern Coastal Bottlenose Dolphin – Wells said the stock boundaries in figure 1 were not clear. He pointed out a possible typo in the recent surveys section, with 2 estimates being exactly the same. He wondered if anything should be said here re Schwacke *et al.* similar to that in the Mississippi Sound SAR. Nowacek asked if it would be possible to attempt a trend analysis. Garrison said it might be possible, but there are some coverage differences, and no G_0 value for the 2007 survey. The menhaden purse seine fishery was discussed. Engleby said SERO did a pilot study but found there are a couple of limiting factors in plans to have observers in menhaden fishery. It is hard for the observer to see what is happening and there are issues of fleet size and data confidentiality. There are self-reported takes. Wells said the Schwacke findings might be appropriate here too. Nowacek asked about the text on explosives under other mortality, are these observations ongoing? Garrison replied in the affirmative.

GMx St Joseph Bay Bottlenose Dolphin- Wells had only editorial comments, and added the Schwacke reference would not be appropriate here. Nowacek brought up a question of transient versus resident animals. Is the estimate only for the resident population? Rosel said there was no effort to remove transients from the estimate but the season when their numbers are lowest was chosen. In the Choctawhatchee Bay Stock estimate the model excluded transients. Wells asked about recent 2013 estimates. Garrison said he thought B. Balmer has done an estimate.

GMx Western Coastal Bottlenose Dolphin– Moore recommended observer coverage for the menhaden fishery.

WNA Offshore Bottlenose Dolphin – Read asked why the wording was changed to “appear to overlap”? He also added that there was no indication of how the gillnet take was determined to be the offshore morphotype. Garrison said he will ask Lyssikatos.

WNA Short-finned Pilot Whale – Read said the report should cite Rone and Pace and also pointed out that next year this mortality will almost certainly be above PBR. Young had the same comment.

WNA Central Florida Coastal Bottlenose Dolphin – Powell said his comments were mainly editorial. He suggested summarizing mortality and serious injury in the preliminary paragraph of that section and said he would think on it and provide suggestions later. Young was also confused with unobserved fisheries, listed later. Gilbert said Table 1 has old data in it and old data should not be used for trend analyses. Wells suggested someone should track what the SRG comments are year to year.

WNA Charleston Estuarine Bottlenose Dolphin – Powell had only editorial comments and Young had no comments.

WNA Central Georgia Estuarine Bottlenose Dolphin – Nowacek had only only editorial comments. Contaminant information should be included, as should a habitat section. Gilbert complained that the population estimate used was from a survey that only covered half the area. Rosel said that it is probably one of the best estimates. Bettridge said she believes the other regions use partial estimates. Cokeron said a mark-recapture estimate in only part of the area is more defensible. Gilbert said the SAR could be vulnerable to legal action if this starts to impact fisheries. Garrison said NMFS has intentionally choosing the lower of all these estimates. Nowacek suggested putting this aside for later discussion and leaving the report as is for now.

WNA Indian River Lagoon Bottlenose Dolphin – Nowacek said there is a part of a paragraph under the stock definition section with a lot of information about stranded animals, etc. and wondered why it was included under stock definition and range. Horstman (and Foley on phone) and Rosel explained that it was mentioned there to keep track of all strandings in gap areas. Garrison said the detail could be trimmed down. Nowacek said it just doesn't seem to fit there. Powell suggested summarizing S&M in the initial paragraph.

WNA Jacksonville Bottlenose Dolphin – Seagraves said it would be useful to have a little more information on the UME, maybe even its own header. Wells pointed out that the Wells et al paper cited was published in 2015, not 2014. Nowacek asked if there was any way to get at the scope of the problem in the crab pot fishery. Horstman said that it is a state-run fishery. It is hard to estimate landings. The TRT has established a crab pot working group. Another question was if there were any plans to update the abundance estimate given that it is 20 years old. Rosel said there were no immediate plans. She asked for guidance on leaving in old estimates if that is all there is. Gilbert said you can't use the expired estimated for trends. Wells said if they were valid estimates at the time why can't they be used for trends? Garrison said he thought the constraint on stock abundance estimate age was just for calculating Nmin and PBR.

WNA NGSSCES Estuarine Bottlenose Dolphin – Seagraves suggested rewording the statement “this stock has the potential to interact with” to say it “has interacted...”. Nowacek had just editorial comments.

WNA Northern Migratory Coastal Bottlenose Dolphin– Seagraves said more detail on the fine scale trackline surveys would be helpful. He said the explanation of “left-truncating” was unclear. The calculation of CVs should be checked because they are the same for 2002 and 2010-2011. Seagraves wondered if there are plans to increase observer coverage. He asked why the

mid-Atlantic gillnet fishery information was not updated to 2013. Lawson wondered what additional studies were being considered to improve the definition of the stock.

WNA NNCES Estuarine Bottlenose Dolphin– Young said there are a lot of strandings for a small population. At some point the TRT text will be too old. She wondered why the post-TRT section goes only through 2011 and the other part through 2013. She found the phrase “insufficiently low to pool” awkward. Table 2 only goes through 2011. Garrison said the tables that deal with the gillnet fishery are off because there is a timing issue for bycatch analysis. Horstman said that is a good point, and Lyssikatos will be taking another look next year. Palka said NMFS had discussed before that we would be updating these bycatch estimates every 5 years. It is a data limitation. Young said it is also confusing that strandings are in two tables. Seagraves said in the text on page 2, it might be clearer to refer to actual months rather than warm water months vs. cold water months.

WNA Northern Florida Coastal Bottlenose Dolphin – Young wondered if the 2 mortalities mentioned in the annual SI&M section were prior to the period that was crossed out. Rosel will look that up. Powell said data from 2002 and 2004 are not significantly different so it is hard to do a trend. This goes back to how old we should use data. Maybe we need more description about how much can be explained by differences in methodology. Garrison said it is difficult to make assertions about the surveys because there are differences. The CV is so large for the second one so that is why can't detect a difference. Rosel said that would then carry through for all coastal BODO SARs. Garrison said the SEFSC will look at the trend language and be more clear about interpretation.

WNA NSCES Estuarine Bottlenose Dolphin – Gilbert had nothing substantive other than the same comment about a partial range estimate. Read said it seems more straightforward to limit the text to “...is unknown”. Garrison asked so, if the information does not allow one to calculate Nmin or PBR, we shouldn't provide numbers at all? Bettridge said we have to provide an Nmin and a PBR using the best available information.

WNA SC/GA Coastal Bottlenose Dolphin – Seagraves pointed out that some text may be missing in the geographic range paragraph. Gilbert asked why the numbers from surveys in 2010 and 2011 were averaged. Garrison said that was done to improve precision Gilbert said the population could, in fact, be crashing. Garrison said these animals move around a lot, so averaging may be a better estimate. That is, the SAR cites the average of 2 independent estimates as opposed to one estimate based on averaged data.

WNA Southern Georgia Estuarine Bottlenose Dolphin – Seagraves asked why the Georgia dolphin project was included under population size because it is not published and has no numbers. Also, he said he doesn't like the term “negatively-biased”. Garrison said it is a statistical bias. Maybe “underestimate” would be more understandable to most people. Gilbert said he would argue that the term ‘negatively-biased’ is a statistical one and should be in the SAR.

WNA Southern Migratory Coastal Bottlenose Dolphin – Seagraves wondered about change of wording in the range, is it an actual expansion or just a more accurate description? He suggested the wording ‘supports the hypothesis’ instead of “demonstrates ...”. He suggested

placing the population size at the end of the section so the reader has to read all the way through. He asked if there are mortalities in Chesapeake Bay. Garrison and Rosel replied in the affirmative. Gilbert had no comments.

WNA SNCES Bottlenose Dolphin – Gilbert suggested elimination of the old abundance estimate discussion if that is not part of the Nmin estimate. Horstman said she preferred to leave it in there but maybe it could be pared down.

WNA Long-finned Pilot Whale – Garrison said the issue with this SAR is that the 2006 estimate has expired and the 2011 estimate is much lower. The 2011 survey did not see any pilot whales in the Gulf of Maine. It won't be until 2016 before we do another survey in the summer. The 2016 survey will include a small portion of Canadian waters. Pilot whale abundance seems to vary year to year and 2011 happened to be a bad year. Read said if NMFS feels that the abundance estimate it has is inadequate then it has to go with unknown abundance and an undetermined PBR. Palka pointed out that the 2011 estimate is valid for that year and the area it covered. Bettridge said there is a precedent on the west coast for averaging over years. Garrison said taking the average might be the better number, but in this case one of the estimates is too old to use, even in an average. Read and Young both agreed that an old estimate should not be used in an average. So the choice is a small estimate or unknown. Read said an unknown abundance may be preferable in that it would serve as an impetus to get a new survey estimate. Gilbert supported both Read and Young, saying if you don't have faith in it, then drop the estimate. Palka said NMFS has had cases in the past where we knew the estimate was biased low, but that was just taken into account in the TRT process. Bettridge checked with the lead of the TRT, who said the fact that the estimate is known to be biased low can be taken into account for management. Read said the SRG is just trying to give NMFS the best scientific advice regardless of what the management will do with it. Palka explained that the reason the 2006 estimate was larger was because it included the Canadian estimate. We will not get another estimate that high until we get more Canadian numbers, and that won't be for a while. Read said either choice is justifiable. Nowacek said using the 2011 number would be more precautionary. Palka and Garrison both thought they would prefer to use the small 2011 estimate.

Young had a question about the longline text. The overlap area shown on the map seems to be in the range of longline activity. How was it determined that all the longline takes were short-finned pilot whales? Garrison said in the last 7-8 years we have not had a take in the long-finned pilot whale range. Also, all the genetic samples have been short-finned pilot whales. That is not to say that it can never happen. If we have a take then we will have to put all the PLL text back into the SAR. Young said it might be at least useful to change 'recent' to 'from x year'. Garrison said there is an equivalent issue in some of the trawl fisheries, with all the takes appearing to be long-finned pilot whales.

WNA Right Whale – Moore had a couple suggestions for references to be added. Young also has some reference suggestions she will send in. In the stock definition section, it may be worth adding reference to the Bort et al. 2015 paper. Also, documentation of Jordan basin as a mating area should be added. Under population size, the wording should be "presumed to be alive" not "known to be alive". The period mentioned in Knowlton et al. 1994 was 5 years not 7. More recent calving interval could be used. Corkeron clarified that the more recent calving intervals (4, 4, and 5) are for animals that have calved, not all animals in the population. Young went on to

say that the Conn and Silber paper could be cited where it says “some analyses of effectiveness were done”. Under fishery related mortality, the value 3.3 whales/year should be 4.3. The paragraph that begins Knowlton et al. should include the more recent paper by Pace et al. 2014. Also the Johnson et al. 2005 paper could be added to the bycatch summary. She suggested adding some new text that conveys the fact that gillnet entanglements are continuing and are not just a Canadian issue. Also, she had a few suggestions of animals, in addition to the list of whales that David Laist had provided, that seem to have been left out of the tables in the SAR. The July 12, 2013 animal that is said to be of unknown status could be reconsidered as there is a photograph of it that shows the animal in extremely poor condition. After August 11 2013, there are 2 other cases she would add, including one that was a vessel strike.

WNA Humpback Whale – Moore had just one editorial comment. Young said the vanDerHoop reference in the added background section should be 2013 not 2012. Also, the ‘many more’ entanglement cases statement should be clarified - it should say because not all carcasses are detected or something else so not so vague. She also had several other cases she thought could be included.

WNA Fin Whale – Lawson described a current study in the NW Atlantic that to date has segregated 3 fin whale stocks based on unique features of their calls.

WNA Minke Whale – Rosner asked about the mid-water trawl minke take that was coded by the observer as moderately decomposed. Josephson replied that Allison Henry at NEFSC had looked at the photographs and thought it looked pretty fresh.

WNA Short-beaked Common Dolphin – Lawson said there are 10s of common dolphins taken in the Canadian monkfish fishery but they are unobserved takes. That fishery also takes white-sided dolphins. Young said she had no comments on common or white-sided dolphins.

WNA Risso’s Dolphin – Gilbert had no comments and Lawson had minor editorial suggestions.

WNA Harbor Porpoise – Read said the gillnet bycatch numbers reported in the SAR are different from those in the Hatch and Orphanides manuscript. Lawson said he had contacted somebody for updates on Bay of Fundy fishery takes and would pass these along as soon as possible. Palka said she has gotten some new herring weir take numbers that will be added.

WNA Harbor Seal – Gilbert added a new paragraph about the abundance estimate. The analysis demonstrated a 31% increase of pups which is not biologically reasonable, so this points to a design problem. Part of the population was not in the area we surveyed. In addition, the text could be pared down quite a bit. Lawson had some minor edits, and described higher survival rates for harbor seals born on S. Pierre and Miquelon, south of Newfoundland, as a result of the collapse of the Atlantic cod and lumpfish gillnet fisheries which used to take many young of the year seals until the early 1990s.

WNA Gray Seal – Lawson had only minor edits. Read said there was another mismatch here with the Hatch and Orphanides gillnet bycatch numbers. He also remarked on the magnitude of the gillnet bycatch of gray seals.

Discussion of scheduling for next year – Nowacek asked the group if shifting the SRG meeting to March would be feasible. Garrison said the later it gets the tougher it is to respond to reviews prior to publication deadlines. Nowacek said he can't do any earlier than this. The latter half of February is probably best. Bettridge reminded the group that next year is slated to be a joint SRG meeting with all regions combined and asked people to think about specific topics for a combined meeting. There may be the option to do part of the meeting by webinar.

Friday, 20 February, 2015 (0830)

Bettridge gave a presentation on the SRG membership review process. Nowacek asked if the current nomination process would allow us to get a new member on the SRG in time for the next in-person meeting. Bettridge confirmed. Young asked whether Bettridge could tell the SRG who will be in each review group. Bettridge responded that NMFS is leaving that up to the chair. Nowacek indicated that he will be communicating with the SRG to discuss potential nominations for the group. Young asked whether there is any different weight given to a nomination if it originates from the SRG. Bettridge replied that the SRG would have additional input via the Chair during the nomination review process. Gilbert asked how many members on the ASRG NMFS anticipates having. Bettridge responded that currently there are nine members, and two SRG members recently stepped down. The other SRGs have 11 or 12 members. Nowacek pointed out that there are members who represent a good number of the disciplines identified in the *Federal Register* solicitation for new members. Bettridge explained that NMFS doesn't believe that anyone is not doing a good job, but that NMFS felt the need to augment some areas of expertise. Gilbert added that genetics expertise is needed on the SRG. Bettridge will note that and add it for next time.

Bettridge talked about the requirement to review each strategic stock each year and others every 3, i.e., what is significant information that should trigger update of a SAR. She wanted to put that out for discussion. Do we want to identify a threshold? Nowacek said there doesn't seem like there is a blanket way to determine when a stock needs to be updated. Lawson agreed that it might have to be on a case by case basis. It would be useful to have a table that summarized the age of estimates, etc., for all the stocks we are looking at. Gilbert agreed, saying there are 2 cut off points, one is the 8 years when estimates are considered too old. Another is when there is a newer number but you can't talk about trend. Wells said he was not sure why a past valid abundance estimate can't be used for trend. He also pointed out that if GAMMS III gets adopted, that will affect what gets updated. Garrison said NMFS may have to update all stocks every year. Palka suggested putting a table in the SARs that projects out the abundance. If we get a new bycatch estimate every year and it doesn't change relative to PBR, is that a major change? Garrison suggested we could only update a stock if it changes relative to PBR. Wells said that seems reasonable. Palka said the new bycatch estimates could go in a table that is updated, without the SAR being updated. Rosel said it would be hard to have some parts of SARs on different time frames. Garrison said he is still not sure what compels NMFS to update a stock. Next year we will have a lot of new information on DWH and a new abundance estimate from the 2013 surveys, so we may be updating all the stocks. Mullin said since NMFS gives the SRG the Word track changes versions, they can see whether there is much change or not, and they only need to review the new things. Seagraves said maybe there should be a summary from the author of what was changed. Bettridge said the compelling factor is whether the status has

changed, and otherwise there is only the need to review not update. Nowacek said the SRG could try to come up with some set of guidelines. Bettridge said she didn't know if that would be helpful, or if this discussion would be sufficient.

NEFSC Research Activities - Corkeron presented an update on the 2104 NEFSC research activities. Sixty-two surveys, totalling 221 flying hours were completed. There were no surveys from mid-January to April, and from August to October. In July, flights extended into Canadian waters, along the western coast of Nova Scotia. Two hundred and eighty-four right whales were sighted (including repeat sightings of some individuals). For vessel-based work, the cruise in May to the Great South Channel had to be cancelled as the NOAA ship intended for use was damaged in a storm. A make-up cruise on the *RV Sharp* in September encountered no right whales. Corkeron also presented a summary of NEFSC passive acoustics work. Nowacek mentioned that his group had a summer student working on the acoustic buoy line off Hatteras. There were right whales there. Mullin asked if right whales consistently vocalize. Corkeron said even if they don't it is still easier to detect them from acoustics than visual approaches. Mullin wondered if one could pass by without hearing them. Nowacek said there is pretty good cue rate information. That is one of the main things that Duke is trying to do with its research. Corkeron said at the moment the passive acoustics data is presence-only data. Laist asked what were the results of work done in inshore Maine waters. Corkeron referred him to the recently published paper by Bort et al.

Nowacek said his group had tagged 7 mom calf pairs last year and are sharing that data with Susan Parks. Reeves asked if funding for necropsy work on right whales is solid. Garrison said he didn't know what the status is. Corkeron said the funding always seems to be a struggle. Engleby said SERO has a 5-year contract with funds still in it. Garrison said there is not always support to go out and get other species, but right whales seem to be covered now. Garrison added that the fact that NOAA AOC is picking up portions of air time translates into a pretty big boon for NMFS fieldwork.

Reeves asked if NEFSC is expecting to see sei whales in June off Georges Bank. Corkeron said yes, we have seen them in May and we expect them in June. If they seem to be gone, we will move to beaked whale areas.

Waring made a short presentation on NEFSC seal fieldwork, particularly the recently-completed gray seal pup captures on Muskeget and Monomoy.

Summary of Stock Delineation Guidance Initiative - SEFSC staff have been involved in the Stock Delineation Guidance Initiative, an initiative derived from recommendations out of the GAMMSIII workshop in 2011. The primary goals of this initiative are to evaluate the strengths and weaknesses of the various lines of evidence that can be used to delineate stocks and identify a means to integrate multiple lines of evidence for stock delineation. Stocks for which this effort is particularly important are those that have been delineated on very large geographic scales and for which limited data are available. This includes stocks, for example, that are difficult to biopsy in sufficient numbers for robust population genetic studies, stocks with inaccessible distributions (e.g., ice seals), stocks for which photo-ID studies are impractical, etc. In 2014 a steering committee was set up and 8 webinars were held to evaluate 10 different lines of evidence through input from invited experts on the topic for different marine mammal groups (cetaceans,

pinnipeds, manatees etc.) wherever possible. A workshop was then held in August 2014 in which participants evaluated the strength of each line of evidence for delineating stocks broken down by taxonomic group and discussed structured expert decision making (SEDM) as a method for integrating multiple lines of evidence for stock delineation. Workshop participants included people from NMFS science centers and regional offices, OPR, the Marine Mammal Commission, and 1 representative of each SRG. Next steps include assessing the availability of data for each line of evidence for each stock in US waters and further exploring the use of SEDM. A report of the 2014 workshop should be available soon as a Technical Memorandum. The final product goal is a 'Stock Delineation Handbook' similar in form to the 'Viable Salmonid Populations' Tech Memo. It is hoped the handbook will promote transparency and consistency across the agency in stock delineation.

Laist said one need is also to apportion individual takes to a stock. Rosel pointed out that you can only know that if you already have your stocks delimited. That is the downstream application of the delimitations. Valade asked if the handbook will go out as a draft for review. Bettridge said it will probably not require public comment. Valade said the FWS participated in the journal clubs and would like to see the progress. Rosel said she would look into that.

SEFSC Fieldwork - Garrison presented updates on SEFSC fieldwork. The SEFSC conducted fieldwork in the Atlantic and the Gulf of Mexico in 2014. A spring aerial survey was conducted for AMAPPS covering waters from New York to central South Carolina. Passive acoustic monitoring for North Atlantic right whales continued in the Southeast. Data from the arrays were used to provide localizations of individuals and to examine vocalization behaviors. Biopsy sampling was performed in Texas and in southern North Carolina and in Puerto Rico. Small-boat photo-ID surveys were completed in West Bay, Texas and in Biscayne Bay and were also performed to assess reproductive outcomes in Barataria Bay and Mississippi Sound for the DWH NRDA. A summer 2014 cruise to the southeastern Gulf of Mexico to tag sperm whales was a follow up to a 2012 cruise.

For 2015, the SEFSC plans to deploy MARUs for continued right whale acoustic monitoring. In addition, up to 5 limpet tags will be deployed on right whales in collaboration with GA DNR and R. Andrews. To date, 3 have been deployed, 1 fell off shortly thereafter, while the other two stayed attached and transmitted for at least 2 weeks. An AMAPPS winter aerial survey in the Atlantic is ongoing. Small boat photo-ID mark-recapture surveys are planned for summer in West Bay, TX as follow-up to the 2014 winter survey, in Biscayne Bay in spring and fall of 2015 and in St. Andrews Bay in late spring/summer. Reproductive outcomes surveys will continue in Barataria Bay. Finally, a large vessel survey is planned for the Gulf of Mexico in summer (July-September) 2015; resources permitting it will be an abundance survey for all oceanic stocks, but may have to be scaled back to a biopsy cruise for oceanic stocks across the Gulf.

Nowacek asked about detection ranges for buoys in the SE. Garrison said he did not know offhand, but that one interesting thing they are finding is interesting seasonal shifts between right whales and black drum fish. Reeves asked about the sex and age class of the sperm whales tagged. Garrison said it was mostly adult females but they haven't sexed all the samples. Nowacek asked about fish acoustics. Garrison said there are acoustic buoys in that area. Nowacek wondered if the large vessel survey was motivated by DWH. Garrison they were just due for an abundance survey. Biopsy sampling is a huge data gap as well. Nowacek reported that

Michael Moore had weighed in on the limpet tags. He found no shearing within the blubber. This alleviates concern about the tag going into muscle. Nowacek asked about plans for follow up monitoring. Is there any support for going out and photographing the tag site? Garrison said they did that on the first animal and tried to on second, but he didn't know if that was successful. Powell asked how many animals SEFSC was planning to tag. Garrison said they are permitted for 5 animals (tag attachments)/year. Both of the animals that tags stayed on went north. They stayed over shelf waters.

The full SRG meeting was adjourned and SRG members went into executive session.