

**Minutes of the
Atlantic Scientific Review Group Meeting
US Fish and Wildlife Service, Jacksonville, Florida**

The 2007 meeting of the Atlantic Scientific Review Group (SRG) commenced at 0900 on 9 January 2007, at the US Fish and Wildlife Service offices in Jacksonville, Florida. The agenda is in Appendix I and participants are listed in Appendix II.

Day 1: 09 January 2007

1. Introduction

Don Baltz (Chair, SRG) thanked USFWS for hosting the meeting. Introductions were made, agendas were distributed and general housekeeping issues brought up. The meeting agenda was discussed and revised to accommodate travel schedules, teleconference participation by Mike Simpkins (MMC) and Richard Pace (NEC), and consolidation of some agenda items.

The SRG also thanked the SEC and NEC for distributing/posting 2007 draft SARs and background documents with sufficient lead time for review.

2. MMPA and ESA Re-authorization (F/PR - Eagle)

Eagle (F/PR) stated that there was no recent Congressional action on reauthorization of the ESA. He also noted that NMFS plans to review the Marine Mammal Protection Act (MMPA) and the Administration's reauthorization bill that was transmitted to Congress in 2000, 2002, and 2005. In this review NMFS will evaluate the need for changes to the MMPA, assess the current Administration proposal to address these, and, as needed, initiate the process to update the legislative proposal for the 110th Congress. NMFS is moving quickly on this effort because there is a long lead time to prepare an Administration proposal to submit to Congress. The Office of Protected Resources is assembling a small team to lead the effort. Tom Eagle will be the point of contact in this office.

Among the changes likely to continue from the previous submissions are harvest management agreements with Alaska natives (allowing regulation of a harvest prior to a depletion of a stock) and including recreational fisheries in the process under MMPA section 118 to govern taking of marine mammals in fisheries. The recreational fishery issue was initially identified through the Bottlenose Dolphin TRT where recreational fishermen use unregulated gear similar to that used by commercial fishermen. In addition to bottlenose dolphin concerns, other stocks are affected by recreational fisheries, including Hawaiian monk seals. What NMFS is going to do is unresolved - and may have to use regulations to make more detailed proposals rather than amendments to the MMPA. Dawn Jennings (USFWS) added that FWS has similar concerns with manatees

and recreational fisheries; manatees are entangled in gear associated with recreational fisheries and boat strikes (injury or death) and harassment are leading causes of concern. The majority of boats on the water in Florida are primarily associated with recreational activities. FWS asked if the definitions of fishing gear only applied to gear such as lines, nets, crab pots, etc. - have boats ever been thought of as gear? The designation of recreational boats as gear might provide the Service the wherewithal to pursue the TRT process to address this problem. Eagle discussed how it was initially conceived to apply primarily to recreational gear that is similar to the commercial gear, but it has gotten bigger in more recent years. The wording was changed from commercial fisheries to listed fisheries. NMFS is still in negotiation about the strengths and limitations of its proposed changes.

Among new ideas for MMPA reauthorization, Eagle mentioned that NMFS is trying to look at more cooperative conservation. He briefly discussed Hawaii's attempts at regulation of parasailing as an example of this. Hawaii tried to regulate parasailing to protect humpback whales, but a court overturned their regulations saying that states cannot pass laws or regulations, because the MMPA preempts state authority over marine mammals. NMFS is also explicitly looking at treaties with American Indian tribes (e.g. the Makah gray whale issue). NMFS view prior to 2004 was that the MMPA does not trump treaty rights, but the 9th Circuit raised some questions about treaty rights and the MMPA. The Permits Division and the Office of Law Enforcement are also suggesting several changes to the MMPA.

Some members of the SRG wanted to know if there is any integration between the Magnuson-Stevens Fishery Conservation and Management Act (MFCA Should this be FCMA? Or MSFCMA?) and MMPA. Eagle replied that is what NMFS' regulatory streamlining program is going to try to address. He also noted that NMFS has been increasing the presence of protected species staff in council meetings. Seagraves said that when "we apply regulations from both Acts we end up with a blizzard on the fishermen." Fishermen have a hard time figuring out how MMPA and MFCA interact and what applies when. It was also noted that MFCA requires ecosystem management and questioned whether the NMFS protected species program is having any discussions on this issue. Eagle responded that NOAA is moving forward on ecosystem approaches to management. Seagraves said that on the fisheries side we are trying to move toward that, and thought it would be advantageous. Eagle concurred, but noted that Congress will have to pass a more comprehensive ocean ecosystem management bill, as suggested by the Ocean Commission, to replace the piecemeal approach required by multiple statutes today. Gouveia (NERO) stated that the northeast region had begun working on a regional plan to better integrate protected species issues into the MFCA fishery management plan (FMP) process. The NERO Protected Resources Division developed a draft strategy to streamline how it incorporates marine mammal take issues that are managed under MMPA's take reduction plans (TRP) into the MFCA FMP process. Specifically, the strategy would shift TRPs from a species specific plan to a gear based plan. Based on this strategy, the NERO and SERO initiated two new gear-based take reduction teams (TRTs). The Atlantic Trawl Gear TRT is led by the NERO and the Atlantic Pelagic Longline TRT is led by the SERO. Gouveia noted that the NERO got

the attention of the mid-Atlantic and New England Fishery Management Councils, because the NERO was talking specifically about trawl fisheries. Gouveia stated that the goal is to make the integration of the MMPA and MFCA processes more coherent. Gouveia added that the gear based teams were an attempt to not only streamline the MMPA and MFCA processes, but also to initiate an approach to ecosystem based management. Garrison (SEFSC) noted that the March 2006 Marine Mammal Stock Assessment Improvement Plan Tier 3 workshop set up a framework ecosystem based management. On the science side we are in the same boat – trying to figure out how to integrate ecosystem management. Garrison did not know if there is a planned next step, and noted that it has been happening mostly from the bottom up. The need to do it has been recognized and bottlenose dolphin is a good example. An SRG member said from a scientific standpoint we need to point out that you can't have every species at OSP, or if you manage for that there is a major impact on fishery production. That is a policy decision.

3. Take reduction plan updates

BDTRT (Bottlenose Dolphin Take Reduction Team)

Carlson (SERO) provided an overview of the Bottlenose Dolphin Take Reduction Plan (BDTRP) which was published on 26 April 2006. It was actually two actions under different mandates combined into one rulemaking process. Differences between the proposed and final versions pertained to gear marking requirements and beach gear requirements. The TRP includes regulatory requirements and non-regulatory measures. The regulatory requirements for small, medium and large mesh gillnets include time/area closures, gear length restrictions, and proximity requirements. Non-regulatory measures include crab pot/trap gear modification recommendations, gear research priorities, and also include monitoring and outreach components. The next team meeting will be held in May or June of 2007.

The SRG pointed out that bottlenose dolphins also tip crab pots in Indian River, Florida. Carlson said their website has instructions on how to make an inverted bait trap. The SRG's DeAlteris talked about recent NMFS-funded acoustic surveys to detect sea turtles in crab pots in the Chesapeake Bay. They scanned gillnets in the Bay and did not see any large targets, but a turtle would not be able to pass. The contract report on this has been submitted to Heather Haas at NEFSC. Palka (NEFSC) said that at the TRT meeting fishermen noted that pot tipping happens off North Carolina as well. Jennings asked how long it took for the TRT process to run its course. Carlson said the team was convened in 2001.

APLTRT

Laura Engleby (SERO) presented an overview of the Atlantic Pelagic Longline Take Reduction Plan (APLTRP). NMFS established the team in June 2005. The team met four times, using the contractor CONCUR to organize and facilitate the meetings, and submitted a draft consensus plan to NMFS in June 2006. The scope of the plan included swordfish, tuna, and shark pelagic longline fisheries, long-finned and short-finned pilot whales and Risso's dolphins. The mid-Atlantic Bight (MAB) was the geographic area covered. The goal of the plan was to reduce serious injuries and mortalities to

insignificant levels for all fisheries that interact with these species, and, within the pelagic longline fishery, to reduce serious injuries and mortalities to the lowest feasible level, taking into account economics of fishery, existing technology, and the existing fishery management plan. Garrison developed a model to predict the effect of various factors on bycatch and/or catch, using observer and logbook data. Factors tested included environment, space, time, gear, effort, and catch. Factors correlated with pilot whale interactions were geographic area (MAB), distance from 200m isobath (all interactions within 40km of shelf break), average temperature (peak interaction rates between 70 and 80° F), mainline length (interaction rates 2x higher in sets with mainline length \geq 20 miles), and swordfish damage (interaction rates 3x higher in sets with damage to swordfish catch). Recommended voluntary measures were 1) provide 12-15% observer coverage in all areas of the fishery with known pilot whale or Risso's dolphin interactions; 2) encourage vessel operators throughout fishery to maintain daily communications with other vessels regarding protected species interactions; 3) update marine mammal careful handling and release guidelines, methods, etc.; 4) distribute quarterly reports of marine mammal bycatch in the longline fishery to team members; and 5) conduct additional research and data collection, with priority on evaluating effectiveness of plan, and on species abundance, mortality, and post-hooking survivorship. The recommended regulatory measures were 1) establish a Cape Hatteras Special Research Area (where all vessels operating in the area a) must be capable of carrying observers; b) must carry one if requested by NMFS; and c) must be willing to participate in NMFS research); 2) set a 20 nautical mile upper limit on mainline length within the Mid-Atlantic Bight (no restriction on number of lines that can be set); 3) develop and distribute an informational placard for display in the wheelhouse and on the working deck detailing procedures for safe handling and release of hooked and entangled marine mammals, noting the requirement to report all injuries; and 4) develop and implement a mandatory certification program for owners and operators of longline vessels. Because of the progress and success of the first full-team and sub-team meeting, subsequent meetings have been conducted via teleconference. The next step is publishing the draft plan for public comment, and the publishing of a final plan and regulations. There is a website for further information on this plan (www.nmfs.noaa.gov/pr/interaction/trt/pl-trt.htm).

The SRG pointed out that requiring that all vessels in the special research area be capable of carrying observers is a significant management tool. In response to an SRG question, Palka stated that the teleconference meetings were productive and cost effective. Eagle noted that depredation was a problem in Alaskan longline fisheries and asked if there was research geared toward depredation. Engleby said yes, Duke University researchers are investigating that issue.

Garrison summarized the analyses used to develop the predictive bycatch model. These included logistic regression analysis, predicted effects of gear changes, analysis of individual vessel effects and assessment of time-area management. The conclusions drawn from the logistic regression analysis were 1) all interactions observed were within 40km of shelf break; 2) peak interaction rates occurred between 70 and 80 degrees F; 3) the interaction rate was 3x higher in sets with damage to swordfish catch; and 4) the

interaction rate was twice as high in sets with mainline lengths greater than 20 miles. The conclusions of the individual vessel effect analysis were 1) there was a high probability of a pilot whale take with > 10 sets observed in the MAB; 2) there were no strong vessel type effects – perhaps size; 3) vessels with high interactions fish and are observed in zones 2 and 3 near Cape Hatteras; and 4) 58% of boats reporting effort in the MAB during the last 5 years have not been observed in the MAB. Conclusions of the time/area management assessment were: 1) small-scale, short term area closure resulted in an estimated 14% reduction in bycatch. Similarly, small scale application of mainline restriction resulted in ~17% reduction; 2) sub-regional closures alone must be at seasonal time scales and include some reduction in effort to result in 33% reductions in interactions; and 3) broadscale (MAB wide) application of mainline restrictions, plus sub-regional, seasonal closures resulted in 57-70% reductions. Measures incorporated into the plan were 1) reduction of mainlines to ≤ 20 nmi; 2) creation of a special research area off of Cape Hatteras; and 3) recommendations for increased observer coverage and studies of whale behavior/attraction to longline gear. Garrison summarized major ongoing research/analytical work as 1) analysis to separate stocks; 2) attempting to improve observer coverage; 3) analysis of gear changes; and 4) acoustic studies of whale behavior (Duke University).

The SRG inquired about the basis for the non-linear nature of the pilot whale bycatch response to mainline length. Garrison replied it could be a variety of things, for example, the whales may be finding food patches. Further, he noted that it is a correlation analysis that incorporates a lot of factors. It is not the case that one 30 mile line is the same as two 15s. The SRG noted that vessel size is usually correlated with length of line. Garrison said it is unimodal, and that smaller boats fish more just off Hatteras, in the high interaction zones. It is a true rate effect, not an amount of gear in the water effect. Garrison noted that clarification of the regulations is necessary to sort out what constitutes separate sets. Fishermen may not want to deploy multiple small sets. The SRG asked how the fishery is going to respond and is it going to be effective. Further, how do you even measure length of mainline, since the gear bows due to current and topography? The SRG also noted that the TRT had several questions about all the variables, and had requested regular updates on effectiveness of the regulations. Feedback will permit the TRT to adjust and assess what they are recommending. Garrison said the big issue is the time and space. Both the fishermen and the pilot whales work the shelf break. Fishermen say they will leave an area if there are lots of pilot whales around (to avoid depredation) unless the fishing is really good. Further, he noted that ongoing genetic analysis will allow NMFS to split both the combined short-finned and long-finned pilot whale abundance and bycatch estimates. At that point we may find that short-finned pilot whales are closer to PBR than we think. The SRG said there is more to learn about what triggers the animals to cue to the gear. Waring stated that several studies have documented the propensity of pilot whales to chase trawls. The SRG asked if breakoffs had been examined, (e.g. straightened hooks or broken leaders). Many of the broken hooks/lines are either shark or pilot whale interactions. Also, the pelagic longline fishermen changed to heavier leaders, so that would be something to look at. Garrison replied that there isn't good information in the observer data about breakoffs. The data suggest that it is mainly the smaller pilot whales that are caught – maybe the

larger whales break off more easily. The SRG asked if there is any indication that the hook type plays a role. Garrison said no, not in the observer data, but very few circle hooks were fished in the MAB in the past. Data are limited. The SRG asked if deciding which boats are observed is based purely on observer safety and wondered if boats were being missed. Garrison replied that selection is random, but the vessel needs to have a big enough life boat. The majority of the boats cannot comply because they are too small to take an observer. The regulations say if you cannot take an observer you cannot fish, but we have not enforced that regulation. Everybody is eligible to be selected. However, 20% of the boats that report effort have not been observed. There needs to be targeting of boats that fish in the MAB in the second quarter. The special research area is a no waiver zone – every vessel must be capable of taking an observer. There is also the problem of getting logbooks in a timely fashion. Gouveia said in June of '05 the NERO sent a letter to fishermen indicating that NMFS/NER would start enforcing the regulation to carry observers. By June of '06 they were required to have a USCG permit. There are still waivers. Garrison noted that the SEFSC has obtained little support from their regional enforcement program on this issue. Seagraves noted that the mid-Atlantic Council was moving to recommend 100% observer coverage.

ATGTRP

Gouveia noted that the Atlantic Trawl Gear Take Reduction Team (TGTRT) had similarities with the pelagic longline team. It was put together to look at pilot whale and common dolphin interactions with commercial trawl gear. NERO also looked at Atlantic white-sided dolphins, and also wanted to include sea turtles. Legally they were not allowed to fold sea turtles and mammals together, but they wanted to use the same resources. Gouveia indicated that trawl takes of sea turtles and marine mammals were spatially separate, turtles are more inshore and mammals offshore. NERO wanted to make sure they did not compromise one stock over the other. The team met in September '06 and tried to encompass all trawl fisheries. They discussed gear research and the observer program, reviewed matrices of correlating variables, and industry representatives went through all the data. Industry expressed concern regarding the statutory timelines for the development and implementation of a Trawl TRP. Specifically, some industry members questioned why the TRP development and implementation timelines apply given that these stocks aren't designated as strategic stocks under the MMPA. NMFS General Counsel is looking into this issue and is expected to provide legal guidance to the TRT at its next meeting. DeAlteris (SRG) said he is finding he can't get industry to focus on the issue, because they feel there is no legal mandate. Garrison noted that NMFS has been patient, but the process has to move forward. Some TRT members were concerned that NMFS did not have an appropriate representation of conservationists on the team. NMFS plans to add at least one or possibly two more conservationists to the Trawl TRT. The team does not have any state representatives, since most of the take is in federal waters. The team and the MAFMC have requested NMFS to add state reps. NMFS is considering this request. The issue arose of allocating takes among gear types and gear sectors. It would be difficult to allocate a percentage of pilot whale takes among fisheries and may not be desirable. The TRT wanted a face-to-face meeting next time, not a teleconference, as NMFS had indicated might be necessary due to fiscal constraints. The PLTRT process was used as a

model. Palka pointed out that the ATGTRT only reviewed bycatch data up to 2004, and time and area were the features that correlated most closely. 2005 data are now available which will increase the sample size used in the analysis.

HPTRT (Harbor Porpoise TRT)

Gouveia reported that although the harbor porpoise bycatch numbers had been provided in the draft 2006 SAR, most of the industry members are not aware of the increasing harbor porpoise bycatch problem because it hadn't made it into the final SARs as of yet. However, based on the draft bycatch and abundance information provided by NEFSC at the 2006 and 2006 ASRG meetings, the NERO developed a plan to re-engage commercial gillnetters on the re-emerging harbor porpoise bycatch problem. He noted that pinger compliance was not good in management areas, and that takes were occurring outside the management areas. The NERO is increasing enforcement efforts, revising and updating their harbor porpoise website, contacting permit holders regarding pinger requirements, and engaging the fishing industry in the problems. Although requested by the New England Fishery Management Council to reduce some harbor porpoise TRP restrictions in certain areas, the NERO will not consider any slackening of restrictions until the HPTRP conservation objectives have been reached. A series of public education and outreach meetings was set up. The NERO worked with the NEFSC to determine areas of focus. The bigger problem appears to be addressing bycatch off New Jersey. The NERO is requesting funds to reconvene the TRT, which last met in 2000. The SRG strongly supported a reconvening of the TRT, with a face-to-face meeting. The SRG would like to request NMFS to prioritize resources for TRT meetings for species where takes are over PBR. Gouveia noted that the proposed recommendation would be more helpful if it specifically addressed each TRT.

Engleby also noted SERO's concerns regarding funding for the PLTRT. The SRG agreed to draft a recommendation. They wanted to know how much of the pinger compliance problem is due to lack of enforcement. Gouveia replied that it is more than just enforcement. Palka said the pingers do appear to be working if you use them, but there are takes outside of the pinger management areas. Gear characteristics have also changed in recent years.

ALWTRT (Atlantic Large Whale TRT)

Gouveia stated that the team met in December 2006 and that the NERO expects to get the final rule out soon. As of the date of the SRG meeting it was still under review. The status of the final rule was a discussion issue at the TRT. Another discussion item was the use of low profile groundline, which was considered but rejected in the Draft Environmental Impact Statement (DEIS). At the December TRT meeting, some industry groups requested that NMFS reconsider its position on low profile groundline and develop measures to allow low profile in certain areas. Some TRT members opposed this request stating that there was little information available to support it. After a lengthy discussion at the TRT meeting NMFS requested that TRT members submit draft low profile proposals. NERO will then send these proposals out to the entire TRT for

comment. The other issue to be addressed in the future is risk from the end lines. The TRT discussed some of the work NMFS has conducted on end lines and a model that was developed under contract to estimate how much gear is in the water. There has always been the question of latent effort from unused permits. NMFS is trying to get a good estimate of how much gear is deployed and what sort of risk that poses. There is a very large amount of endline gear in the water. The SRG wondered if the notion of floating or semi-buoyant groundlines is possible. Gouveia said it needs to be looked at, but the model was primarily developed to focus on sinking line. However, Gouveia felt that the model may be able to be modified down the road to look at the low profile rope as well. Some members of the SRG noted that there is no rope that is semi-buoyant, but the seabed is a dynamic environment, thus the line may slosh back and forth. It was noted that the specific gravity also varies in different water masses, and fishermen have noted that it would be difficult to keep a bottom line from fouling. Gouveia said the key questions are: 1) how low does the profile need to be; 2) how do you actually lower the rope's profile; 3) where and when do you apply this technology; 4) what are gear marking options for low profile areas; and 5) what are the contingency plans for these areas should an entanglement occur from gear deployed in these areas.

Engleby presented updates on southeast gillnet fisheries covered under the ALWTRP. She reported that there was a right whale calf mortality on January 22, 2006. Damage to the animal was judged to be the result of an entanglement in gillnet gear which met NMFS' criteria of a serious injury. NMFS determined that both the entanglement and death of the whale occurred within the southeast US restricted area, during the restricted period, and enacted temporary restrictions on gillnet fishing in the southeast US restricted area from February 15, 2006 through March 31, 2006. NMFS convened the SE Subgroup of the ALWTRP, who provided several management recommendations. NMFS prepared a proposed rule that was published November 15, 2006. The comment period closed December 15, but reopened in early January 2007. NMFS will consider the comments, coordinate with other ALWTRP rulemaking and develop a final permanent rule. Meanwhile, while all this was going forward, SERO learned that there was an intent to increase effort with gillnets off Jacksonville (targeting whiting) so they decided to put into effect an emergency rule on Nov. 15.

4. MMC & NMFS Administrative Changes and Effects

Simpkins (MMC) via teleconference and Eagle (F/PR) provided an update on staff changes and meetings/reports. Simpkins stated that there has been no change in commissioners. Regarding staff, David Cottingham moved to F/PR at NMFS. Tim Ragen is now executive director. The Commission is presently recruiting for a Science Director.

Simpkins also reported on the status of a series of Commission reports and reviews. He stated that The Advisory Committee on Acoustic Impacts to Marine Mammals Report to the Marine Mammal Commission is available on the Commission website (<http://www.mmc.gov/sound/committee/pdf/soundFACAreport.pdf>) as is the report of the International Workshop regarding Policy on Sound and Marine Mammals (<http://www.mmc.gov/sound/internationalwrkshp/pdf/finalworkshopreport.pdf>). Further,

the report of the beaked whale workshop has been published, along with other relevant articles in a special issue of the Journal of Cetacean Research and Management (Vol. 7, issue 3; Cox et al. 2006 “Understanding the impacts of anthropogenic sound on beaked whales”). The Commission’s report to Congress on this topic is nearing completion and probably is weeks away from submission. Valade (USFWS) asked what is going on with the previously proposed MMC review of the cost-effectiveness of manatee protection programs. Simpkins answered that the Commission had considered conducting a manatee review as part of a Congressionally-directed project to “review the viability of the most endangered marine mammals and make recommendations regarding the cost effectiveness of protection programs.” That project is nearing completion and will result in several reports, in addition to a report to Congress. One report will review the listing status for all listed species, and another will review protection programs for listed species. Both of those reports are in the final editing stage and the Commission will release them soon. A report reviewing the cost effectiveness of the right whale protection program is also in the final review and editing stage. The Commission originally intended to do a similar review and report for manatees, but for now is just doing the one study for right whales. There will not be an in depth manatee review. The MMC Final report to Congress is being drafted, but will probably not be out until spring or summer or maybe even fall. Valade asked if the Commission expected any additional review of these draft documents. Simpkins responded that all of the reports drafted to date had been sent out to NMFS for fact checking. A report on the Population Viability Analysis workshop probably will be sent back out to workshop participants for their review. The SRG asked why there would be no manatee review. Simpkins responded that the primary issues were staff resources and funding.

Eagle reported that Rebecca Lent is the new Director of International Affairs. Sam Rauch is now Deputy Assistant for Regulatory Programs. Nancy Thompson has moved from SEFSC to NEFSC Science and Research Director. John Boreman has moved from NEFSC Science and Research Director to HQ as Director of Office of Science and Technology. Jim Lecky is the Director of the Office of Protected Resources. Steve Leathery moved from Chief of Permits Division to lead a group working for the Administrator. David Cottingham is the new Chief of the Marine Mammal and Sea Turtle Conservation Division. Michael Payne is Chief of the Permits, Conservation, and Educational Division, and Donna Wieting, Deputy Office Director, is going to NOS OCRM. Amy Scholik is a new acoustician in F/PR. Vicki Cornish moved from SERO back to F/PR. Engleby, Garrison, Gouveia, and Waring also provided updates on changes in protected species staff at the regional offices and science centers.

5. Serious Injury & Mortality

Eagle noted there was a workshop in 1996, and NMFS has been using recommendations from it to distinguish between serious and non-serious injury. We have learned a lot since then, so NMFS is working to convene a new workshop. F/PR planned to convene a meeting in autumn 2006, but it has been delayed due to budget issues. The meeting will be scheduled once the NOAA 2007 budget is resolved. The SRG pointed out that one of the impetuses behind this is the Alaska SRG.

6. Proposed List of Fisheries

Engleby summarized the proposed changes in the 2007 List of Fisheries. Mid-Atlantic flynet fishery – high profile trawls - has been added to Cat II. 12 trips have been observed out of North Carolina with no marine mammal bycatch. Also it has been clarified that SE US shark net fisheries may use sink, stab and set gillnet gear. It was clarified that wahoo and dolphin fishes are targets of the longline fishery. There is an expanded list of target species associated with the mid-Atlantic gillnet fishery. The Western NA stock of northern bottlenose whales have been added to the list of marine mammals in the pelagic longline fishery bycatch. The draft LOF is in review. A new and emerging fishery is stone crab trapping off Georgia in the management area of concern for right whales. A more detailed description of the fishery will be included in the 2008 LOF. The SRG noted that spot should also be include in the list of species targeted by the mid-Atlantic gillnet fishery. The list of marine mammal species or stocks that interact with each fishery, and the geographic boundaries of some fisheries have been updated/clarified to make them consistent with FMPs and TRTs. The SERO will do likewise with the southeast US fisheries. The NERO & SERO reviewed the marine mammal stocks affected by each fishery, and tried to determine which stocks influenced the classification of the fishery. Then NERO and SERO are working jointly to improve the LOF report process and information. The SRG suggested that the regions improve the fishery definitions to better illustrate the link to FMPs. Seagraves noted that the timing of the publication of the proposed LOF and the 30 day comment period preclude reviews by the FMCs. He also noted that the mid-Atlantic gillnet classification seemed too broad and should be further subdivided. Further, he recommended that the “by analogy fisheries” used to reclassify the mid-Atlantic flynet fishery be stipulated. In addition, he questioned the need for an annual LOF. Eagle replied that the annual publication is mandated by the MMPA.

Eagle reminded the SRG that the context of their recommendations needs to be considered, since they are scrutinized by a variety of stakeholders. For example, in response to the right whale calf entanglement in southeast region, see above, the SRG made a specific management recommendation to NMFS to take gillnets out of the water and NMFS did. Subsequently, NMFS received a complaint that the SRG was functioning as an advocacy group, accompanied by a request for a member to be appointed to the SRG to become an advocate for a different point of view.

7. Stranding Program / Events

UME’s (Unusual Mortality Events)

Gouveia said there are currently two UMEs, humpback whales and pinnipeds. The humpback UME is similar to the 2004 event. Currently, 27 humpbacks have died. The UME was declared in September '06. Only 8 animals have been necropsied, and all deaths may not be associated with the UME. July, August and September were the months with the highest numbers of mortalities. The goal is to necropsy all fresh carcasses and to have field teams available to respond to new events. Analysis of DNA samples is a high priority in order to be able to assign stock identity to the mortalities. When updated information becomes available it will be provided to the SRG. The SRG asked if the humpback mortalities are occurring in all age classes. Gouveia replied that

they are preliminarily believed to be adults. The UME is still open in the event there are additional mortalities. Eagle asked if there is information to show whether they all come from the Gulf of Maine stock. Gouveia said they are getting samples to determine this, but it looks like most of them are.

The pinniped UME began with harbor seal die-offs along the coast of Maine which subsequently continued on into Massachusetts. What triggered this one was the discovery of the morbillivirus. It was declared on 18 October. Twelve gray and harbor seals had the virus, 2 more the next week, and we have not found any since. It is a very virulent strain, and testing for morbillivirus has been put into effect in stranding centers. A necropsy workshop will be convened in Woods Hole during 11-12 January to review morbillivirus testing procedures. A large number of samples have been sent to various testing laboratories. Gouveia added that there have been two confirmed morbillivirus cases in dolphins as well. There was a lot of concern among the UME working group that the virus could make its way down the coast. Gilbert said the fact that they have not found any more specimens is encouraging.

Garrison said the 2006 Florida panhandle bottlenose dolphin event (80 animals – red tide) has been declared closed. That was similar to events in 1999, 2000, and 2004. Two reports are in development, including a report on the current event and a broader epidemiological study. These will be forthcoming in the next several months. There was a central west Florida UME which peaked in spring of '06 –also brevetoxin – then there were some human interaction (HI) events in Aug/Sept. Maybe the red tide played some role (e.g., animals were malnourished) in the HI. A decision to close the UME is pending. There has been a new manatee event developing in the same area, which may be followed by a dolphin event (a recent pattern). There have also been a few *Kogia* events. Engleby stated that there has been an increase this past year in interactions with recreational fisheries. In 2005 there were 4 documented cases of bottlenose dolphins stranded with recreational gear attached. In 2006 this increased to 13 documented cases. Mote Marine Lab and NMFS conducted a join study and documented 141 bait-stealing or catch-stealing interactions between dolphins and recreational fishers. Twenty-three dolphins were observed at one pier with recreational fishing going on around them. Carlson added that at the pier there was both intentional and unintentional feeding going on. SERO is trying to raise awareness through outreach. Engleby also noted that the regional office is working hard to increase HI sensitivity and training among stranding volunteers. The depredation situation with bottlenose dolphins is becoming more and more problematic. Garrison suggested the need for a framework to incorporate these interactions into the SARs. The SEFSC and SERO have developed a human interaction data sheet that goes beyond the current standard. Wells (SRG) said if there was an abundance estimate of bottlenose dolphin for Sarasota Bay the recreational fishing bycatch would have exceeded PBR. These recreational fishery interactions followed a red tide event, which may have killed 90% of the dolphin's prey. Engleby said that the Indian River lagoon saw an increase in recreational fishing bycatch in the absence of red tide. The SERO has hired a contractor to evaluate the stranding network. Wells and the SRG encouraged NMFS to complete the UME reports. Garrison said the SEFSC has nearly completed the draft report on the 2005 rough-toothed dolphin stranding event.

Wells noted that the science centers have never produced a SAR for the Atlantic stock of rough-toothed dolphins. Garrison responded that the first Atlantic SAR will be forthcoming in 2008. NMFS staff also noted that rough-toothed dolphins are rarely sighted during Atlantic surveys.

8. Update on Prescott Program

Eagle said the program just recently held a technical review which should be out soon. Gilbert said he had heard the program review recommended funding research oriented toward population health. Engleby stated that the RFP for Prescott funds is scheduled to come out in June. Baltz stated that the SRG concern for the Prescott program prompted a letter to Teri Rowles. The letter requested information on the status of the program and how the SRG can help. To date, the SRG has not received a response.

9. Bottlenose dolphin live capture program

Engleby stated that two of eight bottlenose dolphins satellite-tagged by SEFSC scientists stranded dead off Beaufort, NC. A third tagged animal has not been found. That event raised some larger questions about the live capture/tagging program. NMFS has initiated two reviews of the program. An external review team is reviewing that specific event. Teri Rowles has the lead and that report is expected to be completed by the end of February. The second review is to look tagging and capture programs in a broader context. NMFS is going to conduct a workshop and focus on the issues of satellite tagging and live captures - how to get good data but minimize risk. The workshop will focus on bottlenose dolphins and other small cetaceans in the SE. The SRG asked how many animals were satellite-tagged and if this was the first time there have been tagging attempts. Engleby said there were eight animals instrumented with satellite-linked and VHF transmitters during the Beaufort captures. Two of these animals were found stranded - one 16 days after capture and the other 25 days after capture. A third animal probably died but was not found. Thirty-four bottlenose dolphins have been tagged since 1998. The SRG said the disturbing thing was that the NC animals were found dead by members of the public, and not detected by the research program. The SRG asked if the workshop had been scheduled. Garrison said there is a steering group, which is developing the scope of the review. The SRG said they should develop something like Institutional Animal Care and Use Committee guidelines (IACUCs). The lack of agency IACUCs has come up in other situations, e.g. Steller Sea Lions. Captures have been increasing over the past decade, and there is concern over the degree of expertise of the individuals doing the captures and the degree of oversight. Deep water captures are new. The Humane Society has written a letter to NMFS expressing these concerns. The SRG recommended that the NMFS permitting office as well as the regions be more involved, though it was hoped that the permit office would not get so restrictive that innovative work could not be attempted. It is important that the research is done on a limited scale and monitored properly. Valade said USFWS conducts and permits a number of manatee captures, but it is all regulated and there is a review process for any mortality. USFWS has had two capture related mortalities and reviews were conducted on each.

10. USWTR & Other Training Exercises

Odell explained that he and Doug Nowacek had received an invitation to go out on the USS *Farragut*, a Guided Missile Frigate, which was conducting a training exercise. He reported that Navy observers search for marine mammals with naked eye and maintain a written log of their effort. However, the log does not contain GPS position data (restricted). During the test the Navy operated the sonar (ping) at approximately 8 orders of magnitude below full strength. Kenney noted that when you are on a research boat and the Navy is conducting sonar operations, the ping is detectable before the ship is visible on the horizon. He noted that the Navy has spent a considerable amount of money trying to identify areas that have protected species, shipwrecks, etc. in an attempt to minimize operations in those areas. In response to a question, he and DeAlteris stated that surface ships do use passive acoustic systems that are suitable for detecting marine mammals. Nowacek, however, said he was not sure that is true. The systems are preconditioned to listen for the reflected signals, but there is no reason they cannot extend the band width.

Day 2: 10 January 2007

11. NEFSC Updates

2006 Surveys

Palka reviewed aerial survey methods and data analysis used to obtain 2002, 2004, and 2006 cetacean abundance estimates for shelf waters off the northeastern US and Scotian Shelf. She also described the “circle-back” method that is used to estimate $g(0)$. The discussion focused on the large variability in the Atlantic white-sided dolphin spatial distribution and abundance estimates (i.e., 2002: 131,970 (CV=0.30) 12 Jul – 12 Aug; 2004: 3,288 (CV=0.83) 12 Jun – 12 Jul; 2006: 26,107 (CV=0.31) 25 Jul – 25 Aug) in the three surveys. Eagle said averaging the 2002 and 2006 estimates would be a better approach from a management perspective. He also noted that the transboundary stock rule can be applied, thus the PBR could be reduced by the proportion of time the stock is outside the US EEZ. The group discussed various adjustments to the PBR formula for such situations. Options included: 1) leaving N_{best} and N_{min} unchanged and adjusting PBR by applying the transboundary rule to F_t ; and 2) adjusting N_{min} , since the CV is associated with that number. Palka noted that an increase in the variance in N_{min} results in a lower abundance estimate. Following additional discussion on the fraction of the stock that is in US waters, it was suggested that the average of the 3 estimates be compared to the N_{best} and use that as the fraction they are in the surveyed area. In response to the lengthy discussion, Palka said she would reanalyze the data following some of the recommended scenarios and distribute the results to the SRG.

Waring reviewed the objectives and results of the *RV Delaware II* July/August survey. The objectives of Leg 1 were to: (1) test and further develop Pamguard software, and in particular to test the Pamguard – Ishmael interface and collect data, for testing and ground proofing 3-D localization methods; and (2) set up a hydrophone array for NEFSC Protected Species Branch (PSB) and install International Fund for Animal Welfare (IFAW) software on a PSB computer for the detection of sperm whales, right whales and

harbor porpoises, and to train PSB personnel in their operation. The hydrophone arrays were towed in a U shaped transect pattern that bracketed the western, southern and eastern flanks of Georges Bank, and crossed the western edge of Browns Bank. The hydrophone-pinger calibration study was conducted off Georges Bank. The survey objectives were generally met, but one hydrophone array was lost and the survey was curtailed due to an engine failure. The 2nd leg was conducted in the western Gulf of Maine and the primary objectives were to: 1) collect information on the relationship between cetaceans and potential prey using an IGYPT mid-water trawl; 2) collect information on oceanographic features using CTD data; and 3) conduct visual surveys for marine mammals. Waring noted that training acquired in fishing a mid-water trawl will be beneficial to broader ecological surveys proposed for future years.

Pace (via phone) reported on two shipboard surveys. The first was a May right whale feeding and ecology cruise on the RV *Albatross IV* in the Great South Channel in collaboration with Mark Baumgartner (WHOI). He noted that only one whale was tagged with a TDR tag. He noted that oceanographic sampling confirmed the right whales' ability to locate copepod patches.

The second cruise was in July off Delaware, and was designed to collect pilot whale (*Globicephala* sp.) biopsy and photo-ID samples for stock identification studies. Most of the samples were collected along the shelf edge around Hudson Canyon. Seventy-three biopsy samples were collected and they were sent to Patty Rosel (SEFSC) for analyses. This ends the summer collection of pilot whale biopsy samples.

2007 Plans

Palka reviewed the plans for the joint summer aerial and shipboard abundance survey. The ship component will be conducted aboard the new RV *Henry Bigelow*. The survey region will extend from eastern Nova Scotia to southern New England. Aerial and shipboard survey design and methods will follow previous protocols. Based on spatial variability in the distribution of several cetacean species, seen in 2002, 2004, and 2006 data, the SRG asked if the survey area would be expanded. Palka responded that the aerial component will be increased.

Pace stated that the RV *Albatross IV* right whale survey will be shifted from May to mid-June and will be conducted along the northern edge of Georges Bank. He noted that sufficient data had been collected in prior surveys to delineate right whale habitat in the Great South Channel. Pace also noted that the sampling protocol for the right whale aerial survey project may be adjusted to meet new data requirements and/or budget constraints.

Waring stated that survey plans for the July RV *Delaware II* were still under review. Part of the survey may be used for habitat work in association with the RV *H. Bigelow* survey. The NEFSC is also considering a sperm whale biopsy survey.

General comments on the 2007 plans focused on the FY07 budget situation. NMFS staff could not provide any budget information beyond noting that NMFS was still operating under the Continuing Resolution.

Bycatch

Palka reviewed recent modeling approaches used to update harbor porpoise bycatch, potential bycatch mitigation measures, and reasons why bycatch has increased. Observer data from 1999-2005 gillnets for the Northeast region are being used to model bycatch. Metric tons of fish kept were chosen as the unit of effort. In assessing different models, several variables were consistently chosen in statistical variable selection. Mesh size was the only gear variable consistently chosen in the stepwise process. Most variables selected described time and area, such as seasons/months, bottom depth, latitude, and state. Other variables of possible importance included water temperature, closures, and gear length. Preliminary conclusions included: 1) pingers appear to continue to reduce the bycatch of harbor porpoises, IF THEY ARE USED; 2) there appear to be a couple of gear practices that may be related to higher bycatch, such as soak duration and length of string; and 3) increased bycatch is due to an increase in bycatch rate, not an increase in fishing effort.

Seagraves asked if days at sea had been examined as a unit of effort. Garrison noted that days at sea is not a good unit of effort for gillnet vessels. Palka replied that we need to investigate that further. Young was concerned that changing units of effort would make it harder to compare data before and after imposition of any management measures. Palka said there would be a direct comparison with this modeling method and the old method. She said we can do a comparison using different effort measures as well. Garrison made a suggestion to convert to binomial. Palka said they tried that and binomial was still a little overdispersed. Baltz asked how this modeling takes into consideration overfitting? Palka said there is a penalty for adding more variables, but the current model is not overfit. The SRG asked if the vertical height of gillnets is regulated. Palka did not think so, and Gouveia said the height of gillnets is not regulated under the HPTRP, but it may be regulated in other regulations. Palka stated that a larger tie down length had a higher bycatch rate. Regarding pinger compliance, Seagraves suggested testing full compliance rates to determine if the model predicts the target bycatch rates. If the increased bycatch is a pinger compliance issue then NMFS does not need to reconvene the harbor porpoise TRT. Gouveia, however, said there are other takes outside the management areas. DeAlteris said there are benefits of having the team meeting, even if just to press for enforcement actions, because the peer pressure might be important.

Palka reviewed modeling work use to estimate 2003-2005 Atlantic white-sided dolphin and pilot whale (*Globicephala* sp.) bycatch in mid-water trawl fisheries. A quasi-Poisson logistic regression model was used and significant covariates were: latitude, depth, presence/absence of a kite panel on paired trawls, (single, paired-yes, paired-no). Seagraves was concerned that bycatch would go unobserved since some of these vessels pump out the target catch (i.e., Atlantic herring or Atlantic mackerel), as opposed to

bringing the net onboard. He also noted that in the historical joint venture (e.g., US vessels transferring their Atlantic mackerel catch to foreign processing vessels) fishery bycatch rates were high and currently there is a proposal for a transfer operation which is an equivalent fishery. Waring said the JV vessels were towing the net at the surface to the processing vessels, which attracted dolphins and pilot whales. Waring added that the herring boats also pump out the net so we could miss the bycatch. Palka said the observer program is aware of this problem. During the discussions it was noted by an SRG member that mid-water trawling is a fairly clean operation, and that there was little net damage. Further, at-sea processing will open up the fishery to a lot of smaller vessels.

Palka also provided an overview of the status of coastal bottlenose dolphin bycatch analysis. She noted that observed bycatch patterns have changed over the past decade. During the 5-year period 1996-1999 12 animals were observed in medium mesh winter fisheries off NC. During the last six years (2001-2006) 6 animals were observed in NC summer small mesh fisheries. The observed switch is due to fishery management regulations. Further, observed takes are rare, therefore modeling efforts to obtain bycatch rates are still ongoing. Updated estimates will be available for the 2007 meeting of the Bottlenose Dolphin TRT. There was no discussion on this item.

12. SE Center updates

Gulf of Mexico

Keith Mullin (SEFSC) reviewed the protocol to obtain updated Gulf of Mexico abundance estimates. He used the same methodologies as previously published (Mullin and Fulling 2004 – *Mar. Mamm. Sci.*), and a report of the current analyses will be distributed to the SRG in 4-6 weeks. His review was focused on several species. He noted that sperm whale group size estimates are negatively biased based on experimental data collected during 2003 & 2004 abundance surveys. There were 104 sperm whale groups sighted. During 10 minute counts the group size averaged 2.5 whales, whereas during 90 minute counts the average was 6 whales. However, the selection process for determining which groups got the 90 minute observation was not random. Groups were selected because they were thought to be larger. Therefore 4 whales were used for mean group size. They used a program called “sperm count”. Nowacek asked if acoustic data were used in estimating group size. Garrison said they are working on doing that now. Mullin showed slides of the survey tracklines and sighting distributions. Nowacek asked if there is any concern about sawtooth pattern transects rather than back and forth (parallel) transects. Garrison and Palka responded that sawtooth is used in vessel surveys because it is the most effective. There was some discussion of acoustical detection of beaked whales and *Kogia*. Valade asked if manatees had been seen on NMFS surveys. Mullin said no, except for close to shore.

Mullin presented the new abundance estimates and said the changes were not easily explained. They saw no Fraser’s dolphins. The Atlantic spotted dolphins were primarily shelf bound. For spinner dolphins, the average group size was previously larger. Since Mexican waters are not surveyed changes in abundance could be due to shifts in distribution. He said he does not know what the changes mean. Waring asked if anyone

was conducting surveys in Mexican waters. Mullin replied no, they are trying to establish a stranding program, but he is not aware of any systematic survey work. The SRG asked if shifts in distribution were related to changes in water temperature. Mullin responded that the Navy and Geo-Marine will be conducting those analyses using the SEFSC survey data. Further, SEFSC plans to conduct a GOM survey in the summer. Nowacek initiated discussion on bycatch as a factor in the lower abundance estimates. Garrison stated that in offshore waters only the pelagic longline fishery is routinely monitored. Compared to the Atlantic region, pilot whale interactions in the Gulf are rare and little depredation of the catch is reported. This may be because the fishery is in deeper water. However, in 2006 there was a pilot whale caught in the Gulf on a longline, and there was depredation on that line. In nearshore waters the biggest problem is the shrimp fishery, on which they have almost no information. He would like to start looking in earnest at the stranding data. We are quite limited in terms of observer coverage in the Gulf. There is plenty of international fishing too. Kenney suggested looking at the timing of the strandings to determine if they are correlated with the opening and closing of the shrimp fishery. There was discussion of whether there would be sufficient marks to determine a link to entanglement. Although it is possible in some cases, Valade noted that a manatee that had been caught in a trawl had net marks that disappeared in about 5 hours. Zoodsma (SERO) said they had pulled a dolphin out of a trawl and necropsied it and it had no net marks at all.

Garrison reported that bottlenose dolphin biopsy sampling and photo-id studies were conducted in Mississippi Sound during September – October.

Atlantic

Garrison reported on the RV *Gordon Gunter* 2006 summer survey which focused on 3 zones of convergence: 1) the shelf break of Hatteras; 2) the shelf break front; and 3) the inner slope water. The vessel surveyed 4,432 km of trackline and 457 cetacean sightings were made. Habitat data collected included hydrographic profiles, zooplankton sampling, ADCP data, and active acoustics.

Other FY2006 field programs included: November – April mid-Atlantic right whale aerial surveys through contract with University of North Carolina, Wilmington; bottlenose dolphin live capture, tagging, and health assessment studies off Beaufort in April; and bottlenose dolphin biopsy sampling in estuarine and coastal waters off Georgia in August.

2007 plans

In mid-January an aerial survey will be conducted in nearshore waters of the Gulf of Mexico, including around the tip of Florida. Other surveys include: Bottlenose dolphin biopsy sampling in Georgia in March; June – July aerial survey in the Gulf of Mexico Aerial Survey; June – August shipboard survey (RV *Gordon Gunter*) in Gulf of Mexico continental shelf waters; August mark-recapture photo-id abundance estimates and biopsy in selected Gulf estuaries; and winter (Dec-Jan ?) mid-Atlantic biopsy sampling of pilot whales. Nowacek asked if there are any plans to do any live captures before the

reviews of the 2006 project are completed. Engleby responded that Rowles (F/PR) has tentative plans to do some captures this coming summer.

13. Right whale issues

Gouveia presented an update on the ship strike rule. He noted that the proposed rule was published June 26, and the final rule is under NMFS review. The final environmental impact statement (EIS) is almost complete and should be released for public review in late spring or early summer. Once the final rule has been cleared by NMFS and DOC it will go to the Office of Management and Budget (OMB). He believes that the OMB review will take 90 days or more. Young stated that NMFS agreed in a lawsuit settlement with several environment organizations to have it out by June 2007.

Gouveia said the Boston Harbor Shipping Lane into Boston is being shifted to an area crossing Stellwagen Bank with fewer whale sightings. As a result of critique of the proposal, the NERO is still looking at some other changes around that lane, maybe reducing the size of the buffer around it. He noted that this process was implemented under general rule making Section 112 of the MMPA. Jennings asked how routine it is for NMFS to use section 112, and noted that USFWS is evaluating its use for manatee management issues. Gouveia replied that part of the process was determining who the management/action agency is and what regulations apply. Gouveia said that the proposed rule is a combination of routing and speed options, narrowly defined (in time and area) by right whale presence, and tailored to conditions in each of three major regions along the East Coast (mid Atlantic ports, southeast ports and northeast). The proposed measures are adapted to each area's likely right whale seasonal occurrence, commercial ship traffic patterns and navigational concerns. The strategy also recommends continuing support for existing protective actions, expanded education and outreach initiatives. Regarding ship reporting, Gouveia said that NMFS and the USGC have already developed and implemented Mandatory Ship Reporting Systems. When ships greater than 300 gross tons enter two key right whale habitats—one off the northeast U.S. and one off the southeast U.S.—they are required to report to a shore-based station. In return, ships receive a message about right whales, their vulnerability to ship strikes, precautionary measures the ship can take to avoid hitting a whale, and locations of recent sightings.

Gouveia also reported on several right whale program reviews. He noted that the MMC right whale program review was a major undertaking, and that NMFS is looking forward to seeing the Commission's final report. NMFS reviewed and commented on a draft report, principally to clarify information and responses provided by NMFS staff. He said that some non-NMFS individuals and groups complained that not all stakeholders were involved in the Commission review. He also stated that the Government Accounting Office (GAO) conducted two audits of the right whale and Steller sea lion programs. The review focused on the effectiveness of the recovery plans. There were a few meetings on these reviews and the report was quick and general and recovery reporting, focused mainly on the USFWS program. A second GAO audit was to be focused on right whale

ship strike strategy and the ALWTRT. GAO dropped the ship strike component and is still working on evaluating the TRT plan. Valade said the GAO review of manatees was incorporated in the rather simple audit.

The SRG asked about the status of the survey on economic benefits of right whale conservation. Gouveia responded that it was not an NERO project, though they did comment on it. Several SRG members were critical of how the questions were worded, etc. Young said at least 4 groups had commented on the economic survey, and each had obtained a terse, defensive response. Gouveia reiterated that it was not an NERO project, thus could not explain the responses. Baltz noted that "willingness to pay" was a standard economic analysis survey tool. Young said a similar survey was put together for Steller sea lions and similar concerns were raised and reviewers received a similar response. Gouveia also stated that on 27 December the agency published a proposed rule, which includes the new status review, to split the North Atlantic and North Pacific right whales into two stocks.

14. Manatees

Jennings (USFWS) distributed hand outs and discussed the current federal 5-year Status Review. She noted that the review was initiated by litigation and that the work required for the review is similar to that required when evaluating a new listing. Dr. Michael Runge (USGS) was contracted to develop the model that the FWS and the state are using to assess the manatee population status. The 5-year Status Review includes a great deal of new information. The Service initially noticed only the Florida manatee. They subsequently followed up with an additional public notice that addressed the entire listed entity, the West Indian manatee, thus including both the Florida and Antillean subspecies. Jennings noted that the draft document will not be posted for review. The USFWS expects to post the final review by April. Because this is an agency guidance document and not an agency action, there will not be a formal public comment period on the review. If this document were to result in a rule-making, public comments would be incorporated in that process. The review is essentially an evaluation of the status of the species, along with a recommendation on whether or not to reclassify the species. The document will undergo an internal agency review and perhaps a peer review. If the RO elects to conduct a peer review (which is very likely), FWS may contact the SRG for their input on the document

Coincidentally, the State of Florida is reviewing the status of the Florida subspecies, pursuant to their recently adopted listing criteria. Jennings provided a brief overview of the state status review. The SRG noted that there will be considerable confusion if the federal and state reviews reach different conclusions. Jennings acknowledged that this is a concern. Odell provided some background information on the basis of the state review. It was initiated by a short petition from the Coastal Conservation Association of Florida (CCA) that only contained 4 poorly chosen references. A Florida Fish and Wildlife Conservation Commission (FWC) lawyer determined that the material was sufficient to justify a state status review. Based on the CCA petition, FWC conducted a population viability assessment (PVA) using the listing criteria that had recently been adopted by the State. Not long after, FWC modified its listing criteria, thereby requiring an additional

evaluation. In 2006, FWC produced a second status review, using a core biological model developed by Mike Runge and Chris Fennesbeck. A biological review panel convened by the State used this model to assess the State listing status of the Florida manatee. (Runge, Fennesbeck, Haubold, Jennings, and others served on the panel.) In June 2006, FWC approved the panel's recommendation to reclassify the manatee to "State threatened" from "State Endangered". Odell noted that the State's next step was the preparation of a Florida Manatee Management Plan. The State drafted a management plan and public comments are due on 11 January '07. Odell recommended that the SRG provide comments on both the plan and status review. While the official comment period would be over on January 11, the management plan drafting committee would likely entertain comments from the SRG, provided they were submitted prior to the committee's 24 February meeting. Jennings noted that FWC must complete its revision of the management plan by June. She stated that the FWC Commissioner's would review and possibly approve the plan in June or September 2007.

Jennings also noted that the federal review contains analyses that would be useful to the state panel, albeit those data cannot be released until after the FWS review is completed. FWS is commenting on the state review, and will refer to FWS analyses that show higher adult survival rates for the Atlantic coast. Young asked if the FWS comments on the management plan could be summarized for the SRG, since FWS comments will be a part of the public record. Jennings said yes and provided the following: FWS comments include statements to the effect that the state review uses confusing language, does not identify targets, and does not provide a clear definition or goals for recovery. (In the case of the Service, the recovery target for the manatee [and all listed species] is delisting, pursuant to the ESA. The Service is additionally developing new demographic, benchmark population criteria to aid in future evaluations of the status of the species. These criteria will be included in the forthcoming revision of the recovery plan for the Florida manatee. Seagraves asked if there were any standards for such criteria pursuant to the ESA. Jennings said no.) Young said some species have threshold levels, but for some it is survivorship. The threats have to be addressed and under control. Jennings noted that manatees were one of those species that was initially listed prior to the development of the ESA listing process. Mullin asked what the FWS legal role is, in regards state efforts to manage manatees. Jennings said we are supposed to be in lockstep with the state, albeit, if the state has more restrictive measures, the Service can defer to the state. FWS does not currently have an agreement that delegates any authority to the state. Gilbert asked if there are any state regulations that are less restrictive than federal ones. Valade answered that they haven't come across any specific ones, except perhaps in the enforcement arena, where the details are being worked out (enforcement authorities). Per Young, an area of concern includes addressing development impacts on manatees (marinas, etc.). Young said that the state plan expresses an interest in streamlining the permit review process, which may facilitate mushrooming development impacts in manatee habitat. If a process is developed and used by the state, developers may question why the Feds don't use a similar process; this would be especially problematic if the State's process and requirements are weaker than those that would be used by the Service. This sends a bad precedent. In regards to the State's DRAFT management plan, Gilbert said the state did not consider MMPA restrictions.

In regards to the stock assessment reports (SARs) for the two manatee stocks, Valade noted that the Service has not published new SARs since the original ones were published. Just recently, Jim was directed to begin drafting new SARs. In its development of the new reports, the Service will likely rely upon SAR guidance that states that use of the PBR formula may not be necessary if there's a better way to assess impacts. Gilbert asked if the Runge model (core biological model [CBM]) would be applicable. Jennings responded that this would likely be the tool used to identify removals. In the case of fisheries interactions, the CBM runs suggested that these are not as significant as watercraft collisions and the pending threat of warm water loss. Furthermore, natural events like brevetoxin and hurricanes appear to have only minor effects on adult survival rates. Jennings said in that, in the modeling runs, significant events include watercraft strikes and then the loss of warm water habitat (loss of carrying capacity in the population, including the loss of future habitat carrying capacity if power plants shut down, or access to warm-water springs is restricted.) Valade stated that over 60% of the population winters around power plants. DeAlteris asked what the principal winter habitats were prior to construction of power plants. Valade said that, historically the records are sparse, but the manatees appear to have used springs in central Florida (some of which they can no longer access) and ambient waters to the south. The existing landscape of power plant refugia will end in 10 or 15 years. New power plants cannot discharge warm water. Jennings said the Runge model incorporates loss of warm water, but the revised model is in prep and cannot be released. Per the SRG, Nowacek will develop a set of comments on the state plan and circulate it to the SRG for review. The SRG will submit their final comments to the state prior to the February meeting. He will also provide the SRG with an earlier version of the Runge paper/model for their review, with the caveat that it cannot be distributed. Young asked if there is any prospective date when a new manatee SAR would be produced. Valade indicated that an updated SAR would be available for the 2008 SRG review.

15. Stock assessments

MMC comments on draft 2006 SARs

Simpkins (via conference call) said that the Commission conducted a broad review of the regional SARs. Some big problems were stocks that have not been assessed, stocks that do not have enough information to assess zero mortality rate goal (ZMRG), and stocks for which takes are higher than PBR. The Commission also noted inconsistencies on how stocks are classified as strategic between regions; the authors need to look at the GAMMS guidelines. Some are difficult cases based on SRG advice, but NMFS needs a meeting on how the SRGs make decisions. Waring said that Eagle had mentioned that the Commission had not addressed the need to do more surveys in the Gulf of Mexico. Simpkins replied that the Commission supports the need for abundance surveys in all regions.

Simpkins also reviewed some of the Commission's comments on the 2007 List of Fisheries (LOF). The Commission supports the downgrading of the mid-Atlantic mid-water trawl fishery from Category I to Category II, but recommends that NMFS maintain adequate observer coverage. They also support the classification of the mid- Atlantic flynet fishery as Cat II based on analogy with similar gear. They recommended that the

blue crab trap/ pot fishery and menhaden purse seine fishery be reclassified, respectively, to Cat II and Cat I. Further, observer monitoring of these fisheries needs to be established. The Commission also recommended that the level of observer coverage be included in the LOF. The issue of marine mammal depredation of bait or catch in commercial fishing gear, occasionally resulting in serious injury or death was also an issue pertinent to Gulf of Mexico and Atlantic regions. Wells asked if the Commission has looked into broader issues of dolphin ancillary interactions with fisheries other than bycatch. Simpkins replied that that falls under depredation as a broader issue. Simpkins said concerned about depredation issues and is interested in receiving any ideas SRG members (or others) might have on addressing the issue. Valade asked if there was anything that was directed toward the FWS in the Commission's LOF review, and the answer was no.

Status of 2006 SAR

Josephson said the 2006 SARs were about to go through the NEFSC manuscript review process and will then be ready to go to the printer. As was the case for the 2005 report, only a limited number of paper copies will be printed.

Draft 2007 SARs

Seagraves provided SRG comments on the Appendix III Fishery Descriptions. Gouveia and Engleby will take the lead on revising the Appendix to ensure that fishery descriptions are consistent with the LOF and FMPs. There were no other comments on this item.

Atlantic stocks

General: The SRG recommended that the 2000 mid-water trawl bycatch data be removed from the bycatch table. The 4-year (2001-2004) data will be used to estimate the average annual bycatch. The 2000 information will be included in the Fishery Section text.

Garrison asked the SRG for advice on preparing the first SAR for rough-toothed dolphins for the 2007 report. The SRG recommended delaying the report until the 2008 cycle, since the species is not involved in any TRT process.

The SRG asked why the Atlantic killer whale chapter has not been updated since 1995. Palka said there have been no reported takes, and only a couple of sightings over the past decade. Basically, there is no new information.

The SRG wanted to clarify the rules for citing unpublished material (i.e. Palka unpublished ms). There was discussion on how and whether to cite unpublished material. One recommendation was to use the phrase “available from...” for unpublished manuscripts, although it was noted that peer reviewed reports are preferred. References cited as “NMFS, etc.” were also a concern.

Right whales: There were some minor editorial comments, and a question on calf mortalities in 2003-2005. The SRG also discussed the need to use the most recent

available information on large whale mortalities, even if the year is off-cycle with small cetaceans whose bycatch estimate must be extrapolated across fishery effort.

Humpback whales: There was considerable discussion on the assignment of mid-Atlantic mortalities to the Gulf of Maine (GOM) stock. Young said one should presume the animals are GOM unless proven otherwise, since published literature on photo-id work shows that a large number of mid-Atlantic animals are part of the GOM stock. The SRG noted that the risk adverse choice would be to assume that the unknowns are GOM whales. The SRG recommended that the published percentage (40%) of photo-id whales in the mid-Atlantic region (Barco *et al.* 2002 - *J. Cetacean Res. Manage.* 4(2):135–141) be used to prorate unknown mortalities to the GOM stock.

Fin whales: There were only minor editorial changes.

Sei whales: The status of stock needs to be changed now that an abundance estimate is available. PBR is exceeded.

Minke whales: The abundance table and text needs to be updated. Josephson noted that an earlier version of the report was inadvertently posted for the SRG review. The current version contained the updated survey data.

Sperm whales: No comments

Drawf and Pygmy sperm whales: The stranding table numbers are low and the number of animals in the UME is wrong. In the PBR section there should be some wording as in the *Mesoplodon* report, saying it is not possible to determine the PBR for the separate stocks.

Cuvier's beaked whales: No comments

Mesoplodon beaked whales: The SRG recommended using the following text in the PBR section "it is not possible to individually determine PBR" as a model for other lumped stocks.

Northern bottlenose whales: The text on the population trend needs to be clarified since the reference to the trend is older than the reference on the latest population estimate. Also, the second half of the ZMRG sentence (...but the rarity of mortality reports for this species suggests that this level is insignificant...) should be deleted.

Long-finned pilot whales: The Stock Definition section should contain some text pertaining to ongoing stock delineation studies. The reference to the Newfoundland catch is likely to be an estimate. In the Status of Stock section there should be a sentence like "However, the continuing inability to distinguish between species of pilot whales raises concerns about the possibility of mortalities of one stock or the other exceeding PBR." The SRG will reinforce the need for research to delineate the stocks in their recommendation letter to Dr. Hogarth. A footnote is required in Table 1 regarding status.

In the PBR section there should be some wording as in the *Mesoplodon* report, saying it is not possible to determine the PBR for the separate stocks. Discrepancies in the UME numbers need to be addressed.

Short-finned pilot whales: Incorporate the LF pilot whale comments.

Risso's dolphins: The Stock Definition section should contain a sentence that mentions a satellite tagged animal that moved from the Gulf of Mexico to the Atlantic. Also, the survey descriptions 2004-2006 are not clear.

Bottlenose dolphin - Coastal: There was some discussion on whether animals in estuaries should be addressed more directly. Garrison said the abundance estimates do not include the estuaries but the stock does. We are not able to genetically split them. Garrison will add some text that includes a caveat about future identification and separation of stocks. He suggested that the SEFSC may prepare a Bay, Sounds, and Estuary SAR in 2008. The SRG recommended that the text should specify that PBRs are unknown for the central Florida management unit because the 1995 abundance estimate is too old to use. The part where it says "These estimates are negatively biased..." would be a good place for the caveat. The mortalities of the tagged animals should be added to the "Other Mortality" section. In the discussion of trammel net mortalities at least 3 additional trammel net mortalities need to be incorporated. Garrison said he would add that. Wells asked when the status will be changed. Garrison said that is another large project. There are now 7 stocks. First the stock structure needs to be finalized. An SRG member said we don't say what the delisting criteria are for depleted stocks. Garrison suggested that the SRG make a recommendation to reevaluate the status of the stocks. Young said it might be useful to have a summary table showing PBR relative to mortality for each management unit, just as is the case for other stocks. Garrison said he can't figure out how he would do that. Young commented on footnote c on the shark bycatch table as it confounds understanding of the mortality estimates. Garrison said he has hit an impasse on how to deal with effort. Young recommended that the description in the Mid-Atlantic gillnet section briefly characterize the changes in the fishery that are alluded to when discussing the bycatch estimates for different time periods.

Bottlenose dolphins – Offshore: The unknowns in the mid-Atlantic gillnet were briefly discussed.

Common dolphins: There is a typo in the mid-Atlantic bottom trawl section where it says northeast instead of mid-Atlantic.

Striped dolphins: No comments.

White beaked dolphins: No comments.

Atlantic white-sided dolphins: There is a typo in the PBR section re population size, and Nmin has not been updated.

Atlantic Clymene dolphins: Delete Nmin since it is more than 8 years old. PBR should be changed to undetermined. Leaving the status of the stock as non-strategic is ok.

Atlantic spotted dolphins: The Stock Description states that there is evidence for genetic separation into two forms, this needs to be clarified.

Pantropical spotted dolphins: There were some minor editorial corrections in the text and references. There are separate abundance estimates for Atlantic and pantropical spotted dolphins, therefore delete the text that says they are lumped. The information in the Fishery section needs to be clarified.

Harbor porpoises: Include some text on the TRT in the Status of Stock section. Text in the Trend section needs to be clarified.

Seals – It was recommended that the first paragraph following the stranding table be deleted for all four species.

Hooded and Harp seals: No comments.

Gray seals: The spelling needs to be consistent (i.e., gray seals vs. grey seals). The text on the population trends needs to be clarified.

Harbor seal: The text on the population trend needs to be revised to unknown. Since there is only one population estimate < 8-years old, Fr should be changed from 1.0 to 0.5.

Gulf of Mexico

General - It would be useful to include information on the abundance survey protocol in all stock reports. The Trend sections should contain some text on the proportion of the Gulf of Mexico that is in the Mexican and Cuban EEZs, and how the SAR only pertains to US waters. There is a discrepancy between the stock delineation for many stocks in the Gulf and the summary chart (i.e., the chart uses the word “oceanic” in the stock description and the SARs don’t).

Sperm whales: No comments were presented at the meeting. Lang (SRG) sent in comments by email afterward.

Blainville’s beaked whales: Include text in PBR section “it is not possible to individually determine PBR.”

Cuvier’s beaked whales: Include text in PBR section “it is not possible to individually determine PBR.”

Gervais’ beaked whales: Include text in PBR section “it is not possible to individually determine PBR.”

Killer whales: The PBR and fishery interaction (i.e., see Fin whales) text needs to be clarified.

Drawf and pygmy killer whales: The paragraph on diagnostic and morphological difference contained in the Atlantic reports should be incorporated in the GOM reports.

Pygmy killer whales: No comments.

Melon-headed whales: No comments.

False killer whales: No comments.

Short-finned pilot whales: No comments.

Risso's dolphins: The Stock Definition section should contain a sentence that mentions a satellite tagged animal that moved from the Gulf of Mexico to the Atlantic.

Bottlenose dolphin – shelf stock: It was noted that Nbest is pooled “1998 through 2001,” but part of this time period is older than 8 years.

Bay, sounds, and estuarine stocks: It was noted that most of stock populations are unknown, but there is ongoing research that could be mentioned. It was recommended to delete the line re Sarasota Bay. Additional information on dolphin takes and depredation should be included including mention of recent shootings. The SRG provided revised text on the research related mortality including one in 2006. The SRG asked if there were any Katrina related mortalities. The response was no. Engleby recommended that the GOM stocks should have the caveat that signs of human interaction does not necessarily mean that was the cause of death.

Atlantic spotted dolphins: Note that this species was not sighted in the 2003-2004 surveys. The abundance data need to be revised, since data older than 8-years are included.

Pantropical spotted dolphins: No substantive comments.

Striped dolphins: Text pertaining to the use of old data needs to be revised.

Fraser's dolphins: Correct minor typos and check references.

Manatees

Florida and Antillean stocks: Valade said that FWS plans to have revised SAR available for the 2008 cycle.

16. ASRG Business & Wrap-Up

Venue and timing for the 2008 meeting

There was some discussion of venue for the next meeting. St. Petersburg next January was suggested.

Finalize recommendations from this meeting

The SRG met in private to finalize their recommendations. These recommendations will be sent to NMFS headquarters.

APPENDIX I
Atlantic Scientific Review Group
Draft Meeting Agenda – January 9-11 2007
U. S. Fish and Wildlife Service, Jacksonville, Florida

Tuesday, January 9, 2007

1. Introduction (Baltz, Jennings, Waring)

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

2. Take Reduction Plan Updates

- BDTRP (SER-Carlson)
- PLTRT (SER/SEC-Engleby/Garrison)
- ATTRP (NER/NEC-Gouveia/Palka)
- HPTRP (NER-Gouveia)
- ALWTRP (NER-Gouveia)

3. Serious Injury & Mortality

- Update on the postponed national serious injury and mortality workshop (F/PR-Eagle)

4. MMPA and ESA Re-authorization

- Update on MMPA & ESA re-authorizations and discussions on impacts to science and management (F/PR-Eagle)

5. Administrative Changes and Effects

- NMFS staff updates (F/S & F/PR – Eagle)
- MMC staff updates (MMC-Simpkins- via conf. call)
- Marine Mammal Commission staff and program updates (MMC-Simpkins- via conf. call)

6. Proposed List of Fisheries

- Regional changes (SER/NER- Engleby/Gouveia)

7. Stranding Program / Events

- Gulf of Maine harbor seal UME (NER /SRG- Gouveia/Gilbert)
- Southeast region (SEC/SER-Garrison/Carlson)
- Update on Prescott Program (F/PR - Eagle)

8. Bottlenose Dolphin Live Capture Program

- Update on plans for (or results of) the workshop on capture-related research and invasive tagging (SEC-Hansen)

9. **Marine Mammal Commission**

- Status of MMC report to Congress on marine mammals and noise... (MMC-Simpkins)
- Review of MMC comments on Draft 2006 SARs; letter to Mr. David Cottingham from Tim Ragen dated 26 October 2006 (F/PR Eagle/ MMC – Simpkins).

10. **Multi-Agency Marine Mammal Issues**

- The Broad Agency Announcement (BAA) for marine mammal topics...(???)
- The Joint Subcommittee on Ocean Science & Technology (JSOST)...–Overview of how these actions are affecting NMFS research planning/resources for marine mammals [F/PR - ?]

Wednesday January 10, 2007

11. **NEC Updates**

- New abundance estimates from 2006 aerial survey (Palka)
- Preliminary investigation into using regression analysis for harbor porpoise bycatch (Palka)
- 2000-2005 estimates of coastal bottlenose dolphin bycatch (Palka)
- 2000-2005 bycatch estimates from the midwater trawl fisheries (Palka)
- NEFSC 2006 surveys (Palka, Waring, Pace-via conf. call)
- NEC 200 survey plans (Palka, Pace-via conf. call)

12. **SEC Updates**

- Abundance estimates for the Gulf of Mexico from the 2003-2004 ship surveys (Mullin)
- 2006 SEFSC fieldwork (Garrison, Mullin)
- 2007 SEFSC fieldwork plans (Mullin)

13. **Manatee Updates**

- State of Florida's Manatee Management Plan (USFWS-Jennings)
- Fish & Wildlife Service Manatee 5-yr Review (USFWS-Jennings)

14. **Stock Assessments**

- Status of 2006 SARs (NEC/SEC–Josephson)
- Review Appendixes (NEC/SEC-Josephson, Pace-via conf. call, SEC/SER?)
- Review draft 2007 SARs (NEC/SEC staff)

15. **Right Whale Issues**

- Update on NMFS's proposed regulations to reduce the threat of ship strikes (F/PR ?)

16. **USWTR & Other Training Exercises**

- Update on Navy's Proposed Training Exercises Using Active Sonar along East Coast and Gulf of Mexico & other exercises (F/PR -?, SRG- Nowacek, Odell)

17. **ASRG Business & Wrap-Up**

- Finalize recommendations from this meeting
- Venue and timing for 2008 meeting
- Adjourn

APPENDIX II

Atlantic Scientific Review Group (ASRG) Members and Participants January 9-10 2007, U.S. Fish and Wildlife Service, ??????, Jacksonville, Florida.

Don Baltz
Louisiana State University
Department of Oceanography and Coastal Sciences
Baton Rouge, LA
Ph: 225-578-6512
dbaltz@lsu.edu

Stacey Carlson
NOAA Fisheries Service, SERO
263 13th Avenue South
St. Petersburg, FL 33701
Ph: 727-551-5780
Stacey.carlson@noaa.gov

Laura Engleby
NOAA Fisheries Service, SERO
263 13th Avenue South
St. Petersburg, FL 33701
Ph: 727-551-5791
Laura.Engleby@noaa.gov

Joe DeAlteris
University of Rhode Island
Fisheries Center, East Farm
Kingston, RI 02881
Ph: 401-824-5333
Jdealteris@uri.edu

Tom Eagle
NMFS -PR2
1315 East-West Hwy.
Silver Spring, MA 20910
Ph: 301-713-2322 x 105
tom.eagle@noaa.gov

Lance Garrison
NOAA Fisheries Service, SEFSC
75 Virginia Beach Dr.
Miami, FL 33149-1033
Ph: 305-361-4488
Lance.garrison@noaa.gov

James R. Gilbert
Dept. Wildlife Ecology
University of Maine
Orono, ME 04469-5755
Ph: 207-581-2866
James.gilbert@umit.maine.edu

David Gouveia
NOAA Fisheries Service, NERO
One Blackburn Drive
Gloucester, MA 01932-2298
Ph: 978-281-9280
david.gouveia@noaa.gov

Dawn Jennings
USFWS, 6620 Southpoint Dr. South Suite 310
Jacksonville, FL 32216
Ph: 904-232-2580 x 114
Dawn_Jennings@fws.gov

Beth Josephson
NOAA Fisheries Service, NEFSC
166 Water St.
Woods Hole, MA 02543
Ph: 508-495-2362
elizabeth.josephson@noaa.gov

Robert Kenney
University of Rhode Island
Narragansett Bay Campus Box 41
Narragansett, RI 02882-1197
Ph: 401-874-6664
rkenney@gso.uri.edu

Jim Mead
Smithsonian Institution
Division of Mammals
MRC-108
Washington, DC 20560
meadj@si.edu

Keith Mullin
NOAA Fisheries Service, SEFSC
P.O. Drawaer 1207
Pascagoula, MS 39568
Ph: 228-762-4591x280
Keith.D.Mullin@noaa.gov

Douglas Nowacek
Department of Oceanography
Rm 509 OSB
Florida State University
Tallahassee, FL 32306-4320
Ph: 850- 645-1547
nowacek@ocean.fsu.edu

Dan Odell
Hubbs-SeaWorld Research Institute
6295 Sea Harbor Drive
Orlando, Florida 32821-8043
Ph: 407-370-1653
dodell@hswri.org

Richard Pace ** teleconference**
NOAA Fisheries Service, NEFSC
166 Water St
Woods Hole, MA 02543
Ph: 508-495-2253
Richard.Pace@noaa.gov

Debi Palka
NOAA Fisheries Service, NEFSC
166 Water St.
Woods Hole, MA 02543
Ph: 508-495-2387
Debra.Palka@noaa.gov

Richard Seagraves
Mid-Atlantic Fishery Management Council
Room 2115 Federal Bldg.
300 S. New St.
Dover, DE 19904
Ph: 302-674-2331
Rseagraves@mafmc.org

Michael Simpkins ****teleconference****
Marine Mammal Commission
4340 East-West Highway, Room 905
Bethesda MD 20814
msimpkins@mmc.gov

Gordon T. Waring
NOAA Fisheries Service, NEFSC
166 Water St.
Woods Hole, MA 02543
Ph: 508-495-2311
Gordon.Waring@noaa.gov

Randall Wells
Chicago Zoological Society
Mote Marine Laboratory
1600 Ken Thompson Pkwy.
Sarasota, FL 34236
Ph: 941-388-2705
rwells@mote.org

Jim Valade
USFWS, 6620 Southpoint Dr. South Suite 310
Jacksonville, FL 32216
Ph: 904-232-2580 x 118
Jim_Valade@fws.gov

Sharon Young
Humane Society US
22 Washburn St.
Bourne, MA 02532
Ph: 508-833-0181
Syong@hsus.org

Barbara Zoodsma
2382 Sadler Rd. suite 5
Fernandina Beach, FL 32034
Ph: 904-321-2806
barb.zoodsma@noaa.gov

