

**-Minutes of the
Atlantic Scientific Review Group Meeting
La Parguera, PR
14-15 November 2000**

The fall 2000 meeting of the Atlantic Scientific Review Group (ASRG) was convened at 8:30 am on Thursday, 14 November 2000 at the Villa Parguera, La Parguera, Puerto Rico. The agenda for the meeting is shown in Appendix I, participants in the meeting are listed in Appendix II, and working documents are listed in Appendix III.

DAY 1, 14 NOVEMBER 8:30 AM

Opening remarks were presented by Randy Wells (Chair, ASRG) and Richard Merrick (Chief, Protected Species Branch, NEFSC).

1.0 OLD BUSINESS (Wells, Merrick, Swartz)

The SRG reviewed the NMFS and USFWS responses to recommendations made by the ASRG as a result of their November 1999 meeting (Handout 1 [HO1]).

2.0 CARIBBEAN CETACEAN ISSUES

Swartz briefly discussed the framework for cooperation in the Caribbean, especially between the SEFSC and Puerto Rican researchers.

2.1 Puerto Rico, Virgin Islands and Caribbean cetacean issues (Mignucci)

2.1.a Past and present - Mignucci reviewed the history of cetacean studies in the Caribbean beginning with initial sighting surveys in the 1950s. Most of the research over the past four decades has focused on either humpback whales or bottlenose dolphins, and has included a number of sighting surveys, bottlenose dolphin communication studies, studies of humpback whale acoustics and habitat use, and activities of the stranding network based at University of Puerto Rico.

2.1.b Bottlenose dolphin Status in PR (Rodriguez-Ferrer) - Historically, there has been little sustained field work for the species in the PR area. A current project looks to establish the status of the species in the PR waters, based on surveys off the southwest coast designed to determine: 1) abundance in study area, 2) habitat use, and 3) co-occurrence with other species. This study is based on mark-recapture along predesigned transects. After the first year, 83 dolphins seen, yielding a population estimate of 167. No evidence of movements to Hispaniola. Of identifiable animals, 31% have been resighted, commonly as lone individuals. They have seen a few

calves but juveniles are lower in abundance than expected. Many animals are deeply scarred with several skin conditions, some turning white. Bottlenose dolphin habitat in SW Puerto Rico is mostly near shore, in shallow water and with homogeneous substrate. Spotted and spinner dolphins have been seen along the transects, but in deeper waters

Future studies will expand to the north and south coasts, and will include genetics and radio tracking. Funding is needed.

2.1.c Research and Management Needs in PR (Mignucci)

Mignucci listed a series of needs for cetacean research in PR including:

- 1) Continue coordinated stranding effort-savage and mortality assessment. NMFS and MMSN needs to monitor stranding events especially with respect to *Ziphius* and USN, and pay attention to acoustic exercises and military practices
- 2) Continue life history studies from salvage program
- 3) Continue coordinated rescue program with better rehabilitation and re-introduction
- 4) Confirm distribution of key species
- 5) Begin species-specific pop assessment, especially for key species
- 6) Resume long term humpback whale monitoring
- 7) Federally supported local regulations of whale watching regulations by monitoring boat activities
- 8) Continue genetic studies of key species
- 9) Assess possibility of *Tursiops aduncus* presence in PR

The number one priority should be to begin species-specific population assessments, especially for key species

2.1.d Research and Management Needs in the Caribbean (Mignucci)

Mignucci then reviewed a similar list for the Caribbean as a whole:

- 1) Improve stranding and mortality monitoring. Assist other Caribbean governments in establishing stranding network. Networks presently exist in PR, Virgin Islands, British Virgin Islands, Aruba, Trinidad, Venezuela, Colombia, Costa Rica, Belize and Mexico.
- 2) Identify and train individuals interested in pursuing cetacean research and conservation efforts.
- 3) Support and facilitate research and cooperation in countries without programs including Cuba, Nicaragua, and Honduras. Countries with programs include: Bahamas, Mexico, Costa Rica, Dominican Republic, Venezuela Colombia, and Brazil
- 4) Deal with humpback whale takes in Lesser Antilles and Cuban takes of bottlenose dolphins for aquarium trade

Discussion then turned to small cetacean takes and stranding causes in the Caribbean. The most commonly stranded marine mammals in PR are manatees, bottlenose dolphins, and beaked whales. Humpback whales have also been observed entangled in gear. Causes of strandings include both human interactions and natural causes.

Debra Moore (PR veterinarian) suggested that island veterinarians would like to be more involved with strandings and could be used for necropsies.

2.1.e. Overview of Caribbean fisheries (Appledoorn)

Mostly artisanal fisheries, but still some offshore larger boats. Gear used includes:

- 1) Traps – wire mesh traps, 1 m square, 1 line per trap, sometimes in strings (on outer shelf from larger boats for lobster). Used for reef fish or spiny lobster and are set on flat areas near reefs or algal mats
- 2) Small mesh gill nets - no drift gill or purse seine used. Mostly small mesh (2") gear set at the surface (jacks, ..) or near reefs (snappers and grunts). These nets are set and tended for a few hours and sometimes overnight. Most common bycatch are nurse sharks, plus some marine mammals and turtles.
- 3) Large mesh gill net - used to catch turtles, and is a 6" mesh multi-filament net.
- 4) Rod and reel fishing - commercial and other; on/off shelf on shelf for reef fish, jacks, snapper, groupers; and offshore (now trolling) for mahi-mahi, tuna and recreational fishery for bill fish
- 5) Long-lining - US commercial swordfish fleet; off shore outside of EEZ; in mid 1980s in EEZ for swordfish

There is no trawling and no squid fishery. There are some problems with dolphins and traps, with dolphins turning over the traps to get to the bait.

Break 1045
Return 1100

3.0 MANATEE STATUS

3.1 Florida Manatee Recovery Plan Update (Valade)

Recent events relevant to the Manatee Recovery Program at USFWS were discussed. There have been significant staff and funding changes in the past year (lost the Recovery Program leader position). The revised Florida Manatee Recovery Plan Final Draft is at the printer should be available soon in paper and as a pdf on-line.

As part of the development of the Plan, the USFWS established a Population Status Working Group (Dr. Lynn Lefebvre, Chair), whose goals are to:

- 1) Assess status annually

- 2) Develop Criteria for recovery/delisting
- 3) Interpret data with respect to population status
- 4) Recommend research
- 5) Provide external review (they will shortly convene a workshop on population assessment)

One of the WG's products has been the development of a series of criteria for down listing (with 95% CI) from endangered to threatened for the Florida population (or subspecies), which are included in the Plan:

- 1) Adult survival 94% per year (lower CI => 90%)
- 2) 40% of adult females must be calving
- 3) Population growth => 4% per year (lower CI > 0%)

The WG recommended the criteria be met for a period of 10 years, but the USFWS changed this to 1 year. The criteria need to be met by all of the population segments (four were listed), but not all simultaneously.

Data were presented for four subpopulations or stocks with respect to these criteria. Not all can currently satisfy the criteria, particularly the Atlantic. Much of these data were based on the manatee photo-id catalogue using sight-resight analyses for survival (ca. 1200-1500 animals in catalogue from Northwest, St. Johns River, Atlantic).

The ASRG discussed how the four groups were defined. Genetics suggest there may be a Gulf and Atlantic subpopulation but not four subpopulations. The structure seems to have been developed largely on habitat use.

The ASRG discussed concern for several aspects of these criteria including the lack of consideration of juvenile mortality, the short time period for the criteria to be met (longer is better), and how the separate subpopulations different trajectories would be considered.

USFWS staff then discussed issues the Service has in applying the current PBR to ESA issues. The Service is considering an MMPA special rule to change the parameter values they use in the PBR calculation.

3.2 Puerto Rico/Caribbean manatee issues

3.2.a Past and present research in PR (Saliva, Mignucci)

As with cetaceans, manatee research in PR began ca. 1953 but stayed at low levels until ca. 1976. From then through the 1980s, most of the work dealt with either rudimentary distribution and abundance surveys, or rescue and rehabilitation. Beginning in the early 1990s, the Stranding Network increased the science effort with studies of pathology, parasitology, diet etc. There were still surveys in the 1990s but also radio tracking, comparative studies, vocalization, genetics. Currently, efforts are

increasingly turning to conservation (e.g., signs and slow-speed in Jobos Bay). This is because the major source of anthropogenic mortality in PR is boat strike. There is not enough DNR enforcement to deal with this; but signs and education might help in key areas.

3.2. b Research and Management Needs for the Puerto Rican manatee population (Mignucci)

- 1) Continue Carcass salvage and mortality assessment
- 2) Continue coordinated rescue program
- 3) Continue long term Population assessment via aerial surveys with area specific and synoptic focus
- 4) Continue radio telemetry for habitat use, expanding to new areas
- 5) Continue habitat assessment (sea grass beds) and mapping studies
- 6) Continue and enhance data on life history parameters especially genetics within PR
- 7) Prioritize as key species within PR by both Commonwealth and Federal government
- 8) Designate appropriate Commonwealth and Federal Funding for management implementation
- 9) Enhance enforcement for speed reduction
- 10) Prepare for catastrophic mortality event (red tide)
- 11) Continue Section 7 consultation on coastal construction and development
- 12) Designate and implement reduced speed/no-entry areas
- 13) Continue community awareness
- 14) Draft a new, cooperative interagency PR manatee Recovery Plan

It was felt that the highest priority item is the development of a new Recovery Plan.

3.2.c New Puerto Rican Manatee Recovery Plan (Mignucci)

The current plan is 14 yrs old and was developed without PR participation. It is too general, and lacks funds for implementation. A new Plan is urgently need, and should be prepared under contract (with all local players involved) that tailored to the PR situation (Culture, traditions, idiosyncrasies). It should be in both Spanish and English and be drafted in a way which allows its incorporation into Commonwealth law

3.2.d Manatee conservation issues in the Caribbean (Mignucci)

Current issues in the Caribbean outside of PR include:

- 1) Hunting - Belize, Columbia, Venezuela
- 2) Lack of accurate population assessments and status
- 3) Lack of public awareness of conservation status (endangerment)

3.2.e Conservation assistance to other Caribbean countries (Mignucci)

- 1) Identify and train individuals interesting in manatee Conservation and research
- 2) Collaborate with local agencies or NGOs in research and conservation projects
- 3) Support ongoing efforts in countries that have them (e.g., Mexico, Columbia Belize)

Lunch 1300

Return 1400

4.0 RIGHT WHALE STATUS

4.1 NEFSC report (Clapham)

Minimum population size is agreed to be at least 263 animals ca. 1996, with the IWC Workshop held in Woods Hole in 1999 concluding that "about 300" animals was a reasonable estimate of population size. Absolute population abundance is not as important as the population's trends. The IWC Workshop agreed with published reports that survival is declining, calving is reduced, and as a result the population is likely declining. Part of the reason for this decline is human related mortality. During 1995-99, there were 11 known mortalities and serious injury, Five mortalities and one serious injury were from ship strike, and 2/3 were from entanglement.

There are six known major right whale habitats from southeast USA to the Bay of Fundy (SE, CCB/MB, GSC, BoF, Scotian Shelf, GB/Gulf of Maine). A habitat based cluster analysis of survival/heterogeneity found 4 distinct groups of animals based on habitat preference. Apparent survival has declined in all but the Bay of Fundy (BoF) group. However, there was some evidence for bias in the survival estimates.

Genetic analyses are continuing. Presently, 280 individuals have been identified genetically. MtDNA analyses indicate 5 haplotypes; the most common is seen in 46% of the population and the least common in 4 males (E haplotype). Microsatellite analyses indicate low variability compared to southern hemisphere. The MtDNA analyses indicate there may be Bay of Fundy (BoF) and non-BoF subpopulations in the North Atlantic. Pedigree analysis is going on (like in zoo). This suggests there is low variance in male reproductive success and that unidentified mothers exist.

Analyses of the historic genome from the 18th and 19th century suggest there has been no major loss of diversity in last 100 yrs (3 of the current haplotypes have been observed). However, analyses back to 16th century found new haplotypes and suggests there was a major loss of diversity due to whaling.

Reproduction appears to have declined in the short term. Eleven calves were born in 1998-2000 and most of the calves were from non BoF females. Calving interval has increased from 3.7 yr to 5+ yr, and the birth rate is currently half of *E. australis*.

A workshop was held in Woods Hole in April to discuss the causes of declines in reproduction which considered several potential causes: inbreeding, contaminants, biotoxins, disease, and food limitation. Recommendations for research that resulted from the Workshop included: body condition, multi-variate analysis, fecal steroid analyses, and habitat tie-ins.

FY00 research and management efforts funded out of the \$4.1M research budget included the following:

- 1) Ship strike - acoustic tags, forward-looking sonar, modeling, GIS analyses
- 2) Ship strike mitigation - Mandatory ship reporting system, surveys, information to mariners, consideration of Lane changes and speed restrictions
- 3) Entanglement mitigation/research - gear research, disentanglement, scar analysis, areas closures, surveys of unknown areas
- 4) Health assessment and stress analysis
- 5) Tagging - 16 satellite packs deployed in BoF during summer 2000 with animals moving to Maine, Stellwagen, GSC, Scotian Shelf; TDR tags
- 6) Oceanographic profiling
- 7) Other - catalogue, and database, aerial photogrammetry, individual based models, stable isotopes, age determination

The ASRG then discussed the status of the right whale research program. The sources of reproductive variability were questioned--could this simply be stochastic? Kenney suggested that a link to the environment is likely and has presumably been going on for some time. The ASRG was concerned about the impacts of tagging on individuals, and about the utility of the stress studies (e.g., how were these studies to be validated).

The impact of contaminants was discussed. The ASRG wondered what the contaminant levels were like compared to animals (especially right whales) elsewhere. No answer was available yet. The group was also concerned about monitoring of the impacts of the MWRA outfall. NMFS staff suggested that a plan was in place to monitor Cape Cod Bay for effects, but it might not be effective.

The ASRG asked about responses by other nations in the North Atlantic to right whale recovery. NMFS staff replied that Canada was the only nation involved, but that there was not much going on for gear there.

4.2 SEFSC Report (Swartz)

The SEFSC VHF tagging in southern critical habitat tagged 1 animal in 1999, but none in 2000. This was because of the small numbers of animals present. During 2000, the SEFSC contracted for surveys farther north to determine if distribution had changed. Animals were seen off Charleston (16 animals were sighted and this represents at least 7 individuals one of which appeared to be a calf).

The ASRG then discussed alternative explanations about why so few animals were seen (e.g., weather, surveys did not run far enough offshore).

5.0 HUMPBACK WHALE

5.1 Abundance and stock boundaries: Gulf of Maine and Mid-Atlantic (Clapham)

In 1999, the NMFS and ASRG changed the management unit for humpback whales from the entire North Atlantic to the Gulf of Maine because of strong maternal fidelity to feeding grounds. As a result it was necessary to define the stock, and create an estimate of abundance and PBR.

The Northern stock boundaries were defined using photo-ID studies conducted on the Scotian Shelf in 1998-99, matching of photos from live and stranded animals from MA, and genetics. In 1998, 7 of 33 individuals seen on Scotian Shelf were matched to Gulf of Maine with no matches to areas outside of the Gulf of Maine. Results from the 1999 work are still being analyzed. However, these results suggest the Scotian Shelf represents the northern boundary.

Similar results were obtained at the southern extent of the presumed range. In the mid-Atlantic, 9 of 20 (live animals) were matched to the Gulf of Maine and 4 of 15 (dead animals) were matched to Gulf of Maine. No matches with animals elsewhere.

Abundance estimates were then prepared separately from the photo-id data and from line transect surveys conducted by the NEFSC in 1999. The mark recapture data are negatively biased because of heterogeneity, but the minimum known estimate was 497 animals. The line transect estimates obtained from the 1999 in Gulf of Maine to Nova Scotia survey (without the Scotian Shelf) yielded an estimate of 816 (CV = 0.45). This too is likely negatively biased (in part because of the exclusion of the Scotian Shelf animals). Using the latter estimate for N_{\min} the PBR = 1.8.

The ASRG seemed to endorse the stock definition. However, there were some concerns about Mid-Atlantic takes being applied to this low PBR when there might be other stocks mixing in the area. This led to a general discussion about the stock borders. Ultimately the group agreed that the population estimate seemed acceptable though they were interested in including the Scotian Shelf animals.

5.2 Caribbean surveys (Swartz)

During February-March 2000, the SEFSC and NEFSC conducted a passive acoustic study (DIFAR Sonobuoy methods) from the NOAA *RV Gunther* of humpback whales in the Eastern Caribbean. Funding was provided by F/PR (passive acoustics support) and the SEFSC's IOCARIBE funds. The survey was conducted under the auspices of IOCARIBE and IWC. Another survey is expected in spring 2002 and a planning workshop will be held in January 2001.

Goals of surveys are to compare past and present abundance, and test passive acoustics.

Results of the winter 2000 survey yielded a minimum estimate of 208 animals, with humpbacks seen through the area. Densities in general appear lower today than historically. Passive acoustics appear to be an effective assessment tool for the species, but need more research to improve methods.

The USN will fund the SEFSC to conduct additional surveys utilizing visual and passive acoustic methods during 2001 including the first comprehensive PR survey. This will provide the baseline for marine mammals in the EEZ around PR; planning with PR scientists has begun for a cooperative survey program.

6.0 BOTTLENOSE DOLPHINS

6.1 Stock structure (Hohn)

The 1987-88 die-off suggested that there was one coastal migratory stock from NJ to FL; however, there are alternative hypotheses (note that excludes offshore and resident estuarine) which included year round residency, seasonal residence, and/or migratory groups. Methods proposed to study the problem included: genetics, stable isotope, photo-id, telemetry, and morphometrics.

6.1.a Genetics (Rosel)

Work has focused on both MtDNA (female contribution) and nuclear micro-satellite (both parent's contribution). Results presented today are only from the MtDNA work.

A total of 390 samples of "coastal" form animals sampled from free-ranging live biopsies, strandings with human interactions, strandings with sighting history, live captures. Analyses were structured to consider the four stocks suggested by results from the photo-id catalogue: Northern NC-VA, Southern NC, Charleston + surrounding areas, and Jacksonville. Central NC remains a seasonal grey area.

Results suggest the population is not panmictic and that the degree of subdivision is relatively high. Northern and Southern NC samples showed the lowest differentiation. This may be due to seasonal interchange between these two areas or a mixed sample. Diversity is low compared to many other cetaceans.

Work remaining to do includes filling in the gaps in the northern area, SC, GA, and FL; increase n for true coastal migratory stock; winter sampling in Hatteras and SC, and increasing the n in Southern NC. Problem remains of what to do about Central NC.

ASRG members made some suggestions about further analyses (e.g., cluster analysis/dendrogram).

6.1.b Stable isotope (Hohn)

Differences have been found using Delta ^{18}O , but not with Delta N and Delta C. Delta O decreases with decreasing salinity (nearshore to inshore) and increasing latitude. Mean value in the sample was -1.96. Most of the "depleted" animals (-3.0) from found in central NC. These animals' values are significantly different for the values found from samples collected from southern NC but not significantly different from VA samples. The explanation for this is that animals either move down from north (migratory) or out from the estuaries.

6.1.c Photo-ID (Hohn)

The catalogue was begun in 1997 and now has received 6,230 photos from 21 teams. A total of 3,355 images of 2,867 dolphins have been entered. Fifteen sites included from Melbourne, FL to Cape May, NJ.

To date, 275 matches have been found between sites (more than one site) with some facilitation from FINSCAN software from UTMB and TAMU (funded by NSF)

Movements between Beaufort, NC and areas north to NJ are common, but movements south of Beaufort seem rare. No Melbourne, FL matches have been found, but movements between Jacksonville, FL and Savannah, GA have been found.

6.1.d Telemetry (Hohn)

To date, the SEFSC have deployed 15 PTT+VHF and 18 VHF only radio tags during 1999-2000. These deployments were timed to capture transient movements. Various movements found, one of which shows movements north from nearshore with a return to Pamlico Sound and into the estuary. Clearly, some dolphins are using both coastal

and estuarine areas; they do not segregate

6.1.e Summary (Hohn)

These analyses reject the one stock hypothesis; there are at least 4 stocks of coastal bottlenose dolphin in the Atlantic. This is consistent from the various data sources.

There may also be an estuarine stock in Pamlico Sound. If resident estuarine groups exist, they also venture out to coast.

Impacts of the die-off may have been greater in Northern stock(s), and impacts to stocks by fisheries may be disproportionately felt by some stocks (especially the Northern stock).

This work needs further fine tuning:

- 1) Microsatellite information for better resolution of stocks
- 2) Increase N in general
- 3) Increase photo-id in key locations DE and NJ
- 4) Deploy satellite tags in the north to see where they go in winter

6.2 Spatial analysis of distribution of coastal and offshore *Tursiops* from biopsy data (Rosel)

This research was designed to clarify longitudinal genetic differences in the species - coastal and offshore forms. A total of 237 samples were available from dedicated collection efforts during 1997-99.

Nine coastal form animals were found using MtDNA analyses. To increase the power of the test, samples were added from biopsies of free ranging and captured animals collected in coastal (non-estuarine) waters.

2. In collaboration with the Duke University Marine Lab, GIS analyses were then used to clarify distributional differences based on distance from shore and water depth. The analysis used Classification and Regression Tree (CART) on 71 coastal and 84 offshore form samples. These analyses suggested that coastal form animals only were found out to ca. 14 m water depth, then a sympatric distribution from 14 m to 34 m, and beyond 34 m there was only the offshore form.

6.3 Abundance estimates (Yeung)

At the November 1999 ASRG meeting, SEFSC was tasked with preparing an abundance estimate for bottlenose dolphin in NW Atlantic using historical survey data.

Four SEFSC surveys were available for analysis:

aerial for nearshore

1995 summer - north of Hatteras to NY - July to August

1995 winter - south of Hatteras to central FL; January to March

vessel for offshore

1998 summer to EEZ Delmarva to central FL July-August

1999 summer to 185 km offshore DE Bay to central FL - Aug-Sep

SEFSC staff prepared initial analyses from these surveys and stratified the analyses by four areas latitudinally (north of NC, south of NC, NC/SC border to Cape Hatteras, Cape Hatteras to NC/VA border), and three areas bathymetrically (0 to 10m, 10 m to 30 m and 30 m 185 km). Resulting analyses suggested there were some sample size

problems (e.g., 1 animal observed in the 0 to 10 m, Cape Hatteras to NC/VA strata), and that some distribution shifts may have occurred between years in the offshore area.

SEFSC staff now intends to re-analyze these data based on the improved stock identification discussed earlier in this meeting:

latitudinal **stocks**

Northern NC and VA

Southern NC

SC/GA (Charleston and environs)

GA/FL (Jacksonville)

longitudinal **forms** (coastal vs offshore)

0 - 13.9 m depth - coastal

14-33.9 m depth - includes 28% of sightings as coastal

=>34 m depth - offshore

The ASRG then discussed the initial and proposed approaches to the analysis. A major concern was expressed about the spatial mismatch between the summer and winter aerial surveys. If Northern stock animals surveyed in the summer, move south of Cape Hatteras in winter to join the already present Southern NC stock then it is not possible to determine how many Southern NC stock animals were there. There is also the problem that animals up the rivers and bays (including Chesapeake Bay) were not counted in any of these surveys.

6. 4 Mark-recapture estimate of *Tursiops* in bay, sounds and estuaries of NC (Read)

This was a cooperative project between the Duke University Marine Lab, the State of NC, and the fishing industry. The project took place during July 2000, with animals "marked" during July 3-10 and then "recaptured" during July 17-25. Bays, sounds, and estuaries throughout coastal NC were surveyed except where it was too fresh for

dolphins. Of 461 animals observed 233 were considered to be marked. Twenty-six of 50 freeze branded animals were observed. Multiple resightings occurred within a week. Mean group size was different north (19.0 animals, +/-14.4) and south of Beaufort (4.3 animals +/- 4.4). A population estimate will be available by the end of December.

The SRG then adjourned for dinner to discuss its recommendations for dealing with the bottlenose dolphin data and with the TRP process.

Break 7:45

Return 9:00

Based on the data presented and their subsequent discussions the ASRG presented the following recommendation to NMFS:

“The ASRG is concerned that, despite previous recommendations, existing information is insufficient to accurately determine bottlenose dolphin stock designations with associated abundance estimates and take assignments in the mid-Atlantic region. The proposal put forward at the ASRG meeting to generate a new coastal bottlenose dolphin abundance estimate for separate stocks based on currently available data are not scientifically defensible. Based on the new information, the ASRG agrees that more than one coastal stock exists, but the number and temporal/spatial distribution of each is unclear. The ASRG **recommends** that research be conducted as soon as possible to systematically obtain genetic samples and photo-identification data for bottlenose dolphins in the coastal waters from the Florida-Georgia border, northward to the northernmost extreme of bottlenose dolphin distribution, between shore and the 35 m depth contour. These efforts should be matched with systematic aerial surveys of the same waters to obtain abundance estimates, and with continuing efforts to monitor take. The genetic, photo-id, and aerial survey efforts should be conducted in both summer and winter, and should be repeated during a second year, with expeditious analysis of data.

The ASRG notes that the take based on existing population estimates, as published in the SAR for the Atlantic Coastal bottlenose dolphin stock, exceeds PBR. Given the existence of multiple stocks, there could be a severe impact of this take on one or more individual stocks. The ASRG further recognizes that, to date, there have been few if any attempts to reduce the by-catch in this region. The ASRG **recommends** that the planned Take Reduction Team be convened to develop methods to reduce by-catch, even in the absence of revised population information. The initial Take Reduction Team should focus on the waters of North Carolina through Delaware Bay. Research on population stock identification and abundance should continue without delay.”

6.5 Mortality estimates

6.5.a NEFSC analyses (Palka)

Data from the NE stranding network (HO2) suggests that the state with largest number of strandings with signs of fishery interactions is in Virginia (though this is lower than NC which is in the SE stranding network). An average of 10.2 animals per year observed there during 1995-2000 compared to 0.7 in MD, 0.7 in Delaware, 1.1 in NJ, and 0.3 in NY.

The NEFSC has also been working to develop bycatch estimates from the commercial fishery observer data (HO3). Low numbers of animals recorded and low effort within critical spatial/temporal strata have produced unreliable estimates. The NEFSC is continuing to investigate alternative approaches to by-catch estimation that will improve the precision of the estimates.

Ultimately, mortality estimates will likely need to rely on a combination of observed by-catch and strandings with signs of fishery interactions..

6.5.b SEFSC analyses (Hohn)

NC fishery classifications (HO4) and characteristics (HO5 and HO6) were presented.

Analyses of fisheries characteristics by county, year, and month in comparison to data on strandings of bottlenose dolphins with signs of fishery interactions were then discussed. SEFSC staff presented examples of the analyses possible with these data. One point made was that strandings appeared to peak in NC in the spring perhaps in coordination with peaks in certain fisheries. ASRG suggested that NMFS needed to be careful to consistently score human interactions coast wide.

SEFSC staff next discussed beach surveys conducted in 1998-1999 NC/SC border to NC/VA border (HO7). Data were collected on stranded *Tursiops* (followed up with ground observations) and gillnet data. The possible use of the 1998 sighting data to provide abundance estimates or indices by month by area were debated; the general conclusion seemed to be that they could be used as an index.

The March 2000 Gulf of Mexico bottlenose dolphin stock identification workshop was briefly mentioned (HO8).

End at 11:05

DAY 2, 15 NOVEMBER 8:00 AM

7.0 HARBOR PORPOISE (Palka)

Since the ASRG discussion in November 1999, new data (HO9) are available for abundance, and bycatch (with the latter now selectively incorporating strandings data).

The new abundance estimate suggests that the population has increased during 1991-99. Much of this apparent increase in the estimate is due to increased area surveyed. The 1999 survey covered areas not surveyed. However, for areas surveyed in multiple years, the estimate from 1999 was less than that from 1995 and greater than 1991 and 1992. However, the density estimates are statistically similar. Areas outside (upper Bay of Fundy) the older survey areas added additional sightings and thus accounts for most of the increase in the point estimate.

ASRG asked how confident observers were in identifying harbor porpoise? Fishermen and others rarely see harbor porpoise in the northern BoF. Prevailing thought is that some northern areas are not occupied by harbor porpoise, with the upper BOF existing as a natural break in the sightings because of assumed correlates with change in the habitat. Thus, sightings there may be suspect. NEFSC replied that the observers were highly competent (this was the >3rd harbor porpoise survey for most of them), so we are confident these are correct sightings.

ASRG asked if 1999 could have been an anomalous year, and perhaps the distributions were not representative? NEFSC replied that this is new information from areas that were not surveyed previously, thus there is no basis to determine whether this is a transient effect or representative. This was one reason why the NEFSC proposed **not** to average abundance estimates for this year with previous abundance estimates.

ASRG asked what the contributions were from each survey platform. NEFSC replied that there had been a similar effort distribution during 1995 and 1999. Aircraft numbers were corrected for g(0) based on 1995 surveys.

ASRG noted that 1999 was a better survey because it was more complete. NEFSC agreed, noting that the difference in coverage made comparison with previous years difficult. This brings up the question of how much weight should be put on averaging surveys from different years versus going with 1999 as the best year. If 1999 is typical, then we have not surveyed the entire range of harbor porpoise in previous years.

ASRG also noted that the 1991 and 1992 surveys had no aerial effort so comparisons with these years was not appropriate. However, abundance estimates based on a similar area show no trend, independent of larger point estimate for 1999. The "new" groups of HP in 1999 at the southern end of Nova Scotia (on Browns Bank) correlates with increased sea temperature in 1999, thus making the sea temperature pattern similar to that seen previously in the Gulf of Maine region, but without same coverage in previous years, it is difficult to compare.

ASRG asked why there was no $g(0)$ for the aircraft in 1999? There were not enough duplicate sightings for a meaningful statistical analysis. However, observers and platform were the same as in 1995, so there is confidence the value of $g(0)$ has not drastically changed.

ASRG then discussed whether or not to pool 1995 and 1999, and ultimately recommended the use of the 1999 estimate alone without pooling.

ASRG then discussed harbor porpoise stock structure, and asked if the stock structure of southern Nova Scotia area had been studied? This was an area where a few animals were seen in previous years and many were seen in the 1999 survey. There are no ancillary data to determine the genetic relationship between these animals and others in the Gulf of Maine and Bay of Fundy. SEFSC noted that no genetics samples have been analyzed from there, but this needs to be done. It was suggested that Shannon Gowans in Hal Whitehead's lab could provide samples from bycatch and stranded animals from this region. NEFSC noted that while there were more 1999 sightings south of Nova Scotia, there were fewer within the BOF, which suggests a shift of harbor porpoise from inside to outer coastal area. Inner and central bay areas had lower density in 1999 than in previous years. There were, however, continuous sightings from the eastern side of the BOF to the east side of Nova Scotia, which suggests one group of animals. **The ASRG recommended that genetic analysis of animals from around Nova Scotia be conducted.**

Discussion then turned to calculation of PBR and specifically if more standardization in approaches was necessary across taxa with the same life history characteristics.

Though numbers of harbor porpoise appear to be increasing, the trend is not statistically significant, and their status is unknown with respect to OSP. As such, we need to use the default value of F_r (0.5) when calculating PBR for this stock. ASRG pointed out that an important purpose of F_r was to capture bias in estimates, and the uncertainty in assessments of bycatch and abundance. The question was asked if there are any stocks at OSP, and F/PR staff replied that gray whales, Dall's porpoise, some delphinids, and some pinnipeds are there. Northeast harbor seals may also be at OSP, yet their status with respect to OSP is unknown, the abundance trends are not significant, and $F_r=1$. Why then are different values of F_r used for harbor seals and harbor porpoise? **The ASRG recommended that consideration needs to be given to reviewing use of F_r so that it is applied uniformly across species (e.g., it may need to be corrected for some species like seals.)**

Bycatch was next discussed. This declined in 1999 to 299 animals in the Gulf of Maine. Gulf of Maine takes were mostly in the south Cape Cod areas and offshore areas in winter (January to May). Observers have found that some of the nets in the closed areas were not fully pingered - compliance need to be improved. Outside closed areas,

some fishers are using pingers although not required. The use of pingers is considered in the analysis by only comparing sets with and without pingers. Nets with "non-functional" pingers should not be included in "pingers" group, but nets with a mix of functioning and non-functioning pingers are a problem. Analysis depends upon the assumption that pingers are functioning. Partial use should result in increased bycatch. Observer program is revising their data sheets to include determinations of pinger function, but are waiting for development of pinger tester for function verification. **The ASRG recommends that bycatch estimation explicitly consider nets with partial pingers, and NMFS should investigate the scope of pinger malfunction in the fishery.**

During 1999, there were no observed takes in the Mid-Atlantic sink-gillnet fishery, but there were 3 takes in the drift gillnet fishery off Maryland. There have been some problems deciphering the gear codes which ultimately resulted in a slight decrease in the 1999 estimate (from 45 to 42.) Takes have again been observed in the drift gillnet fishery in 2000. There has been a major shift in Mid-Atlantic takes since the plan was implemented. Prior to 1998, most of the observed takes were in sink gillnet gear, but now it is all drift gillnet. However, earlier observer effort did not cover drift gillnet, but now that the gear is being observed, takes are apparent. ASRG noted that there has been a significant shift in the monkfish fishery that has reduced take rates owing to management closures of mud-hole and change in behavior of fishers. NMFS needs to provide better documentation of changes in fishing effort.

The change in the fishery, has been incorporated into the SAR. The gillnet fishery are shown in two rows - before TRP and after TRP. The former is an average over five years - the fishery was basically the same through the period. But post TRP, the fishery changed so it was not appropriate to average. ASRG had some concerns about this split. SEFSC staff noted that the separation by pre- and post-TRP implementation is consistent with other regions (e.g. Pacific). NEFSC noted that underlying this discussion was a valid concern about how long the takes need to be reduced before it can be safely assumed that the take has truly been reduced. The duration of this period has implications for future monitoring effort as NMFS would like to shift some of the observer effort to other fishery issues (e.g., squid, mackerel, butterfish fishery). Lighter coverage could be focused on potential hot spots, or some other scenario. ASRG noted that NMFS needs to maintain some level of observer coverage to monitor and allow detection of significant changes in the bycatch rates. The NEFSC agreed but added that when the bycatch rate is low, the observer effort needs to be increased to detect changes. The ASRG concurred that the objective is to keep bycatch below PBR, which might require increased observer coverage rather than less to detect changes. **ASRG recommends that NMFS conduct a power analysis and develop alternative observer scenarios that take into account harbor porpoise recovery and the effects management actions have had on fishing effort.**

Strandings were added to the Mid-Atlantic harbor porpoise mortality estimate for the first time. These were all strandings with signs of fishery interaction that occurred in a time and place with no or very little observer coverage. The number of strandings were not extrapolated, but were just added to the overall bycatch estimate. The ASRG was concerned with this because the stranding networks have different levels of expertise, responses, and criteria for determining fishery interaction evidence. It may be unfair to add these in without adjusting for some level of negative bias. The NEFSC noted that observer coverage is at times very low, and without stranding results the bycatch is underestimated.

The ASRG commented that bottlenose dolphin mortality estimates regularly use stranded animals, and the number of bottlenose dolphin with signs of fishery interactions exceeds the PBR. Harbor porpoise seems to be a different situation. The NEFSC commented that - NMFS does not view this as a different situation. If there is adequate observer data in an area, then stranding data are not used. If there is no observer effort, then stranding data are added to the mortality estimate. Also, the NEFSC believes that they cannot use bycatch estimates in when the CV exceeds minimum limits of accuracy. Observer programs may not be cost effective for "rare events".

ASRG urges NMFS to follow a middle road, with strandings telling that bycatch is occurring, but handled separately rather than folding into total bycatch estimate. They need to be presented separately and used as two distinct data sets. Uncertainties are too great to benefit the estimate. Strandings are estimates of minimum mortality and cannot be easily assigned to specific fishery. If strandings are greater than observed takes, it may make some sense to add to the bycatch estimate. Otherwise, they need to be handled separately. Volunteers are effectively being asked to be observers, but without any of the necessary training to unambiguously identify causes of death. Also, non government employees may introduce "inaccuracies" in reporting. An alternative view from the ASRG was all anthropogenic mortality needs to be counted against PBR, so the strandings need to be added to the estimates. Even single strandings may be an indication of larger problems and indicate need for better or new observer effort. **By non-consensus ASRG recommends that NMFS needs to use consistent interaction determinations across fisheries and not be added to observed takes for estimating bycatch estimates.**

Data were then presented on Canadian activities and takes. The takes continue to be low. They also tested reflective nets which appear to have lower bycatch rates than regular nylon monofilament; more monitoring of these new nets is needed to confirm effectiveness.

SEFSC presented further results of the stock separation analyses. Better sampling from Canadian waters is needed to provide additional coverage. ASRG suggests that

the SAR continue to assume all are Gulf of Maine animals until genetic analysis is more complete.

Status of the harbor porpoise TRP was reviewed. Gulf of Maine bycatch remained the same but effort decreased. Unregulated fisheries not affected by management actions under the TRP continue to be a concern.

A brief discussion of ZMRG occurred. The deadline to reach ZMRG based on the 1994 MMPA is 1 April 2001. The agency has to decide what the TRT's job is relative to this requirement.

Break 1040
Return 1100

8.0 BYCATCH ISSUES AND OTHER HUMAN INTERACTION ISSUES

8.1 Review of bycatch estimation procedures (Palka)

Discussion of alternative bycatch estimation methods occurred (HO10). Currently a ratio estimator is used which is the product of the bycatch rate (number of observed marine mammal takes divided by a unit of effort from observed hauls) and the total unit of effort from all gillnet hauls, where the unit of effort is tons of fish landed. The TRT has recommended that NMFS examine alternative units of effort NEFSC staff used the observer dataset from the Gulf of Maine to explore alternate measures of effort. One assumption of the ratio estimator method is the number of takes and effort should have a linear relationship. In addition to tons of fish landed, alternative units of effort examined including: total catch (total landings and discards); net length multiplied by soak time (km/hrs); mesh size; and water temperature.

This analysis showed that net length x soak length was the unit of effort that has the best linear relationship with number of takes, thus this appeared to be the best unit of effort. However, tons landed was not totally inappropriate, just not the best unit of effort.

The ASRG asked if all observed trips could be used as a universe and sub-sample those data only, based on common and/or unique variables (features) to look for these biases. This could be done, but the analyst would need to account for seasonal differences and biases. ASRG noted that one complication is the status of fishery; some have management conditions imposed on them. NEFSC replied that this analysis also does not account for fishers' changing target species, and so perhaps the best unit of effort would be tons landed of a specific target species, not the sum of all species.

8.2 Summary of longline bycatch estimates by taxa (Yeung)

Major changes from previous analysis include (HO11):

- a. Serious injury estimates were pooled with mortality estimates for 2000 in the SAR. In 1999, the same methods were used but serious injuries were reported separately.
- b. The delta method was applied to bycatch data by stratum. For 2000, data were re-analyzed using a different pooling method for the delta method. Instead of the original strata, dynamic pooling was used. This depended on effort within the cell to get minimum of 5 sets per area. Minimum of five observed sets achieved by sequential pooling of adjacent cells with data.
- c. Estimates were initially based only on swordfish and tuna landings. Logbook data increased by 10% to account for target species other than tuna and swordfish.

The few empty cells occurred in areas which were not included in the bycatch areas with low effort - thus, effect on re-analysis is minimal.

Reported fishing effort during 1992-95 increased but then decreased during 1996-99. Observed effort averaged about 4%. Takes included Risso's dolphin, bottlenose dolphin, beaked whale, common dolphin, killer whales, spinner dolphin, and pilot whale. Pilot whales are the species most impacted by longline fishery. Revised pooling method did not affect mammal bycatch estimates. There were only two cases where there was a need to pool large stratum to get 5-set minimum. These involved one observed take of killer whales. Lack of effort required pooling many cells to get 5-set minimum and changed result to positive bycatch rate change. The second case involved a bottlenose dolphin take 1996, where there was reported fishing effort but insufficient observer effort. Pooling was needed to obtain the 5-observed set minimum, and this may have inflated the result.

The ASRG suggested that based on their personal knowledge that a decrease in overall US effort in the Atlantic appeared real, as the quotas are not being reached and the number of NE fisheries has decreased. However, the decrease in landings seemed too extreme to be real. Moreover, fishermen are being regulated on the basis of their voluntary reports and they want to minimize the reported turtle takes. **ASRG recommends that NMFS check the validity of logbook reports with landings data.**

ASRG asked if trips decreased, and if observer coverage remained constant at 3%-4%, then where were the other observers. The SAR states there was 5% coverage when actual observer coverage was really 3-4%. There is also a need for data on marine mammal bycatch and effort from non-US fisheries to include in mortality estimates from US fishers. **ASRG recommends that 1) NMFS structure the SAR for US fisheries within the EEZ, 2) information on marine mammal bycatch and fishing effort in**

non-US fisheries should be requested through ICATT, and 3) in SARs, report serious injury classified as dead should be included in table as a separate column, and add a third column as the sum of dead plus serious injury.

ASRG asked if NMFS can pool areas where bycatch rates for a species are the same. This would reduce the CV on catch rates. SEFSC responded that the problem is that there is a great deal of heterogeneity among fisheries. NEFSC will investigate the effects of this pooling.

8.3 Stranding patterns during 2000 (not discussed)

8.4 Update on Bahamian beaked whale stranding incident (F/PR staff)

NMFS HQ announced that a report of the findings of the joint NMFS-Navy will be released soon.

ASRG recommends that information on such events with implications for marine mammals should be provided to the Regions and Science Centers in a timely manner.

9.0 TAKE REDUCTION TEAMS AND TAKE REDUCTION PLANS

9.1 Status of Offshore TRP (Eagle)

While NMFS recognizes the need for this team, there are insufficient funds to support the offshore team. The process for developing information and to convene the teams are \$1.1 million for 1st year and \$500-\$100K per year thereafter. The ASRG asked if : costs could be saved by more selective use of venues and selection of facilitators. NERO responded that some costs are high but NMFS does attempt to coat-tail on other events and save costs where it can.

9.2 Large Whale TRT and TRP (Merrick)

The ALWTRT met at least three times in 2000. Team was split into three parts NE, Mid-Atlantic, and SE.

An update to the ALWTRP incorporating gear modifications is working its way through the rule making process, and is based on ALWTRT recommendations from the February 2000 meeting. This rule will be restricted to further gear modifications and include weak links in buoy lines and gill net head-ropes, gear marking, and no single pots in Federal waters (only one buoy line for several traps). It will be published as an Interim final rule and is expected to be published before the end of the year. The earlier gear marking provision had to be suspended due to a legal and implementation considerations. The new marking requirements are intended to identify gear type and area fished - not individual fisherman.

This rule will be followed by another rule in the spring incorporating dynamic area management. This will include protocols for implementing selective, temporary closures around groups of animals until whales vacate these areas. Trigger or threshold values for identifying these groups and the duration of area closures are being analyzed now. Also, included in this rule will be a framework for seasonal closures to be enacted in the absence of effective results. If the gear modifications and dynamic closures reduce gear interactions then the seasonal closures will not need to be invoked. This will close specific areas to fishing unless fishers use "whale safe gear). A final list of these closures will be developed over the next three years based on dedicated systematic survey effort in known or suspected right whale habitat in NE waters. Surveys will be sequenced to capture intra and interannual variation in right whale abundance and distribution. Additional survey effort is also expected during FY01 (and possibly the future) along the migratory route through the Mid-Atlantic to the SE calving grounds.

Monitoring will include analysis of scars as indication of interactions, and population monitoring in areas that have not previously been surveyed as a means of identifying specific areas that may be subject to closures. Three years also provides time for industry to develop whale safe gears and develop trends in population use of specific areas.

ASRG commented that some components of the fishery believe that there could be 75% reduction in traps without affecting the total catch. It would be useful to provide additional outreach to demonstrate the economic benefits of getting gear out of the water.

ASRG asked what is the status of complementary efforts in Canadian waters? NEFSC responded that they are extending the dis-entanglement program and training people; no gear modifications are occurring. Canadians adopted a right whale recovery plan with areas of concerns and investigations of fishing gear. However, there is no underwriting of efforts in Canada as there is in the US. NEFSC is conducting staff level discussion with counterparts, but the influence of these activities is uncertain. Canadians do, however, share the same priorities for ESA species and they will be hiring staff to work on these issues in the future.

F/PR suggested that such a recommendation would be more effective if it came from industry and NGO stakeholders. ASRG responded that the ESA requires international coordination for conservation of transboundary stocks and populations of species. Elevating this issue above NMFS may be effective.

1230 Lunch

1335 Return

9.3 Plans for upcoming TRTs - Bottlenose Dolphin TRT

Here the ASRG made the following recommendation based on the preceding day's discussions:

The ASRG notes that the take based on existing population estimates, as published in the SAR for the Atlantic Coastal bottlenose dolphin stock, exceeds PBR. Given the existence of multiple stocks, there could be a severe impact of this take on one or more individual stocks. The ASRG further recognizes that, to date, there have been few if any attempts to reduce the by-catch in this region. The ASRG **recommends** that the planned Take Reduction Team be convened to develop methods to reduce by-catch, even in the absence of revised population information. The initial Take Reduction Team should focus on the waters of North Carolina through Delaware Bay.

10.0 ZMRG, NEGLIGIBLE IMPACT DETERMINATIONS – STATUS

MMPA mandated date for all fishery takes of marine mammal species to reach the ZMRG (if technically and economically feasible) is April 20, 2001; it does not appear that NMFS can meet this date for all stocks. However, most fisheries already comply. The twenty or so fisheries that do not comply will need to be addressed. Discussions within the agency on the standards to measure success are yet to be resolved. Proposed standard is 10% of PBR. This is too conservative for some stocks that are currently classified as endangered. With low populations, 10% of PBR is < 1 individual, which is illogical. The suggestion is to revise this requirement in terms of biological significance. There is also no agreement on effective date: 30 April 2001 or 5-yrs from implementation of a TRT. The MMPA states that by 30 April 2001 ALL fisheries must comply.

NEC-NERO discussions believe that 10% of PBR should be an interim goal, and the HP team will seek to develop a strategy to achieve the 10% PBR goal. A related issue is whether or not to continue to seek ZMRG for fisheries that have achieved PBR goal or to redirect efforts to those fisheries where takes continue to exceed PBR. If a fishery has made efforts to achieve PBR goal using the best technology, the agency may not be inclined to pursue further reductions and put the industry at an economic disadvantage.

Some ASRG members agreed that this is a fairness issue. We should reach the PBR goal for all stocks before NMFS expend efforts to further reduce takes to 10% PBR for fisheries that have achieved PBR goal.

It is unlikely that environmental NGO's will litigate on this issue, when there are so many other outstanding significant conservation issues. Risk of litigation on ZMRG is low.

Discussion then turned briefly to the USFWS attempts to explore alternatives for negligible impact finding for manatees, and how PBR could be used. NMFS has considered that ZMRG and negligible impacts are synonymous, but there are other examples (IDCPA). PBR was developed with general defaults to accommodate species and populations where detailed data on biology is unknown. However, much more demographic information is available for some species. For manatees, a more sophisticated analysis is possible given the greater abundance of information on the population. PBR is simply a shorthand way to get to estimates of sustainable takes, while ESA listed species can be approached with more detailed analyses if data are available. ESA allows more sophisticated approaches when information is available. Example, for right whales, more detailed analyses are used to set levels for sustainable takes based on population modeling approaches.

11.0 LIST OF FISHERIES

Proposed 2001 LOF is late but should be out soon, with a 45 day comment period. NE changes include:

- a. Tuna and sword fish portions of the pelagic longline fishery were dropped.
- b. Plan to re-structure NE gillnet fisheries based on new information. Currently sink-gillnet and drift-gillnets are listed, but there are additional gear types that may constitute new fisheries.
- c. Mid-Atlantic coastal gillnet fishery was proposed as a Category I based on bottlenose dolphin takes above PBR.
- d. Lobster fishery renamed "American Lobster" fishery.
- e. Crab pot fisheries north of 72° 50min were identified as a separate Category II fisheries by analogy with the lobster fishery.

SE changes include:

- a. Fisheries elevated to Category II include mid-Atlantic haul beach seine, NC inshore gillnet fishery, Gulf of Mexico gillnet fishery, SE Atlantic gillnet fishery (Spanish mackerel and displaced state pompano, bluefish and spot fisheries now operating in Federal waters), Atlantic blue crab fishery and Gulf of Maine blue crab fishery.
- b. Investigation the grouper pot fishery to determine its status is ongoing.
- c. Category III fisheries newly added to the list include: Caribbean gillnet, SE Atl & Caribbean grouper, Gulf of Maine mixed trap and pot, Gulf of Maine stone crab and golden crab fisheries, and mid-Atlantic pound net, Gulf of Maine cast net fisheries, Florida spiny lobster fishery.
- d. There continues to be ambiguity with recreational fisheries that are similar to commercial fisheries.
- e. Atlantic and Gulf of Maine crab pot fisheries will be reported as separate fisheries.

USFWS is attempting to update data on takes of manatees in fisheries. These include historical data on non-lethal takes of adult manatees and manatee calf mortalities in cast nets. There have also been non-lethal takes in gear with buoy lines.

12.0 RPS FUNDING FOR FY01

Proposed budget for FY00 includes:

- a. \$750K increase in MMPA line item with \$210K earmark for harbor seals and California sea lions that eat salmonids, leaving \$440K to be permanently transferred to field offices.
- b. \$750K for bottlenose dolphin (new money with target to be determine)
- c. \$9M increase in Steller sea lion budget
- d. \$10M increase in fishery management for pollock fishery relative to Steller sea lions
- e. \$500K in ESA recovery line item for all ESA species - mammals, turtles, and candidate species. Atlantic salmon also received increase.
- f. \$1M increase in right whale budget - \$2.1 to NMFS of which only 30% can be used for labor costs, and \$2.9 to NEC Consortium to support right whale related mitigation and research issues. It is hoped that the Consortium will agree to consider funding those projects that are essential long-term projects (>3-yrs) and needed for recovery program or government project, or required by management actions as non-competitive grants. The Consortium will consider supporting additional projects if they were linked or relevant to existing research activities, but PIs will need to apply for funding from Consortium through a competitive proposal review process. Existing ongoing projects will be considered for continuing support based on a review of the existing progress of that project. All new projects will need to go through a new proposal review process. Responsibility for right whale disentanglement programs are to be transferred from NMFS to the Consortium. The current NMFS disentanglement contract runs out next spring, which is before a new contract can be put in place by the Consortium. This could result in a hiatus in funding support for the disentanglement program in FY 2001. The NE Consortium's RFP is being developed and should be announced in a few weeks. NMFS can apply for funds out of the Consortium administrated funds, but they cannot be used for labor costs.
- g. Funding available for FY 2001 base level is about \$13M: \$9M to permanent base office budgets; \$4M remains for allocation. Multi-year funding commitments obligate \$2.6M, which leaves \$1.4M for allocation. \$600-700K will be allocated to administrative activities required under MMPA. This leaves \$400-500K to support new work in FY 2001. This does not include \$390K previously committed to mid-Atlantic bottlenose dolphin abundance-genetic survey.

At the NEC there are basically no new funds for FY2001. Some (~50%)of assessment funds were re-allocated to cover labor shortfalls. NEC is re-evaluating how to revise the marine mammal survey program to accommodate this change. Right whale funds will be reduced as noted above, and it is hoped to be sufficient to sustain ongoing fundamental base right whale research and management activities that will not be picked up by the Consortium.

The SEC received a \$10K increase to the stranding program. Otherwise, no new permanent funding is expected in FY2001. Base funding was requested, again, for the SEC's Biomolecular Genetics Program, which is currently supported on annual funds and supports genetic research of the Southeast and Northeast regions. SEC is also expecting previously earmarked funds to support a mid-Atlantic bottlenose dolphin abundance and biopsy survey pending the approval of its proposed survey design.

The Florida Dolphin License Plate program was briefly discussed. About 50% of the revenues from the sale of the speciality license plates in 2000 will be allocated to research outside of Harbor Branch to support research on wild dolphin in Florida. The first RFP resulted in 20+ proposals of which 6 were selected. Next year's revenues are expected to provide more funds for dolphin research. Similarly, the Florida manatee license plate has supported state programs for manatee research and management for several years, but revenues are expected to suffer as a result of competition with the new dolphin plate.

Break 1550
Return 1610

13.0 DRAFT 2001 STOCK ASSESSMENT REPORT REVIEWS (HO12/13)

The ASRG is supposed to receive drafts for review by October 1st. This is not happening, due in part to the lag in the public review of the previous year's SAR. Once submitted for public comment and review, there is a delay in getting public comment back to the field offices for revisions. Another problem is that summer field research schedules obligate staff to other activities and they are not available to write. Timing of availability will be improved in the future now that F/PR has more staff to deal with the public review. Also, beginning this year the SEC has a staff member assigned to serve as the coordinator for revising SE SARs in conjunction with the existing NEC staff responsible for managing the SAR production process.

Dating of the SAR was discussed. It was agreed that each SAR chapter should be dated with the most recent revision date to distinguish when the SAR was last revised. All future SARs will have the unrevised chapters included as an appendix. ASRG would like to be provided with a listing of those SARs that are up for review and when reviews are expected for the others (i.e., provide a schedule for revisions).

13.1 Harbor seals

ASRG suggested a change of the recovery factor to 0.75. to be consistent across species with no information on trend and status. Status and trend information is old. Rate of increase has declined in recent years, suspect that the population is reaching carrying capacity. It was noted that if we limit analyses to the most recent 5-yrs, we will never be able to determine population trends. PBR would then become 930 which approaches the known take. The ASRG could not reach consensus on this issue. NEC will conduct a new survey in spring 2001 that may provide additional information on the status of this population. Net damage to fishing gear is not considered to be a serious consideration; this should be dropped as this is reference to 1980 work.

13.2 Grey seals

There are now two colonies in Maine instead of one. These are likely outgrowths of the larger populations that reside in Canada and not small unique populations just because they reside in US waters. The PBR of 8550 should read 8580.

13.3 Harp seals

Human caused mortality needs to reflect non-US related mortality in Canada and elsewhere.

13.4 Atlantic white-sided dolphins

The dramatic increase in abundance is attributable to the larger survey covered in the most recent survey. A better description of the trend should be provided in the text.

13.5 Common Dolphin

The abundance estimate from previous SARs was revised to incorporate a corrected error in units used to develop the estimate.

13.6 Cuvier's beaked whales

MARMAM should not be used as a reference. Page 25 discusses interactions with U.S. Naval activities, but no mention is made of the stranding event in the Bahamas in 2000.

13.7 *Mesoplodon* beaked whales

Same comments as for Cuvier's beaked whales.

13.8 Long-finned pilot whales

Mortality estimates are updated. The recovery factor decreased and as a result the PBR changed. On page 47, a number of CV are listed as XX?? In Table 2, page 49, serious injuries should be listed as a separate column along with dead, and third sum column. This should be changed for all references to long line fishery interactions. On page 50, above status of stock there is a “+++” to see discussion but the reference was not received. The observer coverage percent should be corrected from 5% to what it really was.

The lumping of pilot whales SARs for the NE and SE is still a problem that should be addressed.

13.9 Short-finned pilot whales

Changes in long-finned pilot whale chapter need to be made here too.

13.10 Sperm whales

On page 18, the stranding categories should be updated.

13.11 Minke whales

There were minor changes in abundance estimates.

13.12 Humpback whales

The mortality from driftnet fishery was dropped from the table but kept in the text; is this appropriate? NEFSC replied that the mortality estimate is supposed to be current, with the past five years provided for context. The fishery has closed, so mortality has been removed from the table and does not appear in the average. It was suggested that qualifier be added that “abundance for Gulf of Maine humpbacks is not adjusted for Scotian shelf or the mid-Atlantic, because it is more conservative pending direct evidence of linkage to Gulf of Maine population”.

13.13 Fin whale and right whale

There was limited discussion of entanglement incidents.

13.14 Coastal bottlenose dolphins

SEC needs to revise mortality and stranding data which is a strategic stock in 2001 SAR--add more recent observer data, 1999 stranding data and re-format human interaction data in table.

14.0 ASRG GENERAL BUSINESS

Recommendations will be circulated by e-mail.

Next meeting will be April 25-27, 2001 in Rhode Island.

Replacements are needed for G. Worthy and B. Foster. It was recommended that Bill Lang be added to replace G. Worthy. The replacement for B. Foster should be from the North Carolina area and the following names were suggested:

- a. Tom Hoff, Mid-Atlantic Fishery Management Council
- b. Dick Allen, a fisherman, turned manager
- c. Bob Ship, Gulf coast representative, University of Southern Alabama
- d. John Hunt, Florida DEP, lobster expert
- e. Tony Marochni

Dr. Robert Kenney was selected as the next Chair. Dr. Wells will complete his chairmanship with the April 2001 meeting.

Work which the ASRG needs to accomplish includes:

- a. Draft recommendations to members, liaisons.
- b. Distribute responses to all parties (including agency partners) expeditiously; respond to responses.
- c. Field trip to NEFSC to follow data from collection to estimates.
- d. Get updated distribution list for recommendations (including other SRGs).
- e. Clean up letterhead (Baltz changes)
- f. Compile master recommendation list, with dates of submission.
- g. Compile responses from previous years' recommendations (create master file for ASRG chairs).

The meeting adjourned at ca 1800.

15.0 REVIEW, ACCEPTANCE OF RECOMMENDATIONS TO NMFS, USFWS RESULTING FROM THIS MEETING

15.1 Recommendations to NMFS

1. The ASRG is concerned that, despite previous recommendations to the National Marine Fisheries Service, existing information is insufficient to ascertain bottlenose dolphin stock structure and to estimate abundance and the level of takes for stocks of coastal bottlenose dolphins in the mid-Atlantic region. The ASRG concludes that the NMFS proposal to generate abundance estimates for separate stocks of coastal bottlenose dolphins, based on currently available data, is not scientifically defensible. Based on the new information presented at this meeting, the ASRG agrees that more than one coastal stock exists, but the number of stocks and the temporal/spatial distribution of each stock have not been determined. The ASRG **recommends** that research be conducted as soon as possible to systematically obtain genetic samples and photo-identification data for bottlenose dolphins in the coastal waters from the Florida-Georgia border, northward to the northernmost extreme of bottlenose dolphin distribution, between shore and the 35 m depth contour. These efforts should be matched with systematic, concurrent aerial surveys of the same waters to obtain abundance estimates, and with continuing efforts to monitor mortality. The genetic, photo-id, and aerial survey efforts should be conducted in both summer and winter, and should be repeated during a second year, with expeditious analysis of data.

The ASRG notes that the take based on existing population estimates, as published in the SAR for the Atlantic Coastal Bottlenose Dolphin Stock, exceeds PBR. Given the existence of multiple stocks, there could be a severe impact of these takes on one or more individual stocks. The ASRG further recognizes that, to date, there have been few, if any, attempts to reduce by-catch in this region. The ASRG **recommends** that the planned Take Reduction Team be convened to develop methods to reduce by-catch, even in the absence of revised population information. The initial Take Reduction Team should focus on the waters from North Carolina northward through Delaware Bay. Research on stock identification and abundance should continue without delay.

2. The ASRG **recommends** that, prior to the implementation of further research involving implantable tags on northern right whales, field tests be conducted on surrogate species, such as bowhead whales or southern right whales, to determine the effects of such tags on the health and welfare of individual whales.

3. The ASRG **recommends** determination of stock identification for harbor porpoises observed off southwest Nova Scotia.

4. In light of the recent dramatic fishing effort declines reported in logbooks, the ASRG **recommends** that NMFS conduct a comparison of temporal trends in (1) data on fishing effort from logbooks, (2) swordfish landings data, and (3) estimates of catch per unit effort. The Stock Assessment Reports need to be checked to ensure that they accurately reflect fishing efforts and observer coverage in the ranges of each stock. In addition, NMFS should request data on incidental takes of U.S. marine mammal stock by Canadian and other non-US longline fishing fleets (through the International Convention for the Conservation of Atlantic Tunas).
5. The ASRG **recommends** that indications of human interactions be scored consistently across stranding cases, using published protocols, and that these indications be reported, audited, and used to a greater extent to identify areas where observer programs should be conducted (this may require additional training of stranding network volunteers, and additional documentation of cases, e.g. video). To avoid double-counting, stranded animals with physical evidence of fisheries interactions should not be added to observed takes in areas where both are possible. The members of the ASRG could not reach consensus about whether or how stranded animals with evidence of fisheries interactions should be included in total estimates of fishery-related mortality when observer coverage is not available.
6. The ASRG **recommends** that the NEFSC conduct power analyses to determine the appropriate level of observer coverage required to measure/monitor success in achieving the goals of the harbor porpoise Take Reduction Plan.
7. The ASRG **requests** receipt of reports describing the unusual beaked whale strandings during 2000, and **recommends** that information on these kinds of events be distributed in a timely manner to the Regions and Centers responsible for assessing the affected stocks.
8. The ASRG **recommends** that the NEFSC investigate the possible effects of re-allocating observed takes in the Gulf of Maine sink gillnet fishery made in strings of nets with non-functioning pingers to the by-catch rate of non-pingered nets. This investigation should determine whether a re-allocation of these takes affects the magnitude of the by-catch estimate for this fishery.
9. The ASRG **recommends** that the NEFSC use existing sighting data to generate a line transect estimate of abundance for right whales in the Gulf of Maine and compare this estimate with the census for right whales generated from the North Atlantic Right Whale Consortium's identification catalog. This would provide a means of evaluating the reliability of the estimate for humpback whales generated from the same data set using these techniques. The ASRG recognizes the negative bias in the mark-recapture estimate of humpback whales in the Gulf of Maine (due to heterogeneity) and provisionally supports the line transect estimate for humpback whales.

10. The ASRG **recommends** that the NMFS, in consultation with local researchers and managers, develop a Science Plan for cetacean stocks in Puerto Rico and the U.S. Virgin Islands for the purpose of defining objectives and information needs to meet the obligations of the MMPA and the ESA. This should include information on abundance, stock structure, mortality rates, causes of mortality and interactions with fisheries.

11. The ASRG notes the cooperative agreements the SEFSC is developing with the Minerals Management Service and the US Navy to augment limited funds needed to support marine mammal assessments in the Gulf of Mexico and Caribbean Sea and **commends** the Center for this initiative.

15.2 Recommendations to USFWS

(High priority) The ASRG recommends that the Florida Manatee Recovery Plan's population criteria to be used to downlist the Florida manatee [survivorship, reproductive rates, and population growth rates] be required to be maintained for a period of at least ten years, as originally recommended by the Manatee Population Status Working Group.

(High priority) The ASRG recommends that increased effort be placed on enforcement of current regulations to protect manatees in Puerto Rico and to develop cooperative agreements with Puerto Rican agencies for additional enforcement effort.

(High Priority) The ASRG recommends that the Manatee Recovery Program of the USFWS be re-constituted with its own budget line, including a position for a Manatee Coordinator.

(High Priority) The ASRG recommends the 1986 Puerto Rican Manatee Recovery Plan be updated, with involvement of a Puerto Rican Manatee Recovery Team that includes local expertise.

The ASRG recommends that the USFWS analyze the existing time series of aerial surveys of manatees in Puerto Rico and make this information available through the SAR process, preferably through expeditious publication of existing data.

Appendix I. Atlantic Scientific Review Group meeting agenda

Tuesday, 14 November

Caribbean Cetacean and Manatee Issues

- Cetacean overview (Swartz)
- Puerto Rican, Virgin Island, and Caribbean cetacean issues (Mignucci-Giannoni)
 - Past and present research in Puerto Rico and the Virgin Islands
 - Bottlenose dolphin population assessment in Puerto Rico (Rodriguez-Ferrer)
 - Research and management needs for Puerto Rico
 - Research and management needs for the Caribbean
 - Overview of Caribbean fisheries (Appeldoorn)

Manatee status

- Florida Manatee Recovery Plan update (Valade)
- Puerto Rican/Caribbean manatee issues (Saliva, Mignucci-Giannoni)
 - Past and present research in Puerto Rico
 - Research needs for Puerto Rican manatee population
 - New Puerto Rican manatee recovery plan?
 - Manatee conservation issues in the Caribbean
 - Conservation assistance to other Caribbean countries

Right Whale status (Clapham)

Humpback whale abundance and stock boundaries: Gulf of Maine and mid-Atlantic (Merrick/Clapham)

Bottlenose Dolphins

- Upcoming *Tursiops* Take Reduction Team data and plans
 - Stock structure research summary (Hohn)
 - Spatial analysis of distribution of coastal and offshore *Tursiops* from biopsy data (Rosel & Read)
 - Abundance estimates (Hohn)
 - Mark-recapture estimate of *Tursiops* in bays, sounds, estuaries of North Carolina (Read & Foster)
 - Takes (Hohn)
 - TRT plans (Wang)
- March 2000 Gulf of Mexico Bottlenose Dolphin Workshop: Summary, plans (Swartz)

Harbor Porpoises

- Harbor porpoise abundance and bycatch update, US and Canada (Merrick/Palka)
- Harbor porpoise stock separation in the mid-Atlantic (Merrick)
- Status of harbor porpoise Take Reduction Plan

Bycatch issues and other human interaction issues (NMFS staff)

- Review of bycatch estimation procedures (as suggested by internal review and TRT)
- Summary of bycatch estimates by taxa (Yeung)
- Stranding patterns during 2000 – relationships to fisheries in SEUS?
- Update on Bahamian beaked whale stranding incident (NMFS staff)

Take Reduction Teams and Take Reduction Plans – status (Merrick/Thounhurst/Swartz/Wang)

- Status of Offshore TRP
- Plans for upcoming TRTs

ZMRG, Negligible Impact Determinations – status (Eagle/Merrick/Thounhurst/Swartz/Wang)

- Zero Mortality Rate Goal progress
- Discussion of negligible impact determinations

Wednesday, 15 November

Continue with unfinished agenda items from previous day

Revised Stock Assessment Report reviews: "Draft 2001" (available on NMFS website)

- Harbor seal – J. Gilbert
- Grey seal – J. Gilbert
- Harp seal – J. Gilbert
- Atlantic white-sided dolphin – R. Wells
- Harbor porpoise – A. Read
- Common dolphin – A. Read
- Cuvier's beaked whale – R. Wells (Mead ill, not attending)
- Mesoplodon beaked whales – R. Wells (Mead ill, not attending)
- Long-finned pilot whale – D. Odell
- Sperm whale – D. Odell
- Minke whale – R. Kenney
- Right whale – R. Kenney
- Humpback whale – R. Kenney
- Blue whale – R. Kenney
- Fin whale – R. Kenney
- Sei whale – R. Kenney
- Risso's dolphins, Atlantic – R. Wells

Plans for bringing SAR review schedule into accordance with the recommendations of the Joint SRG (Merrick)

Updates to 2001 List of Fisheries (and 2002 if available) (Thounhurst/Wang)

Review, acceptance of recommendations to NMFS, USFWS resulting from this meeting

ASRG General Business

- Status of replacement for G. Worthy and B. Foster, add B. Lang? (Merrick)
- Return to two meetings per year?
- Next time and venue?
- Selection of next chairperson (term = 2 years or 4 meetings?)

Appendix II. Attendees at the Atlantic SRG meeting

Name	Affiliation	E-mail address
Solange Brault	ASRG, University of Massachusetts	brault@umb.sky.cc.umb.edu
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Gordon Waring	NEFSC, NMFS	gordon.waring@noaa.gov
Bert Williams	UPRM	

Appendix III. List of materials passed out at the Atlantic SRG meeting

Working Paper	Title
1	Letter from ASRG to Penny Dalton
2	NE bottlenose dolphins stranding data
3	Palka, D. Coastal bottlenose dolphin bycatch estimates for the Mid-Atlantic gillnet fishery using the delta method
4	Steve, C. Characterization of the Category II commercial fisheries of North Carolina
5	Various tables characterization of the commercial fisheries of North Carolina
6	Target species in nearshore sink gillnet trips
7	Map of Mid-Atlantic mammal beach survey regions
8	Hubard, C. W. Gulf of Mexico bottlenose dolphin stock identification workshop
9	Palka, D. Harbor porpoise update
10	Palka, D. What unit of effort should we be using in the by-catch estimation procedure
11	Yeung, et. al. Preliminary revised estimates of marine mammal and marine turtle bycatch by the U.S. Atlantic pelagic longline fleet, 1992-1999.
12	Marine mammal stock assessments, draft 2001, NEFSC
13	Marine mammal stock assessments, draft 2000/2001, SEFSC