Atlantic Scientific Review Group

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*Established under the Marine
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Samuel D. Rauch III, Esq.
Assistant Administrator for Fisheries (Acting)
National Marine Fisheries Service
1315 East-West Highway, Room 14564
Silver Spring, MD 20910

Dear Mr. Rauch:

The Atlantic Scientific Review Group (ASRG) held its annual meeting on 7 and 8 February on the University of Rhode Island's Bay Campus in Narragansett. The meeting was initially scheduled to continue into 9 February, but an impending snowstorm caused us to compress our agenda. As a result, some items were not discussed by the ASRG as thoroughly as desired (e.g., North Atlantic right whales), and we will likely provide additional recommendations after the ASRG has been able to continue discussions intersessionally.

We appreciate the hospitality of the URI Graduate School of Oceanography and the Coastal Institute for providing use of the conference room and IT assistance. We also appreciate the preparatory work by Headquarters, Science Center, and Regional Office staff. We were pleased to welcome one new ASRG member, Erin Summers, to bring us back up to our full complement. We had nine members in attendance, and two others joined via telephone and webinar.

The ASRG had a number of recommendations for the National Marine Fisheries Service (NMFS), presented below in approximate priority order.

(1) The ASRG has serious concerns about the status of the North Atlantic right whale (NARW) stock. Tabulated human-caused mortalities, which we recognize to be absolute minima rather than unbiased estimates, have exceeded PBR in every year since the current stock-assessment program began in 1995. The NARW population had been recovering slowly until recently, but at a much lower rate than expected in comparison to southern right whales. This depressed background growth rate is probably caused by multiple factors, including habitat loss, chronic noise stress, changes in the acoustic landscape, chronic and repeated sub-lethal entanglement, genetic issues, etc. The most important longer-term factor, however, is human-caused mortality and serious injury, which have continued largely unabated.

We are now seeing clear evidence of declining abundance in the NARW stock. The Pace et al. model(*) indicates that this reversal in the population trajectory is not simply because of increasing mortality, but reflects a sharp decline in fecundity (fewer calves and increasing inter-birth intervals), which has been accompanied by declines in indices of individual health. The underlying cause is most likely habitat-related—changes in the abundance, availability, predictability, and/or persistence of prey resources and consequent energy stress on the animals, particularly adult females, on top of the sub-lethal stressors listed above. Prey limitation is clearly beyond our control, but anthropogenic morbidity and mortality are factors that we do have the ability to manage, as well as the responsibility to do so. Given the precarious status and current decline of the NARW population, we believe that there is an urgent need to take new and stronger management steps towards reducing right whale takes. The ASRG **strongly encourages** NMFS to pursue, with all possible haste, strategies and technologies that promise to substantially reduce or eliminate entanglement risk—up to and including fixed-gear fishing methodologies that eliminate from the water column any ropes capable of entangling whales. In addition, there should be increased research to identify how and where entanglements are occurring. This recommendation follows SRG Term of Reference D: "Research needed to identify modifications in fishing gear and practices likely to reduce the incidental mortality and serious injury of marine mammals in commercial fishing operations." The ASRG stands ready to offer our assistance to the Agency and the Take Reduction Team to move forward on more effective entanglement-reduction measures.

*Pace, R.M., III, P.J. Corkeron, and S.D. Kraus. Submitted. State space model abundance estimates reveal right whales falling off the track to recovery. *Biological Conservation*

(2) Bottlenose dolphins are killed in shrimp trawl fisheries in the northern Gulf of Mexico, but observer coverage and data management are insufficient to provide accurate estimates of mortalities for specific stocks. Currently, the spatial resolution at which fishery effort is modeled is aggregated at the state level, and there is no observer program coverage in bay, sound, and estuary waters. The ASRG **strongly recommends**: (1) increasing the level of observer coverage to facilitate extrapolations to the entire fishery, (2) including observer programs for bay, sound, and estuary waters, and (3) geo-referencing takes of dolphins to facilitate assignment of mortality to specific dolphin stocks.

(3) The last available estimate of minimum abundance of the Gulf of Maine humpback whale stock (835) was based on photo-identification work in 2008, which was dropped from the draft 2017 SAR since it was more than 8 years old. It was replaced by an estimate of 335 (CV=0.42) based on a 2011 line-transect aerial survey. The resulting Nmin was 228, which is recognized to have a significant negative bias. We are aware that there will be a substantially larger line-transect estimate from AMAPPS that is likely to be available for the draft 2018 SAR, but we have some concerns about public perceptions regarding the reliability of stock assessment data when the "best" estimates of abundance can vary so much from year to year. Dr. Jooke Robbins at the Center for Coastal Studies maintains the Gulf of Maine humpback photo-ID catalog, with more years of data after 2008. The ASRG **recommends** that NMFS find the funding necessary to support mark-recapture analyses of that dataset, which would provide good estimates not only of abundance and/or minimum number alive, but also population trends, survival and mortality rates, entanglement rates, and effectiveness of the Take Reduction Plan or other management measures.

(4) Our understanding of the stock structure of coastal bottlenose dolphins along the U.S. Atlantic coast is insufficient. Considerable uncertainty exists with respect to the number of stocks, their boundaries, and degree of mixing with other stocks (particularly with estuarine stocks). The ASRG **recommends** that NOAA Fisheries undertakes a dedicated research program of photo-identification, satellite-linked telemetry, and biopsy sampling to address these uncertainties. These efforts should be collaborative with those of other research programs working in this area. Furthermore, relevant data from this program and previous NOAA research efforts in this area (including prior photo-identification and biopsy surveys) should be contributed to the Mid-Atlantic Bottlenose Dolphin Catalog.

(5) Trend analyses of abundance data (see SRG Term of Reference A) can provide important information for management, but to date few trend analyses appear in Atlantic and Gulf of Mexico SARs, even in cases where there appear to be sufficient years of data to attempt this analysis. Lance Garrison's presentation at our recent meeting on coastal bottlenose dolphin abundance estimates showed that the combined data from AMAPPS and earlier stock-assessment surveys contained sufficient years of estimates to look at trends. The ASRG considers trend analyses to be a priority, and we would like to see them performed with available data as soon as possible. Species that are particularly data-rich or where there are critical management issues should be the highest priorities for analysis. That said, we recognize that, given existing personnel resources, it may be difficult to perform these new analyses without compromising planned and ongoing work. Thus, the ASRG **recommends** that NMFS provide the personnel resources required for these analyses.

(6) The Terms of Reference for the SRGs state that SRG review of the draft SARs constitutes "peer review" and meets the requirements of the OMB Peer Review Bulletin and the Information Quality Act. The current process is: a draft report is prepared by NMFS, is reviewed by the SRG, goes back to NMFS to revise, is sent out for public comment, and finally is revised and published as final. In any other scenario, a peer-reviewed paper is only accepted for publication once reviewer comments are either incorporated or acceptably rebutted, with that acceptability determined by an independent third-party editor. The ASRG is concerned that, in the SAR process, NMFS acts as both the author and the final editor. The section on "Adequacy of Prior Peer Review" in the December 2004 OMB "Final Information Quality Bulletin for Peer Review" says that "agencies should consider preparing a written response to the peer review report explaining: the agency's agreement or disagreement, the actions the agency has undertaken or will undertake in response to the report, and (if applicable) the reasons the agency believes those actions satisfy any key concerns or recommendations in the report." The ASRG **recommends** that NMFS explore how to provide more formal feedback to the SRG concerning substantive concerns raised in our review of the SARs, when such concerns were not explicitly incorporated into, or addressed by, revised SARs.

(7) The ASRG appreciates NMFS's initial effort at responding to our 2016 recommendation to "prepare a list of stocks of potential concern, due to their small size or lack of information, for an ASRG review with regards to prioritizing research" by providing a list of the 57 Gulf and southeastern U.S. stocks with estimated abundances below 500. The ASRG **recommends** that northeastern U.S. stocks meeting the same criterion be added to the list, in addition to any factors

that might facilitate prioritization. We also offer our services to work with staff between meetings on setting research priorities.

(8) The ASRG **appreciates** the efforts by the authors and editors of the SARs to fulfill the recommendations under GAMMS III to address uncertainty in the reports. Following the discussion at the meeting about the need for substantial streamlining of the additions to the SARs and scaling back to addressing only "key" uncertainties, we are confident that the staff will be up to the task. ASRG members have each made their own editorial suggestions on the SARs they reviewed. We are also offering our collective service for additional review as the 2017 SARs move through the process.

We continue to stand ready to assist the Agency in reviewing its science, including plans for future research, both during and between annual meetings.

Sincerely,

Robert D. Kenney, Ph.D.
Chair, Atlantic Scientific Review Group

CC:
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