



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

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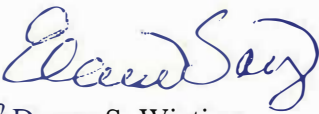
Erin Summers
Chair, Atlantic Scientific Review Group
Department of Marine Resources
P.O. Box 8
West Boothbay Harbor, ME 04575

Dear Ms. Summers:

Thank you for the letter from James Gilbert to Chris Oliver, Assistant Administrator for Fisheries, transmitting recommendations from the February 2018 meeting of the Atlantic Scientific Review Group (SRG). Your letter was forwarded to me because the Office of Protected Resources within NOAA Fisheries is responsible for national programs under the Marine Mammal Protection Act and leads NOAA Fisheries' coordination of the SRGs.

The SRG has made many valuable recommendations to help guide NOAA Fisheries' marine mammal science and management, which are addressed in the enclosure. I want to thank you for agreeing to Chair the Atlantic SRG upon the end of Dr. Gilbert's tenure. I appreciate the continued service and contributions by members of the Atlantic SRG in providing advice and support to NOAA Fisheries in accordance with the Marine Mammal Protection Act. I look forward to our continued partnership to improve the science supporting the conservation of marine mammals.

Sincerely,


for Donna S. Wieting
Director, Office of Protected Resources

Enclosure

cc: Chris Oliver, Assistant Administrator for Fisheries
Francisco Werner, Director of Scientific Programs and Chief Science Advisor
Ned Cyr, Director, Office of Science and Technology



Responses to Recommendations of the Atlantic Regional Scientific Review Group

(1) The SRG continues to have serious concerns about the status of the North Atlantic right whale (NARW) and strongly encourages NOAA Fisheries to: (a) continue to expand cross-border conversations with Canadian partners to include additional fixed gear fisheries (e.g., targeting lobster) and to expand the scope of detection and risk reduction to areas outside of the Gulf of Saint Lawrence, including the Scotian Shelf and into the Bay of Fundy; (b) develop and adopt regulations that enable rapid responses when changing right whale distributions and movements put them at risk from vessel strikes and fisheries entanglement, as was demonstrated by Fisheries and Oceans Canada in 2017 in the Gulf of St. Lawrence; (c) support new research that focuses on testing methods for reducing human-caused mortality; and (d) support and pursue the relevant recommendations emerging from the Atlantic Large Whale Take Reduction Team sub-groups.

NOAA Fisheries agrees that it is essential that we work cooperatively with Canada on North Atlantic right whale conservation. We continue our partnership with Fisheries and Oceans Canada and Transport Canada as part of the US/Canada Bilateral Working Group on Right Whales. Our most recent meeting in April 2018 focused on ways each government can continue to work together on right whale science and management. This includes partnerships on aerial and passive acoustic surveys, as well as stranding and disentanglement response, recovered entangling gear analysis, and policy advice as we continue to pursue entanglement avoidance and mitigation measures throughout the range of right whales and in all affected fisheries.

We have also planned expanded efforts to field test new and emerging gear technologies, including ropeless fishing, in both U.S. and Canadian waters starting this summer. Gear experts and researchers from both NOAA Fisheries and Canada's Department of Fisheries and Oceans are cooperating closely on this program, and we intend to share results at our next Atlantic Large Whale Take Reduction Team meeting in October. We also intend to present and build upon the work of the dedicated gear subgroups – focused on ropeless fishing and reduced breaking strength vertical lines – that have been working throughout this year. As the SRG noted in its letter, we agree that it is important to generate and test ideas for reducing entanglements in various fisheries, and we are working to leverage funds from various sources to do so.

We appreciate the SRG's offer of assistance to assist the ALWTRT as we continue to move forward on developing more effective mitigation measures. The ideas generated from the subgroups will be brought to the full ALWTRT for their deliberation at the meeting this October. We will encourage the Team to develop consensus recommendations for significantly reducing risk given the unprecedented situation at present and the ongoing Endangered Species Act consultation on several commercial fisheries covered by the take reduction plan.

(2) *The SRG strongly supports the efforts to acknowledge that the Gulf of Mexico "Bryde's" whale represents a discrete taxonomic unit and to list this species under the Endangered Species Act, and recommends analysis of a large quantity of existing, but as yet unanalyzed passive acoustic data to determine the acoustic occurrence of "Bryde's" whales in the central and western areas of the Gulf.*

We appreciate the SRG's comments in support of our proposed determination to list the Gulf of Mexico (GoMx) Bryde's whale under the ESA and our ongoing efforts to develop a comprehensive ecological understanding of the GoMx Bryde's whale population. The Southeast Fisheries Science Center (SEFSC) is actively conducting analyses, seeking funding to conduct analyses, and collaborating with external partners on analyses of all the known current sources of passive acoustic data from the northern Gulf of Mexico to better understand the seasonal and spatial distribution of Bryde's whales. The details are articulated below:

1. *Scripps Institution of Oceanography (SIO) Deep Water Horizon (DWH) Natural Resource Damage Assessment (NRDA) High-frequency Acoustic Recording Packages (HARPs)* – HARPs have been sampling continuously at 200 kHz at five sites in the U.S. waters of the GoMx from June 2010 to the present time. One occurs within the known northeastern GoMx Bryde's whale shelfbreak habitat. Additionally, shorter duration deployments of arrays have occurred in the northeastern shelfbreak habitat. Data from the De Soto Canyon HARP site have only been evaluated for downsweep call sequences (Širović et al., 2014), not for long-moan calls or constant tonal calls that are probably produced by the whales (Rice et al., 2014a), and the remaining four sites have not been analyzed for baleen whale calls. The SEFSC is pursuing resources to analyze these data.
2. *Cornell University DWH NRDA Marine Acoustic Recording Units (MARUs)*— From July 2010 to Feb 2012, 22 MARUs were deployed in the GoMx as part of the DWH NRDA (Rice et al., 2014b). To record sperm whales, 18 MARUs were deployed along the continental shelf edge in 600-1400 m depths from Louisiana to the West Florida Shelf sampling at 8 kHz on a 25% (per hour) duty cycle, and 4 were deployed in known Bryde's whale habitat in 200-300m depths sampling continuously at 2kHz. From Dec 2011 to Feb 2012, the four Bryde's whale habitat MARUs were deployed in the southern part of the habitat as a closely-space array. The 18 sperm whale MARUs were evaluated for Bryde's whale long moan calls for the July 2010 to Jan 2011 period and only a few calls were detected on one instrument. They were not evaluated for downsweep calls or constant tonal calls. The four Bryde's whale MARUs were fully analyzed for all Bryde's whale calls over the entire study period.

The SEFSC has spoken with Cornell and they are awaiting verification of the long-moan and constant tonal calls as coming from GOMx Bryde's whales before seeking funding to complete these analyses.

3. *SEFSC Low-frequency Acoustic Recording Packages (LARPs)* – LARPs were deployed from June 2016 - May 2017 along the northcentral and northwestern GoMx shelfbreak, sampling continuously at 5 kHz. Analyses are underway to manually and automatically detect the one verified and two probable call types to establish whether Bryde's whale calls are present in the northcentral and northwestern GoMx, and if so, what their seasonal patterns in occurrence are. Analyses are underway.

Additionally, the SEFSC will be conducting GoMx Bryde's whale research during a RESTORE-funded project during 2018 and 2019 where whales will be tagged with kinematic-acoustic tags. The acoustic data should help determine the types of calls these whales make.

- (3) *The SRG recommends that the two NOAA Fisheries Science Centers work with independent scientists to reassess the stock structure of short -finned pilot whales in the Atlantic and Gulf of Mexico and consider new data, including satellite-linked telemetry and photo-identification, together with molecular evidence of stock structure, in a new analysis. In addition, the SRG recommends that both Centers prioritize the collection of new information that could contribute to the question of stock structure of this species, by deploying satellite-linked transmitters, and collecting photo-identification images and biopsy samples for genetic analyses during upcoming Gulf of Mexico Marine Assessment Program for Protected Species (GoMMAPPS) and Atlantic Marine Assessment Program for Protected Species (AMAPPS) III cruises.*

NOAA Fisheries routinely communicates with all known researchers with data on or knowledge of short-finned pilot whales in the Atlantic and Gulf of Mexico to assess or potentially reassess stock structure and will continue to do so. We consider collecting biopsy samples and deploying satellite-linked transmitters on short-finned pilot whales a very high priority and have vigorously articulated this priority as part of the planning process for both the GoMMAPPS and AMAPPS collaborative programs. However, due to funding limitations, this priority has not been part of the programs that were ultimately funded. Working with pilot whales to collect biopsy samples and tag requires either a dedicated survey or dedicated time during a multi-objective survey because a small boat needs to be launched from a ship and it is time consuming. The SEFSC will continue to stress the need to improve the genetic stock structure analysis for short-finned pilot whales in the Atlantic as a high priority for future survey opportunities.

- (4) *The SRG recommends that NOAA Fisheries take full advantage of current and future Electronic Monitoring systems (EMs) for monitoring the by-catch of protected species, including marine mammals.*

Thank you for the recommendation. Electronic Monitoring (EM) technologies can provide valuable supplementary data in addition to traditional fisheries observers and at-sea monitors for collecting data on fishing effort and catch (landings and discards), including bycatch of protected species. While we have made significant strides in assessing the technology and potential applications of EMs, there are continuing policy and data-related challenges that come with new

technologies. These include how to process and store the enormous amount of electronic data, enforcement of compliance issues, privacy concerns of fishery participants, costs, and image processing. As research and development efforts continue, we are actively working to include protected species in those efforts. In time, we expect to see EM technologies available for wider applications, including select fisheries for monitoring protected species bycatch.

(5) The SRG calls to attention the untoward delay in providing the public with updated marine mammal Stock Assessment Reports (SARs) and stresses the importance of expediting the next year's SAR review process such that it returns to a more appropriate timeline for adequate review by both the public and the SRGs.

We agree with the SRG on the importance of following the SAR process timeline so the current year's draft SARs do not overlap with the final SARs from the previous year. Our goal each year is to keep the draft and final SARs on track to ensure that we have updated the SARs with any substantial comments received during the public comment period before the SRG reviews the draft SARs for the next year. Unfortunately, the publication of the draft 2017 SARs was delayed until the end of the year. We are actively working to publish the 2018 draft SARs in order to have the 2018 SARs finalized, with all substantial comments incorporated, by the time the SRG's meet in early 2019 to review the draft 2019 SARs.

(6) The SRG suggests that a regular funding program is necessary to standardize the stranding response, examination and reporting capacity for large whales, as funding from NOAA's Marine Mammal Health and Stranding Response Program (MMHSRP) is only available (typically as a reimbursement) for examination of stranded large whales during declared Unusual Mortality Events (UMEs). The SRG recommends that NOAA Fisheries establish a new program that will provide core funding for diagnostic analysis of baseline and episodic mortality of large whales, and suggests that consideration be given to a contract-based data collection and reporting system, that involves NOAA Fisheries, state labs, and independent contractors.

NMFS OPR's MMHSRP and Large Whale Conservation Program provides funding and scientific expertise in a variety of ways to support stock assessments of large whales through conservation medicine and health diagnostics. For example, the MMHSRP currently maintains, and plans to continue, contracts or grants for diagnostic testing of samples on behalf of the stranding network. While these contracts and grants do not allow for testing of all samples collected, large whales receive priority, particularly during a declared UME. These contracts and grants include:

- Pathogen testing at University of Georgia
- Pathogen testing at University of California, Davis
- Blood chemistry at Cornell
- Histopathology services, including slide processing, archiving, and analysis
- Biotoxins at Florida Institute of Technology and Florida Fish and Wildlife Research Institute

In addition, the MMHSRP established the National Marine Mammal Tissue Bank (NMMTB) in partnership with the National Institute of Standards and Technology (NIST) in 1991 to serve as an important archive and resource for marine mammal tissues used for research, diagnostics, analytical development, and assessments, including for large whales. While the NMMTB only contains a few archived samples from North Atlantic right whales and other east coast large whales, the NMMTB is currently developing “-omics” approaches to conservation, full genome sequencing, contaminant and hormone analyses, and standards for specific analyses.

Since 2001, the MMHSRP has administered the John H. Prescott Marine Mammal Rescue Assistance Grant Program, which has provided 617 awards to the national stranding network totaling \$53.8M. Twelve awards totaling \$1,082,568 were provided specifically for large whale rescue. However, this is only a small fraction of the Prescott Grant Program’s contribution to large whale response and diagnostics since Prescott awards for stranding network operational support is used for any marine mammal species that strands in an organization’s response area, including large whales. In addition, the Emergency Prescott Program in partnership with the National Fish and Wildlife Foundation (NFWF) awarded three grants totaling \$206,657 for emergency large whale stranding events.

In 2017, NOAA Fisheries OPR’s MMHSRP and Large Whale Conservation Program established a dedicated “Large Whale Response Fund” at NFWF that provides funding for recovery and examination of large whales separate and distinctly from a declared UME. The MMHSRP may also fund emergency travel to provide experts (e.g., necropsy team leaders) to stranding sites as needed. As noted by the SRG, during a UME there is also the potential to receive funding from the UME Contingency Fund, and these funds are typically processed as reimbursements.

The SRG is correct that funding for stranding response and diagnostics is not enough to cover 100% of the costs. We also note that the available funding is potentially variable, and not guaranteed for future years. Unfortunately, it is unlikely we could establish a new program under the current fiscal climate but will keep the SRG’s recommendation in mind should future opportunities arise.

References:

Rice AN, Palmer KJ, Tielens JT, Muirhead CA, Clark CW (2014a) Potential Bryde's whale (*Balaenoptera edeni*) calls recorded in the northern Gulf of Mexico. *The Journal of the Acoustical Society of America* 135:3066-3076.

Rice AN, Tielens JT, Morano JL, Estabrook BJ, Shiu Y, Popescu CM, Palmer KJ, Muirhead C, Pitzrick MS, Clark CW (2014b) Passive Acoustic Monitoring of Marine Mammals in the Northern Gulf of Mexico: June 2010 - March 2012. Bioacoustics Research Program Technical Report 14-07. Ithaca, NY.

Širović A, Bassett HR, Johnson SC, Wiggins SM, Hildebrand JA (2014) Bryde's whale calls recorded in the Gulf of Mexico. *Marine Mammal Science* 30:399-409.