



UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
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Dr. William A. Karp
Director, Northeast Fisheries Science Center
NOAA Fisheries
166 Water Street
Woods Hole, MA 02543

Dear Dr. Karp:

This letter accompanies my comments offered April 13, 2015 at the review of the Northeast Fisheries Science Center's (NEFSC's) science programs that support protected species conservation and management in the Northeast. Current collaborations between Stellwagen Bank National Marine Sanctuary (SBNMS) and the NEFSC are diverse in both staff involvement and focus.

Staff from SBNMS and NEFSC have been working together to design and carry out research to better understand and manage vulnerable marine species, and cetacean species in particular, since the designation of the Sanctuary in 1992. Protection of the Sanctuary as an important feeding and nursery area for several species of large whales, that are focal to the NEFSC's science mandates due to their endangered status throughout the Northeast region, has provided clear overlapping interests between the two agencies from which a rich tradition of working collectively has grown.

Over the past decade, one of the pinnacles of this collective effort has been the development of a world-renowned passive acoustic research program under the leadership of Dr. Sofie Van Parijs at the NEFSC. As Dr. Van Parijs highlighted in her presentation, this program includes activity throughout the Northeast region as well as east-coast wide. While recognizing that broad scope, I focus my comments on the subset of this work that continues to be focused within and around SBNMS.

Dr. Richard Merrick, during his tenure at NEFSC and Dr. David Wiley at SBNMS, early-on recognized the importance of acoustic tools for addressing common research interests and together began a relationship with Cornell University. They also saw the need to develop additional capacity at both NOAA institutions to support this research.

Upon joining the agency in 2005/6, Dr. Van Parijs and Dr. Leila Hatch on my staff worked together to highlight SBNMS as a regional "test bed" environment for addressing acoustic science questions that inform larger-scale science and management contexts ranging from regional to national to international in scope. As I did in my verbal comments, I list here a few non-exhaustive examples to represent the importance of this collaboration:

- Results from 2006-2008 passive acoustic monitoring efforts in collaboration with Cornell University provided one of the first papers that matched data from the then-pilot Automatic Identification System (AIS) ship tracking system to opportunistically-gathered acoustic information in order to quantify levels of noise produced by shipping bandwidths used by vocally active and endangered large whales in the Northeast. This work



additionally produced several papers by Dr. Van Parijs's group that documented new patterns of behavior and distribution among large whale species in and around sanctuary waters, information that is critical to our assessment of impacts associated with human activities.

- From 2007-2011, their work with Cornell University and Marine Acoustics, Inc. presented new methods for quantifying the implications of growing background noise for North Atlantic right whales. This work has become critical to NOAA and other resource management entities internationally that are attempting to incorporate chronic noise impacts within protective measures.
- From 2011-present, the NEFSC and SBNMS collaboration with Massachusetts Division of Marine Fisheries and University of Massachusetts Dartmouth scientists, and more recently with The Nature Conservancy, Sector 10 commercial fishermen, and Woods Hole Oceanographic Institution is leveraging the techniques and infrastructure developed for protected species to identify locations used by remnant aggregations of spawning cod. In fall-winter 2014, autonomous platforms used in this research (gliders) were able to detect both calling whales in real time and telemetry signals from tagged fish.
- Since 2010, Dr. Van Parijs and Dr. Hatch's work with colleagues across NOAA and among multiple federal agencies on the "CetSound" project and the ensuing development of an Ocean Noise Strategy won them the prestigious Department of Commerce Silver Award in 2014. The Strategy uses NEFSC-SBNMS case study work directly to support advancement of a more comprehensive protective strategy to address noise impacts. This work has highlighted the importance of growing passive acoustic monitoring infrastructure to address long term trends in noise as well as database development to house the resulting data. Pilot efforts to address both of these needs have been reliant on leadership from Dr. Van Parijs and have benefitted the region and SBNMS in turn. For example, with deployment last year of the agency's first effort nation-wide array of nine Noise Reference Stations, the Northeast region was awarded two sensors and one was placed within SBNMS.
- Finally, their most recent work with the US National Parks Service is growing noteworthy new linkages among groups managing noise within areas that are designated as important to wildlife. This work is creating opportunities for NOAA to build on other more established governmental models and for the NEFSC and SBNMS to maintain their lead in developing new methodologies for noise management in the marine environment.

In summary, I want to submit my strongest possible support for and recognize the importance of Dr. Van Parijs's program in fulfilling the NEFSC's protected species science mandates as well as agency-wide mandates, including those focused on protecting the same species within SBNMS. This program continues to foster rich opportunities for collaboration and leveraging of capacity between NOAA Fisheries and the Office of National Marine Sanctuaries and is producing top-notch science to support shared priorities.

Sincerely,



Craig D. MacDonald, Ph.D.
Superintendent