2026 Secretary of the Navy Environmental Awards
Natural Resources Conservation – Individual / Team Category / Nomination Narrative
Marine Species Monitoring Program Team

Introduction

U.S. Fleet Forces Command (USFFC) nominates the Marine Species Monitoring Program Team for the 2026 Natural Resources Conservation - Team Award. The Navy is responsible for compliance with federal environmental laws and regulations that apply to marine mammals and other marine protected species, including the Endangered Species Act (ESA) and the Marine Mammal Protection Act (MMPA). As part of the regulatory compliance process associated with these Acts, the Navy is responsible for meeting specific requirements for monitoring and reporting environmental impacts of military readiness activities. The Marine Species Monitoring Team's purpose is to address monitoring requirements by conducting a collection of studies intended to address questions about how marine species are impacted by Navy training and testing activities. The team's goal is to support Navy regulatory requirements and environmental stewardship responsibilities which enable fleet readiness by ensuring required mitigation measures balance benefits to marine species conservations and impacts to training and testing. The Marine Species Monitoring Program Team consists of U.S. Navy civilians, contractors, and researchers who contribute to the Navy's ability to train and test by ensuring these requirements are met with minimal impacts to military readiness activities.

Marine Species Monitoring Program Team Members

USFFC	
Laura Busch	Natural Resources/Marine Species Monitoring Program Manager
Christy Cowan	Acoustic Policy Program Manager
Ron Filipowicz	U.S. Navy Acoustics/Operations Support Lead for Atlantic Fleet Liaison and Schedule Coordination
Randy Bevins	U.S. Navy Operations Support for Atlantic BRS Fleet Liaison and Schedule Coordination
Robert Kalin	Operations/Environmental Program Coordinator
NAVFAC Atlantic	
Joel Bell	Senior Marine Resources Specialist, Marine Species Monitoring Program Manager (Atlantic)
Jacqueline Bort Thornton	Marine Resources Specialist, Marine Species Monitoring Deputy Program Manager (Atlantic)
Atlantic BRS (Southall Environmental Associates; Duke University Marine Laboratory)	
Brandon Southall	Chief Scientist; Lead Investigator for Atlantic-BRS Research Team
Andy Read	Co-Investigator for Atlantic-BRS research team; Field Lead
NARW Protection and Conservation Project (HDR Inc.; Amy Engelhaupt Consulting)	
Dan Engelhaupt	Principle Investigator - Field Work
Jessica Aschettino	Field Technician/Drone Pilot
Amy Engelhaupt	Long-term Passive Acoustic Monitoring Coordinator

Background

The Marine Species Monitoring Program was formed in 2009 to fulfill Navy monitoring requirements associated with ESA and MMPA compliance and serves as an adaptive management tool to analyze and refine monitoring and mitigation techniques over time. Originally, monitoring projects were developed for each individual range complex, but the Marine Species Monitoring Program consolidated these different projects for efficiency and cost-savings. Two Marine Species Monitoring Program projects that

are critical to support Navy training and testing are the Atlantic Behavioral Response Study (Atlantic BRS) and the North Atlantic Right Whale (NARW) Protection and Conservation project.

Atlantic Behavioral Response Study
(Conducted under National Marine Fisheries Service Scientific Research Permits 22156, 19903, 25471)

There has been a history of marine mammal strandings associated with military training activities around the world over the past 20 years. This has resulted in significant investments in collecting objective scientific data to fill in data gaps. Robust data is an important aspect to supporting MMPA compliance and defending against lawsuits that threaten the Navy's ability to maintain military readiness through at-sea training and testing. The Atlantic BRS, conducted off Cape Hatteras, North Carolina, is a complex scientific study designed to quantify exposure and behavioral responses of high-priority marine mammal species to military sonar. This study has been highly successful because it uses operational Navy surface ships as an integral part of the research. This study greatly contributes to the best available science that is used to understand the impacts of sonar on marine species during at-sea training and testing across all Navy at-sea training ranges. This provides the basis for less restrictive mitigation measures to reduce impacts to training and testing activities.

The Atlantic BRS was initiated in 2017 and is the culmination of over a decade of scientific and technical development from previous and ongoing Navy studies, transitioning from a proof-of-concept study to becoming an important study within the Marine Species Monitoring Program. The Atlantic BRS has had unprecedented levels of success in tagging and conducting controlled exposure experiments (CEEs) on two species: goose-beaked whales (*Ziphius cavirostris*) - a key species of concern from sonar effects, and short-finned pilot whales (*Globicephala macrorhynchus*). The CEEs have used both operational mid-frequency active sonar (MFAS) from Navy surface vessels (e.g., AN/SQS-53C/D-equipped combat vessels) as well as a simulated sound source. The Navy uses two types of sonar: pulse active sonar (PAS) and continuously active sonar (CAS). CEEs in earlier field seasons used both operational and simulated MFAS source to study PAS, signals which typically emit 1.5-second sonar pulses repeated approximately every 25 seconds. Beginning in 2023, the Atlantic BRS began investigating responses to CAS signals, which are similar in frequency and overall modulation patterns, but are emitted nearly continuously. Though the total output power of CAS signals may be similar in terms of total energy, the root-mean-square (RMS) sound pressure levels are consequently lower. Thus, the overall exposure context is quite different, and there is interest in understanding marine mammal exposure and response from both types of signals.

NARW Protection and Conservation Project
(Conducted under National Marine Fisheries Service Scientific Research Permits 21482 and 28184)

The NARW is critically endangered, with an estimated population of 384 animals and fewer than 100 breeding females. Human factors such as ship strike and entanglement in fishing gear are the main threats to this species. Efforts are ongoing to understand the movements and behavior of this species in order to avoid further impacts due to Navy activities, which would further contribute to efforts to protect the species from extinction. The Marine Species Monitoring Program is making a substantial contribution to this effort across the species' range, but particularly in the historically under-studied Mid-Atlantic region, a fleet concentration area. The primary focus of research and monitoring is to reduce interactions with NARW, most notably vessel strikes.

Efforts from the NARW Project support MMPA and ESA compliance, contribute to the collection of best available science needed to conduct defensible impact analysis, and provide important information that contributes to species avoidance. These efforts included:

- Using passive acoustics, visual surveys, and telemetry tagging to better understand the occurrence, movement, and behaviors of NARW.
- Issuing official notification messages to the fleet about NARW migration and calving season, including instructions to be vigilant during vessel movement and instituting specific mitigation areas where certain activities are limited or restricted.
- Using USFFC Battle Watch Captain to alert Navy vessels in the Mid-Atlantic when NARW are confirmed to be present ensuring they receive this important information in a timely manner regardless of location or communication status.
- Funding the NARW early warning system (EWS), a multi-agency effort to conduct aerial surveys to visually monitor the calving area and critical habitat in the southeast from December through March. Confirmed observations are disseminated in near real time to mariners so precautions can be taken to avoid a whale strike.
- Using the Fleet Area Control and Surveillance Facility at Naval Air Station Jacksonville, Florida to disseminate NARW location information to mariners in the area within half an hour of a NARW sighting via the typical marine communication network and a pager network.
- Participating in the multi-agency NARW Recovery Plan Implementation Team to advise National Oceanic and Atmospheric Administration (NOAA) Fisheries on issues related to the status and conservation of NARW.
- Communicating results from Navy monitoring and research activities to the scientific community, resource management agencies, other stakeholders, and the public.

Marine Species Monitoring Team Roles and Responsibilities

Each member of the Marine Species Monitoring Program Team plays an integral role in ensuring program success. Responsibilities were delegated based on each person's unique expertise. The USFF team members executed proficient management that ensured the program was aligned with mission priorities. This included cost-saving funding management, mitigation coordination and dissemination, and effective communication with Navy operators. NAVFAC Atlantic team members served as technical managers, coordinating contracts with researchers for data collection and monitoring activities. The researchers for each project were responsible for leading experiments, coordinating fieldwork, and analyzing data collected. Each individual worked collaboratively within and across teams to accomplish goals that support the Navy warfighter. Specifically, these projects are used to provide the best available science needed to complete required environmental documents such as the Atlantic Fleet Training and Testing Environmental Impact Statement and MMPA Letter of Authorization application. These documents directly enable the training and testing necessary for our Sailors, Marines, and Coast Guardsmen to meet mission requirements.

Summary of Accomplishments

The Marine Species Monitoring Program reported many accomplishments during FY24-25. Sixteen research projects were conducted, two projects were presented at national and international conferences, and ten papers were published in peer-reviewed journals. The Atlantic BRS and NARW project had many particularly notable accomplishments during this time period.

Atlantic Behavioral Response Study

The Atlantic BRS has successfully analyzed the impacts of training and testing activities on protected species to provide the Navy and regulatory agencies with the information needed to effectively manage marine resources. This study has been a testament to the successful collaboration between researchers, Navy civilians, and operational Navy ships resulting in unprecedented sample sizes of tagged whales and realistic MFAS exposure events. While these approaches build on earlier and ongoing Navy-funded efforts, they have advanced to the point where the Atlantic BRS project has yielded more data than exist in all previous efforts in other locations combined over the past decade. Data from the Atlantic BRS has been used to establish criteria and thresholds that estimate the specific effects that animals exposed to Navy-generated sound may experience. These criteria and thresholds inform the Navy at-see environmental planning documents and ensure mitigation measures allow for effective training. Below are detailed accomplishments that occurred during FY24-25.

1. Conducted first-ever successful CAS CEE with U.S. Navy sources

On July 21, 2024, the Atlantic BRS conducted the first-ever CEE with U.S. Navy ship-based, full-scale CAS MFAS from the USS *Thomas Hudner*. Team members at USFF successfully identified multiple CAS-capable ships and scheduled two for direct participation with the Atlantic BRS during 2024. The team used a new approach in 2024 and began considering vessels from multiple bases, instead of only ships based at Naval Station Norfolk. This new approach increased the pool of ships, and the 2024 CEE was conducted with a vessel transiting through the study area from a different geographical location. The resulting success of this slightly different approach opens additional options for scheduling and coordinating vessel participation in subsequent field efforts.

Three goose-beaked whales from the same pod were tagged by the field research team ahead of the CEE. The data collected from these three tags will strengthen the rigor of the data by showing similarities and differences in their behavioral responses during the experiment. The whales were monitored visually and remotely using satellite tags during the experiment and data on animal locations was provided to the USS *Thomas Hudner* to ensure the CAS signals were positioned at the right distance from the whales. This involved effective communication between ship personnel and the researchers to share precise animal locations based on real-time animal behavior. Though challenging, coordination between all parties allowed the team to meet study objectives and record complete dive and positional data for all satellite-tagged whales.

On July 19, 2025, the second CAS CEE was conducted with the USS *Donald Cook*. The trial involved eight satellite-tagged goose-beaked whales. As with the first CAS CEE, the team successfully used real-time data and precise coordination to ensure the ship was in the correct location. The results from both experiments will be analyzed and compared to observations from past experimental exposures to Pulsed Active Sonar (PAS) signals.

2. Conducted first-ever CAS CEE using experimental sources from a research vessel

A sound source that can generate CAS signals when Navy vessels are not available to conduct a CEE was built and housed on the research vessel. When the second scheduled Navy ship for 2025 became unavailable, the team took the opportunity to use the newly constructed CAS MFAS sound source. The first-ever CEE using this CAS MFAS sound source was completed on September 19, 2025. A total of four satellite-tagged goose-beaked whales were present during the trial. The team worked through challenging field conditions and quickly adapted methods to successfully complete this trial. The team was even able to track the whales overnight to collect important data on post-exposure behavior.

3. Deployed satellite tags on high priority goose-beaked whales

The team successfully overcame many challenges to deploy four satellite tags in 2024 and 14 satellite tags in 2025. Weather conditions for much of the 2024 field season precluded trips to search for goose-beaked whales. The goose-beaked whales also had atypical patterns of density and distribution in 2024, making them more difficult to find even when trips could be conducted safely. Despite the low number of tags in the 2024 season, several thousand hours of movement and diving behavior were still collected.

Due to the difficulty in locating the whales in 2024, the team utilized longer-duration location-only tags at the start of the 2025 season. These tags were effective at relocating groups of whales throughout the season and even resulted in the longest-duration locational data for any goose-beaked whale in the Atlantic-BRS dataset (>200 days and still functioning). The team was also able to deploy a satellite tag on a female whale accompanied by a small calf, allowing for the opportunity to collect data on when the calf weaned, an important life event that is still largely unknown for this species. Tens of thousands of hours of movement and behavioral data were collected in 2025.

Satellite tags are an important tool used to re-locate the goose-beaked whales, increasing chances of subsequent tag deployments and aiding in successfully completing CEEs. The data collected from the tags is a major contribution to what is already the largest dataset for goose-beaked whales in the world. This data has provided extensive baseline behavioral data and exposure-response data in known, experimentally controlled contexts directly addressing Navy fleet monitoring requirements in a priority Navy operating area.

4. Publications and Presentations

As the Atlantic BRS project has progressed, a consistent and increasing number of peer-reviewed publications are being produced. During FY24-25, two papers were published in peer-reviewed journals. One paper, "Behavioral responses of goose-beaked whales (*Ziphius cavirostris*) to simulated military sonar", represents one of the biggest accomplishments of the project and most notable contributions to Navy environmental compliance analysis to date. This paper includes results from a large sample size (n=72) of exposure-response experiments and profoundly expands our understanding of the response of this species to MFAS. In addition to the peer-reviewed publications, three technical presentations were given at the 2024 Effects of Sound on Marine Mammals international conference in the Hague, Netherlands. These presentations communicated the results and importance of this study to scientists and regulators from around the world.

NARW Protection and Conservation Project

The NARW Project involves collecting and communicating critical information and data through ongoing collaborative relationships with outside agencies, including the U.S. Coast Guard, NOAA Office of Protected Resources, U.S. Army Corps of Engineers, NOAA Northeast and Southeast Fisheries Science Centers, Georgia Department of Natural Resources, and Florida Fish and Wildlife Commission, as well as other research institutions and universities. These efforts let the Navy use targeted mitigation measures based on NARW sightings. This has resulted in mission benefits and overall cost savings while ensuring full compliance with environmental regulations and contributing to the U.S. Navy's responsibility to be good stewards of the sea. Below are detailed efforts and accomplishments that occurred during FY24-25.

1. Scientific monitoring in the Mid-Atlantic

Passive acoustic monitoring

The Marine Species Monitoring Program has used passive acoustic methods to monitor marine mammals for over a decade; however, efforts have recently focused on NARWs in the Mid-Atlantic region. On October 4, 2023, the team deployed an autonomous passive acoustic monitoring buoy off

Cape Charles, Virginia, to monitor the presence of four whale species, to include NARW, in near real time by automatically detecting and identifying their calls. NARW were detected on 26 days between November 2023 and April 2024 and 22 days from December 2024 to March 2025. The team verified these detections and posted them to a public online data portal (Robots4Whales) for distribution to interested parties, including the Whale Alert App. The Whale Alert App allows mariners to know where recently observed or detected whales are located to reduce the chances of a vessel strike. The Navy uses these notifications to be aware of areas where whales are present and potentially avoid these areas to reduce chances of vessel strikes and to minimize disruptions to training activities. NOAA Fisheries also uses these detections to establish temporary protective slow speed zones. Mid-Atlantic NARW detections collected by the team triggered 165 days of slow zone coverage between November 2023 and May 2024 and 87 days of slow zone coverage between December 2024 and February 2025. Although non-binding for Navy vessels, these slow speed zones are communicated to all Navy vessels in the area for awareness to help minimize potential for ship strikes.

Visual data collection, individual identification, and health assessments
Aerial and vessel surveys are conducted in the Mid-Atlantic to identify NARWs through photographic methods, gather size and age class estimates, and assess overall health status. The team conducted 13 aerial surveys and 23 vessel surveys from November 2023 to June 2024, resulting in 17 NARW sightings of 35 unique individuals and 20 aerial surveys and 33 vessel surveys from November 2024 to June 2025, resulting in 11 NARW sightings of 25 unique individuals. In March 2024, aerial and vessel surveys located a NARW carcass off the coast of Virginia. The team shared this information with NOAA Fisheries, who identified the carcass as an adult female, most likely killed by a vessel strike. These efforts fill critical data gaps in NARW habitat use and distribution and highlight the importance of the Mid-Atlantic as more than just a migratory corridor. Also noteworthy is that none of the sightings in 2023/2024 and only two sightings in 2024/2025 occurred within the NARW Seasonal Management Area, where vessels larger than 65 feet are required to slow down to speeds of 10 knots or less from November through April; NMFS is using this data to reassess the SMA locations. This information is important to determine effective conservation measures for sufficient protection. This long-term monitoring of NARW will help the Navy plan training activities that avoid interactions with the species and support obtaining MMPA and ESA permits.

2. <u>Tagging, tracking, and behavioral data collection</u>
The team uses satellite-linked telemetry tags and high-resolution movement and acoustic tags to better understand the movements and behaviors of NARWs, which ultimately support conservation and protection efforts by understanding when the species is most vulnerable to vessel strikes. The satellite-linked telemetry tags provide a valuable opportunity to track individuals through their migrations over days to weeks with basic dive data, while the high-resolution tags provide detailed behavioral data and recordings of sound production over hours to days. One satellite tag was deployed on a yearling NARW in 2024/2025, collecting 16 hours of data before the tag malfunctioned. Four high-resolution suction-cup tags were deployed on NARWs in May 2024 and two were deployed in January 2025, collecting over 29 hours of behavioral data. Video collected from one of the tags shows an individual feeding in the Mid-Atlantic where it had not been previously documented as a feeding area. These results continue to highlight the importance of long-term monitoring for NARWs throughout the western Mid-Atlantic, and particularly the high vessel traffic area offshore of the mouth of Chesapeake Bay. Daily updates of a tagged whale's location are sent to major stakeholders within the NARW community as a means of fostering collaboration and notifying mariners of a tagged whale residing in specific high-traffic areas. Providing this data through a variety of avenues is important for mariner awareness, to trigger vessel

slow zones, and to notify Navy ships operating in the area of NARW presence. Analysis of both the visual and tag data from NARWs resulted in major findings that will help influence mitigations developed for Navy training and testing activities moving forward.

3. Outreach and education

The team attended meetings with key regulators and scientists, conducted outreach to the public, and educated Navy personnel on required mitigation measures. These efforts included:

- Presented project results at the NARW Consortium annual meeting, which is held to discuss new techniques, management strategies, and other facets of right whale conservation.
- Attended four NARW Recovery Plan Implementation Team meetings, where they ensured Navy equities were considered when recommendations were made to NOAA on recovery methods such as speed restrictions.
- Staffed a booth at the annual NARW Festival in November 2023 and 2024 where they engaged with approximately 1,600 visitors: informing them of the Navy's efforts to protect NARW while maintaining military readiness.
- Created annual Naval messages that were distributed by USFFC to all Navy ships on the east coast reminding them of required mitigations during the NARW winter migration and calving season, which is 15 November – 15 April, and a new spring message reminding them to stay vigilant for NARWs in NOAA Fisheries designated management areas throughout the year.
- Provided talking points for a media event held on November 7, 2024, with the USS MCFAUL focused on the Navy's NARW mitigations and protective measures. Pieces from the event aired on two local news channels.

Conclusion

The Marine Species Monitoring Program Team is making a profound impact on marine conservation through the extensive data that is collected by their many projects. The information gathered from these innovative studies is invaluable in protecting marine species and ensuring unfettered access to critical sea space so that Navy training and testing can be successfully performed within the many operating areas located within the Atlantic Ocean, and around the world. During the FY24-25 award period, the major accomplishments of the Marine Species Monitoring Team include the development of ground-breaking research and analysis methods, continued collaboration with many organizations, and effective dissemination of results through peer-reviewed scientific papers, presentations, and public outreach. The Marine Species Monitoring Team plans to build upon the success and accomplishments of this project into the future by improving existing research projects and adapting to new science and technology to ensure that the Navy can complete necessary training and testing while protecting important marine resources.