

ASPIRE White Paper, August 14, 2018

Contact Information

Primary Contact: VADM Paul Gaffney and Professor Jesse Ausubel
Email Address: hawk1@monmouth and ausubel@rockefeller.edu
Home Institutions: Monmouth University and The Rockefeller University
Office Phone: 732-567-2800 and 212-327-7917

Willing to Attend Workshop? Yes

Target Name(s)

Soundscapes and lifescapes of areas where anthropogenic noise (commercial shipping principally) and marine life interact continually or during key migratory periods.

Geographic Area(s) of Interest within the North Atlantic Ocean (Indicate all that apply)

Northwest Atlantic/US EEZ: A discrete pilot area(s); top priority is greater deep water areas of NY-NJ Bight and maritime approaches to NY, Hudson Canyon

- One would expect to position passive listening sites and general ocean data collection shoreward of the NEPAN instrument suite
- Data analyses would include information from long time-series collections by NEPAN sites
- Physics of sound within the Hudson Canyon would be an area to discuss

Relevant Subject Area(s)

Passive acoustics, ambient noise, bio-acoustics, combined with general physical oceanography and depth/bottom composition information.

- One would expect to run transmission loss calculations/diagrams to best select passive listening device locations and depths.
- Opportunities for eDNA collection in and around the “listening area” of passive moorings add to the pilot’s importance.

Description of Topic or Region Recommended for Exploration

While the US operates several passive acoustic instrument sites offshore from NY Bight to Georges Bank, these NEPAN sites may not be designed effectively to monitor shipping and marine life noise at the same time and interactions of sound and life. Designs benefitting from new technologies could, e.g., better assist choices of maritime traffic routes and speeds at critical migratory times. Uninterrupted shipping may be the major Blue Economy revenue producer for the region. The maritime transport community aims to be as environmentally responsible as is practical. Leveraging ASPIRE ship, talent and technology assets, NOAA OER should consider leading design of pilot experiments in deeper water where sound channels and convergence zones can occur but shallow enough that they overlay ship route convergence areas. Start of systematic regional collection of eDNA samples, as recently in the ADEON 2018 cruise, is a bonus.

Relevant Partnerships (If Applicable)

NOAA NMFS/NEFSC **NEPAN**; NOPP ADEON Project; Navy (ONR, NRL, N-45 and NAVOCEANO); NOAA OER, Marine Sanctuaries, Marine Mammals; BOEM Marine bioacoustics program; Marine Mammal Commission