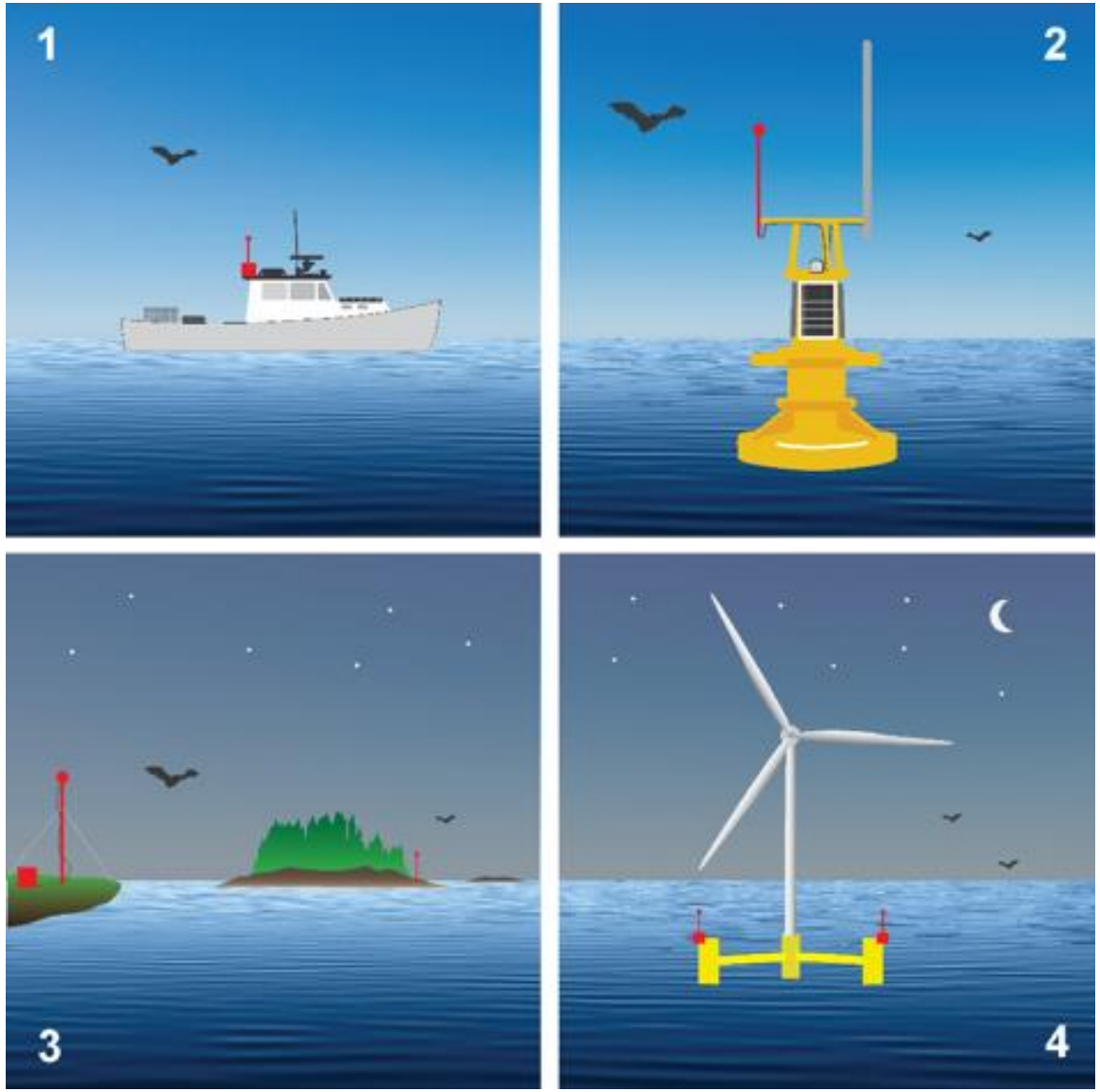
Baseline offshore bat monitoring assessment in the Gulf of Maine

October 15, 2025

WRAIL
Wildlife Remote Acoustics and Imagery Lab

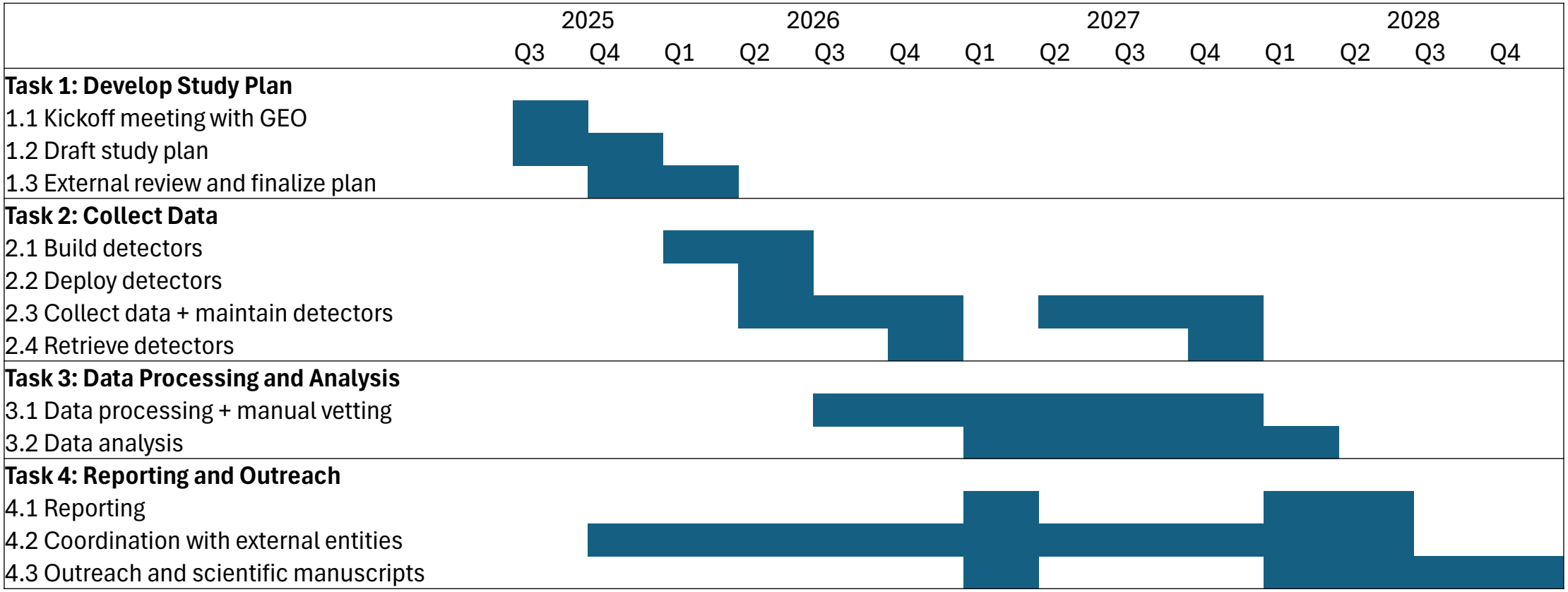
Questions + General Approach

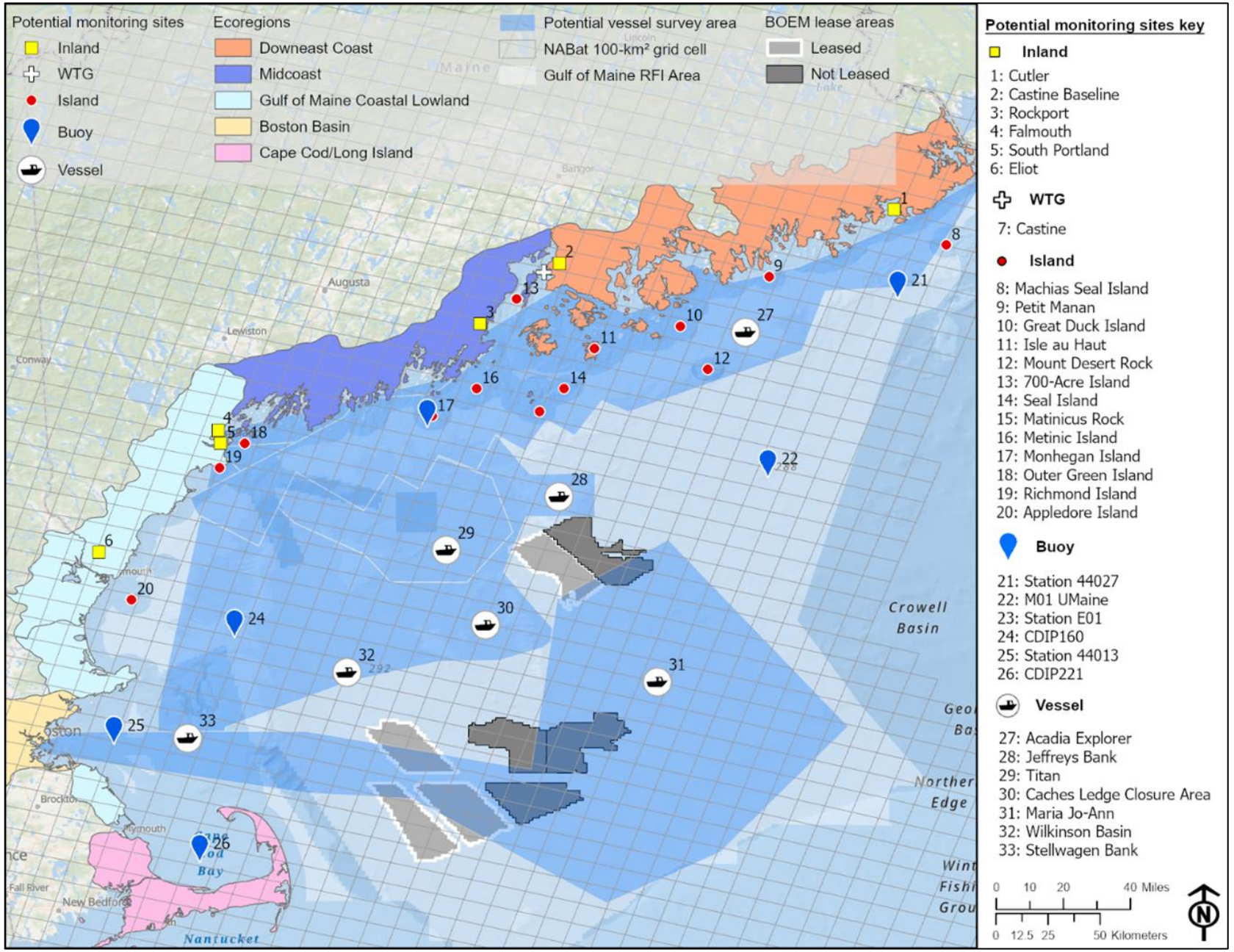
- How does bat occurrence compare between the offshore, island, and coastal sites?
- What is the composition of bat species offshore, and how are such species distributed spatially and temporally across the Gulf of Maine?
- How do weather conditions and other environmental factors influence offshore bat presence?
- How does bat occurrence vary temporally and spatially between a coastal wind turbine site and an inland site?



Project Schedule

- 2 continuous field seasons proposed in 2026 and 2027—mid April through end of October
- Most analyses to be conducted in late 2027 through 2028

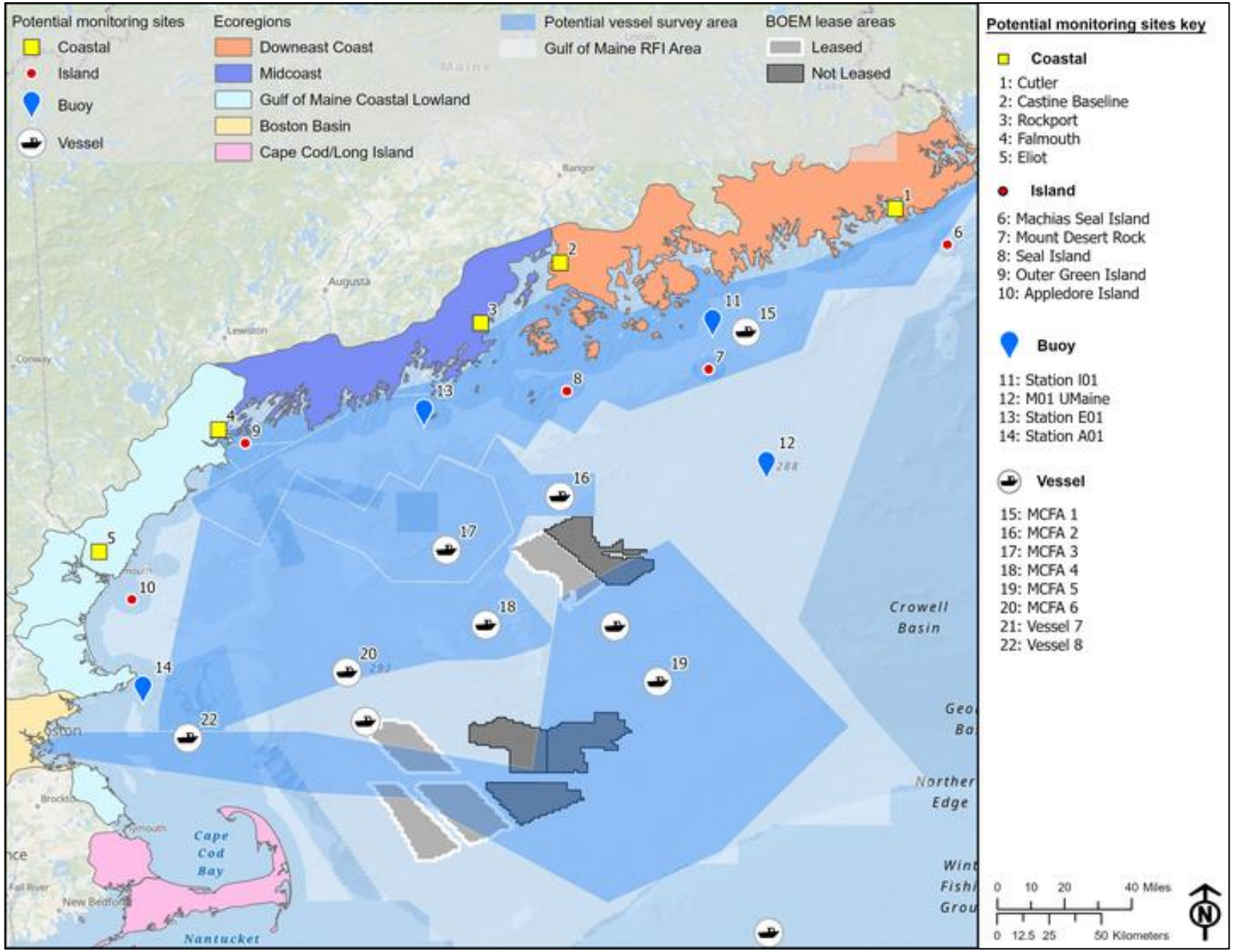




RFA proposed sites

- 33 sites/platforms with access
  - 6 vessels, 6 inland, 6 buoys, 7 islands, 1 WTG
- Paired detectors at coastal, island, buoy and vessel sites/platforms
- Monitoring effort divided between 5 latitudinal groups

Wildlife Acoustics
Song Meter
SM4Bat + U2
Microphone



Updated proposed sites

- 22 sites, 26 detectors
  - 4 buoys, 5 islands, 5 coastal, and 8 vessels loosely grouped latitudinally
- Continue to work with UMaine on collecting bat data at the test turbine
- Changes in federal funding and USFWS support
- Vessel transit costs to islands and buoys
- Greater emphasis on vessels given interest from the fishing community

Buoy Sites

Proposed Approach

- 4 UMaine/NERACOOS buoy detector sites in 2026
- Paired detectors at each buoy for redundancy
- Deploy in late April/early May
- Retrieve in late Oct/early Nov
- No servicing trips

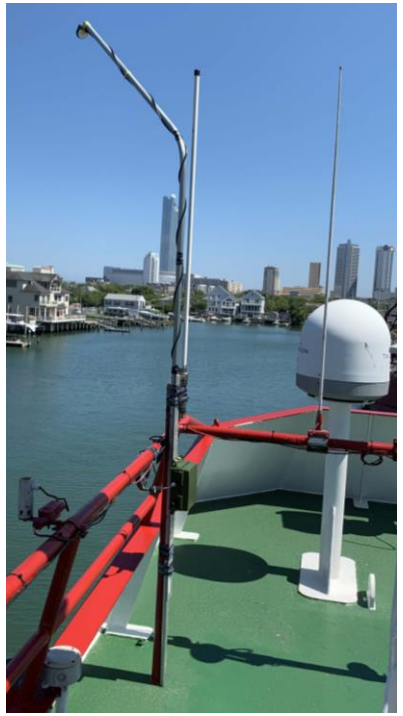
Benefits and Challenges

- Platform for collecting data in different offshore areas
- Not suitable bat habitat, so less bias in the data, but still lit at night
- Field efforts can piggyback on scheduled UMaine vessel trips
- Data not collected until end of field season

Next Steps

- Working with UMaine and BCI to integrate detector equipment with buoy, including solar panel
- Coordinating with NERACOOS on schedules

Vessel Platforms



Proposed Approach

- 8 vessels as detector platforms in 2026, including 6 MCFA vessels, 1 DMR vessel, and 1 opportunistic vessel
- Light/temp sensor
- Deploy in late April/early May, retrieve in late Oct/early Nov
- Data retrieval when boats back in port, ~monthly

Benefits and Challenges

- Engagement with the fishing community is fantastic
- Different offshore coverage areas
- Some noise interference
- Difficult to predict data collection periods at night

Next Steps

- Working with MCFA to confirm fishing vessels
- Connecting with NOAA trawler vessel
- Exploring other research / commercial vessels that transit through GoME

Island and Coastal Sites

Proposed Approach

- 5 island and 5 coastal sites in 2026
- Light/temp sensor
- Deploy in late April/early May, retrieve in late Oct/early Nov
- Data retrieval 1-3x per season

Benefits and Challenges

- Low noise environments
- Most hosts/partners can support detector maintenance
- Vessel transport is logistically challenging and costly for island detectors
- Complex, diverse habitats

Next Steps

- Working on Special Use Permit application for NWR sites
- Working on final approval to access Cutler
- Connecting with site hosts about 2026 field schedules

Other Next Steps

- Refining data collection and vetting protocols—meeting with CWS, BCI and IFW on October 16 to facilitate standard approach
- Discussing environmental covariates to be collected
- Looking into other vessel platforms—any boat suggestions?
- **Study Plan to be submitted by December 15**