



Block Island Wind Farm

# Avian and Bat Monitoring



# Project Permitting

Environmental permits received in 2014

Permitting was based, in part, on pre-construction avian and bat use surveys to inform potential risk

Post-construction monitoring plan developed during permitting and is a condition of USACE & RI CRMC Assent permit

# Pre-Construction Surveys

Surveys included:

- Onshore Sea Watch Avian Surveys
- Onshore Raptor Migration Surveys
- Onshore Beached Bird Survey
- Bat Acoustic Monitoring
- Avian Acoustic Monitoring
- Offshore Boat-Based Avian Survey
- Offshore Aerial High Definition Videography
- Onshore Avian Radar Surveys

Surveys  
conducted  
2009-2011

Evaluated potential  
impacts to birds and  
bats

# Post-Construction Surveys

Surveys include:

- Bat Acoustic Monitoring on Construction Vessels
- Onshore Beached Bird Survey
- Offshore Boat-Based Avian Survey
- Turbine-mounted Radar/Camera Collision Monitoring
  
- Turbine-mounted Bat and Avian Acoustic Monitoring

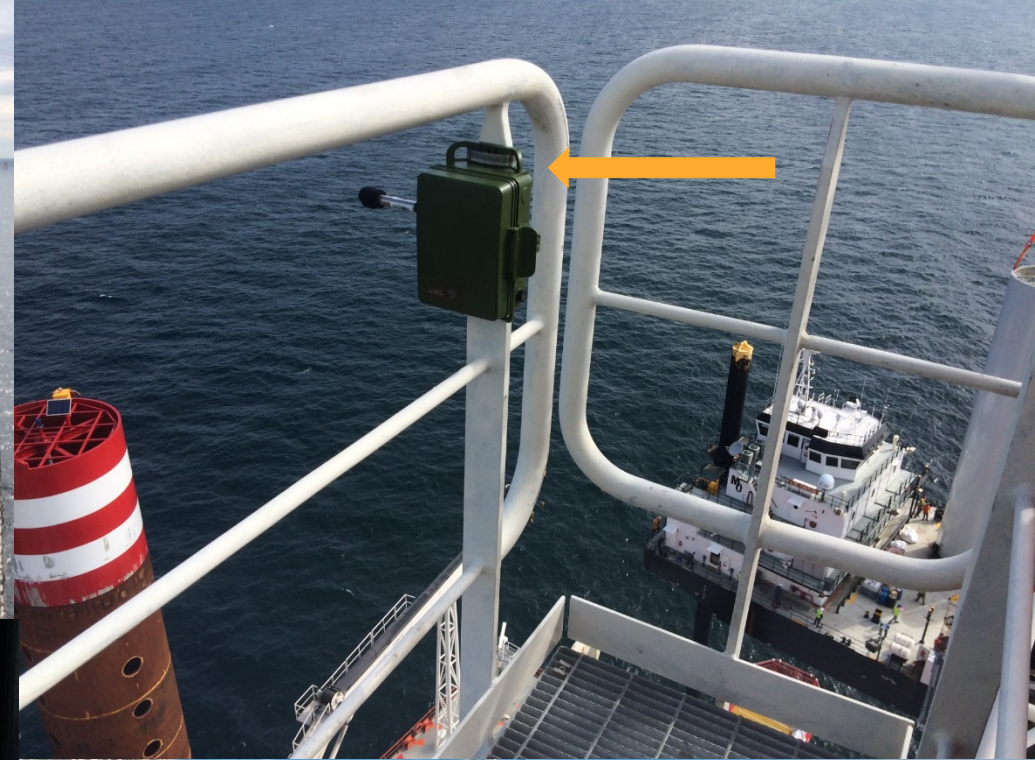
Year 1 Surveys  
nearing  
completion

Reports available  
spring 2018

# Acoustic Monitoring

Bat acoustic detectors on jack up barges during 2016 installation

Bat and avian acoustic detectors on Turbines 1 and 3 in 2017



## Onshore Beached Bird

Monitoring of 3 beach areas on BIWF

Twice/month during years 1 and 3

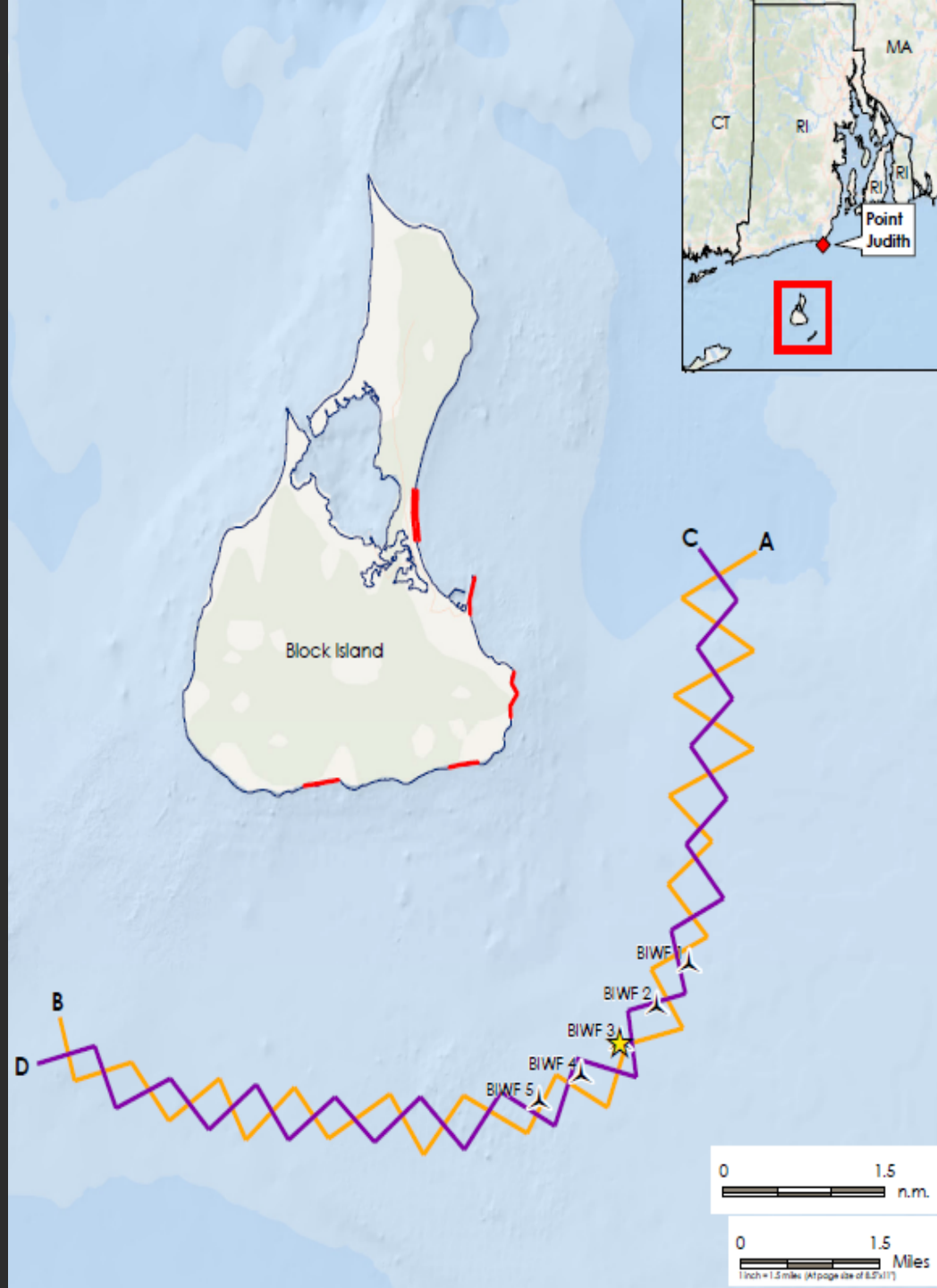


# Offshore Boat-Based Avian

Protocol same as pre-construction

Once/month during years 1 and 3

Results to be compared to pre-construction



## Collision Monitoring/ Avian Radar

Multi Sensor wildlife  
detection system (MUSE)

Next-generation of  
Thermal Animal  
Detection System (TADS)  
deployed at European  
offshore projects

Years 1-5





## Collision Monitoring/ Avian Radar

Radar data also  
evaluated for general  
avian use



# Lessons Learned

Deployment

Weather

Platforms of opportunity

Much more to come

