

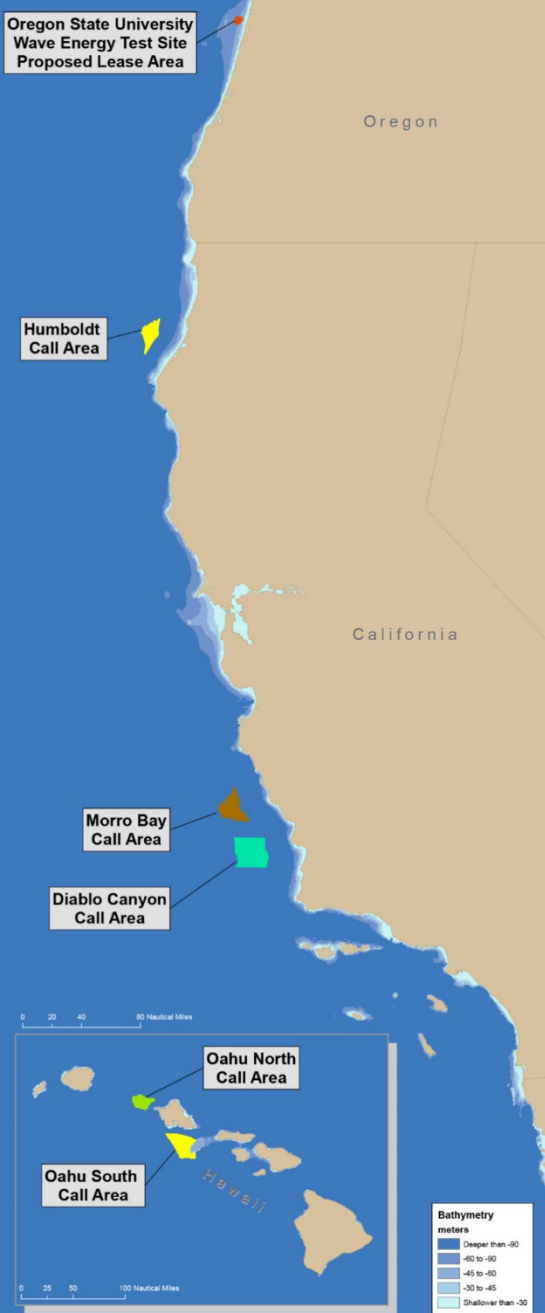


Atlantic Renewable Energy Program Update

South Atlantic Fisheries Management Council
Habitat Advisory Panel
October 22, 2019

BOEM Office of Renewable Energy Programs





Office of Renewable Energy Programs

Leasing

- 15 commercial wind energy leases in the Atlantic
- Upcoming lease sale in New York

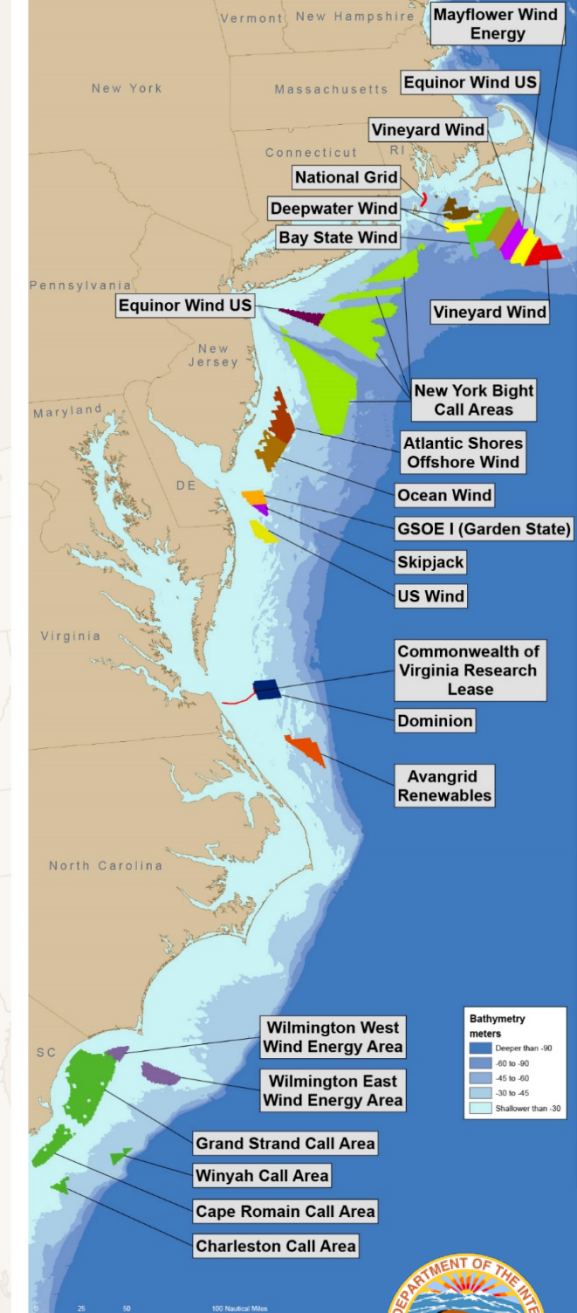
Site Assessment Plans (SAP)

- 7 approved (MA, RI, VA, MD, MA, NJ, NY)

Construction And Operations Plans (COP)

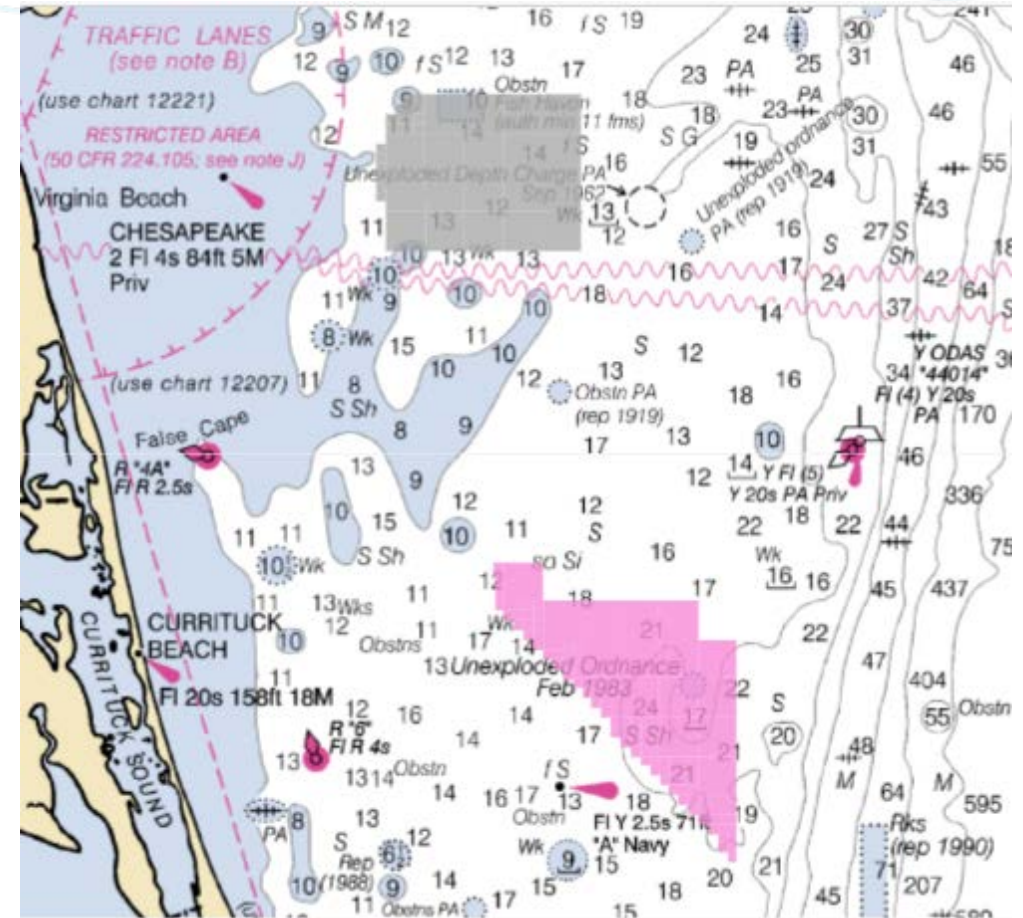
- 5 processing (Vineyard Wind, Deepwater Wind South Fork, Bay State Wind, Skipjack and Ocean Wind)
- 4-6 more expected within next 12 months

- Planning activities continue off Hawaii, California, Carolina, New York Bight and Gulf of Maine
- Guidelines: Lighting & Marking
- California received 14 nominations from the Call for Information and Nominations issued October 19, 2018



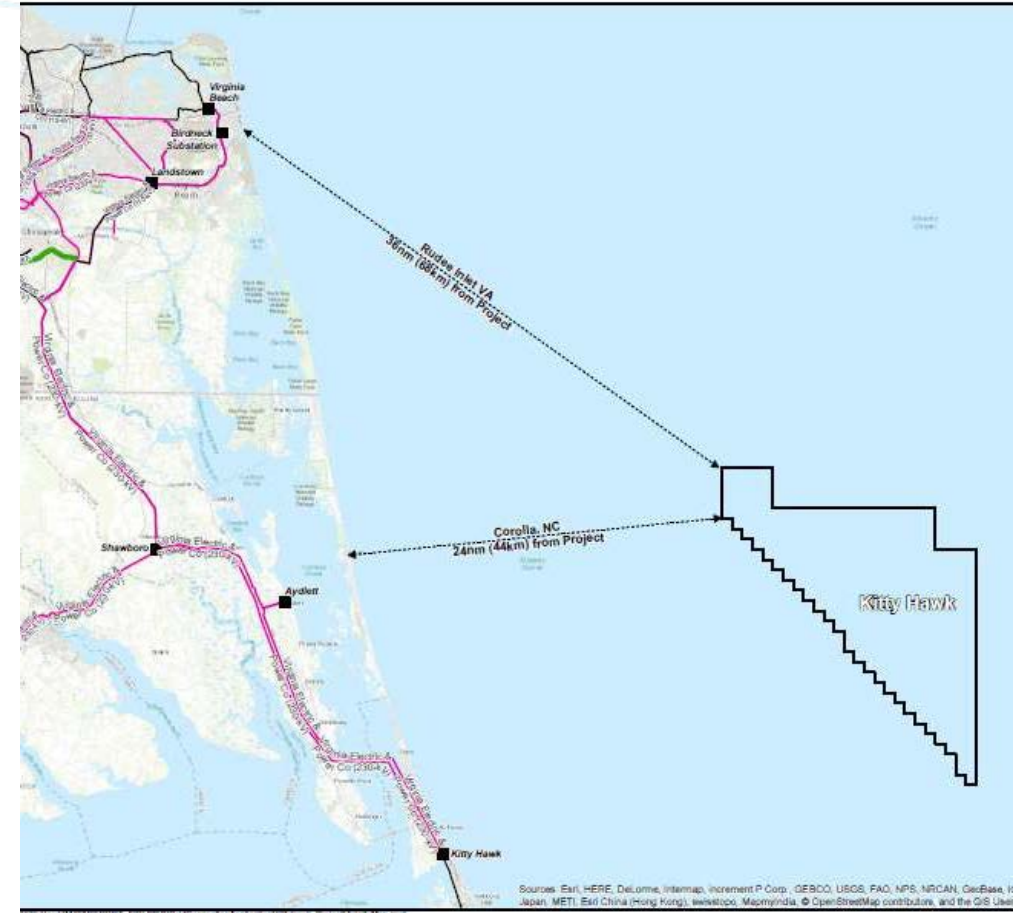
CVOW Project Update

- **Coastal Virginia Offshore Wind Project (demonstration scale with VA DMME/Orsted/Dominion):** Revised RAP and Facilities Design/Installation Report approved. Construction (offshore) may begin early 2020.
- Onshore construction began on July 1, 2019 when Dominion Energy formally began construction on the Coastal Virginia Offshore Wind (CVOW) project. The company broke ground to install a half-mile conduit, which will hold the final stretch of cables connecting the turbines 27 miles off the coast of Virginia Beach to a company substation near Camp Pendleton.



Kitty Hawk Offshore Wind Project

- Geophysical and biological surveys ongoing.
- SAP submitted and under BOEM review.



Project Milestones

Executing



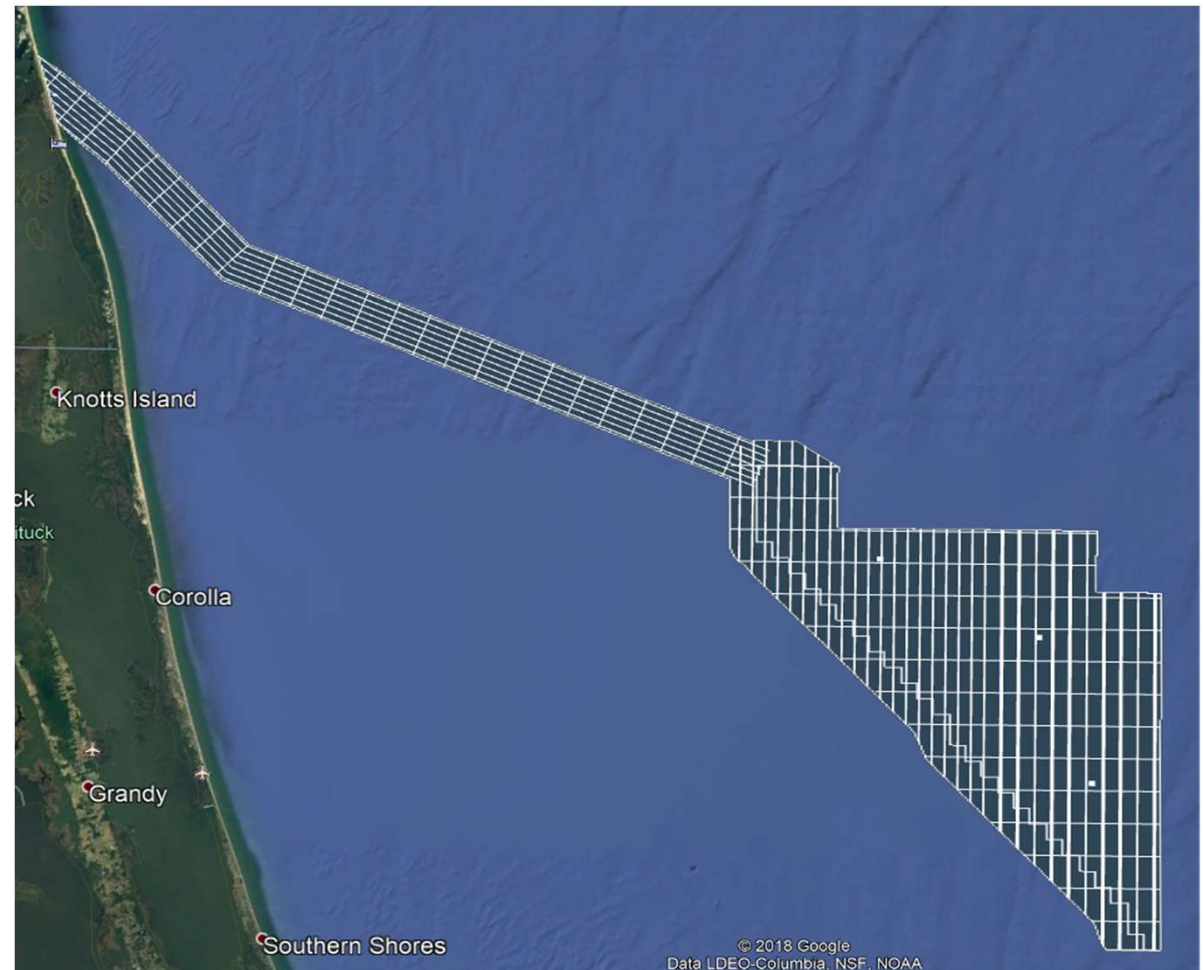
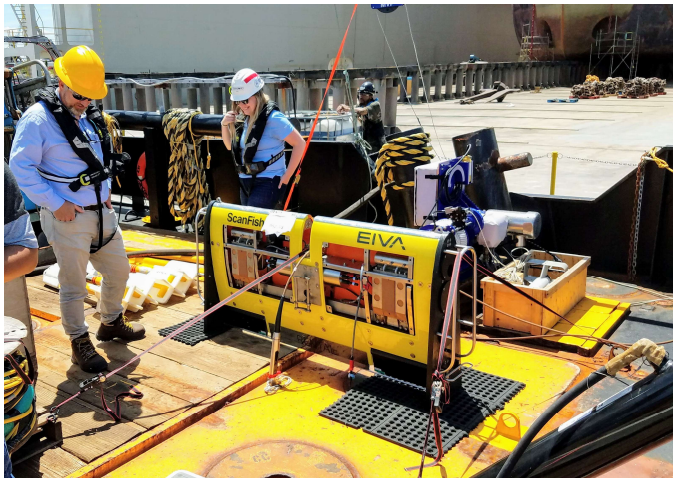
Planning



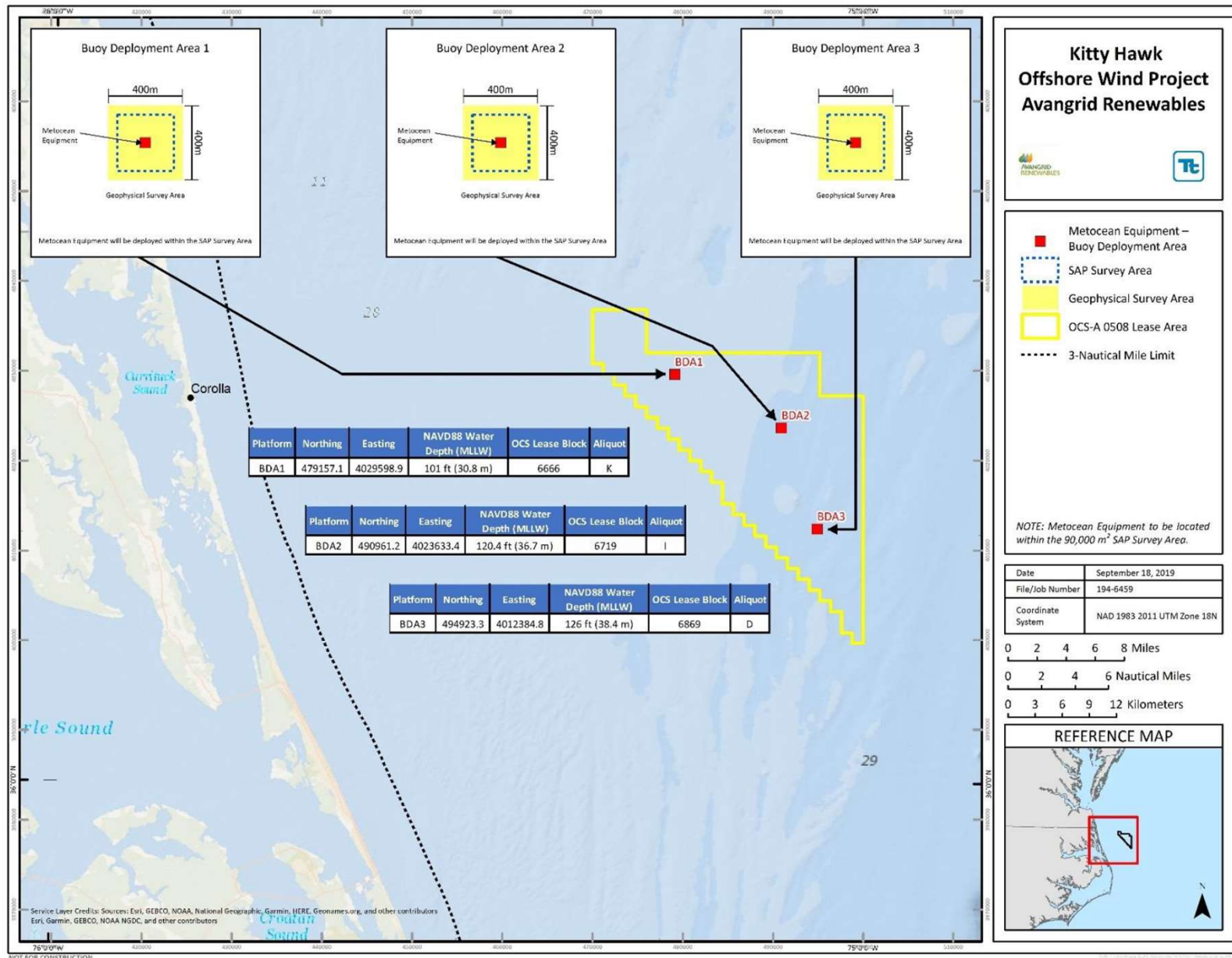
- 2017 Lease obtained – Nov 1, 2017
- 2018 Planning, assessment & stakeholder outreach
- 2019 Planning, assessment & stakeholder outreach
 - PJM Interconnect – Feasibility & System Impact Studies
 - Landfall & cable route analysis
 - Aerial Surveys of wind energy area – Avian, Marine Mammals, Sea Turtles, Fish
 - Survey Plan & IHA Approval
 - Marine geophysical & benthic reconnaissance surveys
 - Buoy/MetOcean procurements
 - SAP Submission: Sept. 2019
 - SAP Approval: Dec 2019
- 2020 Metocean/Buoy deployment
 - Planning, assessment & stakeholder outreach
 - PJM Interconnect – Facility Study – Interconnect Agreement
 - Aerial Surveys of wind energy area – Avian, Marine Mammals, Sea Turtles, Fish
 - Survey Plan for geotechnical surveys of WEA
 - Reconnaissance level geotechnical survey
- 2021 Hi-res geophysical, benthic & geotechnical surveys of project 1 area
 - Project 1 COP submission
- 2022 COP approval & ROD
 - Permitting
- 2023 Permitting, FIR, FDR
- 2024-2026
 - Construction
 - COD 2026

Geophysical & Benthic Survey Plan

- **Task 1 – Geophysical and Benthic Surveys for Wave Buoy Deployment**, surveying three defined locations in the WEA.
- **Task 2 – Reconnaissance Geophysical and Benthic Surveys**, surveying across the WEA and cable corridor to characterize the site.

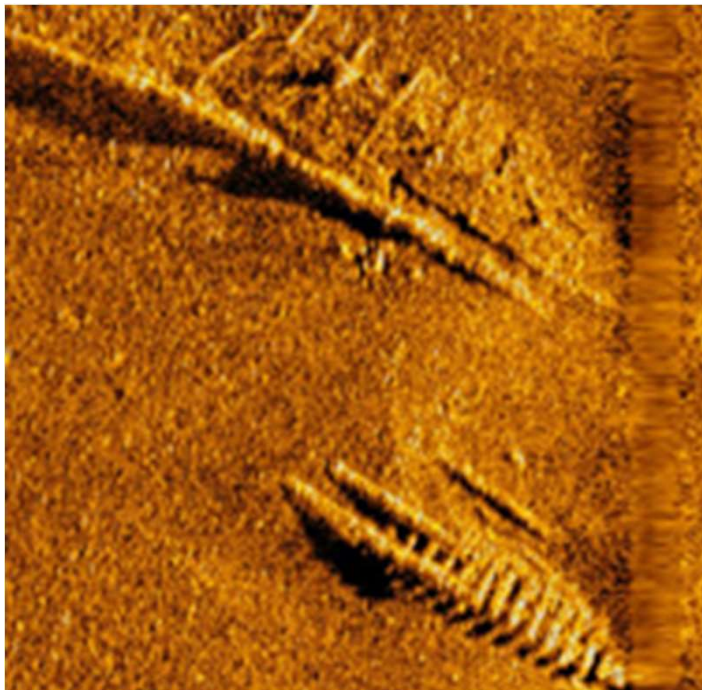


Survey Areas and Buoy Deployment Areas



Geophysical Survey Activities to Date

- Task 1 Kick-off July 1st
- Task 1 Completed July 21st
- Task 2 Ongoing
- Challenges:
 - Health & Safety
 - PSO Shutdowns
 - Contact with shipwrecks
 - DoD Coordination



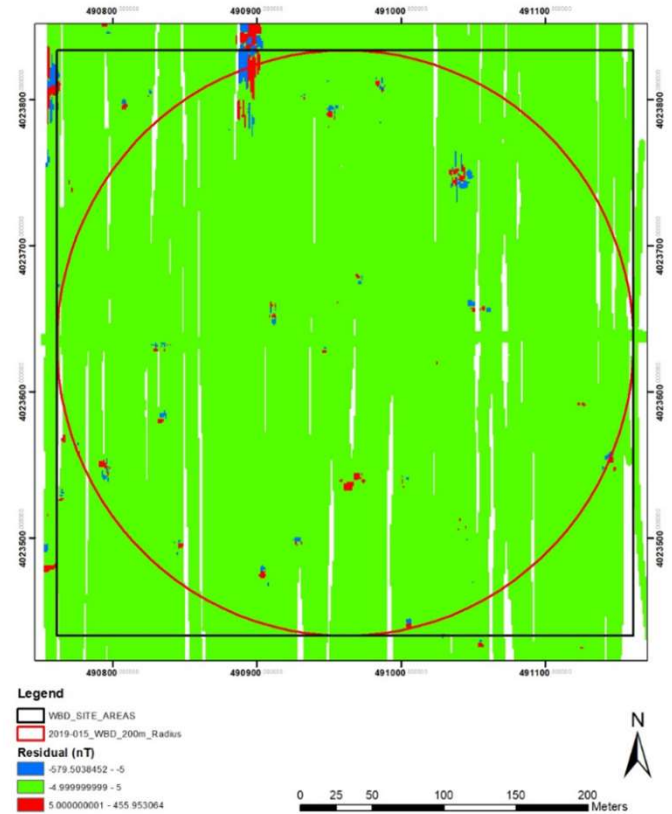
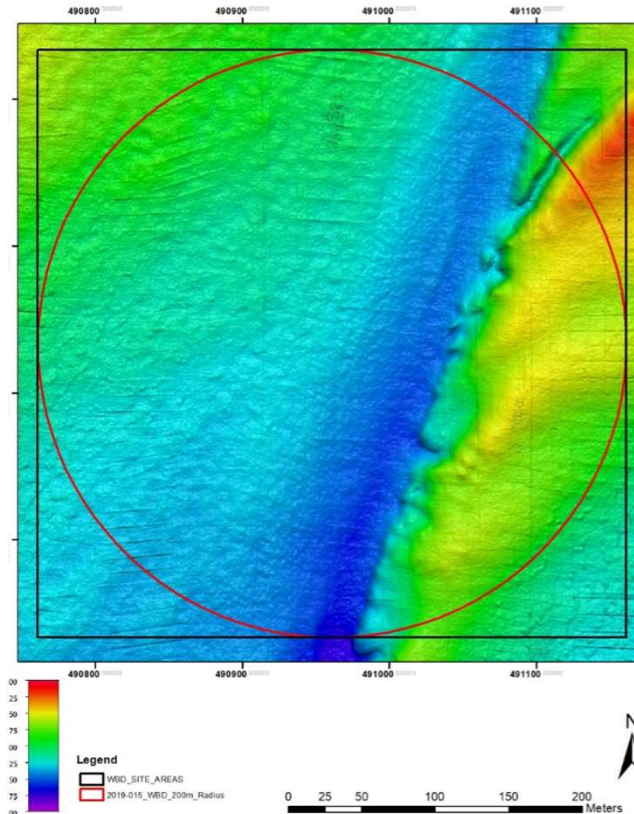
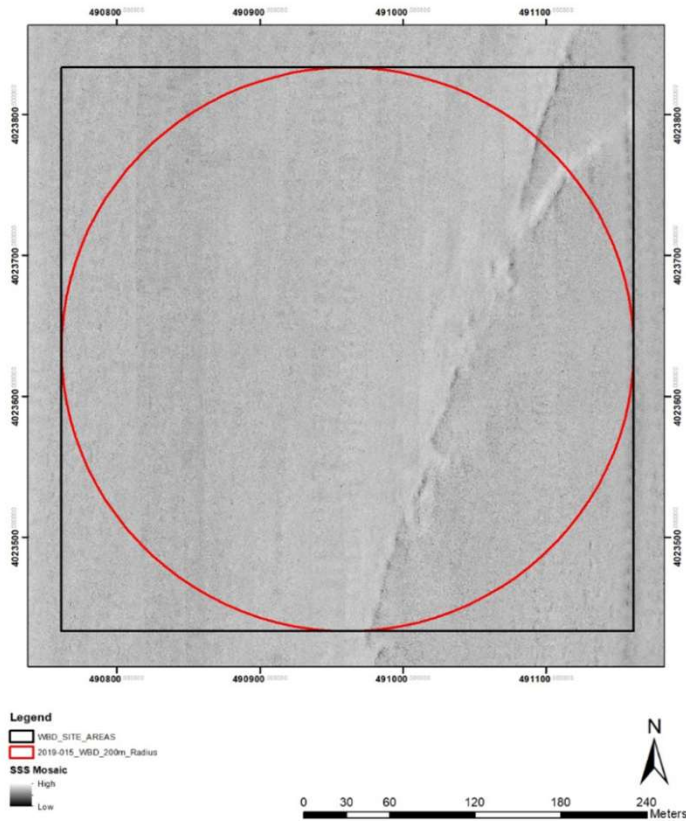
Geophysical Survey Data



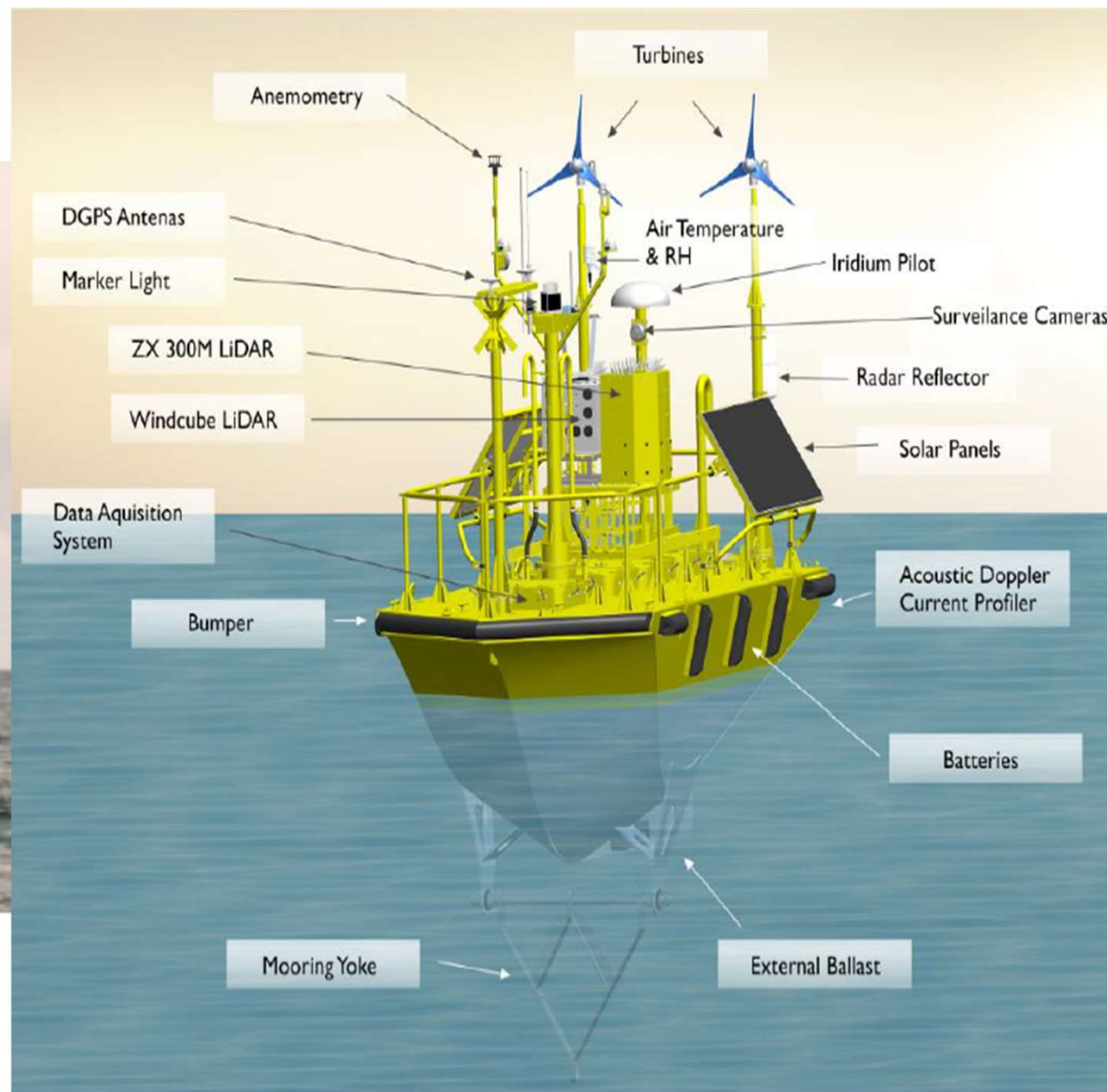
2019-015_WBD 2 SSS Mosaic

2019-015_WBD 2 Bathymetry

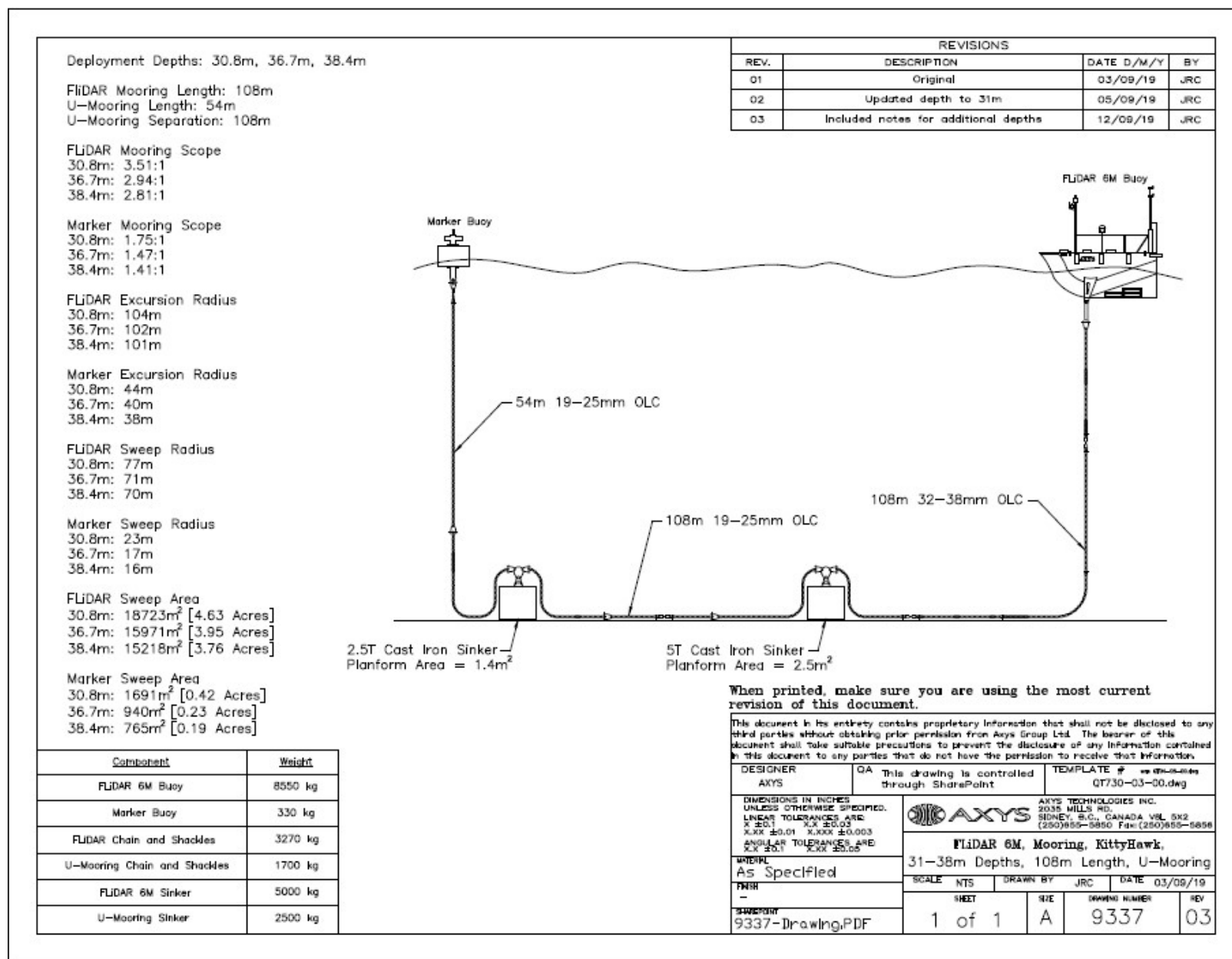
2019-015_WBD 2 Mag_Residual



AXYS WindSentinel FLiDAR 6M Buoy



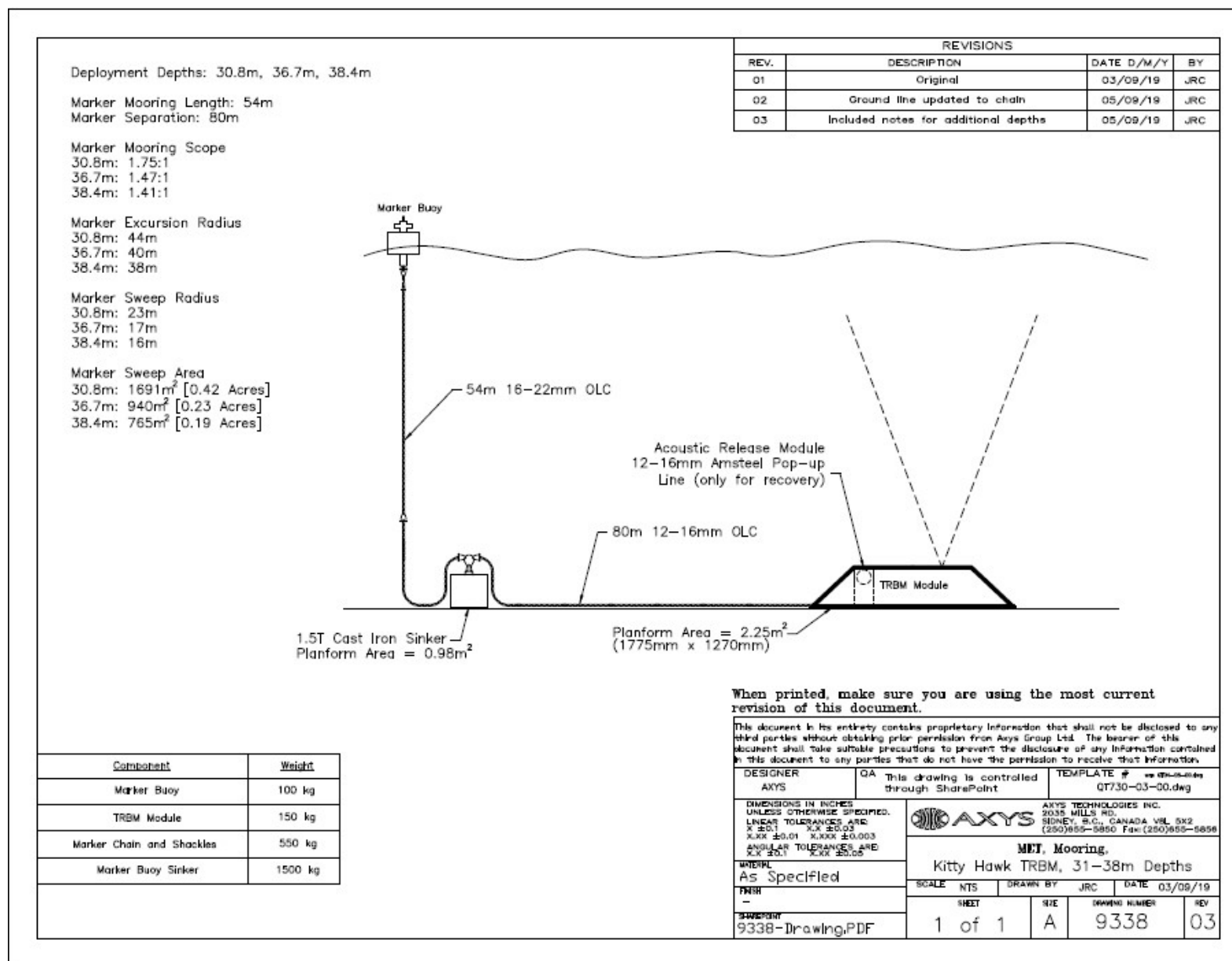
WindSentinel Mooring



TRBM Data Collection Platform



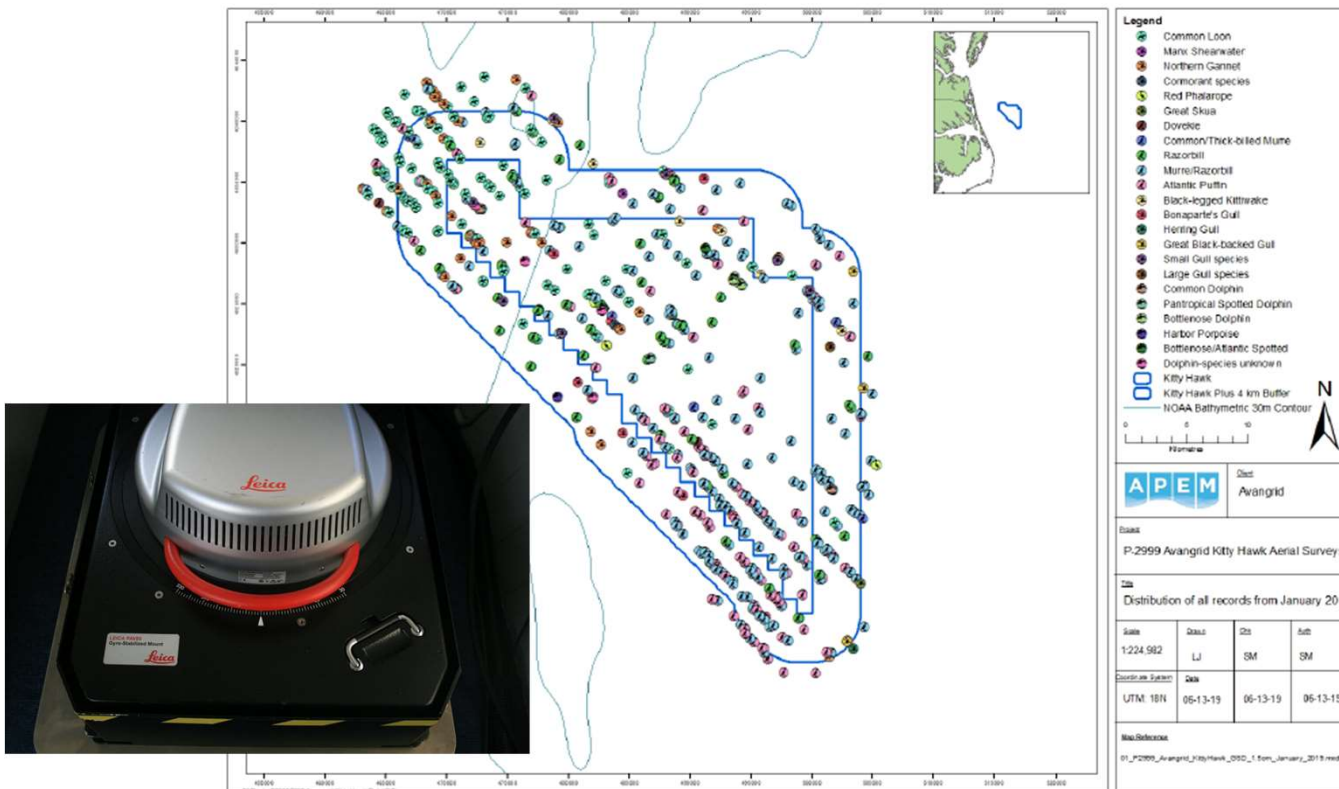
TRBM Mooring



Aerial Surveys

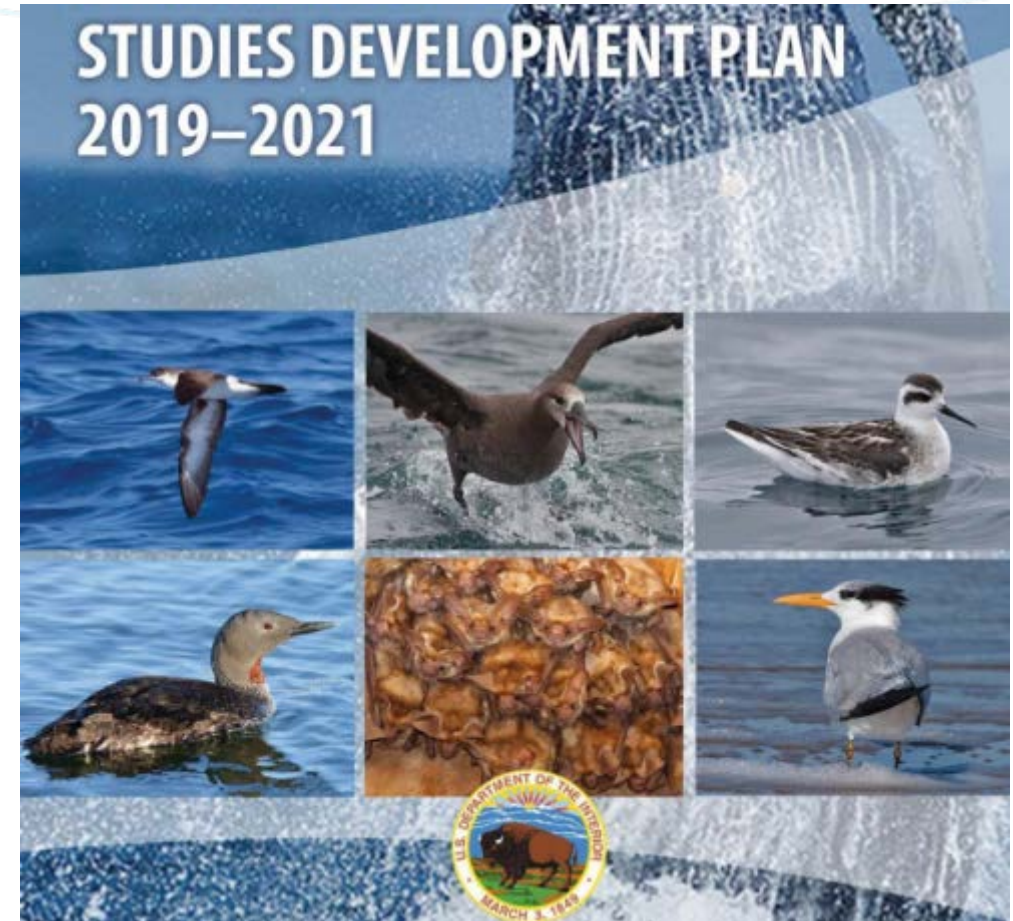
Conducting monthly aerial surveys

- Each flight produces ~10,000 photos
- Photos are processed using Artificial Intelligence, identifying potential targets which are then reviewed by biologists.
- Determining species, count, avian flight height



Environmental Studies Program

- **BOEM solicits study ideas from public every fall/winter.**
- **Study ideas are reviewed by the Standing Committee on Offshore Science and Assessment (COSA) convened under the National Academy of Sciences.**
- **Results of studies are incorporated into BOEM environmental assessment and decision-making process.**



Fisheries-related Studies in 2019

- **New Starts include:**
 - **Hydrodynamic Modelling**
 - **Cox Ledge Fish Spawning Study**
 - **Surfclam/Ocean Quahog Fishery Impact Modelling**
 - **Pilot Southern New England Fisheries Monitoring**
- **Collaborative, regional long-term, regional fisheries monitoring**
- **Developers' site-specific studies**



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Brian Hooker | brian.hooker@boem.gov | 703-787-1634