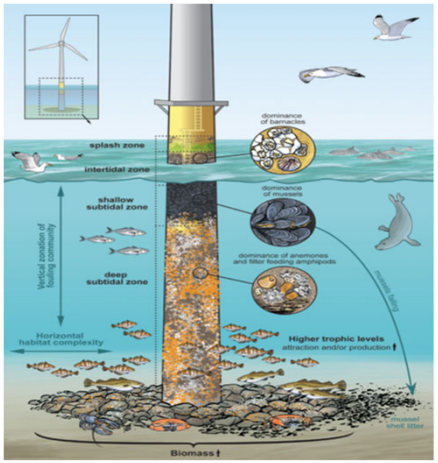
# Offshore Wind Energy & Survey Mitigation Updates

Andy Lipsky, NOAA Northeast Fisheries Science Center

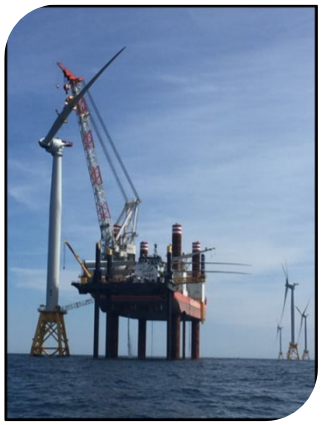
May 26, 2021

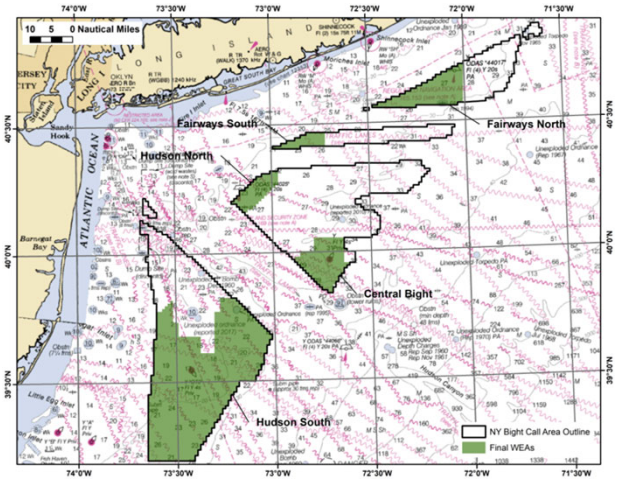
NOAA FISHERIES

Northeast Fisheries Science Center




Degraer et al., 2020

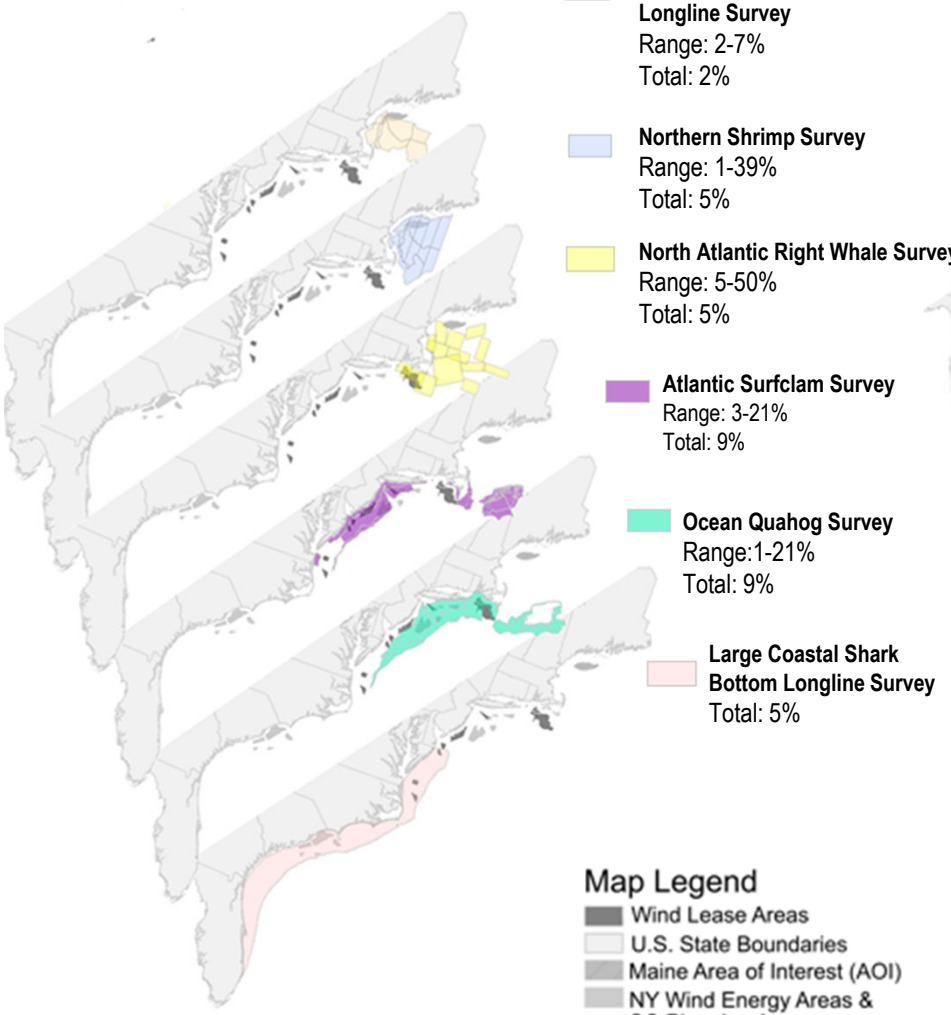


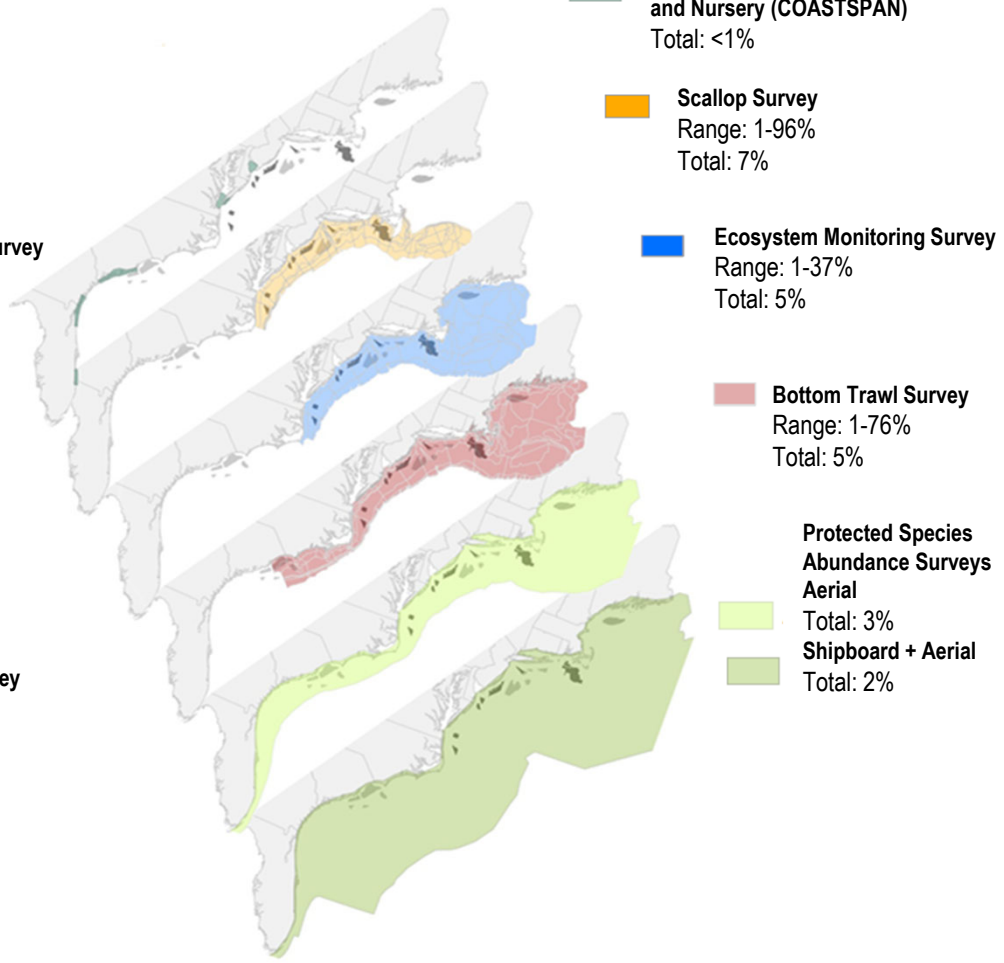


# NOAA Fisheries
# Offshore Wind Needs

1. Support to Regulatory Process
2. Scientific Support for the Regulatory Process
3. **Address impacts of wind on Federal Surveys & Scientific Advice**
4. Understanding Interactions with NOAA Trust Resources

# Northeast NMFS Survey Interactions with Offshore Wind

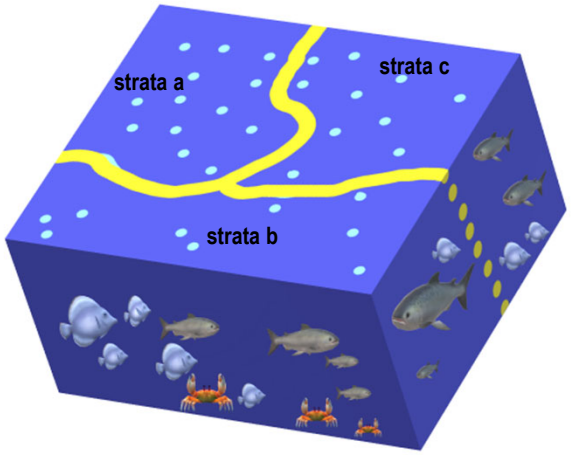


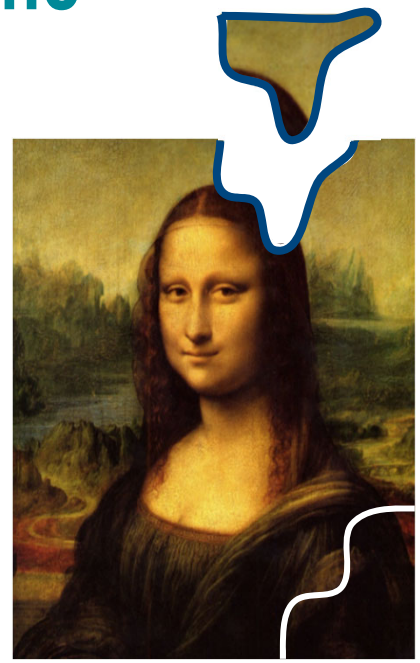



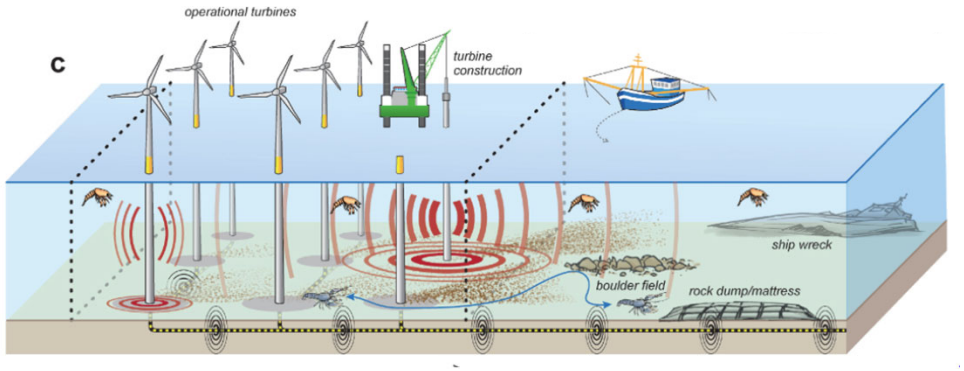

**Range**= Minimum and maximum overlap with survey strata
**Total** = Percent overlap of wind development with total survey area

# Wind Energy Actuates Impacts to Scientific Surveys in Four Ways:

1. **Preclusion**- displacement by infrastructure
2. **Impacts to Statistical Survey Design**
3. **Habitat Change** that affect species distribution, abundance, and vital rates within and outside wind energy areas
4. **Impacts to sampling** outside of developments by wind energy-induced transit effects that can result in lost sampling time






Gill Methratta al., 2020

# Northeast Surveys: Status of Survey Mitigation Steps

| NOAA Fisheries Survey Time Series | 1.Evaluate designs & impacts | 2. Design New methods | 3. Calibrate New/Existing Surveys | 4.Bridge Solutions | 5. Conduct New Surveys | 6. Comms. & Data |
|---|---|---|---|---|---|---|
| **Fall BTS** | Started | Initial | No | No | No | Initial |
| **Spring BTS** | Started | Initial | No | No | No | No |
| **EcoMon** | No | No | No | No | No | No |
| **Scallop** | Started | Grant? | No | No | No | No |
| **Shellfish- (clams)** | No | No | No | No | No | No |
| **Right Whale-Air** | **Initial** | Pending Grant | Pending Grant | No | No | No |
| **Marine Mammal/sea Turtle Ship/Air** | No | No | No | No | No | No |
| **Atlantic Shark Bottom Long-Line** | No | No | No | No | No | No |
| **GOM Bottom Long Line** | No | No | No | No | No | No |
| **GOM Shrimp Survey** | No | No | No | No | No | No |
| **Atlantic Shark COASTPAN** | No | No | No | No | No | No |

# Development of an Adaptation strategy for Multi-Species Bottom Trawl

- **Determine effects of wind development on survey data, stock assessments and management measures.**
  - Evaluate range of impacts (eg. Eliminate all observations from WEAs and recalculate abundance indices)
  - Must look at over 40 assessed stocks for bottom trawl survey

- **Identify potential combination(s) of sampling methodologies and statistical designs for inside WEAs**
  - Results should be able to be incorporated with historical and existing sampling for continuity of time-series

- **Observing System Simulation Experiments (OSSE)** and/or other modeling approaches
  - Interagency Agreement with Bureau of Ocean Energy Management
  - **Stakeholder workshops in 2021**
    - Identify impacts of offshore wind energy development on fisheries
    - Impacts on stock assessment and management advice
    - Define the objectives and questions that OSSE needs to answer
    - Design analytic and empirical framework

- **Build Model, evaluate alternatives, identify survey adaptation actions**

Essay on the use of Observing System Simulation Experiments in the US published in the Bulletin of the American Meteorological Society

SEPTEMBER 11, 2020

BAMS Essay

**Use of Observing System Simulation Experiments in the United States**

Xubin Zeng, Robert Atlas, Ronald J. Birk, Frederick H. Carr, Matthew J. Carrier, Lidia Cucurull, William H. Hooke, Eugenia Kalnay, Raghu Murtugudde, Derek J. Posselt, Joellen L. Russell, Daniel P. Tyndall, Robert A. Weller, and Fuqing Zhang

CINAR

Cooperative Institute for the North Atlantic Region

# Questions