Impacts of Offshore Wind on Wildlife

Zara Dowling
NSF IGERT Offshore Wind Program Fellow
UMass-Amherst
Marine Mammals & Sea Turtles

- Potential impacts from noise of monopile construction
- Increased risk of collisions due to increased vessel traffic during construction and deconstruction
- Minimal to moderate impacts may be due to electromagnetic fields or noise during operation
Marine Birds

- Collision effects are minimal
- Uncertainty regarding effects of displacement
Fish & Macrobenethos

- Changes in substrate due to hard surfaces, scour, wave patterns, sediment deposition
- For Fish: Disturbance due to noise, EMF
- Artificial reef effects
Eagles

20 km
~80% of bird mortality at terrestrial turbines
Attraction to lights (fog) => coastal collisions
Migratory flight altitude typically ~200 and 800m, but lower over water and in bad weather
Long-distance Migratory Bats

- ~75% of bat mortality at terrestrial turbines
- Particularly vulnerable during fall migration season (~July 15-October 15)
- Higher relative abundance at coastal than inland sites
- Long anecdotal history of bats migrating offshore (e.g. “flock of…about a hundred which caught up with and settled on Mr. Cheeseman’s ship…” Thomas, 1921)
Thanks to the NSF IGERT Offshore Wind Program

And UMass ECO students...
Andrew Allyn
Pam Loring
Blake Massey
Kendra Ryan
Jen Smetzer
Kris Winiarski