



Dr. Todd Guilfoos
Associate Professor, Environmental and Natural Resource Economics

Economic Valuation of Revolution Wind

The Revolution Wind Lease Area and associate Cable in federal waters impacts \$2.3Mil in direct fishing revenue for Rhode Island annually.

Businesses that depend on fishing, such as fish processors, ice sellers, mechanics, etc.. have an additional \$1.7Mil annual economic impact.

Basis of Valuation

There are a few principles that mitigation values are based on:

- 1) Guidance from BOEM of minimum compensation
- 2) RI FAB input into economic projections
- 3) Data provided from surveys and existing reports and RI DEM
- 4) WHOI analysis of Impacts and VTR data

Mitigation Process

- All new leased sites (ex. Maine, Gulf of Mexico) use a NOAA deconfliction model which eliminates valuable fishing areas from development
- This project did not go through that process and therefore has a larger impact on fisheries and greater chance for conflict
- Development of lease area is never balanced against fishing activity or productivity

Differences in Valuation from Developer

In the process of mitigation there are a number of concerns that the FAB has raised which are not valued in the developers analysis.

- Increased risk in fishing WLA
- Lost ground to Lobster and Crab fishery
- Impact to big game fishing (ex. Tuna)
- Significant changing ground (moved boulders)
- Economic Discount Rate

Discount Rate

The developer uses a 5% discount rate in valuing losses in terms of today's dollars.

The developers offer increases by \$800k with a 1% change in discount rate.

- To be solvent the fund must earn back 5% + Inflation + Management Fees every year.
- This is implausible with the expectation that the fund needs to pay claims each year of unknown size.

Commercial Fishing – Operational Losses

BOEM Guidance recommends a minimum compensation that includes a draw down of impacts over five years. And recommends that additional operational losses are included based on the project specifics.

- Risk of fishing in turbine fields will reduce landings and increase costs.
- Hiring additional crew for safety to watch for other boats may be infeasible for many vessels due to cost.

Commercial Fishing – Operational Losses

We assume a 30% loss to operations based on the risks and loss of ground to mobile gear fisheries over the remaining life of the project.

- There is a productive lobster and crab fishery in the WLA and significant risk to boats to fish between turbines.
- Fishing is already the riskiest job in the US before needing to avoid turbines at sea.
- The developer maintains a \$0 impact to operations from risk.

Boulding Moving

- There are thousands of boulders being moved in the cable and WLA
- Changes to ground may make fishing unprofitable or impossible to avoid new obstacles (gear entanglement)
- The developer maintains a \$0 impact to operations from changing grounds.

UK Fishery & WLAs (In the Irish Sea)

Before



After



- Over a 77% decline in activity in WLA from trawling.
- Changing ground, risk, and gear entanglement.
- Ongoing maintenance also impacted fishing.
- 82% of local fisherman did not make up income using alternative fishing grounds.

Big Game Fishing

- In a 2023 survey of recreational fishers from Rhode Island approximately 28% expected to fish less often in the WLA area after construction
- Many of these anglers target big game fish (ex. shark and tuna)
- Large fields of turbines (Revolution is also abutted by South Fork Wind) create obstructions for big game fishing.
- The developer maintains a \$0 impact to operations.

Total Exposure

- The total Exposure of fishing and related onshore business over the 30 year lease is \$120 Million dollars nominally.
- At a 4% time discount rate the value of the WLA in exposed revenue is \$66.5 Mil in 2022 dollars.

My analysis suggests:

- Commercial: \$19.6 M
- For Hire: \$1.2 M
- Recreational: \$860k
- Total: \$21.6 M

Assumes operational impacts to all fisheries, which strongly diminishes over time.

Suggest Study of Commercial Losses

- The FAB has suggested using a study to estimate the losses to commercial fisheries, 5 years post construction
- True up the Trust Fund based on the findings
- RI DEM would oversee the study
- Needs funding from Developer
- Money provided up front by Fund

Important Context

- There is no recourse for the fishing industry after approval of the project
- The impact on the quality of life of fishers is not valued
- The fisherman association would forgo even greater compensation to forgo this Wind Farm due to its location