Assessing Size and Abundance of Juvenile Atlantic Surfclams (*Spisula solidissima*) in Offshore Wind Project Areas

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Introduction

- Atlantic surfclams (*Spisula solidissima*) are an important fishery species in the Mid-Atlantic
- Offshore wind has the potential to disrupt the habitat for surfclams and change settlement distributions
- Benthic grabs were used in fisheries monitoring plans (FMPs) to assess recruitment of the surfclam population
- Understanding the current distributions and changes to surfclam recruitment is vital to understand the future of the stock

Methods

- Benthic grabs were collected off New Jersey and Virginia, collecting 5-10 cm of surface sediment from the bottom
- Surveys sampled inside and outside of wind lease areas off NJ (2022 & 2023) and VA (2023)
- Each sediment sample was sorted and surfclams were counted and measured
- Size frequencies were calculated for each survey

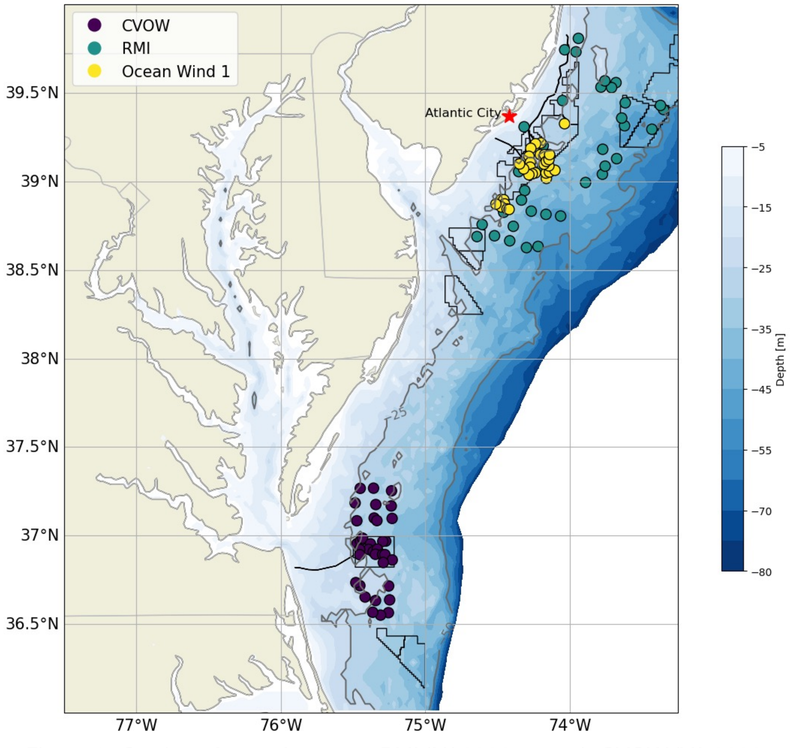

Figure 1. Stations for each survey: RMI (NJ 2022, green), CVOW (VA 2023, purple), and Ocean Wind 1 (NJ 2023, yellow).

Results

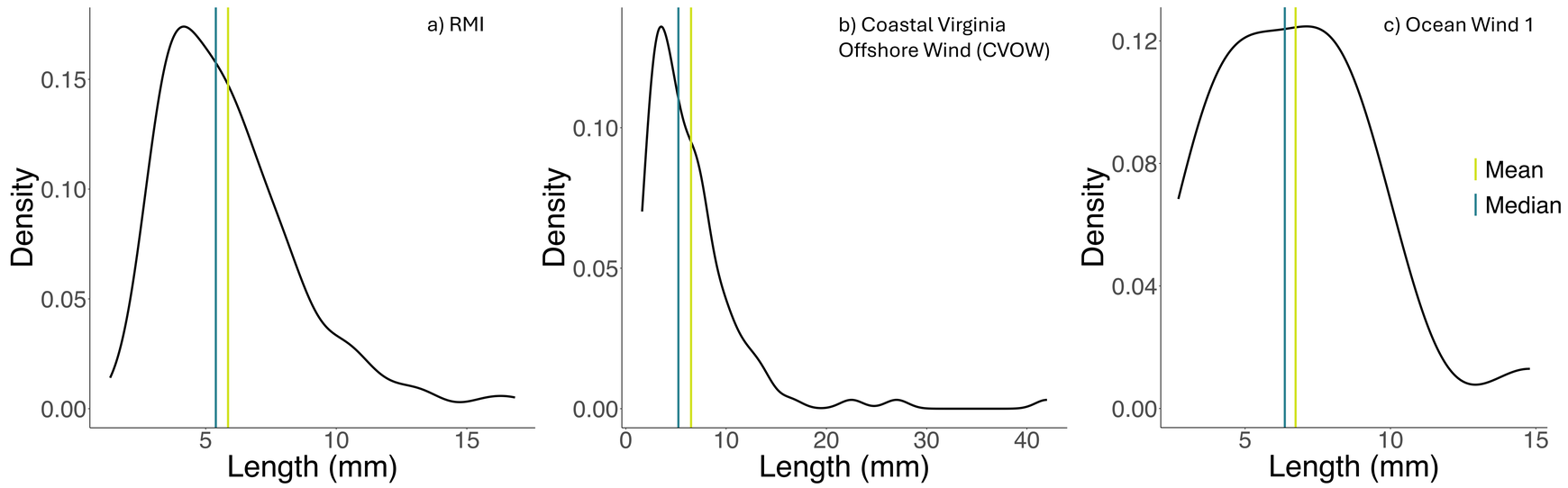

Figure 2. Surfclam size frequency from three surveys: a) RMI (NJ2022), b) CVOW (VA 2023), and c) Ocean Wind 1 (NJ 2023); with mean (teal) and median (green) marked.

Table 1. Summary statistics of length data for juveniles from each surfclam survey

OSW Area	Year	Median	Mean	Variance	# Grabs	Total Clam Count
RMI	2022	5.4	5.9	7.2	36	137
CVOW	2023	5.2	6.5	28.2	36	109
Ocean Wind 1	2023	6.4	6.7	7.9	30	23

Figure 3. Retrieving a benthic grab from a 2022 surfclam survey aboard the F/V Joey D.

Conclusions

- Size distributions of the newly settled juveniles are spatiotemporally similar
- Median sizes of juvenile surfclams from all three surveys were similar, but variance changed by location
- Larger surfclams caught in VA could be the result of an earlier recruitment period or increased growth rates in the warmer waters
- High total counts in VA could indicate higher recruitment in the southern extent of the surfclam population
- Equivalent size and total count of juvenile surfclams in NJ and VA could result from similar population dynamics (e.g., spawning, recruitment) of the populations in these areas

Next Steps

- Examine juvenile surfclam abundance on a site-by-site level for each survey and identify recruitment hotspots
- Compare to inshore historic time series to examine inshore vs offshore dynamics and recruitment changes over time
- Explore environmental effects on juvenile surfclams along the Atlantic coast by utilizing oceanographic data from these years

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