

Assessing the Viability of Large-Scale Hatchery Production for Atlantic Surf Clam

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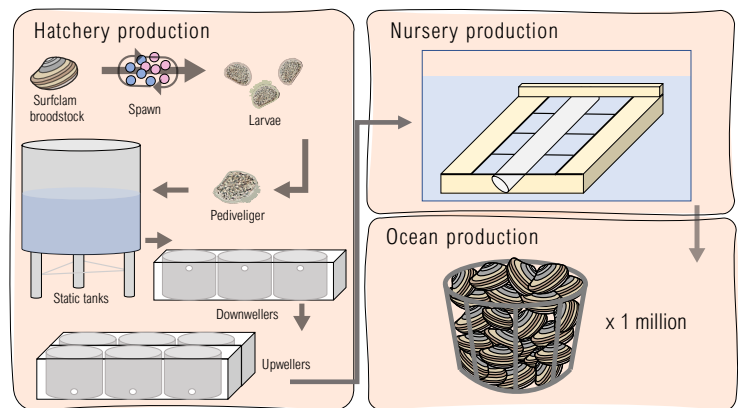
Project Overview

The high demand for renewable energy has stimulated the development of offshore wind farms along the east coast of the United States. Over two million acres are currently leased for the development of offshore wind turbines in U.S. waters (BOEM, 2022). It is expected that the Atlantic surf clam (*Spisula solidissima*) industry will be negatively impacted due to overlap between commercial fishing grounds and wind lease areas. This project uses the best available knowledge about predatory losses, hatchery and nursery growth, and costs of production to explore the economic viability of several large-scale surf clam hatcheries to offset additional costs, reduced revenues, and potential job losses associated with the displacement of the fishing fleet.



Methods

- ◆ Reports and primary literature were utilized to understand growth and survival of Atlantic surf clams in hatchery and nursery settings.
- ◆ Information on labor, energy, construction, and material inputs and costs for surf clam production were gathered from ~100 sources
- ◆ Met with hatchery managers, researchers, and others knowledgeable about shellfish hatchery production
- ◆ A techno-economic cost model and Monte Carlo analyses were employed to explore average production costs and their variability.



Results

- ◆ To support an annual production of **1M bushels** of surf clams, **88M fishery-sized clams** (>120mm) would need to survive.
- ◆ 374M – 2.1B clams are needed at the post-hatchery stage, and 277M – 645M clams are needed post-nursery
- ◆ The calculated hatchery costs range from \$2.8M - \$13.3M and nursery costs range from \$800K- \$1.8M
- ◆ Total costs range from **\$3.6M - \$15.1M**.

Under current market conditions where surf clams regularly sell for \$14-17 per bushel, our analysis suggests that several large-scale surf clam hatcheries **could be** a viable mitigation method to provide **additional fishing opportunity** for the **commercial fishing fleet**. However, costs that are associated with permitting, land acquisition, and ocean harvesting are not included.