The Mudflat

BRUNSWICK: A COLLABORATIVE APPROACH TO BOLSTER QUAHOG POPULATIONS

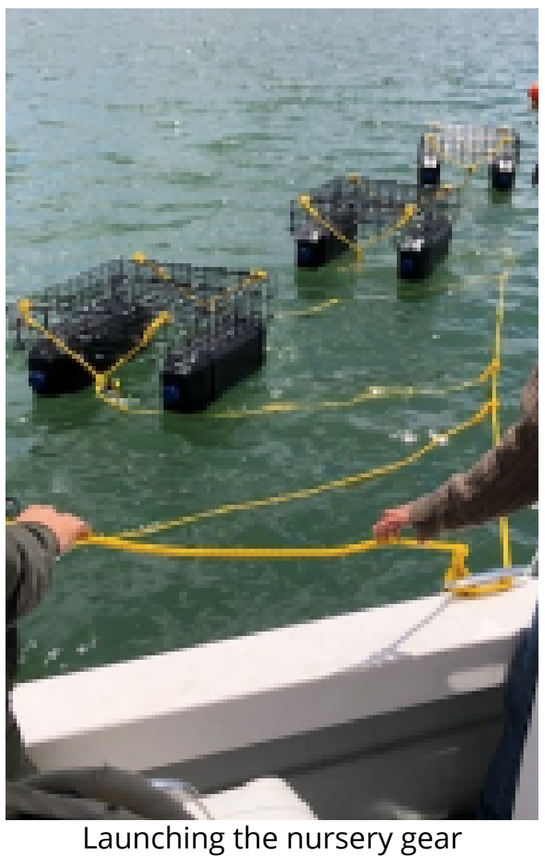
Town
Brunswick

Watershed
Casco Bay

Project Type
Quahog Farming

Background

Historically, Brunswick's shellfish program focused on soft-shell clams; however, an increase in green crab predation and a decline in soft-shell clam landings led the town to pivot to propagating hard clams (*Mercenaria mercenaria*), or quahogs. Quahogs are more predator-resistant than soft-shelled clams, and as ocean temperatures rise, the Maine coast is becoming increasingly suitable habitat for hard-shell clams. For the past decade, the Marine Resources Committee has successfully coordinated the transfer of juvenile and adult quahogs from high density areas to areas without commercial soft-shell clam or quahog populations.


Launching the nursery gear


Quahog seed

Transplanting quahogs

A 2020 grant funded a new effort for expanding local quahog populations. In Middle Bay and Maquoit Bay, project staff grew quahog seed in floating nurseries made of mesh spat bags and cages. Weekly water samples were collected around high tide. At the end of the growing season, the seed was split into two groups to overwinter either on-site, or at the Downeast Institute overwintering facility. The following year, the project staff transplanted the seed into Harpswell Cove.

Project Objectives

- Using existing town resources to collaborate with volunteer community members, shellfishermen, and farmers to nurse hatchery reared 1mm quahogs to planting size of >10mm
- Measure growth rates of the quahogs in the first year of the floating nursery stage
- Record biofouling at each site and collect water quality parameters during the nursery season
- Measure the success of overwintering nursery quahogs in protected cages and nets in Maquoit Bay
- Plant hatchery nursed quahogs >10mm in Harpswell Cove

Results

With the help of shellfishermen and shellfish farmers, over 750,000 quahogs have been planted into fourteen unproductive areas. No significant mortality was observed at the nursery sites. Quahog seed growth varied, with an average size of ~10mm. Water quality fell within acceptable ranges for quahog growth and survival.

Takeaways

This project revealed that site selection can be a real challenge. To monitor the project in the longer term, annual shellfish surveys will gauge quahog survival. Finally, Brunswick's efforts show that where possible, diversifying conservation projects with quahogs could benefit municipal shellfish program if the decline in soft-shell clam continues.

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