

PENOBSCOT: RECRUITMENT AND SETTLEMENT EXPERIMENTS



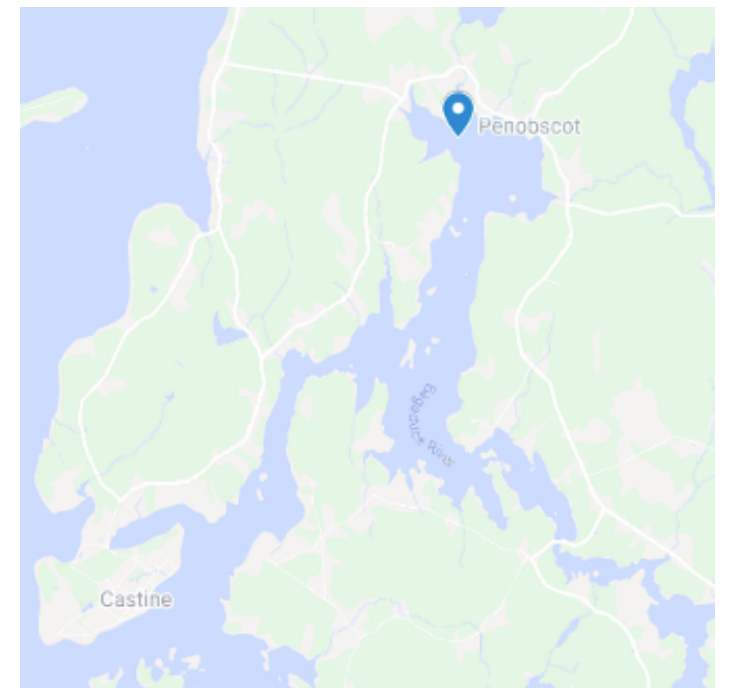
Town
Penobscot



Watershed
Bagaduce River



Project Type
Research & Restoration



Background

The Bagaduce River is one of the most productive estuaries in the state. In 2008, despite depuration harvesting, soft-shell clam landings in Penobscot totaled about 150,000 pounds. Concerned about the sustainability of soft-shell clam populations, and keeping harvesters employed, the Shellfish Conservation Committee embarked on a series of recruitment and settlement experiments.

Restoration Efforts

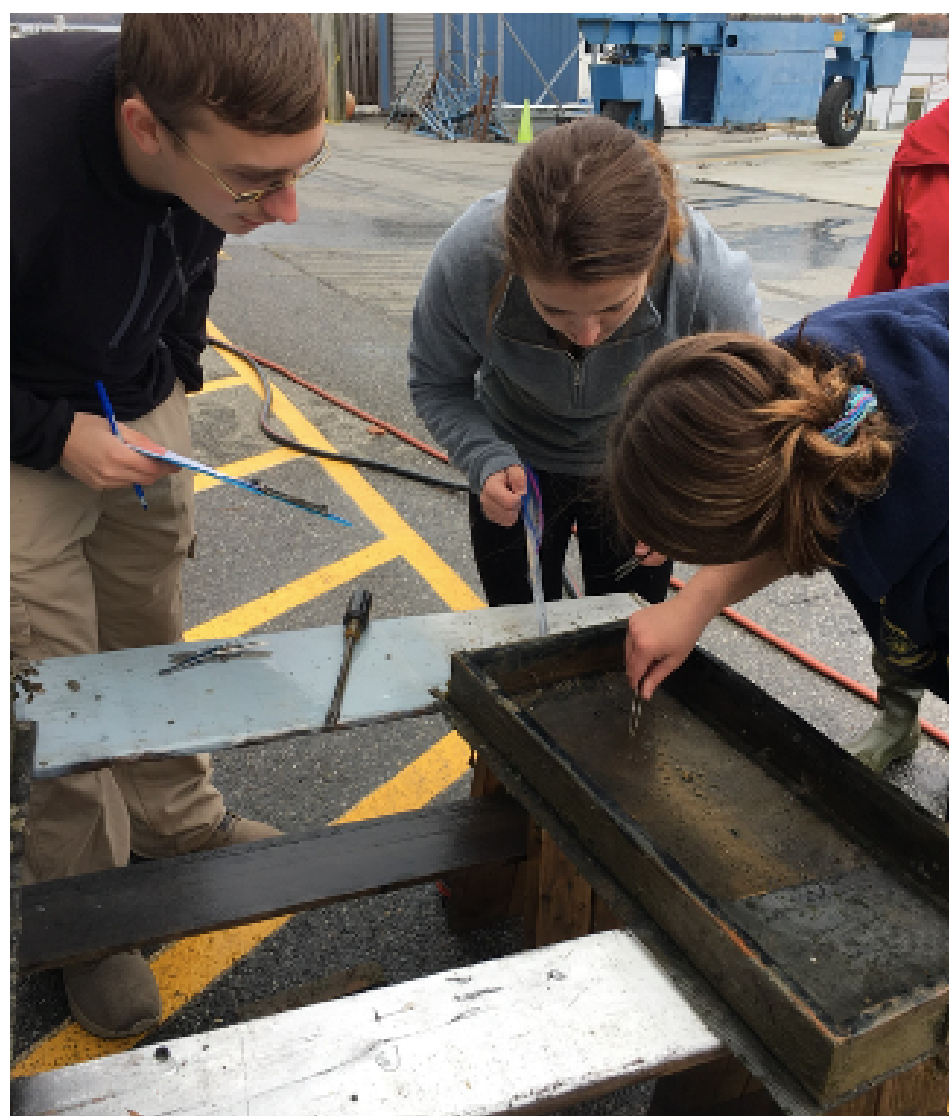
In 2009, the Town purchased clam seed and studied soft-shell clam growth rate with a plant pot experiment and seed plots. The following year, Penobscot worked with the area biologist on a clam recruitment study with lobster trap doors wrapped in plastic netting—the most successful models used AstroTurf.



Setting up a recruitment study (Photo by Hannah Annis)

The study ended in 100% mortality, mainly due to moon snails. On a positive note, 2010 also saw the reopening of most of the town's flats from water quality issues.

In 2012, green crabs arrived in Penobscot. After assessing the damage, the Shellfish Conservation Committee, with the help of students from Penobscot Community School and Maine Maritime Academy, started a plastic box recruitment study. The results showed an average of 300 clams per station, or enough clams to repopulate the Northern Bay of the Bagaduce River. Speaking at the 2018 Shellfish Focus Day, Bailey Bowden stated that having not seen any clams



Maine Maritime Academy biology students sort through Beal Box contents (Photo by Sarah O'Malley)

for five or six years, it was impressive to see any. However, these viable recruitment numbers have been decreasing.

Takeaways

The Shellfish Conservation Committee has been unable to make meaningful progress on restoring the soft-shell clam populations since 2012. The Town values the connection with Maine Maritime Academy, and plans on installing Beal Boxes with HOBO temperature sensors in the spring of 2022 to investigate the relationship between soft-shell clam spawning activity and seawater temperature.



Beal Boxes (Photo by Sarah O'Malley)

Contacts:

Bailey Bowden
clamchair@gmail.com