



Town of Brunswick Community Project to Remove invasive European Green Crabs from two coves

“Conducting projects such as this will give shell fishermen, fisheries managers, and municipal leaders the opportunity to be proactive in future approaches dealing with invasive species as it relates to restoring near shore fisheries habitat”.

Daniel Devereaux
Brunswick Harbormaster
& Marine Warden



PARTNERS

Maine and Resource Access International, Brunswick shellfish harvest, Brunswick students, New Meadows Watershed Partnership and Casco Bay Estuary Partnership

PROJECT DESCRIPTION (completed May 2015)

European green crab activity in 2012 and 2013 caused the destruction of many of the intertidal areas in Brunswick, which impacted important wading bird and finfish/shellfish nursery habitat, and destroyed commercially valuable native shellfish species. This project was designed to deploy predator fencing and traps in Buttermilk and Woodward Coves, with the goal of achieving manageable (non-destructive) biological targets for invasive European green crabs. Green crab populations were targeted, temperature data loggers were deployed throughout the season, and shellfish surveys were conducted to help to inform us about any impacts on shellfish population recovery in these areas following crab removal efforts. Brunswick Resource Access International as their consultant for this effort.

APPROACH

- Invasive predator protection measures through deployment of fencing and traps;
- Building an understanding of the population dynamics of the invasive species through intensive biological, catch per unit effort, and temperature data collection;
- Using netting to enhance wild settlement of commercially valuable soft-shell clams;
- Assessing effectiveness of the activities through shellfish resource surveys.

RESULTS

- Green crab numbers remained at non-destructive levels during the project period.
- Temperature cues may play an important role in green crab movements.
- Netting can enhance wild settlement of commercially valuable soft-shell clams in protected

NEXT STEPS AND OPPORTUNITIES

- Utilize water temperature and non-destructive catch per unit of effort (CPUE) to target trapping resources effectively. (In fisheries and conservation biology, the catch per unit effort (CPUE) is an indirect measure of the abundance of a target species)
- Establish local shell fishermen green crab monitoring programs; replicate across municipalities for state-wide and regional data utilization.

NEEDS

More studies are needed to determine overlapping impacts on commercial shellfish survival, which likely reach beyond predation impacts from green crabs.

LESSONS LEARNED

Predator fencing does not provide significant benefit to justify the effort required for deployment, maintenance and permit compliance.

APPLICABILITY FOR OTHER MUNICIPALITIES

The information generated from this project is transferrable to most of the other municipalities in the Casco Bay region, and a similar type of data collection may be applied throughout municipalities statewide, in order to generate regionally-specific information for those towns.

RECOMMENDATIONS

- Further long term studies that will help develop a statewide green crab monitoring program.
- Green crab emergency plans should be based on the most effective localized removal methods.
- In the presence green crab populations that have exceeded maximum catch per unit counts, predator protection netting should be stapled over top of ALL juvenile shellfish beds or any heavy concentrations of softshell clam populations.
- Conduct annual shoreline invasive species surveys to help green crab activity along the shoreline. Establish and distribute an education flyer, distribute to coastal landowners, indicating the shoreline signs of green crab activity.

CONTACT

Dan Devereaux, Brunswick Harbormaster & Marine Warden
DDevereaux@brunswickpd.org and 207-725-6661

Darcie A. Couture, Lead Scientist
Resource Access International
darcie.couture@att.net and 207- 266-8984

FY14CCG - 19

Financial assistance provided by the National Oceanic and Atmospheric Administration, U.S. Department of Commerce Grant CZM NA13NOS4190045 to the Maine Coastal Program. Coastal Community Grants are awarded and administered by the Maine Department of Agriculture, Conservation and Forestry Municipal Planning Assistance Program.

