# Green Crab Monitoring/Management in the Great Marsh

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Merrimack Valley Planning Commission

Great Marsh Partnership

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Research Project

# **Why**: Your Project Purpose/Identified Need

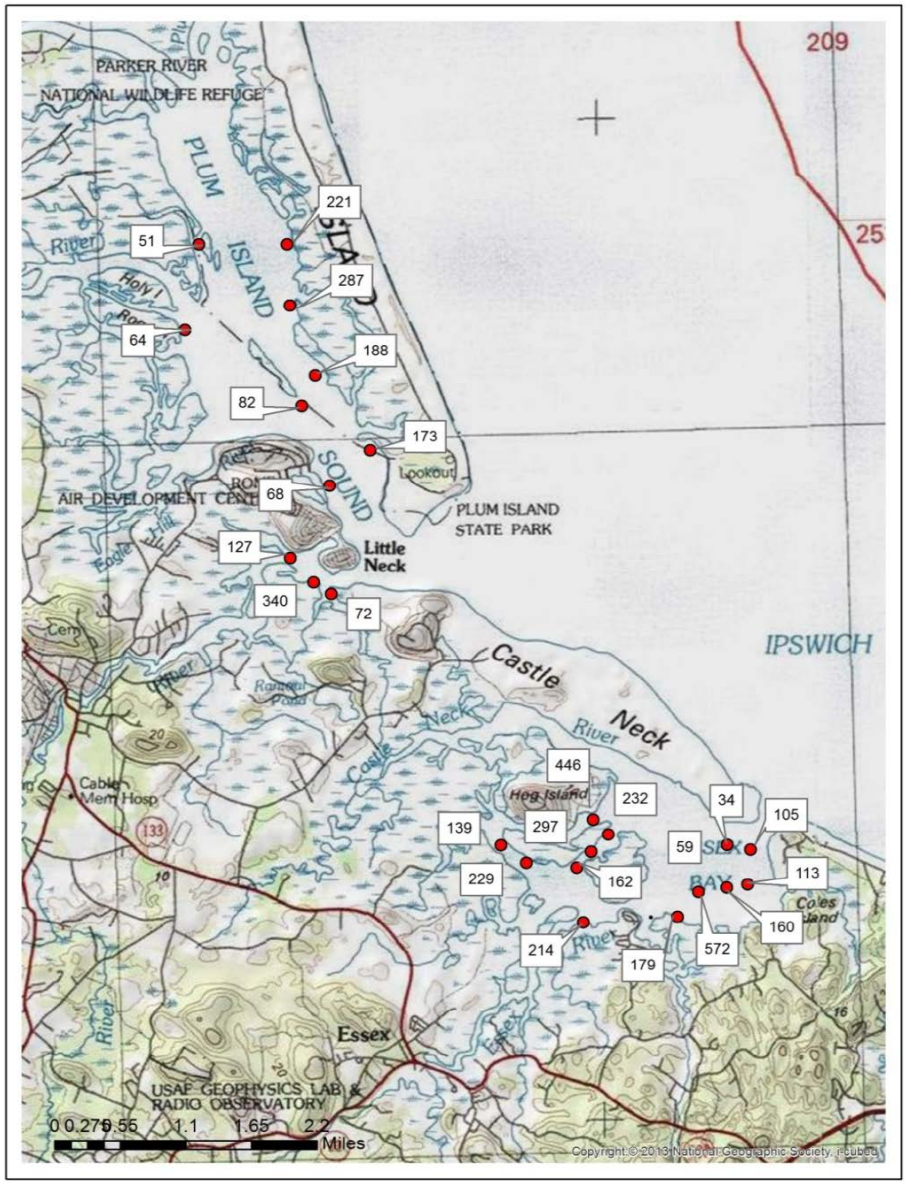
- Invasive green crab can and have at times, altered the ecosystem of the Great Marsh tidal flats. Decimating both commercial and noncommercial shellbeds, the green crab population structure is not well know. The monitoring/research project is attempting to determine the fluctuations and level of abundance of invasive green crab (M/F) in lower Plum Island and Essex Bay. A subcomponent of the project is to investigate/create a culinary use for the green crab allowing market forces to assist in the control of the often hyperabundant population. An additional subcomponent of the project is to remove green crabs from the system.

# **What**: Project Goals and Desired Outcome

- The primary goal of the green crab program is to gather baseline population information on the green crab in the mid/lower Great Marsh. Twenty-four sites are being monitored in the combined estuaries.
- Parameters being measured include; total green crabs, number females, number males, carapace width, and total other types of crabs.
- The short-term goal is to understand the abundance of green crab in the lower Great Marsh and how these numbers may fluctuate annually and seasonally. The long-term goal is to develop a management plan to reduce their numbers.
- The secondary goal of the green crab program is to develop a culinary demand for green crabs to allow the market forces to create incentives for green crab trapping and removal. Working with the food industry, shellfish distributors, restaurants/chefs, food scientist, etc, to develop food products and determine their viability in the market place. Long-term we would like to see several products become in demand creating a sustainable green crab trapping industry.
- A third goal of the project is the simple removal of the green crab from the estuary through a state and local green crab trapping bounty program. This will help reduce green crab populations in the short-term but is not a sustainable endeavor long-term.

# **Where** are you working

- Catch Per Unit Effort (CPUE) male and female and carapace width in cm. Data is collected quarterly  (not winter) over a five year period (2014 – 2018)



# **Who** is doing the work and **When** are you doing it?

- Project lead: Alyssa Novack, Boston University, Great Marsh Partnership - monitoring
  Roger Warner, Green Crab R&D – culinary marketing
  Representative Brad Hill, Great Marsh Legislative Delegation – bounty program

- Project partners: MassBays National Estuary Program/Merrimack Valley Planning Commission, MA Division of Marine Fisheries, Green Crab R&D membership, Towns of the Great Marsh, volunteers, private clammers/trappers
- The project began in 2014 and is currently ongoing.
- The monitoring program was born out of a regional eelgrass restoration project when it was observed that green crabs were negatively impacting the newly planted eelgrass pilot sites. Therefore, site selection for the monitoring sites is not completely random. To address the potential removal of green crabs from the system, options for post-trap green crab use were investigated and the green crab culinary program was created. At the same time green crabs were hype-abundant in the estuary and were decimating the clamflats at which point the green crab bounty program was initiated.
- Next steps are presumed to be continuation of previous efforts.

# How

- The program has been funded via various means through the years including the State Massachusetts budgetary line items, MA Division of Marine Fisheries, federal funds through Hurricane Sandy Resiliency grant, partner organizations, and volunteer manhours.
- Partnership meetings, work shops, newsletters, reports and presentations are primary in communicating with the target audience.