

THE PECONIC ESTUARY PARTNERSHIP C.H.A.N.G.E.S SHORELINE PROTECTION PROJECT

Multi-faceted nature-based coastal resiliency

BACKGROUND

Nature-based solutions systems can offer valuable natural defenses against climate change, reduce shoreline erosion, improve coastal resiliency, mitigate wave action, and improve water quality through carbon sequestration.

PEP is working with a team of Stony Brook University researchers to use sugar kelp, shellfish, and eelgrass to protect our coastal communities and provide additional ecological co-benefits.

East North Haven, in Southampton off , is one of the original pilot sites assessed for this project. After following a methods-based approach, East North Haven has been determined a suitable location to implement these subtidal, nature-based solutions to reduce climate change impacts such as sea level rise, increased wave action, and ocean acidification.

OBJECTIVES

C.H.A.N.G.E.S

Creating **H**abitat

Acidification

Nitrogen

Guarding our shorelines from

Erosion and storm surge

Sequestering of carbon

Long Island's coastal communities have unique vulnerabilities. The Peconic Estuary Partnership offers a unique opportunity to pilot solutions to ecological and shoreline protection challenges.

FINDINGS AT EAST NORTH HAVEN

- East North Haven exhibited great kelp forest yields, successful seagrass growth, and optimal oyster growth and survival.
- Oysters continued to grow and survive well throughout several sample years.
- Seagrass was successful, but had a lower biomass and growth than some other sites sampled, with older patches of planted seagrass being healthier than new patches.
- Seagrass and kelp showed a decreased in overall health in the summer months.



PARTNERS

- The Gobler Lab
- The Peterson Lab
- SBU SOMAS
- East Hampton Town Board
- East Hampton Trustees
- Village of North Haven
- Southampton Town Board
- Southampton Town Trustees
- Shelter Island Town Board
- Village of Sag Harbor
- Community Partners

CCMP ACTIONS

- Action 10: Incorporate climate change considerations into new and existing projects of PEP and partner organizations.
- Action 12: Mitigate climate change through coastal ecosystem management
- Action 23: Conduct scientific studies to expand understanding of the Peconic Estuary ecosystem and support ecosystem-based management.

STATUS

Work is in progress to implement nature-based solutions to East North Haven full-time and at a higher frequency.

Monitoring will proceed.

The CHANGES project and its partners are evaluating future sites to work in conjunction with Barcelona Point.

