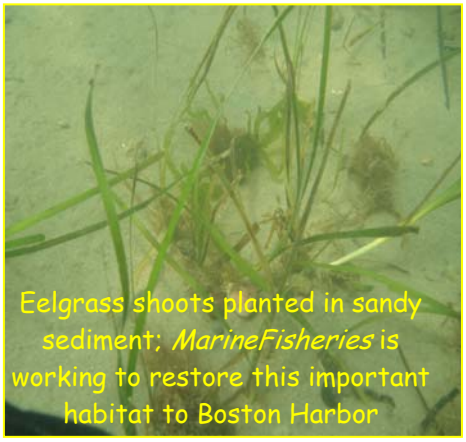
Eelgrass Restoration

Re-establishing habitat in Boston Harbor

Massachusetts Division of MarineFisheries

Background:

Eelgrass, or *Zostera marina*, is a rooted, flowering plant that grows in shallow waters along our coastline. Eelgrass provides habitat for fish, shellfish, and other marine animals, and is particularly important as a refuge for juvenile organisms. It also stabilizes the sediment and buffers wave action.



Eelgrass shoots planted in sandy sediment; *MarineFisheries* is working to restore this important habitat to Boston Harbor

Historically, Boston Harbor played host to vast beds of eelgrass. Due to die-offs in the 1930s, pollution, and nutrient loading, only a few small beds remain today.

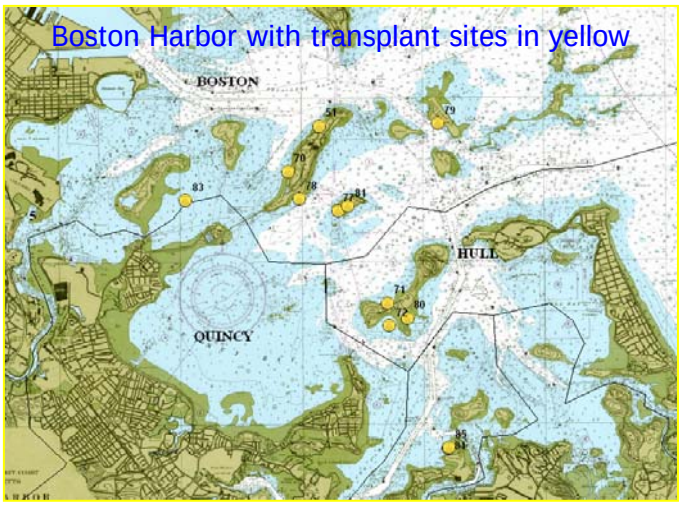
The Harbor water quality has improved in recent years largely due to Boston's enhanced sewage treatment and offshore disposal. Better water quality means eelgrass can again grow in Boston Harbor, but natural re-vegetation can take decades.

Restoration efforts can greatly accelerate this process. *MarineFisheries* is currently conducting an eelgrass restoration project in the Harbor with the hope of re-establishing this invaluable resource.

Restoration Effort:

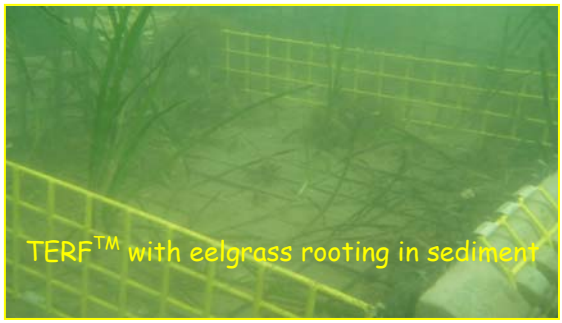
Eelgrass restoration involves SCUBA divers carefully harvesting plants from healthy donor beds in Revere and Nahant and replanting them in areas of Boston Harbor where environmental monitoring indicates they are most likely to grow. Planting sites are selected based on many factors, including light penetration through the water, sediment type, water depth, exposure, and number of benthic organisms. After divers harvest the grass, viable shoots are replanted using one of several methods. They are hand-planted using bent bamboo skewers for anchors, or tied to

SCUBA divers preparing to harvest eelgrass shoots from donor beds



Boston Harbor with transplant sites in yellow

frames called TERFS™ (Transplanting Eelgrass Remotely with Frames) and lowered into the water. The TERFS™ are left in place just long enough for the eelgrass to re-root, then are removed, leaving the transplanted eelgrass beds to expand vegetatively by extending rhizomes (root structures) or by seeds. Seeds can also be harvested and re-distributed.


TERF™ with eelgrass rooting in sediment

MarineFisheries has organized a volunteer effort from among local citizens, conservation-oriented groups, school groups, and recreational divers to provide assistance with all stages of transplant operations. Successful restoration of eelgrass in Boston Harbor will benefit commercially and recreationally important finfish and shellfish species including striped bass, bluefish, cod, crabs, and lobster. In addition, it is hoped that citizen involvement will instill a sense of stewardship and an appreciation for the Harbor as an environmental and recreational resource worthy of protection.


Volunteers assist in the tying of eelgrass shoots and deploying of TERFs™

For more information and project updates, or to volunteer, visit our website at www.mass.gov/marinefisheries and click on the "HubLine" link