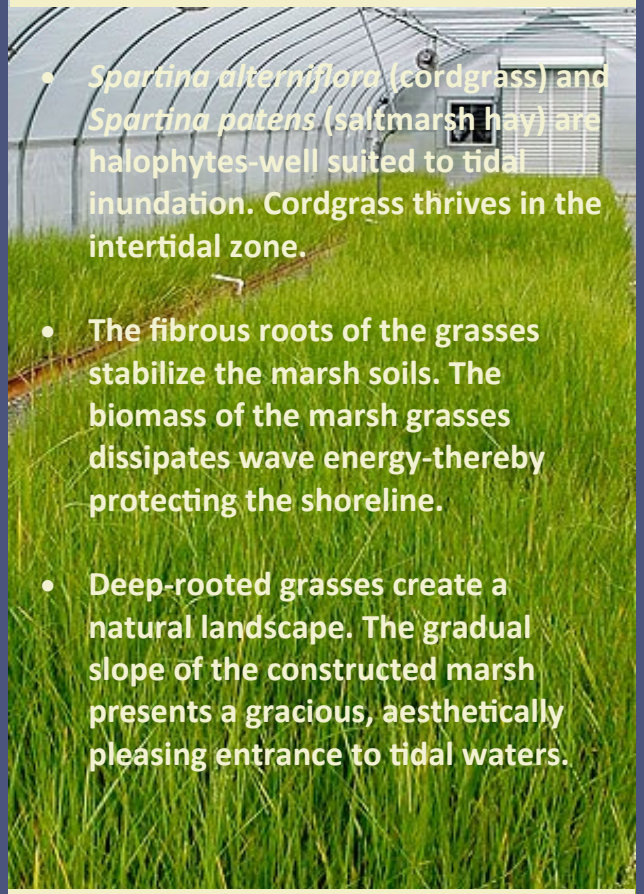
PLANTS ARE THE KEY



- *Spartina alterniflora* (cordgrass) and *Spartina patens* (saltmarsh hay) are halophytes-well suited to tidal inundation. Cordgrass thrives in the intertidal zone.
- The fibrous roots of the grasses stabilize the marsh soils. The biomass of the marsh grasses dissipates wave energy-thereby protecting the shoreline.
- Deep-rooted grasses create a natural landscape. The gradual slope of the constructed marsh presents a gracious, aesthetically pleasing entrance to tidal waters.

Contact Us

Contact Joe Miller, MSc MLA
Environmental Concern's Vice President
at jmiller@wetland.org
to schedule a consultation with our shoreline experts. We will walk your site with you and discuss options for your property.

Or contact us by phone at:
410-745-9620

Mission Statement:

EC promotes the public understanding and stewardship of wetlands with the goal of improving water quality and enhancing nature's habitat. This is accomplished through wetland outreach and education, native species horticulture, and the restoration, creation and enhancement of wetlands.

Cordgrass(Spartina alterniflora)

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Living Shorelines

Leaders in Wetland Creation and Restoration since 1972.

Environmental Concern

THE PROBLEM:

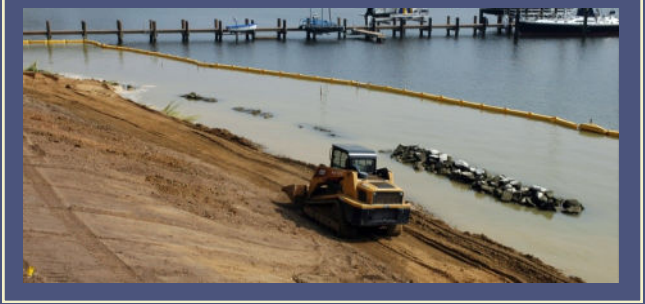
Estuarine, emergent tidal marshes, the most productive ecosystem in the Chesapeake Bay watershed, continue to disappear at an alarming rate.

- Stormwater runoff from agricultural fields, lawns, and impervious surfaces contributes to 5.7 million pounds of nitrogen and 4.2 million pounds of phosphorous to Chesapeake Bay waters annually.
- Eroding shorelines deposit 4.7 million cubic yards of sediment annually into Chesapeake Bay water. Suspended sediments smother subaquatic vegetation (SAV) and degrade oyster beds.
- Tide and wave action is reflected by riprap and bulkheads - resuspending sediments, and therefore, degrading water quality.

THE SOLUTION:

EC engineers and scientists have designed and constructed hundreds of acres of tidal marsh in the Chesapeake Bay watershed.

- Each design is site specific. To be sure that we have a complete understanding of the shoreline, our engineers survey the property at high and low tide - mapping bathymetry and upland elevations. The soils, fetch, and shoreline orientation is investigated, and natural resource and land records are researched.
- Permit applications are filed with the appropriate Federal, State, and local agencies. With permits in hand, the restoration crews prepare the location - protecting landscape features and sensitive areas with fencing, truck mats, etc. A turbidity curtain is installed in the water to confine sediments.
- The new marsh planting base is installed to the design elevation. An appropriate containment structure is constructed to protect this new marsh.
- The marsh base is then planted with appropriate marsh vegetation.
- The high bank may be graded channel-ward to meet the new marsh elevation.
- The buffer is planted with native grasses and shrubs.



THE BENEFITS:

This Living Shoreline Stewardship Initiative is a property owner-based contribution toward improving the water quality and living resource habitat in the Bay and its tributaries. Our Living Shoreline recreates the natural functions of a shoreline ecosystem.

- The tidal marsh improves water quality by trapping silt and pollutants contained in stormwater runoff and in the receiving waters. The marsh uptakes nutrients and processes chemical and organic wastes.
- The tidal marsh is the estuarine farmland, supporting the Bay's living aquatic resources. More than half of the commercially useful fish depend on the tidal marsh as spawning beds, hatcheries, nurseries or feeding grounds.
- The tidal marsh protects the shoreline by dissipating wave energy and stabilizing the marsh soils. While riprap and bulkheads failed during Hurricane Isabel, the marshes constructed by EC protected shorelines from tidal surge damage of the storm.