Plants of the Fresh Water Marsh

There is plant diversity in fresh water marshes. Some of these plants also grow at the upland margin of salt marshes where fresh water drains or collects.
Hidden Communities in the Salt Marsh

The **Shallow Water Community** is hidden below the water when the salt marsh is flooded during high tides, including numerous fish, blue crabs, grass shrimp, amphipods and microscopic plankton.

The **Benthic Community** of animals is concealed under the intertidal flat, which is exposed at low tide. Clams, mussels & worms are prey items for fish & blue crabs at high tide.

**Striped Killifish**
*Fundulus majalis*

**Blue Crab**
*Callinectes sapidus*

**Horseshoe Crab (plankton stage)**
*Limulus polyphemus*

**Amphipod**

**Clam Worm**
*Nereis succinea*

**Stout Razor Clam**
*Tagelus plebeius*
Tidal Marsh Restoration

The Teaching Marsh is a restored tidal wetland created in 1999.

Before planting a tidal marsh, it is important to know: 1) the local salinity range to pick the right plants, and 2) the local tide levels to know where they should be planted in the new marsh.

If the correct elevations are accurately targeted, then the planted vegetation will quickly fill in until it looks just like a natural marsh. If introduced marsh plants fail to thrive, then the tide levels should be re-evaluated.

Salt marsh vegetation grows in distinct zones according to the duration of tidal inundation.

March 2000

September 2000

The Teaching Marsh after one growing season.
Salt bushes and grasses are the dominant plants in the High Salt Marsh, flooded only during extreme high tides and storm events.

Salt bushes indicate the upland limit of tidal marshes.
Plants of the Low Salt Marsh

Saltmarsh Cordgrass
*Spartina alterniflora*

These are among the few plants adapted to daily tidal flooding, which occurs in the lower elevations of the salt marsh.

They can tolerate high salinity and low oxygen levels.

Their ability to withstand wave energy makes them valuable for erosion control.

Black Needlerush
*Juncus roemerianus*

Big Cordgrass
*Spartina cynosuroides*

Saltmarsh Bulrush
*Scirpus robustus*
Hidden Diversity

Plant diversity in the salt marsh is low due to salinity and low oxygen stress.

Unique plant species adapted to salt marsh conditions are hidden among the dominant salt marsh grasses.

**Sea Lavender**
*Limonium carolinianum*
Dark green rosette leaves at marsh surface, flower stalk & lavender blooms
July - October

**Sea Oxeye**
*Borrichia frutescens*
Halophytic (salt-tolerant) perennial, yellow flowers in summer

**Saltmarsh Aster**
*Aster tenuifolius*
White or magenta blooms in late summer

**Saltwort**
*Salicornia spp.*
Short succulent, pink to ruby red in fall
Riparian forests grow next to rivers, streams, marshes and bays. These forests perform important ecological functions & they provide recreational and economic values. Forests are one of the least polluting types of land use. Large areas of healthy forest are essential for a healthy Chesapeake Bay.

**Water Quality**
Healthy forests capture & store rainfall, reduce runoff plus filter nutrients and sediment. Canopy cover shades and cools streams which benefits aquatic organisms.

**Air Quality**
Riparian forests clean the air by absorbing or trapping particulates, nitrogen and other pollutants released by cars, factories, farming and development.

**Recreation & Economic Return**
Riparian forests provide renewable resources for forest products and outdoor recreation opportunities.

**Bird & Wildlife Habitat**
Riparian forests provide food, shelter, nesting sites and safe migration paths for aquatic & land animals.
# Birds of the Marshes

<table>
<thead>
<tr>
<th>Common Name</th>
<th>Scientific Name</th>
<th>Description</th>
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</thead>
<tbody>
<tr>
<td>Great Blue Heron</td>
<td><em>Ardea herodias</em></td>
<td>Large, gray-blue heron, black stripe extends above eye; holds neck in S-shape hook during flight; commonly seen in fresh and salt water marshes</td>
</tr>
<tr>
<td>Green Heron</td>
<td><em>Butorides virescens</em></td>
<td>Small, chunky heron with short dull yellow legs; green upperparts mixed with blue-gray; greenish crown; solitary, prefers marshes with adjacent</td>
</tr>
<tr>
<td>Belted Kingfisher</td>
<td><em>Ceryle alcyon</em></td>
<td>Blue breast band &amp; wings; short, stocky legs; large head, large bill, shaggy crest; perches then dives head first to catch small fish; burrows in</td>
</tr>
<tr>
<td>Red-Winged Blackbird</td>
<td><em>Agelaius phoeniceus</em></td>
<td>Male birds are glossy black with red shoulder patches; female birds dark brown &amp; heavily streaked; nests in thick marsh vegetation; abundant &amp;</td>
</tr>
<tr>
<td>Marsh Wren</td>
<td><em>Cistothorus palustris</em></td>
<td>Small, chunky bird with slender, slightly curved bill, white eyebrow stripe; common in reedy marshes; football-shaped nest attached to reeds above water;</td>
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</tbody>
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