Best Practices for Working with Marsh Plants & Oyster Shell

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North Carolina Coastal Federation
Working Together for a Healthy Coast
North Carolina Coastal Federation

Nonprofit Organization
• 40th Anniversary!
• Three offices
• 30 staff and 30 board members

Key Goals:
Clean Coastal Waters
Promote Living Shorelines
Restore Oyster Habitat
Effective Coastal Management
Reduce Marine Debris
Using Plants & Oyster Shells for Living Shorelines
Riparian, Upland Buffer: located at the highest elevation of the slope, it is generally only flooded during extreme storm surges.

High Marsh, Scrub-Shrub, Mid-Marsh: located between the low marsh and the riparian/upland buffer. Plants here can tolerate occasional flooding during extreme events but exist within upland conditions.

Low Marsh: located along the seaward edge of the salt marsh. It is flooded at every high tide and exposed during low tide.

Modified from: http://ccrm.vims.edu/wetlands/livingshoreline_intro.html
Common Shrubs and Trees Planted for Living Shorelines

- Wax Myrtle
- Marsh Elder
- Yaupon Holly
- Bald Cypress
- Atlantic White Cedar
Typical North Carolina Saltwater Marsh Plants

*Spartina alterniflora* (smooth cordgrass)

*Juncus roemerianus* (black needlerush)

*Spartina patens* (saltmeadow hay)
Nurseries that Grow Salt Marsh Plugs

<table>
<thead>
<tr>
<th>Nursery</th>
<th>Location</th>
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<tbody>
<tr>
<td>Garner’s Landscaping &amp; Plant Stand</td>
<td>Newport</td>
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<tr>
<td>Wetland Plants Inc.</td>
<td>Edenton</td>
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<td>Mellow Marsh Farm, Inc</td>
<td>Siler City</td>
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<td>Lumber River Native Plants</td>
<td>Gibson</td>
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<tr>
<td>Mercer Nursery</td>
<td>Lockwoods Folly</td>
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<tr>
<td>Coastal Transplants</td>
<td>Bolivia</td>
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</tbody>
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Note: prices will vary due to weather, availability, demand, shipping costs, and market variability.
Ordering and Planting Times

- Order in fall
- Plant in April-June
- Plant in spring for 2-3 years

- Trays or boxes
- Trim - “Haircut”
- Grow them in a greenhouse
When and Where to Plant

- Plant in April through mid-June for 1-3 years.
- If planting an unvegetated area:
  - Smooth cordgrass - below high tide line
  - Saltmeadow cordgrass and black Needlerush - at/above high tide line
- Plant where that species is already present
- Plant close together and close to existing grass
How to Plant Marsh Grass

1. Use a dibble bar

2. Push dibble bar down six inches deep, move the dibble bar back and forth to make the hole

3. Place one plug per hole.

4. Repeat, planting plugs six inches to one foot apart
How to Plant Marsh Grass
Jones Island Living Shoreline

Before Planting

After 1 Year
Jones Island Living Shoreline

Before Planting

After 3 years

After 6 years
Using Recycled Oyster Shells for Living Shorelines

The shells of oysters that were harvested and consumed
Why are oysters important?
Why are oysters important?

The 3 F’s = Food, Filtration, Fish Habitat
Carteret County leaders enjoying an oyster roast!
food
How many gallons of water can ONE oyster filter in a day?

a) Up to 2 gallons
b) Up to 50 gallons
c) Up to 15 gallons
How many gallons of water can ONE oyster filter in a day?

a) Up to 2 gallons  
b) Up to 50 gallons  
c) Up to 15 gallons
An adult oyster can filter 25-50 gallons of water a day!
Oyster reefs are full of life!

fish habitat
Live baby oysters (Spat) grow on top of recycled oyster shells
Live oysters growing on top of recycled shells
Using Recycled Oyster Shells for Living Shoreline Construction in Oyster Growing Waters
Using Recycled Oyster Shells

Loose Oyster Shells

Oyster shell bags

Marsh Toe Revetment

Patch Oyster Reefs

Marsh Sill
Using Oyster Shell Bags
Be on the Lookout! Eroding Shorelines
Living Shorelines in front of Soundside Homes
Living Shorelines in front of Soundside Homes
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