

# Best Practices for Working with Marsh Plants & Oyster Shell



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

Georgia Busch  
Coastal Specialist



# North Carolina Coastal Federation



## Nonprofit Organization

- 41<sup>st</sup> 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



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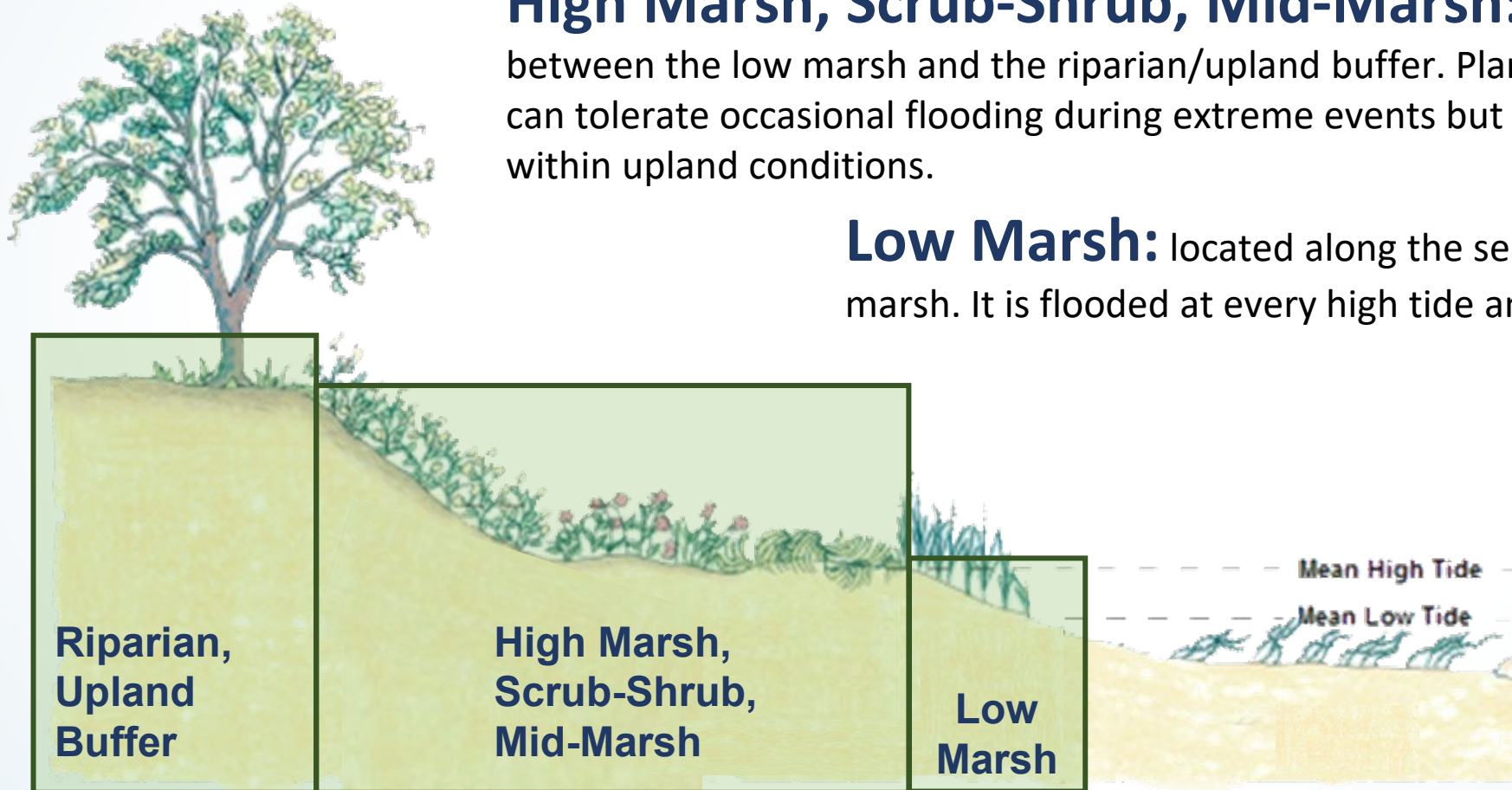
# Using Plants & Oyster Shells for Living Shorelines



**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.





# 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

Nursery	Location
Garner's Landscaping & Plant Stand	Newport
Wetland Plants Inc.	Edenton
Mellow Marsh Farm, Inc	Siler City
Lumber River Native Plants	Gibson
Mercer Nursery	Lockwoods Folly
Coastal Transplants	Bolivia



Note: prices will vary due to weather, availability, demand, shipping costs, and market variability.



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# 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





# 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









# 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**



# food

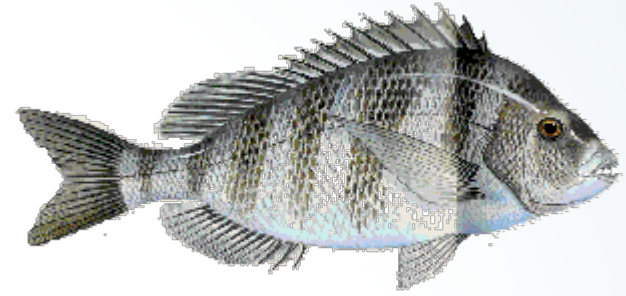


**Carteret County leaders  
enjoying an oyster roast!**





# food





How many gallons of water can ONE  
oyster filter in a day?

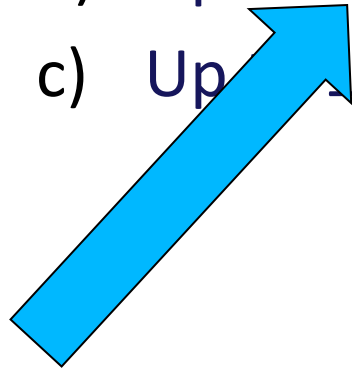
- a) Up to 2 gallons
- b) Up to 50 gallons
- c) Up to 15 gallons





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!**



# fish habitat

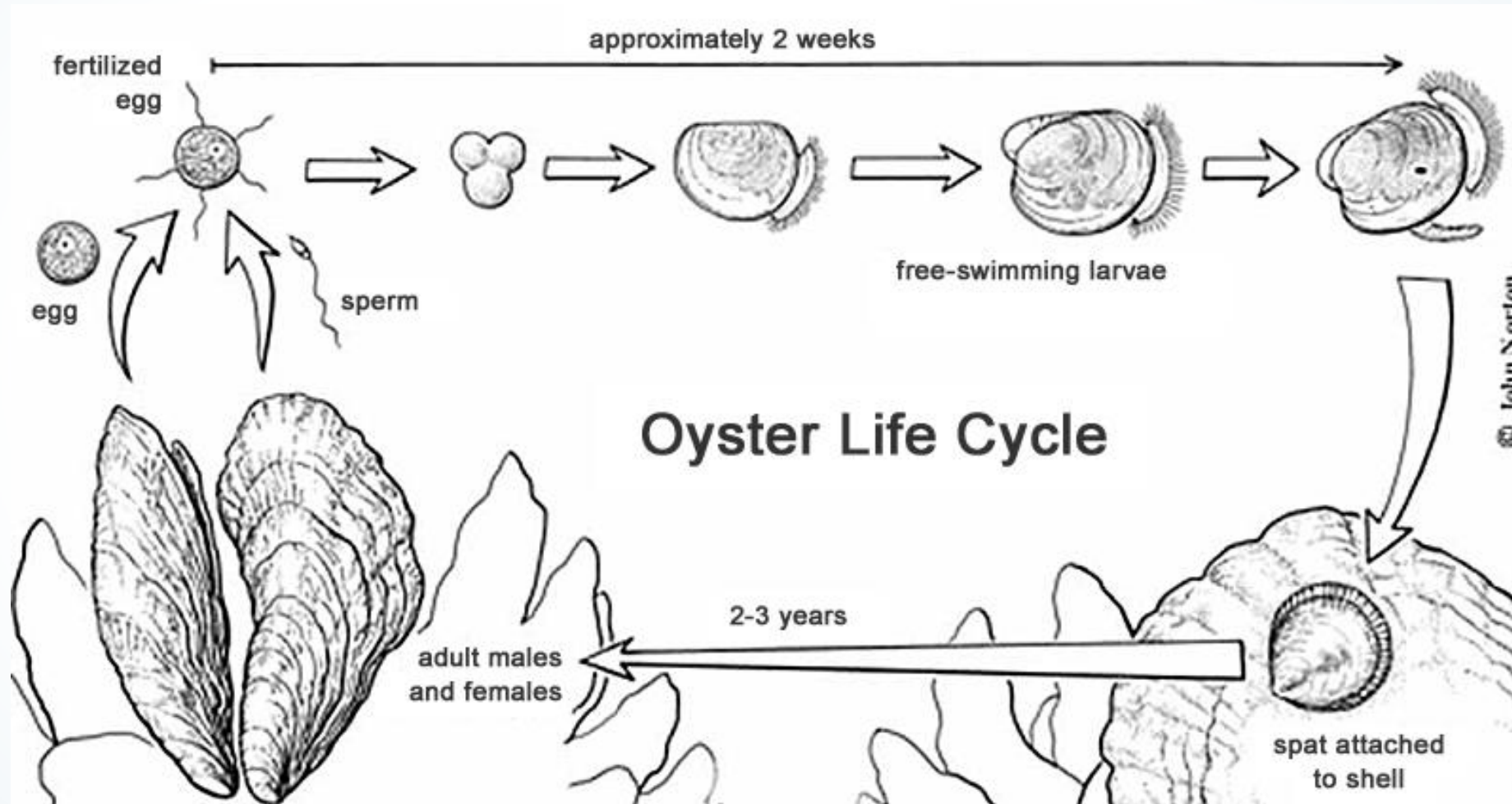


**Oyster reefs are full of life!**





# Oyster Biology



# Live baby oysters (Spat) grow on top of recycled oyster shells



**Oyster Spat**







**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



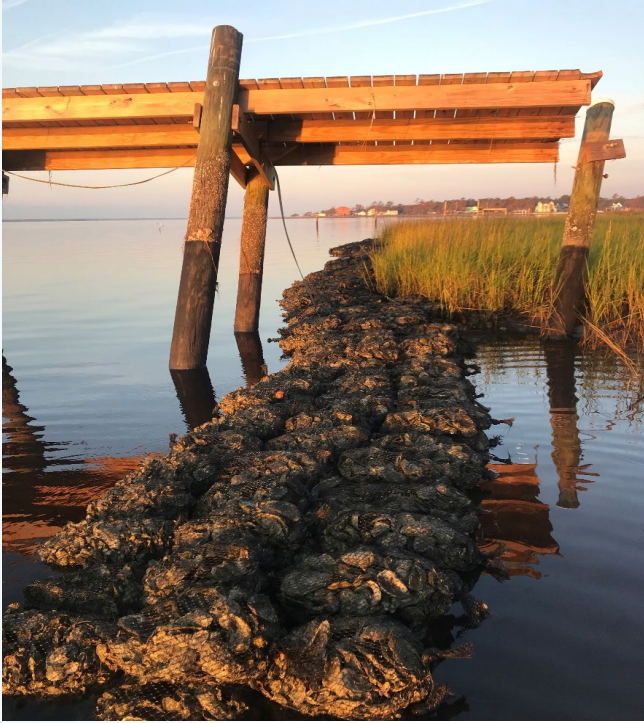


# Be on the Lookout! Eroding Shorelines





# Living Shorelines in front of Soundside Homes



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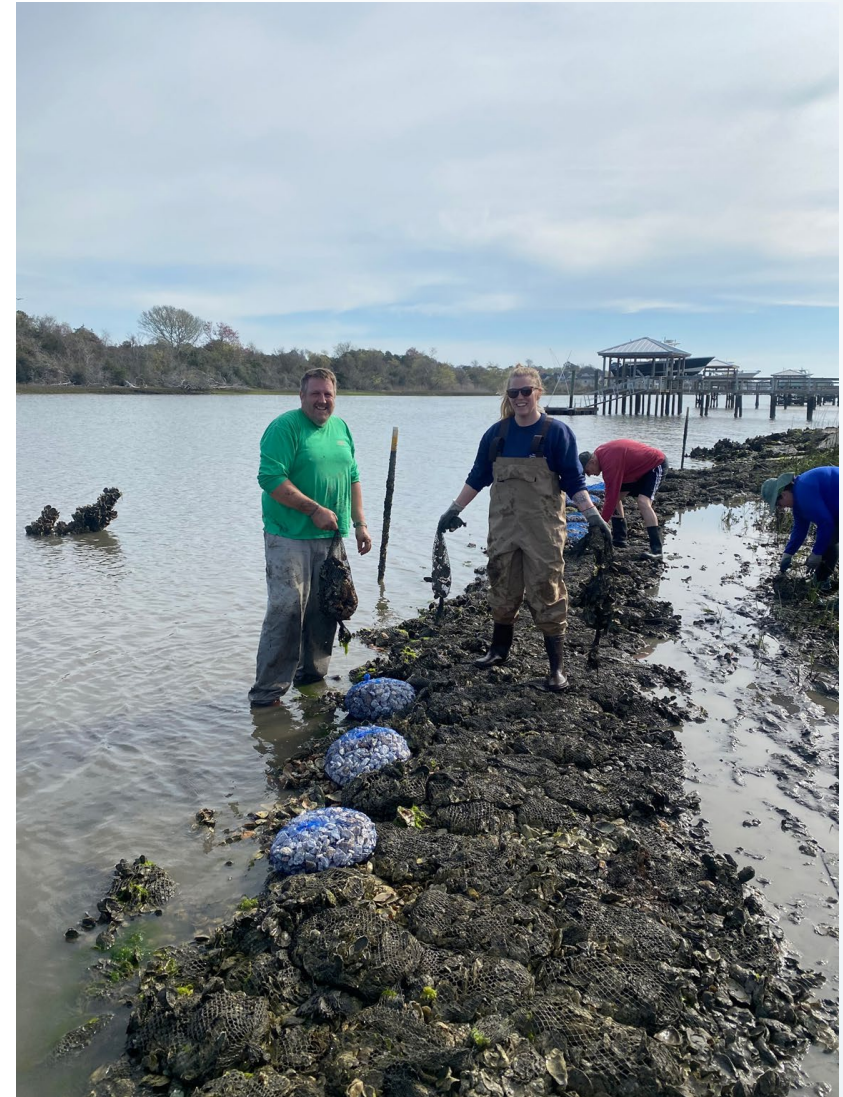
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We'll see you Friday for  
some Living Shoreline  
monitoring at Carolina  
Beach State Park!





# Oyster & Marsh Grasses Questions!

**Georgia Busch**, Coastal Specialist  
(910) 509-2838, ext 206  
309 W. Salisbury Street  
Wrightsville Beach, NC