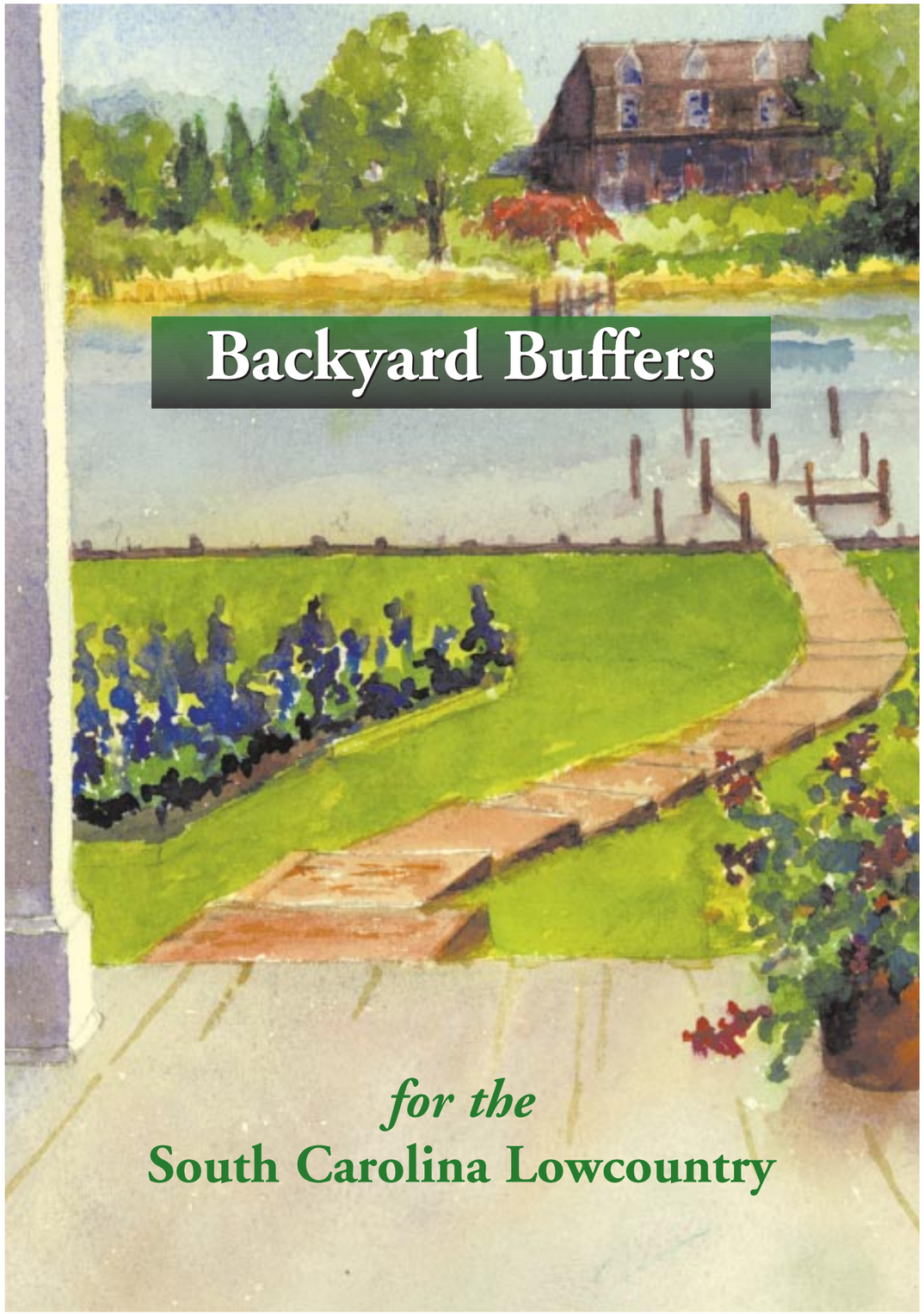


Backyard Buffers

for the

South Carolina Lowcountry

What's *wrong* with this picture?

Many people in South Carolina who live along the water would be surprised to discover that typical landscaping may actually harm the state's rivers and creeks.

Loss of Natural Shoreline

Landscaping with lawn all the way to the water increases stormwater runoff amounts. This runoff carries fertilizer, pesticides, sediments, and pet waste from lawns directly into waterways, polluting the aquatic environment. Landscaping to the water also increases riverbank erosion, increases the potential for flood damage, and decreases the available habitat for wildlife. Scenic natural views are lost as well.

Reduced Quality of Place

Failure to understand the effects of our actions on the environment has impaired natural biological functions and led to a loss of natural beauty throughout the South Carolina Lowcountry.

What's *right* with this picture?

By retaining or restoring native shoreline plantings we improve our immediate environment as well as the overall health of our waterways.

A More Natural Environment

A vegetated buffer between upland development and water protects more fish, shellfish, and terrestrial wildlife and produces less polluted stormwater runoff.

A Sheltered Look

Your views as well as those from the water are enhanced by native plantings. With buffers on both sides of the water, the view from each bank is primarily of trees and other vegetation and not of lawns and houses. Docks become the main visible manmade structures.

Good Economics

The efforts made at each home can lead directly to increased property values, lower yard maintenance costs, and less chance for property damage from Mother Nature.

Benefits of Vegetated Riparian Buffers

Shoreline or riparian buffers are corridors of native vegetation along rivers, streams, and tidal wetlands that protect waterways by providing a transition zone between upland development and adjoining surface waters. Vegetated buffers are beneficial environmentally, aesthetically, and economically.

Minimize Stormwater Pollution

Buffer vegetation captures sediments and pesticides in runoff and a large amount of nitrogen and phosphorus, which are primary pollutants to waterways. By slowing stormwater runoff, the vegetation absorbs some pollutants and allows sediments to settle out before reaching a waterway.

Reduce Erosion

The deep root systems of trees and shrubs absorb stormwater and stabilize shoreline soil to reduce erosion along the banks of waterways.

Reduce Heating of Waterways

Stormwater runoff heated by sunlight can raise the temperature of receiving waterbodies, which can impair the aquatic environment. The trees in a riparian buffer shade the ground to reduce surface heating.

Create a Sense of Place & Privacy

A homeowner can plan a landscape to frame desirable views, screen unwanted views, and enhance what others see from the water. Dense plantings reduce noise pollution.

Reduce Flooding and Flood Damage

Vegetated buffers reduce downstream flooding by slowing stormwater velocity and storing water in soils. Riparian buffers also reduce flood damage by keeping development back from the immediate banks of waterways.

Preserve Natural Habitat

Many wildlife species either live in riparian areas or use them as travel corridors. Wider buffers support more species and continuous buffers are very effective in protecting amphibians, colonial water birds, and coastal fish spawning and nursery areas.

Save Money

By keeping development away from floodwaters, storm surges, and extreme high tides, buffers lessen property damage. By reducing flooding, erosion, and sedimentation they reduce public investment in stormwater management and waterway protection. Vegetated buffers cost less to maintain than turf, and using native vegetation has the additional advantage of requiring little or no fertilizers and pesticides.

Enjoy Your Surroundings

Your outdoor activities may be more enjoyable and healthful in the shade beneath trees, with more opportunities for recreational activities such as bird watching.

Planning Your Backyard Buffer

If you haven't built your home yet, have your builder clear only around the footprint of your home and minimize clearing near the water. It will significantly reduce both the amount of sedimentation caused by construction and future stormwater runoff amounts. In addition, your yard maintenance costs will be lower with native vegetation. Limit the amount of lawn on your property to what you really need.

What Are Your Concerns?

- View: Consider the views you want to maintain and frame a “view corridor” from your home with plantings composed of small trees, shrubs, and/or native grasses (but not lawn) that won't obstruct your view. Keep the view corridor at one-third your lot's total width or less. Preserve and plant larger trees in the rest of your buffer.

- Attractive Foliage: Do you want to attract certain animals to your backyard buffer, such as hummingbirds or butterflies? Do you want to keep nuisance animals, such as deer, away? Certain plants will attract certain animals, while other plants are known to be deer-resistant (see pages 6-8).

- Plant Type: Do you want flowering plants? Evergreens? What time of year do you want to see blooms?

- Plant Location: Determine where you want different plant types. Where do you want shrubs and where you do want trees, flowering plants, or native grasses? Don't worry about particular species yet, but to aid you later in picking particular species, decide the maximum plant height and spread you want in certain areas. If you want to attract birds or butterflies, determine where in your yard you would like to see them.

Preparing Your Yard

- The first step is to remove any sod in the first area you are going to plant. Most herbicides should not be used for this purpose because they can pollute stormwater runoff and receiving waterbodies. Instead, cover the sod with a tarp to block sunlight and kill the grass. (You could cover the tarp with pine straw in the interim.) Till the soil after the grass is dead to break up the soil.

- Remove all other non-native vegetation from the buffer area.

- Determine your soil type and test the soil for its pH level. Many plants will tolerate a wide pH range, but will do best when planted in the right soil. Be aware that different areas on the same property may have vastly different soils because of imported fill. You can take a soil sample to your local Clemson Extension Service to determine the pH of your soil for a nominal fee.

Planning Your Layout

- The buffer can be phased in over time. You don't need to do everything at once.
- Pick the native plants you want in your buffer (refer to page 6-8 for plant information). For those who have not yet built their homes, saving existing native plants reduces costs, leaves habitat undisturbed, and limits the substantial amount of erosion caused by clearing for construction.
- Slower growing plants may take longer to fill in empty spaces, but they will require less maintenance and most will last longer because they are more resistant to damage from storms.

A To get from your back lawn to your dock and to the water, construct a boardwalk through the buffer to prevent the channelization of stormwater runoff that occurs with dirt footpaths. Dirt footpaths are permissible in a buffer if they run parallel to the water.

B Mass your plants together. You want to be sure your plantings are dense and that there are no large patches of unplanted ground because you will increase the amount of sediment washed into the receiving waterbody. Dense plantings provide better stormwater filtration. You will need enough space between plants, however, to allow each to reach its full spread at maturity.

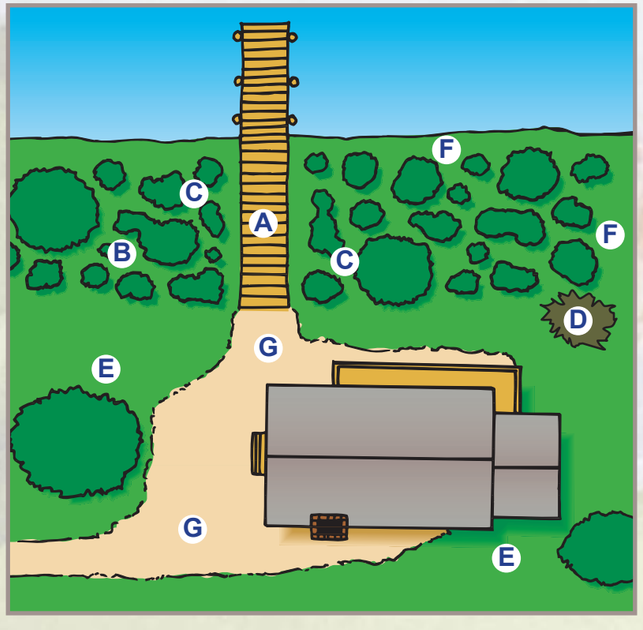
C Strive for diversity - a mix of trees, shrubs, ground covers, and native grasses. Large expanses of the same species of plant are prone to disease and infestation from insects. Select plants that flower and bear fruit at different times of the year.

D Snags and dead trees are beneficial for birds as perches, for nests and roost sites, and as sources of insects for food. If they do not threaten structures or driveways, consider leaving dead trees and snags in place.

E Locate tall trees on the east and west sides of the house to shade roof and walls.

F After planting, mulch your buffer area two to four inches deep with organic matter such as pine straw, leaves, or bark.

G Select ground cover instead of hard surfaces to absorb rainfall and reduce heat buildup. Porous surfaces, such as brick driveways and mulch paths, are better for handling stormwater runoff than paved surfaces because they allow water to soak into the ground.



South Carolina Lowcountry Native Plant List

EVERGREEN or DECIDUOUS: Is it an evergreen or a deciduous plant?
ATTRACT WILDLIFE: What wildlife does it attract?
DEER RESISTANCE: Is the plant resistant to being fed upon by deer? (Lack of other available natural forage may affect deer resistance.)
BLOOM: When does it bloom, if at all?
COLOR BLOOM: What is the color of the blooms?
FRUIT: What fruit does it produce, if any?
SOIL TYPE: What type of soil does it prefer?
SALTWATER/BRACKISH: If you are planting at the water's edge, is the plant tolerant to salt water or brackish conditions?
HEIGHT at MATURITY: What is the plant's height at maturity?
SPREAD at MATURITY: What is the plant's spread at maturity?
SUN PREFERENCE: Does it have a sunlight preference?

FLOWERING PERRENIALS

Scientific Name	Common Name		Attract Wildlife	Deer Resistant	Bloom	Color Bloom	Fruit	Soil Type		Salt/Brackish	Height at Maturity	Spread at Maturity	Sun Preference
Asclepias tuberosa	Butterfly Weed		Butterflies	No	May-Aug	Orange		Dry or moist			12-30"	12-18"	Full sun/ part shade
Coreopis augustifolia	Tickseed Coreopsis		Butterflies, songbirds		Aug-Oct	Yellow		Dry or moist			3-5'	2-3'	Full sun/ part shade
Coreopis lanceolata	Coreopsis		Butterflies, songbirds	No	Apr-Jun	Yellow		Dry			12-18"	12-18"	Full sun/ part shade
Eyrthrina herbacea	Coral Bean		Butterflies, hummingbirds	Yes	May-Jul	Red	Scarlet seeds	Dry or moist, sandy		Salt	2-5'	2-5'	Full sun/ part shade
Helianthus angustifolius	Swamp sunflower		Butterflies, songbirds		Jul-frost	Yellow		Moist or wet, sandy			3-6'	2-3'	Full sun
Hibiscus moscheutos	Swamp Rose mallow		Butterflies		Jun-Sep	White, Pink		Moist or wet		Brac	3-4'	3-4'	Full sun/ part shade
Iris virginica	Blue Flag Iris		Hummingbirds		Apr-May	Blue		Moist or wet, acidic			1-2'	6-12"	shade to part shade
Kosteletzkya virginica	Seashore Mallow		Butterflies, hummingbirds		Jul-Oct	Pink, Lavender, White		Moist or wet		Brac	5'	2-3'	Full sun
Liatris spicata	Blazing Star		Butterflies		Sep-Oct	Lavender		Moist or dry, acidic		Salt	1-6'	6-12"	Full sun
Oenothera drummondii	Beach Evening Primrose		Butterflies	Yes	Mar-Nov	Yellow		Dry		Salt	6-12"	1-2'	Full sun
Oenthera speciosa	Evening Primrose		Butterflies		Apr-Oct	Pink		Dry		Salt	1-2'	Ground cover	Full sun
Phlox carolina	Carolina Phlox		Butterflies, hummingbirds	No	May-Jul	Pink, Lavender, White		Moist, acidic			1-3'	6-18"	Full sun/ part shade
Rudbeckia fulgida	Black-eyed Susan		Birds		Aug-Oct	Yellow or Orange		Moist or dry, acidic		Salt	2-3'	18-24"	Full sun/ part shade
Rudbeckia hirta	Black-eyed Susan		Birds	No	May-Jul	Yellow, Orange, Red		Moist or dry, acidic			3-4'	2-3'	Full sun/ part shade
Saliva coccinea	Scarlet Sage		Butterflies, hummingbirds		Feb-Nov	Red		Dry, sandy			24"	3-6"	Full sun/ part shade
Salvia lyrata	Lyre-leaved Sage		Butterflies, hummingbirds		Apr-May	Blue		Dry to wet, acidic			12-32"	3-5"	Sun or shade
Solidago sempervirens	Seaside Goldenrod		Butterflies, birds		Aug-Nov	Yellow		Moist or dry, acidic		Salt	1-6'	1-2'	Full sun/ part shade
Verbena canadensis	Pink Verbena		Butterflies		Mar-May	Pink,		Dry			6-12"	Ground cover	Full sun

TREES

Scientific Name	Common Name	Evergreen/Decidious	Attract Wildlife	Deer Resistant	Bloom	Color Bloom	Fruit	Soil Type	Salt/Brackish	Height at Maturity	Spread at Maturity	Sun Preference
Acer rubrum	Red maple	Dec	Song birds	No	Feb-Mar	Red	Red winged seed	Wet or dry		50-60'	35'	Full sun to part shade
Magnolia grandiflora	Southern Magnolia	Evg	Birds	No	May-June	Creamy white	Cone, Red seed	No pref	Salt	60-80'	30-50'	Full sun to part shade
Pinus elliottii	Slash Pine	Evg	Song birds		No		Cones	Moist	Salt	Up to 100'	40-60'	Full sun
Pinus taeda	Loblolly Pine	Evg	Song birds		No		Cones	Acidic	Salt	50-90'	20-30'	Full sun
Quercus falcata	Southern Red Oak	Dec	Birds, mammals		No		Acorn	Dry, acidic	Salt	70-80'	40-50'	Full sun to part shade
Quercus laurifolia	Laurel Oak	Evg	Birds, mammals		No		Acorn	Dry or moist, sandy		40 to 60'	30-40'	Full sun to part shade
Quercus phellos	Willow Oak	Dec	Birds, mammals		No		Acorn	Wet or moist, acidic		60-75'	40-60'	Full sun
Quercus virginica	Live Oak	Evg	Birds, mammals, Butterflies		No		Acorn	Moist	Salt	40-80'	60-100'	Full sun
Sabel palmetto	Cabbage Palmetto	Evg	Birds, mammals, Butterflies	Yes	Yes	Cream	Black berries	Moist	Salt	30-50'	8'	Full sun
Taxodium distichum	Bald Cypress	Dec	Birds		No		Cones	Wet		100-120'	30-40'	Full sun

SMALL TREES

Scientific Name	Common Name	Evergreen/Decidious	Attract Wildlife	Deer Resistant	Bloom	Color Bloom	Fruit	Soil Type	Salt/Brackish	Height at Maturity	Spread at Maturity	Sun Preference
Aesculus pavia	Red Buckeye	Dec	Humming-birds, squirrels		Apr-May	Red		No Pref	Brac	20-25'		Part shade
Cercis canadensis	Eastern Redbud	Dec	Birds		Mar-May	Lavender		Moist or dry, acid		Up to 30'	15-35'	Full sun to part shade
Chinanthus virginicus	Fringe Tree	Dec	Birds, mammals		Jul-Sep	Off white				Up to 30'		
Cornus florida	Dogwood	Dec	Birds		Mar-Apr	White, pink,red	Red berry	Moist or dry		Up to 40'	Up to 50'	Sun or shade
Gordonia lasianthus	Loblolly Bay	Evg		No	Jul-Sep	White		Wet or moist, acidic		Up to 75'	20-30'	Full sun
Juniperus virginiana	Red Cedar	Evg	Songbirds, butterflies, mammals	No	No		Blue berry	No pref	Salt	40-60'	20-30'	Full sun
Magnolia virginiana	Sweetbay Magnolia	Semi Evg	Birds, butterflies	No	Apr-Jul	White	Cone, red seed	Moist or wet, acidic		40-50'	15-25'	Full sun to part shade
Persea borbonia	Red Bay	Evg	Birds, butterflies	No	No		Blue berry	Moist or dry	Salt	30-40'	20-30	Full sun to part shade
Prunus caroliniana	Cherry Laurel	Evg	Birds		Mar-Apr	White	Black berry	Moist	Salt	Up to 40'	6-10'	Full sun to part shade
Sassafras albidum	Sassafras	Dec	Birds		Mar-Apr	Yellow		Moist	Brac	Up to 50'	25-40'	Full sun to part shade

SHRUBS

Scientific Name	Common Name	Evergreen/Decidious	Attract Wildlife	Deer Resistant	Bloom	Color Bloom	Fruit	Soil Type	Salt/Brackish	Height at Maturity	Spread at Maturity	Sun Preference
Baccharis halmifolia	Salt Myrtle	Dec			Sep-Oct	White	Downy plumes	No pref	Brac	3-9'		Full sun/ part shade
Callicarpa americana	Beauty Berry	Dec	Birds, mammals	Yes	June-July	Pink	Purple berries	Dry or moist, acidic	Salt	Up to 8'	4-6'	Sun or shade
Cephalanthus occidentalis	Button Bush	Dec	Ducks & waterbirds		June-Aug	White		Wet		3-4'		Sun or shade
Clethra alnifolia	Sweet Pepper bush	Dec	Butterflies, birds, mammals	Yes	May-July	White		Wet, acidic, sandy or clay		3-10'	3-4'	Sun or shade
Ilex glabra	Inkberry	Evg	Birds	Yes	Mar-Apr	White	Black berries	Moist, acidic, sandy	Brac	7-9'	7-8'	Sun or shade
Ilex vomitoria	Yaupon Holly	Evg	Songbirds		Mar-Apr	White	Red berries	Moist or dry	Salt	20-25'	10-15'	Full sun/ part shade
Itea virginica	Virginia Sweetspire	Dec	Butterflies, birds	No	May-June	White		Moist or wet, acidic		3-6'	3-4'	Part shade to shade
Leucothoe axillaris	Leucothoe	Evg			Mar-May	White		Moist or wet, acidic		Up to 5'	2-3'	Part shade to shade
Myrica cerifera	Wax Myrtle	Evg	Song birds		No		Blue berries	No pref	Salt	15-20'	15-20'	Full sun/ part shade
Osmanthus Americana	Wild Olive	Evg	Birds, mammals		Apr-May	Cream	Blue drupe	Dry or moist, acidic	Salt	15-30'	20-30'	Full sun/ part shade
Rhododendron canescens	Wild Azalea	Dec	Butteflies, Hummingbirds		Mar-May	Pink		Moist, acidic		6-10'	6-10'	Full sun/ part shade
Rhododendron atlanticum	Dwarf Azalea	Dec	Butteflies, Hummingbirds		Apr-May	Pink		Moist or dry		3-5'	2-3'	Full sun/ part shade
Sabal minor	Shrub Palmetto	Evg	Birds	Yes	May-June	White	Black berries	Moist or wet	Brac	4-5'	4-5'	Part shade to shade
Sabal repens	Saw Palmetto	Dec	Birds	Yes	May-July	White	Blue-black drupe	Moist or dry	Salt	4-5'	4-5'	Full sun/ part shade
Vaccinium aboreum	Sparkle-berry	Evg	Birds, butterflies	No	Apr-Jun	White	Black berries	Dry or moist	Salt	Up to 30'	15-20'	Sun or shade
Yucca aloifolia	Spanish Bayonet	Evg	Moths	Yes	June-July	White	Purple	Dry	Salt	5-10'	2-3'	Full sun/ part shade
Yucca filamentosa	Bear Grass	Evg	Moths	Yes	Apr-June	White	Purple	Dry	Salt	2-4'	1-2'	Full sun/ part shade

GRASSES

Scientific Name	Common Name	Evergreen/Decidious	Attract Wildlife	Deer Resistant	Bloom	Color Bloom	Fruit	Soil Type	Salt/Brackish	Height at Maturity	Spread at Maturity	Sun Preference
Andropogon glomeratus	Bushy Broomsedge		Birds, mammals		Aug-Oct	Silvery white	Silver	Moist	Brac	2-5'	1-2'	Full sun
Andropogon virginicus	Broomsedge		Birds		Sep-Oct		White	Dry or moist	Salt	2-5'	1-2'	Full sun
Dichromena latifolia	Whitetop Sedge				May-Sep	white		Wet or Moist	Brac	Up to 4'	6-12"	Full sun/ part shade
Muhlenbergia filipes	Sweetgrass Perenn			Yes	Oct-Nov	Pink	Purple	Dry or moist	Salt	2-4'	1-2'	Full sun
Panicum amarum	Seaside Panicum		Birds	Yes	Oct		Purple	Dry	Salt	15-40"	2-3'	Full sun
Panicum virgatum	Switch Grass		Birds	Yes	Jun-Oct	Pink, Purple		Moist or wet	Brac	3-4'	1-2'	Full sun/ part shade
Uniola paniculata	Sea Oats		Birds	Yes	Jun-Nov		Oats	Dry	Salt	3-6'	1-2'	Full sun

Buffer Management

- Plant all cleared areas and remove any non-native plants. Inspect your buffer at least annually for invasive, non-native plants and remove them promptly. Such nuisance plants can overrun a buffer in a short period, impairing the buffer's ability to provide habitat and protect the aquatic environment.*
- Use fertilizer and pesticides sparingly, if at all. Native plants grew here before man arrived, so they are adapted to tolerate the area's extreme conditions and have their own natural defenses against pests.
- Pruning and Cutting: You may prune branches over time to maintain your view corridor, but be sure not to damage your trees or shrubs by cutting too many limbs.

* Contact OCRM or The Department of Natural Resources (DNR) for a list of the worst invasive, non-native plants in South Carolina.

Whom to Call for More Information:

South Carolina Department of Health and Environmental Control Office of Ocean and Coastal Resource Management (DHEC-OCRM): (843) 744-5838
United States Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) (in the phone book)
Your local Clemson Extension Service (in the phone book)
Charleston Soil and Water Conservation District (843) 727-4160, ext 3
Your local chapter of the South Carolina Native Plant Society (in the phone book)

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