Backyard Buffers
Many people 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 overbank 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.

What’s wrong with this picture?

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.
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 do you 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 water bodies. 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 Extension Service to determine the pH of your soil for a nominal fee.

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 water bodies, 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.
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 PERENNIALS

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Evergreen/Deciduous</th>
<th>Attract Wildlife</th>
<th>Deer Resistant</th>
<th>Bloom</th>
<th>Color Bloom</th>
<th>Soil Type</th>
<th>Height at Maturity</th>
<th>Spread at Maturity</th>
<th>Sun Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vernonia paradoxa</td>
<td>Buttonbush</td>
<td>Evergreen</td>
<td>Butterflies</td>
<td>Yes</td>
<td>Sept-Nov</td>
<td>Yellow</td>
<td>Acidic or moist</td>
<td>2-3</td>
<td>2-4</td>
<td>Full sun</td>
</tr>
<tr>
<td>Vernonia virginica</td>
<td>Blue Flag</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>Apr-May</td>
<td>Blue</td>
<td>Moist in wet soils</td>
<td>1-2</td>
<td>1-2</td>
<td>Part shade</td>
<td></td>
</tr>
<tr>
<td>Coreopsis lanceolata</td>
<td>Tickseed</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>June-July</td>
<td>White, lavender</td>
<td>Moist in wet soils</td>
<td>5-6</td>
<td>5-10</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Salvia fruticosa</td>
<td>Blue Sage</td>
<td>Evergreen</td>
<td>Butterflies, hummingbirds</td>
<td>June-Nov</td>
<td>Yellow</td>
<td>Moist in wet soils</td>
<td>3-4</td>
<td>3-4</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Asclepias syriaca</td>
<td>Milkweed</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>Apr-Oct</td>
<td>Pink</td>
<td>Moist in wet soils</td>
<td>1-2</td>
<td>1-2</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Liatris spicata</td>
<td>Blazing Star</td>
<td>Deciduous</td>
<td>Hummingbirds</td>
<td>May-Jul</td>
<td>Purple, white</td>
<td>Moist in wet soils</td>
<td>6-12</td>
<td>1-2</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Coreopsis tinctoria</td>
<td>Tickseed</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>May-Aug</td>
<td>Pink, orange</td>
<td>Moist in dry soils</td>
<td>4-6</td>
<td>4-6</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Corokia cotoneaster</td>
<td>Beach Evening Primrose</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>Apr-Jun</td>
<td>Yellow</td>
<td>Dry</td>
<td>1-2</td>
<td>1-2</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Physocarpus opulifolius</td>
<td>Ninebark</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>May-Jul</td>
<td>Pink, purple</td>
<td>Moist, acidic</td>
<td>1-5</td>
<td>1-5</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Buddleia davidii</td>
<td>Butterfly Bush</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>May-Aug</td>
<td>Orange, red, yellow</td>
<td>Moist in dry soils</td>
<td>2-4</td>
<td>2-4</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Buddleia loxia</td>
<td>Black-eyed Susan</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>May-Jul</td>
<td>Yellow, Orange, Red</td>
<td>Dry</td>
<td>2-3</td>
<td>2-3</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Salvia coccinea</td>
<td>Scarlet Sage</td>
<td>Deciduous</td>
<td>Butterflies, hummingbirds</td>
<td>Apr-May</td>
<td>Pink</td>
<td>Moist in dry soils</td>
<td>0.5-4</td>
<td>0.5-4</td>
<td>Full sun</td>
<td></td>
</tr>
<tr>
<td>Ageratum houstonianum</td>
<td>Daisies</td>
<td>Annual</td>
<td>Butterflies, Hummingbirds</td>
<td>Apr-May</td>
<td>Blue</td>
<td>Moist in dry soils</td>
<td>0.5-3</td>
<td>0.5-3</td>
<td>Sun shade</td>
<td></td>
</tr>
<tr>
<td>Verbena bonariensis</td>
<td>Pinkbeauty</td>
<td>Perennial</td>
<td>Butterflies, Hummingbirds</td>
<td>Apr-Nov</td>
<td>Pink</td>
<td>Moist in dry soils</td>
<td>1-0.5</td>
<td>1-0.5</td>
<td>Sun shade</td>
<td></td>
</tr>
</tbody>
</table>

---

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 may last longer because they are more resistant to damage from storms.

Go 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.

- 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.

- 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.

- 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.

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

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

- 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.

- 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.

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

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Bloom</th>
<th>Songbirds</th>
<th>Butterflies</th>
<th>Mammals</th>
<th>Birds</th>
<th>Deer Resistant</th>
<th>Spread at Maturity</th>
<th>Sun Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Quercus falcata</td>
<td>Red Oak</td>
<td>May</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>10-15'</td>
<td>Full sun to part shade</td>
</tr>
<tr>
<td>Magnolia grandiflora</td>
<td>Southern Magnolia</td>
<td>May</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>20-30'</td>
<td>Full sun to part shade</td>
</tr>
<tr>
<td>Prunus pensylvanica</td>
<td>Cherry Laurel</td>
<td>Apr</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>3-10'</td>
<td>Full sun to part shade</td>
</tr>
</tbody>
</table>

### SMALL TREES

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Bloom</th>
<th>Songbirds</th>
<th>Butterflies</th>
<th>Mammals</th>
<th>Birds</th>
<th>Deer Resistant</th>
<th>Spread at Maturity</th>
<th>Sun Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Salix discolor</td>
<td>Dogwood</td>
<td>Apr</td>
<td>Yes</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>20-30'</td>
<td>Full sun to part shade</td>
</tr>
<tr>
<td>Viburnum opulus</td>
<td>Guelder Rose</td>
<td>Mar</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>No</td>
<td>No</td>
<td>20-30'</td>
<td>Full sun to part shade</td>
</tr>
</tbody>
</table>

### GRASSES

<table>
<thead>
<tr>
<th>Scientific Name</th>
<th>Common Name</th>
<th>Bloom</th>
<th>Songbirds</th>
<th>Butterflies</th>
<th>Mammals</th>
<th>Birds</th>
<th>Deer Resistant</th>
<th>Spread at Maturity</th>
<th>Sun Preference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Andropogon glomeratus</td>
<td>Kudzu</td>
<td>May</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>Yes</td>
<td>10-15'</td>
<td>Full sun to part shade</td>
</tr>
<tr>
<td>Dichanthelium acuminatum</td>
<td>Switchgrass</td>
<td>May</td>
<td>No</td>
<td>No</td>
<td>No</td>
<td>Yes</td>
<td>Yes</td>
<td>20-30'</td>
<td>Full sun to part shade</td>
</tr>
</tbody>
</table>
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.

Acknowledgements:
Ward Reynolds, DHEC-OCRM
Karl Oblandt, Dewees Island Property Owners Association
Lynette Savetemo, Natural Resources Conservation Service (NRCS)
The Annapolis Environmental Commission and the Annapolis Tree Committee
The Chesapeake Bay Trust
USDA Forest Service
Alliance for Sustainable Communities
Florida Yards and Neighbors
Illustrations: Pat McHold
Graphics design: Peter D. Tasi and Associates and DHEC Art Department

The printing of this brochure was made possible through a grant from the Charleston Soil and Water Conservation District and matching funds from OCRM.

This document was supported in part by the financial assistance provided by the Coastal Zone Management Act of 1972, as amended, administered by the Office of Ocean and Coastal Resource Management, National Oceanic and Atmospheric Administration through grant/cooperative agreement number NA97OZ0198.

This document has been edited from its original version available at http://www.scdhec.com/ocrm/pubs/backyard.pdf