

River-Friendly Yards



Dickcissel on native milkweed.
Photo by Dan Small

What is a River-Friendly Yard?

A River-Friendly Yard mimics the natural environment to benefit water quality, native species, and our local ecosystem.



Our rivers are polluted with excess nutrients (fertilizer) and sediment (soil). Native plants can absorb nutrients and keep soil in place so the water that reaches our rivers is clean.

In a time when it is easy to feel despondent about our environmental future, there is real hope in your yard of any size. We are learning that stitching together small habitats into conservation corridors may make the essential difference we need for all species, including our own, to thrive. This booklet contains River-Friendly Yards practices and resources to empower you to make positive change in your own backyard.

Your Yard is Connected to Our Rivers

No matter where you are, you are part of a watershed. When it rains, much of the water from our sidewalks, streets, roofs, and lawns becomes runoff that flows right into nearby bodies of water. This runoff carries sediment (or soil), nutrients, bacteria, trash, and other forms of pollution with it. Pollution causes algal blooms, reduces water clarity, kills fish and other aquatic life, and threatens human health. ShoreRivers' data shows that the majority of pollution in our rivers comes from within our own watersheds: we have the tools to stop it in its tracks.

Besides water quality benefits, River-Friendly Yards also benefit our local ecosystems and food webs. Recent studies have found that over 40% of pollinator species are at immediate risk of extinction. These pollinators are crucial for the survival of birds, mammals, fish, and even humans, since our agricultural system depends on them. Habitat destruction, turf grass lawns, and the common use of non-native and invasive species in landscaping are all responsible for this species collapse.

As climate change triggers more rainfall, warmer temperatures, and more extreme weather events, threats to our native pollinators and our waterways are increasing. We all need to work together to protect and restore our rivers, streams, and the Chesapeake Bay for a swimmable, fishable future.



More frequent and severe rains mean more pollution washed into our waterways.

ShoreRivers protects and restores Eastern Shore waterways through science-based advocacy, restoration, and education.



This guide and the River-Friendly Yards program are funded in part by:

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Start Your River-Friendly Yard Today

Your yard should bring you joy.

Goals & Site Assessment:

What are your main goals for your river-friendly yard?

- Beautify your property
- Attract pollinators (bees, butterflies, bats, birds, etc)
- Reduce the amount of maintenance and chemical inputs required for a lawn
- Learn more about gardening/nature/ ecosystems
- Improve local water quality to reduce the occurrence of harmful algal blooms, fish kills, and high bacteria readings
- Prevent basement flooding, mold, and other property damage from water



Photo by Dan Small

The rewards of a river-friendly yard include seeing butterflies, hearing songbirds, and feeling fewer mosquitos. Improve a soggy lawn or wet basement while becoming part of a powerful restoration effort.

Take a walk around your property:

- Are there any areas where water collects or sits after rain events?
- How much sunlight does each area receive during the main growing season (Spring-Fall)?
- What type of soils are present on your property?
- What species are present on your property already? These will be an indicator of what can grow well there or what is already there and needs to stay or be removed. Look for native species as well as non-native and invasive species. Apps like Seek, iNaturalist, and Google Lens can help identify species quickly.
- Are there particular areas where you would like to focus?
- How much turf grass do you need to keep for your regular activities?
- Are there any local ordinances, such as homeowner association rules, that might prevent certain practices? Could you ask to change these restrictions? We can help!

Monarch on wild bergamot

ShoreRivers can help you start:

- **Consult** by phone or email to help you get started, and in some cases conduct a site visit
- **Connect** you with trusted local landscapers, nurseries, Master Gardeners, and more
- **Collaborate** with your workplace, school, congregation, or community to plan and fund projects (check out our project gallery on pages 14-15)

Check out more resources on the ShoreRivers website at shorerivers.org/river-friendly-yards.

Around Your House:

- **Rain barrels:** Instead of letting your downspouts discharge onto your lawn or pavement, capture that water in rain barrels so that you can use it to water your garden, wash your car, or any other way that you would use a hose.
- **Pervious instead of impervious:** Driveways, parking lots, and roofs are all impervious surfaces, or surfaces that cannot absorb water, which means that the water runs off elsewhere, carrying pollution. For patios, driveways, or walkways, consider using pervious, or permeable, pavers that allow water to soak into the ground.



Rain barrels can be both attractive and useful.



Photo by Tara Mairs

Replacing a strip of paved driveway with vegetation helps to capture and clean stormwater.

In Your Yard: Join the Lawn Revolution

- **Reconsider turf grass:** Take a hard look at your lawn. Ornamental turf grass lawns provide almost no benefit to wildlife, require a tremendous amount of maintenance and chemical inputs, and don't hold soil or soak up water as well as native plants because of their shallow root systems. Turf grass lawns originated in 16th century Europe as a status symbol; the aristocracy could afford labor to maintain manicured lawns instead of growing crops on their land. Associated with wealth and status, large lawns became popular in 1950's America, quickly destroying millions of acres of habitat. Converting as much turf grass as possible back to native plants is one of the most urgently important things we can do to improve water quality and our ecosystems.



What happens here? Often the most time people spend on their lawns by far is mowing them.

- **Eliminate fertilizers:** One of the easiest actions to take immediately is to stop fertilizing your lawn. Most commercial fertilizers are not fully absorbed and instead run off into local waterways, triggering algal blooms and other damage. Leave grass clippings on your lawn for a natural source of fertilizer. Many lawns do not require any fertilizer to thrive.
- **Path and perimeter:** Let grass grow up into a natural low meadow, discovering the native seed bank that may be sleeping under your lawn. Mow a winding path through and a perimeter around your lawn, and suddenly instead of dead space, you have a place to enjoy.



Algal blooms like this one on the Chester River are often caused by fertilizers running off into our waterways. Native plantings and buffers can stop nutrient pollution in its tracks.

Grass farmers: Turf grass is now Maryland's single biggest "crop," covering over 1.3 million combined acres. Research by the Chesapeake Stormwater Network found that Bay residents spend nearly \$5 billion dollars a year on turf lawns. Millions of those dollars go to chemicals that end up in our water. The impact of our lawns is truly huge.

- **Go long:** For the areas that you do leave as turf grass, don't cut the grass so low. Aim for leaving at least 3-4 inches of grass and try not to cut more than a third of the length when you mow for healthier grass that won't need chemical inputs to look good.
- **Switch to electric:** Electric and battery yard tools have improved greatly over the last several years. They require a fraction of the maintenance that a traditional gas-powered motor does, while having a significantly less negative impact on the environment.



Be a hero: go long and mow a path through your meadow.



Former Chester Riverkeeper Tim Trumbauer mowed a winding path for kids and adults to enjoy. The natural meadow that now grows includes natives like black-eyed susans, purple coneflowers, and milkweed.

In Your Yard: Plant Native Plants

The single most important thing you can do for local water quality and habitat value is to plant native plants instead of non-native or invasive species. Pollinators rely on these native plants for food, completing their life cycle, and reproduction. Without these plants, thousands of species of pollinators will go extinct within our lifetime, causing major impacts to our ecosystems and food security. Native plants are defined as the species that naturally occur in a region, which have co-evolved with other plant and animal species to form the local ecosystem.

Making a Meadow: One of the most impactful and gratifying changes you can make in your yard is to designate a section for meadow and habitat.



1. Mark mini-meadow area with paint or flags.



2. Lay paper or other material to kill grass; frolicking encouraged.



3. Plant plugs through mulch.



4. Each season brings new colors as your meadow matures.

- **Foundation plantings:** Starting with foundation plantings of native shrubs and perennials is a great way to make the most visible parts of your house attractive and welcoming to both people and local pollinators. Replace non-native species with elegant, robust native alternatives.
- **Conservation plantings:** Native conservation plantings can be anywhere on your property. In existing garden beds and raised beds, replace non-natives with native species, or select a new area of turf grass to convert. Native plants of any size make a difference, from ferns to flowers to trees.
- **Rain gardens:** If you have issues with water pooling or intrusion, rain gardens are a great way to absorb excess water, enhancing property value. Some rain gardens include an underground infiltration system; some are simply planted low areas or shallow depressions. A rain garden's value if maintained well is tremendous.
- **Bioswales:** These channels are an attractive, usually inexpensive way to slow water down if you have slopes or ditches. By planting the sides of the channel with plants, stormwater is slowed and absorbed instead of rushing into the nearest waterway.
- **Meadows:** If you have a larger area that you would like to convert from turf grass to native plantings, meadows are a beautiful and effective choice. Whether you have a tenth of an acre or ten acres to convert, you can create a meadow. The site will need to be prepared by either using cardboard, tarps, or tilling to remove the turf grass. There are a variety of great seed mixes and trays of plugs available to plant a meadow for a reasonable cost.
- **Container gardens:** You don't have to own land to be a part of the River-Friendly Yards program; hundreds of native species will happily grow in containers. Making a home for a potted native plant on your windowsill, patio, or green space will provide water quality and habitat benefits and is a great way to inspire neighbors and friends to get involved.



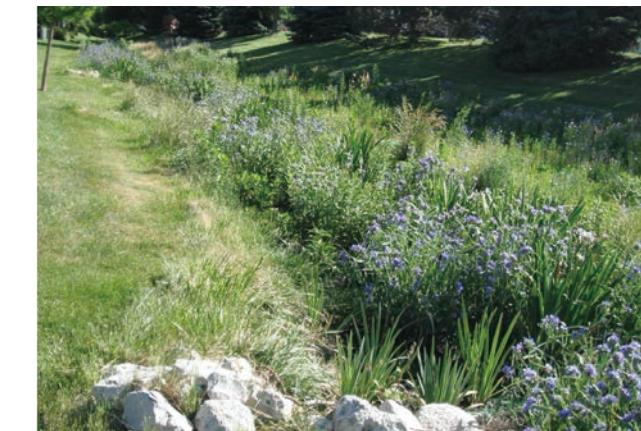
Photo by Tara Mairs

Layered conservation plantings include native plants of different heights and colors.



Photo by Severn Grove Ecological Design

A rain garden can absorb stormwater from your property.



A planted bioswale looks and performs much better than a drainage ditch.

Waterfront Properties

- Protect submerged aquatic vegetation (SAV):** SAV, or underwater grasses, are so important to the health of the Chesapeake Bay. They help prevent erosion; improve dissolved oxygen; provide crucial food and habitat for blue crabs, fish, and other species; sequester carbon; and improve water clarity. While you are allowed to remove grass to maintain access from your dock to the channel, please do not remove any more than that. When boating, always trim your motor up in shallow waters, and try to avoid grass beds as much as possible. ShoreRivers has a robust SAV program to map, harvest, process seed, and plant acres of these beneficial grasses every year in our rivers.
- Get involved with Marylanders Grow Oysters:** If you live on the Chester, Miles, Wye, or Choptank rivers, then you can get involved with our Marylanders Grow Oysters program. Volunteers receive cages of spat (baby oysters) to hang off their dock. Once the oysters are mature enough, we plant them on local oyster sanctuaries.
- Maintain your buffer:** Don't mow right up to the water's edge, as this area can be the last line of defense before any runoff enters the waterway. Instead, let the grass grow or plant with natives. If you already have a buffer strip in place, consider expanding it for added absorption, habitat, and beauty.
- Protect your trees:** Cutting down trees to "enhance" a view of the water can cause serious erosion, especially for houses on bluffs or with elevation. It is also illegal without the proper permits and buffer management plan. Instead, leave these trees in place and add a viewing area under them so you can steward your property and still enjoy the view.



Photo by Chris Schindler

This bed of SAV in the Choptank River showcases the beauty and water quality benefits of underwater grasses.



Photo by Mike Hardesty

Foster baby oysters on your dock with our Marylanders Grow Oysters program. ShoreRivers will provide you with full cages to host.



Photo by Dan Small

Beautiful native buffer in bloom.

Seasonal Maintenance

- Leave the leaves:** Many species of butterflies, moths, and bees depend on fallen leaves to successfully overwinter. Raking up these leaves and removing them destroys all of these overwintering species, chokes landfills, and can add significant amounts of nutrients to local waterways. Instead, leave the leaves on your property each fall to provide this habitat benefit. In spring, just mow them into your yard for free fertilizer. If you do want to rake, make sure to put your leaves in your compost pile or have them collected. Dumping leaves, grass clippings, or other yard waste into our waterways is illegal.
- Enjoy winter plants:** Many species of birds and pollinators depend on seeds, berries, and plant stems for overwintering, so leave lovely seed heads in place until the spring rather than cutting them back. Once the weather begins to warm up you can cut plants back to about 12-18" above the ground, which will provide cavities for these pollinators to use; soon these will be hidden by the new growth.
- Make a brush pile:** These piles of leaves, sticks, and other yard debris are crucial habitat for many species. Instead of spending time and money removing all of this natural debris from your property, find an area in your yard to leave it. You'll be amazed at all of the species of mammals, birds, and more that will show up!
- Plant in the fall:** Fall is the best time for planting because it gives plants time to establish healthy root systems to grow quickly in the spring. With cooler temperatures and less intense sun, transplant shock is reduced, and new plants don't require as much maintenance to establish.
- Request river-friendly practices:** If you use a lawn maintenance company, ask them to use river-friendly practices, or choose a company that does.



Photo by Dan Small

Leave the leaves for a healthy lawn and beneficial insect community. Spot the moth on these leaves, and imagine the insects you might not see.



Photo by Dan Small

Enjoy the beauty of winter seeds and berries while providing critically important food for birds.



Plant in the fall: invite a friend to help!

"AlterNatives" You Will Love

Non-native and invasive plants provide little to no habitat benefit, do not support our native ecosystems or food webs, and often outcompete native plant species. From now on, choose beautiful and useful native species, like the ones listed below. Cultivars, or cultivated varieties, may not have the same ecological benefits as true natives. Look or ask for true native species at your local plant nursery.



Beautyberry (*Callicarpa americana*)



Buttonbush (*Cephalanthus occidentalis*)



Redbud (*Cercis canadensis*)



Passionflower (*Passiflora incarnata*)



Dutchman's Pipe (*Aristolochia macrophylla*)



Coral Honeysuckle (*Lonicera sempervirens*)



Tulip tree (*Liriodendron tulipifera*)



Golden Ragwort (*Packera aurea*)



Red Chokeberry (*Aronia arbutifolia*)

Non-native Problem Plant	Problem	Favored Characteristic	Native Alternatives
Nandina (<i>Nandina domestica</i>)	Berries contain cyanide and kill songbirds	Evergreen, showy red berries	Winterberry (<i>Ilex verticillata</i>), Arrowwood Viburnum (<i>Viburnum dentatum</i>), Beautyberry (<i>Callicarpa americana</i>)
Butterfly Bush (<i>Buddleia davidii</i>)	Little to no nutrition provided, no species can reproduce, invasive character	Fragrant, grows quickly, attracts some moths and butterflies	Milkweed (<i>Asclepias spp.</i>), Summersweet (<i>Clethra alnifolia</i>), Buttonbush (<i>Cephalanthus occidentalis</i>)
Liriope (<i>Liriope spp.</i>)	Clump-forming, can spread rapidly and be difficult to remove	Low maintenance, fills in spaces quickly, easy to find	Pennsylvania Sedge (<i>Carex pensylvanica</i>), American Heuchera (<i>Heuchera americana</i>), Golden Ragwort (<i>Packera aurea</i>)
Crepe Myrtle (<i>Lagerstroemia indica</i>)	Little to no nutrition provided, no species can reproduce	Bright, vibrant flowers, relatively compact/heat growth habit	Redbud (<i>Cercis canadensis</i>), Sweet Sumac (<i>Rhus glabra</i>)
Forsythia (<i>Forsythia spp.</i>)	Little to no nutrition provided, no species can reproduce	Yellow color in the spring, early bloomer	Spicebush (<i>Lindera benzoin</i>), Green-and-Gold (<i>Chrysogonum virginianum</i>), Golden Ragwort (<i>Packera aurea</i>)
English Ivy (<i>Hedera helix</i>)	Aggressive spreader, outcompetes natives, chokes out shrubs, topples trees, damages buildings	Fills in spaces quickly, very adaptable and hardy	Passionflower (<i>Passiflora incarnata</i>), American Heuchera (<i>Heuchera americana</i>), Clustered Mountain Mint (<i>Pycnanthemum muticum</i>)
Japanese Honeysuckle (<i>Lonicera japonica</i>)	Aggressive spread, outcompetes natives, chokes out shrubs, topples trees	Fragrant, vining	Coral Honeysuckle (<i>Lonicera sempervirens</i>), Dutchman's Pipe (<i>Aristolochia macrophylla</i>), Trumpet Vine (<i>Campsis radicans</i>)
Turf Grass (Various species)	Little to no habitat benefit, requires lots of nutrients/energy inputs	Neat, status symbol, space for children/pets to play on	Pennsylvania Sedge (<i>Carex pensylvanica</i>), Eastern Star Sedge (<i>Carex radiata</i>), Common Wood Sedge (<i>Carex blanda</i>)
Burning Bush (<i>Euonymus alatus</i>)	Aggressive spreader	Vibrant fall colors	Red Chokeberry (<i>Aronia arbutifolia</i>), Fothergilla, Downy Serviceberry (<i>Amelanchier canadensis</i>)
Japanese/Chinese Wisteria (<i>Wisteria floribunda</i>)	Spreads rapidly and can topple trees	Fragrant, lilac flowers, vining habit	American Wisteria (<i>Wisteria frutescens</i>), other vines above (Dutchman's Pipe, Coral Honeysuckle, Passionflower, Trumpet Vine)
Kousa Dogwood (<i>Cornus kousa</i>)	Berries provide almost no nutrition for songbirds	Unique bark, non-edible berries	Pagoda Dogwood (<i>Cornus alternifolia</i>), Flowering Dogwood (<i>Cornus florida</i>)
Japanese Maple (<i>Acer palmatum</i>)	Spreads quickly through seed pods	Unique leaf shape and drooping growth habit	Red Maple (<i>Acer saccharinum</i>), Sugar Maple (<i>Acer saccharum</i>)
Boxwoods (<i>Buxus spp.</i>)	Little to no habitat benefit, require lots of maintenance	Low compact habit, easy to maintain	Inkberry (<i>Ilex glabra</i>), Black Chokeberry (<i>Aronia melanocarpa</i>)
Bradford Pear (<i>Pyrus calleryana 'Bradford'</i>)	Aggressive spreaders, develop thorns as they age, very weak trees, bad odor	Very common in landscape plantings and developments	River birch (<i>Betula nigra</i>), Tulip tree (<i>Liriodendron tulipifera</i>)
Daylily (<i>Hemerocallis spp.</i>)	Spreads very aggressively, doesn't provide good nectar or energy sources	Bright flowers, short stature, adaptable to many conditions	Blueflag Iris (<i>Iris versicolor</i>), Black-eyed Susans (<i>Rudbeckia hirta</i>)

More native plant resources can be found on our website at shorerivers.org/river-friendly-yards.

Project Gallery

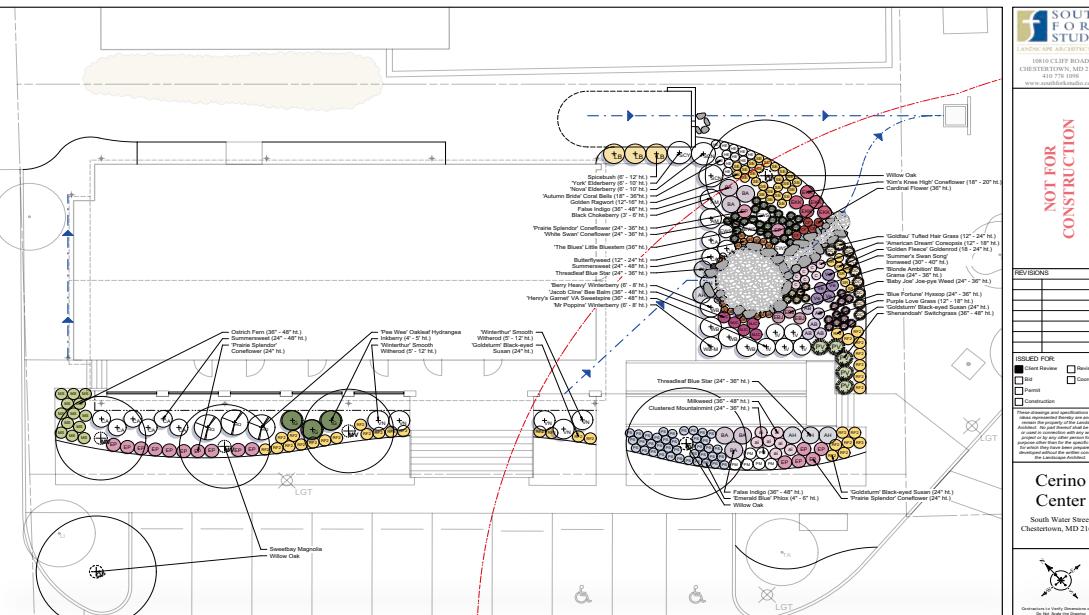
Together, ShoreRivers and our partners are empowering a diverse community of environmental stewards and creating beautiful, meaningful water and habitat projects.



ShoreRivers partnered with the volunteers of ReBuilding Together to bring a River-Friendly Yard to a homeowner in Butlertown at no cost.



The community of Easton Village added beautiful, professional native landscaping to their club house and several community spaces.



The Cerino Center, which houses ShoreRivers' Chestertown office, will soon become a River-Friendly Workplace.



A healthy environment and safe, affordable housing can and must go hand in hand. ShoreRivers has partnered with new nonprofit Kent Attainable Housing to create River-Friendly Yards with each of their clients.



St. Paul's Church in Centreville became a River-Friendly Congregation, putting creation care into action by building a rain garden.



A River-Friendly Yard practice on Greenwood Creek incorporates berms and a rain garden into existing landscaping to capture and treat runoff from several neighbors' properties.



Young men in the Rising Sons mentorship program help to plant native shrubs to stop erosion at Sumner Hall, Chestertown's African American cultural center.

As gardeners and stewards of our land we have never been so empowered — and the ecological stakes have never been so high.
- Doug Tallamy, *Bringing Nature Home*



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