

A vertical photograph of a stream flowing through a forest. The water is clear and reflects the surrounding trees. The banks are covered in fallen leaves and branches. In the background, a wooden bridge with a railing spans across the stream. The trees have some autumn-colored leaves, and the overall scene is peaceful and natural.

# Caring for your Streamside Property

*There's more to a stream  
than the stream itself.*



# Streamside Buffers

Protecting a stream involves taking care of the land around it. A streamside buffer (or riparian buffer) is a planted area along the edge of a stream.

A well-planted streamside buffer:

- absorbs nutrients and pollutants
- stabilizes the bank and prevents erosion
- promotes native pollinators
- filters out sediment
- reduces stream temperature

## Creating a Streamside Buffer

Begin with a “no mow” or “no graze zone” along streambanks. A buffer of any width is more beneficial than turf grass. Make yours as wide as possible.

Plant trees and shrubs in your buffer area. They provide many long-lasting benefits and can be inexpensive to establish and maintain.

Using shrubs will give your buffer a quick start, many reach full size in just a few years.

## Stabilizing Your Streambank

It is best to work with professionals when looking for the causes and solutions to erosion problems. Where buffers alone aren't enough, there are many new and innovative techniques to help solve the problem. Contact your regional office of the Pennsylvania Department of Environmental Protection (DEP) before making plans to alter a streambank. Permits are required for any in-stream work.

## Top Reasons Not to Mow

### Promotes bank stability —

Deep-rooted native plants hold soil in place and keep banks stable, while turf grass has roots only an inch or two deep.

### Flood flow reduction —

Fully grown vegetation slows water velocity by providing enough resistance to allow some of the water to infiltrate the soil. This helps recharge groundwater and reduces flood damage downstream.

### Water quality —

Natural vegetation removes pollutants and fine sediment from the waterway, leaving water cleaner and healthier.

### Reduction of mosquito habitat —

Turf grass does not effectively absorb water, causing ponding and an ideal habitat for mosquito breeding. Higher vegetation will absorb more water and decrease the opportunity for mosquitos to breed.

### Wildlife habitat —

Buffered streambanks provide habitat for reptiles, amphibians, birds, and small mammals. Fish and aquatic insects also benefit.

## Reduce Pollution

Most stream pollution comes from manure, fertilizers, road salts, oil and other chemicals. Called *non-point source pollution*, these come from the entire watershed rather than from any one point. Together, these pollutants add up in the streams and become a big problem. Other accumulated pollution includes trash and yard debris that washes into the streams.

### To protect a stream from pollution:

- don't overuse fertilizers – more is not better- and don't use fertilizers near streams.
- limit your overall use of herbicides and pesticides, and use extreme caution when using them near streams.
- compost, don't bag, yard waste. Leave lawn trimmings in place for effective recycling of nutrients.
- don't burn refuse near streambanks
- don't store or dump manure, garden waste, or grass clippings near streams.
- store firewood, trash, or other materials away from streams.
- never dump trash or chemicals into streams, storm drains or sewers.
- keep farm animals out of and away from the stream. Contact the county conservation office to find out about farm fencing programs.

## Prevent Excess Sediment

Every stream carries fine particles of soil. But too much soil can clog the streambed, covering rocks and gravel where fish lay eggs. A major source of silt and sediment is construction or any other project that disturbs the soil. Farming activities can also cause soil runoff.

### To protect the stream from silt:

- use hay bales or a special silt fence to prevent soil from washing off a work site.
- never store loose piles of soil near a stream.
- cover piles of soil with tarps to protect them from rain.
- use good farm practices like no-till cropping and planting winter cover crops to conserve soil.
- contact your local county conservation office if you see soil run-off from a construction site.

**Ticks** are a potentially dangerous reality in this area of Pennsylvania. Deer ticks can carry Lyme disease and are often found in areas of high grass and shrubs. Fear of ticks, however, should not be a reason to mow your streambank to the edge. Some basic precautions will minimize this danger:

- consider mowing a path through the buffer to access the stream without having to walk through high grass.
- learn to recognize deer ticks and check yourself and your pet thoroughly if you have been walking through the woods or fields.



# Benefits of a Native Landscape



Native plants and animals sustain the environment on which we depend. By planting native species in your streamside buffer, you are creating the best chances for native birds, insects and other wildlife to thrive. Seeds from your native species can travel throughout the watershed, promoting a healthier community environment.

Native plants are much better adapted to the climate and conditions of this area, and are easier to grow than their non-native counterparts.

Native plants can provide year-round color and texture in your streamside area. Vibrant flowers in the spring, colorful berries in the summer, deep colors in the fall, and contrasting bark and branch patterns in the winter are just some of their diverse characteristics.

Use the chart of plants inside as guide to select ferns, flowers, grasses, shrubs and trees native to Pennsylvania. They are beautiful, easy to maintain and attract wildlife.








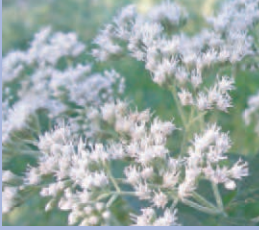



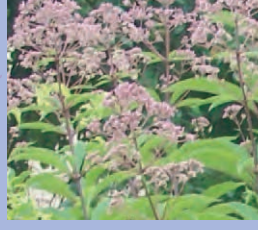





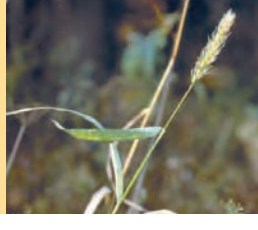





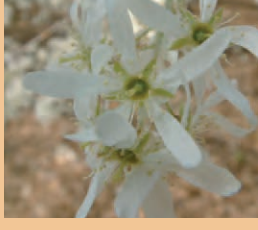



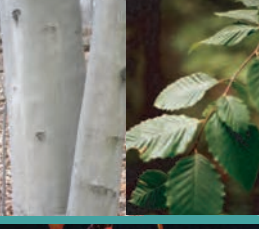
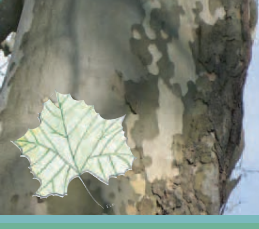

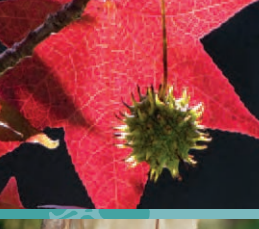









# Caring for Streamside Buffers — What to Plant?

Often, when left to grow up on its own, a streamside buffer will contain mostly weeds and other undesirable plants. One way to make sure this doesn't happen is to plant native plants. The plants below represent just a limited selection of Pennsylvania's native species appropriate for planting throughout the state along streams and in adjacent floodplains and wetlands. Choose plants adapted for your soil conditions, and your garden will thrive with less watering and without the need for chemical fertilizers or pesticides. There are many resources to help homeowners with native plantings. For some help, contact one of the organizations on the back of this brochure, or visit one of the following websites: PA Department of Conservation and Natural Resources - [www.dcnr.state.pa.us](http://www.dcnr.state.pa.us) or PA Native Plant Society - [www.pawildflower.org](http://www.pawildflower.org)

Illustrations by Erin Frederick, Lehigh County Conservation District

Ferns		<p><b>Cinnamon Fern</b> <i>Osmunda cinnamomea</i> Full sun to shade Wet to moist soils Cinnamon-colored fertile fronds; moist acidic soils Photo: Robert Mohlenbrock, USDA</p>		<p><b>Royal Fern</b> <i>Osmunda regalis</i> Part shade Consistently wet or saturated soils Unique form and texture Photo: Robert Mohlenbrock, USDA</p>		<p><b>Sensitive Fern</b> <i>Onoclea sensibilis</i> Full sun to shade Wet to moist soils Sunny or shaded swamps, marshes, moist meadows Forms colonizing masses</p>	
	Flowering Perennials		<p><b>Wild Bergamot</b> <i>Monarda fistulosa</i> Blooms May to September Full sun to light shade Moist to dry soils Dry open woods, wet meadows, ditches, edge of woods and marshes</p>		<p><b>Black-eyed Susan</b> <i>Rudbeckia hirta</i> Blooms May to June Moist to dry soils Full sun to light shade Attracts birds and butterflies</p>		<p><b>Blue Lobelia</b> <i>Lobelia siphilitica</i> Blooms from July to October Light shade Wet to moist soils Attracts hummingbirds</p>
			<p><b>Blue Vervain</b> <i>Verbena hastata</i> Blooms June to September Full sun to light shade Dry soils Bright flowers; herbal uses; streambanks and moist meadows</p>		<p><b>Boneset</b> <i>Eupatorium perfoliatum</i> Blooms July to August Light shade to full shade Wet to moist soils Wet meadow species</p>		<p><b>Plains Coreopsis</b> <i>Coreopsis tinctoria</i> Blooms April to June Full sun to light shade Moist to dry soils</p>
		<p><b>Purple Coneflower</b> <i>Echinacea purpurea</i> Blooms April to September Full sun to light shade Moist soils Herbal uses</p>		<p><b>Ironweed</b> <i>Vernonia noveboracensis</i> Blooms August to September Full sun Wet to moist soils Tall plant with brilliant late summer flowers</p>		<p><b>Joe-Pye Weed</b> <i>Eupatorium fistulosum</i> Blooms August to September Light shade Wet to moist soils Attracts beneficial insects; herbal uses</p>	
		<p><b>Blue Mist Flower</b> <i>Conoclinium coelestinum</i> Blooms July to November Full sun to light shade Moist soils Good border plant or colonizing ground cover; attracts butterflies</p>		<p><b>New England Aster</b> <i>Aster novae-angliae</i> Blooms August to October Full sun to light shade Wet to moist soils Showy and frequently cultivated; dry to moist meadows</p>		<p><b>Common Sneezeweed</b> <i>Helenium autumnale</i> Blooms July to September Full sun Consistently wet to moist soils Moist open areas along streams &amp; ponds; wet meadows</p>	
Grasses			<p><b>Sedge</b> <i>Carex vulpinoidea</i> Blooms Summer Full sun Wet or saturated soils For shaded areas: <i>Carex crinata</i>, <i>Carex lurida</i> or <i>Chasmanthium latifolium</i></p>		<p><b>Switch Grass</b> <i>Panicum virgatum</i> Blooms August to September Moist soils Clump grass; can help to control erosion Sandy and river soils Photo: Bonnie Harper, Lady Bird Johnson Wildflower Center</p>		<p><b>Virginia Wild Rye</b> <i>Elymus virginicus</i> Blooms June to September Full sun to light shade Wet to moist soils Moist woods, meadows, stream banks Photo: EPA</p>
		Shrubs		<p><b>Arrowwood</b> <i>Viburnum dentatum</i> Blooms May Full sun to full shade Moist soils Dark blue fruits in fall; high wildlife value; streambanks, pastures Photo: Campbell and Lynn Loughmiller, Lady Bird Johnson Wildflower Center</p>		<p><b>Buttonbush</b> <i>Cephalanthus occidentalis</i> Blooms June to September Full sun Consistently wet or saturated soils Multi-stemmed; tolerates inundation Photo: Norman Flaigg, Lady Bird Johnson Wildflower Center</p>	
	<p><b>Nine Bark</b> <i>Physocarpus opulifolius</i> Blooms May to July Full sun to part shade Wet to moist soils Wet woods, sandy or rocky stream banks Photo: Stefan Bloodworth, Lady Bird Johnson Wildflower Center</p>			<p><b>Red Chokeberry</b> <i>Aronia arbutifolia</i> Blooms May Part shade Wet to moist soils Red berries; high value for wildlife Photo: Robert Mohlenbrock, USDA</p>		<p><b>Serviceberry</b> <i>Amelanchier arborea</i> Blooms March to April Part shade Moist soil Small tree with early spring flowers; delicious edible berries in summer Photo: Stefan Bloodworth, Lady Bird Johnson Wildflower Center</p>	
	<p><b>Silky Dogwood</b> <i>Cornus amomum</i> Blooms May to July Full sun Wet to moist soils Flowers in summer; blue berries; multi-stemmed; very high wildlife value Photo: Sally &amp; Andy Wasowski, Lady Bird Johnson Wildflower Center</p>			<p><b>Spice Bush</b> <i>Lindera benzoin</i> Blooms March to May Light shade to shade Wet to moist soils Bright red berries in fall; herbal uses; wildlife value</p>		<p><b>Winterberry Holly</b> <i>Ilex verticillata</i> Blooms May to June Part shade Wet to moist soils Showy berries in winter; high wildlife value; good colonizing shrubs for stream banks Photo: George Bruso, Lady Bird Johnson Wildflower Center</p>	
Trees			<p><b>American Beech</b> <i>Fagus grandifolia</i> Blooms April to May Full sun to full shade Moist, but well-drained soils Large tree with handsome gray bark; high wildlife value Foliage photo: Bill Cook, Michigan State University</p>		<p><b>American Sycamore</b> <i>Platanus occidentalis</i> Blooms April Full sun Wet to moist soils Large tree with showy mottled bark; riverbanks, floodplains and alluvial soils</p>		<p><b>Black Gum</b> <i>Nyssa sylvatica</i> Blooms April to May Full sun to part shade Moist soils Tall tree with outstanding fall color; high wildlife value Photo: Keith Kanoti, Maine Forest Service</p>
		<p><b>American Sweetgum</b> <i>Liquidambar styraciflua</i> Blooms March to May Full sun to partial shade Moist, acidic loam or clay soil Tolerates poor drainage Large tree; deeply ridged bark Photo: Andy Atzert</p>		<p><b>Pagoda Dogwood</b> <i>Cornus alternifolia</i> Blooms May to June Part shade Moist soils Small tree for moist woods and shaded ravines; dark blue fruit</p>		<p><b>Red Maple</b> <i>Acer rubrum</i> Blooms March to April Full sun to full shade Moist soils Adapts to a range of moisture conditions; good fall color Photo: Bill Cook, Michigan State University</p>	
		<p><b>River Birch</b> <i>Betula nigra</i> Blooms May Full sun to part shade Wet to moist soils Notable for its peeling bark; floodplains, streambanks, wet woods, swamps Photo: Steven Katovich, USDA Forest Svc</p>		<p><b>Shagbark Hickory</b> <i>Carya ovata</i> Blooms in May Full sun to part shade Moist soils Shaggy gray exfoliating bark; very high wildlife value Photo: Keith Kanoti, Maine Forest Service</p>		<p><b>Swamp White Oak</b> <i>Quercus bicolor</i> Blooms in May Part shade Wet to moist soils Large tree with very high wildlife value; good wetland oak Photo: Mark Brand, Univ. of CT</p>	



**For more information contact:**



[www.watershedcoalitionlv.org](http://www.watershedcoalitionlv.org)

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