

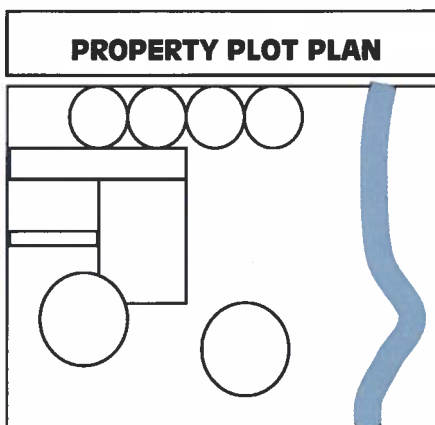
HOW TO CREATE A STREAMSIDE BUFFER GARDEN

Vegetative buffers help stabilize stream banks, prevent erosion, slow runoff, and provide food and shelter for a wide array of wildlife. Buffers can also be backyard gardens that are inviting places to stroll while enjoying views of the stream they protect. It is fun and relatively easy to create a streamside buffer garden. Follow the three simple steps below, and start a buffer garden that you—and your stream—will enjoy!!

Size Up Your Streamside Buffer Garden

To design your buffer garden start with a property plot plan. A plot plan is usually available at town hall, or you can create one by measuring the distances between your house, driveway, garage, etc. and the stream.

On the plot plan roughly sketch how much lawn you need for family activities and draw in existing trees and landscaping. The remaining yard area, adjacent to the stream, is your potential buffer garden.



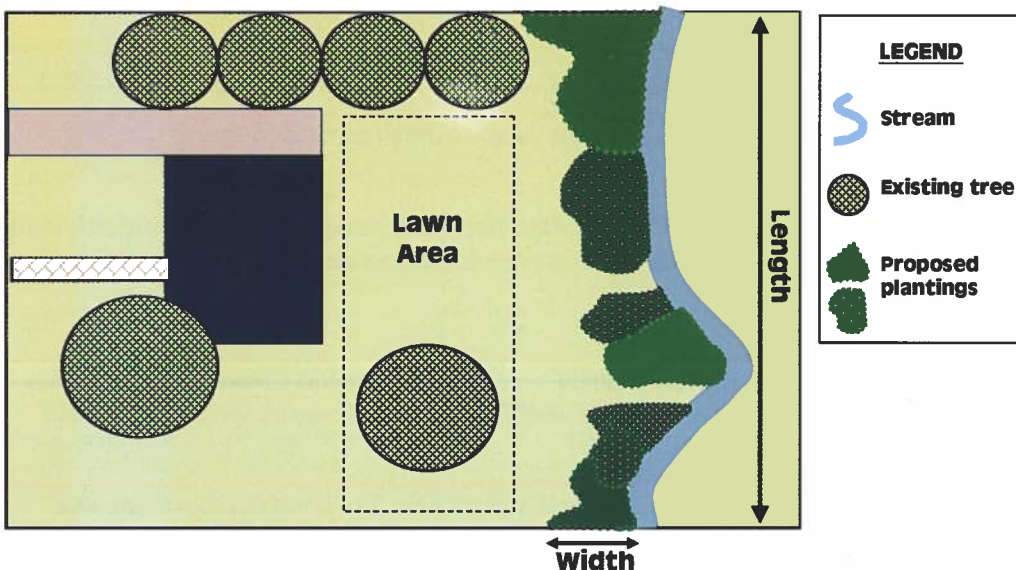
To determine the best size for your buffer garden consider the length you have available alongside the stream, as well as the width available on one or both sides of the stream.

LENGTH is important. Wildlife travel along streamside corridors seeking food and shelter. Try to create a buffer garden along the entire stream length on your property. Paths through the buffer garden can provide access and views of the stream.

WIDTH is also important. The wider the buffer, the more effectively it will intercept and filter runoff, stabilize the soil to prevent erosion, and support wildlife. Conservationists recommend at least a 35-foot wide buffer, but a narrower buffer is better than no buffer at all!

If you have limited time or a limited budget start small. Plant as much buffer garden next to the stream as possible, and in subsequent years you can add plantings to lengthen, or widen, your buffer garden.

BUFFER GARDEN DESIGN SKETCH

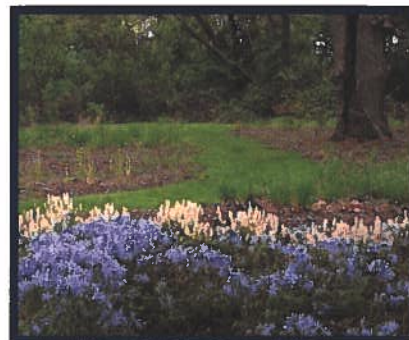


Design for Everyday Beauty and Pleasure

If you are like most people, you have access to a stream because you enjoy the sight and sound of the water on your property. Your buffer garden should preserve and enhance this relationship with the stream. It should also include plants with shapes, blooms, colors and fragrances that are pleasing to you as well as the local birds, bees, and butterflies.



AN EXAMPLE OF HOW TO FRAME A VIEW OF THE STREAM WITH A BUFFER GARDEN



GRASS PATHS ALLOW ACCESS AND VIEWS OF THE STREAM

SKETCH A DESIGN on your plot plan showing your planting areas and where you want to put trees, shrubs, flowers, meadow grasses and ferns. Also sketch in walking paths and views of the stream. A good way to preserve views of the stream is to put shorter plants along the paths and taller plants at the outer "frame" of view.

Before deciding what to plant consider the environmental conditions in the buffer garden. You will need an idea of the soil moisture and light regime. Note how wet or dry the planting area is, and how sunny or shady it is. Also note areas that are seasonally wet or flooded.

Now you can choose plants that are right for your garden. Refer to any one of the excellent websites referenced on the other side, or peruse a good garden book. Consider species native to southern New England first. They are adapted to our climate and are tolerant of the local soils and pests. Native plants also attract native wildlife, and can be essential to native bird and butterfly survival.

Diversify your buffer garden by choosing a variety of trees, shrubs, grasses and flowering perennials. A mixture of plant heights and colors will add visual interest, and different plant types work together to better protect the stream. Tree and shrub roots grow deeply, preventing undermining of stream banks, while perennials and meadow grasses intercept runoff and help keep surface soil from eroding. And of course, flowering and fruit-bearing plants help feed a wide variety of wildlife species throughout the year.

Implement Your Design

Using your design sketch, mark out the planting areas either by eye or with a measuring tape. Stakes, flags, flagging tape or temporary spray paint can help you demarcate planting areas and visualize your buffer garden.

TO PREPARE FOR PLANTING you will need to clear any weeds or other vegetation and turn the soil. You may also choose to lay down a layer of mulch before you plant, although it can be added afterwards.

If you are planting an area that is lawn you can use a sod-stripper or rototiller, or you can use a smothering technique. To smother, lay a thick layer of newspapers (up to 12 sheets!) on the grass and cover with 4-6" of mulch. Grass can also be smothered by covering it completely with black plastic or cardboard until it turns brown and dies (this takes some time).



Also make sure to look for, and remove, any non-native invasive plants since they can overrun your new garden (to learn more about invasives go to www.hort.uconn.edu/cipwg/).

Now you are ready to plant!

Generally, each plant species has a preferred soil acidity and soil fertility. Ask a professional at the garden center or nursery where you purchase your plants for planting information and plant care recommendations. And remember, leave enough space between the plants so they have room to grow to their full mature size!



Why is a Vegetative Buffer Garden Important?

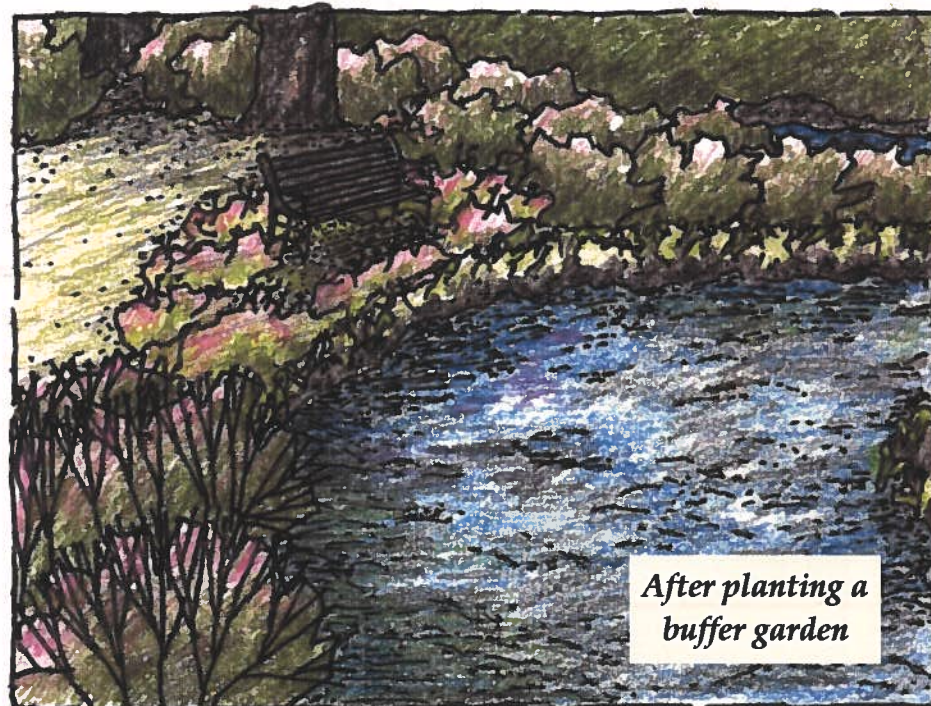
Whether natural or planted gardens, vegetated streamside buffers provide shade, stabilize stream banks, slow runoff, help to avoid flooding, and provide food and shelter to wildlife.

In contrast, the common grass lawn provides very little protection to streams. Chemical fertilizers and pesticides can easily wash off a lawn into the stream, degrading water quality. Stormwater runs off grass at a greater volume and a faster rate than from areas with trees and shrubs. Lawn grasses do not have the root structure to stabilize stream banks against the erosion and scour that can lead to stream bank failure.

The benefits will reach beyond your backyard stream—your buffer garden will help preserve and protect water resources downstream too!



Before planting a buffer garden



After planting a buffer garden

Benefits of Streamside Vegetation

Shade: Tall trees and shrubs provide the shade streams need. Exposure to sunlight increases water temperatures and encourages algal growth, leading to oxygen depletion. High temperatures and low oxygen levels threaten the health and survival of many fish and aquatic species.

Bank Stabilization: Shrub and tree roots prevent erosion by holding the stream bank together and by absorbing and deflecting the energy of moving water. Removing vegetation can lead to significant stream bank failure and mass bank loss, especially during heavy rains, flooding and ice flows.

Runoff Renovation: Vegetative buffers slow the flow and reduce the volume of runoff. They also filter pollutants such as sediments, nutrients, oils, metals, trash and debris. These pollutants might otherwise be carried into the stream and beyond.

Food and Shelter: Vegetation next to the stream provides the food and shelter needed by many aquatic and terrestrial wildlife species. A well vegetated buffer also provides the travel corridor required by many species to safely move about and maintain population levels.

BUFFER RESOURCES ONLINE

"Where Water Meets Land," CT NRCS riparian buffer guide (link to pdf)
www.ct.nrcs.usda.gov/plants.html

CT River Joint Commission fact sheets
www.crjc.org/riparianbuffers.htm

Candlewood Lake buffer guidelines (pdf)
www.conservect.org/southwest/NPS_resources/candlewoodbuffer.pdf

Care and Maintenance of Your Buffer Garden

As with any garden, once you have planted you will need to keep it well watered and weeded for the first 2 to 3 years. If you use mulch you will need to renew it until your plants are big enough to shade out the weeds. Although many native plants require little care, if you choose you can prune shrubs and trees, and cut back or divide grasses and perennials. Alternatively, you can let your buffer garden go wild. And remember, *as you enrich your garden, your garden will nurture you!*

Native Plants for Buffer Gardens

There are many beautiful native plants that will thrive in a streamside buffer garden. Below are just some of the trees, shrubs and perennials that you might choose from.

TREES

Black Willow*
 Red Maple*
 River Birch
 Swamp White Oak

SHRUBS

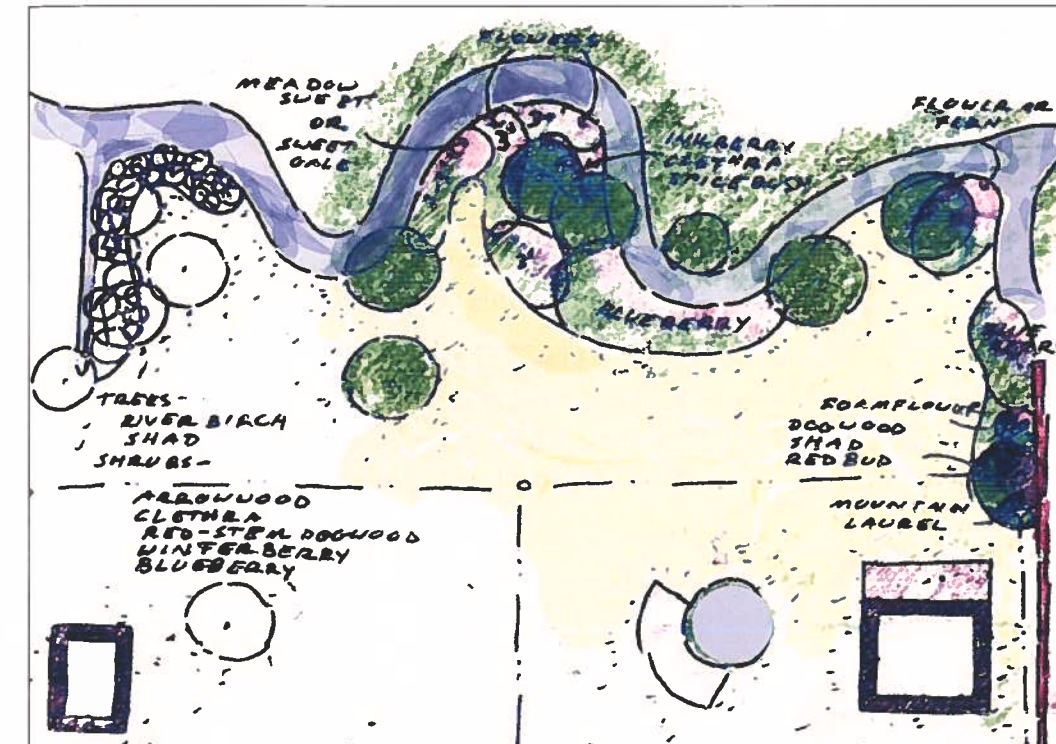
American Cranberrybush
 Black Chokeberry*
 Blackhaw Viburnum
 Buttonbush*
 Common Elderberry*
 Highbush Blueberry
 Inkberry
 Meadowsweet*
 Northern Arrowwood
 Pussy Willow*
 Red-Osier Dogwood*
 Shadblow/Serviceberry
 Silky Dogwood*
 Spicebush
 Steeplebush*
 Summersweet Clethra
 Swamp Azalea
 Sweetgale
 Winterberry
 Witchhazel

PERENNIALS

Blue Flag Iris
 Boneset
 Cardinal Flower
 Great Blue Lobelia
 Monkey Flower
 Joe Pye Weed
 Turtlehead

*good for bank stabilization

EXAMPLE BUFFER GARDEN DESIGN



SEARCHABLE PLANT DATABASES ONLINE

University of Connecticut: www.hort.uconn.edu/plants/

Connecticut Botanical Society: www.ct-botanical-society.org/index.html

USDA Natural Resources Conservation Service: plants.usda.gov/index.html

CT Invasive Plants Working Group: www.hort.uconn.edu/cipwg/

For information or assistance with a backyard stream, pond or wetland, visit www.conservect.org and contact your local Conservation District today!

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