

What's Happening to the Water Cycle?

As we develop our land and increase the amount of paved surfaces and buildings (known as impervious cover), the water cycle is changed. Less rainfall and snowmelt sinks into the ground and more water flows rapidly over the land into our lakes, rivers and estuaries. Stormwater runoff can lead to increased flooding, erosion and pollution and decreased groundwater recharge during dry periods.

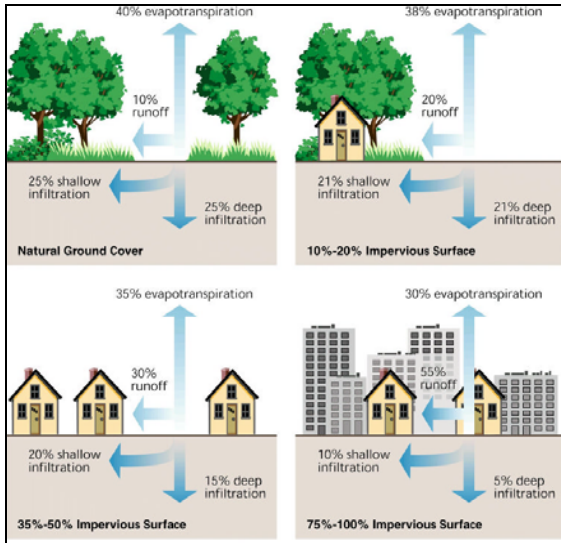


Photo: FISRWG

As impervious surfaces increase, the problems associated with stormwater quality also increase. Stormwater can contain pollutants such as sediment, nutrients, bacteria and chemicals that can threaten aquatic health, and contribute to the loss of water dependent recreational activities. Unmanaged stormwater is recognized nationally as the leading cause of water pollution today.

Conventional methods of land development collect and convey stormwater quickly into a series of drains and pipes that flow directly into the closest waterbody with little or no water quality treatment.

How can we help? Plant a Vegetated Riparian Area!

Low Impact Development (LID) techniques manage stormwater runoff by mimicking the natural movement of water in the environment and preserving the pre-development hydrology of a site. If your property includes or borders water features, one of the easiest and most cost effective methods for protecting water quality is to **PLANT A VEGETATED RIPARIAN AREA**. Vegetated riparian areas help to infiltrate water on site and improve water quality by filtering pollutants from stormwater, before it flows into the nearest wetland or waterbody.



Photo: CT DEP

What is a Vegetated Riparian Area?

Land that is next to a waterbody, such as a stream, river, pond, or lake, is called a *riparian area*. Vegetated riparian areas (also called riparian buffers) are a part of both the land area and the aquatic ecosystem. Natural vegetation in riparian areas provides a variety of ecosystem services – benefits to humans that are generally not included in the cost of everyday living. These include clean water, flood control, travel corridors, and habitat for wildlife.

Why Enhance or Create a Vegetated Riparian Area?

Enhancing or creating a vegetated riparian area in your yard can improve water quality in your community by preventing sediment, nutrients, bacteria, and chemicals from flowing into streams, rivers, and lakes. In addition, by infiltrating stormwater, vegetated riparian areas can:

- Provide erosion control and flood protection by slowing the velocity of stormwater runoff
- Help to stabilize stream banks
- Recharge local groundwater resources by infiltrating water back into the ground
- Discourage geese from landing on your lawn and “depositing” bacteria and nutrient rich feces
- Filter excess pesticides, fertilizers, and other pollutants from lawns
- Provide wildlife habitat and travel corridors
- Moderate water temperatures for aquatic life

How to Enhance or Create a Vegetated Riparian Area

Consult with trained staff – Before starting a project involving inland wetlands and watercourses, check with your local inland wetlands commission. For projects involving tidal wetlands, contact the Connecticut DEEP at 860-424-3034.



Photo: CT DEP

Make a Plan– Depending on existing vegetation, it may be possible to establish a healthy vegetated riparian area simply by not mowing or cutting close to the water’s edge. Native plants that fill in the “no mow” area will be well adapted to local conditions. If you choose to enhance the existing vegetation, factors to consider include sun exposure, slope, corridor width, maintaining water access, framing a view, potential wildlife damage (i.e. deer, beaver), and soil type.



Photo: CT DEP

Test Your Soil – Before selecting plantings to enhance your vegetated riparian area, have your soil tested to determine soil type, soil texture, flooding frequency and duration, and pH. Different plants thrive in different soils and have varying moisture tolerances, so a test will be well worth the effort. Soils tests are available for a nominal fee. See the resource section at the end of this brochure for information on soil testing.

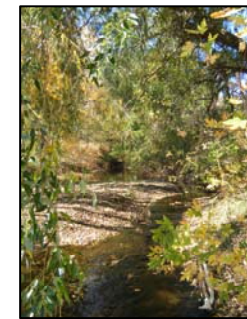


Photo: CT DEP

Remove Invasive Species – Whether you create a no-mow area or choose to enhance existing vegetation, it is important not to plant invasive species and to remove any invasive species from the area. Invasive plants can kill native shrubs and trees and do not provide a diverse environment for native wildlife. Information on identifying invasive plants can be found in the resource section.



Photo: CT DEP

Common Questions About Vegetated Riparian Areas

How do I enhance a healthy riparian area but still maintain my water view?

You can maintain a vegetated riparian area, improve water quality, and still have a great view of and access to the water.



Photo: Candlewood Lake Authority

The key is to pick a variety of plants of different heights, and plan out exactly how you want to frame your view. For water access, it is beneficial to buffer most of the waterfront and leave a winding pathway down to the water. This prevents stormwater runoff from creating an erosion channel to the water. Great ideas for riparian area design can be found in the resource section.

How wide should my vegetated riparian area be?

The ideal width of your vegetated riparian area depends on its purpose. Factors to consider include slope of the shoreline, wildlife species in the area, and the types of pollutants in the area. However, any non-invasive vegetation along the shoreline will provide some benefit. Typical vegetated riparian area widths range from 20-200ft, depending on which resources they are designed to protect.

How do I maintain my vegetated riparian area?

In most cases, maintaining a vegetated riparian area is much easier than maintaining a lawn. Planting hardy, native plants reduces or eliminates the need for fertilizer, pesticides, and watering. However, the plantings may require seasonal weeding and pruning and invasive plants will need to be removed if they appear.

Want to Know More? Click to Explore!

Statewide Information:

The CT DEP's Watershed Management Program:
www.ct.gov/dep/watershed

The CT DEP's Tidal Wetlands Buffer Guidance:
http://www.ct.gov/dep/lib/dep/long_island_sound/coastal_management/twbufferguidance.pdf

Designing Your Vegetated Riparian Area

NRCS and Norwalk River Watershed Initiative's
Backyard Stream and Pond Buffers
<http://conservect.org/LinkClick.aspx?fileticket=92yotgFmrFk%3d&tabid=267>

The Southwest Conservation District Educational Brochure web site:
<http://conservect.org/southwest/Education/tabid/267/itemid/121/Default.aspx>

CT Sea Grant's Planting Guide for Riparian Sites Along the Connecticut Coast:
<http://web2.uconn.edu/seagrant/publications/coastalres/riparian.pdf>

A NRCS Guide to Riparian Restoration in CT:
<http://clear.uconn.edu/tools/lid/index.htm>

The Housatonic Valley's web site on streamside buffers:
<http://www.hvatoday.org/show.cfm?page=water/streamsidebuffers.htm&folder=water>

Planting Information:

The CT DEP's Invasive Species Resources:
http://www.ct.gov/dep/cwp/view.asp?a=2702&q=323494&depNav_GID=1641

The *Connecticut Native Tree and Shrub Availability List* published by the CT DEP:
http://www.ct.gov/dep/lib/dep/wildlife/pdf_files/habitat/ntvtree.pdf

The *Connecticut Native Plant and Resource List* by the US DOT Federal Highway Administration:
<http://www.environment.fhwa.dot.gov/ecosystems/vegetation/row.asp>

Soil Testing:

CT Agricultural Experiment Station Soil Testing Program:
<http://www.ct.gov/caes/cwp/view.asp?a=2836&q=378206>

UConn Soil Nutrient Analysis Laboratory:
<http://soiltest.uconn.edu/faq.php>

Additional Town Information:

Including contacts and local resources

Sixth Brochure of the LID Series

For more information contact Connecticut DEEP's Watershed Management Program:

860-424-3020

<http://www.ct.gov/dep/watershed>

The DEP is an affirmative action/equal opportunity employer. In conformance with the ADA individuals with disabilities who need this information in an alternative format, to allow them to benefit and/or participate in the agency's programs and services, should call (860)-424-3051 or (860) 418-5937 or e-mail Marcia Z. Bonitto, ADA Coordinator, at: Marcia.Bonitto@ct.gov. Persons who are hearing impaired should call the State of Connecticut relay number (711). Requests for accommodations must be made at least two weeks prior to the program date.

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Rainfall as a Resource

A Resident's Guide to Vegetated Riparian Areas in Connecticut



This "no mow" vegetated riparian area project along the French River in Thompson, CT was created to help protect water quality and provide wildlife habitat and was funded in part by a Federal Clean Water Act Section 319 grant. Photo: Connecticut DEEP



Connecticut Department of Energy and Environmental Protection
Bureau of Water Protection and Land Reuse
Planning and Standards Division
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