Landscaping for Water Quality

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A bit about me

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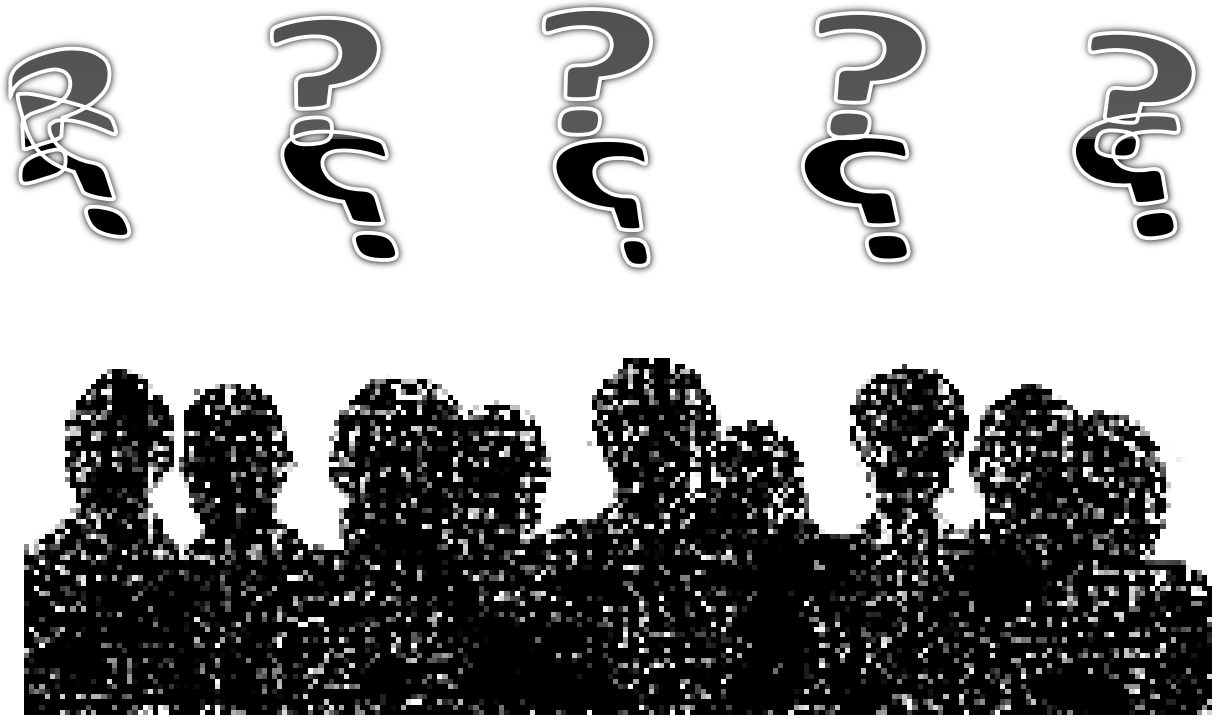
A bit about you



A brief outline

- Water Quality Issues
- Water on your home landscape
- Methods for managing water
- Methods for reducing NPS
- Landscaping for Water Quality (a shameless plug)

Why should we be concerned about water quality?

Environmental stewardship:

- Clean water is a finite resource

Practical:

- Cost

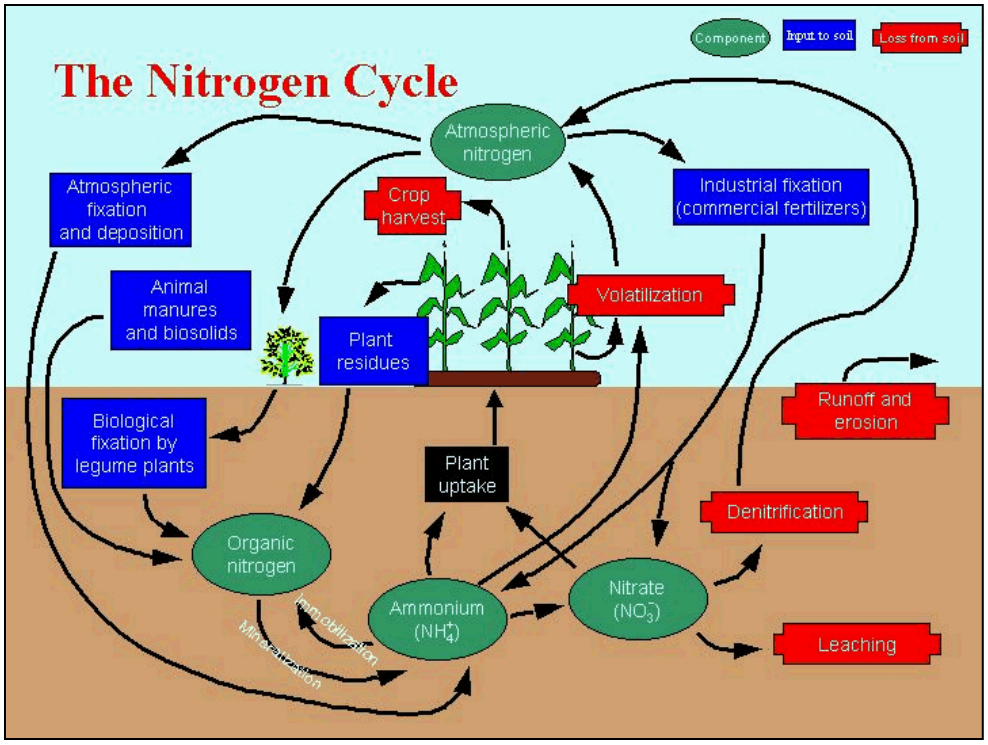
Why should we be concerned about water quality?

Nonpoint source pollution (NPS):

- Two main pollutants to Long Island Sound are **nitrogen** and **bacteria**

Nitrogen

- Nitrogen is available in the atmosphere as a gas
- It is used by all living things as a component of protein
- Nitrogen is a necessary nutrient for plants, including algae
- Nitrogen is easily soluble in water and is therefore easily transportable in water

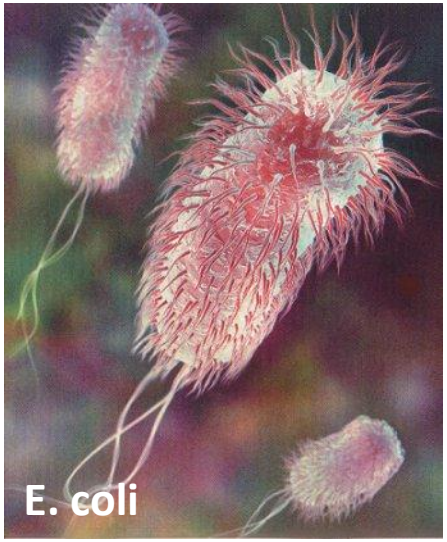


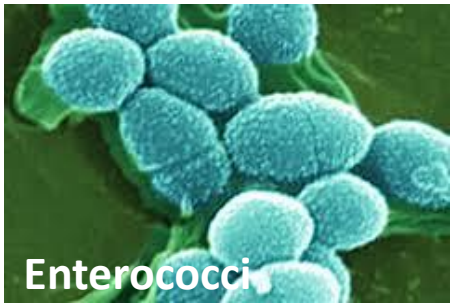
Effects of nitrogen in environment

- Nitrogen in storm runoff enters water body
- Excess nitrogen causes algal blooms
- Once algae have used up available nitrogen plants die
- Bacteria decomposing plants use up oxygen in water
- This causes low (hypoxic) or no oxygen (anoxic) zones
- Fish kills can result

Bacteria

- Typically from terrestrial sources (warm-blooded animals)
- E coli, fecal coliform or enterococci are measured – typically not harmful, but!
- These are indicator bacteria, and may indicate presence of harmful pathogens such as viruses, bacteria and protozoa.
- Positive tests for these indicator bacteria result in beach closures
- Shellfish bed contamination and closures



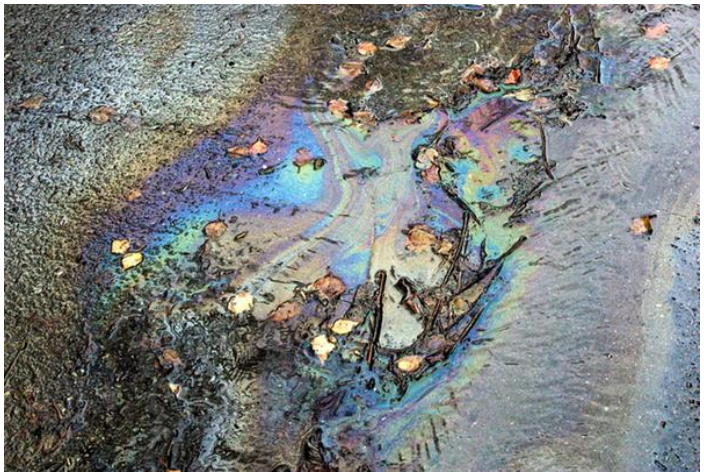


Wise water management reduces water use and pollution

- Watch where water goes on your land when it rains

Think about what water is taking away from your yard

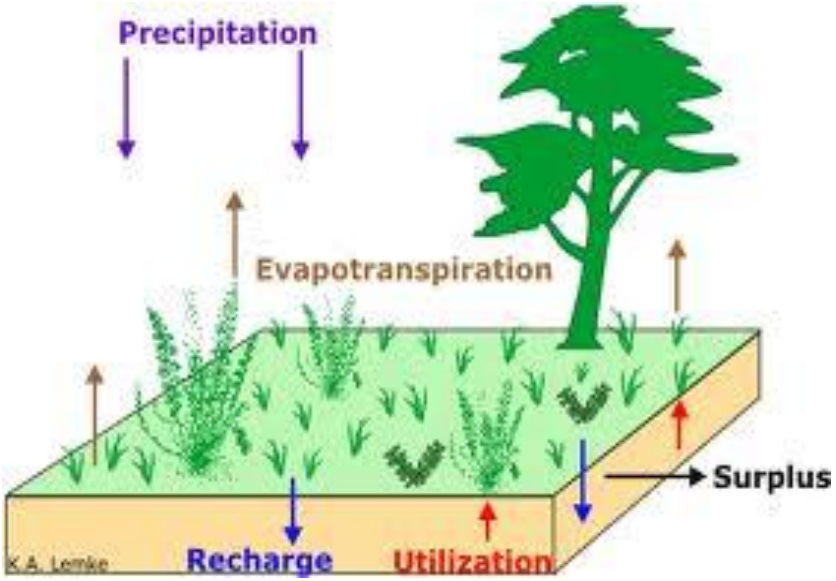
- Sediment?
- Lawn chemicals?
- Animal waste?
- Trash?
- Automotive-related chemicals and metals?
- Collectively called nonpoint source pollution (NPS)



Find ways to keep water on your land

- Benefits:
  - Reduces NPS
  - Maintains soil moisture
  - Recharges groundwater

    (more important in areas with wells)



Methods

- Rain barrels
- Rain barrel sale – Saturday, June 18th in Waterford

Infiltration methods

Rain gardens

Plants:

- Coneflower
- Butterfly Plant
- Asters
- Black-eyed Susan
- Blue-eyed Grass
- Cardinal Flower
- Blue Flag Iris
- Ornamental grasses

Infiltration methods

- Drainage swales

Grass-lined swale

Vegetated swale

Pervious surfaces

- Provide structure to prevent soil compaction
- Allow water to soak into soil

Plant choices

Xeriscaping:

- Plants that have low water requirements
- Prairie plants
- Southwestern plants
- Mediterranean plants

Plant choices

Native Plants:

Native plants are adapted to typical NE rainfall and are drought resistant.

Natives also provide food for wildlife.

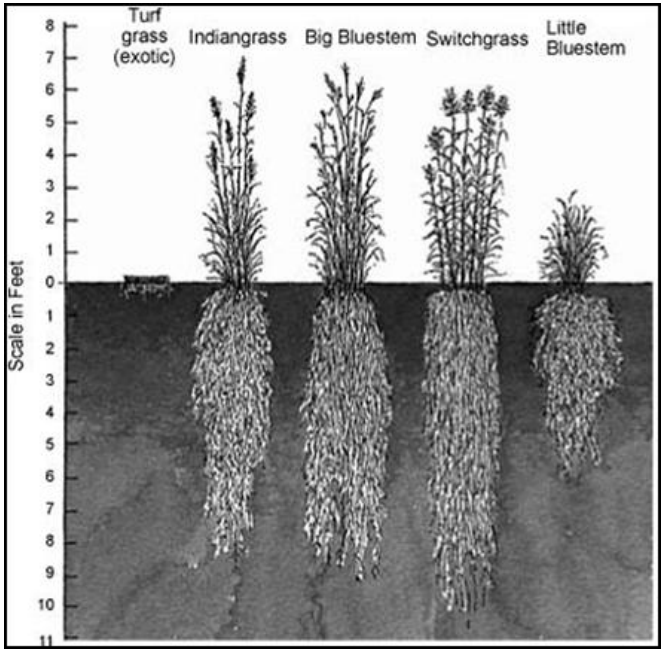
Do you really need your lawn?

- Reduce lawn area to reduce need to water, fertilize, etc.
- Lawns are green deserts – “well maintained” lawns don’t flower, don’t have weeds – nothing that would attract an insect or bird to come feed.

More on lawns

Lawns are often poor water infiltrators.

Shallow root systems don’t absorb much water, and are unable to hold soil together to prevent erosion.



Ways to reduce NPS

Chemicals

- Limit or don't use lawn chemicals

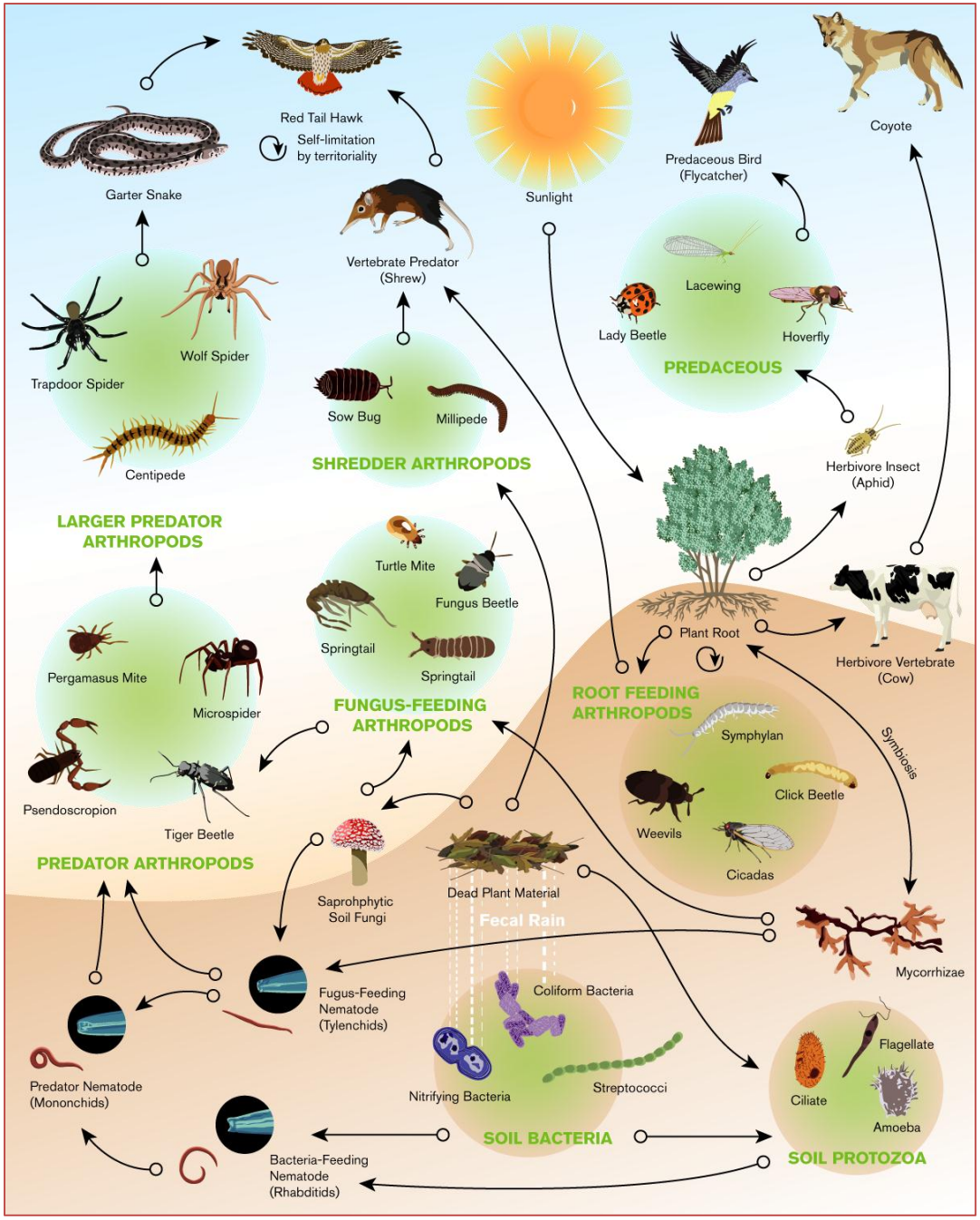
Test soils

- If you must, test soils first

- **Soil Nutrient Analysis Laboratory**
  soiltest@uconn.edu
- **Connecticut Agricultural Experiment Station**
  http://www.ct.gov/caes/cwp/view.asp?a=2836&q=378202
- **Cornell University**
  http://soilhealth.cals.cornell.edu/

A crash course in soil ecology

(Bugs and grubs and bacteria and worms and protozoa are REALLY GOOD!)



Take your soils off drugs!!

- Benefits of healthy “organic” soils
- Healthy root systems mean healthy blooms!

Compost

- Consider compost rather than chemicals as natural alternative that builds soil and promotes healthy soil biota

Manage pet waste

- Pick up pet waste – reduces both nutrients and bacteria

Manage manure

- If you have livestock, cover and/or compost manure

Riparian buffers

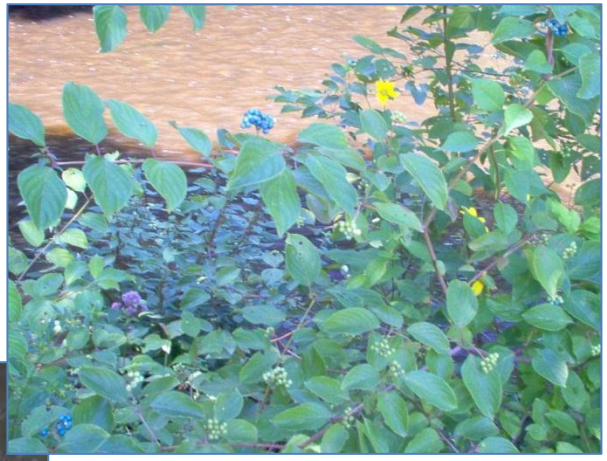
Plant riparian buffers if you live along a lake or stream.

Riparian buffers:

- Reduce erosion
- Shade and cool water
- Provide food, nesting and cover
- Absorb nutrients in run-off

Riparian buffer plants

- Grasses
- Asters
- Joe Pye Weed
- Blue Flag Iris
- Woodland Sunflowers
- Blueberry
- Silky Dogwood
- Grey Dogwood
- Red Twig Dogwood
- Sweet Pepperbush
- Spicebush
- Elderberry
- Sweet Gale
- White Oak
- Swamp Oak
- Red Maple
- Black Gum



Landscaping for Water Quality

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Landscaping for Water Quality

Go Natural for the Niantic!

Rain Garden Webinar:

Presented by University of Connecticut

Center for Land use Education and Research (CLEAR)

April 19, 2011 2-3 pm

Click here for more information or to register.

Be a NIMBY for the Niantic

We want you to be a NIMBY for the Niantic River: Niantic In My Back Yard. If you are in the Niantic River Watershed, which includes parts of East Lyme, Waterford, Salem, and Montville, then drainage from your site ends up in local streams and into the Niantic River. This means we are responsible for what happens to the Niantic River.

Water Quality and the Niantic River

One of the main objectives of the Niantic Watershed Committee is to educate watershed residents on the relationship between nonpoint source pollution and water quality. Very few people think of the Niantic River as an estuary, but it is. Estuaries are areas where fresh water and salt water come together to create rich, diverse habitats. (To learn more about estuaries, you can visit http://www.estuaries.gov/About/Home.aspx).

The Niantic River was once known for its abundance of bay scallops. Bay scallops (*Argopecten irradians)* are dependent on eelgrass, and the eelgrass beds in the Niantic River have been in decline since the 1980s. The cause is unknown, but has been linked to nonpoint source pollution, which is pollution from many diffuse sources that is caused when rainfall picks up natural and human-made pollutants and deposits them into lakes, rivers, and coastal waters, such as the Niantic River and Long Island Sound.

Environmental Tip of the Day

Buy water-efficient fixtures and products. The WaterSense label helps shoppers identify water efficient products and programs.

More WaterSense
More tips you can use
Play audio podcast

Get Widget

Participating Businesses:

Perennial Harmony Nursery
Petie Reed
Rich Oliver
368 Boston Post Road
Waterford, CT 06385
860-440-3653
http://www.perennialharmony.com/

Green Survival Gardens
Hendrik Verkade lll
Hendrik Verkade IV
29 Rope Ferry Rd
Waterford, CT 06385
860-442-8809
www.greensurvival.biz

Burnett's Landscaping
Mary Richardson
406 New London Road
Salem, CT 06420
860-859-3100
www.burnettlandscaping.com

Safe Lawns of Salem
Bill Ross
406 New London Road
Salem, CT 06420
860-859-3100
www.safelawnsofsalem.com

Oasis Gardens Llc.
Kelly Sisk
140 Fog Plain Rd
Waterford, CT 06385
860-437-3448
www.oasislandscapeart.net

Plantasia
Linda Turner
57 Cedar Lane
Bozrah, CT 06334
860-639-8088
www.plantasiact.com

Some Handy Links

Healthy Lawns:

- http://www.naturallandscapes.org/content/compost_soil/compostsoil.htm
- http://topdocumentaryfilms.com/farm-for-the-future

Xeriscaping:

- http://www.colostate.edu/Dept/CoopExt/4dmg/Xeris/xeris1.htm
- http://xeriscape.sustainablesources.com/

Landscaping for Wildlife:

- http://www.dnr.state.mi.us/publications/pdfs/huntingwildlifehabitat/landowners_guide/Introduction/index.htm

Native Plants:

- www.ct-botanical-society.org/
- http://plants.usda.gov/

Questions?????

Funding for the Niantic River Coordinator position is provided in part by the Connecticut Department of Environmental Protection through a US EPA Clean Water Act §319 Nonpoint Source Pollution program grant.