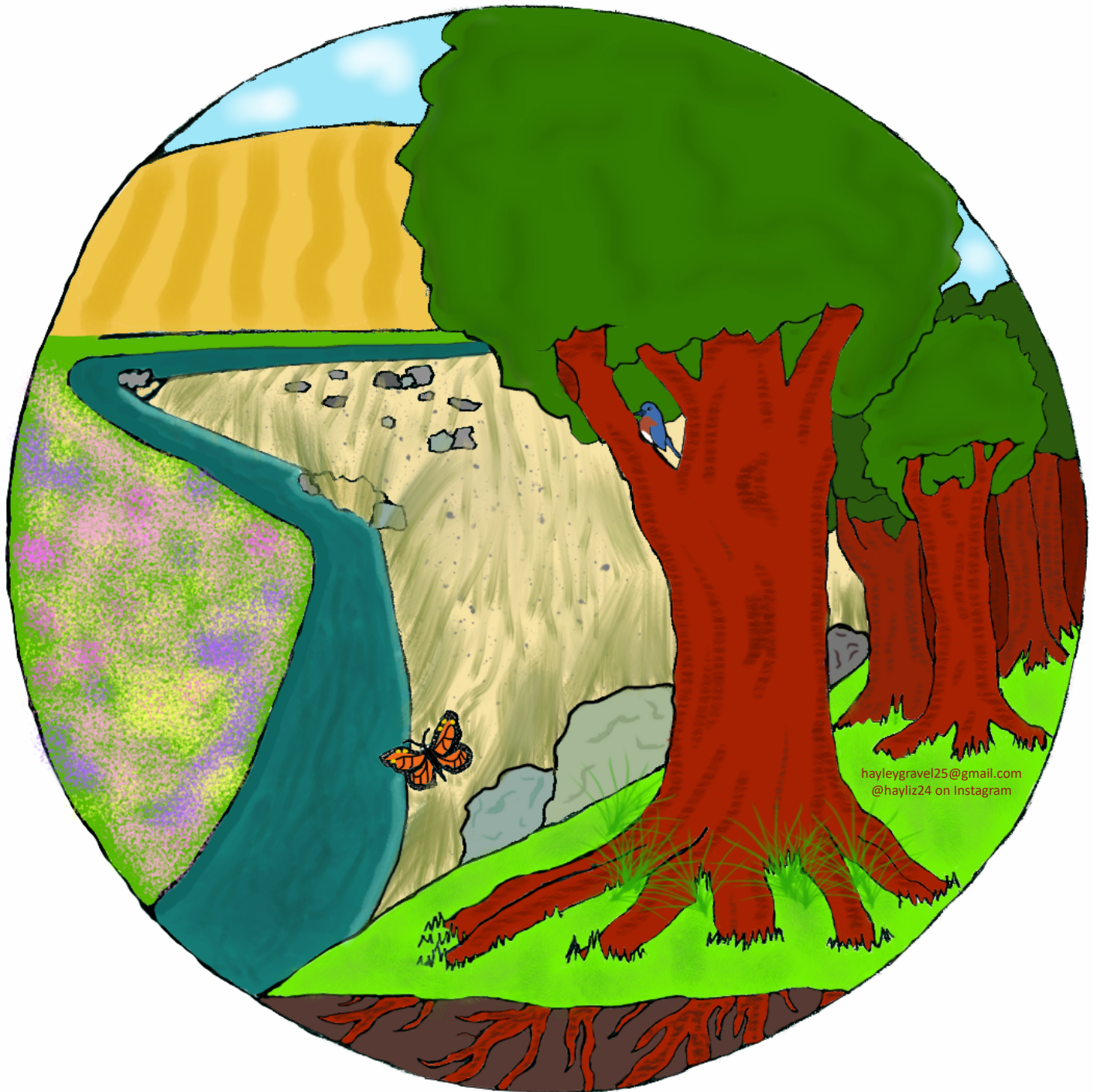


The Voice of Local Conservation



Northwest Conservation District
Education Edition 2021

An Introduction to the Northwest Conservation District

Conservation Districts were established nation-wide in the 1930's in response to national concerns over agricultural erosion, floods and the sky-blackening dust storms that swept across the country in the Dust Bowl. Congress enacted the Soil Conservation Act of 1935, which set national policy for the control and prevention of soil erosion, and established the Soil Conservation Service to implement this policy.

The Dust Bowl taught everyone a valuable lesson on the importance of protecting natural resources at the local level. In Connecticut, there are five Conservation Districts that were established by State Statute (Section 22a-315) to advise the CT Department of Energy and Environmental Protection (CT DEEP) on matters of soil and water conservation, erosion and sedimentation control and to assist in implementing programs concerning such matters.

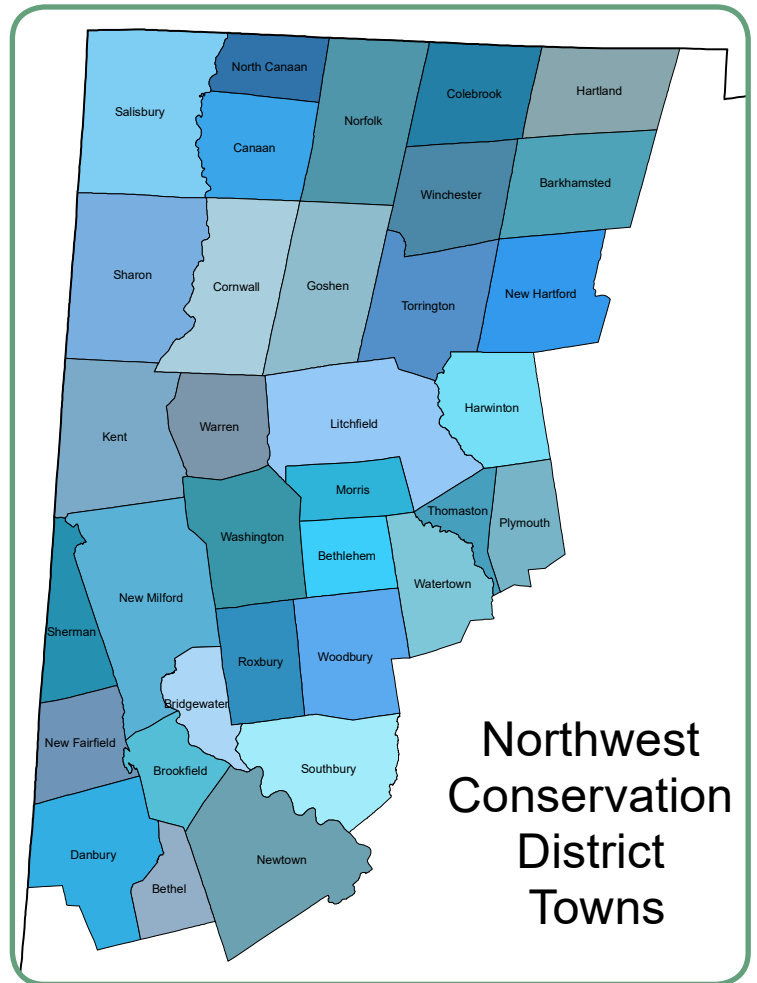
The Northwest Conservation District or NWCD offers technical services and educational programs to our 34 local communities - check out the map on the right to see if your town is in our district!

Today, NWCD works in partnership with our communities, other local non-profits and state agencies, as well as the public on conservation challenges such as:

- Drinking Water and Aquifer Protection
- Wetland Protection and Restoration
- Aquatic Resource Protection through Low Impact Development (LID) Planning and Implementation
- Open Space and Farmland Preservation
- Sustainable Lawn Care and Land Use
- Agricultural Resiliency and Renewable Energy, and more!

The information outlined on the following pages represent key initiatives that NWCD addresses.

If you have questions, are interested in NWCD sponsoring an educational event, or you would like us to partner with you on a specific project, contact us at info@nwcd.org or call the office at 860-626-7222.



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Pollinators - Thinking Beyond the Honey Bee... ...and Your Own Backyard

Too often, people only think of the honey bee as the main pollinator for our food sources such as fruit trees and vegetable plants, and native and non-native flowering trees and shrubs in our backyards and local landscape. In fact, many birds, (including but not limited to hummingbirds), bats, beneficial insects such as butterflies, and most often overlooked, native bees and wasps are pollinators. Similar to us, all pollinators require healthy food sources, safe shelter and clean water to survive.

As spring weather is upon us, many ground dwelling-native bees and wasps are already busily working in our own backyards, providing other year-round services for soil health and biodiversity. A little known fact about those humble creatures, the most famous being the bumble bee, is that their traveling distance from one pollinator friendly habitat to another is only 750 meters or less than ½ mile. We have the capacity to travel miles for food, have year round safe “permanent shelter” and can turn on a faucet for clean water.



As we think beyond the honey bee, consider making your backyard a pollinator safe habitat and walk half a mile beyond to find, create or encourage your neighbors to be part of your pollinator pathway.

To become a part of a great Connecticut based Pollinator Pathway initiative, visit Pollinator Pathway Northeast at

www.pollinator-pathway.org

To learn more about Pollinators, head to nwcd.org/plant-sale-education/ under the Pollinator Tab. Or have a question? Email Karen Griswold Nelson at karengnelson@nwcd.org

There is a movement afoot and it's called **NO MOW MAY**. Our fragile pollinator population will thank you for learning about it! **No Mow May** promotes pollinator-friendly habitat and awareness in a very simple and easy way - **JUST DON'T MOW YOUR LAWN FOR THE MONTH OF MAY! SIMPLE....RIGHT?**

Long grass allows for a greater variety of flowers to grow, some of them rare plants. They attract and feed pollinators! Research has shown that by not mowing your lawn at the beginning of the season for 4 weeks, the bee abundance increases fivefold and the diversity increases by threefold. It's a simple way to help feed wildlife on a multitude of levels, directly for bees and insects and indirectly for the wildlife that eats the pollinators. Just wait until the 1st of June. You will have plenty of mowing for the rest of the season. For a **No Mow May** yard sign, **contact NWCD at 860-626-7222 or info@nwcd.org**

NO MOW MAY

Please excuse the weeds they are feeding the bees



**NORTHWEST
CONSERVATION
DISTRICT**
www.nwcd.org

Managing Your Watershed for Clean Water

Clean water is not a guarantee. Anthropogenic activities or human use of land alters our water resources. From paving our driveways, to building homes, tilling the land for agriculture, creating wastewater and industrial pollution, and more - all of these activities have varying effects on our water resources.

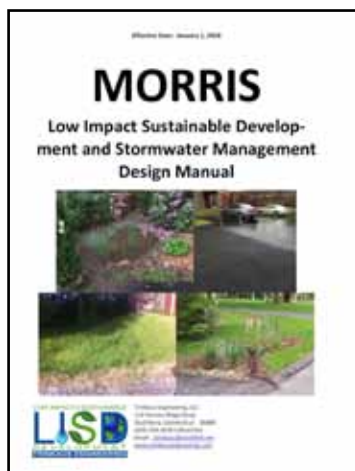
One example is increased pollutant loading in stormwater runoff, which occurs when rainwater flows over the ground, picking up chemicals or nutrients. Some examples of pollutants are phosphorus, nitrogen, Fecal Coliform or *E. coli* and sediment. The elevated levels of nitrogen and phosphorus in our waterways make our lakes, rivers and streams vulnerable to artificial eutrophication - or nutrient enrichment - and increase their risk of toxic cyanobacteria blooms. Excess sediment from erosion can cause upstream riverbank failures, and downstream can cause deposition in recreational areas and sensitive habitats. What can we do about all of this?

Watershed Management, or balancing various land use types and activities in your watershed, is important for ensuring healthy water resources. Many lake and watershed organizations throughout northwestern Connecticut are actively working to protect our aquatic resources through watershed protection. NWCD provides technical services to these volunteer-based organizations to aid in this process.

One framework to decrease human impact in a watershed is called Low Impact Development or LID.

This process applies sustainable techniques to new development, or to retrofit already developed land, avoiding negative impacts. There are many types of LID for a range of land use types and projects. If you are interested in learning more, go to:

<https://nemo.uconn.edu/tools/index.htm>



Lake Waramaug, CT



Specifically, residential land use and agriculture can be implemented in a manner that minimizes their effect on the natural environment. The problem with the pollutants mentioned above is that once they are in a lake, river or stream, they are extremely costly to remove. One estimate is that every dollar spent on prevention of excess nutrients entering a lake can save \$1,000 of in-lake management. Prevention is key - but what can a concerned citizen do if they are worried that their property is causing excess runoff?

First, any questions or concerns you have - feel free to call us at the Conservation District! We would be more than happy to discuss some options for you and help you find your next steps. When it comes to preventing excess runoff, one solution is through the creation of a structure called a rain garden. Continue onto the next page to learn more.

Riparian Buffers in Agriculture

Riparian buffers are strips of trees and shrubs that help clean water runoff and limit erosion. When agricultural fields are adjacent to moving water, there is opportunity for excess nutrients and sediment to enter the water. During times of excess rain, fields may become subject to erosion and flooding. Riparian buffer plantings will help mitigate these negative impacts by filtering the runoff before it reaches the water source. The roots from the plants will hold the soil in place, decreasing erosion. Some native plants that are recommended for riparian buffer plantings include Dogwoods (*Cornus*), Witch Hazel (*Hamamelis*) and Winterberry (*Ilex*).

For more information, contact Sarah Ammirato at info@nwcd.org

Rain Gardens - Cleaning Runoff One Yard at a Time

GREAT RAIN GARDEN PLANTS

Trees

Acer rubrum - Red Maple

Betula nigra - River Birch

Juniperus virginiana - Eastern Red Cedar

Shrubs

Aronia arbutifolia - Red Chokeberry

Aronia melanocarpa - Black Chokeberry

Clethra alnifolia - Summersweet

Hamamelis virginiana - Witch-hazel

Ilex glabra - Inkberry

Ilex verticillata - Winterberry

Lindera benzoin - Spice Bush

Salix discolor - Pussy Willow

Sambucus canadensis - Elderberry

Viburnum nudum - Winterthur

Perennials and Ferns

Aruncus dioicus - Goatsbeard

Asclepias incarnata - Swamp Milkweed

Caltha palustris - Marsh Marigold

Chelone glabra - Turtlehead

Echinacea purpurea - Coneflower

Eupatorium dubium - Joe Pye Weed

Iris versicolor - Blue Flag Iris

Lobelia cardinalis - Cardinal Flower



Rain gardens are simple and attractive solutions for runoff from footing and roof drains, driveway drains, and from lawns laden with pesticides and fertilizer. Rain gardens work best in well-drained soils and are the most common type of Low Impact Development (LID) system used to clean polluted stormwater runoff created in residential areas.

Careful planning is essential to success. Suitable soil types (well-drained soils) are an important component for proper infiltration. Not every site has suitable soils and even if an area does, not every location is ideal for installing rain gardens. Rain gardens are NOT water gardens or wetlands. Placing rain gardens in poorly drained soils may lead to slow infiltration and unwanted long term ponding. These structures should not be installed over a septic system, reserve area site or close to a drinking water well. A homeowner can determine their property's soil drainage class by visiting the <https://nemo.uconn.edu/raingardens/sizing.htm> website under "Checking Soils". For more information regarding sizing, siting, design, installation, maintenance and cost, visit <https://nemo.uconn.edu/raingardens/installation.htm>. A great resource for all!

Rain gardens also provide a GREAT opportunity to add habitat for pollinators and other wildlife year-round. Simple and attractive, rain gardens are environmental champions. Consider installing one in your yard!

To learn more about water quality, LID and Rain Gardens, head to nwcd.org/plant-sale-education/ under the Water Quality Tab. Or have a question? Email NWCD at info@nwcd.org

Community and Agriculture

Like many states, last year Connecticut went into a two-week lockdown to stop the spread of COVID-19, just over a year ago. In preparation for this shutdown, many people went into grocery stores to stock up and were met with empty shelves. This increased the panic people felt during this unprecedented time.

Local farms were able to fill this demand through direct sales of meat, milk, fruit and vegetables which did not need to be shipped across the country or rely on processing plants to reach the consumer. The increased demand for locally grown food gave many farmers record sales. Community Supported Agriculture (CSA) programs increased in popularity. Individuals purchase shares at the beginning of the growing season and receive weekly distributions of vegetables.

Each week's share includes a wide variety of produce including heirloom varieties not typically seen in the grocery store. CSA's encourage people to incorporate in-season, locally grown foods into their diet. Many CSA's also include recipes and suggestions for preparing and enjoying each week's share.

Inviting people onto the farm for weekly pick-ups improves the connections within the community and reinforces the importance of knowing where your food comes from. This also provides a connection to agriculture for people who don't otherwise have one.



Waldingfield Farm, Washington CT

Many farms in Litchfield County have CSA Programs. Check out the CT Department of Agriculture website for a full list. Here are some highlighted below.

- Gresczyk Farms in New Hartford, CT
- Maple View Farms in Harwinton, CT
- Waldingfield Farm in Washington, CT
- Ox Hollow Farm in Bantam, CT and Woodbury, CT
- March Farms in Bethlehem, CT
- Sun-One Farm in Bethlehem, CT



Sub-Edge Farm, Farmington CT



Gresczyk's Farm, New Hartford CT

Agriculture and Energy

Access to nutritious food has become even more important throughout the pandemic. Addressing the issue of food insecurity in our local communities has increased the need for urban agriculture and community gardens. Producing food with limited space, such as an apartment balcony or small front porch is possible, but does not meet the needs of everyone.

Creating new community gardens and revitalizing existing ones is a solution to this problem. Community gardens are publicly owned land cultivated in individual plots or raised beds. This allows people with limited space to have an area where they can grow their own vegetables and herbs. When planning for a community garden, space and accessibility are the most important factors. Creative solutions include rooftop gardens, and installing gardens at parks, libraries and other public spaces.

To learn more, head to

nwcd.org/plant-sale-education/

under the Agriculture and Community Gardens tabs

Or have a question? Email Sarah Ammirato at info@nwcd.org



Sub-Edge Farm, Farmington CT



Gresczyk's Farm, New Hartford CT

Litchfield County is home to many community gardens, highlighted below.

- Bowman Community Gardens in Torrington, CT
- Litchfield Community Garden in Litchfield, CT
- Judea Garden in Washington, CT

Solar Power for Farms

Although high energy costs remain a burden for our local farmers, there is help available for those thinking about cost-effective solar power. Eversource's small Zero-emission Renewable Energy Credit (small ZREC) program offers payments that can return 40 to 50% of system cost over a 15-year contract life, in addition to the cost-avoided savings from drawing less utility power. For more information, contact your local solar installer. The Rural Energy for America Program (REAP) run by the USDA offers grants of up to 25% of system installation cost. For more information on REAP contact: Amanda Johnson (amanda@ctfarmenergy.org).

There are some rules, hoops, and fine print of course, but together these programs can generate rapid payback and excellent long-term savings. It is important to note that these programs support 'solar for farms' to offset the energy needs of farm activities. They are not to support 'solar farms', which often impact cropland or forest to generate power on a commercial scale.

Ray Furse, Vice Chair NWCD

For more information check out these links!

- USDA on Community Supported Agriculture (CSA programs) <https://www.nal.usda.gov/afsc/community-supported-agriculture>
- Find A Farmer - CT.gov
- CSA Listing - CT.gov
- Local Harvest for CSA/Farm-stand Search www.localharvest.org



Freund's Farm, East Canaan CT
Cabot Cooperative

Attract Birds to Your Backyard with Native Plants

Food, water, shelter, a place to safely raise their young — provide these, and birds will flock to your backyard. Birds are an essential part of a balanced backyard-ecosystem, and are a joy to behold.

Here are a few tips for attracting birds:

- Provide a water source. Natural is best, but a clean bird bath will do.
- Minimize lawns. They offer neither shelter nor food for birds.
- Don't use insecticides.
- Let dead trees (snags) remain in place as long as they pose no danger to people or property. Snags provide cavities for birds to shelter or nest in.
- Include some evergreen shrubs and trees, which birds can use for shelter and nest sites.
- If you have nest boxes, add a predator guard that will prevent snakes or other predators from invading the nest.
- Keep pet cats indoors.
- Prioritize habitat friendly native plants.



Plants that Attract Birds

Bottlebrush Buckeye - Hummingbirds, Warblers, Orioles and Tanagers

Densa Inkberry - Fruits persist into winter and are eaten by at least 9 species including Wild Turkeys, Mockingbirds, Robins, Bluebirds, Hermit Thrush, Rufous-sided Towhees and Flickers.

Heritage River Birch - The food choice for the Eastern Kingbird, Mockingbird, Robin, Wood Thrush, and Red-eyed Vireo. Great for nesting and shelter.

Low Bush Honeysuckle - Fruit capsules in Fall and Winter provide food for over 20 bird species, including Robins, Catbirds and Goldfinches

Northern Spicebush - Fruit is a favorite of Wood Thrush and Veery, and at least 13 other species consume these fall berries, which have a high fat content - important for migrating birds

Juneberry - Catbirds, Thrushes, Mockingbirds, Hair Woodpecker, Ruffed Grouse, Red-eyed Vireo, Waxwings, Orioles, Bluebirds & others

Red Chokeberry - Mockingbirds, Ruffed Grouse, Pheasant and many songbirds

Summersweet - Hummingbirds LOVE this plant, along with many pollinators

Winterberry - Catbirds and Brown Thrashers, Cedar Waxwings and Robins

Notes provided by Debbie Martin, Litchfield Hills Audubon Society

Litchfield Hills Audubon Society

The Litchfield Hills Audubon Society holds bird focused programs that promote and teach conservation, awareness of environmental issues and the overall enjoyment of nature. To learn more about their great programs, go to hasct.org. As part of our plant choices every year, NWCD chooses many native plants that provide food and habitat for native migratory birds. Some examples of these can be seen on the above right sidebar. To see more information and resources about birds, go to nwcd.org/plant-sale-education and look under the Birds tab.

Follow the Forest in the Northwest Hills

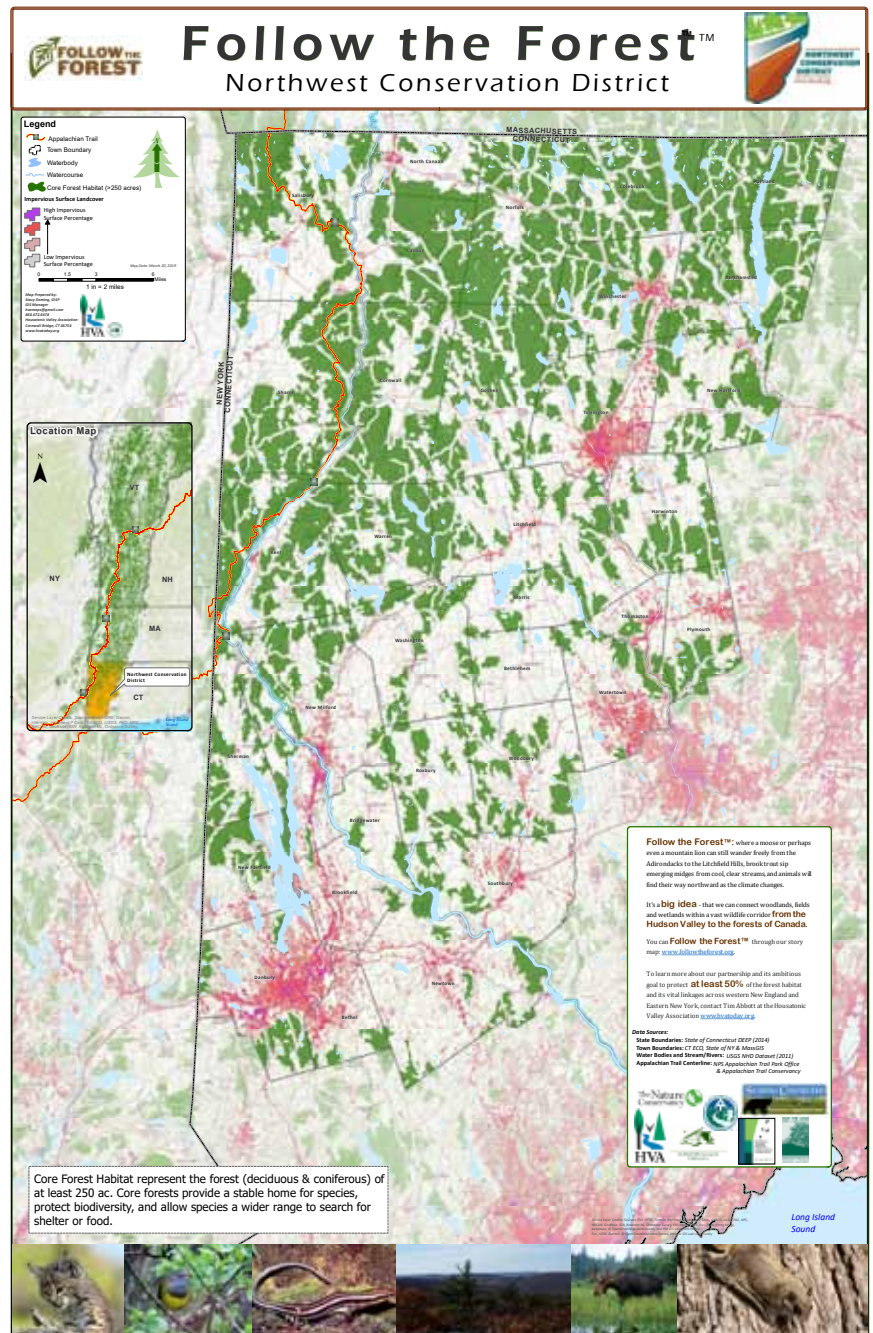
The State of CT Council on Environmental Quality 2018 Annual report addressed in general the value of forests. Several of these topics included, “birds as indicators of forest health” and the impact of forests on people. The report states that research shows that visiting a forest has real and quantifiable health benefits, both mental and physical.

The report further addressed the value of core forests, which are defined as, “forests that are at least 300 feet from non-forest development...roads, buildings”, and “provide habitat for many species of wildlife that cannot tolerate significant disturbance”. They can provide a stable home for species, protect biodiversity and allow many species of animals such as moose can wander freely from the Adirondacks to the Litchfield Hills. Unlike core forests, forests that are fragmented, or divided by roads and clearings, provide some forest functions but are not fully-functioning forest ecosystems. Fragmented forests are known to provide substandard or poor habitat for some species of wildlife, and in many cases less opportunity for hunting and other types of recreation. Invasive species of plants and animals appear in the wake of activities that fragment the forests.

Our environmental partner, the Housatonic Valley Association, is currently preparing customized “Core Forest” maps for various entities including Land Trusts, Town Land Use commissions, and non-profit environmental entities interested in or charged with preparing natural resource inventories, and addressing open space preservation and conservation practices. These maps show areas of “core forest habitat”, or forest (deciduous & coniferous) of at least 250 acres that can provide a stable home for species. We thank HVA for our customized map showing the core forests of our 34 northwestern Connecticut towns: <https://nwcd.org/resources/>

The Housatonic Valley Association, (and partners shown) has also created a program “Follow the Forest” to help conserve valuable core forests in their service area and beyond. You can “Follow the Forest’ through HVA’s story map: www.followtheforest.org. The program seeks to protect at least 50% of the core forest habitat and its vital linkages across western New England and eastern New York. Please visit www.hvatoday.org for more information.

To learn more, head to nwcd.org/plant-sale-education/ under the Core Forest tab



THE INS-AND-OUTS OF HOME COMPOSTING

What is Compost for?

- Organic matter for gardens, potting soil, and mulch
- Improves soil drainage; aeration; moisture retention; nutrient-holding;
- Removes garbage from the waste stream
- Promotes healthy plants

What Can I Put in my Pile?

- Browns (high carbon content)
Dead leaves, hay, straw, sawdust, woodchips, shavings, paper, cardboard
- Greens (high nitrogen content)
Grass clippings, weeds, coffee grounds, tea bags, vegetables and fruit scraps, manure from farm animals – sheep, goats, horses, cows, poultry, and egg-shells (for the calcium).

What Should I Avoid in My Pile?

- Feces from pets like cats and dogs.
- Meat scraps, bones, animal fat and dairy products.
- Grass clippings that may have been treated with herbicides.

To Bin or Not to Bin?

- Either free-standing piles or bins with openings in the sides for air circulation.
- Bins should be a minimum of 4 ft. square by 4 ft. high.
- A 3-bin system allows the decomposing compost to be turned from one bin to the next instead of turning in place.

To learn more about composting, head to nwcd.org/plant-sale-education/ under the Composting Tab
Have a question? Contact Cynthia Rabinowitz at cynthiar@nwcd.org

How Do I Make the Pile?

- Use a variety of ingredients and balance the greens and browns by using 2 parts brown to 1 part green.
- Make flat or concave alternating layers of ingredients.
- Slope the sides of free-standing piles for stability.
- If the material is dry, wet each layer to dampen, but not soak.
- Finished piles should be at least 4ft. square at the base and 4ft. high.
- If you only have one kind of ingredient – you'll get compost eventually. Short on green materials? Sprinkle with a few inches of soil between layers.

Managing the Pile

- Turn piles as often as possible – once every week or two is good; but most home piles aren't turned often. More turning equals faster compost.
- With 3-bin systems, turn the pile from the first bin into the 2nd.; then the 2nd into the 3rd, which becomes the "nearly finished" or "finished" pile.
- Continue in this way - starting fresh material in the first bin.

How Long Does it Take to Make Compost?

- It depends on the mixture, aeration, moisture content, and the number of turnings; the smaller the pieces of ingredients, the faster decomposition occurs.
- 3-6 months is typical for average piles with frequent turnings.



Benefits of Native Plants

Native plants provide many benefits called ecosystem services. These services help condition the soil, filter water, create oxygen and remove toxins. Plants create habitat, moderate climate, and support life on earth.



Because of these benefits, native plants can be incorporated into pollinator gardens, rain gardens and riparian buffers. Native plants have applications for residential, commercial and agricultural landscapes and will thrive in almost any setting. A non-native plant is one that did not develop or evolve in the area, and was recently introduced by humans.

Not all non-native plants are invasive. In fact, many are beneficial and are commonly used.

Non-native plants are used regularly for food and include apples and peaches, vegetable crops like beets, carrots and peppers, and many ornamental flowering trees. While they are not native, they are able to thrive in Connecticut during the growing season due to cultivation of the soil and the right climate.

Invasive plants are non-native plants that establish and grow quickly. They have few or no natural predators or other limitations in their new environment. For this reason, they are able to spread uncontrollably and will often out-compete native plants. This poses a threat to wildlife who have not adapted to use the invasives as a food and shelter source. Removal of invasive species and incorporating native plants will improve the biodiversity of your landscape and provide countless environmental benefits.

For more information, check out Northwest Conservation District's Story Map and other resources listed at nwcd.org/plant-sale-education/ under the Natives Tab.

Soil Health

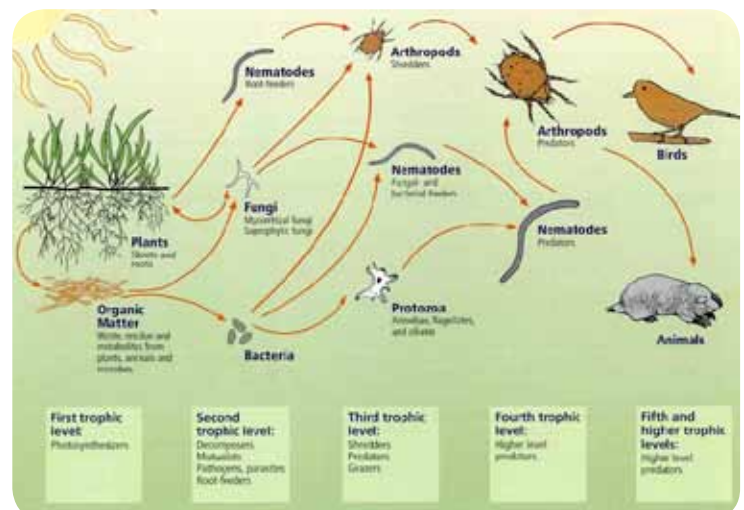
WHAT IS HEALTHY SOIL? A healthy soil is teeming with microbes in the upper few inches and especially around plant roots; it has good cohesion and lots of pore spaces between particles and aggregates; organic matter content is high; there is a balance of air and moisture in the soil.

A HEALTHY SOIL is not compacted; it is friable (spongy in consistency); holds water; provides air; allows deep root penetration; resists erosion; sequesters carbon; provides nutrients to plants; recycles all dead and decaying matter; supported all the plants on Earth for millions of years with no tillage or fertilizers.

MICROBES are essential in the super-highway that moves nutrients and water from the soil to plants; they carry carbohydrates (photosynthates) to other organisms that need that energy to live. They are an essential part of the soil food web, seen on the right.

MAINTAINING HEALTHY SOIL is relatively easy – stop tilling/plowing; use mulches to keep soil covered; grow perennials more than annuals; return plant waste to the soil as mulch or compost; grow cover crops; always test soil before fertilizing.

To learn more about soil health, head to nwcd.org/plant-sale-education/ under the Healthy Soils tab



Soil Biology Primer (NRCS, and Soil and Water Conservation

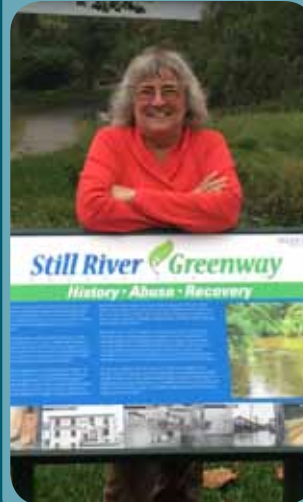
Meet the Authors / Staff

Cynthia Rabinowitz, Executive Director



Applying wetland sciences, horticulture and permaculture to serve NW Connecticut where forests are expanding but subject to climatic changes and are vulnerable; farms struggle to stay solvent. I continue to work for local resiliency in agriculture; open space preservation; forest adaptation; low impact development strategies; and habitat improvement. Contact me at cynthiar@nwcd.org

Karen Griswold Nelson, Programs



I am a product of the 70's, English and philosophy college degree, conceptual and environmentally bent. Many careers and years later, I share my work time between "land use" and NWCD, both supporting my core values that all earth's creatures are entitled to clean air and water, healthy food and respectful, ethical treatment from all others. Contact me at karengnelson@nwcd.org

Kelsey Sudol, Environmental Associate



I focus on watershed / lake protection and monitoring, grant writing, and aquatics education. I am the current aquatics chair for Connecticut Envirothon, and work to develop educational material for NWCD. If you are interested in an educational presentation, NWCD as a partner or for assistance for aquatic resource planning or monitoring, contact me at kelseys@nwcd.org

Sarah Ammirato, Agricultural Technician



I work closely with agriculture producers to connect them with opportunities offered by USDA-NRCS. I hope to work with more farmers in northwest CT to find financial assistance opportunities for farm expansion and implementation of sustainable practices. If you are interested in agricultural assistance or would like information on developing a conservation plan, contact me at saraha@nwcd.org

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