

ON YOUR WATCH: PROTECTING WEST HILL POND

*An easy guide to rain gardens, water buffers, and more
for lake-front properties and property owners in the watershed.*



Handbook produced by The West Hill Pond Association

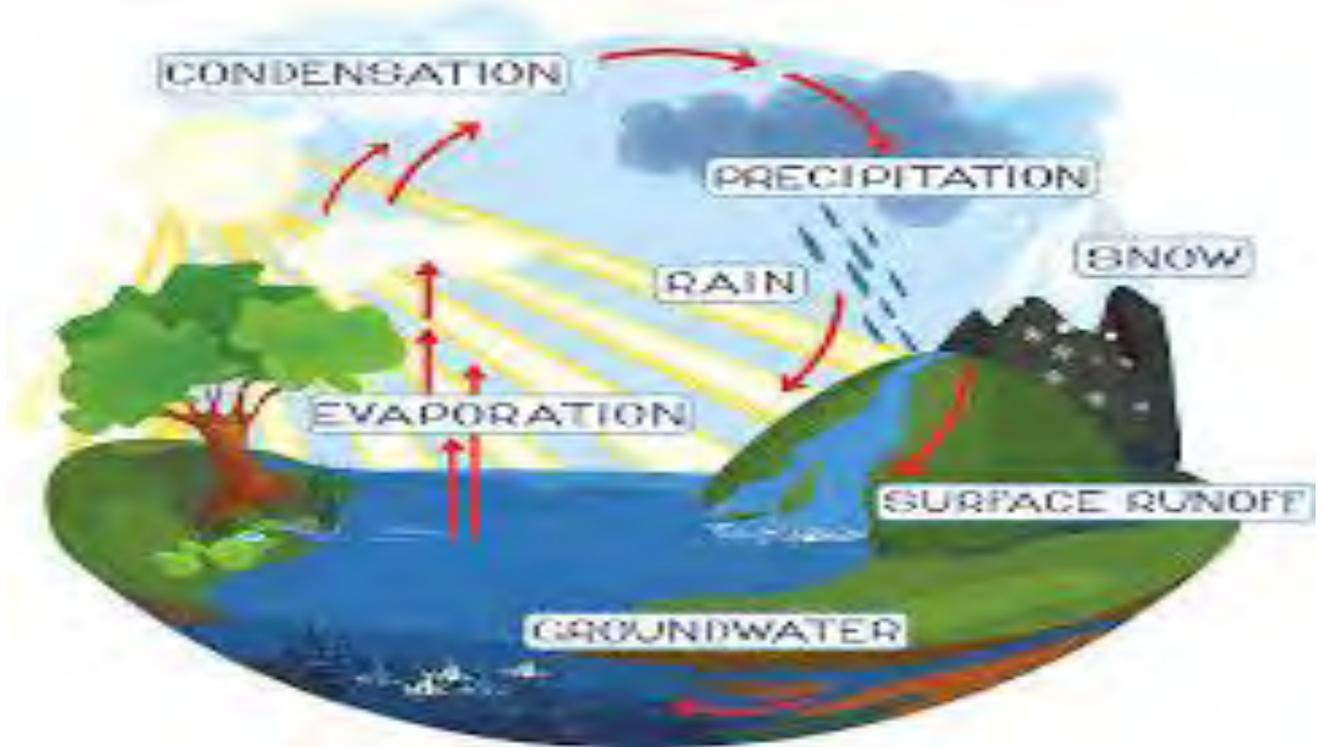
WEST HILL POND

A natural pond of 261 acres and a watershed of approximately 790 acres, West Hill Pond is home to a diverse ecosystem of plants and animals.

Activity on and around the Pond has increased every year, and this impacts not only the Pond itself but also the surrounding watershed and its fragile ecosystem.

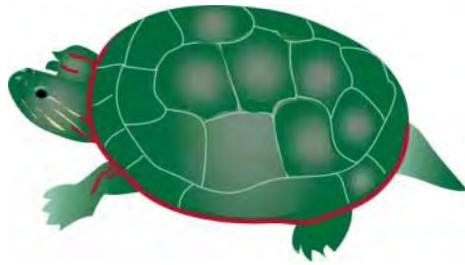
Compared to other Connecticut lakes, West Hill Pond's watershed is relatively small and while we have a lot of rain and snowfall, any dissolved materials that end up in the pond from storm water tend to stay in the pond for a very long time, which is a major contributor to the long-term degradation of the pond.

The Water Cycle of West Hill Pond



- Water is in constantly moving between the ground, the sky and bodies of water, such as lakes. Each stage of the cycle is important for the filtration and storage of fresh water. Land development has begun to alter this cycle.
- Land development, removal of trees and shrubs, the use of non-absorbent surfaces, such as asphalt, can prevent water absorption into the ground. Water cannot be filtered and stored under the earth and runs directly into bodies of water picking up pollutants as it flows. Groundwater also picks up pollutants from fertilizers and faulty septic tanks and can be released into the lake.

Animals and Plants at West Hill Pond



Snapping Turtle



Trout



Mountain Laurel



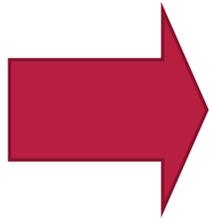
Eagles

POLLUTION IN WEST HILL POND

West Hill Pond and its watershed are in danger from excess nutrients — nitrogen and phosphorus. Nitrogen in the form of nitrates has the same effect on aquatic vegetation that it does on your lawn – it causes the aquatic plants to grow and spread. Phosphorus can cause surface algae bloom, typically in the warm months of the year. These algae blooms can be harmful to human and animal (even pet) health.

- Nitrates and phosphates are commonly found in fertilizer. When it rains, water runs over your lawns, picking up the fertilizer and depositing it into the pond.
- Poor performing septic systems can leak nitrates into our pond.
- Even in low concentrations, hydrocarbons and road salts can be toxic to waterways and their ecosystems. These molecules are commonly found on asphalt and other paved areas. Low Impact Sustainable Development (LISD) filtration systems on your property can help to filter these out of runoff before they reach the lake.

How can you help our Pond?



Utilize Low Impact Sustainable Development (LISD) On Your Property

There are small changes you can make to your private property to help the pond and preserve it for everyone to enjoy. These changes are not expensive or complicated. They fall under a form of development called **Low Impact Sustainable Development (LISD)**. They offer an easy and environmentally friendly way to manage your property. Utilizing LISD can also improve a neighborhood's visual appeal.

There are examples of LISD techniques on the following pages.

- Driveway Design
- Creating a Water Buffer
- Installing a Rain Garden
- Installing a Rain Barrel

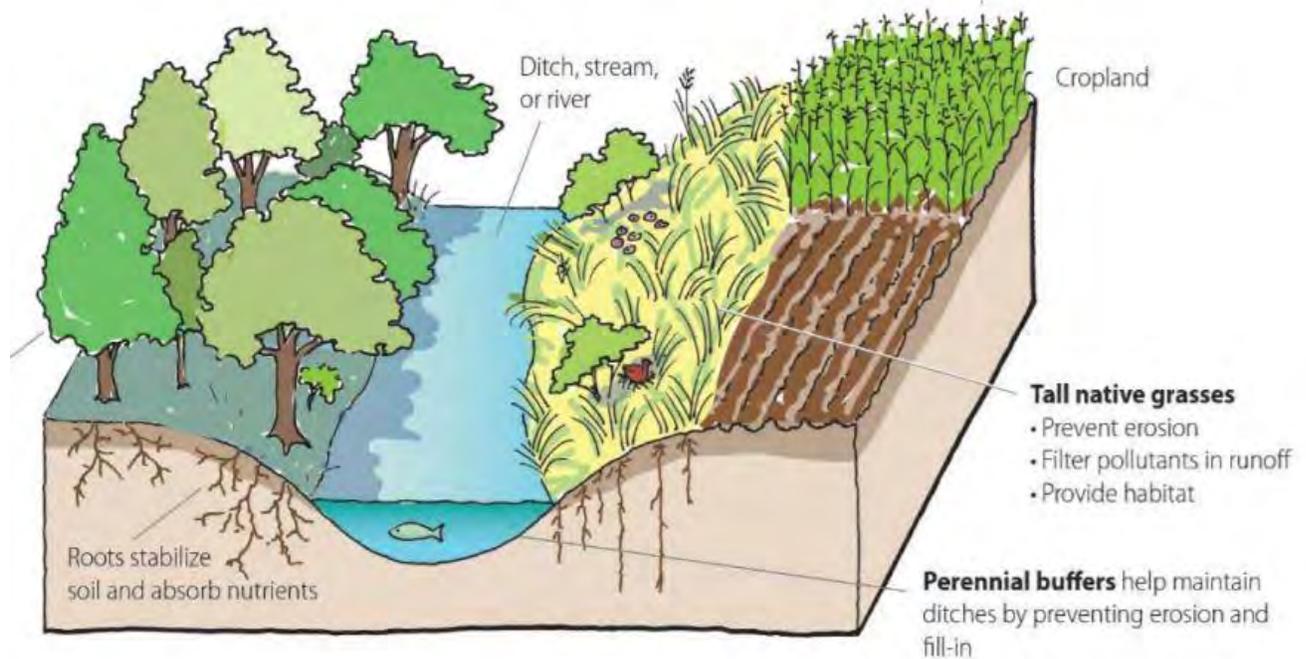
LISD: Driveway Design

- Keep paved parts of your property as small as possible. Not only is pavement or asphalt non-absorbent, but it also holds heat in the summer. This means that when it rains, runoff that flows over the driveway will heat up and then flow into the pond, increasing the pond's average temperature. Warmer water is harmful to animals that live in the pond and creates an environment where algae can more easily bloom.
- Use a pervious material for your driveway. This will increase stormwater absorbed into the ground, where stormwater can be filtered before it enters the pond. Examples of pervious surfaces are dirt, gravel, or permeable pavers.



► LISD: Creating A Water Buffer

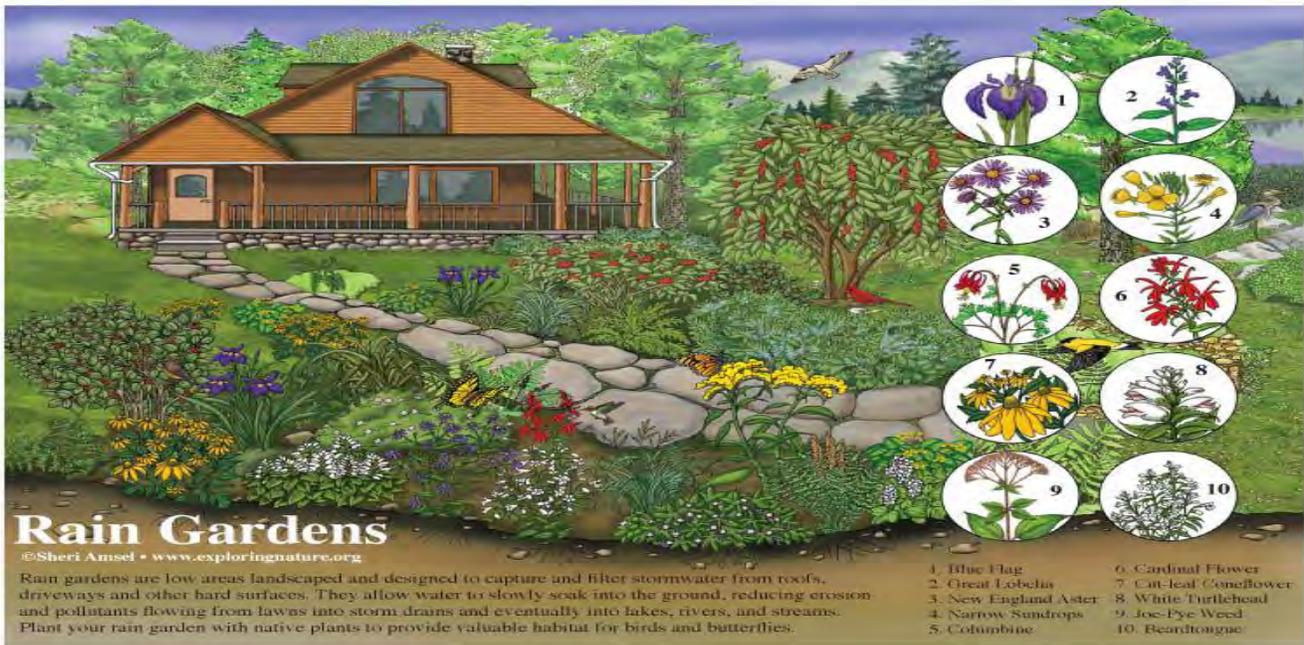
What is a Water Buffer?



Source: MPCA

- A water buffer is a vegetated buffer between your lawn and the pond that can help absorb and filter storm water run-off.
- This buffer prevents erosion, as the roots of the plants will cling to the soil, holding the soil in place.
- A vegetated buffer is much better for the pond than a rock wall.

► LISD: Installing a Rain Garden



WHAT IS A RAIN GARDEN?

- A rain garden is a 6-foot depression in your garden that collects stormwater runoff and helps it to filter into the ground.
- These gardens are filled with native plants that grow year-round. These plants decorate your garden and assist the filtration and absorption of water.
- The sides of your rain garden should slope gently downwards to allow water to easily flow.

Things to consider with your Rain Garden

- Try to choose native plants found in our region for your buffer. They will grow for multiple years, have longer and stronger roots systems to retain the soil, and are accustomed to the climate and soil of our region so they thrive without fertilizers that can hurt the environment. Native plants also provide nutrients and shelter for local animals and beneficial insects that further help the ecosystem thrive.
- Routinely inspect your water buffer after heavy rains to make sure no large amounts of sediment have built up and are obstructing runoff.

Examples of Native plants:



Mountain Laurel



Winterberry

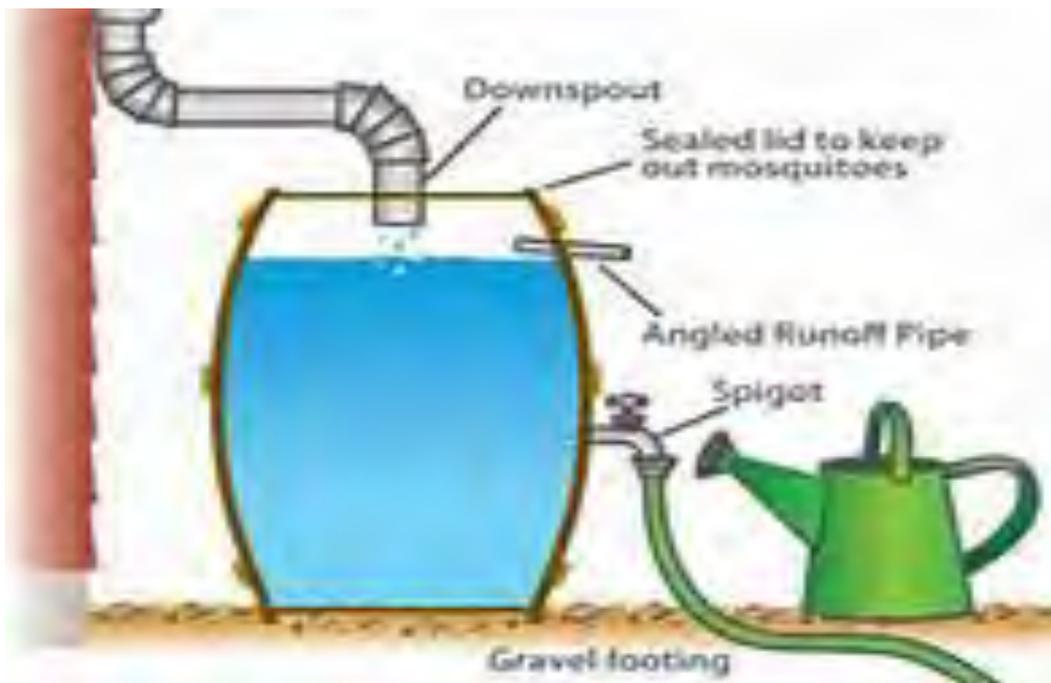


Witch Hazel

► LISD: Installing a Rain Barrel

Rain barrels are one of the easiest LISD structures to install. They collect stormwater which you can use to water your garden, preventing excess runoff into the pond. There are a few simple things to keep in mind when installing your rain barrel.

- Install a net or screen over the top of your rain barrel to prevent debris or insects from entering it.
- An overflow pipe should direct extra water to a vegetated surface where it can filter and drain.
- You can use the water from your rain barrel to water your garden and lawn.



BEST PRACTICES TO ADOPT

- Don't add sand to your waterfront or beach. West Hill Pond's geology has produced no natural sand, so beaches are **UN**-natural for this area, the side-effect of which is the distribution of silt to the lake bottom, creating a foothold for aquatic vegetation.
- Do not blow or rake leaves into the lake along the shoreline.
- Keep the removal of trees, shrubs and other natural water-retention plants/vegetation to a minimum.
- Our lake will stay healthy if we don't use fertilizer in the watershed.
- Follow town ordinances when building or renovating. Leaving piles of dirt or debris is harmful to the lake.
- Have your septic inspected and cleaned regularly.
- Don't pee in the lake. Nitrates in urine can promote algae growth and urine can carry trace amounts of medicines and bacterial infections that are harmful to the lake.
- Please don't feed the geese.
- Clean up after your dog. Dog feces contain phosphorus and nitrates.
- It's best not to use soap/shampoo in the lake or in outdoor showers that drain into the lake.

Additional Resources:

[Connecticut's Conservation Districts \(conservect.org\)](http://conservect.org)

[Northwest Conservation District \(nwcd.org\)](http://nwcd.org)

<https://www.epa.gov/soakuptherain>

<https://www.newhartfordct.gov/inland-wetlands-commission/links/inland-wetlands-and-watercourses-regulations>

[First Light's Shoreline Management Manual:](#)

<http://docplayer.net/137760084-Shoreline-management-manual.html>

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