

Wilton Conservation Commission e-Newsletter

Vernal Pools — What is that Sound?

By Susan DiLoreto, Chair, Conservation Commission

Vernal pools are hidden wetlands of the forest that appear seasonally and are important breeding grounds for many amphibians. They are alive with sounds and activity during certain times of the year. Memorialized in Robert Frost’s poem “Spring Pools”, these unique wetlands collect water in the winter and spring, and typically dry up by the end of summer. Many wildlife species are dependent on vernal pools to survive.

Have you ever walked in the woods in early spring and wonder what wildlife is making that chorus of “quacking” in what appears to be a wetland? These are the wood frogs “quacking” their breeding calls. If you look closely you will see multitudes of heads bobbing and bodies splashing.

In our region, the pools provide essential breeding habitat for several wildlife species including salamanders (*Ambystomid*), wood frogs (*Rana sylvatica*), Spring peepers (*Pseudacris crucifer*) and fairy shrimp (*Eu-branchipus sp.*). Pools that hold water for more than a year, but dry out intermittently, are referred to as semi-permanent pools, and are also used by amphibians for breeding.

The wood frog ranges from New England, the Appalachians and the Great Lakes states to as far north as the Arctic Circle. To survive, they possess the surprising ability to freeze! During cold winter months, they cease breathing, their heart stops, and nearly 70% of their body water turns to ice. As ice crystals form beneath their skin, they produce a substance that acts as an anti-



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Special points of interest

- Vernal Pools are imperative for a balanced eco-system
- These wetlands are often overlooked
- Vernal pools are used as breeding grounds for salamanders, frogs and spring peepers
- Wood Frogs survive the winter by freezing themselves
- Spring Peepers are hard to spot, but are easy to hear
- Vernal Pools typically fill with snow melt and runoff in the Springtime



Wood Frog (*Rana sylvatica*) - Mike Conklin

“Vernal Pools are prime habitat for frogs because there aren’t any fish to eat their eggs and tadpoles”



Spring Peeper (*Pseudacris crucifer*) - Mike Conklin

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freeze allowing them to stay alive. As the weather warms in early spring, the frogs thaw out and head to vernal pools to find mates, sometimes even before the ice has fully melted. They’re the first frogs to herald in the spring with strange voices that sound similar to a duck quacking.

The [spring peeper](#) also breeds in vernal pools to avoid predators like fish. These tiny frogs are found in vernal pools in many eastern states, and are usually no longer than 1 inch. Their small size and nocturnal habits make them tough to spot, but they’re definitely not difficult to hear! The Spring peepers emerge and start their ear-piercing choruses soon after the wood frogs.

Vernal pools can reach maximum depths in the spring and fall, but lack permanent surface water connections with other wetlands. Pools fill with snow-melt and runoff in the spring, although some may be fed by groundwater. They are generally small in size (less than 2 acres), with the amount of vegetation varying widely. Since vernal pools are usually not filled with water year-round, fish cannot inhabit them. This makes vernal pools prime habitat for frogs because there aren’t any fish to eat their eggs and tadpoles!

Vernal pools and their adjacent upland habitats contribute a vast amount of biodiversity to the landscapes of the northeastern United States. Vernal pools are essential for the frog populations that serve as the base of the food chain. For vernal pools’ small size, they provide a variety of critical environmental functions including flood water detention, aquifer recharge, nutrient cycling, and denitrification. However, due to their

small size these wetlands are often overlooked or discounted and are vulnerable to development and pollution.

So next time you take an early spring walk in the woods and hear quacking, there is most likely a vernal pool nearby.



Monarch Butterfly (*Danaus plexippus*) - Mike Conklin

The Pollinator Pathway

By Jackie Algon, Commissioner

Two and a half years ago, a group of four conservation-oriented organizations in Wilton invited the public to a panel discussion about pollinators with the idea of kicking-off a project in Town to address some important ecological concerns. Called the Pollinator Pathway, it focuses on good land stewardship, addressing:

- the fragmentation of our environment due to urban—and suburbanization,
- the impact on wildlife of treating our properties with pesticides and herbicides,
- the importance of native plants to the well-being of wildlife.

All these issues are related to each other and to the health of each of us – to our children and pets, to the wildlife that visit our area, and especially to the continuation of many of our foods through the ability to attract pollinating insects and animals.

More than 40% of our crops are pollinated by insects, and with the recognized decline in their numbers, there is a real possibility of not having enough food to feed our planet. What is happening to the insect populations is not entirely clear, though changes in climate, reaction to chemicals and loss of habitat are among the known causes.

Special Points of Interest

- * More than 40% of our crops are pollinated by insects
- * Changes in climate, reaction to chemicals and loss of habitat are harming our environment
- * Pollinator-friendly plants can restore the natural environment
- * Current Pollinator Gardens created in Wilton created by Scout Groups, Trackside, NRV, and the Wilton Library
- * Free site assessments are offered
- * Container plants and window-boxes are great options for those with less land
- * Pollinators will lay their eggs under the ground, in spent flower stalks, undersides of leaves and in brush piles
- * The native white oak tree can support over 500 species of insects while the imported Ginkgo supports just one or two species
- * To learn more visit: <https://www.Pollinator-Pathway.org>

Special Native Pollinator-Friendly Plants Include:

- Allium
- Aster
- Basil
- Bee balm
- Bergamot
- Blue lobelia
- Cardinal Flower
- Cosmos
- Flax
- Gaillardia
- Geranium
- Giant hyssop
- Globe thistle
- Goldenrod
- Golden Alexander
- Hyssop, anise
- Joe-pye weed
- Lavender
- Lupine
- Marjoram
- Mint
- Mullein
- Poppy
- Rosemary
- Sage
- Sunflower
- Thyme
- Verbena
- Wild rose, swamp

Cont. Pollinator Pathway

Problems like these are big and can overwhelm most people. But there are actions each of us can take to help mitigate the conditions and to feel some empowerment as Nature's helpers. In Wilton, the Cub Scouts and Daisy Scouts have planted pollinator gardens, the teens have expanded their vegetable garden to include pollinator-friendly plants at Trackside Center, the Norwalk River Valley Trail has been enhanced by renovations of heavily infested invasive species and replanting with natives; the buffer zones along the Norwalk River are also being restored; the Library has converted a garden into a pollinator garden.

In addition to restorations in our open spaces and parks, each of us can make a difference by making changes on our own properties. We can opt to create more habitat, to not use chemicals on our lawns and to put more native plants – including trees and shrubs as well as perennials and annuals – in our gardens.

Help is available to residents who want to participate, but don't know how to start: free site assessments help identify the good trees, shrubs and perennials in your yard to be maintained, and the invasive species to be removed or controlled. Those working to introduce the Pollinator Pathway, many of them Master Gardeners and Garden Club members, offer site assessments to residents who may want someone knowledgeable to come walk their property and advise on which plants are useful to support pollinators and which are detrimental to the environment. Many residents find they already have a solid base for expanding their gardens to attract pollinators and need only make a few additions or deletions.

The public has access to information through various speakers invited to share their knowledge about bees, meadow development and other aspects of creating good habitat for pollinators. Resources of plant lists and nurseries specializing in native plants are posted on the website, <https://www.Pollinator-Pathway.org> which has been designed with a general page for information common to all towns about pollinators and specific 'tabs' that apply to each of the towns that has started a Pathway. A multi-year project, each year is bringing more resident involvement and awareness. What began with just Wilton has now spread by grass-roots action to more than 95 towns in CT and NY.

For those who live in condos or townhouses, a container or window box planted with native pollinator-friendly plants is a good solution; for those living in continuing care residences, you may be able to adopt a raised bed to plant; for those with existing gardens, addition of host plants for butterflies and creation of habitat for bees is an answer; for those with expansive lawns, consideration of converting some of the "green desert" to meadow is a worthwhile temptation. Most of these approaches are reasonable to implement, and all promise to increase the population of pollinators visiting their properties.

What pollinators need is habitat, food/nectar sources, and water. That's it. If you offer those ingredients, they will begin to show up! They will lay their eggs under the ground, in the spent flower stalks that you leave standing at the end of Autumn, on the undersides of leaves. If you leave brush piles near the edge of forested land on your property, they will adopt them as habitat. But lacking those

resources, they cannot survive or propagate.

Many bees and caterpillars are specialists – they have evolved to be able to survive by eating only one or two specific types of plants (called host plants). If those plants are not available, the insects that rely on them will cease to exist in those areas. If we provide for the specialists, we are also providing for the generalists, which can eat diversely. Most host plants and other pollinator-friendly plants are natives – they have been growing in a given area for many decades. Surprisingly, many of the host plants are trees, which provide both habitat and nutrition. The native White Oak tree can support over 500 species of insect, while the imported Ginkgo supports just one or two species!

Plants that have been imported as ornamentals or that have entered the region by some accident from foreign areas and which then



Monarch Chrysalis—Mike Conklin

“What began as just Wilton has now spread by grassroots action to more than 95 towns in CT and NY”

become established in the environment seldom have nutritional value or attractiveness to the insects of the area; these plants’ chemistry are not aligned properly with the insects’. Since all birds require protein to feed themselves and their young during the nesting season, if we attract and sustain lots of caterpillars, *our* reward will be lots of birds to watch and enjoy. What we plant to attract pollinators matters, and native plants are the answer.

Our role, as stewards, is to generate an inviting environment rich with flowers throughout the growing season from early Spring through late Fall, safe from predators and clear of poisons. We can do this by not using pesticides or herbicides, instead taking steps to help control unwanted weeds and insects, and by accepting that many of the plants we have traditionally considered ‘thugs’ in our gardens – dandelions, violets, clover – are early season pollinator plants that provide food for bees when few other flowers are in bloom. Reducing the area of our lawns by converting them to gardens or meadows, allowing the lawn to be mowed biweekly rather than weekly, cutting the grass blades by only one-third of their length, and letting the clippings remain on the lawn to reinvigorate the grass as fertilizer are all ways we can help guarantee more pollinators in our yards. There are many other actions we can take to make our properties pollinator-friendly.



Monarch Caterpillar—Mike Conklin

To learn more visit:

- * <https://www.Pollinator-Pathway.org>
- * <https://norwalkriver.org/pollinator-pathway/>
- * <http://nativesplants.uconn.edu/pollinators.php>
- * <https://portal.ct.gov/DEEP/Wildlife/Learn-About-Wildlife/Pollinators-in-Connecticut>
- * https://www.nrcs.usda.gov/Internet/FSE_PLANTMATERIALS/publications/nypmctn11164.pdf



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Cont. Pollinator Pathway

The Pollinator Pathway works to increase residents' awareness of these principles and to encourage homeowners to serve as responsible wildlife citizens by increasing the availability of habitat and food for pollinators on their property. While we are improving the environment for the sake of Nature, we are also enjoying the benefits of birds and butterflies, bees and other wildlife that come onto our property, a result of these efforts.



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