NATURAL RESOURCE and WILDLIFE INVENTORY

NEW MILFORD, CT

08.01.2021

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Introduction

This ***Natural Resource and Wildlife Inventory (NRWI)*** describes the complex and dynamic elements--geology, soils, air, water, wetlands, and native plants and animals--that make up the natural environment of the town of New Milford.

The ***NRWI*** consists of five chapters-- Geography, Geology and Soils, Water Resources, Native and Invasive Plants (flora), and Native and Invasive Wildlife (fauna).

Each chapter includes photos, illustrations, recently commissioned maps by the town of New Milford from the Housatonic Valley Association, as well as one or more sidebars in which some related topic is explored. Chapters Four and Five, respectively, also include lists of hundreds of native plant and animal species living in the New Milford area, each submitted by a specialist in the field.

Aerial view, New Milford, CT

The ***NRWI*** is a valuable tool for those who serve on our town's Planning and Zoning Commissions, land use, water-related, and other environmental and development committees, and commissions. It's also a resource for the Departments of Public Works, and Parks and Recreation as well as for residents interested in learning more about their natural surroundings.

The inventory serves as an actionable record of New Milford's resources, the challenges particular to each of them, and provides insights into how municipal government and the community might plan to ensure the long-term health of New Milford.

Connecticut's Doctrine of Natural Resources and The Public Trust

The Doctrine describes the role of CT state statutes, common law, and the courts in establishing that the public has expectations and rights to the life-sustaining benefits provided by natural resources. The first recorded statement to that effect is found in the Supreme Court decision (Geer v. Connecticut) in 1896, which dealt with the transportation and selling of wild game legally caught in Connecticut but intended for sale beyond its borders. The state declared that it had the power to protect the common ownership of wildlife ...as a trust for the benefit of the people, and not as a prerogative for the advantage of private individuals such as Geer. In 1971, the General Assembly made more explicit that "there is a public trust in the air, water, and other natural resources of the state... It is further found...that it is in the public interest to provide all persons with an adequate remedy to protect the air, water and other natural resources from unreasonable pollution, impairment or destruction." Legal scholars continue to debate the public trust doctrine which is very selectively applied in states other than Connecticut. In a 2014 article by two Cornell Law professors, they declared that the public trust obligation "predates the Constitution and actually underlies the very purpose of the Constitution. When government fails to protect the essential natural resources central to our society, resources that belong to all of us, including future generations, the fundamental ability of civilization to reproduce itself is threatened."

Source: Council on Environmental Quality, www.ct.gov/ceq March 14, 2018

chapter one

GEOGRAPHY

Geography

Introduction

Geography is not in the strictest sense a "natural resource"; rather it is a compilation of the many physical and cultural elements that shape a place: climate, weather, terrain, elevation, human settlement patterns, populations, land-use, even historical traditions of local governance by which a community finds coherence year after year, century after century. Geography is a powerful tool for understanding how and why a neighborhood, a town, or a nation came to be, what it is today, and where it may be headed.

Looking through this geographic lens, as you read through the remaining chapters, a picture of how the local resources overlap and fit together will emerge.

Like so many other New England towns, New Milford owes its existence to a mighty river, the Housatonic. The river flows in a southeasterly direction through the entire length of the town. Just as Native Americans had been drawn to the Housatonic's shores long before, so too was the colonial advance party who came in 1703. These settlers decided to invest their personal fortunes and their lives here because the water from the river and its many tributaries was plentiful and clean, fish and game were abundant as were vast stretches of woodlands and uncommonly good farm soil and desirable minerals. All these riches could be used for survival and profit.

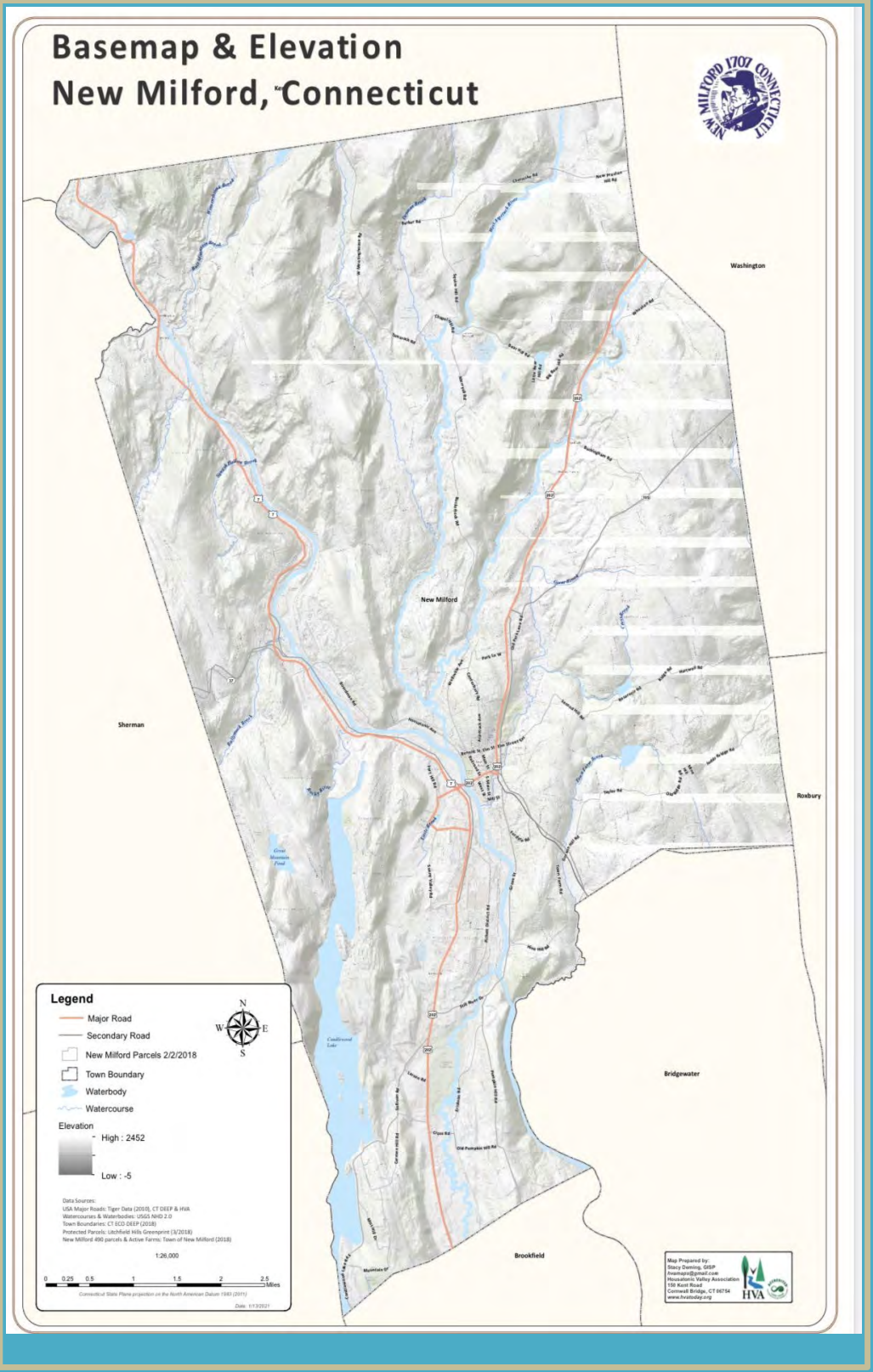
Over the next three centuries the settlers' hard work was rewarded. New Milford, formally incorporated in 1707, grew from subsistence farming to a successful agricultural and mining town, then an industrial center with many small mills along the riverbanks, and finally a major commercial hub and bedroom community in Connecticut's northwest corner.

New Milford's Proto-Americans

Precursors of the Woodland Native Americans who lived here in organized communities in the Seventeenth Century were small, clan-based groups of prehistoric peoples who spent part of their annual hunting-gathering circuit here along the banks of the Housatonic. DNA evidence indicates that these First Humans were descendants of the Siberians who had crossed over to the North American continent by way of the Bering Land Bridge as much as 15,000 years ago. Small groups of them made their way on foot southward to California and eastward, picking up technical skills as they evolved, changing their hunting and gathering skills to reflect the different territories and edibles they encountered. They probably reached what would become New England about 12,000 years ago, coincident with the retreat of the last "Wisconsin Glacier". The climate of southern New England began to warm and living things, consistent with a more temperate climate, were becoming established, providing these Proto-Americans with a secure, even abundant food supply.

Archaeological digs by the staff of the Institute for American Indian Studies in nearby Washington, CT reveal that these early humans practiced a sustainable way of life even in times of relative plenty. Dr. Lucianne Lavin, IAIS Director of Research in Washington, Connecticut, has described the Proto-Americans as "our first environmental stewards." They had complex belief systems in which all Nature--rocks, water, wind, and food--were interconnected and deserving of their respect. Through careful observation of nature's rhythm, the people practiced an intuitive form of conservation, never harvesting more than needed to survive, always leaving enough of whatever they hunted and gathered to regenerate a new supply before they came again the next year. They burned off productive forest and bush areas each fall to renew the understory, a practice that many modern forestry experts recognize as the best preventive against uncontrolled forest fires. They were the first geologists, too, evidenced by their highly selective use of stone materials from which they made tools and weapons. Based on the variety of artifacts unearthed here we know that they often went to great lengths to obtain the best stones for flaking, for pounding, for cutting and for arrowheads and spear points, traveling great distances to get what they needed when the right materials could not be found locally. They also followed the seasons, moving from place to place to eat a remarkably varied diet of plant- and animal-based foods.

Descendants of these Proto-Americans evolved culturally and socially into more organized native tribes over thousands of years. We know that the local Weantinocks, a relatively late-arriving Algonkian sub-group of Native Americans, further honed the practices of sustainable living, selectively planting only the most vigorous of native corn plants, squash, beans, and tobacco varieties. They lived in small semi-permanent villages in the New Milford area until they concluded the peaceful purchase deed that would give rise to the New Milford plantation.


Basemap & Elevation
New Milford, Connecticut
NEW MILFORD 1707 CONNECTICUT
Washington
New Milford
Sherman
Roxbury
Bridgewater
Brookfield
Legend
Major Road
Secondary Road
New Milford Parcels 2/2/2018
Town Boundary
Waterbody
Watercourse
Elevation
High : 2452
Low : -5
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0 0.25 0.5 1 1.5 2 2.5 Miles
HVA

LOCAL GOVERNMENT AND DEMOGRAPHICS

New Milford's first government was essentially a theocracy. In the first years, taxes were collected chiefly to retain a Congregational minister to look after the well-being and spiritual nourishment of the settlers. As town issues became more complex, town governance gradually evolved into an elected board of three Selectmen with the First Selectman as the chief office holder. Such issues as property sales, crime, and inheritance were moved to Litchfield, the county seat, and its courthouse, after Independence. Almost 200 years passed before the county model was overturned by the state legislature and the taxing and policing powers of county governments were abolished. The traditional responsibilities of the counties were gradually divvied up between state agencies and Connecticut's 169 towns and cities, New Milford among them.

In 1986, New Milford undertook a major charter revision. The town considering the Selectmen system unwieldy, citizens replaced its leadership with an elected Mayor, Town Council, and Board of Finance. Several specialized commissions and departments were created to deal with matters of zoning, wetlands protection, and tax appeals. Despite these changes individual citizens continued to hold considerable say in town affairs through the tradition of Town Meetings which to this day are forums open to all taxpayers.

Coincident with the decline in county services, many towns explored the idea of creating regional planning organizations to solve problems shared with their neighbors. Late in the 1980s multiple Councils of Governments or COGs were born. New Milford is part of the Western Connecticut COG (WestCOG), comprised of 18 neighboring towns, including Bridgeport, Norwalk, Stamford and Greenwich on the coast, Danbury, and Ridgefield in the middle, and New Milford and Sherman on the north. WestCOG undertakes such shared issues as regional transportation needs, infrastructure projects, water conservation and distribution, housing needs, taxation, emergency management, hazard mitigation plans, waste management, and the advancement of broadband communications services.

New Milford's connection with regional planning takes other forms, as well. The town is an active participant in the Housatonic River Commission, and the Greenprint Collaborative, the latter a regional conservation partnership under the Housatonic Valley Association. New Milford's population according to the preliminary 2020 Census was 26,669, down slightly from 26,805 estimated in 2010. Population density is 457 people per square mile. The town's growth over the years has been generally moderate; between 1820 and 1920 the population increased from 3,830 to 4,781, which averaged less than 100 people per decade. But in the 20 years between 1960 and 1980 the population rose dramatically from

8,318 to 19,420, as three major industrial operations--Nestle in the vicinity of Rocky River, Kimberly-Clark on Pickett District Road, and the Scoville Manufacturing Company, near the Aspetuck District, moved in, ramped up operations and began hiring.

LOCATION

The town of New Milford is in the northwest corner of Connecticut in Litchfield County and is the largest town in Connecticut in terms of acreage. Total area is nearly 64 square miles. Of that approximately, New Milford's geographic location (latitude 41-35 North by longitude 073-24 West) puts it in convenient reach of several important cities: 50 miles southwest of Hartford, 19 miles south of Litchfield, 14 miles north of Danbury, 26 miles west of Waterbury, 104 miles southeast of Albany, 34 miles east of Poughkeepsie, and 77 miles northeast of New York City.

ROADS AND HIGHWAYS

Prior to automobiles and the invention of roadway concrete for paving, New Milford was well-served by roads, many of them vestiges of old Native American trails. Today it has 186 miles of paved and 27 miles of unpaved or unimproved gravel roads, 27 of these roads are under Scenic Road protection. A state statute enacted in 1981 by the Connecticut General Assembly found that the preservation and protection of the scenic or historic values of rural roads is essential to the welfare of the people of Connecticut. As the scenic and rural roads of New Milford are regarded by many of its citizens as irreplaceable resources essential to the preservation of New Milford's rural heritage, the town enacted its own program in 1997, balancing the need to protect these roads with the need to keep them in good repair and passable condition.

Scenic Roads

The designation "scenic" is granted when people living along the road petition the town for recognition. The town ordinance lays out a choice of six criteria by which a road can be designated "scenic" including: the road is unpaved, is bordered by mature trees or stone walls, is no more than 20 feet wide, has scenic views, blends naturally into the surrounding terrain and/or parallels or crosses over brooks, streams, lakes, or ponds. Once the petition and its qualifying features are approved by the Town Council the scenic road is placed under protection, and a sign declaring the road "scenic" together with the symbol of an oak tree and a 15-mph limit is affixed at each end of the road. From then on changes in the road's appearance or use are strictly limited in terms of changes other than necessary maintenance.

Merryall area, New Milford

Two relatively straight north-south roads, Route 7 on the west side of town and Route 202 on the east side, make access to neighboring towns and beyond convenient. New Milford drivers also have easy access to Interstates I-84 and I-91 a few miles to the south via Super Seven. These multi-lane, high-speed state and federal highways put New Milford close to the principal gateways to New England and to the Mid-Atlantic States.

New Milford is served by three commercial airports: Bradley International in Windsor Locks (distance:60 miles), Tweed-New Haven (distance: 49 miles), and Westchester Community Airport outside of White Plains (distance:48 miles). Additional choices include NY-based LaGuardia and JFK airports on the western end of Long Island.

TERRAIN


New Milford River Trail

The terrain of New Milford is one of moderate hills, steep ridges, flood plains and valleys. The town's highest point is atop Bear Hill at 1,281 feet in elevation. The lowest point is near Veteran's Bridge where the floodplain is barely 200 feet above sea level. The Village Green or town center is at 260 feet elevation, enough to avoid flooding when major storms cause the river to swell onto Route 7.

The valleys within New Milford drain into the Housatonic River. The valleys were shaped over thousands of years, first by the encroaching glaciers and subsequently by melting waters at the end of the last Ice Age. The process has continued though more gradually as the steady wash of New Milford's streams and rivulets make their way down from the hilltops to the river, Long Island Sound, and the Atlantic Ocean. Broad plains laid down by flooding and erosion run along both sides of the river in many places, accounting for some of New Milford's most fertile farmland.

High Slopes

Slopes which have been formed because of nature, like ridge side slopes, are steep and are referred to as **high slopes**. A slope of 33% or greater means fewer plants. Layers of rock chunks (talus) that collect compost in their crevices to a depth of several feet are often found on high slopes. When it rains, the rainwater filters through the compost to create fertile plant communities at the base of the slope where a water body is also usually found. Wetlands, described above, sit between the water body and the upland. Bear Hill is the highest slope in New Milford with a 1,270 summit and fits this profile.

It's important to identify steep slope areas for several reasons. One reason is the impact on development. While the stability of a slope is dependent on many variables including vegetative cover and the underlying geology, generally, slopes greater than 15% can significantly constrain development because of difficulty building foundations and siting septic systems under these conditions.

In addition, these areas increase the likelihood of hazards such as increased erosion, surface runoff, siltation and flooding of watercourses.

In New Milford, steep slope soil areas cover 1,875 acres and account for 12% of the town's land. These areas are illustrated on the map titled Steep Slope Soils. (Source: New Milford Zoning Commission)

Slope Aspect

Slope aspect is a major topographical feature. It affects the diversity and density of plant communities. Sunny slopes in New Milford face west, for example, where snow melts sooner and the slope retains less moisture given stronger solar radiation and higher evaporation. These slopes also have a longer growing season because of the warmer microclimate that generally includes proximity to a body of water. Plants on sunny slopes, such as grasses, are therefore more likely to be drought and radiation resistant.

BRIDGES

Today, seven significant bridges cross the Housatonic River in New Milford (four vehicular, one pedestrian, one railroad, and one bridge closed at both ends). Northernmost is the **Route 7 Bridge** in Gaylordsville, constructed in 1926 near the intersection of Routes 7 and 55 West. South of this is the **Old Boardman Bridge**, a 188-foot long, historic lenticular truss bridge made of wrought iron. Completed in 1888, it replaced a wooden toll bridge destroyed 40 years earlier at the same location, linking Boardman Road with Route 7. Old Boardman was closed to traffic in 1985 due to structural aging. With funding for repairs, this old favorite may eventually return to service as a bicycle and pedestrian crossing. Nearby, is modern **Boardman Bridge**, a working two-lane vehicular bridge. Further south is **Veterans' Memorial Bridge**, with a main span of 325 feet. Built in 1953, this steel truss bridge replaced two earlier structures that had been lost to flooding. Veterans' carries a heavy volume of traffic to Bridge Street and the town's village center. It also links Route 7 to Routes 202 and 67. The State undertook its extensive rehabilitation and cleaning in 2020.

Old Lovers Leap Bridge

Lovers Leap Bridge

Lovers Leap Bridge is named for a spectacular rock promontory high above the water. As legend has it, a young husband returning late from a very long journey learns that his wife, Princess Lillinonah, fearing abandonment, drowned taking her canoe over the falls. Desolate at his loss, he seeks to join her by leaping to his death from the high rock above the water. Like the Old Boardman structure, Lovers Leap Bridge, built in 1895, is a lenticular truss design,

The fifth main crossing, **Lovers Leap Bridge** is a two-lane vehicular bridge just north of the **Old Lovers Leap Bridge**, now a foot bridge which spans the Housatonic River within Lovers Leap State Park. Southernmost is **Railroad Bridge**. This rail-traffic only bridge is located north of Lovers Leap and South of Veterans bridges. All in all, New Milford has over 60 working bridges of varying age and design including 34 that are over 20 feet in length, and two railroad bridges that cross tracks of the Housatonic Railroad.

GREENWAYS AND BIKE TRAILS

Greenways are linear parks (or open space) that are set aside for public recreation while preserving a scenic landscape or an historical resource from development or destruction. Coincidentally greenways are often created to connect existing natural migratory corridors, thereby enhancing secure passage for wildlife, and supporting biodiversity. Greenway planning got a major boost in 1987 when the President's Commission on the American Outdoors issued a report calling for "a living network of greenways threading through cities and country sides like a giant circulation system."

New Milford River Trail

New Milford joined this burgeoning movement in 2011 when Mayor Patricia Murphy, along with the Department of Parks & Recreation, transformed Sega Meadows property into the first segment of the multi-use recreational New Milford River Trail with a $75,000 Housatonic Recovery grant. It follows the Housatonic River from Gaylordsville to Boardman's Bridge along the seldom-used River Road. New Milford River Trail Association, an all-volunteer, 501(c)(3) nonprofit, was formed in 2012. Public enthusiasm for the project grew. In 2016, Mayor David Gronbach and the Town Council established the first Bike & Trails Committee dedicated to the advancement of the greenway. The second segment, the

Riverwalk at Young's Field Road, a 1/4 mile, environmentally friendly, paved surface opened in June of 2017.

A preliminary engineering report that laid out a 13-mile, town-length trail was approved by the Town Council in August of 2018. The trail followed the Housatonic and Still Rivers starting from Gaylordsville in the north to connectivity with the neighboring Still River Greenway to the south in Brookfield. With funding from a Connecticut Recreational Trails grant, the design of the northern section is currently underway. To date, this project has raised an additional $180,000 from sources that include: New Milford's share of the Housatonic River Natural Resources Restoration Settlement Fund (GE Settlement Fund), the Landfill Settlement Fund (Waste Management Funds), and many generous supporters.

In addition to its recreational and health benefits, the trail addresses the environmental issues of stabilizing the river embankment adjacent to Young's Field, and the clearing away of invasive overgrowth and dead trees and replacing them with native species. There is also a fishing dock with a kayak and canoe launch and benches along the trail near the downtown loop which connects to New Milford's historic Village Green, affording a new, beautiful view of the Housatonic River.

The New Milford River Trail is slated to become an integral part of the Western New England Greenway, a multi-segment, multi-state network of mostly on-road bike routes. The New Milford segment is part of the bicycle route that follows the Route 7 Corridor from Long Island Sound to the Canadian Border. Bikers know it as US Bike Route 7.

CLIMATE AND WEATHER

New Milford's climate has typically been one of moderation all-year-round with July high temperatures averaging 84 degrees Fahrenheit (F.) and January winter temperatures averaging 18 degrees F. Highest precipitation historically has fallen as rain in June, July and August at the peak of farming activities. According to the Connecticut Institute for Resilience and Climate Adaptation (CIRCA) at UConn, the warmest 10 years on record in Connecticut have occurred since 1990, with half of these since 2010; statewide warming averages have risen 2.2 degrees since 1895.

New Milford's average daily sun exposure, 5.2 hours per day in December and 10.4 hours per day in July, has begun to make solar energy installations viable in residential and commercial properties. This possibility is aided by the declining cost of solar panels and controls, new low-cost financing offered by the innovative state-private consortium known

as the "Connecticut Green Bank", state and federal tax incentives, and the general "greening" of popular sentiment.

Yearly accumulations of rain, snow, and sleet average about 50 inches. Snow-fall numbers are declining due to warmer winters but heavy downpours (the cause of road flooding, soil erosion, and mudslides) are becoming more frequent. The timing of the ***first killing frost***--an important end-of-growing season marker for farmers and gardeners--typically comes in mid-October; the ***last killing frost in spring comes*** in mid-May.

NATURAL DISASTERS

New Milford has experienced numerous inland flooding occurrences in the aftermath of hurricanes and extreme rain events. The most severe flooding on record occurred in 1935 when heavy rains caused the Housatonic River to rise over its banks, forcing residents of Spring Street and Housatonic Avenue to evacuate their houses. In 1955, the Housatonic surpassed flood stage once again causing damage to local roads and bridges. Lesser floods came close to downtown in years past. The famous Blizzard of '88, which struck on March 12 as signs of spring were already showing, brought 20-foot-high snow drifts and thoroughly disrupted ordinary life and commerce for several days. Several tornadoes have come through town, including one in August 1911, when corkscrew winds were reported to cut a 3-mile-wide path of devastation. Most recently, in August 2020, the strong winds and rain from Tropical Storm Isaias brought most of Litchfield County to a halt, knocking out power for days and forcing a county-wide clean-up that lasted for weeks. Weather Climate Source: CT Physical Climate Science Assessment Report (PCSAR) CIRCA and UConn ASG

AIR QUALITIY

New Milford's ambient air is generally excellent although summer smog, a form of air pollution produced by the reaction of sunlight with hydrocarbons, nitrogen compounds, and other gases found in automobile exhaust and industrial fumes, occasionally settles to the ground.

Since the late 20th Century, groups of concerned New Milford residents have launched successful grassroots campaigns against large scale industrial projects that threaten the town's air quality. Among the programs stopped by community activists was a 500-megawatt power plant proposed by SEMPRA Energy, a California-based company (1999) and an even larger natural gas plant proposed by Panda Power of Texas (2016). Cricket Valley Energy Center (CVEC), another natural-gas-to-electrical power generation plant a few miles upwind of New Milford in Dover, NY, has also been the target of

residents' opposition. Because CVEC was to be built in New York State under New York permitting rules, the plant was allowed to proceed. However, Western Connecticut Clean Air Action (WCCAA), a citizens' alliance supported by area towns, schools, and environmental organizations downwind of the plant gained the support of the CT legislature and DEEP. With CT DEEP's assistance, WCCAA installed state-of-the-art air quality monitors sited in each of the towns to measure and compare air quality data collected both before (baseline) and after the plant's opening in spring 2020. In partnership with General Electric, CVEC announced plans in July 2021, to gradually increase hydrogen utilization at its natural gas-powered facility and eventually convert to a 100 percent hydrogen-fueled power plant. Monitoring continues.

New England Mining Company Quarry, New Milford, CT

chapter two

GEOLOGY

Photo by Mark Renkel © William C. van Laer

GEOLOGY

Introduction

Like much of New England, New Milford has a complex and dynamic geologic history. It also contains some of the most interesting soils and oldest rock outcroppings found in New England. Hundreds of millions of years of natural processes, some cataclysmic, some slow and subtle, have left their distinctive signatures on the landscape, creating sharp ridges, gentle valleys, narrow canyons, and countless watercourses that endlessly recycle the precipitation that has been falling since the beginning of time. And beneath all these visible features is bedrock, the rigid crust that contains magma, the Earth's hot, semi-liquid interior.

The crust is not a single unbroken layer of solid rock but consists of several massive tectonic plates that are constantly on the move. Plate tectonics is driven by a variety of forces, but over time, the plates have defined the boundaries of our continents and oceans, produced fault lines and slippages that erupt in earthquakes, and caused upthrusts and subductions that give birth to mountain ranges. New Milford's geological inheritance is best understood by beginning within so-called basement or bedrock.

BEDROCK GEOLOGY

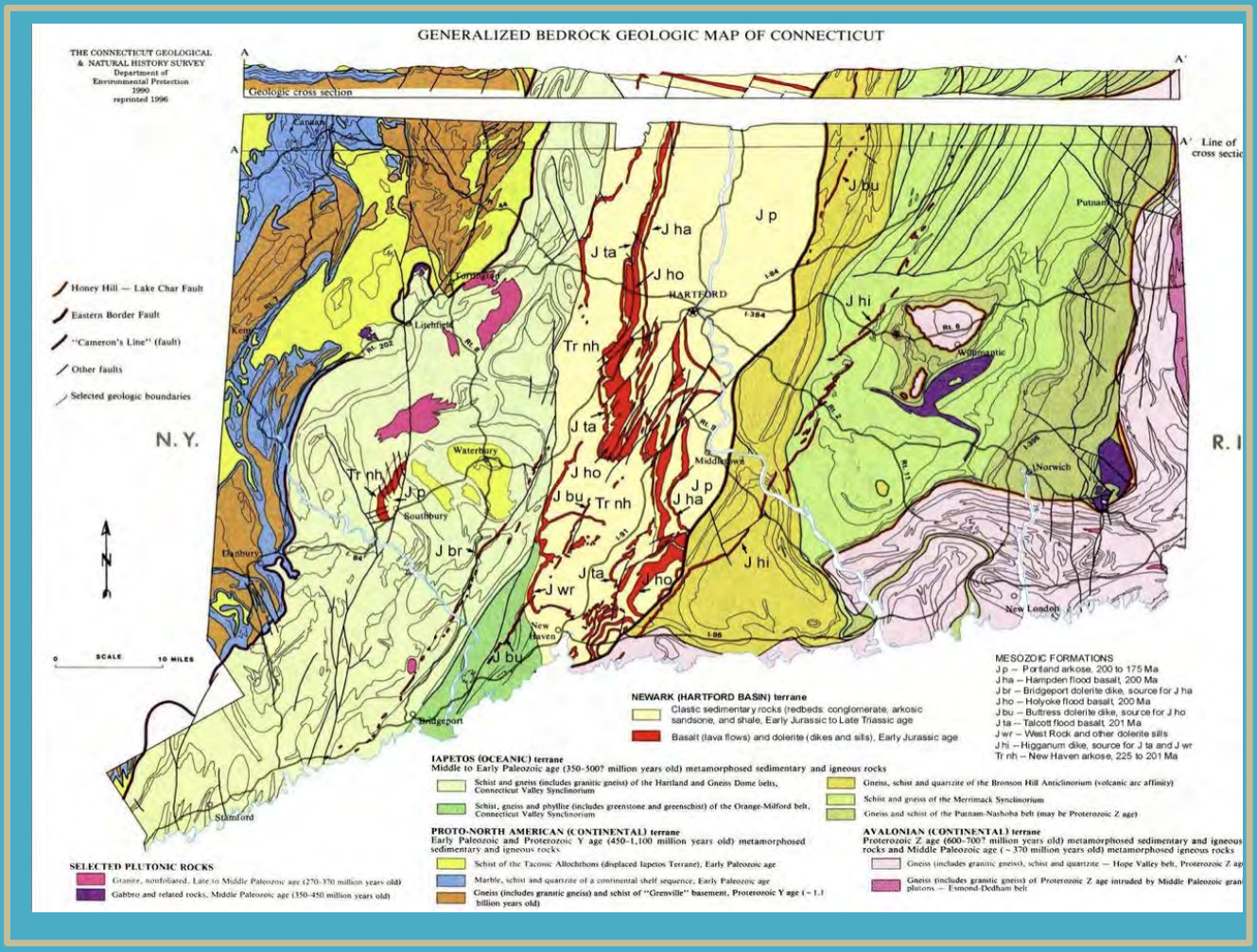
The bedrock under New Milford, like bedrock everywhere, is made of aggregates of minerals of differing chemical make-up, crystal architecture, color, and hardness. Bedrock is classified as ***igneous***, ***sedimentary,*** or ***metamorphic*** according to the way it was formed millions of years ago. Igneous, or volcanic, rock was created deep in the earth from solidification of magma or molten rock. It can have many different textures, depending on whether it cooled slowly (intrusives) at great depths or cooled rapidly (extrusives) after bubbling up through the crust. Granites, which are igneous intrusives, feature large crystals, coarser grains, and lighter colors and are composed primarily of the minerals potassium feldspar and quartz. Basalts, which are igneous extrusives, form most often from lava flow, solidifying rapidly upon reaching the surface; they generally show finer grains and darker colors.

Sedimentary rock forms from the weathering and decomposition of older rock and the layered accumulation in a watery environment of fossil shells and the skeletons of organisms. The weathered, fossilized material has been transported from its place of origin

and deposited elsewhere in what amount to sedimentary layers. Over time the layers become compressed, consolidating into such rock as shale, sandstone, limestone, and gypsum.

Metamorphic rock can be either igneous or sedimentary in origin. Extremes of heat and pressure cause changes in mineralogy and texture. Metamorphism is caused by large scale deformations in the earth's crust, a process often referred to as tectonic shift. Granite that has undergone metamorphosis becomes granitic gneiss. Sedimentary limestone metamorphosed into marble. Slate is metamorphic shale characterized by flat cleavage plates, or schist. Amphibolite is a dark metamorphic rock composed of hornblende and plagioclase feldspar.

New Milford's bedrock is a combination of amphibolite and gneiss of several schist variants. Interestingly, a northern section on New Milford, along the East Aspetuck River, is named Marbledale, because of the marble bedrock that underlies it. By 1830, the area was host to about 15 marble quarries and 20 mills producing cut slabs of marble that were shipped all over the country. All these enterprises were gone by the 1920s apart from one kiln making lime near Boardman Bridge. (Source: Housatonic Valley Council of Elected Officials/ Western Connecticut Council of Governments)



GENERALIZED BEDROCK GEOLOGIC MAP OF CONNECTICUT

http://www.mappery.com/map-of/Connecticut-Geologic-Map
http://cteco.uconn.edu/maps/town/QuatGeol/Quaternary_Geology_NewMilford.pdf

New Milford's Mineral Wealth

Today, New Milford's once thriving mining industry is all but forgotten, but the assorted minerals buried within its borders once provided a segment of the population with a substantial income. The wealth lay in veins of pegmatite, a granite-like rock whose primary minerals are feldspar, quartz, and mica; it was formed by volcanic magma, fingers of its melted minerals rising through seams in the existing bedrock. Of these, Feldspar was the mineral of greatest industrial importance, with four mills in town breaking down the rocks blasted from quarries into pulverized material used in mild abrasives, poultry grit, vitrified glass and porcelain, and other necessities.

Quartz was initially the raw material for fashioning certain sharp tools, was also highly valued as a filler in paints, and as an abrasive in finishing factory-made wood products. Pegmatite also yielded beryl, used as an alloy in copper and other metals, and in the modern era for control rods in nuclear reactors. Mica, a translucent heat-resistant mineral found in book-like sheets, was used to make the small windows found in the doors of furnaces, wood stoves, and later in kitchen ranges; it also was sought as a good insulator in electrical devices such as toasters, vacuum tubes, and capacitors.

The mining of lime from marble quarries was also big business in New Milford. Lime is calcium carbonate, rendered useful to farmers by burning chunks of marble or limestone in a kiln. The New England Lime Co., formerly the Griffin Quarry, began operating in 1893 and grew quickly to become one of the largest lime operations in the state. It consisted of five kilns and other processing facilities located in the Boardman district. Today the area continues to operate, but not for lime production. The rock is now crushed to become aggregate used in construction and other building applications.

Surely, the most surprising mining enterprise in New Milford was the New England Mining Company which operated in Upper Merryall. While the quarry was intermittently active as a source of ordinary pegmatite beginning in the 1840s, it was only in the last decades of the 19th century that the enterprise became profitable. George Roebling, the operator, contracted with New York's prestigious jeweler, Tiffany & Co., for the exclusive purchase of golden beryl or heliodor, a yellow gemstone, and lesser amounts of aquamarine and green beryl crystals including a 40.44 blue-green heart-shaped crystal that is on display at the Smithsonian in Washington, D.C. Records show that in one four-year period Tiffany bought more than $17,000 in uncut gems.

New England Mining Company miners.

Cameron's Line

On October 19, 1985, people living in western central Connecticut were startled awake by an earthshaking event. A fault line known as Cameron's Line had shifted ever so slightly deep underground to cause a genuine earthquake registering 4.0 on the Richter scale. But Cameron's Line was no ordinary fault line, of which many exist throughout New England.

First identified by geologist/mineralogist Eugene F. Cameron in the 1950s, the line marks the separation of the North American continent from the oceanic plate that smashed against it 450 million years ago. The impact of the collision, known as the Taconic Orogeny, forced the American coastal shelf miles underground where heat and pressure changed forever the geological materials west of Cameron's collision into schist, gneiss, and marble. Subsequent continental collisions along the same fault 400 and 320 million years ago folded and refolded the bedrock west of the Line, pushing portions of it much closer to the surface to become the Litchfield Hills.

The Line runs from Staten Island to Greenwich, CT, Ridgefield, Danbury, and cuts through the southern end of New Milford before continuing north to Goshen, Torrington, and Western Massachusetts. Studies undertaken since Cameron's discovery, using more sophisticated technology than available in Cameron's time, reveal that the Line itself is a 30- to 50-meter-wide band of crushed and sheared rock undulating hundreds of feet below the surface.

SURFICIAL MATERIALS

Surficial materials, not soil but a mix of unconsolidated glacial and post-glacial meltwater deposits sit between bedrock and the organic soil layer above. In some places they can be very thick, exceeding 1,000 feet in depth, and in others very shallow or non-existent where ledge, which is exposed bedrock, is near or at the earth's surface.

Most of the surficial materials found in New Milford were deposited during the late Wisconsin glaciations, 21,000 to 13,600 years ago. The surficials likely were scoured from bedrock formed in Canada or Vermont or even further away and transported here with the advance and retreat of the glaciers.

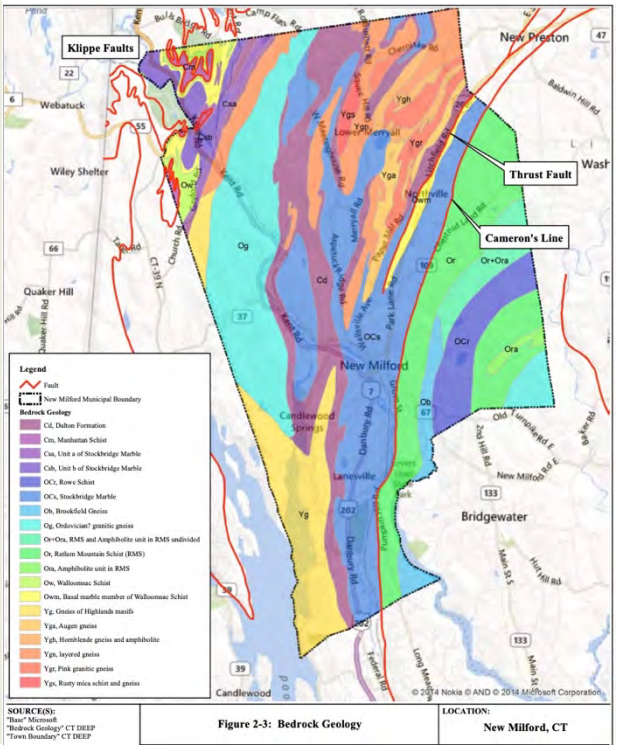
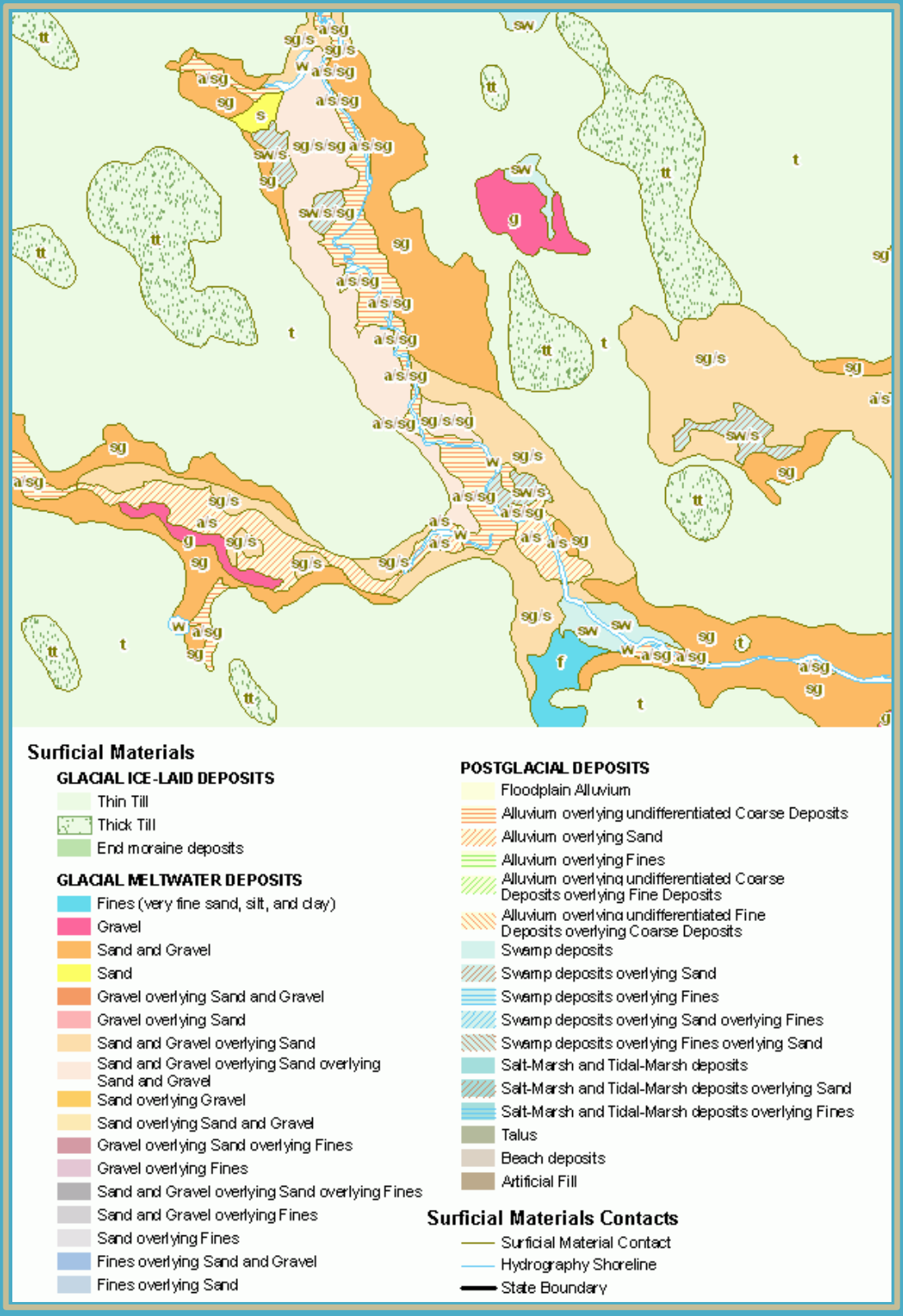


Figure 2-3: Bedrock Geology



SURFICIAL MATERIALS MAP, NEW MILFORD, CT

Surficials are further divided into two broad categories, glacial till and glacial stratified drift. Glacial till is unsorted, unstratified debris made up of sand, silt, and clay with variable amounts of stones and large boulders. It is deposited directly from the ice that transported it. Tills are generally impervious to water infiltration; they hold in reserve the water that seeps down from the soil layer above so that it is easily available to the soil above and can be drawn up into growing plants. This makes glacial till deposits a positive contributor to farmland soils.

Glacial stratified drift, by contrast, consists of sorted and stratified (layered) sand, gravel, silt and clay washed out over thousands of years by glacial meltwater. Deposits of glacial stratified drift are most often found in valleys, where they were dropped. According to the CT Department of Energy and Environmental Protection (CT DEEP), these deposits are the most productive sources of ground water in the Northwest Corner of the state. They can yield from one to 10 million gallons of water per day depending on the size and depth of the drift deposit. The deposits are often associated with groundwater reservoirs or aquifers, every town's most valuable natural resource. The State of Connecticut recognized the critical importance of aquifers and established the Aquifer Protection Area Program (Connecticut General Statutes §22a-354a to §22a-354bb) in 2006. In line with the state's policies, New Milford enacted its own regulations in 2007.

As the texture of glacial stratified surficials vary hugely from place to place and are deep in the earth where they cannot be seen by the naked eye, they are best located and examined these days by means of a soil auger that can drill down to bedrock to obtain a soil sample. Once virtually unknown as a resource, and inadvertently infiltrated by industrial spills and other undesirable substances, these underground reservoirs are today recognized as one of the most critical and irreplaceable natural resources a town can have.

Many of New Milford's town's commissions rely heavily on surficial materials and soils maps for planning including public works, zoning, agriculture, water supply, power utilization and conservation.

SOILS

There are over 40 types of soils in Litchfield County, each with multiple subcategories. Each soil type carries a distinctive given name taken from the locale (or discoverer) when the soil type was first mapped. Once registered with the National Resources Conservation Services (NRCI) the soil name becomes permanent, even if it turns up again thousands of miles from its original namesake.

Soils are categorized by

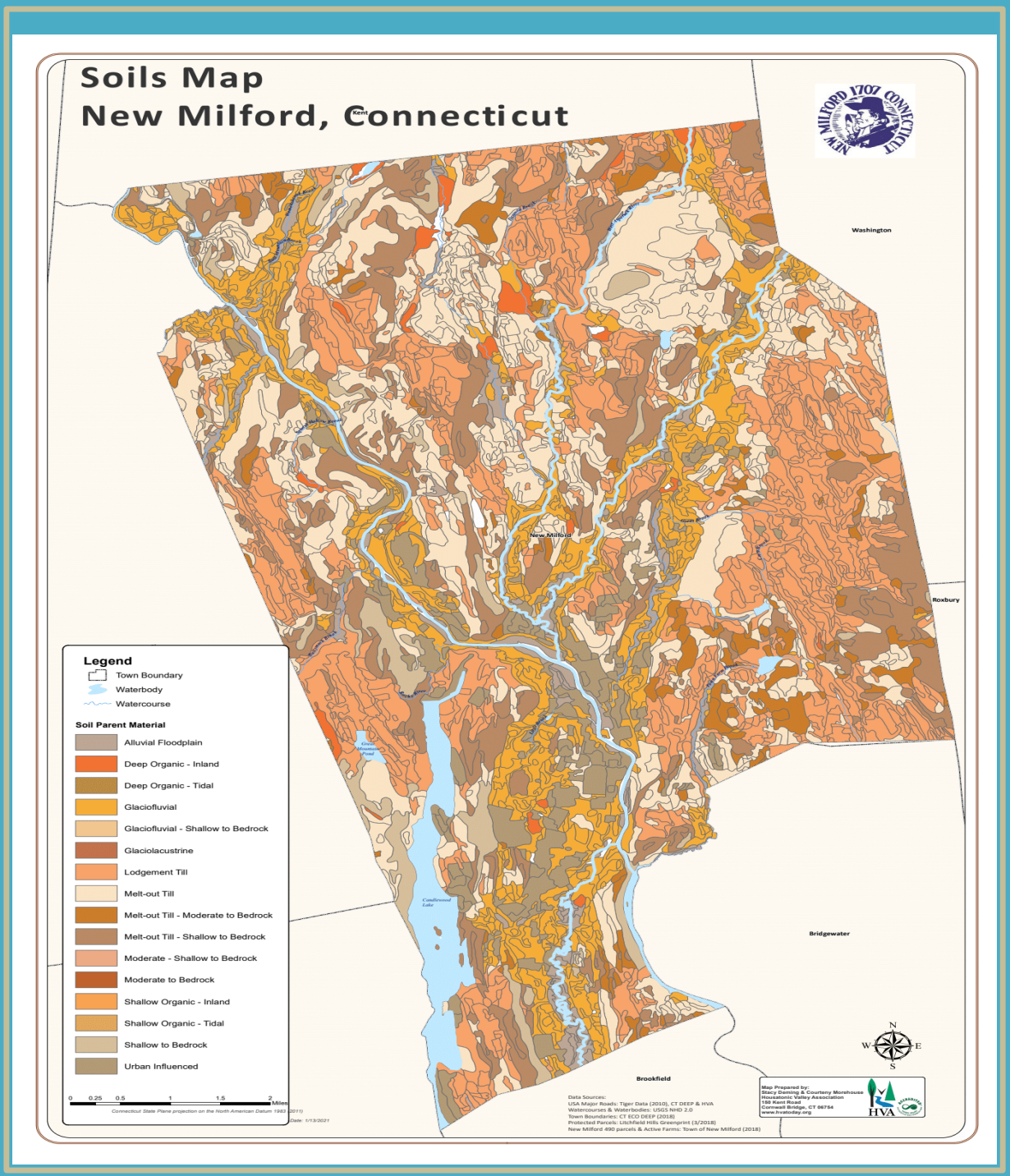
- their granular particulates--grains of sand, silt, and clay
- their horizons and profiles, visual snapshots of soils as they look when a column of the material is drilled, and the cross section examined
- how they function in the environment--whether they are wetland soils or farmland soils.

Soil particulates: sand, silt, and clay

Sandy Soil consists of small particles of rock, usually granite, limestone, or quartz, which have been fragmented and broken down by weathering and other forces. Sandy soil is one of the poorest types of soil for growing plants because it has very low nutrients and poor water holding capacity, which makes it hard for the plant's roots to absorb water. This type of soil is a good choice for drainage and septic systems where rapid water dispersion and the breakdown of organic solids is advantageous.

Silty Soil is made up of rock and other mineral particles that are smaller than sand and larger than clay. The smooth, fine quality of the silt holds water better than sand. Silt is easily transported or eroded by moving currents and it is mainly found deposited near a river, lake or other water body. Silt soil is more fertile than sand or clay. Therefore, it is also a common agricultural practice to plow and mix silty soil into less satisfactory soils to improve their fertility.

Clay Soil has particles smaller than sand or silt. Its particles are tightly packed with little or no air space between. That makes it the densest, heaviest, and poorest to drain of the four soil types, as well; it is good as a subsoil if water retention above is the goal but resistant to the growth of plant roots.


Soils Map
New Milford, Connecticut
Washington
New Milford
Roxbury
Bridgewater
Brookfield
Legend
Town Boundary
Waterbody
Watercourse
Soil Parent Material
Alluvial Floodplain
Deep Organic - Inland
Deep Organic - Tidal
Glaciofluvial
Glaciofluvial - Shallow to Bedrock
Glaciolacustrine
Lodgement Till
Melt-out Till
Melt-out Till - Moderate to Bedrock
Melt-out Till - Shallow to Bedrock
Moderate - Shallow to Bedrock
Moderate to Bedrock
Shallow Organic - Inland
Shallow Organic - Tidal
Shallow to Bedrock
Urban Influenced
0 0.25 0.5 1 1.5 2 Miles
Connecticut State Plane projection on the North American Datum 1983 (2011)
Date: 1/13/2021
Data Sources:
USA Major Roads: Tiger Data (2010), CT DEEP & HVA
Watercourses & Waterbodies: USGS NHD 2.0
Town Boundaries: CT ECO DEEP (2018)
Protected Parcels: Litchfield Hills Greenprint (3/2018)
New Milford 490 parcels & Active Farms: Town of New Milford (2018)
Map Prepared by:
Stacy Deming & Courtenay Morehouse
Housatonic Valley Association
150 Kent Road
Cornwall Bridge, CT 06754
www.hvatoday.org
HVA
N
W
E
S

Soil horizons and profiles

Horizons are layered horizontally. Each layer is revealed through differences in color, texture, particle size, structure, and thickness. Of these, color is the most apparent, and iron oxides and organic matter are the primary coloring agents within most wetland soils. Texture is determined by the relative proportions of the mineral content --sand, silt, and clay particles-- and the way in which their particle sizes determine the density or porosity of the voids between them. Other properties within the soil horizon are more difficult to assess visually and require laboratory testing. These properties include chemical and mineral content, consistency, and soil reaction.

Soil reaction is a measure of the soil's pH, or its relative acidity or alkalinity as measured along a 14-point scale. Soils with pH of 7 are neutral, those with lower numbers are progressively more acid, those with numbers higher than 7 are increasingly alkaline. Plants differ in the pH that suits them best, so it is an important factor to consider in growing vigorous plants. Generally, soil with a pH between 6.2 and 6.8 allow for the release of nutrients and are the most productive.

A **soil horizon's order of layers is described as its soil profile.** "0" designates the newest organic layer on the upper surface, followed by 1. Topsoil, 2. Subsoil, 3. Surficial Material, and 4. Bedrock. Through studying the horizons and profiles, a soil scientist can classify, record, and interpret each type of soil as to its parent origins and best uses.

Soils provide much more than the medium in which plants set their roots. The voids in soils hold water in suspension so that the plants' roots can draw up the water and nutrients that nourish growth. Soils also provide habitat for countless organisms, from favorable bacteria to burrowing voles and worms. Soils function as essential players in the hydrological cycle..

While preservation of healthy soils is always the most effective approach to conservation, and the contamination of soils through neglect or industrial waste must always be viewed as a serious setback, it is also true that depleted soils can be remediated. State and federal programs and grants are becoming more widely available for such remediation projects.

Wetland Soils or Upland Farmland Soils.

Wetland Soils

Wetland soils are those that underlie small-to-large swamps, marshes, bogs, and vernal pools (see Chapter 3 for definitions). They are important for many reasons, especially as the interface for the major water reservoirs--surface water, ground water, and atmospheric water (clouds and humidity) in the hydrologic cycle. Wetland soils filter out toxins and send excess surface water into long-term groundwater storage. The CT DEEP estimates that about half of the precipitation that falls on New Milford is returned to the atmosphere by evapotranspiration from plants, buildings, pavement, and other surfaces. Another 7 to 20 inches of precipitation percolates down to the saturated zone which includes the water table, a boundary between the unsaturated soil surface above and the saturated groundwater below. The remainder flows over land and what is not absorbed along the way enters storm drains, lakes, ponds, and rivers, carrying whatever toxins it encounters on route.

Wetland Soils Found in New Milford

Suncook soil found in the floodplain along the west side of the Housatonic River and consisting of very deep, excessively drained sandy **soils** formed in alluvial sediments and subject to frequent or occasional flooding.

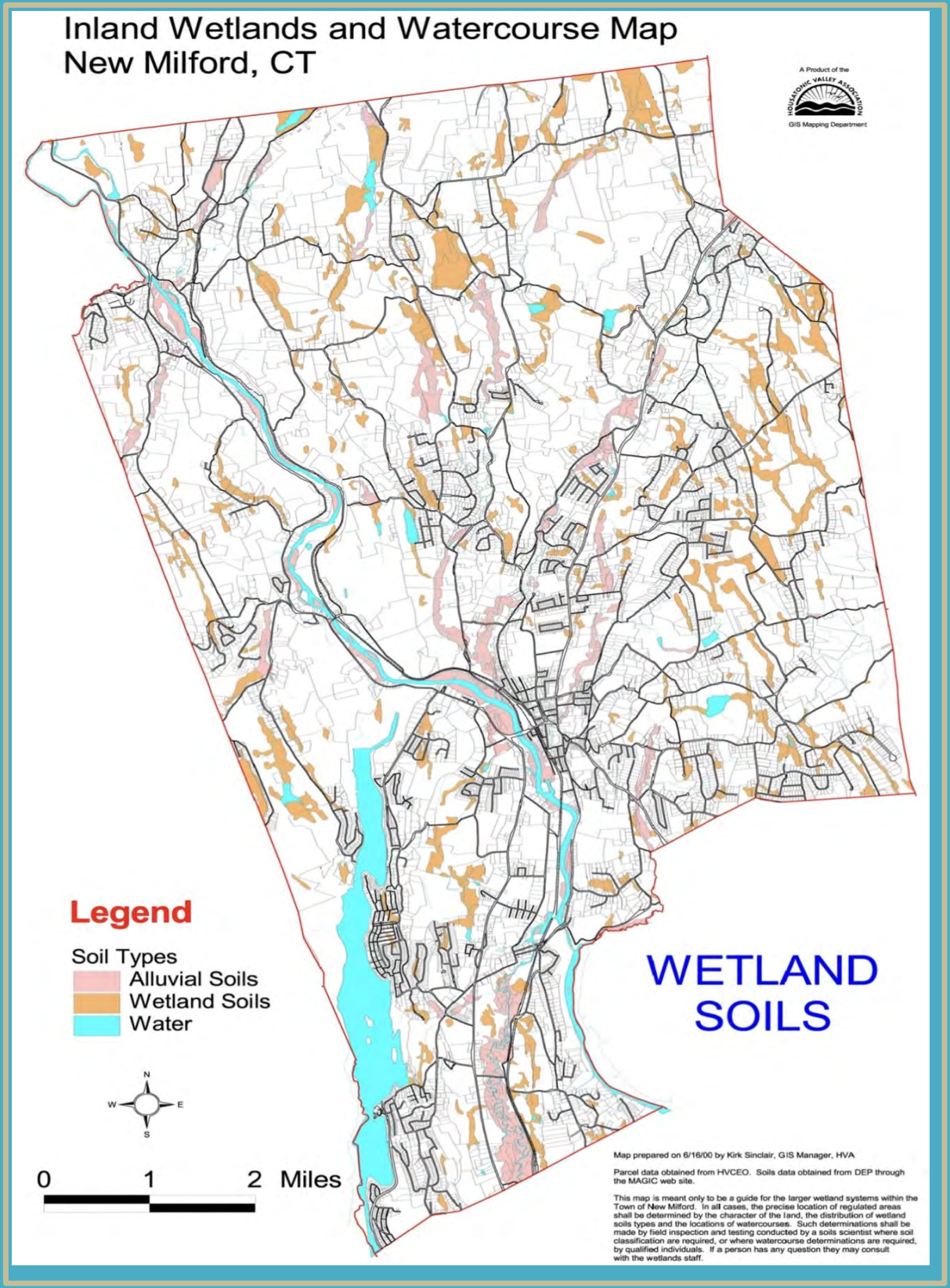
Hadley soil along the Housatonic River by Veteran's Bridge, a well-drained soil formed in recent alluvium floodplains.

Catden-Freetown soil in Tamarack Swamp northeast of West Meetinghouse Road a very deep, very poorly drained, organic soil found in a level upland depression with more than 50 inches of highly decomposed plant material.

Pootatuck soil along the West Aspetuck River in Lower Merryall, a fine sandy loam displaying low chroma mottles within a 24-inch depth.

Catden-Freetown soil in Tamarack Swamp northeast of West Meetinghouse Road.

Wetlands are further categorized by the Natural Resource Conservation Service of the U.S.D.A. as "poorly drained", "very poorly drained", alluvial, and floodplain. There are many types of wetland soils in New Milford that fall under Alluvial Floodplain. Fluvial processes include erosion of sediment by moving water. For each grain size and weight there is a specific velocity at which the grains start to move. A river is continuously picking up and dropping eroded particles of rock and soil. Where the river flow is fast, more particles are picked up than dropped. Where the river


Inland Wetlands and Watercourse Map
New Milford, CT
A Product of the
HOUSATONIC VALLEY ASSOCIATION
GIS Mapping Department
Legend
Soil Types
Alluvial Soils
Wetland Soils
Water
N
W
E
S
0 1 2 Miles
WETLAND SOILS
Map prepared on 6/16/00 by Kirk Sinclair, GIS Manager, HVA
Parcel data obtained from HVCEO. Soils data obtained from DEP through the MAGIC web site.
This map is meant only to be a guide for the larger wetland systems within the Town of New Milford. In all cases, the precise location of regulated areas shall be determined by the character of the land, the distribution of wetland soils types and the locations of watercourses. Such determinations shall be made by field inspection and testing conducted by a soils scientist where soil classification are required, or where watercourse determinations are required, by qualified individuals. If a person has any question they may consult with the wetlands staff.

moves more slowly, often when moving through a wider channel, more particles are dropped than picked up. This becomes an alluvial or flood plain. New Milford's alluvial floodplains run along watercourse valleys as seen in the detailed soil map.

Wetlands cannot support most kinds of human activities or structures, so until relatively recently it was customary to alter and destroy swamps and marshes by covering them over with dry landfill or digging ditches to drain them away in hopes of converting the land to more economically desirable upland or farmland acreage. However, wetlands are now recognized as uniquely important to the preservation of every ecosystem. They are legally protected by federal, state and local agencies. Among the contributions to nature that

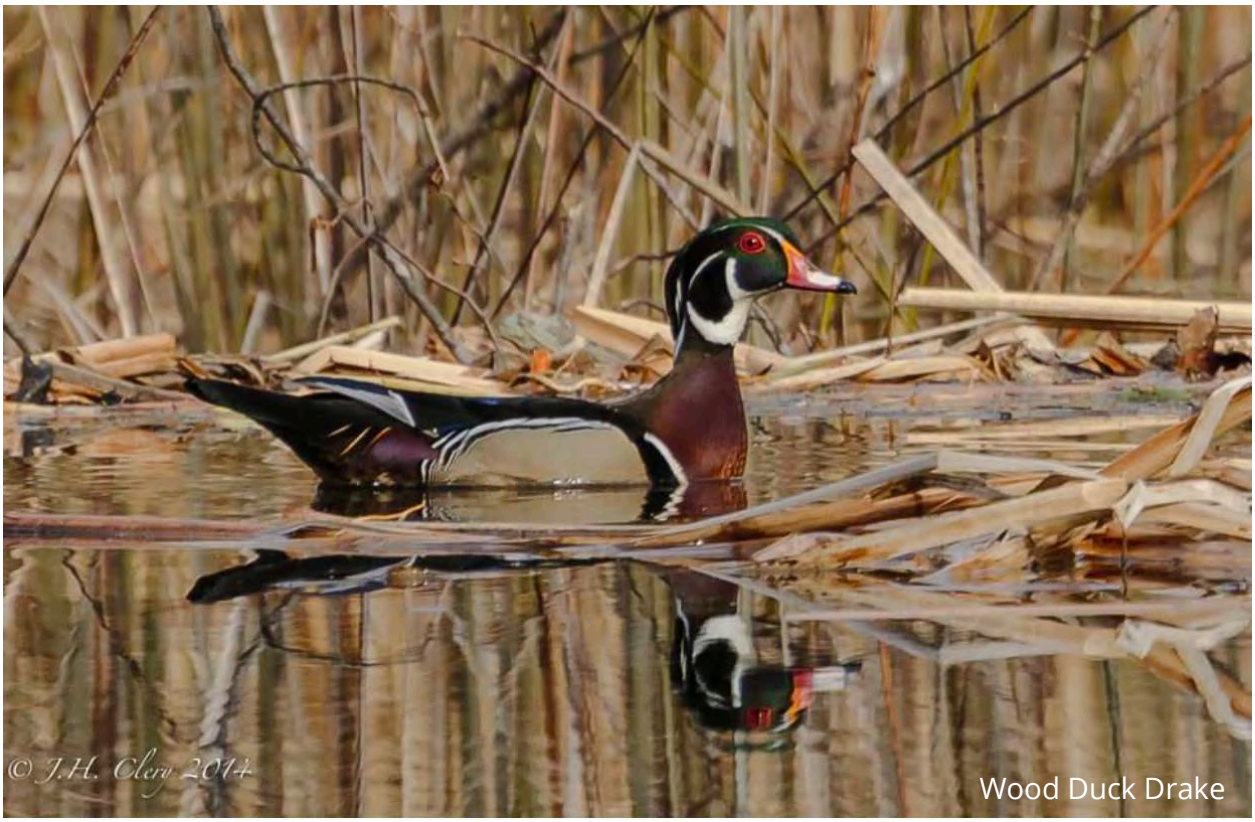


Photo by John Clery

wetlands provide are seasonal habitat for large colonies of terrestrial animals, migratory birds, insects, amphibians, and thousands of different water-loving plants. Wetlands also act as surface reservoirs for overflowing streams, rivers, and lakes during and after heavy rains. Wetlands also contain vegetative filters that remove or disarm some surface water toxins as the water slowly seeps into underground storage. Since 1988, New Milford has had an Inland Wetlands Commission to implement provisions outlined in Connecticut

General Statute (section 22a-36 to 22a-45, as amended) to insure local and timely protection of these fragile natural resources. By examining the Inland Wetlands and Watercourse Map (see above) it is easy to see the interconnectedness of soils and water as they relate to the conservation of New Milford's public water supply.

Upland and Farmland Soils

Farmland soils are another resource whose importance was late to be recognized. That began to change in the 1930s when several years of persistent drought on the Great Plains caused widespread crop failures and exposed the region to dust storms that depleted once fertile soils. In 1935, Congress responded to the crisis by establishing the Soil Conservation Service, predecessor to the federal Natural Resources Conservation Service. This voluntary program hosted today by the U.S. Department of Agriculture, offers several financial and technical assistance programs to assist farmers and ultimately municipalities in making optimum use of productive land. The NRCS lists several grades of farmland soil as a means by which town planners can prioritize areas most in need of protection; the intent is to ensure that such lands are at the top of land trust grant lists whenever farmlands come up for sale.

NRCS Farmland Soil Grades

Prime farmland is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oil seed crops and is available for these uses. Farmlands in the area known as Marble Valley have uncommonly fertile soils that need little or no amendments to produce vigorous crops in all but prolonged drought conditions.

Statewide important farmland is land, in addition to prime farmland, that economically produces high yields of crops when treated and managed according to acceptable farming methods.

Local important farmland is additional farmland useful for producing food, feed, fiber and forage, that is not identified as having state or national importance but is still capable of growing crops under careful management.


Smyrski Farm

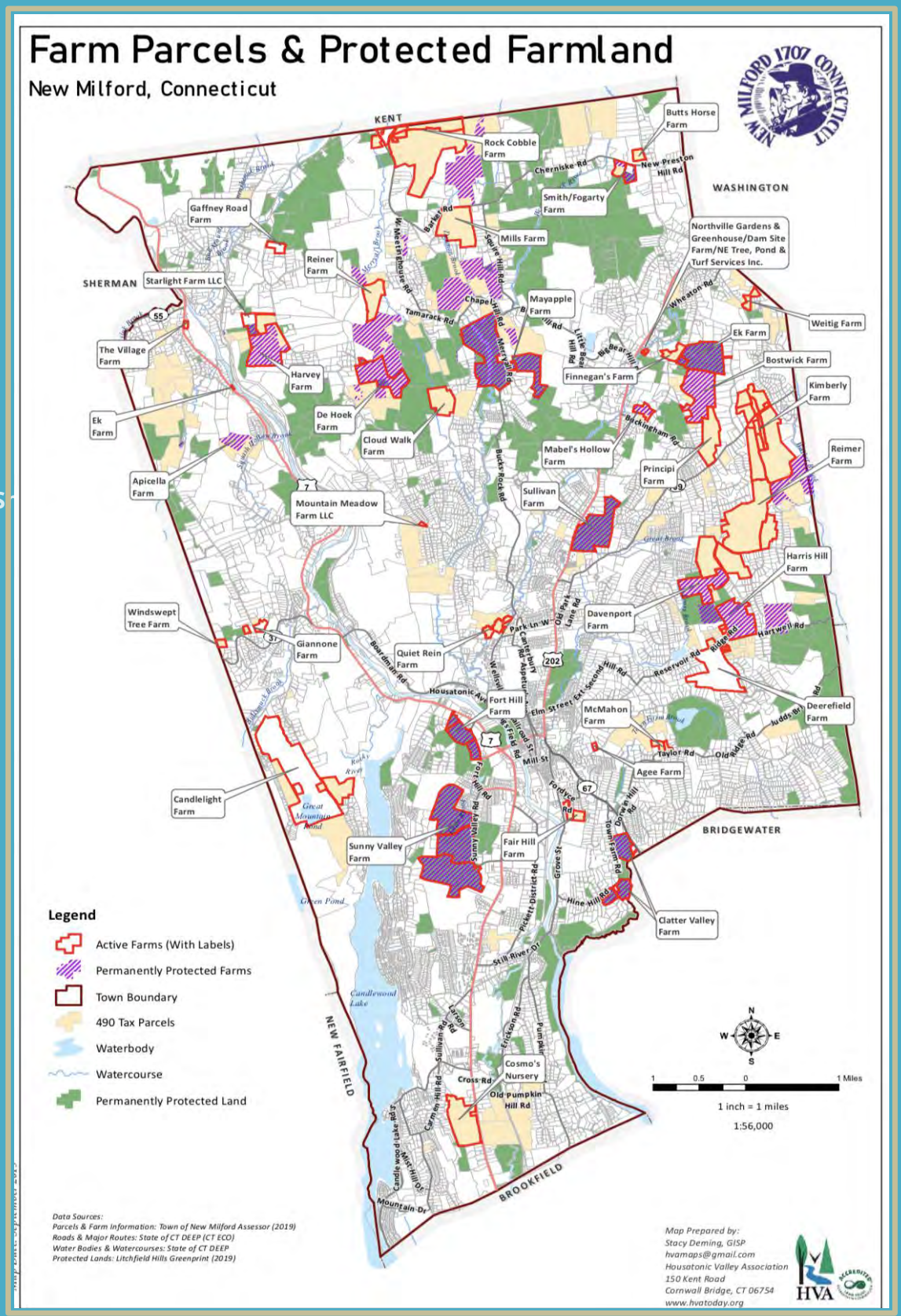
New Milford's Commitment to its Farming Heritage

The **Right to Farm** ordinance was written into the New Milford town charter in 2008:

"Agriculture is a significant part of the Town of New Milford's heritage and a vital part of the Town's future. It is therefore the declared policy of the Town of New Milford and legislative determination of the New Milford Town Council to conserve and protect agricultural land and to encourage agricultural operations and the sale of local farm products within the Town."

The Right to Farm ordinance is clear recognition of the important role of farming in New Milford and in Connecticut.

The time between 1985 and 2008 was a remarkable period for farm preservation in New Milford. In 1985, the 220-acre Smyrski Farm in Northern New Milford was preserved. In 2006, New Milford established a Farmland and Forest Preservation Committee that helped implement the right-to-farm ordinance, the first in Litchfield County, and second in Connecticut. Four family farms were initially preserved—Chapin, Davenport, Harris Hill, and Patterson. By 2009, 132 acres of Hunt Hill Farm was also saved in perpetuity.


Farm Parcels & Protected Farmland
New Milford, Connecticut
KENT
WASHINGTON
SHERMAN
NEW FAIRFIELD
BRIDGEWATER
BROOKFIELD
Butts Horse Farm
Rock Cobble Farm
Gaffney Road Farm
Smith/Fogarty Farm
Northville Gardens & Greenhouse/Dam Site Farm/NE Tree, Pond & Turf Services Inc.
Reiner Farm
Starlight Farm LLC
Mills Farm
Mayapple Farm
Weitig Farm
Ek Farm
The Village Farm
Harvey Farm
Finnegan's Farm
Bostwick Farm
Kimberly Farm
De Hoek Farm
Ek Farm
Cloud Walk Farm
Mabel's Hollow Farm
Reimer Farm
Principi Farm
Apicella Farm
Sullivan Farm
Mountain Meadow Farm LLC
Harris Hill Farm
Windswept Tree Farm
Davenport Farm
Giannone Farm
Quiet Rein Farm
McMahon Farm
Deerefield Farm
Fort Hill Farm
Agee Farm
Candlelight Farm
Sunny Valley Farm
Fair Hill Farm
Clatter Valley Farm
Cosmo's Nursery
Legend
Active Farms (With Labels)
Permanently Protected Farms
Town Boundary
490 Tax Parcels
Waterbody
Watercourse
Permanently Protected Land
1 inch = 1 miles
1:56,000
Data Sources:
Parcels & Farm Information: Town of New Milford Assessor (2019)
Roads & Major Routes: State of CT DEEP (CT ECO)
Water Bodies & Watercourses: State of CT DEEP
Protected Lands: Litchfield Hills Greenprint (2019)
Map Prepared by:
Stacy Deming, GISP
hvamaps@gmail.com
Housatonic Valley Association
150 Kent Road
Cornwall Bridge, CT 06754
www.hvatoday.org
HVA

Prime Farmland soil found in New Milford:

- Paxton and Montauk fine sandy loams, 8 to 15 percent slopes
- Canton and Charlton fine sandy loams, 3 to 8 percent slopes
- Haven silt loam, 0 to 3 percent slopes

Protected Farmland

New Milford has 19,378 acres of land with farmland soils. Of these, 6,980 acres are rated as locally important farmland; 8,039 acres are Prime Farmland, and 4,359 acres are statewide important farmland. Of those nearly 20 thousand acres only 19.3 percent are protected from development. That leaves over 80% still vulnerable to loss through sale and repurposed development. The viability of our food supply came into sharp focus during the recent Covid-19 pandemic as grocery store shelves emptied and distribution of many food products was disrupted. Towns across Connecticut quickly understood how critical it is to secure local food sources to ensure food security under adverse conditions, both short- and long-term including implementing soil-based zoning.

Sullivan Farm

Soil Stewardship

important work is being done at the University of Connecticut and at the USDA to better understand the effects of different soil management practices on the productivity of important soils.

Click here for map of soil type anywhere in New Milford (Source UConn)

Click here for USDA's National Resources Conservation Service site and access to interactive Web Soil Survey maps and broad range of soil-related tools and information.

chapter three

WATER RESOURCES

WATER RESOURCES

Introduction

The town of New Milford is endowed with a vast and diverse array of water resources, from vernal pools to the state's largest man-made lakes, across eight watersheds with miles of rivers and streams, to the subterranean aquifers. Its waters provide electricity, a place for outdoor recreation and well-being, aquifers for drinking water, and a habitat for wildlife and plants. New Milford can boast of protected wetlands and pristine mountain brooks with the highest water quality rating, but the town also has some of the most compromised and polluted waters in the State. Although much has been done to protect its water resources, much is still needed to reverse the impact of decades of misuse.

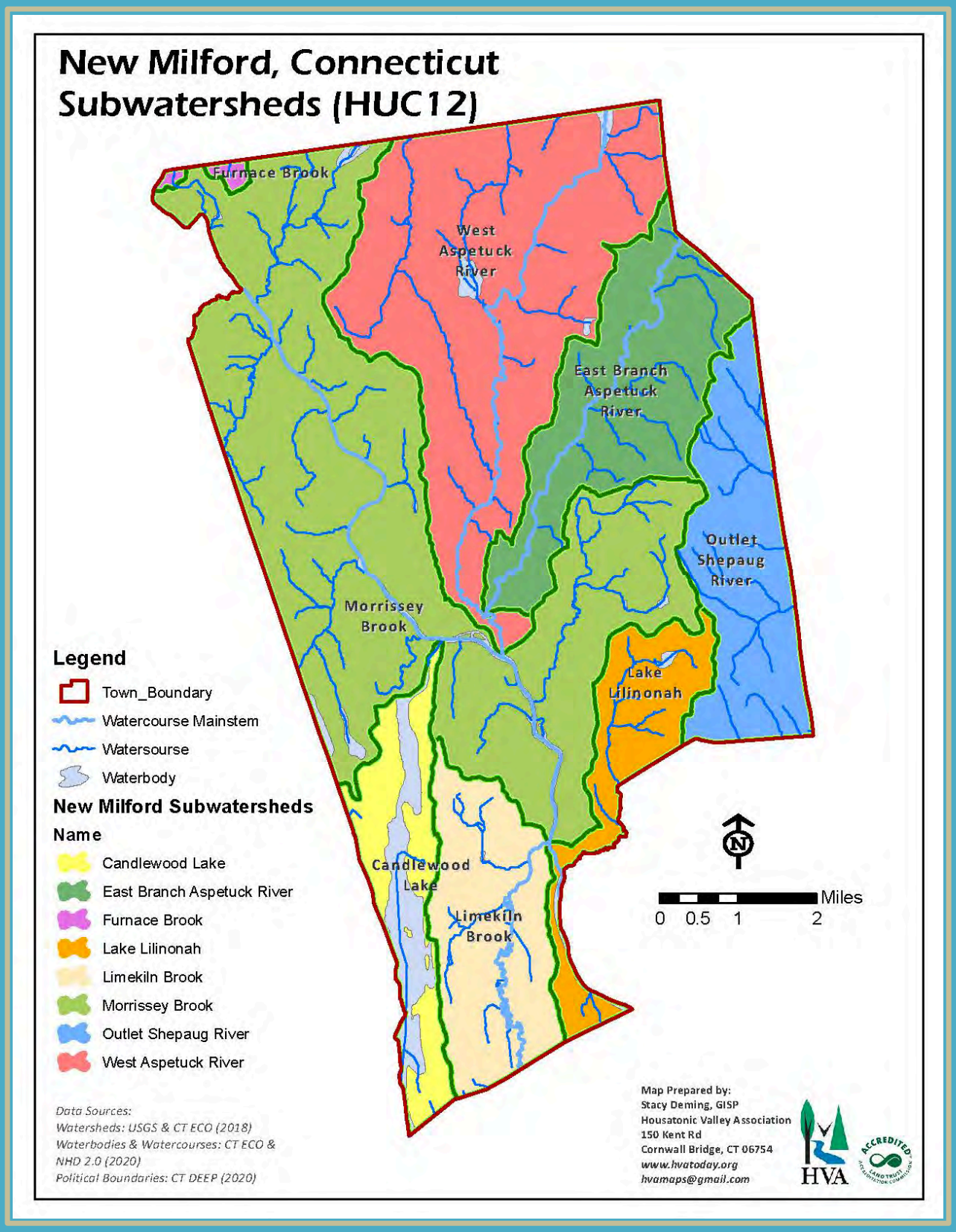
To protect its most valuable community resource, New Milford can support activities which preserve aquatic land corridors from development, remove dams and culverts that impede free flow and cause sedimentation, protect riverbanks and wooded lands that reduce erosion and cool the water temperatures, and enforce laws aimed at stopping illicit dumping.

WATERSHEDS

There are eight watersheds in New Milford. A watershed is the drainage area above a body of water. All the runoff and infiltration within that area flows downward following the terrain until it reaches the water body at the base of the watershed. Rain, snowmelt, rivulets, springs, and streams thus travel from higher to lower elevations to join in a single river system flowing toward the sea.

All of New Milford is part of the Housatonic River watershed, which drains into the Long Island Sound. New Milford's eight watersheds feed into the Housatonic River, all direct except one via the Shepaug River.

New Milford's watersheds are shown on the New Milford Watershed areas mapand are, in order of geographic size: Morrissey Brook, West Aspetuck River, East Branch Aspetuck River, the Outlet Shepaug River, Limekiln Brook, Candlewood Lake, Lake Lillinonah, and, in the northwest quadrant of New Milford, the tiny Furnace Brook watershed.



New Milford Watershed areas

Morrissey Brook Watershed

Streams and Rivers

The Morrissey Brook watershed, New Milford's largest, possesses nearly 50 miles of rivers and streams. Excluding the Housatonic River, the longest waterway is **Great Brook** and is in the Morrissey Brook Watershed. It flows approximately 4.8 miles southwest through a heavily developed residential area of New Milford and the 90-acre New Milford Center Cemetery before entering the Housatonic River downstream of Veteran's Bridge. Great Brook has been the focus of a partnership among the Sustainable CT 2021 New Milford team, the Housatonic Valley Association (HVA), and New Milford residents to clean up the brook at Hulton Meadow Park and protect its habitat. Funds raised by the Sustainable CT New Milford team went toward developing a long-term Great Brook watershed management plan.

Great Brook receives water from several tributaries and its largest is **Cross Brook** which runs about 1.78 miles from its headwaters in the low mountains known as the Chestnut Lands to the confluence with Great Brook. Cross Brook is dammed in several locations, creating (moving upstream) four New Milford Reservoirs # 1, #1-½, #2, and the largest #3 at just under 9 acres. These reservoirs were once used to store and supply drinking water to the town. Although a portion of Cross Brook above Reservoir # 3 abuts permanently protected land, and below the reservoir, a land easement protects a narrow band of land along the river corridor, much of Cross Brook flows through a heavily developed residential area.

The upper reaches of the **Morrissey Brook** begin in Fairfield County, where the brook flows northeast and crosses into New Milford, running about two miles to the Gaylordsville section of New Milford where it enters the Housatonic River. It is one of New Milford's most picturesque streams. The brook is fed from numerous small, cold-water streams with dissipating flows in the summer months. The Connecticut Department of Energy and Environment (CT DEEP) Surface water quality classification of AA. The rural nature of the upper section provides good canopy and bank protection, creating a habitat to justify trout stocking. CT DEEP stocks Morrissey at seven different locations in New Milford. There is public access towards the upper end of the New Milford section of the brook, at 130 Gaylord Rd, where the Northwest Connecticut Land Conservancy (NCLC) has a nature preserve (https://ctland.org/wp-content/uploads/2013/05/MorrisseyStraussFINAL.pdf). Further downstream, opposite the Gaylordsville Cemetery, there is public access with limited parking at the northern start of the Housatonic Range Trail, a six-mile hiking trail maintained by Connecticut Forest and Park Association. It is thought that the brook is named after James Morrissey, a prominent 19th century tobacco grower. The brook's original, Algonquin name is **Naromiyocknowhusunkatankshunk Brook**, which is translated as "fishing place in the gravelly stream near the big hill" or alternately "water

flowing from the hills". In 2001, Connecticut state legislature passed an act that reinstated the brook's original name.

Another important stream in the Morrissey Brook Watershed is the **Bullymuck Brook**. It begins at the Quipy Swamp just over the border in Sherman and flows north down the valley formed between Towner Hill, the Stilson Hill range, and Candlewood Mountain, gaining size as it collects the waters from several smaller mountain streams flowing from these hillsides. Two roads, the Candlewood Mountain Road and Bullymuck Road, follow Bullymuck Brook for much of its 2.25-mile length in New Milford as it crosses primarily wooded, residential properties. Downstream, towards the lower half of the brook along Candlewood Road, the gradient flattens and at several points the brook slows and widens to form small wetland areas before the gradient steepens again and the brook flows under Routes 37 and 7, entering the Housatonic River a short distance beyond.

At just over 1.6 miles in length, **Squash Hollow Brook** is a relatively short stream that begins along the Stilson Hill range and flows northeast down between the ranges of Boardman Mountain and Cedar Mountain / Straits Rock, flowing under Route 7 just north of Squash Hollow Road and joining the Housatonic River.

The path of the **Rocky River** was altered in the 1920's when Connecticut Light & Power dammed the river at its original junction with the Housatonic River in connection with its construction of the Candlewood Lake reservoir. Today this small, 1.5-mile-long stream begins at an altitude of 810 feet at a spring/wetland area below and, to the south, of Lookout Point and Candlewood Mountain. It tumbles down the steep mountain side 500 feet to the valley below, where it wends its way through wooded, undeveloped land, passing under Route 7 and reaching the Housatonic River just north of the Rocky River Power Plant.

Bull Mountain Brook begins as a small stream flowing south along Geer Mountain Road and through wetlands in Kent, in sight of the prominent mountain side to the west from which it earns its name. Entering New Milford at Mud Pond, a 10.5-acre pond, the brook continues southward to the Housatonic River. The brook flows between the wooded ranges of Long Mountain and Rock Cobble Hill to the east and the steep Pine Hill to the west. Along Mill Pond Road, the brook's passage is interrupted by a dam creating the .63-acre Pine Hill Pond. Below the second pond, the brook receives water from two unknown tributaries before joining the **Womenshenuck Brook** along South Kent Road. Continuing southward, Bull Mountain Brook is fed by two more unknown tributaries as it descends to the marble valley, its flow temporarily impeded by the Merwinsville Dam a short distance from the confluence with the Housatonic River in Gaylordsville.

Like Bull Mountain Brook, the Womenshenuck Brook originates in Kent and flows Southward, connecting the Leonard, Hatch, and Mill ponds before reaching the border with

New Milford. From here the brook passes through a narrow valley between Pine Hill to the East and Cedar Hill to the west, before reaching the confluence with Bull Mountain Brook. Its surface water quality is rated A.

New Milford's northwest corner is framed by the **Wimisink Brook**, which forms the border with the town of Sherman. The Wimisink Brook flows for just under a mile in New Milford before reaching the Housatonic River upstream of the Route 7 bridge, the southern boundary of the Housatonic's Bull's Bridge Trout Management Area.

The accurately-named **Little Brook** is just over half a mile in length, beginning in the protected lands of The Nature Conservancy's Sunny Valley Preserve (https://www.nature.org/en-us/get-involved/how-to-help/places-we-protect/sunny-valley-preserve) and making its way through the Caldwell Drive residential development, passing under Fort Hill Road and reaching Ferris Pond, a 2.3 acre pond/wetland sitting on 18.7 acres of town land. From Ferris Pond, Little Brook flows through a relatively wooded portion of the otherwise heavily developed Route 7 corridor, feeding two small ponds before reaching the Housatonic River under route 7/202.

Lakes and Ponds

To the west of the Housatonic River, the Sherman Dam creates a .27-acre pond with A-rated surface water. The pond is fed by an unnamed brook which begins on Stilson Hill and flows south and east through wooded land before reaching the dam. From the dam the brook continues, under Route 7 and joins the Housatonic River.

In the northwest corner of New Milford, on the east bank of the Housatonic River lies **Cedar Hill Pond**, a man-made pond for storing water used by the First Light hydroelectric power plant. Water is diverted from the Housatonic River at the Bulls Bridge impoundment and flows through a canal to the pond. The plant releases water through the turbines and back to the Housatonic River.

Mud Pond lies on the southern edge of South Kent verging into Gaylordsville. More a wetland than a pond today, it is fed primarily by Bull Mountain Brook on its route to the Housatonic River. Mud Pond's outlet at the southern end has been controlled historically by beaver dams. The water level can fluctuate by three feet, and this has created a large area of valuable emergent woody vegetation that provides excellent habitat for waterfowl. It is also an important habitat for several songbirds.


Mud Pond

In 1995 Weantinoge Heritage Land Trust, the predecessor of NCLC, honored founder Alice McAllister by creating the McAllister Preserve to protect the unusual calcareous-based ecosystem found in the wetlands and on adjoining hillside along Mud Pond. This type of wetland is rare in the eastern U.S. Of special interest within the McAllister Preserve are several black ash trees, including one with a trunk that measures more than 40 inches in diameter, the largest-known example in the state. The Preserve provides habitat for bobcats, bears and endangered goshawks. According to NCLC, at least 45 species of neotropical birds have been seen in the preserve.

From Mud Pond, the Bull Mountain Book flows along Mud Pond Road until it reaches the Pine Hill Dam, a private dam dating to the early 20th century. The dammed waters create the **Pine Hill Pond**, which is about .63 acres in size and contains class A surface water. Over the dam, Bull Mountain Brook continues its path towards the Housatonic River. Its route is interrupted once more by a man-made impediment, the Merwinsville Dam. The dam, located a short distance from the confluence with the Housatonic River, creates a waterbody, a little more than half of an acre in size on private property.

Adams & White Pond is a 2.8-acre pond with class A surface water quality situated on a 114-acre wooded parcel that is privately owned. The pond feeds a Class 1 stream which flows under Saw Mill Road where it joins another unnamed stream and proceeds westward to the Housatonic River. Over the mountain ridge to the east sits the substantially larger **Ladner Pond**, which interestingly, does not appear in GIS data. The sizable pond sits on a

private 66-acre lot which abuts several small residential properties. The pond feeds a small stream which empties into the West Aspetuck River.

Although GIS data indicates **Ferris Pond** covers 2.3 acres, satellite imagery suggests the pond is seasonal and runs dry during periods of low water. The pond is fed by the diminutive Little Brook, which over its half a mile length flows from protected lands through heavily developed residential properties. From Ferris Pond, Little Brook proceeds onward a short distance before reaching the Housatonic along Route 7. To the east of the Housatonic River, the Carpenter Dam creates a pond about half an acre in size which forms the headwaters of a small, unnamed tributary of Great Brook. The dam and pond are located on private property off Chestnut Land Road /109 and its surface water is rated class A.


West Aspetuck River

West Aspetuck River Watershed

Streams and Rivers

The West Aspetuck River's headwaters begin at South Spectacle Pond in Kent, from which it travels north through North Spectacle Pond and Beaman Pond and then turns south, tumbling through the heavily wooded Kent Hollow area. From there the West Aspetuck flows to New Milford, receiving water from **Denman Brook** and **Merryall Brook** before it joins the East Aspetuck River and together spill into the Housatonic River. Denman Brook is more than 3 miles in length, beginning in Kent and picking up water from the streams flowing from the protected slopes of Peet Hill. From there it runs south through the Tamarack Swamp before joining the West Aspetuck River. Merryall Brook is a relatively high gradient rural stream that is more than five miles long and its surface water quality is rated AA. CT DEEP rates the surface water quality of the West Aspetuck River as AA.

West Aspetuck River is home to native Eastern Brook Trout, an indicator species that survives only in the coldest and cleanest water. Although in many places the river dwindles

to a trickle in drier months, both the NCLC and other land trusts have recognized the importance of the West Aspetuck River and its tributaries and continue to seek opportunities to preserve acreage along its banks.

Lakes and Ponds

The Mettinghouse Dam, its name presumably derived from a distortion of the nearby Meetinghouse Road, temporarily halts the flow of Merryall Brook as it flows southward through the relatively rural and wooded Merryall section of New Milford. Located just North of Hine Road, the dam is in fact two successive blockages which create two small water bodies of about .20-acre in total and which are collectively referred to as **Merryall Pond**. The ponds contain surface water rated AA and are situated on private property and presumably used for swimming and recreation. With limited plantings and canopy around the ponds, the direct sunlight serves to elevate the temperature of the water flowing over the dams into Merryall Brook. Further downstream, Merryall Brook is dammed once more, creating the larger .56-acre **Zaleskys Pond.** Containing AA rated surface water and situated on a private property, there are limited plantings or canopy to protect the water from direct sunlight.

Newfield Pond is a .4- acre spring fed pond with surface water rated AA. The pond sits on a private 2-acre parcel in a heavily developed residential area of New Milford.

An old mill dam temporarily interrupts the free flow of the **West Aspetuck River,** creating the 1.58-acre **Parkhurst Pond,** exposing the water to sun, and elevating the stream's temperature. Located just upstream of the intersection of Merryall Road and West Meetinghouse Road, the pond is located mostly on a private 9.6-acre parcel although a portion of the pond's outflow crosses a small lot owned by NCLC.

Comprising an area of 14.66 acres, the **Ella Fohs Camp Pond,** also known as Willingham Lake, is New Milford's 4th largest pond, located near the junction of Little Bear and Big Bear Hill roads. Previously part of a camp that closed in the 1970's, the pond and land are on private property. The pond is spring fed with a surface water quality rated AA. The pond empties into a small unnamed brook which flows westward along Bear Hill for a distance before winding its way down through wooded terrain to **Strastrom Pond**, eventually emptying into the West Aspetuck River. Before reaching Strastrom the brook feeds a small pond that also receives water from an unnamed brook flowing southward off Iron Mountain. This residential pond of about .10 acres is sometimes misidentified on maps, including by GIS, as Strastrom pond. The true Strastrom Pond is a relatively large pond and wetland of which a small portion has been protected through land easement.

Heddons Pond is a small .13-acre pond on residential property to the north of Bear Hill Road, not far from Ella Fohs Camp Pond.

East Branch Aspetuck River Watershed

Streams and Rivers

The East Branch Aspetuck River watershed contains almost 17 miles of rivers and streams, and its longest, at more than seven miles in length, is the **East Aspetuck River**. The East Aspetuck originates at Lake Waramaug in Washington, where a dam using a pipe and gate system controls the level of the lake and the flow of water that is released to the river. CT DEEP requires a certain amount of water to flow to the East Aspetuck for the preservation of wildlife and for the fighting of fires, while the Lake must also maintain a certain level for safety, ecological concerns, and water quality standards. The town of Washington owns and operates the dam and is responsible for striking this careful balance. From the dam's spillway, the river flows to the village of New Preston where it tumbles over a 20-foot-high waterfall, then turns southward, entering the Northville section of New Milford, two miles downstream. The river tracks the Route 202 corridor through wooded residential and farmlands, collecting several feeder streams on its way south. Below Mount Tom, the river turns southwest, crossing through the 205-acre Pratt Nature Center, Paper Mill Road, and Wellsville Avenue for most of its way to the confluence with the West Aspetuck River, before emptying into the Housatonic River. The 1.7-mile-long **Baldwin Brook** and **Levenworth Brook**, together with nearly 7 miles of unknown named tributaries, deliver colder water to the East Aspetuck and support flow in the summer months when releases from Lake Waramaug decrease. Although the Waramaug Dam releases warm water to the river, the generally wooded terrain through which the river flows plus the contribution of these tributaries serve to cool the river, creating a habitat to support trout stocking. CT DEEP has designated the East Aspetuck River a Class 3 Wild Trout Management Area and is one of two streams in New Milford stocked by CT DEEP.

In 2019, a ten-year project to remove the Old Paper Mill Dam in New Milford was completed, making the river free flowing for its entire length. This gives fish free passage and, by eliminating the dam pool, which caused water temperatures to rise, helps protect the cold-water habitat. Removing the 1855 dam was funded by the U.S. Fish and Wildlife Service as part of the compensation fund General Electric had to establish to remedy its release of PCBs into the Housatonic River.

The town of New Milford maintains two parks along the river: Carlson's Grove, a picturesque 16-acre property with a playground, pavilion, athletic field, and grills; and Chappuis Park, a 1.5-acre meadow.

Lakes and Ponds

G.J. Keefe Dam Pond is a 2.37-acre spring fed waterbody sitting on private and town land. The pond empties into the small Leavenworth Brook that flows along and under route 202 where it is dammed by Hickory Dam creating a .73-acre pond on private property. Outflow from the dam travels through residential wooded properties before reaching the East Aspetuck.

Though not counted in the GIS data, **Bostwick Pond** is .57-acre spring fed pond along route 202 with class A surface water. It is popular for ice skating in the winter and fishing in the warm months. Edwin Northrop Bostwick reportedly dug the pond by hand for ice harvesting for his family and friends in 1880. The pond sits on land now owned by the Canterbury School and is sometimes referred to by residents as the "Canterbury Pond."

Outlet Shepaug River Watershed

Streams and Rivers

The only watershed in New Milford that does not flow directly to the Housatonic River, as the name suggests, this watershed feeds the Shepaug River which in turn flows to the Housatonic River. There are more than 10 miles of unnamed streams and brooks in this

watershed. About one mile of **Walker Brook**, an important cold-water tributary of the Shepaug River, flows through New Milford. **Second Hill Brook** has its origins in New Milford, at 1.3-acre Mine Pond, and flows for a little more than half of a mile in New Milford, then on to Roxbury where it joins Hop Brook before reaching the Shepaug River.

Limekiln Brook Watershed

Streams and Rivers

The highly compromised Limekiln Brook watershed consists of more than 13 miles of rivers and streams, including three miles of the Housatonic River and nearly five miles of unknown named streams. The longest river in this watershed, **Still River**, begins along the New York border and flows east to Danbury then north through Brookfield, where it enters New Milford and meanders northward for almost four miles through the low-gradient, wide plain of Housatonic Valley. It flows along the heavily developed Route 202 corridor and through the 150-acre Candlewood Valley Country Club golf course before entering the

Housatonic River upstream of Lovers-Leap. The Still River is the most polluted tributary of the Housatonic watershed, the consequence of decades of pollution from industrial discharge, urban and stormwater runoff, failing septic systems, oil and grease from automobiles, livestock manure and fertilizer, landfills, remediation sites and sediment from construction sites. Pollutants include mercury nitrate, bacteria, PCBs, litter, debris. HVA leads and coordinates several remediation and restoration initiatives on the Still River, including a watershed management plan for the entire 85 square mile drainage basin. Within New Milford, a large portion of the river corridor has been protected from further development, but much work is needed to make the Still River safe for recreation, fish and other wildlife habitat, and fish consumption. During the summer of 2020, volunteers with the Connecticut Invasive Plant Working Group and Friends of the Lake (Lilinonah) contributed time on the Still River removing water chestnut, a rooted, floating aquatic invasive plant.

At just under a mile and half long, the compromised **McMahon Brook** is a seasonal stream emanating from springs and wetlands on the Sunny Valley plain, on land owned by Waste Management and The Nature Conservancy. Collecting water from Laurentian-Acadian wet meadow-shrub swamp land, located behind the Stop & Shop supermarket, the brook's path continues southward passing through Willow Springs, a residential condominium development. From Willow Springs, McMahon Brook skirts an industrial-construction lot before flowing east and under Route 202 through O&G Industries property and emptying into the Housatonic River above the confluence with the Still River. For much of its length, CT DEEP has classified McMahon Brook for much of its length as a Class 2 (minimally altered) or Class 3 (moderately altered) waterway.

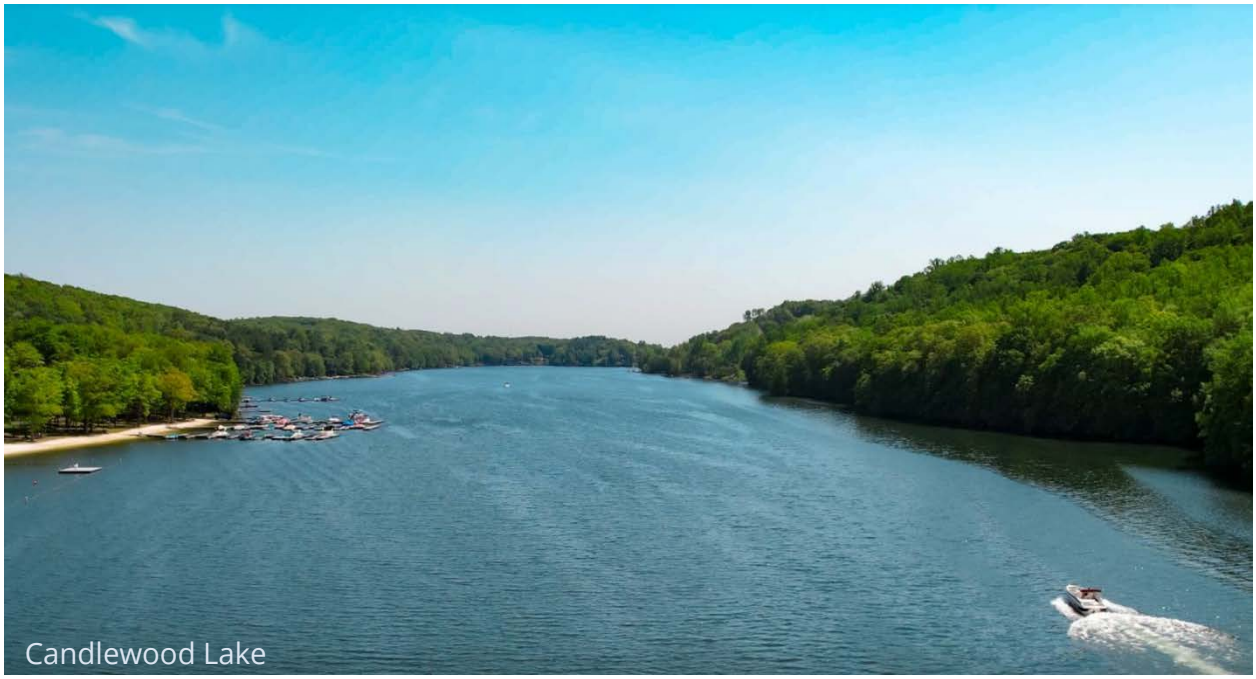
Lakes and Ponds

What appear on maps as **Kenwood Lake** and **Lodge Pond** are two small ponds engulfed and severely compromised by a residential condominium development called Willow Springs. Maps and GIS data indicate Kenwood Lake is more than 3 acres in size, and Lodge Pond just under half an acre, however this data does not reflect the current condition and size of these two waterbodies.

Candlewood Lake Watershed & Furnace Brook Watershed

Streams and Rivers

The two remaining watersheds in New Milford, Candlewood Lake and Furnace Brook, are relatively modest in size. The Candlewood Lake watershed consists of less than a mile of streams which, as the name suggests, supply Candlewood Lake (see below). The only named brook in this watershed, **Mann Brook,** begins in New Milford's Southwest corner on the Candlewood Lake Club property, flows southward for two tenths of a mile and crosses into Brookfield, running through permanently protected land before emptying into the lake. Nestled along the New Milford's northwest boundary, the Furnace Brook watershed contains less than two tenths of a mile of waterway.



Candlewood Lake

Lakes and Ponds

Candlewood Lake is in its namesake watershed. Manmade, it is New Milford's largest body of water and Connecticut's largest lake. It comprises a total area of 8.4 square miles, of which 917 acres (about 1.5 square miles) is in New Milford. Named for New Milford's Candlewood Mountain, so named for the groves of Pine trees whose sapling branches were once used as candles, the Lake is 11 miles long and two miles wide at its widest point and reaches a maximum depth of 90 feet with an average depth of 40 feet. The Lake stores

approximately 206 thousand cubic meters of water. Today the lake is an important resource for recreation and considered part of New Milford's open space inventory.

The lake is also a resource for power generation. The lake was formed in 1928 with CL&P's construction of a hydroelectric dam below the confluence of the Rocky River with the Housatonic River in New Milford. This was the first pumped storage station for hydroelectric power in the U.S. which allows the power generated to be stored. The power generation operations are often explained by describing the lake as "a giant battery". The lake receives water from both the Rocky River watershed and from water that is pumped from the Housatonic River at a pumping station in New Milford. During periods of low power demand, typically in the spring and overnight hours, water is pumped up a hillside and stored in the lake. During periods of high-power demand, water is gravity-fed back down to the river, flowing through three large turbines at the Rocky River power station, generating up to 29 megawatts of electricity. CL&P sold the lake and power plant in 2006 to FirstLight Power Resources.

Candlewood Lake is a popular destination for recreational pursuits like swimming, fishing, and boating. Along its approximately 60-mile shoreline are tourist resorts and recreational facilities, including golf courses, beaches, and marinas. There are more than a thousand full-time and seasonal homes along and near its shoreline. These homes have private wells and septic systems on land which is deemed by the CT DEEP to be marginally suited for on-site sewage treatment, thus necessitating careful management and monitoring of the watershed.

The Candlewood Lake Authority (CLA) (https://www.candlewoodlakeauthority.org/) was formed in 1972 to provide lake, shoreline and watershed management of Candlewood Lake. CLA conducts several activities aimed at protecting the lake and preserving undeveloped land along its shores.

Eurasian Water Milfoil has been a problem for Candlewood Lake since the 1970's. The customary method for controlling it by drawing down the water level twice a year has become less effective over time. In 2015 the CLA began a sterile grass carp stocking program to help control this invasive aquatic plant. The Lake is also threatened by other invasive species, including zebra mussels, which were discovered in the lake in 2020. In addition, under certain conditions, blue-green algae can become concentrated or near the surface, producing what is commonly known as an algae bloom. New Milford's Department of Parks & Recreation maintains the town-owned Lynn Deming Park, a public beach and park located on the New Milford Bay of the lake accessed by Candlewood Lake Road North.

The Zebra Mussel – an Aquatic Invasive Species in CT

The zebra mussel (Dreissena polymorpha) is one of several highly damaging invasives found in Connecticut lakes and reservoirs. Populations can exceed 100,000 individuals per square meter. They impair recreational use of inland waters, adversely alter aquatic food webs by filtering out much of the natural microscopic food substances (e.g., plankton and organic detritus), depriving forage fish of food as well as game fish that feed on the forage fish. Ironically, the efficiency of zebra mussels in filtering water has resulted in increased water clarity in some lakes, which might seem to be a positive at least for recreational purposes. But the clarity also means that more sunlight penetrates the water leading to an abundance of undesirable aquatic plant growth on the lake bottom.

In Candlewood Lake, for example, zebra mussels may contribute to the domination of non-native, invasive Eurasian watermilfoil (Myriophyllum spicatum), which leads to additional impairments in the lake. There is also evidence that zebra mussels selectively reject certain toxin-producing cyanobacteria (aka blue-green algae) while filter feeding, thereby promoting harmful algal blooms on the lake's surface.

Unlike other freshwater mollusks that live in lake sediments, adult zebra mussels live attached to hard substrates, e.g., rocks, docks, boat hulls, and other shelled aquatic animals. Under optimal growing conditions, they can also grow attached to each other forming a dense layer.

Zebra mussels were first observed in the United States in the late 1980s in Lake St. Claire, MI and in the Great Lakes introduced presumably by cargo ships engaged in international trade. By 2010, small colonies were found in Lakes Lillinonah and Zoar, two impounded sections of the Housatonic River. By the spring of 2020, the first zebra mussel was discovered in Candlewood Lake. Nine months later during the winter drawdown of the lake, over 70 individual mussels were found at scattered locations along the lake shore.

Once zebra mussels are established, eradication is very difficult. After mussels spawn, the larval stages remain free-swimming for several weeks which can result in widespread distribution before colonies settle on hard surfaces. Understanding the behavior of the zebra mussel at this early stage can aid in locating and removing small colonies, but once colonies are ubiquitous in the system there is no effective strategy for ridding the lake of these invaders. Currently, all vessels launching in Candlewood Lake must undergo strict inspection of their hulls before entering the water.

BY Larry Marsicano, a freshwater ecologist, a Principal Partner at Aquatic Ecosystem Research (AER) LLC, and the former Executive Director of the Candlewood Lake Authority (2013 -2017). For more information on zebra mussels in Candlewood Lake, visit the Candlewood Lake Authority website at www.candlewoodlakeauthority.org.

Lake Lillinonah Watershed

Streams and Rivers

The Lake Lillinonah watershed contains just over seven miles of waterways, four miles of which consists of the **Town Farm Brook** and the balance being attributed to unnamed streams. Dammed to create **New Milford Reservoir # 4** (see below in Lakes and Ponds), Town Farm Brook begins from springs on protected land along the Second Hill range to the east flowing into the reservoir. Exiting the dam, Town Brook cuts its path southward until it empties into Lake Lillinonah at Lovers Leap State Park.

Lakes and Ponds

Lake Lillinonah is the second largest lake in Connecticut and was formed by the impoundment of the Housatonic River by the Shepaug Dam in Southbury. In 1955, steep canyon land was flooded to form Lake Lillinonah and was built by CL&P for hydroelectricity. From the dam the lake extends about 12 miles north to Lovers-Leap in New Milford, the official boundary of where the Housatonic River ends (temporarily) and the lake begins. The lake covers approximately 1,900 acres, has 45 miles of shoreline and a maximum water depth of 110 feet. The Lake Lillinonah Authority (LLA), which is funded by the riparian towns including New Milford, focuses on overseeing the environmental, safety and recreational needs of the Lake. A non-governmental organization called Friends of the Lake was formed in 2003 to improve recreation, water quality to the standards set forth in the Clean Water Act, and for long term environmental protection of the Lake. Zebra mussels and the invasive aquatic water chestnut plant, *Trapa natans,* has been found in the Lake. The Lake is the winter roost to as many as 40 Bald Eagles which feed on the abundant fish available in the tailrace below the Shepaug Dam. The lake ranks as one of Connecticut's premier fishing lakes with excellent Bass fishing. The Connecticut state record for Northern Pike was caught in Lake Lillinonah. Lake Lillinonah ranks first in the state for bass growth rates and among the highest in the state for bass population densities (LLA). In New Milford there are several public access points to Lake Lillinonah. Lovers Leap State Park is a 160-acre park reaching both sides of the lake and offers hiking trails with scenic vistas and historic ruins.

New Milford Reservoir #4 (Pond) is located on approximately 170 acres along Second Hill Road, owned by the Town of New Milford, open to the public for fishing and non-motorized boating and includes a 1.2-mile walking trail. The pond was formed by the damming of Town Farm Brook to store drinking water. United Water ceased using the reservoirs to supply water in the 1980's when the company switched to the aquifer system. United Water applied to the CT Department of Health Services to de-classify the reservoirs as a public drinking source. Despite resistance from the town which feared potential

contamination of the aquifers, the state declassified Reservoir # 4 in 1993. United put the land, consisting of 170 acres, up for sale, proposing to build a golf course on half the land and develop housing on the other. Given its right of first refusal, the town purchased the property from United Water in 2005 for $1.94 million, with financial assistance from the Weantinoge Heritage Land Trust, private donors and state and federal funding through the state's Open Space and Watershed Land Acquisition (OSWA) Grant Program A volunteer-based organization, Friends of the Reservoir, works to protect the property.

A River of Special Importance

The Housatonic River

The Housatonic River, integral to New Milford's identity, runs the entire length of the town, forming its northwest and southeast borders, and as mentioned above, is fed by all eight of the town's watersheds.

Housatonic River

Housatonic River: Fishing off canoe and kayak launch

Recreation

In recent years, the Housatonic has become a prime attraction for tourism and recreation. Along its east shore, the 43-acre Sega Meadows Park includes hiking trails, bike paths, and picnic tables. Addis Park, upstream from Lovers Leap Park, is a picnic area and boat launch also on the east shore. The river, from the Bull's Bridge appointment dam in Kent to the Route 7 bridge in Gaylordsville, New Milford supports trout fishing. CT DEEP Trout Management stocks this section with more than 8000 trout annually

This increased usage of the river is noteworthy as it indicates a positive change in the health of the river. From 1932 to 1977, the river received polychlorinated biphenyls (PCB) pollution discharged from the General Electric (GE) plant located upstream in Pittsfield, MA. The PCBs, toxic to fish and to humans, contaminated river sediment in the first few miles downstream from Pittsfield, as well as down the entire length of the river.

Under powers granted to the federal government by the Resource Conservation and Recovery Act (RCRA), among several legal remedies, GE agreed to spend c. $200 million on remediation, most of it in the first two miles of the Pittsfield plant. They also agreed to pay an additional $21 million in cash and project work to restore, replace or acquire the

equivalent of injured natural resources in lower portions of the river. Extensive removal of PCBs has proved difficult, despite nearly two decades of study and effort. Public health advisories regarding the consumption of fish caught in the river continue in effect as many environmental groups, including the Connecticut and Massachusetts DEPs, the Housatonic Valley Association, the Housatonic River Commission, and the federal EPA work together to monitor the on-going clean-up.

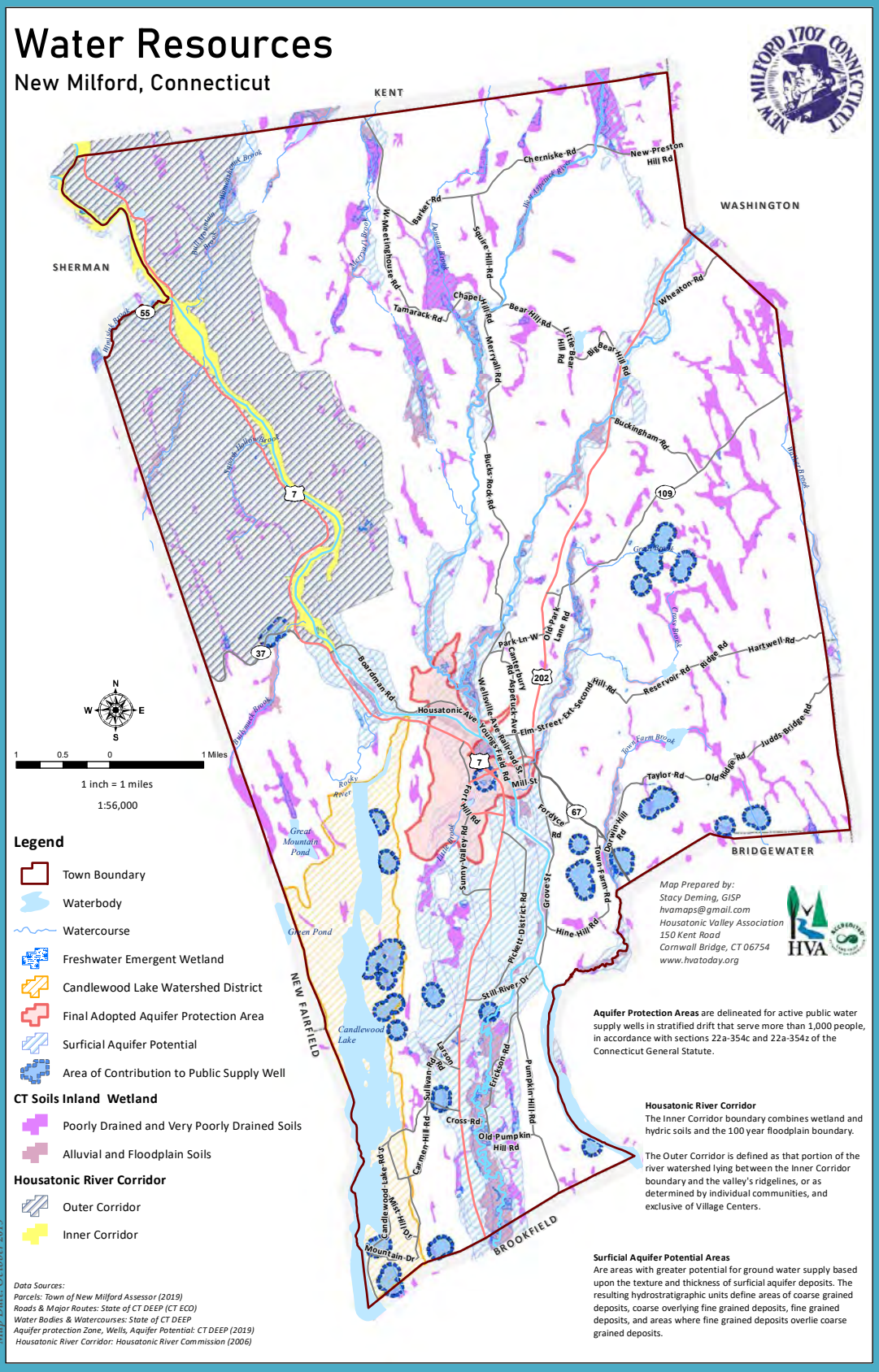
Hydropower


Housatonic River

The Housatonic also provides hydropower, a valuable resource. The first hydroelectric station was built along the Housatonic River between 1902 and 1904 by the New Milford Electric Company, the first hydroelectric plant in Connecticut and one of the earliest in the nation. Power is generated as the canal diverts water from the river just north of the narrow, rocky gorge below Bull's Falls to carry it around to the power station downstream near the Kent/Gaylordsville line. The water then drops 115 feet through a penstock (large pipe) to drive six 1,400-kilowatt turbine generators before returning to the natural riverbed. Along with five other hydroelectric stations on the Housatonic that have been added since, the Bull's Bridge Station is hooked into a transmission grid that is part of the New England Power Exchange. The hydro stations have gone through a series of ownership changes. For decades they were owned by Connecticut Light & Power (CL&P), a subsidiary of Northeast Utilities. In the 1990s deregulation forced the division of electrical generation and transmission services and the generating stations were sold first to Northeast Generation Company, then in 2007 to FirstLight Power Resources. and at the end of 2008 were sold once again, this time to a French multinational, GDF Suez North America. Following GDF, H20 Canada was the parent company. As of 2021, these resources are independently managed and controlled by FirstLight Power, a diversified clean energy provider serving all of New England.

Water Resources

New Milford, Connecticut



Legend

- Town Boundary
- Waterbody
- Watercourse
- Freshwater Emergent Wetland
- Candlewood Lake Watershed District
- Final Adopted Aquifer Protection Area
- Surficial Aquifer Potential
- Area of Contribution to Public Supply Well

CT Soils Inland Wetland

- Poorly Drained and Very Poorly Drained Soils
- Alluvial and Floodplain Soils

Housatonic River Corridor

- Outer Corridor
- Inner Corridor

Data Sources:
Parcels: Town of New Milford Assessor (2019)
Roads & Major Routes: State of CT DEEP (CT ECO)
Water Bodies & Watercourses: State of CT DEEP
Aquifer protection Zone, Wells, Aquifer Potential: CT DEEP (2019)
Housatonic River Corridor: Housatonic River Commission (2006)

Map Date: October 2019

Map Prepared by:
Stacy Deming, GISP
hvamaps@gmail.com
Housatonic Valley Association
150 Kent Road
Cornwall Bridge, CT 06754
www.hvatoday.org

Aquifer Protection Areas are delineated for active public water supply wells in stratified drift that serve more than 1,000 people, in accordance with sections 22a-354c and 22a-354z of the Connecticut General Statute.

Housatonic River Corridor
The Inner Corridor boundary combines wetland and hydric soils and the 100 year floodplain boundary.

The Outer Corridor is defined as that portion of the river watershed lying between the Inner Corridor boundary and the valley's ridgelines, or as determined by individual communities, and exclusive of Village Centers.

Surficial Aquifer Potential Areas
Are areas with greater potential for ground water supply based upon the texture and thickness of surficial aquifer deposits. The resulting hydrostratigraphic units define areas of coarse grained deposits, coarse overlying fine grained deposits, fine grained deposits, and areas where fine grained deposits overlie coarse grained deposits.

Wetlands - Marshes, Swamps, Wet Meadows, Bogs, and Vernal Pools

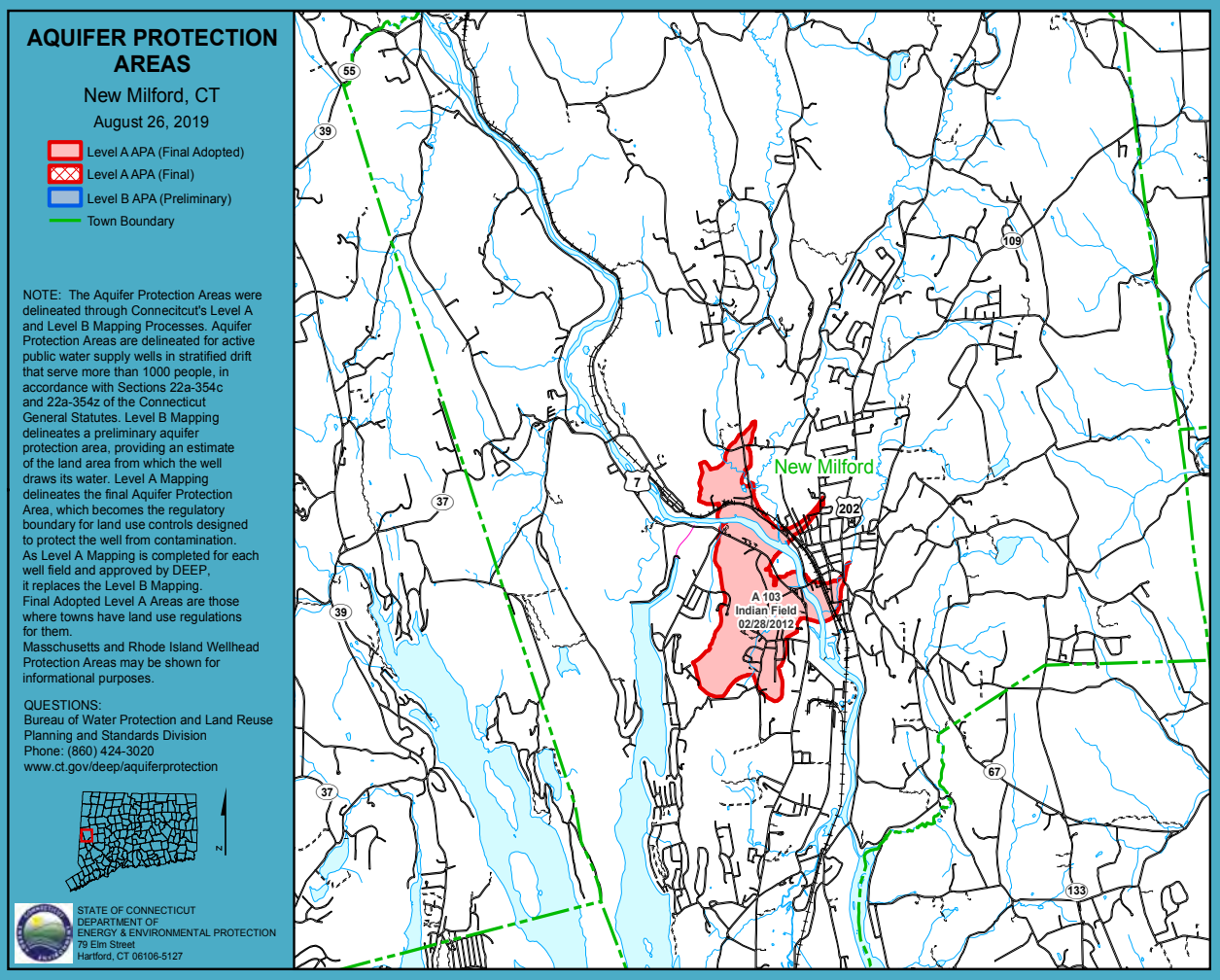
- Marshes feature shallow water and aquatic vegetations such as cattail, arrowhead, pickerelweed, reeds and a variety of grasses, sedges, and shallow peat deposits.
- A swamp is a wetland dominated by trees and shrubs and is typically wet throughout the year. Tamarack Swamp and Quipy Swamp are two of New Milford's swamps.
- A wet meadow is a land area that is not as wet as a swamp or marsh that may have standing water through a portion of the year and features waterlogged soil, grasses, sedges, rushes, and other vegetation.
- A vernal pool is an ephemeral wetland that typically does not have standing water during the summer months. Water accumulates in forested depressions with snowmelt and/or rainwater. Generally, vernal pools, are of shallow depth and size. Fish are not found in vernal pools, but they do provide important habitat to certain animals such as wood frogs, fairy shrimp, and several types of salamanders.

Ground Water and Aquifers

The term Ground Water describes all the water that seeps downward through the soil from watersheds to be stored naturally in an underground aquifer. Like surface water, described in the above sections, ground water is also subject to pollution, though wetlands and forestlands do provide a measure of mitigation as the precipitation and any contaminants pass through them.

New Milford has identified major aquifers beneath Indian Field and Peagler Hill, each well-field having three wells that pump water to provide the town's municipal water supply.

In 2012, New Milford adopted aquifer protection regulations and created mapping of Aquifer Protection Areas. The New Milford Aquifer Protection Area includes heavy commercial uses, including gas stations, making regulation of this area important for protecting the New Milford's major public water supply. Aquarion Water Company serves as New Milford's major water supply partner.


AQUIFER PROTECTION AREAS
New Milford, CT
August 26, 2019
Level A APA (Final Adopted)
Level A APA (Final)
Level B APA (Preliminary)
Town Boundary
NOTE: The Aquifer Protection Areas were delineated through Connecitcut's Level A and Level B Mapping Processes. Aquifer Protection Areas are delineated for active public water supply wells in stratified drift that serve more than 1000 people, in accordance with Sections 22a-354c and 22a-354z of the Connecticut General Statutes. Level B Mapping delineates a preliminary aquifer protection area, providing an estimate of the land area from which the well draws its water. Level A Mapping delineates the final Aquifer Protection Area, which becomes the regulatory boundary for land use controls designed to protect the well from contamination. As Level A Mapping is completed for each well field and approved by DEEP, it replaces the Level B Mapping. Final Adopted Level A Areas are those where towns have land use regulations for them. Masschusetts and Rhode Island Wellhead Protection Areas may be shown for informational purposes.
QUESTIONS:
Bureau of Water Protection and Land Reuse
Planning and Standards Division
Phone: (860) 424-3020
www.ct.gov/deep/aquiferprotection
STATE OF CONNECTICUT
DEPARTMENT OF
ENERGY & ENVIRONMENTAL PROTECTION
79 Elm Street
Hartford, CT 06106-5127
New Milford
A 103
Indian Field
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202
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133

Photo by Christine Young

chapter four
NATIVE AND INVASIVE PLANTS
FLORA

Native and Invasive Plants (Flora)

Introduction


Riparian corridor along New Milord's Great Brook

Much of New Milford's natural environment is composed of mixed hardwood forest. Such forests are composed of four strata (layers) of vegetation. The top stratum is composed of canopy trees, often predominantly oaks and hickories in drier soil and maples, birch, and beech in moister soil; there are also scattered individuals or clusters of conifer trees at higher elevations. Below the canopy trees are shorter understory trees such as willow, poplar, dogwood, and witch hazel. Below the understory trees is a layer of woody shrubs and below the woody shrub layer is layer of herbaceous vegetation, containing both annuals and perennials such as ferns and grasses. The exact species composition of each layer will vary due to local conditions such as of moisture, temperature, elevation, shade, levels.

New Milford is also home to several **wetland** environments with numerous plant species due to our miles of streams and many lakes and ponds. These may include swamps, wetlands dominated by woody plants, and marshes, wetlands characterized by soft-stemmed, herbaceous, grassy plants.

Plantscape

Riparian Corridors and Buffers

Given the breadth of New Milford's aquatic network, there are miles of **Riparian Corridors**--land that lies next to bodies of water and serves as a buffer between the water and dry land--that run throughout the town. Riparian Corridors are unique plant communities that protect the water's bank from erosion. Riparian, from Latin means riverbank. Riparian

areas in nature are generally wetlands, but as you move away from the water, these riparian corridors and their plantscape change from wetlands to uplands as the riverbank or slope of the land from the waterbody becomes steeper.

The vegetation that grows in a riparian area, below the upland, protects the shoreline and stream bank because the roots and stems of streamside or shoreline vegetation help stabilize banks by binding and shielding the soil and by reducing the strength of flowing water.

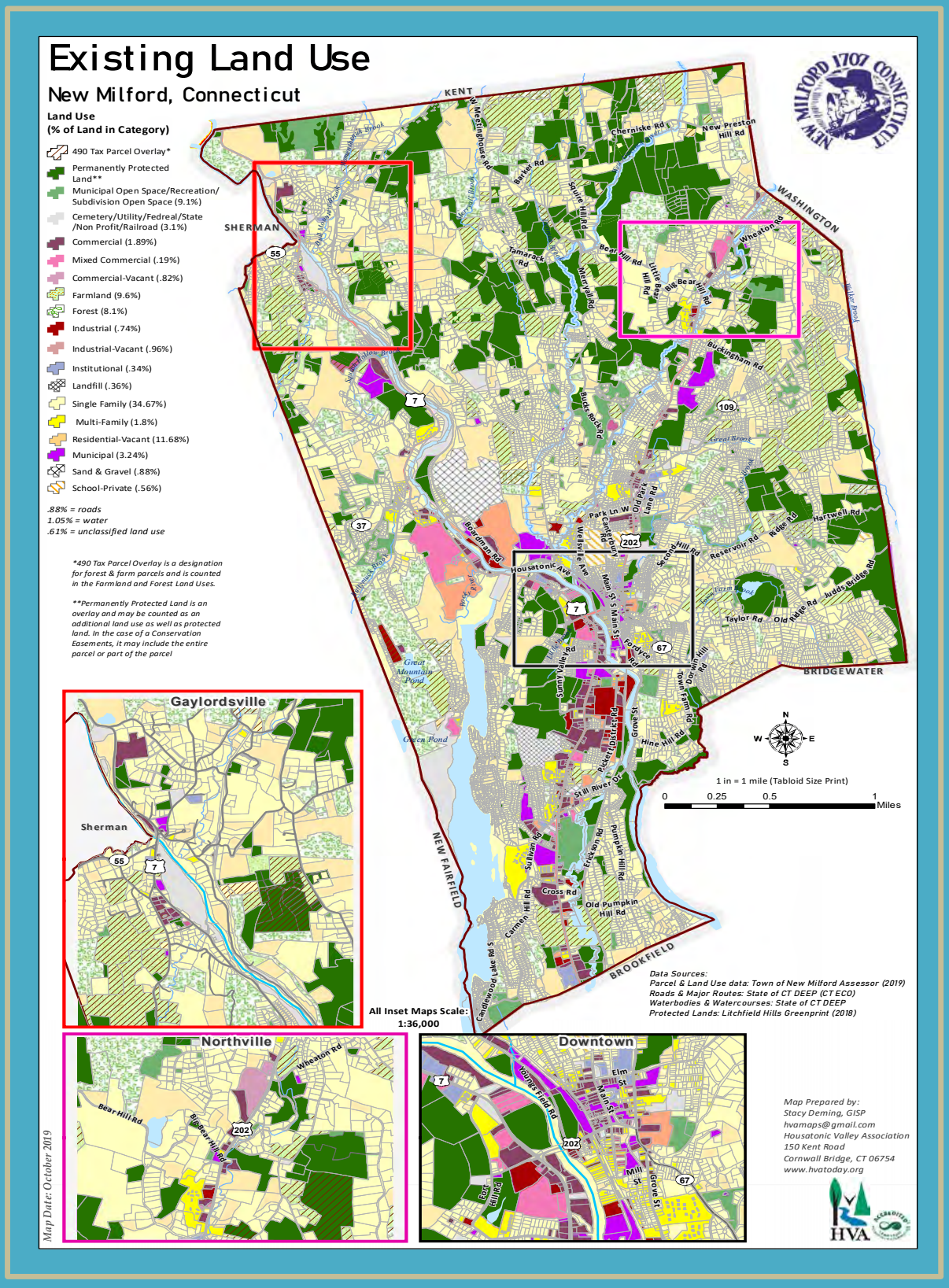
"Riparian buffers provide a green edge along our blue water." NRCS.USDA.gov
A **riparian buffer** is a man-made, special type of preserved area along a watercourse where development is restricted or prohibited. Buffers protect and physically separate a watercourse from development. Riparian buffers also provide stormwater control, flood storage and habitat values. The best riparian buffers are supposed to be sized to include the 100-year floodplain—areas where there's a 1% probability of a significant flood in any given year-- as well as to protect steep banks and freshwater wetlands.

Native tree and shrub species that thrive in riparian areas also provide substantial benefits to streams. Individual tree roots become stronger as they become larger depending on the species of tree. Poplar roots are the strongest, followed by birch, oak, linden, and spruce.

UPLAND defined

Any portion of land within 200 feet of the ordinary high waterline of Candlewood Lake, the east or west branch of the Aspetuck River, the Still River, the Housatonic River, or watercourses within the West Aspetuck River watershed, within 100 feet of the ordinary high waterline of any other watercourse, or within 100 feet of any wetlands, whichever is greater.

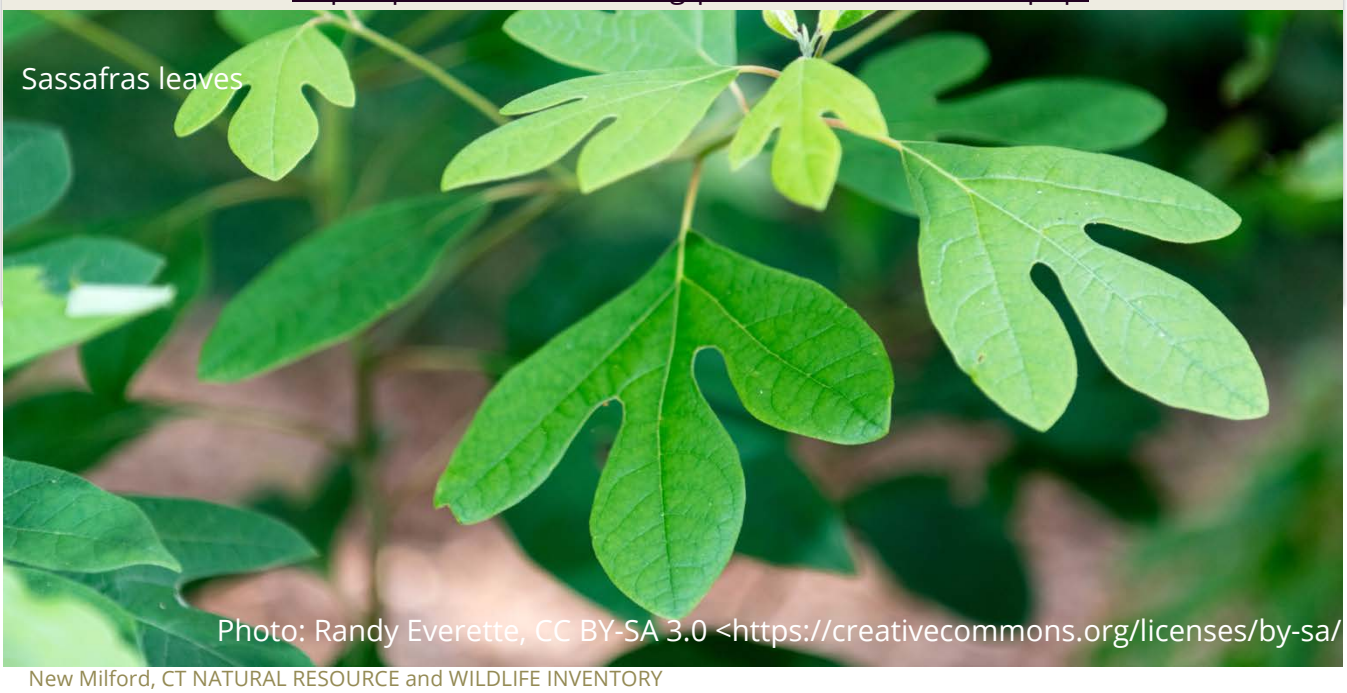
Source: New Milford Inland Wetlands and Watercourse Regulations - https://ecode360.com/13615327


Existing Land Use
New Milford, Connecticut
Land Use
(% of Land in Category)
490 Tax Parcel Overlay*
Permanently Protected Land**
Municipal Open Space/Recreation/ Subdivision Open Space (9.1%)
Cemetery/Utility/Fedreal/State /Non Profit/Railroad (3.1%)
Commercial (1.89%)
Mixed Commercial (.19%)
Commercial-Vacant (.82%)
Farmland (9.6%)
Forest (8.1%)
Industrial (.74%)
Industrial-Vacant (.96%)
Institutional (.34%)
Landfill (.36%)
Single Family (34.67%)
Multi-Family (1.8%)
Residential-Vacant (11.68%)
Municipal (3.24%)
Sand & Gravel (.88%)
School-Private (.56%)
.88% = roads
1.05% = water
.61% = unclassified land use
*490 Tax Parcel Overlay is a designation for forest & farm parcels and is counted in the Farmland and Forest Land Uses.
**Permanently Protected Land is an overlay and may be counted as an additional land use as well as protected land. In the case of a Conservation Easements, it may include the entire parcel or part of the parcel
KENT
SHERMAN
WASHINGTON
BRIDGEWATER
NEW FAIRFIELD
BROOKFIELD
Gaylordsville
Sherman
Northville
Downtown
All Inset Maps Scale: 1:36,000
1 in = 1 mile (Tabloid Size Print)
0 0.25 0.5 1 Miles
Data Sources:
Parcel & Land Use data: Town of New Milford Assessor (2019)
Roads & Major Routes: State of CT DEEP (CT ECO)
Waterbodies & Watercourses: State of CT DEEP
Protected Lands: Litchfield Hills Greenprint (2018)
Map Prepared by:
Stacy Deming, GISP
hvamaps@gmail.com
Housatonic Valley Association
150 Kent Road
Cornwall Bridge, CT 06754
www.hvatoday.org
Map Date: October 2019

TREES FOUND IN NEW MILFORD

White Ash, Fraxinus americana
White Ash, Fraxinus Americana
Basswood, Tilia americana
American Beech, Fagus grandifolia
Black Birch, Betula lenta
Gray Birch, Betula populifolia
Paper Birch, Betula papyrifera
Yellow Birch, Betula alleghaniensis
Eastern Red Cedar, Juniperus virginiana
Black Cherry, Prunus serotine
Eastern Cottonwood, Populus deltoides
Slippery Elm, Ulmus rubra
Eastern Hemlock, Tsuga Canadensis
Pignut Hickory, Caryaglabra
Mockernut Hickory, Carya tomentosa
Shagbark Hickory, Carya ovata
American Hornbeam, Carpinus caroliniana
Eastern Hornbeam, Ostrya virginiana
Black Locust, Robinia pseudoacacia
Honey Locust, Gleditsia triacanthos
Boxelder Maple, Acer negundo
Red (swamp) Maple, Acer rubrum
Silver Maple, Acer saccharinum
Sugar Maple, Acer saccharum
Black Oak, Quercus velutina
Chestnut Oak, Quercus prinus
Red Oak, Quercus rubra
Scarlet Oak, Quercus ilicifolia
White Oak, Quercus alba
Eastern white Pine, Pinus strobus
Pitch Pine, Pinus rigida
Sassafras, Sassafras albidum
Black Spruce, Picea mariana
American Sycamore, Platanus occidentalis
(Eastern Larch), Tamarack, Larix laricina
Tulip, Liriodendron tulipifera
Black Tupelo, Nyssa sylvatica
Eastern black, Walnut, Juglans nigra
Weeping Willow, Salix babylonica

Source: David Beers, Service Forester Western District CT DEEP
and https://portal.neherbaria.org/portal/collections/index.php.



Sassafras leaves

Photo: Randy Everette, CC BY-SA 3.0 <https://creativecommons.org/licenses/by-sa/

SHRUBS Found in New Milford

Smooth Alder, Alnus serrulata

Speckled Alder, Alnus incana

Northern Arrow-wood, Viburnum recognitum

Azalea, Rhododendron spp.

Highbush Blueberry, Vaccinium corymbosum

Large Cranberry, Vaccinium macrocarpon

Flowering Dogwood, Cornus Florida

Grey Dogwood, Cornus racemose

Silky Dogwood, Cornus amomum

Black Huckleberry, Gaylussacia baccata

Sweet Pepperbush, Clethra alnifolia

Steeplebush Spirea, Spiraea tomentosa

Poison sumac, Rhus vernix

Labrador Tea, Ledum groenlandicum

Linden Viburnum, Viburnum dilatatum

Mapleleaf Viburnum, Viburnum acerifolium

Common Winterberry, Ilex verticilata

American Witch-hazel, Hamamelis virginiana

Photo by Christine Young

NATIVE PLANTS

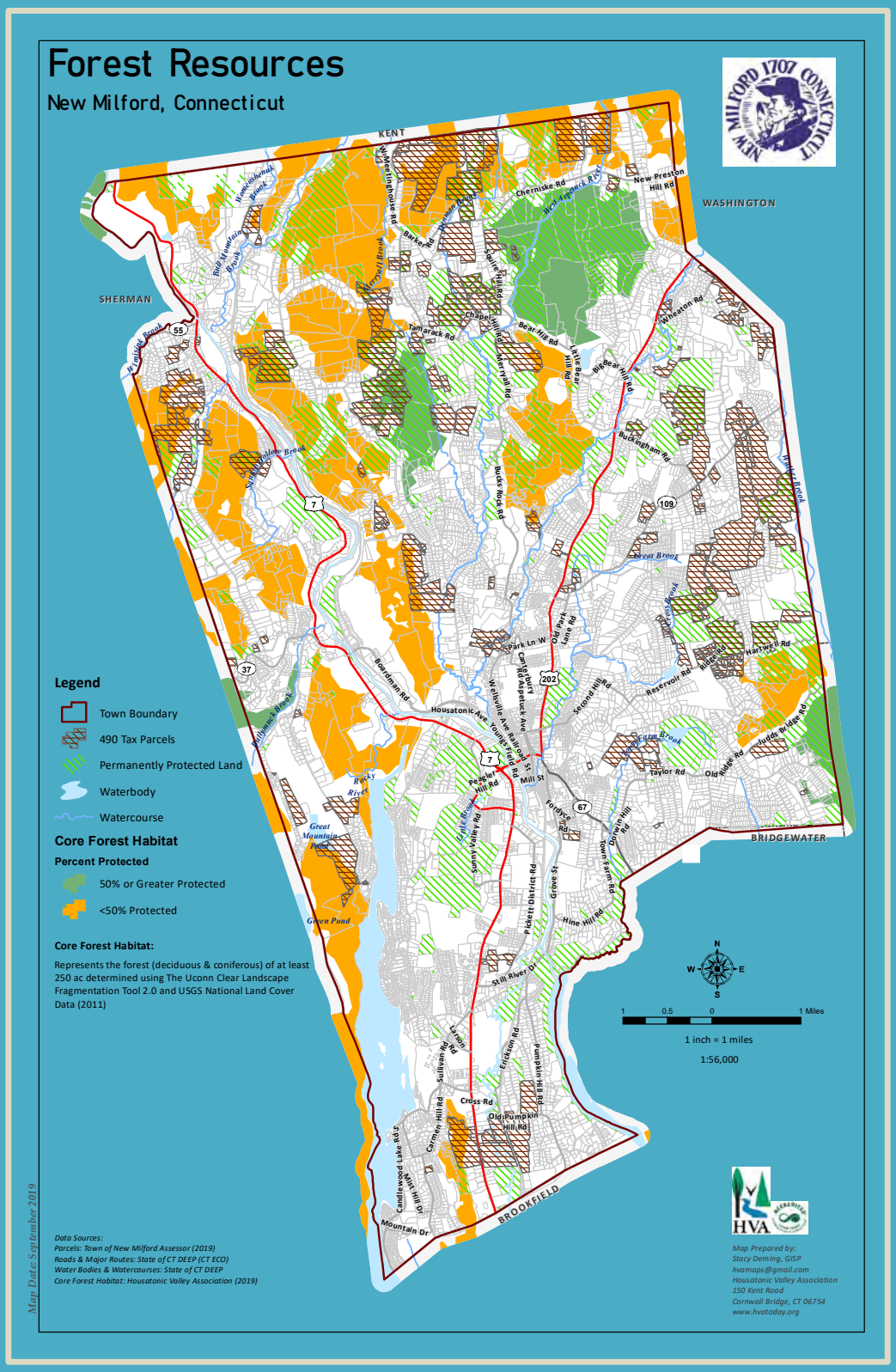
As lists of native plants specific to New Milford (and the general area) are ever-changing due to loss of habitat, invasive plant threats, and other conditions, to ensure the accuracy of these lists, the Town Commissions and Departments (including, Inland Wetlands, Tree Warden, Planning and Zoning) use The Native and Naturalized Vascular Plant List of Connecticut, to determine which species are native when evaluating planting plans.

This comprehensive master list, created by the Connecticut Botanical Society, documents all vascular plants—plants that include grasses, flowering plants, ferns as well as trees and shrubs and have a system of veins that conduct water and other nutrients throughout the plant—growing in the state of CT and, importantly, includes the following species-specific identifiers:

(*) indicates not native to CT
(I) indicates INVASIVE or potentially invasive, non-native
(E) designated ENDANGERED
(T) designated THREATENED
(SC) designated species of SPECIAL CONCERN (ie, may need proactive attention)
(SCH) designated as special concern, considered to be locally extinct (H, Historic)

It is for these reasons that New Milford's NRWI includes this resource
Vascular Plants of Connecticut Checklist (homepage)

Vascular Plants of Connecticut Checklist (electronic/downloadable versions)


Forest Resources
New Milford, Connecticut
KENT
WASHINGTON
SHERMAN
BRIDGEWATER
BROOKFIELD
Legend
Town Boundary
490 Tax Parcels
Permanently Protected Land
Waterbody
Watercourse
Core Forest Habitat
Percent Protected
50% or Greater Protected
<50% Protected
Core Forest Habitat:
Represents the forest (deciduous & coniferous) of at least 250 ac determined using The Uconn Clear Landscape Fragmentation Tool 2.0 and USGS National Land Cover Data (2011)
1 inch = 1 miles
1:56,000
Data Sources:
Parcels: Town of New Milford Assessor (2019)
Roads & Major Routes: State of CT DEEP (CT ECO)
Water Bodies & Watercourses: State of CT DEEP
Core Forest Habitat: Housatonic Valley Association (2019)
Map Date: September 2019
Map Prepared by:
Stacy Deming, GISP
hvamaps@gmail.com
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150 Kent Road
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Invasive Plants

Invasive plants can be a major threat to habitats in New Milford. Over the years, a variety of non-native species have been introduced to Connecticut. These species often cause harm to the environment or human health. Invasive plants impact habitats, farms, roadways, create erosion and are expensive to manage if not addressed early on and with long-term planning. Some non-native species exhibit an aggressive growth habit and can out-compete and displace native species. Some Invasive plants grow so quickly they cause undesirable changes in natural areas. They can impair recreation, reduce agricultural production, reduce food for birds and other animals and decrease sunlight for native plants.

When invasive plants are identified, a control strategy is needed. Protecting native species and the habitats in which they occur is an objective of the CT DEEP. To address the issue, the DEEP is taking measures to control and remove invasive species on state land while aiding private landowners seeking to manage invasive species on their properties. Because of the rich diversity of plant species in riparian areas, particularly among wetland plants, it is important to investigate the possible existence of threatened, endangered, or species of special concern. In some areas, flood plain forests are considered a habitat of special concern. Many of these floodplain forests have been lost to agriculture or to urban and suburban development.

The Connecticut Invasive Plant Working Group lists approximately 100 invasive plants species: https://cipwg.uconn.edu/wp-content/uploads/sites/244/2018/12/CT-Invasive-Plant-List-2018Scientific-Name.pdf

INVASIVE PLANTS

Invasive plants are plants that are non-native and can establish on many sites, grow quickly, and spread to the point of disrupting plant communities or ecosystems. It isn't so much the presence of invasive plants but the absence of native plants that is the problem.

Invasive plants arrive in their new home without the checks and balances that kept them in control in their home ecosystem. Some cause actual damage in their new home, perhaps changing the soil chemistry or releasing chemicals that kill other plants, but for the most part, their major impact is from displacing the native plants that are food for native animals, especially insects. We have been slow to appreciate that most insects are specialty feeders, able to eat only one or a few kinds of plants, plants they evolved with over long periods of time. For the most part, insects can't eat the alien plants. As far as food goes, the alien plants might as well be plastic.

We seldom notice the abundance of insects in the world around us. We do not see the 500 different kinds of caterpillars that feed on oak trees. But birds find them - those caterpillars are the primary source of food for baby birds as well as an important source of food for other animals. Fewer native plants, fewer caterpillars, fewer birds. That is just one example. Without the abundance and diversity of native plants there is no abundance and diversity of insects and other animals. Without our native plants, ecosystems are less complex. With fewer checks and balances, ecosystems are less stable. Animals, including ourselves, are dependent on complex stable ecosystems for our very existence.

Kathleen Nelson: New Milford Inland Wetlands Commission; Chair, Invasive Species Advisory Committee, Mad Gardeners, Inc.; Field Supervisor, Mad Gardeners' Mile a Minute Control Project 2007-2013.

Mugwort

Photo: Pixabay

INVASIVE PLANT List

List is in alphabetical order by scientific name (P indicates Potentially invasive)

SCIENTIFIC NAME	COMMON NAME	GROWTH FORM or HABIT	
Acer ginnala	Amur maple (P)	Tree	
Acer platanoides	Norway maple	Tree	*In large patches*
Acer pseudoplatanus	Sycamore maple (P)	Tree	
Aegopodium podagraria	Goutweed/Bishops Weed	Herbaceous	
Ailanthus altissima	Tree of heaven	Tree	*Widespread*
Alliaria petiolata	Garlic Mustard	Herbaceous *widespread*	*Widespread*
Ampelopsis brevipedunculata	Porcelainberry	Woody Vine	
Artemisia vulgaris	Mugwort	Herbaceous widespread/	*Widespread, spreading*
Berberis thunbergia/ Berberis vulgaris	Japanese/common Barberry	Shrub	*Berberis widespread*
Callitriche stagnalis	Pond water-starwort	Aquatic & Wetland	*Occasional*
Cardamine impatiens	Narrowleaf bittercress	Herbaceous	*Widespread*
Celastrus orbiculatus	Asiatic bitterweet	Woody Vine	*Widespread*
Cirsium arvense	Canada thistle (P)	Herbaceous	
Cynanchum louiseae/ Cynanchum rossicum	Swallow-wort	Herbaceous	*Spotty/spreading*
Datura stramonium	Jimsonweed (P)	Herbaceous	
Egeria densa	Brazilian water-weed (P)	Aquatic & Wetland	
Elaeagnus umbellata	Autumn olive	Shrub	*Widespread*
Euonymus alatus	Winged euonymus	Shrub	*Widespread*
Glechoma hederacea	Ground ivy (P)	Herbaceous	*Widespread*
Hesperis matronalis	Dame's rocket	Herbaceous	*Widespread*
Humulus japonicus	Japanese hops (P)	Herbaceous	*Widespread*
Iris pseudacorus	Yellow iris	Aquatic & Wetland	*Spreading*
Ligustrum obtusifolium	Border privet (P)	Shrub	

Ligustrum Ovalifolium	California privet	Shrub	
Ligustrum vulgare	European privet (P)	Shrub	
Lonicera (several alien species)	Honeysuckle	Shrub	*Widespread*
Lychnis flos-cuculi	Ragged robin (P)	Herbaceous	*Widespread*
Lysimachia nummularia	Moneywort (P)	Herbaceous	
Lythrum salicaria	Purple loosestrife	Aquatic & Wetland	*Widespread in specific habitats*
Microstegium vimineum	Japanese stiltgrass	Grass or Grass-like	*Widespread/spreading*
Miscanthus sinensis	Eulalia (P)	Grass or Grass-like	
Myosotis scorpioides	Forget-me-not	Aquatic & Wetland	
Najas minor	Brittle water-nymph (P)	Aquatic & Wetland	
Nasturtium officinale	Watercress (P)	Aquatic & Wetland	
Ornithogalum umbellatum	Star-of-Bethlehem (P)	Herbaceous	
Phalaris arundinacea	Reed canary grass	Grass or Grass-like	
Phragmites australis	Common reed	Grass or Grass-like	*Common in specifc habitats*
Polygonum cuspidatum	Japanese knotweed	Herbaceous	
Polygonum perfoliatum	Mile-a-minute vine	Herbaceous	*Present on scattered properties in a few areas*
Populus alba	White poplar (P)	Tree	
Potamogeton crispus	Curly-leafed pondweed	Aquatic & Wetland	
Ranunculus ficaria	Fig buttercup	Herbaceous	
Rhamnus cathartica	Common buckthorn	Shrub	
Robinia pseudoacacia	Black locust	Tree	
Rosa multiflora	Multiflora rose	Shrub	*Common, widespread*
Rubus phoenicolasius	Wineberry	Shrub	
Rumex acetosella	Sheep sorrel	Herbaceous	
Solanum dulcamara	Bittersweet nightshade (P)	Herbaceous	
Trapa natans	Water chestnut	Aquatic & Wetland	*In Housatonic, Still River, Lake Lillinonah, and at least on former reservoir site*
Tussilago farfara	Coltsfoot	Herbaceous	

The above list of invasive plants found in New Milford is a subset of the official list of plants that have been found to be invasive in the State of Connecticut, https://cipwg.uconn.edu/invasive_plant_list/. This New Milford list is NOT complete. The draft list was prepared by Kathleen Nelson with additions by Robert Gambino, Becky Hrdy and Angela Dimmitt. It consists of plants that these volunteers recall having seen growing outside of cultivation in our town.

Sources for Invasive plant list:

Kathleen Nelson, New Milford Inland Wetlands Commission; Chair, Invasive Species Advisory Committee, Mad Gardeners, Inc.; Field Supervisor, Mad Gardeners' Mile a Minute Control Project 2007-2013.

Robert B. Gambino, B.S. M.S. Horticultural Educator, (Retired) Owner of Northeast Tree, Pond & Turf Service, Inc.

Becky Hrdy, Invasive Plant Atlas of New England (IPANE) *surveyor and*,
CT Natural Diversity Database (NDDB) surveyor

Angela Dimmitt, President Western CT Bird Club, Board Member Connecticut Ornithological Association, Board Member Mad Gardeners LLC. New Milford Inland Wetlands Commission, Advisory Board; The Nature Conservancy-Sunny Valley Preserve, Contributor to Sherman

New Milford's First Pollinator Pathway

In 2021, New Milford's McCarthy Observatory's team of volunteer gardeners joined a nationwide movement to promote the reproduction of native plants and support pollinating insects through what are called Pollinator Pathways. Adopting an existing strip flowerbed known as Galileo's Garden behind New Milford High School, the gardeners followed a basic set of criteria developed in 2009 by Seattle landscaper Sarah Bergmann. Heightened concern about the declining populations of certain bee species was in the news and because as much as 90% of the foods we eat depend on pollinators to flower the potential loss of bees was a matter of real concern. Bergmann's initial goal was to create thousands of new pollination habitats, plant them with the kinds of native materials that offer a healthier habitat for bees and draw other native pollinators such as beetles, ants, hummingbirds, moths, butterflies, and gnats.

Bergmann's first rule is to set up the garden in a place where it connects large but typically fragmented natural areas: a barren strip alongside a building or a road might be such. The second is to plant the garden with predominantly native, hardy/drought-tolerant plants that attract native pollinators. Plant the area densely to attempt to suppress invasive plant species growth. Use neither herbicides nor pesticides. Provide a water feature to attract birds and insects. And lastly, commit to long-term stewardship because success will not come in one season. A long-term commitment is needed to manage invasive plants, drought, and other disease. Pollinator Pathways throughout the town can serve to inform about as well as inspire landowners to create their own pollinator gardens.

Photo: Bobbi Soares

chapter five
NATIVE and INVASIVE ANIMALS
FAUNA

NATIVE and INVASIVE ANIMALS

Introduction

As the largest town in the state by land area, New Milford supports a great diversity of wildlife across its several forest types and signature geological features such as Candlewood Lake, the Housatonic River, farmlands, and meadows.

Coyote

Many of our local species are considered "specialists" meaning that they live in a very specific habitat such as at the water's edge, rock outcroppings, shrub lands or young forest and only eat a specific type or types of food. For example, the American Woodcock and New England Cottontail live specifically in the space between a mature forest and meadow area.

Other species are called "generalists." Racoons, for example, have a very broad diet and can live in a very broad area. Similarly, coyotes who are primarily carnivores—they will eat anything with meat on the bone—will, on occasion, also eat insects, fruits, and vegetables. This "flexible" diet allows them to survive in many different habitats.

No matter how big or small, and no matter the specifics of its diet, the key to the success of any individual animal population is intrinsically linked to food, shelter, water and space--its ecosystem, the "community" where each organism interacts with its natural environment.

Issues such as forest fragmentation, a decrease in the size of once uninterrupted forested area by natural or man-made causes, loss of grasslands as farms are lost, or commercial development, for example, decrease the ability of a formerly balanced environment to

function as a viable habitat for animals (and plants) and present potential threats to both wildlife and the environment.

For these reasons along with simply appreciating the wildlife with which we share this town, getting to know a little bit more about where they live, what they like and don't like or why they do the things they do, this chapter serves as an introduction to the myriad species of birds, mammals, fish, amphibians and reptiles, insects, invertebrates, and other organisms living in New Milford.

Note: Contributing scientists have provided lists in various formats with different levels of details as available.

Mammals


White Tailed Deer

Photo: Pixabay

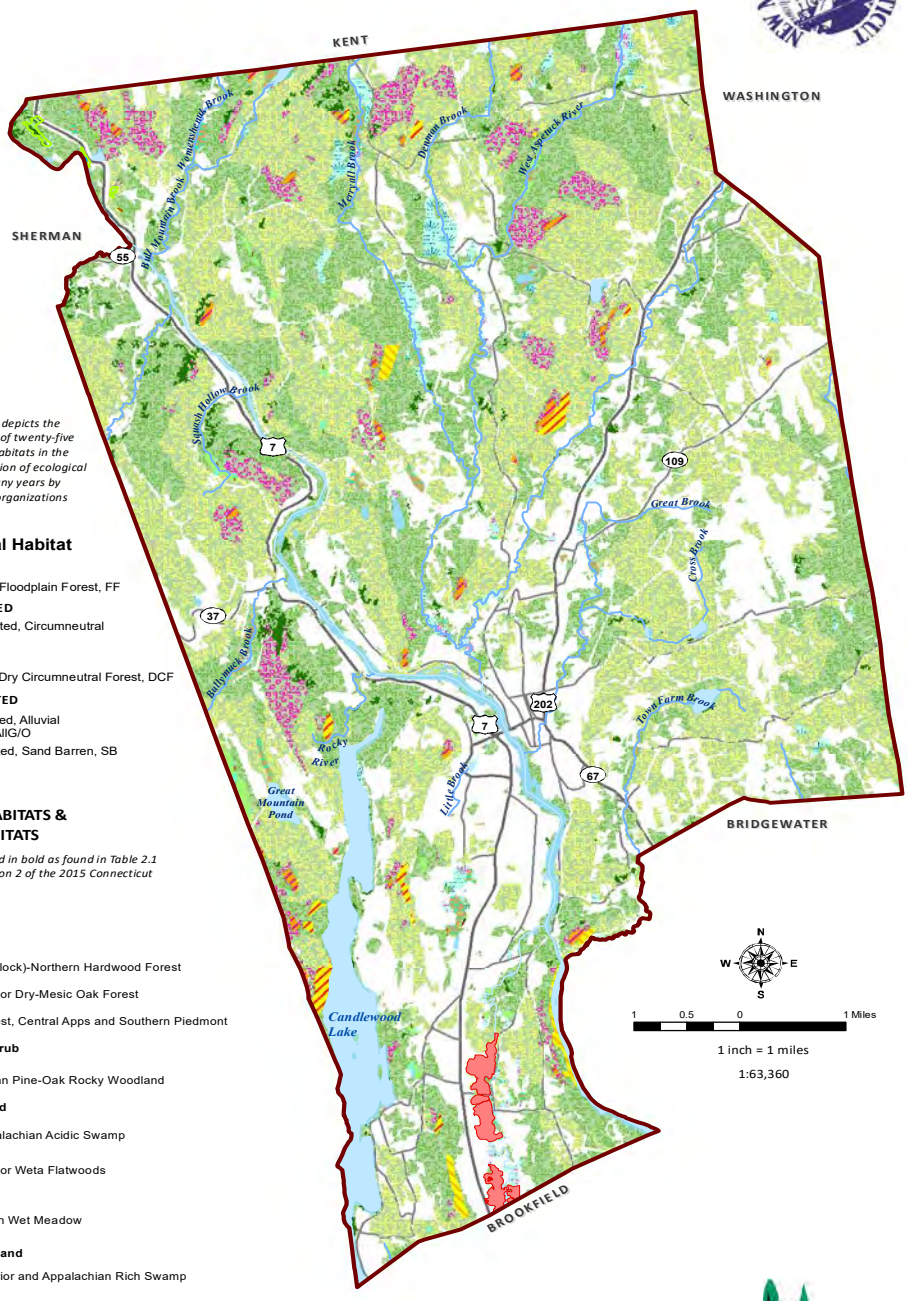
Most mammals are small and nocturnal and often primarily consume insects. However, the mammals we are most familiar with are larger, play a more obvious role in their ecosystems and require a diversity of habitats to survive and thrive. They are often seen in our backyards, in farmlands and in forests.

As an example, bobcats require large tracts of uninterrupted healthy and diverse forests. A healthy forest has trees of mixed age classes and species as well as few to no invasive plants. Managing and protecting the habitats where the bobcats live will benefit numerous other animals and plants.

Mammals such as deer and bear are well adapted to live near people, but this is becoming increasingly problematic. The growing white tailed deer population is of concern for many reasons. They harbor ticks which is a human health issue. With fewer natural predators and fewer people engaging in recreational hunting, the deer population continues to increase. This means more deer eating more plants that cannot naturally replace themselves given this situation. Deer rarely eat invasive plants, so the excessive deer browsing of native plants and trees allows for more invasive plants to grow. The population of bears has continued to increase over the years. Combined with more development and habitat loss, they are coming in closer contact with human activity on an increasing basis.

Habitat Map

New Milford, Connecticut



Connecticut Critical Habitats *depicts the classification and distribution of twenty-five rare and specialized wildlife habitats in the state. It represents a compilation of ecological information collected over many years by state agencies, conservation organizations and many individuals.*

Connecticut Critical Habitat

PALUSTRINE FORESTED

Palustrine Forested, Floodplain Forest, FF

PALUSTRINE NON-FORESTED

Palustrine Non-forested, Circumneutral Spring Fen, CirSF

TERRESTRIAL FORESTED

Terrestrial Forested, Dry Circumneutral Forest, DCF

TERRESTRIAL NON-FORESTED

Terrestrial Non-forested, Alluvial Grassland/Outcrop, AllG/O

Terrestrial Non-forested, Sand Barren, SB

CONNECTICUT KEY HABITATS & ASSOCIATED SUB HABITATS

Connecticut Key Habitats listed in bold as found in Table 2.1 pp. 2-26 through 2-27 in Section 2 of the 2015 Connecticut Wildlife Action Plan

1. Upland Forest

Evergreen Forest

Appalachian (Hemlock)-Northern Hardwood Forest

Northeastern Interior Dry-Mesic Oak Forest

Dry Oak-Pine Forest, Central Apps and Southern Piedmont

2. Upland Woodland & Shrub

Central Appalachian Pine-Oak Rocky Woodland

4. Forested Inland Wetland

North-Central Appalachian Acidic Swamp

North-Central Interior Weta Flatwoods

5. Shrub Inland Wetland

Laurentian-Acadian Wet Meadow

6. Herbaceous Inland Wetland

North-Central Interior and Appalachian Rich Swamp

8. Freshwater Aquatic

North-Central Appalachian Large River Floodplain

10. Unique*

Acidic Cliff and Talus

Circumneutral Cliff and Talus

Open water

**Agricultural and developed land are not included in this map*

Data Sources:
Roads & Major Routes: State of CT DEEP (CT ECO)
Water Bodies & Watercourses: State of CT DEEP
Critical Habitat: CT DEEP (2009) For more information see the Resource Guide located @cteco.uconn.edu

For this map CT Key Habitats as listed in the 2015 CT Wildlife ActionPlan were compiled using The Nature Conservancy Terrestrial Habitat Data (2014). For more information consult the data page at conservationgateway.org

Map Prepared by:
Stacy Deming, GISP
hvamaps@gmail.com
Housatonic Valley Association
150 Kent Road
Cornwall Bridge, CT 06754
www.hvatoday.org

Map Date: September 2019

Mammals Found in New Milford

Bat, Big Brown	Eptesticus fuscus
Bat, Little Brown	Myotis lucifugus
Bear, Black	Ursus americanus
Beaver	Castor canadensis
Bobcat	Lynx rufus
Chipmunk, Eastern	Tamis striatus
Cottontail, Eastern	Sylvilagus floridanus
Coyote	Canis latrans
Deer, White Tailed	Odocoileus virginianus
Fox, Red	Vulpes fulva
Mice, house	Mus musculus
Mice, white footed	Peromyscus leucopus
Mink	Mustela vison
Mole, Eastern	Scalopus aquiaticus
Muskrat, common	Ondatra zibethica
Opossum, Virginia	Didelphis marsupialis
Porcupine, North American	Erethizon dorsatum
Raccoon, Common	Procyon lotor
Rat, Norway	Rattus norvegicus
Skunk, Striped	Mephitis mephitis
Squirrel, American Red	Tamiasciurus hudsonicus
Squirrel, Eastern Gray	Sciurus carolinensis
Vole	Microtus spp.
Woodchuck	Marmota monax

Sources: H. Russock iNaturalist.org and local resident observations

Mink

Photo by John Clery

New England cottontail

The New England cottontail (NEC, *Sylvilagus transitionalis)* is the only cottontail rabbit native to New England and areas east of the Hudson River in New York. The other cottontail occupying this region is the similar-looking eastern cottontail (EC, *S. floridanus).* Large numbers of the EC were introduced from Texas and the Midwest to New England during the early part of the last century, and today the non-native rabbit does very well.

Surveys conducted in the early 2000's showed that the range of NECs had declined by more than 85 percent since the mid-1900s. To counter this decline the NEC was designated as a candidate for protection under the Federal Endangered Species Act in 2006, and in 2010 a formal collaborative conservation effort was launched to restore this population. Though results have been positive, and our native rabbit is still imperiled, it is no longer considered endangered. Among the very few populations coming back are some in Western Connecticut including New Milford.

NECs require large patches of dense shrub or early successional (young) forest to maintain a viable local breeding population. In New Milford where most open space is either mature forest or open field, the NEC populations that persist are often confined to power line right-of-way corridors that have historically been maintained as shrub land. Recent documentations in the northwest corner of town and in the ROW near Lynn Deming Park confirm this. There are also several known populations along our borders with neighboring towns. Further sampling (by fecal pellet collection) may turn up more populations soon. Effective management of suitable cottontail habitat through clear cutting and prescribed burn would allow these populations to expand.

For more information about the NEC and its conservation, see www.newenglandcottontail.org.

Source: Lisa Wahle, NEC – Young Forest Project Biologist, CT DEEP/Wildlife Division

Photo by Christine Young

Birds

Birds can be indicators of a healthy environment. A decline in bird populations, can be a warning sign of something going wrong or out of balance in an environment; think of the "canary in the coal mine" concept.

Given the diversity of habitats found in New Milford, it is not surprising that there are over 160 documented species in town. Some of these avian creatures make their home here year-round, others are only seen during their spring or fall migration.
Many birds are specialists, requiring unique habitat features to raise their young. Others prefer to nest, perch, roost and feed near human activity and structures. As birds eat insects, seeds, or fish, in these situations, they may also be ingesting herbicides or pesticides sprayed in residential or commercial applications.

Many local people "go birding" as a recreational activity. Backyard birdfeeders bring joy to numerous families, and perhaps inspire that first spark of interest in the natural sciences in children.

Photo by Christine Young

BIRDS Seen or Heard in New Milford

KEY: ** confirmed nester; * probable nester; # uncommon/rare, observed
Spring = March-May; Summer = June-August; Fall = Sept-Nov; Winter = Dec-Feb

	Spring	Summer	Fall	Winter
Snow Goose #				x
Canada Goose **	x	x	x	x
Mute Swan **	x	x	x	x
Wood Duck **	x	x	x	x
Mallard **	x	x	x	x
American Black Duck	x		x	x
Ring-necked Duck	x	x	x	x
Common Goldeneye	x			x
Barrow's Goldeneye #			x	
Hooded Merganser	x		x	x
Common Merganser **	x	x	x	x
Ring-necked Pheasant	x	x	x	x
Wild Turkey **	x	x	x	x
Rock Pigeon **	x	x	x	x
Mourning Dove **	x	x	x	x
Yellow-billed Cuckoo	x	x		
Black-billed Cuckoo	x	x		
Common Nighthawk		x	x	
Chimney Swift **	x	x	x	
Ruby-throated Hummingbird **	x	x	x	
Killdeer **	x	x	x	
American Woodcock**	x	x		
Spotted Sandpiper **	x	x		
Solitary Sandpiper#	x	x		
Ring-billed Gull	x	x	x	x
Herring Gull	x	x	x	x
Great Black-backed Gull	x	x	x	x
Common Loon	x			x
Double-crested Cormorant	x	x		x
Great Blue Heron **	x	x	x	x
Great Egret #		x	x	
Cattle Egret #			x	
Green Heron	x	x		
Black Vulture*	x	x	x	x
Turkey Vulture **	x	x	x	x
Osprey	x	x	x	
Bald Eagle **	x	x	x	x


Common Yellowthroat

Photo by Christine Young

KEY: ** confirmed nester; * probable nester; # uncommon/rare, observed
Spring = March-May; Summer = June-August; Fall = Sept-Nov; Winter = Dec-Feb

Sharp-shinned Hawk*	x	x	x	x
Cooper's Hawk *	x	x	x	x
Red-shouldered Hawk **	x	x	x	x
Broad-winged Hawk **	x	x	x	
Red-tailed Hawk **	x	x	x	x
Eastern Screech Owl **	x	x	x	x
Great Horned Owl **	x	x	x	x
Barred Owl **	x	x	x	x
Northern Saw-whet Owl			x	
Belted Kingfisher **	x	x	x	x
Red-headed Woodpecker	x		x	
Red-bellied Woodpecker * *	x	x	x	x
Yellow-bellied Sapsucker **	x	x	x	x
Downy Woodpecker **	x	x	x	x
Hairy Woodpecker **	x	x	x	x
Northern Flicker **	x	x	x	x
Pileated Woodpecker **	x	x	x	x
American Kestrel *	x	x	x	
Merlin	x		x	x
Eastern Wood-Peewee *	x	x		
Willow flycatcher *	x	x		
Least Flycatcher **	x	x	x	
Eastern Phoebe **	x	x	x	
Great Crested Flycatcher **	x	x		
Eastern Kingbird **	x	x		
Northern Shrike #			x	
White-eyed Vireo **	x	x		
Yellow-throated Vireo **	x	x		
Blue-headed Vireo	x	x	x	
Warbling Vireo **	x	x		
Red-eyed Vireo **	x	x		
Blue Jay **	x	x	x	x
American Crow **	x	x	x	x
Fish Crow **	x	x	x	x
Common Raven **	x	x	x	x
Tree Swallow **	x	x		
Northern Rough-winged Swallow **	x	x		
Bank Swallow **	x	x		
Cliff Swallow **	x	x		
Barn Swallow **	x	x		
Black-capped Chickadee **	x	x	x	x
Tufted Titmouse **	x	x	x	


Common Merganser

Photo by John Clery

KEY: ** confirmed nester; * probable nester; # uncommon/rare, observed
Spring = March-May; Summer = June-August; Fall = Sept-Nov; Winter = Dec-Feb

Red-breasted Nuthatch		x		x	x
White-breasted Nuthatch **		x	x	x	x
Brown Creeper **		x	x	x	x
House Wren **		x	x		
Winter Wren *		x	x	x	x
Carolina Wren **		x	x	x	x
Blue-gray Gnatcatcher **		x	x		
Golden-crowned Kinglet			x	x	
Ruby-crowned Kinglet		x		x	x
Eastern Bluebird **		x	x	x	x
Veery **		x	x		
Swainson's Thrush #		x			
Hermit Thrush **		x	x	x	x
Wood Thrush **		x	x	x	
American Robin **		x	x	x	x
Gray Catbird **		x	x	x	x
Brown Thrasher **		x	x	x	
Northern Mockingbird **		x	x	x	x
European Starling **		x	x	x	x
Cedar Waxwing **		x	x	x	x
House Sparrow **		x	x	x	x
Evening Grosbeak #				x	x
House Finch **		x	x	x	x
Purple Finch **		x	x	x	x
Common Redpoll #					x
Pine Siskin #		x			x
American Goldfinch **		x	x	x	x
Eastern Towhee **		x	x	x	x
American Tree Sparrow			x	x	
Chipping Sparrow **		x	x	x	x
Field Sparrow **		x	x	x	x
Savannah Sparrow **		x	x	x	
Grasshopper Sparrow #			x		
Fox Sparrow		x		x	x
Song Sparrow **		x	x	x	x
Swamp Sparrow **		x	x	x	x
White-throated Sparrow		x		x	x
White-crowned Sparrow			x	x	
Dark-eyed Junco		x			x
Yellow-breasted Chat	#	x			
Bobolink **		x	x	x	
Eastern Meadowlark**		x	x	x	

Photo by John Clery

KEY: ** confirmed nester; * probable nester; # uncommon/rare, observed
Spring = March-May; Summer = June-August; Fall = Sept-Nov; Winter = Dec-Feb

Orchard Oriole **	x	x	x	
Baltimore Oriole **	x	x	x	
Red-winged Blackbird **	x	x	x	x
Brown-headed Cowbird **	x	x	x	x
Rusty Blackbird	x		x	
Common Grackle **	x	x	x	x
Ovenbird **	x	x		
Worm-eating Warbler **	x	x		
Louisiana Waterthrush **	x	x		
Northern Waterthrush *	x	x		
Blue-winged Warbler **	x	x		
Black-and-white Warbler **	x	x	x	
Tennessee Warbler	x		x	
Nashville Warbler #	x		x	
Connecticut Warbler #		x		
Common Yellowthroat **	x	x	x	
Hooded Warbler **	x	x		
American Redstart **	x	x	x	
Cape May #	x			
Northern Parula	x	x		
Magnolia Warbler	x	x	x	
Bay-breasted Warbler	x			
Blackburnian Warbler	x		x	
Yellow Warbler **	x	x	x	
Chestnut-sided Warbler **	x	x	x	
Blackpoll Warbler	x		x	
Black-throated Blue Warbler	x	x	x	
Palm Warbler	x			
Pine Warbler *	x	x	x	
Yellow-rumped Warbler	x	x	x	x
Prairie Warbler *	x	x	x	
Black-throated Green Warbler *	x	x	x	
Canada Warbler	x		x	
Wilson's Warbler	x			
Scarlet Tanager **	x	x	x	
Northern Cardinal **	x	x	x	x
Rose-breasted Grosbeak **	x	x	x	
Indigo Bunting **	x	x	x	

Note: Birds seen or heard over several recent years by Angela Dimmitt President - Western Connecticut Bird Club, Board Member - Connecticut Ornithological Association Board Member - Mad Gardeners, Inc., and others, and from various source. Note use of new American Ornithological Society names and sequence of species (taxonomic order), as used by the Connecticut Ornithological Association, May 2021. List submitted by Angela Dimmitt who alone is responsible for errors, omissions etc. June 2021

The American Bald Eagle – A success

The American bald eagle (Haliaeetus leucocephalus) is indeed majestic, with a wingspan that measures up to 7 1/2 feet and flight speed that ranges from 36-44 mph. It has one of the greatest conservation success stories of all time, having come much too close to extinction back in 1963 when as the result of Illegal shooting, habitat destruction, and poisoning from pesticides its population had been reduced to an all-time low of 487 nesting pairs in the contiguous 48 states. Thanks, however, to a federal program banning the use of the pesticide DDT and to the protection of key nesting sites, our national symbol has since made a remarkable recovery. In 2009 it was taken off the endangered species list. Over 10,000 breeding pairs now nest in the United States. And along the Housatonic River, a favorite flyway, their sightings have become almost commonplace year-round.

Throughout the winter, eagles migrate south from southern Canada and northern New England in search of food. This increases the winter population in Connecticut. Among their favorite places, large numbers of eagles can be found above the Housatonic's hydroelectric dams, including the Bulls Bridge, Rocky River, and Shepaug Dam generating stations. There the river water outflow is warmed sufficiently to become ice-free, and fish are forced to the water's surface becoming easy prey for these acrobatic birds.

The CT DEEP Wildlife Division and the U.S. Army Corps of Engineers began coordinating an annual Midwinter Eagle Survey in 1979. During the first two weeks of January hundreds of volunteers around the country participate in a nationwide citizen science monitoring project. Two long-established eagle observation sites are in New Milford. The Candlewood Lake site reported a high count of eight eagles in 2017, and the Housatonic River segment between Bulls Bridge and Lover's Leap State Park reported a maximum of 12 eagles during the 2018 survey.

The breeding season in Connecticut begins in January, and most eagle pairs lay their eggs in February and March, returning to the same nesting area year after year and breeding with the same mate. New Milford's waters are home to at least two bald eagle nesting territories, which are routinely undisclosed to protect the birds and landowners from unwanted disturbance. One nesting site has been seen along Candlewood Lake since at least 2013. Except for a weather-related nest failure in 2018 and an inactive year in 2019, the nesting territory has been very successful, producing at least 11 eagle chicks in that time span. The second nesting site has been spotted along the Housatonic River north of town since 2014; however, due to being obscured by dense foliage and poor sightlines, the outcomes of these nesting attempts are unknown. There are likely other nests in the area that are not yet in the Wildlife Division's database and thus remain uncounted.

The return of the bald eagle to New Milford is not only good news for bird lovers; it indicates improving water quality, too. But threats from human disturbance, from aquatic invasive species that threaten fish populations, and from environmental contamination remain of concern, reminding us that continued recovery and could be reversed if we do not remain vigilant. Source: Brian Hess Wildlife Biologist CT DEEP - Wildlife Division

Photo by John Clery

Photo by Bob Jacobs (retired)CT DEEP Fisheries Division

Fish

New Milford houses numerous diverse intact fish habitats across its many lakes, ponds, and streams which support a wide variety of vibrant fish communities. They are a important component of the town's natural resources. A few cold spring-fed streams in some of the more rural parts of New Milford still support wild native reproducing Brook Trout populations which are valuable renewable natural resources that provide high-quality recreational fishing opportunities as well as serving as indicators of good water quality and intact natural stream habitat. Some of the town's larger streams and lakes are stocked with hatchery-raised trout and provide quality fishing each spring and fall.

New Milford's lakes and ponds support a mix of native and naturalized non-native sport fish and pan fish. Most of these species are adapted to live in warmer water, and thrive in Candlewood Lake, Lake Lillinonah, and many smaller water bodies in town, providing anglers with abundant opportunities to catch and harvest fish. Memorable trophy-size fish of several species, including Largemouth Bass, Smallmouth Bass, Northern Pike, and Walleye, are also available to anglers, and support popular competitive fishing tournaments.

New Milford's streams and lakes are also home to many interesting but usually unseen and less-appreciated fish species that nonetheless are important to the ecosystem and are important links in the food web. This includes numerous minnow species, catfish, darters,

killifish, alewives, suckers, and others. Fish in New Milford waters contribute not only to recreation and the natural ecology of water bodies, but also help support numerous predacious terrestrial species such as Mink, Otters, Great Blue Herons, Kingfishers, Mergansers, Ospreys, Bald Eagles, Snakes, and others.

FISH found in New Milford

Alewife
Bass, Largemouth
Bass, Rock
Bass, Smallmouth
Bullhead, Brown
Bullhead, Yellow
Carp, Common
Carp, Grass
Catfish, Channel
Catfish, White
Chub, Creek
Crappie, Black
Dace, Blacknose
Dace, Longnose
Eel, American
Fallfish
Killifish, Banded
Minnow, Bluntnose
Minnow, Cutlip
Minnow, Fathead
Perch, White
Perch, Yellow
Pickerel, Chain
Pickerel, Redfin
Pike, Northern
Shiner, Common
Shiner, Golden
Shiner, Spottail
Sucker, White
Sunfish, Bluegill
Sunfish, Green
Sunfish, Pumpkinseed
Sunfish, Redbreast
Trout, Brook
Trout, Brown
Trout, Rainbow
Walleye
Tessellated Darter

Source of Narrative and List of Fish: Mike Humphries, CT DEEP Inland Fisheries Biologist - western district, iNaturalist.org and Mt. Tom Natural Resources Inventory 1997

AMPHIBIANS AND REPTILES

New Milford is situated within one of the richest ecological regions of Connecticut. The wetlands and riverine floodplains in the lowlands and the forested ridges that rise steeply above the valley support a high diversity species. These ecologically rich habitats are known to support a diverse group of amphibian and reptile species including ten salamanders, nine frogs and toads, six turtles and 13 snakes. Some of these, such as the northern slimy salamander (Plethodon glutinosus), occur only within this region of Connecticut. Of these 38 species, 11 are currently listed in Connecticut as special concern, threatened or endangered. An additional three species, the northern leopard frog, timber rattlesnake and bog turtle once occurred in New Milford but are currently presumed to be locally extinct.

Northern Slimy Salamander

The northern slimy salamander is an Appalachian species that reaches the periphery of its northeastern geographic range in Connecticut. They are known from only 20 sites representing nine existing populations spanning seven towns in western Connecticut. Isolated populations and populations at the edges of their geographic range are much more vulnerable to local extinction resulting from the gradual erosion of habitat quality, reductions in population size, decrease in genetic variability, or random events such as the introduction of disease.

Local extinction is a likely scenario facing New Milford's populations of slimy salamander if the fragmentation and erosion of remaining forest habitat along continues. For the slimy salamander, New Milford can play a critical role in their conservation.

Photo Paul Fusco; source: CT DEEP


Red Spotted Newt

AMPHIBIANS AND REPTILES found in New Milford

CAUDATA – SALAMANDERS

MOLE SALAMANDERS	*Ambystoma*
Jefferson Salamander	*Ambystoma jeffersonianum*
Spotted Salamander	*Ambystoma maculatum*
Marbled Salamander	*Ambystoma opacum*
DUSKY SALAMANDERS	*Desmognathus*
Northern Dusky Salamander	*Desmognathus fuscus*
BROOK SALAMANDERS	*Eurycea*
Northern Two-lined Salamander	*Eurycea bislineata*
FOUR-TOED SALAMANDERS	*Hemidactylium*
Four-toed Salamander	*Hemidactylium scutatum*
WATERDOGS and MUDPUPPIES	***Necturus***
Mudpuppy	*Necturus maculosus maculosus*
EASTERN NEWTS	***Notophthalmus***
Red-spotted Newt	*Notophthalmus viridescens viridescens*
WOODLAND SALAMANDERS	***Plethodon***
Eastern Red-backed Salamander	*Plethodon cinereus*
Northern Slimy Salamander	*Plethodon glutinosus*


American Toad

ANURA – FROGS

NORTH AMERICAN TOADS	***Bufo* (= *Anaxyrus*)**
American Toad	Bufo americanus
Fowler's Toad	Bufo fowleri
HOLARCTIC TREEFROGS	***Hyla***
Gray Treefrog	*Hyla versicolor*
AMERICAN WATER FROGS	*Rana* (= *Lithobates*)
American Bullfrog	*Rana catesbeiana*
Green Frog	*Rana clamitans*
Pickerel Frog	*Rana palustris*


American Bullfrog

Photos by Christine Young

Northern Leopard Frog	*Rana pipiens*
Wood Frog	*Rana sylvaticus*
CHORUS FROGS	***Pseudacris***
Spring Peeper	*Pseudacris crucifer*
NORTH AMERICAN SPADEFOOTS	***Scaphiopus***
Eastern Spadefoot	*Scaphiopus holbrookii*
TURTLES	**TESTUDINES**
SNAPPING TURTLES	***Chelydra***
Snapping Turtle	*Chelydra serpentina*
PAINTED TURTLES	***Chrysemys***
Painted turtle	*Chrysemys picta*
SPOTTED TURTLES	***Clemmys***
Spotted Turtle	*Clemmys guttata*
SCULPTED TURTLES	*Glyptemys*
Wood Turtle	*Glyptemys insculpta*
Bog Turtle	*Glyptemys muhlenbergii*
MUSK TURTLES	***Sternotherus***
Musk Turtle	*Sternotherus odoratus*
AMERICAN BOX TURTLES	***Terrapene***
Eastern Box Turtle	*Terrapene carolina Carolina*
SQUAMATA – LIZARDS AND SNAKES	
TOOTHY SKINKS	***Plestiodon***
Five-lined Skink	*Plestiodon fasciatus*
AMERICAN MOCCASINS	***Agkistrodon***
Eastern Copperhead	*Agkistrodon contortrix*
NORTH AMERICAN WORMSNAKES	***Carphophis***
Eastern Wormsnake	*Carphophis amoenus amoenus*


Tree Frog

Photo by Christine Young

NORTH AMERICAN RACERS Northern Black Racer	***Coluber*** *Coluber constrictor*
RATTLESNAKES Timber Rattlesnake	***Crotalus*** Crotalus horridus
RING-NECKED SNAKES Northern Ring-necked Snake	***Diadophis*** *Diadophis punctatus edwardsii*
AMERICAN HOG-NOSED SNAKES Eastern Hog-nosed Snake	***Heterodon*** *Heterodon platirhinos*
KINGSNAKES and MILKSNAKES Eastern Milksnake	***Lampropeltis*** *Lampropeltis Triangulum*
NORTH AMERICAN WATERSNAKES Northern Watersnake	***Nerodia*** *Nerodia sipedon sipedon*
GREENSNAKES Smooth Greensnake	Opheodrys Opheodrys vernalis
NORTH AMERICAN RATSNAKES Eastern Ratsnake	***Pantherophis*** *Pantherophis alleghaniensis*
NORTH AMERICAN BROWNSNAKES DeKay's Brownsnake Red-bellied Snake	***Storeria*** *Storeria dekayi* *Storeria occipitomaculata*
NORTH AMERICAN GARTERSNAKES Ribbonsnake Eastern Gartersnake	***Thamnophis*** Thamnophis saurita saurita Thamnophis sirtalis sirtalis
SLIDERS Red-eared Slider	**Trachemys** *Trachemys scripta elegans*


DeKay's Brownsnake

Source: Narrative and List of Amphibians and Reptiles by: Dennis P. Quinn, Owner/Herpetologist Quinn Ecological, LLC

Photo by Christine Young

INSECT and other INVERTEBRATES found in New Milford

Insects are by far the most numerous animals; approximately three-quarters of all animal species are insects. They are the most important herbivores on land, consuming more plant material than all rodents, deer, rabbits, etc. combined. They are also responsible for the pollination of most flowering plants, including almost all the plants we depend on for food. Indeed, the great diversity of insects and the great diversity of flowering plants on earth today evolved simultaneously starting about 100 million years ago. Because of their great importance as pollinators, the current collapse of honeybee colonies, most likely due to a parasitic mite, is a potential threat to the global food supply.

Although most insect species have a positive effect on our local environment, we know that a few species can be destructive. The emerald ash borer is a current threat to the ash trees of New Milford, as well as the rest of New England. Although it has not yet arrived in the New Milford area, the spotted lantern fly is a major infestation in the Middle Atlantic States and has been spotted in Connecticut.

The following lists do not reflect relative abundance or relative importance of species in their environment. There are numerous other insect species in New Milford. Because insects are so numerous, any list of local species is incomplete by its very nature. The lists below represent the observation of our local expert.

Source for Insect and other Invertebrate Narrative: Howard Russock, Ph.D. Emeritus Professor of Biological Sciences, Western Connecticut State University (WestConn), Danbury CT and New Milford Conservation Commission Member.

Source for Insect and other Invertebrates List: Christine M. Young M.S. Entomology – observations documented in iNaturalist.org.

Cloudless Sulphur butterfly

ARTHROPODS (Insects) Found in New Milford

Butterflies and Moths (Order Lepidoptera)

1. Clymene Moth (Haploa clymene)
2. Large Lace-border Moth (Scopula limboundata)
3. Gypsy Moth (Lymantria dispar)
4. Clover Looper Moth (Caenurgina crassiuscula)
5. Arched Hooktip (Drepana arcuata)
6. Moth (Acrobasis sp.)
7. Smaller Parasa (Parasa chloris)
8. Virgin Tiger Moth (Apantesis virgo)
9. Omnivorous Leafroller (Archips purpurana)
10. Common Buckeye (Junonia coenia)
11. Pearl Crescent (Phyciodes tharos)
12. Cloudless Sulphur (Phoebis sennae)
13. Spicebush Swallowtail (Papilio troilus)
14. Viceroy (Limenitis archippus)
15. Banded Hairstreak (Satyrium calanus)
16. Great Spangled Fritillary (Speyeria Cybele)
17. Eastern Tiger Swallowtail (Papilio glaucus)
18. Eyed Paectes (Paectes oculatrix)
19. Chickweed Geometer (Haematopis grataria)
20. Thin-winged Owlet (Nigetia formosalis)
21. Eastern Comma (Polygonia comma)
22. Crossline Skipper (Polites origenes)
23. White-marked Tussock (Orgyia leucostigma)
24. Yellow-collared Scape (Cisseps fulvicollis)
25. Juniper Twig Geometer (Patalene olyzonaria)
26. Grapevine Looper (Eulithis diversilineata)
27. Cross-lined Wave (Timandra amaturaria)
28. Red Admiral (Vanessa atalanta)
29. Ailanthus Webworm (Atteva aurea)
30. Promalactis suzukiella
31. Galasa nigrinodis
32. Pondside Pyralid (Elophila icciusalis)
33. Desmia funeralis
34. Rosy Maple Moth (Dryocampa rubicunda)
35. Morrison's Sallow (Eupsilia morrisoni)
36. Hickory tussock (Lophocampa caryae)
37. Green Owlet (Leuconycta diphteroides)
38. Dark-barred Twin-spot (Xanthorhoe ferrugata)
39. Blackberry Looper (Chlorochlamys chloroleucaria)
40. Chestnut-marked Pondweed Moth (Parapoynx badiusalis)
41. Wood Nymph (Eudryas grata)
42. Cabera erythemaria
43. Dogbane Tiger (Cycnia tenera)
44. Eustixia pupula
45. Orange-tipped Oakworm (Anisota senatoria)
46. Tortricidia flexuosa
47. Shining Dichomeris - Dichomeris ochripalpella
48. Pale Glyph - Protodeltote albidula
49. Brown-hooded Owlet (Cucullia convexipennis)
50. Woolly Bear (Pyrrharctia Isabella)
51. Pyromorpha dimidiate

Net-winged Insects (Order Neuroptera)

1. Golden-eyed Lacewing (Chrysopa oculata)
2. Green Mantidfly (Zeugomantispa minuta)
3. Barber's Brown Lacewing (Sympherobius barberi)

Praying Mantises (Order Mantodea)

1. Chinese Mantis (Tenodera sinensis)

Dragonflies and Damselflies (Order Odonata)

1. Widow Skimmer (Libellula luctuosa)

Barkflies (Order Psocoptera)

1. Bark Louse - Metylophorus novaescotiae

Bees and Wasps (Order Hymenoptera)

1. Giant Resin Bee (Megachile sculpturalis)
2. Ants (Lasius brevicornis)
3. Bald-faced Hornet (Dolichovespula maculata)
4. Ichneumonid Wasp (Enicospilus purgatus)
5. Sweat Bee (Augochlora pura)
6. American Cornfield Ants (Lasius americanus)
7. Enicospilus Wasp - Enicospilus purgatus
8. Ichneumon Wasp - Mesostenus thoracicus

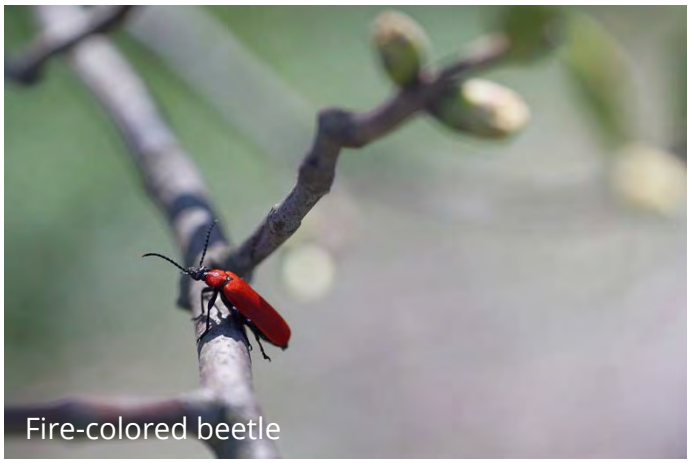
True Bugs (Order Hemiptera)

1. Citrus Flatid Planthopper (Metcalfa pruinosa)
2. Stink Bug (Halyomorpha halys)
3. Jagged Ambush Bug (Phymata fasciata)
4. Alder Spittlebug (Clastoptera obtuse)
5. Leaf-footed Bug (Acanthocephala terminalis)
6. Bothriocera cognita
7. Leafhopper (Gyponana sp.)
8. Painted Leafhopper (Endria inimica)
9. Northern Flatid Planthopper (Flatormenis proxima)
10. Stilt Bug - Jalysus spinosus
11. Buffalo Treehopper - Stictocephala bisonia
12. Leafhopper - Exitianus sp.
13. Derbid Planthopper - Anotia bonnetii
14. Long-necked Seed Bug - Myodocha serripes
15. Leafhopper (Sanctanus sanctus)
16. Damsel Bug (Nabis roseipennis)
17. Neurocolpus nubilus (Clouded Plant Bug)
18. Water Boatman (Hesperocorixa sp.)
19. Leafhopper (Empoa venusta)
20. Leafhopper (Jikradia olitoria)
21. Dirt-colored Seed Bug - Ozophora picturata
22. Leafhopper (Macrosteles fascifrons)
23. Phytocoris tibialis
24. Leafhopper (Latalus ocellaris)
25. Orthotylus flavosparsus
26. Leafhopper - Planicephalus flavocostatus
27. Leafhopper - Scaphoideus forceps
28. Derbid Planthopper - Otiocerus wolfii
29. Sharpshooter - Draeculacephala sp.
30. Mosaic leafhopper - Orientus ishidae
31. Gray Lawn Leafhopper - Exitianus exitiosus
32. Versute Sharpshooter (Graphocephala versuta)

Mayflies (Order Ephemeroptera)

1. Mahogany Dun (Isonychia bicolor)
2. Mayfly (Baetis sp.)
3. Mayfly - Maccaffertium terminatum
4. Mayfly - Stenonema femoratum

Beetles (Order Coleoptera)


Fire-colored beetle

1. Click Beetle (Family Elateridae)
2. Spotted Pine Sawyer (Monochamus clamator)
3. Striped Cucumber Beetle (Acalymma trivittatum)
4. Lady Beetle (Harmonia axyridis)
5. Banded Net-wing (Calopteron reticulatum)
6. Fire-colored Beetle (Pedilus lewisii)
7. Spotted Cucumber Beetle (Diabrotica undecimpunctata)
8. Burying Beetle (Nicrophorus tomentosus)
9. Roundneck Sexton Beetle (Nicrophorus orbicollis)
10. Riffle Beetle (Stenelmis crenata)
11. Soldier Beetle (Podabrus basillaris)
12. Longicorn Beetle (Xylotrechus colonus)
13. Ground Beetle (Lebia solea)
14. Stag Beetle (Ceruchus piceus)
15. Black Dung Beetle (Copris minutus)
16. Nut Weevil (Curculio sp.)
17. Rainbow Scarab (Phanaeus vindex)
18. Long-necked Ground Beetle (Colliuris pensylvanica)
19. Chafer (Macrodactylus subspinosus)
20. Punctured Tiger Beetle (Cicindela punctulata)
21. Shining Flower Beetles - Stilbus apicalis
22. Rove Beetle - Subfamily Paederinae
23. Toe-winged Beetle - Ptilodactyla sp.
24. Ground Beetle (Stenolophus lineola)

25. Brown Prionid Beetle (Orthosoma brunneum)
26. Common Eastern Firefly (Photinus pyralis)
27. Small Mulberry Borer (Dorcaschema alternatum)
28. Cambrium Curculio - Conotrachelus anaglypticus
29. Four-spotted Fungus Beetle - Ischyrus quadripunctatus
30. Soldier Beetle (Podabrus brimleyi)
31. Grape Colaspis (Colaspis brunnea)
32. Tobacco Wireworm - Conoderus vespertinus
33. Two-banded Japanese Weevil - Pseudocneorhinus bifasciatus
34. Winter Firefly (Ellychnia corrusca)
35. Whirligig Beetle (Dineutus emarginatus)

Flies (Order Diptera)
1. Tiger Crane Fly (Nephrotoma ferruginea)
2. Inland Floodwater Mosquito (Aedes vexans)
3. White-footed Woods Mosquito (Psorophora ferox)
4. Eastern Tree Hole Mosquito (Ochlerotatus triseriatus)
5. Spider Fly (Ocnaea auripilosa)
6. Longlegged Fly (Condylostylus patibulatus)
7. Bee-Fly (Villa sp.)
8. Eutreta noveboracensis
9. Eastern Calligrapher (Toxomerus geminatus)
10. Midge (Stenochironomus hilaris)
11. Mothfly (Psychoda sp.)
12. Hybotid Dance Fly (Syneches simplex)
13. Phantom Midge (Chaoborus punctipennis)
14. Midge (Procladius subgenus Holotanypus)
15. Green Midge (Tanytarsus sp.)
16. Limoniid Crane Fly (Molophilus sp.)
17. Crane Fly (Erioptera caliptera)
18. Band-winged Crane Fly (Epiphragma fasciapenne)
19. Cattail Mosquito (Coquillettidia perturbans)
20. Midge (Chaoborus flavicans)
21. Common Malaria Mosquito - Anopheles quadrimaculatus
22. Mosquito (Ochlerotatus trivittatus)
23. Woodland Malaria Mosquito - Anopheles punctipennis
24. Dung Fly - Scathophaga furcata
25. Snipe Fly (Chrysopilus thoracicus)
26. Fairyfly - Mymar taprobanicum
27. Midge - Rhopalomyia Inquisitor

Earwigs (Order Dermaptera)
1. Lesser Earwig - Labia minor

Grasshoppers and Katydids (Order Orthoptera)
1. Greater Anglewing Katydid - Microcentrum rhombifolium
2. Jumping Bush Cricket - Orocharis saltator
3. Camel Cricket - Family Rhaphidophoridae
4. Drumming Katydid (Meconema thalassinum)

Caddisflies (Order Trichoptera)
1. Microcaddisfly - Family Hydroptilidae
2. White Miller (Nectopsyche sp.)
3. Zebra Caddisfly - Macrostemum zebratum
4. Long-horned Caddisfly (Triaenodes tardus)
5. Caddisfly (Pycnopsyche sp.)

Stoneflies (Order Plecoptera)
1. Stonefly (Plecoptera)
2. Winter Stonefly - Family Capniidae
3. Stonefly Nymph (Subfamily Perlinae)

Fishflies, Alderflies, Dobsonflies (Order Megaloptera)
1. Summer Fishfly (Chauliodes pectinicornis)
2. Eastern Dobsonfly (Corydalus cornutus

ARTHROPODS – ARACHNIDS (spiders, ticks mites)
1. Striped Harvestman (Leiobunum vittatum)
2. Dark Fishing Spider (Dolomedes tenebrosus)
3. Hentz Jumper (Hentzia palmarum)
4. Furrow Spider (Larinioides cornutus)
5. House Pseudoscorpion (Chelifer cancroides)

6. Eastern Parson Spider (Herpyllus ecclesiasticus)
7. False Black Widow - Steatoda grossa
8. Orchard Spider (Leucauge venusta)
9. Dimorphic Jumper (Maevia inclemens)
10. Soil Centipede - Strigamia bothriopus
11. Blunt-tailed Snake Millipede - Cylindroiulus punctatus
10. Blacklegged Tick (Ixodes scapularis)
11.Lone Star Tick (Amblyomma americanum)
12. Long Horned Tick (Haemaphysalis longicornis)
13. Dog Tick (Dermacentor variables)

Source for Arthropod Lists: Christine M. Young M.S. Entomology and B.S. Environmental Science, minor in Education. Local naturalist contributing to https://www.inaturalist.org/based on personal observations.

ARTHROPODS – CENTIPEDES and MILLIPEDES

Soil Centipede - Strigamia bothriopus
Blunt-tailed Snake Millipede - Cylindroiulus punctatus

MOLLUSKS (Snails, Clams, etc.)

1. Changeable Mantle slug (Megapallifera mutabilis)
2. Rotund Disc Snail (Discus rotundatus)
3. Freshwater clams

Soil centipede

Photo by Christine Young

Ticks in Western Connecticut – a human health concern

The tiny black-legged tick (aka hard-shelled or deer tick, *Ixodes scapularis*), often carries the bacterial spirochete *Borrelia burgdorferi*, which causes Lyme disease. Thus, the tick is a serious health risk much of the year in Litchfield County towns like New Milford.

First identified at Yale University in the late 1970s when a substantial number of residents in nearby Lyme, CT presented with a curious collection of flu-like symptoms, the disease is now the most common bacterial infection in the U.S. with Litchfield County at the epicenter registering 69 cases per 100,000 compared to a national rate of seven cases per 100,000.

The life cycle of a deer tick lasts roughly two years, beginning in the early spring when an adult female lays as many as 2,000 to 4,000 eggs. The eggs eventually hatch into larvae which seek their first blood meal. The nymph, said to be "questing", finds a promising meet-up place--often a shrub branch or tip of a grass blade--and waits for a small animal to brush by; usually the encounter is with a white-tailed deer, a field mouse, or some other comparably suitable victim.

The nymph, once engorged with the host's blood, proceeds to the nymph and finally to the adult stage. If the first blood meal happens to come from a *Borrelia*-infected white-tailed deer or some other animal, the tick is primed to pass it along to anything it subsequently bites. Studies show that up to 30% the ticks tested locally are infected with Lyme-causing

Photo by Christine Young

TICKS, continued

spirochetes; a smaller proportion (6-10%) carry and transmit babesiosis (caused by a parasitic agent) or anaplasmosis diseases. Some ticks can harbor and transmit more than one tick disease.

Tiny in size, ranging from that of a sesame seed to an even smaller poppy seed--the tick can often go undetected for hours, even days, on the skin, unless it causes a red bulls-eye rash which appears in 70 % of cases. Approximately 24-36 hours after biting and latching onto skin with its mouth, the tick secretes its bacterial cargo, at which time the victim can suffer flu-like fever, exhaustion, headache, muscle ache, localized paralysis, and arthritis-like symptoms. Of these infections, most can be reversed by a timely treatment of doxycycline or amoxicillin, but 10% of cases become more serious; some evolve into long-lasting, even chronic nerve-damaging facial complications similar to Bell's Palsy, or a condition that mimics rheumatoid arthritis.

Serological testing using a sensitive enzyme immunoassay that detects the presence of tick antibodies, a sign of infection, is the principal means of laboratory diagnosis at present although much scientific research is going into developing more accurate tests with faster turn-around results.

People living where ticks thrive are largely on their own as far as preventing infection. Personal defenses include wearing clothing that covers feet, ankles, legs, and arms when in tall grass, making bodily tick checks daily, applying tick repellents to exposed skin, and even having a commercial extermination service spray the lawn against ticks; but these measures can only mitigate rather than end the risks of becoming infected for persons who spend a lot of time outdoors. Ticks are even known to bite in mild winters In the New Milford area.

In addition to Lyme disease, the *Ioxides* tick can also transmit pathogens that cause human granulocytic anaplasmosis, babesiosis, *Borrelia miyamotoi* relapsing fever, and Powassan encephalitis, a virus-borne infection of the brain or spinal cord.

Two other human-biting tick species – the lone star tick (*Amblyomma americanum*), once found only in the southwest; and the reddish Asian longhorned tick (*Haemaphysalis longicornis*), which is of Japanese and Korean origin – are recent invasives that are becoming established in parts of western Connecticut, according to WCSU researchers and the tick surveillance group at the CT Agricultural Experiment Station. Finally, western Connecticut is endemic for the larger-sized American dog tick (*Dermacentor variabilis*). Aside from the blood dog ticks take from their hosts, pets can also transport human-infectious ticks into their owners' households where they can become vectors of the human tick diseases, described above.

Providing tick prevention education to the public is an important component of disease prevention and treatment. So too, the sharing of public health and/or environmental data on the incidences of tick diseases is critical to tracking long-term changes in distribution and its primary vectors. This will also yield information as to the consequences to local habitat when non-native plants and invasive animals intercede in the ticks' life cycle. Invasive Japanese barberry, *Berberis thunbergii*, for example, is known to provide a more humid habitat for ticks than the native shrubbery it often replaces due to the invasive's greater leaf density; when invasive Japanese barberry is cleared away and native shrubs return, a sharp decline in tick populations lasting as long as five years is often observed.

Source for Narrative by Neeta Connally, Ph.D., M.S. Public Health, Tickborne Disease Prevention Laboratory, Department of Biological and Environmental Science, Western Connecticut State University

Photo by Christine Young

Fungi, Slime Molds and Lichens found in New Milford

Fungi

Fungi are in a Kingdom of their own and are neither plants nor animals. Most fungi perform the critical ecological role of decomposition, breaking down dead plants and animals, returning their nutrients to the soil for new plants to use. We eat the reproductive parts of some fungi (mushrooms, truffles), though very few species cause diseases.

FUNGI in New Milford

1. Poison Champagne Amanita (Amanita crenulata)
2. Russula sp.
3. Lanmaoa carminipes
4. Earthball (Scleroderma citrinum)
5. Honey Mushrooms (Armillaria mellea)
6. Cortinarius sp.
7. American Orange-Brown Ringless Amanita (Amanita fulva)
8. Corrugated Cortinarius (Cortinarius corrugatus)
9. Spotted Cort (Cortinarius iodes)
10. Psathyrella sp.
11. Peeling Puffball (Lycoperdon marginatum)
12. Purple Bloom Russula (Russula mariae)
13. Cinnabar Oysterling (Crepidotus cinnabarinus)
14. Copper Penny (Pachyella clypeata)
15. Bleeding Fairy Helmet (Mycena haematopus)
16. Amethyst Deceiver (Laccaria amethystina)
17. Foul Clitocybe (Clitocybe robusta)
18. Common Mazegill (Cerioporus mollis)
19. Fluted Bird's Nest (Cyathus striatus)
20. Violet-toothed Polypore (Trichaptum biforme)
21. Splitgills (Schizophyllum commune)
22. Felt Saddle (Helvella macropus)
23. White Coral Fungus (Clavulina cristata)
24. Hypoxylon fragiforme
25. Woolly Velvet Polypore (Onnia tomentosa)
26. Late Fall Oyster (Sarcomyxa serotina)
27. Stinkhorn (Phallus rugulosus)
28. Bitter Oyster (Panellus stipticus)
29. Simocybe sp.
30. Orange Oyster (Phyllotopsis nidulans)
31. False Turkey Tail (Stereum ostrea)
32. Pseudoboletus parasiticus
33. Mica Cap (Coprinellus micaceus)
34. Green Elfcup (Chlorociboria aeruginascens)
35. Syzygites megalocarpus
36. Blushing Bracket (Daedaleopsis confragosa)
37. Peeling Oysterling (Crepidotus mollis)
38. Bluing Bolete (Gyroporus cyanescens)
39. Milkcap (Lactifluus hygrophoroides)
40. Clouded Funnel (Clitocybe nebularis)
41. Ascocoryne sarcoides
42. Grey Disco (Mollisia cinerea)
43. Weeping Bolete (Suillus granulatus)
44. Oyster Rollrim (Tapinella panuoides)
45. Yellowing Curtain Crust (Stereum subtomentosum)
46. Sour Cap (Suillus acidus)
47. Stinkhorn (Phallus ravenelii)
48. Witches' Butter (Exidia nigricans)
49. Crust Fungus (Irpex lacteus)
50. Neonectria sp.
51. Late Fall Polypore (Ischnoderma resinosum)
52. Beetle Hanger (Hesperomyces virescens)
53. Leucogyrophana olivascens
54. Conifer Mazegill (Gloeophyllum sepiarium)
55. Bear's Head (Hericium americanum
56. Enoki (Flammulina velutipes)
57. Hohenbuehelia mastrucata
58. Climacocystis borealis
59. Crust Fungus - Gloeoporus dichrous
60. Fenugreek Milkcap - Lactarius helvus
61. Garland Roundhead Stropharia - Stropharia coronilla
62. Yellow Fairy Cups (Calycina citrina)
63. Bleeding Bonnet (Mycena sanguinolenta)
64. Leucogloea compressa
65. Alder Scalycap (Flammula Alnicola)
66. Crowded Parchment (Stereum complicatum)
67. Wood Ear (Auricularia angiospermarum)
68. Ceramic Parchment (Xylobolus frustulatus)
69. Chlorosplenium chlora
70. Turkey Tail (Trametes versicolor)
71. Radulomyces copelandii
72. Serpula himantioides
73. Brown Star-footed Amanita (Amanita brunnescens)
74. Frost's Bolete (Exsudoporus frostii)
75. Two-colored Bolete - Baorangia bicolor
76. Red-mouth Bolete - Boletus subvelutipes
77. Chanterelle (Cantharellus cinnabarinus)
78. Aleurodiscus disciformis
79. Pine Bracket (Porodaedalea piceina)
80. Rosy Bonnets (Mycena rosea)

SLIME MOLDS

Some slime molds are decomposers, like fungi, but in a completely different group. The rest eat bacteria.

1. Dog Vomit Slime Mold (Fuligo septica)
2. Wolf's Milk (Lycogala epidendrum)
3. Chocolate Tube Slime (Stemonitis splendens)
4. Arcyria stipata
5. Multigoblet Slime Mold - Metatrichia vesparium
6. Hemitrichia Calyculata

LICHENS

(Lichens are a symbiotic relationship between a fungus and an algae; they live on rocks, tree trunks and other solid surfaces)

1. Pyrrhospora varians
2. Lecanora hybocarpa
3. Biatora flavopunctata
4. Graphis scripta
5. Phaeophyscia rubropulchra
6. Candelaria concolor
7. Physcia sp.
8. Mapledust Lichen - Lecanora thysanophora
9. Biatora printzenii
10. Punctelia rudecta

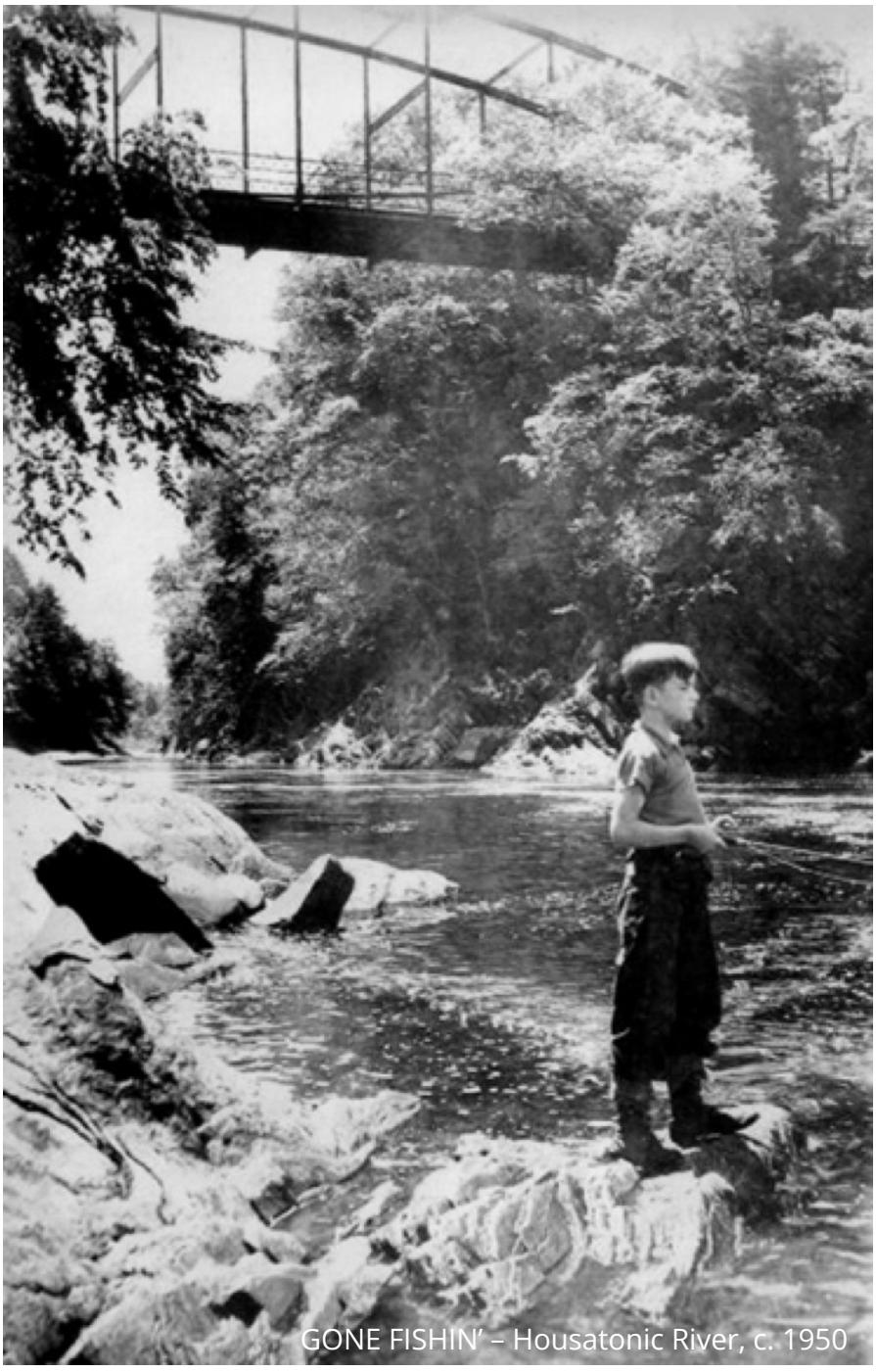
Source for fungi, lichens and mold lists: by Christine M. Young M.S. Entomology and B.S. Environmental Science, minor in Education local naturalist contributing to iNaturalist.org based on personal observations, confirmed by experts on https://mushroomobserver.org/ and contributed observations on https://www.inaturalist.org/.

Chocolate Tube Slime Mold

Photo by Christine Young

CONCLUSION

The NRWI is available at www.newmilford.org and is a living document.



GONE FISHIN' – Housatonic River, c. 1950

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