The Land and People of Cornwall, Connecticut

A Conservation Perspective of Our Town's Natural Treasures

BULLETIN NO. 1
2012

Published by the
Cornwall Conservation Commission
Cornwall, Connecticut

Cover illustration – Mohawk Mountain *by Sky Alexandra Trapella, Grade 6.*

Historical Quotes About Cornwall's Landscape

"Its surface is remarkable for high hills and lofty mountains, from the summits of which all who delight in beholding the works of nature are gratified by the extensive scenery of mountains, hills, valleys and ravines, and cultivated fields."
Stone (1999)

"Nature exhausted all her Store
to throw up rocks, but did no more."
Quoted in Allen (1985)

"…go to Cornwall and you will have no need of a jail,
for whoever gets in can never get out again."
A comment on the shape of the land quoted in Gold (1904)

"A considerable part of said Mountains & Hills are cultivated & are Fertile, producing good Grain, excellent Hay & good Pasture; some part of them is very Rocky & Covered with Timber and other Shrubbery."
Allen (1985)

"It is a very singular fact that in a town with ground so filled with deep valleys and dells, and where rocks and stones are very abundant, there should be so small part of the surface which is waste land. The town has excellent pasturage, good ground for hay and not a little valuable tillage."
Stone (1999)

"In the center of these towns lie the hills, lakes and trout brooks, the pines and quarries, the vistas and monuments of Cornwall,' the roughest town in the State,' with perhaps more scenery to the square mile than any other..."
Starr (1926)

Cornwall Conservation Commission
Mission Statement

The mission of the Cornwall Conservation Commission is to promote activities and regulations that encourage conservation of Cornwall's natural resources, and do so with the input of the citizens of Cornwall.

It seeks to serve as a voice for the natural world of Cornwall in various forums and developments. This can encompass a variety of activities, from preserving land, fields and wetlands, to advising on development and other activities that affect the town's ecosystems.

It reaches the citizens through education, publications, activities, presentations and regular commission meetings.

Town of Cornwall

Gordon Ridgway, First Selectman
Kenneth C. Baird, Selectman
Richard Bramley, Selectman

Cornwall Conservation Commission

Kim Herkimer, Commission Chair
Brian Thomas, Secretary
Don Bardot
Joseph Markow
Patrick Mulberry
Graham Underwood

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By Joseph Markow

Birdseye Brook.

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Cornwall, Connecticut

About the Cornwall Conservation Commission Bulletin Series

The Cornwall Conservation Commission is publishing a series of bulletins that will provide information about a variety of conservation topics in Cornwall, Connecticut. The purpose of the series is to educate individuals about local environmental and conservation topics and to provide resources so that residents of Cornwall and visitors alike can learn more about this town's land and its people.

This first bulletin is as much an introduction to the new Cornwall Conservation Commission as it is to conservation issues in Cornwall. We decided to devote this first issue to a broad look at the history of natural and human activities that have made our town what it is today. This booklet draws heavily on information from State of Connecticut websites and locally published books, particularly from the Cornwall Historical Society, and places them in the context of conservation. Many of these books, listed in the bibliography, can be found at the Cornwall Free Library, the Cornwall Historical Society and local bookstores.

Future issues will include articles on a variety of conservation related topics written by local experts in those fields. The purpose is to help maintain an open dialogue in the town about conservation and to provide an analysis of conservation issues from different perspectives so that we, as residents of Cornwall, can make educated decisions about the way we use our land and natural resources and the town.

We welcome suggestions for topics of future issues. Please send any suggestions to the Cornwall Conservation Commission, Cornwall Town Hall, 26 Pine Street, P.O. Box 97, Cornwall, CT 06753.

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Introduction

Through this and future bulletins the Cornwall Conservation Commission hopes to provide Cornwall's citizens and visitors with information that will help them better understand, appreciate, enjoy and protect the natural resources of our town.

Cornwall has maintained its rural nature for many years, but towns must be careful not to take natural resources and landscapes for granted. In our current age of rapidly shifting populations, some communities fail to plan wisely for population growth and end up diminishing or destroying the very resources that make the town a special place either to visit or to reside.

Through education, a community can recognize the value of natural resources, habitats and special features of the landscape and this can aid individuals and municipal groups in their decision-making process to manage land in a way that balances economic development with sound land stewardship practices.

Perhaps more importantly, we hope you enjoy exploring this town and gain a sense of enjoyment and appreciation for this special town - Cornwall.

Johnson Hollow Marsh.

The Origin of Cornwall's Landscape

Despite the State of Connecticut's small size, the story of Connecticut's landscape tells of a time of great continental collisions, ancient shorelines, seabeds and majestic mountains, as well as mile-high rivers of ice sweeping across the landscape.

The soil and stones that litter the surface of our state mask the incredible bedrock geology just beneath the surface. However, in Northwest Connecticut we are fortunate to have many places where we can explore this exposed bedrock and reveal some of that history. Indeed, it is this bedrock history that has shaped humans' use of the land and its resources in our area.

In more recent years, our society's connection to our land and the need for local resources has diminished to the point where we could easily forget the very history that shaped Cornwall's community and activity centers, as well as some fascinating stories that go back over 1.2 billion years.

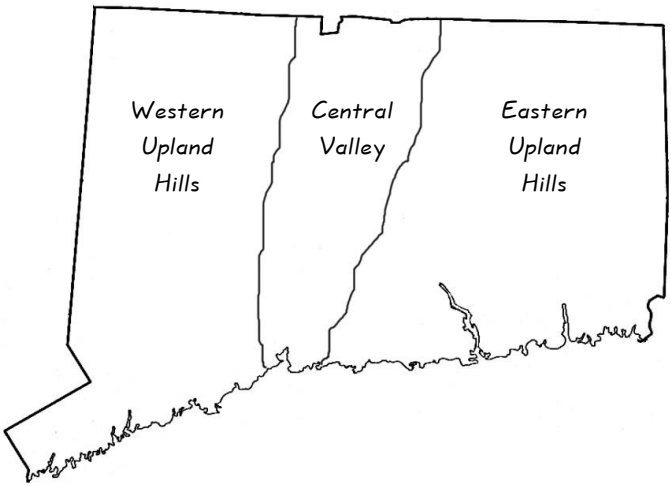
If this summary captures your interest, you may wish to explore the resources listed in the bibliography of this booklet published by local authors to enjoy more on this topic and to help keep the history alive by sharing it with others.

Connecticut's Geological Origins

Connecticut has a fascinating landscape made up of igneous (cooled from a molten state), sedimentary (layered) and metamorphic (folded and twisted) rocks from time periods spanning 1.2 billion years ago to 190 million years ago, when dinosaurs roamed the landscape.

The state can be divided roughly into three geological zones: the western uplands, the central valley, and the

eastern uplands. The eastern and western uplands represent ancient rock that was once part of the North American continental coastline that has been pushed up through a mountain building process when the supercontinent Pangaea formed.



Connecticut's hilly eastern and western uplands, formed from compressed and folded metamorphic rock, are separated by a central valley of younger sedimentary rock and igneous traprock ridges.

A portion of Southeastern Connecticut also contains bedrock from islands that were sandwiched between Africa, Europe and North America when they collided. As a result, rock that was once part of ancient shoreline and seabed is now pressed much further inland and squeezed between rocks from different landmasses.

The continents of Africa and North America collided about 450 million years ago, creating such forces and pressure as to bend and fold the rocks caught between them. In the northwest corner, this created mountains 20,000 feet high, similar to the Rocky Mountains today. Millions of years

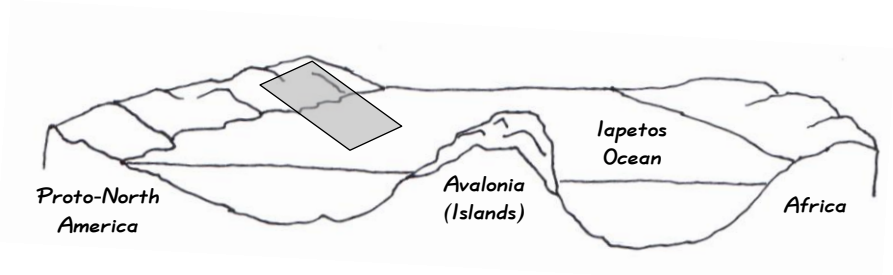
of erosion, combined with occasional new uplifts, have changed them to the rolling hills of the Berkshires today.

As Pangaea split apart around 235 million years ago, the land became very dynamic and cracks or fissures in the earth's crust allowed magma to seep up and cool into igneous basalt creating our central trap rock ridges. The central valley is also home to Connecticut's youngest rock; sedimentary sandstone, brownstone and shale. In this 200 million-year-old rock, fossil footprints have been preserved in areas such as Rocky Hill's Dinosaur State Park.

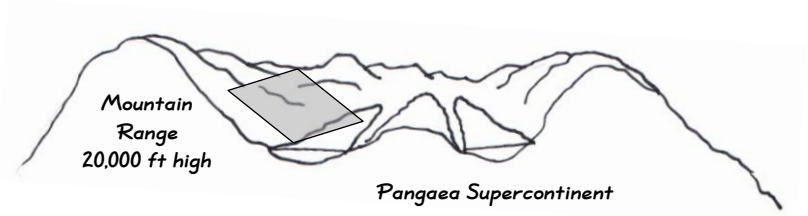
The central valley therefore contains much of our igneous and sedimentary rock from the time when the continents were separating, whereas the eastern and western highlands are primarily metamorphic rock recording the effects of earlier continental collisions.

A metamorphic rock showing the remnants of layers that have been compressed and folded.

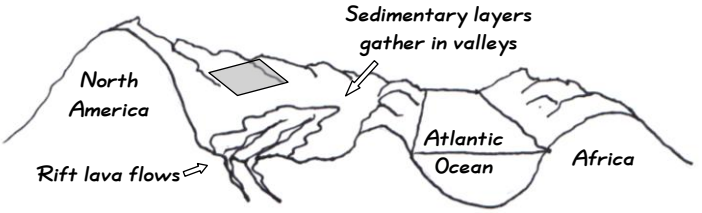
A Pictorial Sequence of the Major Geological Events That Shaped Cornwall (Part 1)



500 million years ago (mya) the early North American and African continents collided, closing up the ocean between them and sandwiching one or more large islands in between. The shaded area represents the approximate sections of land that would become the bedrock of Cornwall, although it is important to keep in mind the huge time span, the bending and folding of the metamorphic rock and the millions of years of erosion that finally "revealed" the landscape we see today.



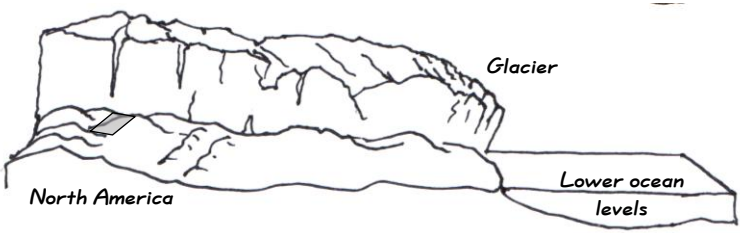
The ocean between North America and Africa disappeared when the continents collided to form Pangaea 250 mya. The intense pressure of the collision forced rocks on the surface and deep below the earth to bend and fold through incredible compression, also leading to very tall mountain ranges. Sediment and rock that was once the bottom of the Iapetus Ocean were pushed high into the mountains.



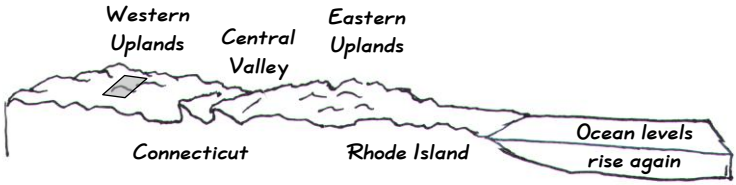
As Pangaea split apart 220 mya, the Earth's crust cracked in several places, one fissure becoming the Atlantic Ocean of today. However rifts in other land areas such as Connecticut's central valley led to lava flows spreading through the sedimentary layers under the ground and on its surface. Later tilting of the rock layers led to today's traprock ridges.

A Pictorial Sequence of the Major Geological Events That Shaped Cornwall (Part 2)

As the continents continued to spread apart, millions of years of erosion wore away the high mountains and exposed bedrock long buried beneath the surface. Valleys continued to fill with sediment that over time formed new sedimentary rock. Softer rock, such as the sandstone of the central valley and marble of Northwest Connecticut, eroded more quickly than the harder traprock and metamorphic gneiss around it, creating the major river paths we know today.



A series of glaciers, beginning 2 million years ago, spread across the continent several times, scouring the surface and depositing material in other locations. Mountains were worn down to become flat topped with V-shaped valleys between them.



As the glaciers melted, sea levels rose again and the erosion caused by the glaciers revealed the bedrock we recognize today as Connecticut. The bedrock area that comprises Cornwall is relatively small compared with the original area it came from prior to being compressed and folded during the continental collisions.

Local Bedrock Geology

In the Northwest Corner, the mountains were made from a combination of rock from the original continental landmass and ancient seabed that was folded under incredible pressure during various uplifts of the land and continental collisions.

Igneous rock worked its way into the sedimentary layers changing them into the present gray metamorphic bedrock called gneiss (pronounced “nice”). The gneiss in our area dates back to approximately 1.2 billion years ago and is some of the oldest rock in Northeastern United States.

A second type of rock is also common in the Northwest Corner where ancient sea shore 600 million years ago filled with the calcium-rich shells of mollusks mixed with shoreline sediments to form limestone. This rock was later folded and twisted under metamorphic processes to become marble. To find marble a thousand feet above sea level in Cornwall's hills reflects the powerful geologic processes that created the state that we now see as Connecticut. Even more amazing is that much of this happened deep underground and has only been exposed on the surface due to the uplift of land combined with erosion over millions of years.

Marble is a relatively soft stone that erodes more easily than gneiss. The marble valley has become the predominant pathway for the Housatonic River in Northwest Connecticut as the river cuts through marble while harder metamorphic rock remains on either side of the river valley.

Cornwall has an unusual section of the Housatonic River where it leaves the marble valley and passes through erosion resistant gneiss until it reconnects with the marble valley in Cornwall Bridge. Geologists have studied this section to try to understand what process during or following the glacial period may have led to this redirection of the river's path, which most likely got blocked at some point and forced the river in a new direction.

Glacial Geology

Although the youngest rocks in Connecticut formed about 200 million years ago, geological events on the surface (particularly erosion) continued to shape the land.

Once land was uplifted, water and wind wore away at the ground surface. Water and ice that collected in the tiniest fissures of rock broke it up and over time reduced it to stones and gravel.

About 2 million years ago, a series of glaciers extended and receded across the North American landscape. The scouring effect of the mile-thick glaciers scraped, picked up and deposited materials all over the New England landscape. In many ways, people are much more familiar with this part of geological history because this is what New Englanders experience when they try to dig a hole in their yard and discover stones and boulders buried just beneath the surface.

The most recent glaciers receded approximately 16,000 to 14,000 years ago. Although many of the glacial features of our landscape today resulted from the most recent glaciers, some studies exploring the depth and arrangement of glacial till around the Housatonic River suggest that we can still observe and measure some of the effects of earlier glacial periods as well.

The two main processes that result from glaciers in shaping the land are erosion and deposition. Glaciers move across the landscape in one direction and scrape across the surface gathering up soil, gravel and boulders which they carry along with the ice for miles.

The material that a glacier picks up may be deposited underneath the glacier as it moves along or at the end of the glacier wherever it happens to be melting faster than it is moving forward, resulting in a moraine. Cape Cod and Long Island were formed by this process, but we can also see many smaller moraines locally in areas where long stretches of rocks and boulders remain scattered throughout the forest. Several

moraines are found in Cornwall Bridge, Cornwall Hollow and near the intersection of Rt 4, Rt 128 and Rt 43. Lakes also formed where the glaciers or ice blocked streams. These temporary pro-glacial lakes allowed sediments to settle before the drainage path became clear again.

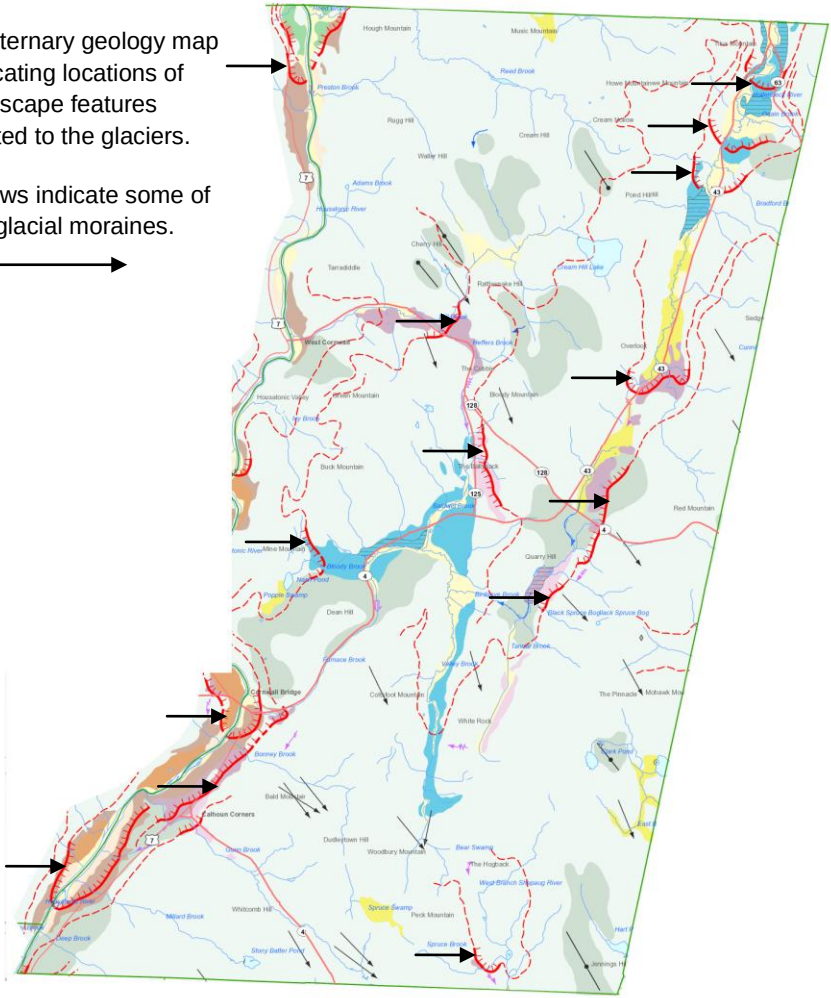
When the glaciers retreated, the meltwater from the glaciers also changed our landscape. Lakes temporarily formed where it could not immediately drain away. Meltwater also traveled the river valleys, many of which formed long before the glacial period. However, with each new glacier there was the potential for the paths of rivers to be changed or diverted, particularly when debris from a glacier blocked an earlier pathway. A study of the Housatonic River just south of the covered bridge suggests that this might have led to the sharp 90° turn in the river's path today.

The 90° turn of the Housatonic River south of the covered bridge. Infrared photo from Connecticut Environmental Conditions Online.

Following the retreat of the glaciers, Cornwall's landscape was a mixture of bare rock hilltops that had been scraped clean by the glaciers, as evidenced by grooves marked on the bedrock atop Mohawk Mountain, and glacial deposits particularly in lowland and valley areas which have become today's marshlands, forests and fields.

Quaternary geology map indicating locations of landscape features related to the glaciers.

Arrows indicate some of the glacial moraines.



The loose soil sitting atop the bedrock is called surficial material on geological maps. In our area it is primarily made up of two types of material: glacial till and drift. Till is a mixture that includes materials of different sizes, such as sand, clay, gravel, stones and boulders. Drift on the other hand is stratified or sorted by size. An area ended up with either till or drift depending on the glacial processes that deposited the material, whether a mixed release of material from the end of a melting glacier or a slow and steady deposition of materials in a lake or stream flowing underneath the glacier or by glacial meltwater as it receded.

Glacial Till

Glacial Drift – Sand deposit

Geologists have a variety of terms for the structures left behind by the glaciers: eskers, drumlins, kettle pools, and kames. In the Cornwall Village and Cornwall Hollow areas, and along the river in Cornwall Bridge, there are areas which were once pro-glacial lakes. The soil in these areas is good for agriculture. This reminds us that the history of our landscape goes back thousands of years but very much affects our activities today. There are also drumlins, or mounds of till, on Cream Hill, Cherry Hill, and in southeastern Cornwall. Ed Kirby's book *Exploring the Berkshire Hills*, describes many of these local features, such as the kame, or a ridge of gravel or sand, on route 128.

Following the retreat of the glaciers, the first peoples settled in the New England area. Bedrock and glacial geology affected the types and locations of their activities from the post-glacial times to the present. The two *Spotlights* on the iron industry and stone walls in the following pages examine the link between geology and human activity. Other conservation issues related to geology include:

- *Mining and sale of natural resources, such as minerals, ore, stone, gravel and sand*
- *Groundwater quality such as water hardness related to the bedrock minerals*
- *Public awareness of the story of the land that unfortunately is hidden mostly beneath glacial till and therefore can easily be ignored or forgotten*
- *Erosion risk zones based on the structure of glacial till and the effects of the removal of rock*
- *Inland wetlands and Planning and Zoning regulations linked to wetlands protection, bogs and calcareous fens*

A glacial erratic, or large boulder deposited by a glacier, at the Ballyhack Preserve.

Spotlight: Bedrock and the Iron Industry

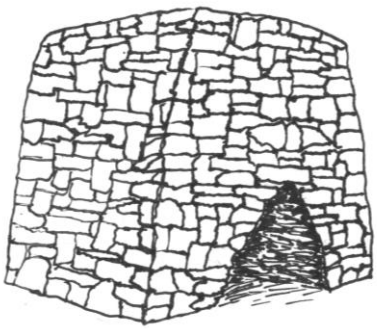
Reflecting on the past and connecting to conservation today

Many people choose to live in an area like Cornwall because of its beautiful rural landscape. In autumn, visitors make an annual trek to see the foliage. It is tempting to think that these memories we build in an area like Cornwall reflect the permanence of an unalterable environment. However, when we look at the time period from 1832 until 1897, we can see just how rapidly the landscape can be changed by humans using the land in this case in the quest for iron.

Several local authors have explored this fascinating period of history in detail and their books are highly recommended. In particular, the works of Ed Kirby guide us through the local history and suggest local field trips which enable us to see our landscape from a different perspective.

As we approach this topic from a conservation standpoint, it is also worth pausing to reflect on just how quickly a landscape can be changed as humans seek to use and manage local resources for business and livelihood.

In the early 1700s when northwest Connecticut was first being colonized by European settlers, they knew there was iron ore in the area but were unsure whether any excavation would be profitable. However, by the late 1800s and early 1900s there were iron forges and blast furnaces scattered throughout the area, including the Cornwall Bridge Iron Company and the Cornwall Iron Company in West Cornwall.



The stone portion of a blast furnace. Many hillsides in Cornwall were stripped of timber in order to provide the charcoal necessary for these blast furnaces located in several towns in Northwest Connecticut.

Although there were a few quarries in the area where iron ore and other minerals were mined, the major change to the environment was the

almost total deforestation of Cornwall in order to provide charcoal for the furnaces in neighboring towns. Several of today's preserves, such as the Cathedral Pines and Ballyhack, were initially established as a means to protect some of the oldest trees in the town during this time.

Our area may not experience another iron period, but when we reflect on how rapidly Cornwall's landscape was changed by the iron industry, we might consider what we want our town to look like in the future. We might also want to identify what other pressures for change our town will face in the future and what steps, if any, we want to take in order to preserve our town's future.

Spotlight: Glaciers' Gifts - Stone Walls

A part of the New England landscape
A remnant of the glaciers
A piece of colonial history
A resource worth conserving

Stone walls are a characteristic feature of the landscape in many New England towns. Protection of stone walls often falls to the local conservation commissions and land trusts. So the question becomes, "Why do these piles of stones created by humans deserve to be protected and conserved?" One can look at the issue from a couple of perspectives.

Stone walls were a product of the clearing of fields throughout colonial times and also served as convenient boundary markers or fences. Functional in their own time in separating one field from another or one person's property from another, they gained a whole new status over the passage of time. People began to connect New England with stone walls. As a result, stone walls have a historical and archaeological significance in addition to the aesthetic beauty that they provide to the New England landscape.

As stewards of the land, communities are responsible for protecting the resources of the town, including those of historical value. Stone walls sometimes fall under this protection, especially when included as part of a historical road or piece of property.

Stone Wall By Marina Matsudaira, Grade 8, Cornwall Consolidated School.

The stones help reduce erosion in the same way that they did when scattered naturally throughout the landscape. They also provide a refuge area for many types of wildlife, particularly since many other natural refuge areas are often destroyed by the changes in the landscape due to human activities.

Stone walls add to the aesthetic beauty of the countryside and thus contribute to the property value and the scenery of a neighborhood, even adjacent areas that do not have such assets themselves. In many New England towns, community members express concern when nearby walls are altered or

removed. Thus we all have a vested interest in preserving them and maintaining them.

For more information visit the *Stone Wall Initiative* website www.stonewall.uconn.edu.

Stone wall on Rattlesnake Road.

Natural History of Cornwall


Jack-in-the-pulpit.

The variety of terrestrial and wetland habitats, and elevational differences, make Cornwall an ideal location for a diversity of wildlife. The abundance of open space and public access to parks and preserves gives amateur naturalists ample opportunity to study the plants and animals of Northwest Connecticut. Although we would like to discuss all of these here, it is too much to entertain in a bulletin of this size. There are field guides available to help with identification, and books like *Connecticut Wildlife* to describe their habits and behavior. Future bulletins will devote attention to specific groups of flora or fauna to provide the desirable amount of detail. In the section that follows, we will take a broad conservations approach to the wildlife of Cornwall.

Living in one of the more rural towns of Connecticut, the people of Cornwall quickly become familiar with the wildlife that freely travels through our yards and local landscape. The recent return and increase of species such as bobcat, bear, coyote, Common Raven, Bald Eagle, and the occasional moose certainly captures the attention of the community and provides us with endless wildlife stories to share.

We must be cautious not to label large or charismatic animals as our only wildlife resources. Many smaller creatures such as woodland warblers, wildflowers, wetlands plants and insects are also an important part of Cornwall's wildlife community.

Many amateur naturalists are becoming more interested in smaller creatures such as dragonflies, butterflies and aquatic

insects. Volunteers in local communities monitor vernal pools and the resident amphibian populations. Some homeowners work hard to maintain native plants in their yard and actively eliminate invasive species. The Northwest Conservation District's annual plant sale has done much to educate people about the landscaping potential with native plants.

This perspective is important, because when one looks at the state list of species that are endangered, threatened and of special concern, many of them are not organisms the average person or even experienced naturalist could identify. In many cases, it is through the protection of a habitat that one can preserve uncommon or rare species. The map (opposite) shows the approximate distribution of species that listed as endangered, threatened or of special concern by the Connecticut Department of Energy and Environmental Protection (DEEP).

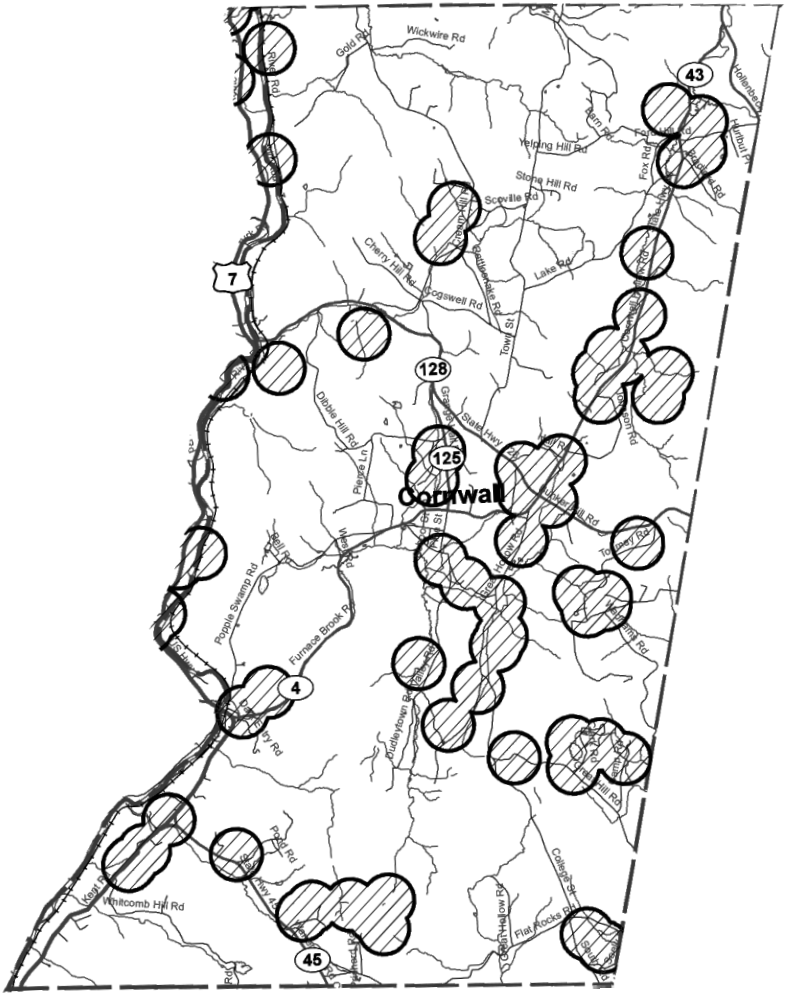
Woodland ferns.

With this in mind, an important aid to conservation in Cornwall is the frequency of education programs offered in this and nearby towns and at local nature centers to help people become more familiar with the wildlife in the area. Through understanding the behaviors of wildlife, habitat requirements and the interactions between wildlife, the environment, and humans, we have a better chance of making good decisions that will help us use our land while still conserving our local heritage.

Some resources that have specific information on Cornwall wildlife include:

- Connecticut Breeding Bird Atlas Project
- Connecticut Butterfly Atlas Project
- Connecticut DEEP Natural Diversity Resource Database

Most of these can be found either in the online resources section of this booklet or in the bibliography. Future bulletins produced by the Cornwall Conservation Commission will be able to devote more space to specific wildlife groups, including identification, behavior and ecology notes, and conservation issues regarding different species.



Map of state listed species from DEEP Natural Diversity Database. Each circle represents an area within which there is a documented occurrence of a species that is endangered, threatened or of special concern.

Rattlesnakes

"On the 1st Thursday of March 1741 it was in Town Meeting Voted to give 6 pence for every Rattle-Snakes tail that should be killed by the 15th of May next."

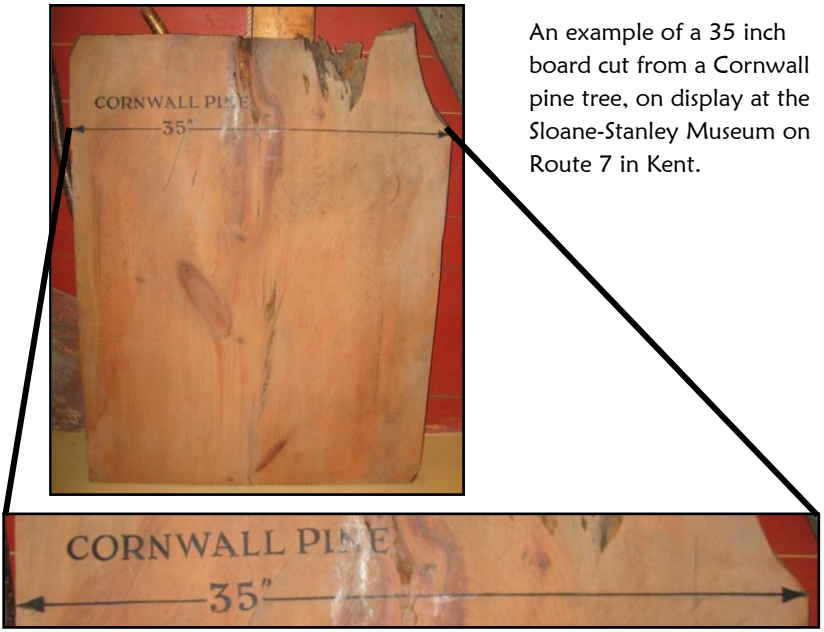
Quoted in Allen (1985). In 2012, the timber rattlesnake is the only snake listed as an endangered species in Connecticut.

New growth emerging from the trunk a downed tree.

Natural Resources of Cornwall

Land Resources

Connecticut was mostly forested prior to European settlement. During the 1800s, approximately three quarters of Connecticut was farmland, and the iron industry further deforested many areas in northwest Connecticut. Because timber was such an important resource at the time, a series of fire towers was established, including the one at Mohawk Mountain.



An example of a 35 inch board cut from a Cornwall pine tree, on display at the Sloane-Stanley Museum on Route 7 in Kent.

Wood was used to make charcoal for the iron furnaces. Northwest Connecticut had several resources necessary for producing iron. In addition to iron ore, limestone and marble were also mined and used in the furnaces to help remove impurities from the iron. Local quarries also produced good quartzite for the furnace hearthstones. The rail line was an

important means of transport for bringing in supplies and for exporting local products. Considering the rough, hilly shape of Cornwall's land, transportation of materials is a serious issue for businesses as well as the average household keeping their cupboards stocked.

It is interesting to note that the railroad's original plan was to run tracks from Furnace Brook across Cornwall to the Hollenbeck River. One can imagine how different a place Cornwall would be with tracks and stations in these locations. It reminds us how decisions made in the present have a great impact on the future of the town.

Another type of rock that was mined besides iron ore was kaolin used in the production of ceramics, paper and ink.

Since much of the land in Cornwall is now used either as farmland or residential yards, the new conservation issues facing the town must focus on how our activities affect our landscape and water supply, including groundwater pollution and surface runoff. The town must also consider activities that result in non-point sources of pollution that accumulate from multiple properties within the town and from neighboring towns.

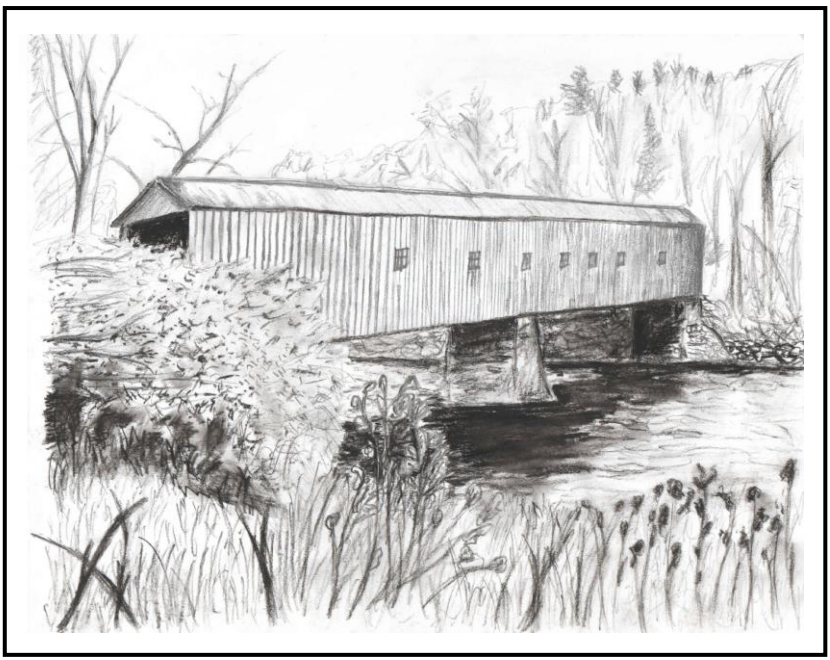
Water Resources

The Housatonic River probably began to shape its path around 50 million years ago. Along with the other major Connecticut rivers, it provided a path for glacial melt water in more recent times. The Housatonic River watershed includes 1,948 square miles of land area in 85 towns in Connecticut, New York and Massachusetts. With this in mind, the protection of the river as a water resource falls under the responsibility of many communities. The Housatonic Valley Association has produced numerous publications, including *Sound Science*, which aims to teach students and the general public about water quality and pollution issues related to land-use.

Very early in the settlement of Northwest Connecticut, people recognized the potential for waterpower from the numerous brooks, streams and rivers. Almost every waterway in Cornwall had a mill at some point.

In 1970, the U.S. had already lost approximately 40% of its original inland wetlands, with about 1% more being lost each year. Towns and states established wetland laws and regulations to protect the remaining wetlands. There was also a strong effort to educate people about the importance of wetlands for flood control, water purification, erosion control and wildlife preservation.

Today, conservation issues related to our water resources are addressed by several groups including the town's Inland Wetlands Commission, Torrington Area Health District, the Northwest Conservation District and nonprofit groups such as the Housatonic Valley Association and the Housatonic Environmental Action League.



West Cornwall Covered Bridge By Matthew Matsudaira, Grade 11, Housatonic Valley Regional High School.

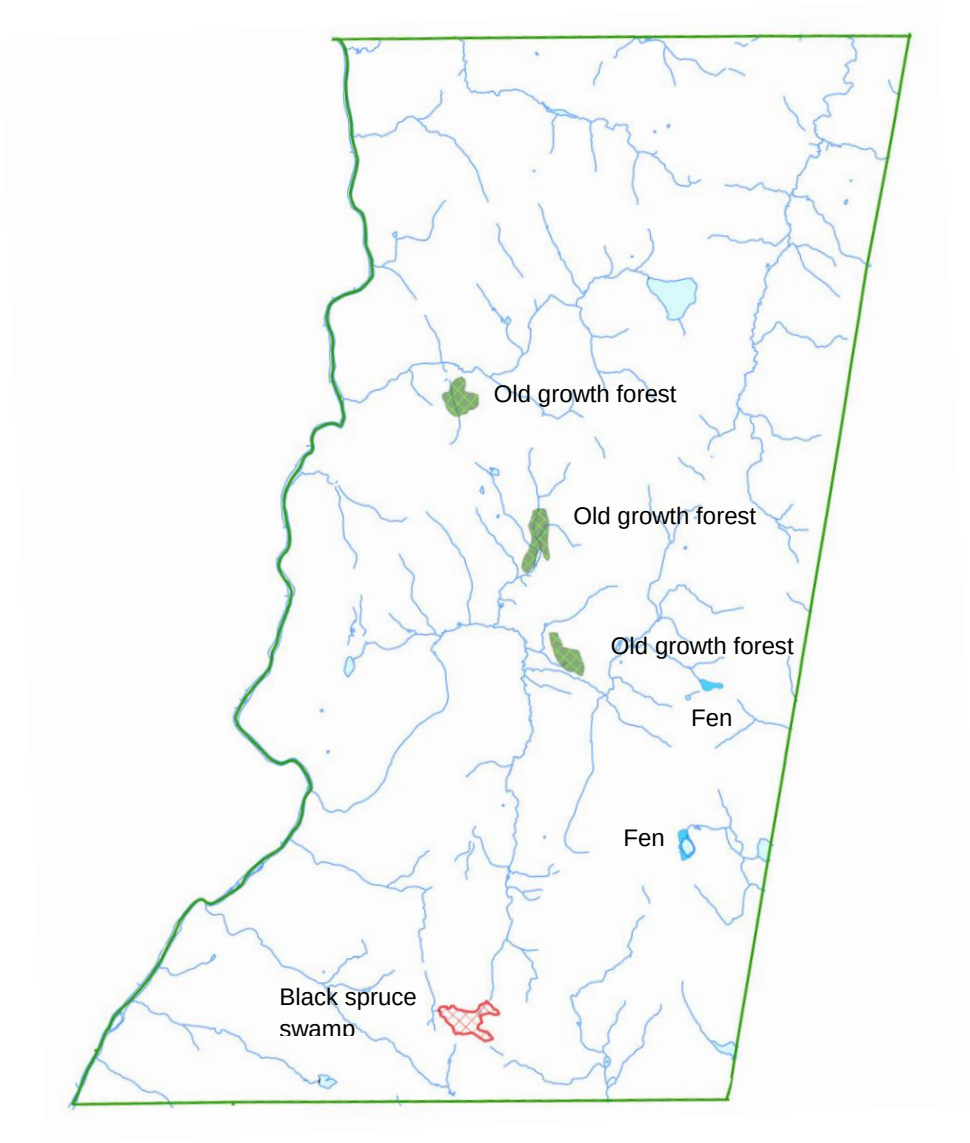
Critical Habitats of Cornwall

Cornwall has six critical habitats recognized by the Connecticut Department of Energy and Environmental Protection (DEEP).

In the center of Cornwall, there are three areas of old-growth forests, located in Cathedral Pines Preserve, Ballyhack Preserve and the Day Preserve. There is also a black spruce swamp located in Wyantenock State Forest and two fens (similar to bogs except with neutral or alkaline conditions) located in Mohawk State Forest.

Protection of critical habitats helps a variety of wildlife species that depend on very specialized conditions. For example, birds like as the Pileated Woodpecker depend on old growth trees for the ants and other insects found in them. Even the death of one of the old-growth pine or hemlock trees allows many organisms to thrive off the wood as a food resource and other organisms, particularly birds, will use the wood for shelter.

Woodpecker holes in a fallen tree at the Ballyhack Preserve.

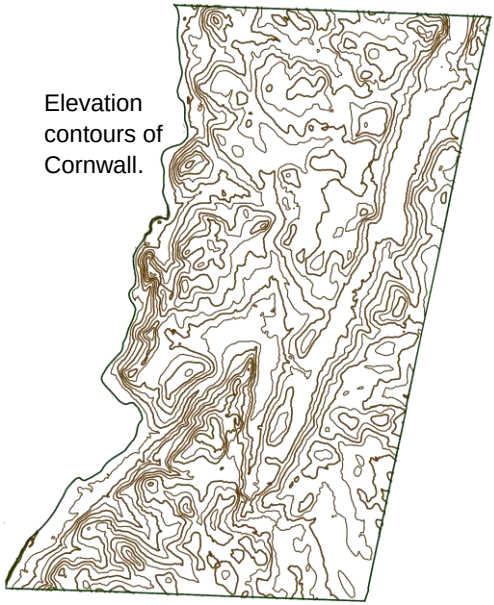


Map indicating the location of critical habitats identified by the Connecticut Department of Energy and Environmental Protection (DEEP).

Using the Land: The People of Cornwall

Native Americans

The most recent glaciers receded approximately 16,000 to 14,000 years ago. The first peoples moved into Connecticut about 12,000 years ago. These Paleo-Indians tended to move around as needs dictated and resources became available.



Elevation contours of Cornwall.

Archaeologists have divided the history of Algonquin in the Northeast into three periods (Paleo, Archaic and Woodland), but since little has been discovered or preserved from many of these time periods in Cornwall or the neighboring towns, the use of this land by the native peoples must be inferred from other archaeological sites in the Northeast. During the Woodland Period about 2000 years ago, Native Americans established settlements, sometimes temporary, but becoming more permanent as new skills and agriculture were developed.

The early European settlers and archaeologists more recently have found some remnants, including stone containers and arrows in Cornwall. A settlement in Falls Village was excavated to reveal more of the materials and activities of people in this area. The Native Americans probably used the area more for hunting and fishing than agriculture. Since they established residences adjacent to

permanent water bodies, it is likely that the hills of Cornwall were mostly used as hunting grounds, but residence was set up elsewhere. A remnant of a small encampment with some utensils was discovered next to a wetland near Samuel Johnson's house (near Johnson Road today) in the 1800s.

There were members of the Schaghticoke tribe living in this area when Europeans first established settlements in Northwest Connecticut, but there are few records to refer to for further information.

European Colonists and Early Industry

In the 1600s, the early settlers regarded Connecticut as forest and wilderness. By the early 1800s, most of the land had been converted to farmland. In publications from the 1800s, the major industries are listed as agriculture and ironworks (discussed previously in geology section).

Crops included corn, wheat, oats, beans, and flax. Farms also produced fruit, dairy products and livestock. The open hill land was used for pasture and grazing. Apples were grown for cider, and barley was harvested to make beer. Early farmers tried to find rich soil in the floodplain areas, which was difficult in such a hilly region. Some farms were also located on hilltops where the lack of shade increased the growing season.

Apple Tree By Haley Trapella, Grade 4, Cornwall Consolidated School

Earlier in the bulletin we spent a significant amount of time talking about the geology of Cornwall. One effect this had on the early

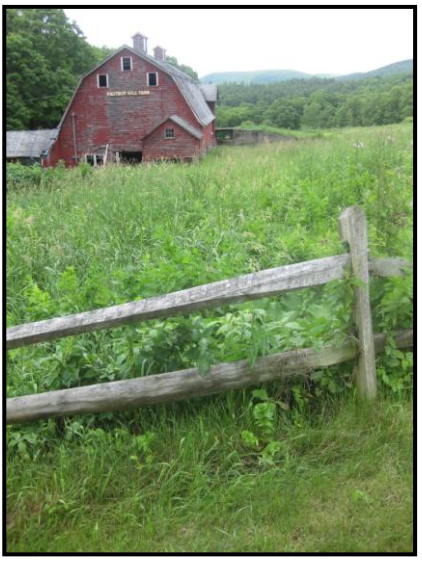
settlers was the difficulty of constructing roads with an east-west orientation, because the mountain ranges tend to run north-south. The lack of transportation limited which crops could be sold outside the local area.

Several other businesses had been established in Cornwall over the years, including two companies that produced shears, shoemaker shops, a plaster mill, a nail factory, a cabinet shop, blacksmith shops, basket weaving and cloth sales, stone cutting, sawmills and grist mills.

Twentieth Century Agriculture and Community

Following the decline of the iron industry, many people left the area. There was a decline in the local population, but there was also an influx of new residents beginning after the Civil War and continuing during the first half of the twentieth century when people in nearby cities sought refuge from urban areas and recognized the beauty and peaceful landscape of places like Cornwall. They began to spend weekends, vacations or summers in this area.

One conservation issue that appeared early in the twentieth century with this shift in population was the competing demands between agriculture and economic growth. Farmland suddenly became valuable for development, an economic situation that strained farmers with extra costs, making it difficult for farms to stay open.



Hautboy Hill Farm barn.

Today, there are various types of aid and financial assistance provided to farms, such as conservation easements in exchange for funds to assist farmers and to help keep farm land as open space.

In the early 1900s, some farms shifted away from crops toward dairy products. Increased transportation in the area allowed farmers producing milk, cheese and butter to deliver them further by train or other means.

By 1984, there were only 10 active farms in the town. Local farmers' markets help keep some of the farms in business, with many visitors and weekenders supporting the local farms and gaining the health benefits of fresh locally grown produce and dairy products.

Spotlight: Civilian Conservation Corps

Among the many conservation related movements and activities of the twentieth century, one national program played an important role in Cornwall that could easily be overlooked or forgotten today. In 1933, the Civilian Conservation Corps was formed as part of the "New Deal" following the Great Depression. In Connecticut there were 13 camps, including one opened on June 20, 1933 at Housatonic Meadows State Park in West Cornwall. Camp Cross, as it was called, was led by Thomas C. Hood and included 250 men.

The CCC helped repair and maintain roads throughout the state forest and also constructed several large stone walls. Some of these are still visible, although the forest has grown-up around them. They stand there as a reminder that the landscape is constantly changing and that even the dramatic deforestation following intense farming and timber harvesting can allow a return to a forested landscape, albeit one that still holds the evidence of past events.

In fact, as more farms were abandoned, it was the grasslands and the wildlife species dependent on them, such as grassland birds, which became the new conservation concern. Being stewards of a landscape requires adjusting to the changes of the time and trying to plan ahead to avoid future concerns.

Stone wall at Housatonic Meadows State Park.

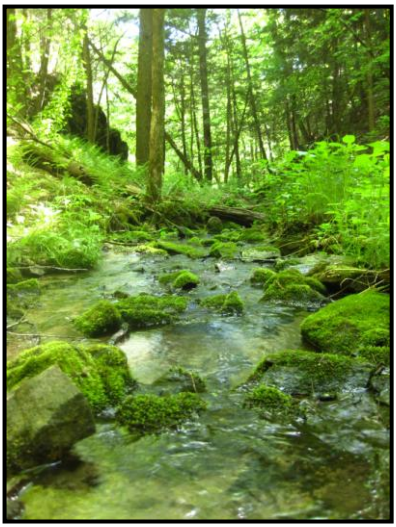
Preserved Land

Introduction

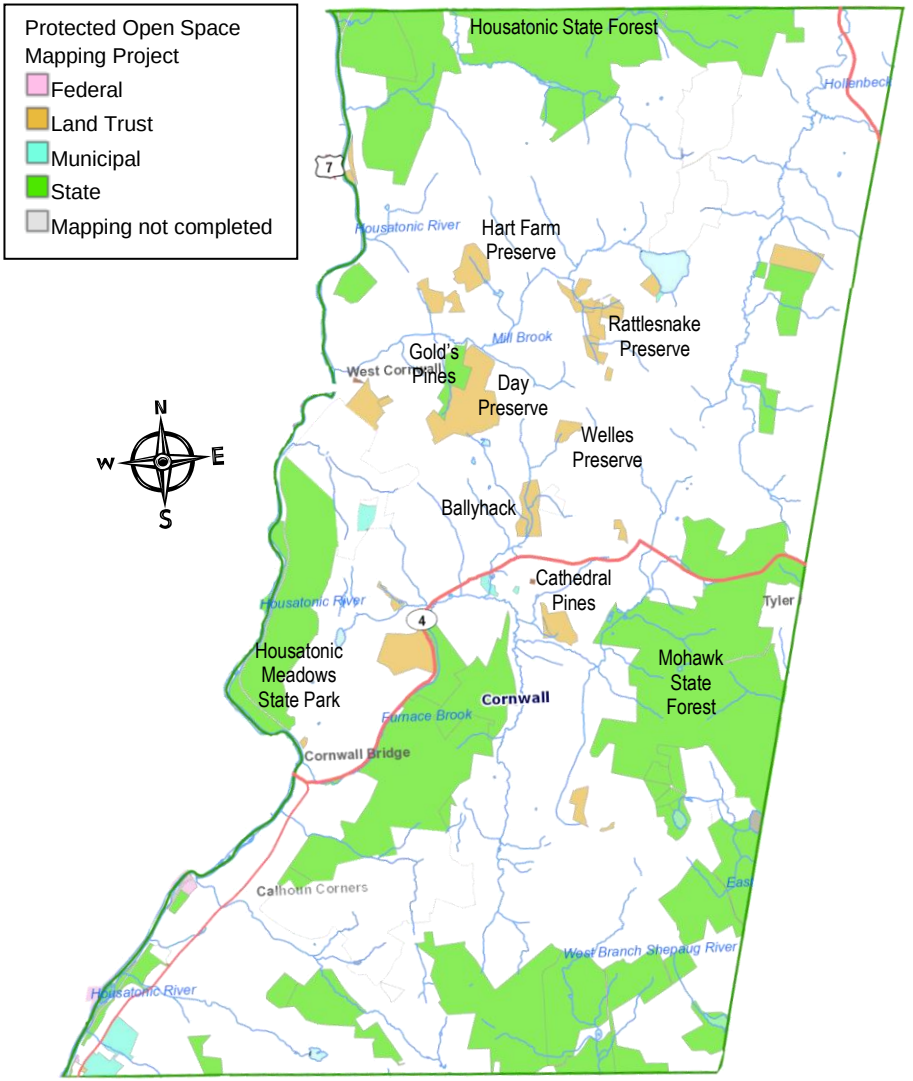
Property can be preserved in a number of ways to help protect wildlife, specific habitats, or natural resources, while at the same time allowing people to use the land for specific purposes. Examples include national parks, state forests, state parks and various scenic routes. Local land trusts and other organizations also set up various forms of preserved land.

In addition, private property owners can establish easements on their property which restrict certain activities as a means for protecting the landscape in the future. These easements often come with tax and other benefits as a way of encouraging people to consider protecting open space. Perhaps the first step toward considering some form of land preservation is to educate oneself about the local environment, wildlife, natural resources and to recognize the value in one's own property.

The following descriptions provide an overview of several properties in Cornwall which have trails open to the public. By exploring these natural areas, one can begin to build a sense of the importance of preserving habitats in the town for wildlife as well as human recreation and enjoyment. Further information about these sites can be found at the Connecticut DEEP website, the Cornwall Conservation Trust and The Nature Conservancy's websites.



Baldwin Brook.



A map of the preserved open space in Cornwall from the Connecticut Environmental Conditions website www.cteco.uconn.edu. Please note that not all preserved lands are open to the public. Additional protected properties, including private lands with conservation easements, are not indicated on this map.

State Forests and Parks

Mohawk State Forest

Mohawk State Forest, established in 1915, has two of the highest points in Cornwall: Mohawk Mountain at 1683 feet and Red Mountain at 1652 feet. The view made it an ideal location for a fire tower in the early 1900s. The exposed bedrock on the top of Mohawk Mountain reveals the striations created when the glaciers scraped the rock surface.

In addition to good views from the mountaintop, recreational skiing in the state park area, and hikes through the forest, the state forest also provides a boardwalk path through one of Cornwall's critical habitats, a black spruce bog. A hike on any of the trails through the forest will reveal many boulders left by the glacier.

Mohawk Mountain By Sky Alexandra Trapella, Grade 6, Cornwall Consolidated School

The state park has 156 acres and the state forest area includes 2230 acres between Cornwall and Goshen.

Housatonic Meadows State Park

Although the majority of Housatonic Meadows State Park is located on the Sharon side of the Housatonic River, there is a hiking section in the park land in Cornwall. The trail is accessible from Popple Swamp Road.

Housatonic Meadows State Park, located along the shore of the Housatonic River, gives one the chance to look at some of the rock exposed by millions of years of erosion as well as recent changes such as the stone walls constructed by the Civilian Conservation Corps following the Great Depression. The park is located approximately where the Housatonic River leaves the hard gneiss bedrock and returns to the softer marble valley. This is also an area where a glacial lake extending down to Kent had formed in the valley.

Housatonic State Forest

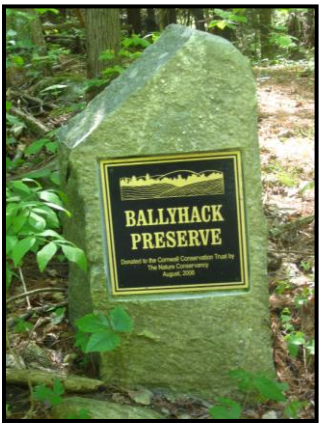
Housatonic state forest has 5,179 acres between Cornwall, Falls Village and Sharon. In Cornwall, two sections are accessible: a Cream Hill section accessible from Music Mountain Road and Gold's Pines on Route 128. The state forests allow for hiking and other recreational activities. Gold's Pines is adjacent to the Day preserve, owned by the Cornwall Conservation Trust. They can both be accessed through the same entrance, just east of the Cornwall Volunteer Fire Department station.

Cornwall Conservation Trust

Trail maps are provided on the Cornwall Conservation Trust website, and are posted at the parking areas of most of the Trust's properties.

Ballyhack Preserve

Parking is on the east side of Route 125. The entrance to the trail is across the street and marked by a stone with a plaque.



Ballyhack stone plaque.

The Ballyhack Preserve (56 acres) was donated to The Nature Conservancy and later transferred to the Cornwall Land Trust in 2005. The trail takes one in a loop through an old growth pine and hemlock forest. Notable features include a steep rocky ravine, large pine and hemlock trees (approximately 200 years old), and several large glacial erratics in the woods and along Baldwin Brook. Although the 1989 tornado did damage some of the trees at Ballyhack, many of them were spared and allow a visitor to see what the pine and hemlock trees of Cathedral Pines may have looked like prior to 1989.

Ravine rocks at the Ballyhack Preserve.

Welles Preserve

The Welles preserve is located on Town Street and is accessed either by pedestrian path or by vehicle on a private drive.

The trail follows along a marsh and then ends with a loop trail that follows the contours of Bloody Mountain's peak and provides good views. The origin of the mountain's name is described in Allen (1985).

Day Preserve

Parking for the Day Preserve is located at the entrance to Gold's Pines Natural Area, just east of the Cornwall Volunteer Fire Department.

From the Gold's Pines entrance the trail branches eastward a little more than half a mile to join a 1.2 mile loop trail. This is one of the three old growth forests indentified on the critical habitats map earlier in this bulletin.

Hart Farm Preserve

Parking for the Hart Farm Preserve is on the north side of Cherry Hill Rd.

In addition to hiking through several large fields, the trail loops through a forest area and along a woodland stream. The preserve provides a good opportunity for naturalists to observe open field and grassland species of birds and insects.

Hart Farm Preserve.

Rattlesnake Preserve

Parking is in two locations along Rattlesnake Road, marked by the yellow conservation trust signs.

The Rattlesnake Preserve trail provides a beautiful walk through woodland areas adjacent to open fields. The combination of these terrestrial habitats adjacent to several wetland areas provides excellent viewing of wildlife. The landscape is also accented by stone walls, stone bridges and large glacial erratics.

Large glacial erratic at Rattlesnake Preserve.

Take only pictures.

Leave only footprints.

The Nature Conservancy

Cathedral Pines

Parking for the Cathedral Pines trail is located at a road pull-off at the bottom of Essex Hill Road.

The Cathedral Pines were donated to The Nature Conservancy in 1967. At a time when most timber was being harvested for charcoal and the iron industry, this property was protected in 1883 by the Calhoun family. For a long time it contained some of the oldest pine trees in New England. The 42-acre stand was damaged by tornadoes in 1980 and 1989, the most recent one devastating many of the older pine and hemlock trees. The trees were estimated to be around 200 to 300 years old.

Cathedral Pines.

"…a strikingly beautiful white pine stand, the oldest that Connecticut (and perhaps New England) has to offer… Unless influenced by some natural disaster, such as flood, fire, wind, or insect infestation, the natural development of an even-aged pine stand often runs as follows..."

Cooley (1989) published before the tornado destroyed Cathedral Pines in 1989.

Memory of a Majestic Stand

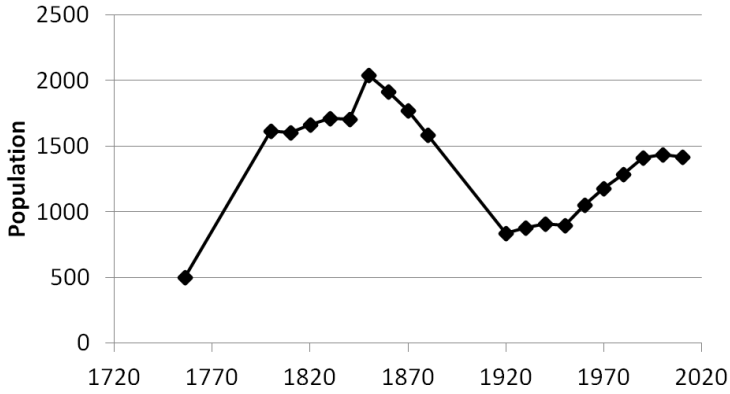
A dead snag stands above the forest near Cathedral Pines.

New Life

A young pine emerges from between two rocks.

Population and Land Statistics

- The town's area is 46.8 mi.² with the north-south dimension approximately twice as long as the east-west dimension.
- Lowest elevation: Housatonic River shoreline in Cornwall Bridge (450 feet).
- Highest elevation: Mohawk Mountain (1683 feet).
- The town was incorporated in 1740.
- Cornwall had its greatest resident population in the year 1850 with approximately 2041 people.
- Approximately 1/5 of the town's land area is owned by the State of Connecticut as forest or park.



Population of Cornwall (1756-2010). Data from the U.S. Census Bureau and Kirby (1998).

Local Conservation Related Organizations

TOWN MUNICIPAL GROUPS

Cornwall Town Hall
26 Pine Street, P.O. Box 97, Cornwall, CT 06753

Selectman's Office: Phone: 860-672-4959
Email: cwlselectmen@optonline.net
Land Use Office: Phone: 860-672-4957
Email: cwlanduse@optonline.net

Local boards & commissions with activities related to conservation
Meetings posted in town hall and in the Cornwall Chronicle, available for download at www.cornwallct.org

Inland Wetlands Commission
Planning and Zoning Commission
Agricultural Advisory Commission
Cornwall Energy Task Force
Economic Development Commission
Housatonic River Commission
Park and Recreation Commission
Sanitary Transfer Station

View from Cornwall Village looking south.

GOVERNMENT ORGANIZATIONS

Connecticut Department of Energy and Environmental Protection
79 Elm Street
Hartford, CT 06106-5127
Phone: 860-424-3000
Web: www.ct.gov/dep/

Litchfield County Cooperative Extension Center
843 University Drive
Torrington, CT 06790
Phone: 860-626-6240
Web: www.extension.uconn.edu

Torrington Area Health District
350 Main Street, Suite A
Torrington, CT 06790
Phone: 860-489-0436
Web: www.tahd.org

NON-PROFIT ORGANIZATIONS

Connecticut Forest & Park Association (CFPA)
16 Meriden Road
Rockfall, CT 06481
Phone: 860-346-2372
Web: www.ctwoodlands.org

Connecticut Land Conservation Council
c/o CT Forest & Park Assoc.
16 Meriden Road
Rockfall, CT 06481
Phone: 860-685-0785
Web: www.ctwoodlands.org

Cornwall Conservation Trust, Inc
P.O. Box 74
West Cornwall, CT 06796
Phone: 860-672-6263
Web: cornwallconservationtrust.org

Cornwall Historical Society
7 Pine Street, P.O. Box 115
Cornwall, CT 06753
Phone: 860-672-0505
Web: www.cornwallhistoricalsociety.org

Housatonic Environmental Action League, Inc. (HEAL)
P.O. Box 21
Cornwall Bridge, CT 06754
Phone: 860-672-6867
Email: healct@snet.net

Housatonic Valley Association
P.O. Box 28
150 Kent Road
Cornwall Bridge, CT 06754
Phone: 860-672-6678
Web: www.hvatoday.org

Institute for American Indian Studies
38 Curtis Road
PO Box 1260
Washington, CT 06793
Phone: 860-868-0518
Web: www.iaismuseum.org

National Audubon Society – Audubon Sharon
325 Cornwall Bridge Road
Sharon, CT 06069
Phone: 860-364-0520
Web: sharon.audubon.org

Northwest Conservation District
1185 New Litchfield Street
Torrington, CT 06790
Phone: 860-626-7222
Web: conservect.org

Pratt Nature Center
163 Papermill Road
New Milford, CT 06776
Phone: 860-355-3137
Web: www.prattcenter.org

The Nature Conservancy
Connecticut Field Office
55 Church Street
New Haven, CT 06510
Phone: 860-344-0716
Web: www.nature.org

White Memorial Conservation Center
80 Whitehall Road
P.O. 368
Litchfield, CT 06759
Phone: 860-567-0857
Web: whitememorialcc.org

View from Cornwall Village looking south.

ONLINE CONSERVATION RESOURCES LITCHFIELD COUNTY

The Cornwall Association
www.cornwallct.org
The site provides local government and town communications, event announcements and links to other town entities, as well as great photos from town events.

Housatonic Valley Association
www.hvatoday.org
The HVA is a great resource for free publications (pdf format) and maps about the Housatonic River, including the *Sound Science* booklet used by many local students to research the pollution issues related to the river's watershed and Long Island Sound.

ONLINE CONSERVATION RESOURCES CONNECTICUT

Center for Land Use Education & Research (CLEAR)
clear.uconn.edu/
The University of Connecticut's CLEAR website provides free and accessible mapping data and resources for the State of Connecticut.

Connecticut Environmental Conditions Online (CT ECO)
www.cteco.uconn.edu
CT ECO website provides a wealth of mapping resources to compile and view data at the local and state level.

Connecticut Geological and Natural History Survey
www.ct.gov/dep/site
Select *programs and services* to navigate to the Geological and Natural History Survey where several publications are available and a wealth of information on invasive plants.

Connecticut Museum of Natural History
www.cac.uconn.edu/mnhhome.html
The museum has important state collections and also provides online access to its publications (pdf format).

Connecticut State Library
www.cslib.org
The site is useful in researching Connecticut's past, which is an important step in planning and conserving for the future.

Department of Energy & Environmental Protection
www.ct.gov/dep/
The DEEP website provides state data, mapping resources and the lists of protected species. There are many publications focusing on Connecticut wildlife and environmental topics available for free download (pdf format) and others available for purchase through the DEEP store.

Map and Geographic Information Center (MAGIC)
magic.lib.uconn.edu/
The University of Connecticut Map and Geographic Information Center provides digital aerial photos and raw map data, both current and historic.

Yale Peabody Museum
peabody.yale.edu
The Peabody online link includes the Connecticut Butterfly Atlas project, the Bioblitz and important natural history collections of Connecticut.

ONLINE CONSERVATION RESOURCES
NATIONAL

Appalachian Mountain Club	www.outdoors.org
Cornell Lab of Ornithology	www.birds.cornell.edu
National Audubon Society	www.audubon.org
National Wildlife Federation	www.nwf.org
The Nature Conservancy	www.nature.org
U.S. Department of the Interior	www.doi.gov
U.S. Environmental Protection Agency	www.epa.gov
U.S. Fish and Wildlife Service	www.fws.gov
U.S. National Park Service	www.nps.gov

Mill Brook on Rattlesnake Road.

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Spencer Markow (age 6) at the Ballyhack Preserve.

We speak of the landscape and life in it to instill a sense of value and appreciation for the place we live, with the hope that we will not only be good stewards of the land, but also teach how to be good stewards to those who will follow us.

Image Credits

Illustration	Artist	Page
Stone Wall	Marina Matsudaira, Grade 8, CCS	15
Covered Bridge	Matthew Matsudaira, Grade 11, HVRHS	23
Backyard Apple Tree	Haley Trapella, Grade 4, CCS	27
Mohawk Mountain	Sky Alexandra Trapella, Grade 6, CCS	33

Photographs and Maps

Maps were produced at CT-ECO Connecticut Environmental Conditions Online (www.cteco.uconn.edu). Photographs by author.

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Acknowledgements: Thanks to Barton Jones, David Lindsay, Ginny Potter, Gordon Ridgway and the members of the Cornwall Conservation Commission, particularly Kim Herkimer, Patrick Mulberry, and Graham Underwood, for their editorial comments and suggestions.