

NATURAL RESOURCE
CONSERVATION PLAN
FOR THE
TOWN OF NEW LEBANON
2017

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Hudsonia Ltd.

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(Cover photo: Lebanon Valley viewed from the US Route 20 overlook. Craig Westcott © 2017)

How to Use the Natural Resource Conservation Plan

This section describes a few ways that the *NRCP* can be used by landowners, farmers, developers, and town agencies to bring natural resource considerations into decision-making about land management, regulatory reviews, and townwide planning. Many other sections of the *NRCP* are also relevant to these tasks, but the outline below provides a quick introduction to the document.

For Land Management & Site Planning

If you are a farmer who owns and/or leases land, a developer planning a new project, or a landowner considering land uses and land management on your property, here are some ways that the NRCP might be helpful.

- Consult Figure 1 to see which **Conservation Area** your property is located in, and read about some of the significant natural resources in that region of the town (p. 113-116).
- Read about some of the **values of farmland for native plants and animals**, and how agriculture can benefit from **intact surrounding habitats and resources** on p. 67-68.
- Consult Figure 9 to see if your property is in the area of an unconsolidated **aquifer**, and read about the importance and sensitivities of those areas on p. 24.
- If your property has a **stream, pond, or lake**, review the General Measures for Water Resource Conservation on p. 29-30.
- If your property is in (or partially in) a **stream corridor** designated as an Area of Known Importance for sensitive coldwater stream organisms (Figure 16) or in an Active River Area (Figure 14), see the discussions of those areas on p. 46-52 and 60-61.
- If your property has **forests** or **meadows**, see Figure 12 or 13 to see if those features are part of a large forest area or large meadow area that may have special ecological importance.
- Read about the values of those areas (as well as smaller forests and meadows) for area-sensitive wildlife, habitat connectivity, or wildlife migration corridors on p. 35-40 and 42-44.
- If your property has other habitats, such as **ledges, shrublands, woodland pools, or swamps**, read about some of the ecological attributes of those and other habitats on p. 40-60, and see the General Measures for Biological Resource Conservation on p. 65.

For Townwide Planning and Policy-Making

If you are working on revising the New Lebanon *Comprehensive Plan*, the *Zoning Ordinance*, or other parts of the local code related to natural resources, here are some ways that the *NRCP* can be useful.

Mineral Resources

- Consider the distribution and extent of **glacial outwash** or **kame deposits** (Figure 6) in the town. Does the town wish to maintain access to sand and gravel resources for future mining?
- If so, an overlay district could be established to help ensure that adequate areas of sand and gravel are maintained without pavement or buildings that would render the mineral resources permanently unextractable.

Water Resources

- Consider the areas of **unconsolidated aquifers** illustrated in Figure 9.
 - Read (p. 24) about the importance of the aquifers to the public welfare, and the sensitivities of those areas to human activities (e.g., contamination from septic leachate, fertilizers, pesticides, de-icing salts, leaks or disposal of petroleum compounds or other toxic materials, or water depletion due to ineffective stormwater management).
 - Consider the variety of regulatory and non-regulatory ways to protect local aquifers, such as:
 - educating landowners and developers.
 - establishing a Critical Environmental Area (p. 120)
 - establishing an Aquifer Overlay Zone (p. 121)
 - adding protective provisions to the local code (p. 121)
- Consider the **100-year floodplains** (Figure 14) throughout the town, and read about those areas on p. 49-53.
 - If the town wishes to prevent flooding harm to buildings and structures, a Floodplain Overlay District could be established within which only flood-resilient land uses and those that would not create or exacerbate local or downstream hazards would be permitted.
- Consider the **Active River Areas** (Figure 14) identified throughout the town.
 - If the town wishes to maintain the stream flow, water quality, and habitat quality of streams, a Stream Corridor Overlay District could be established to draw attention to the Active River Areas and encourage suitable land uses and suitable setbacks for developed features in the ARA zones.

Biological Resources

- Consider some of the special biological resources in the town, such as:
 - **Significant Biodiversity Areas** and **Areas of Known Importance** (Figure 16)
 - **floodplain forests** (Figure 15)
 - **large forests** (Figure 12)
 - **large meadows** (Figure 13)
- Read about those features on p. 42-56 and 60-62.
- Consider adding measures to the local code to help ensure that new land development and land uses are designed to maintain those areas intact where possible, and to avoid or minimize harm to the most sensitive parts of those areas.
- See the General Conservation Measures for Biological Resources on p.65.

Farmland Resources

- Consider the areas of **active farmland** (Figure 13), the best **farmland soils** (Figure 17), and the **Priority Agricultural Lands** identified by the Columbia County AFPB (Figure 18).
 - If the town wishes to support active farms and maintain the best farmland and farmland soils for future agricultural uses, provisions could be added to the Comprehensive Plan and the local code to ensure that the viability of future farming is considered in the review of land development projects. This could be accomplished by requiring that new development projects be located and designed so that active farmland and good farmland soils remains intact and unfragmented as much as possible, thus preserving possibilities for future agricultural use.

Scenic Resources

- Consider the places identified as areas of scenic importance to the town (Figure 19).
- Initiate a more comprehensive townwide inventory and map of scenic areas.
- Because scenic resources are of prime importance to town residents (according to recent surveys), consider adding provisions to the *Comprehensive Plan* and the local code that would help ensure that new development projects are located and designed to maintain the important scenic values of a site.

Protected Land

- Consider the land areas with formal protected status (Figure 22) throughout the town, e.g., protected by public agency or land trust ownership or by private conservation easement.
 - Consider adding provisions to the *Comprehensive Plan* or local code requiring that new development on lands adjacent to formally protected parcels be designed to maintain broad undeveloped areas well-connected to the protected lands.

For Environmental Reviews

If you are a member of the New Lebanon Planning Board, Zoning Board of Appeals, or Conservation Advisory Council, and are reviewing a proposed land development project, here are some ways that the NRCP can alert you to some natural resource questions, and bring additional information to your review.

Mineral Resources

- Is the property in an area of **glacial outwash** or **kame deposits** (Figure 6)?
 - If so, will the proposed development render the underlying sand and gravel permanently inaccessible due to, e.g., pavement or buildings? Can the new development be designed to maintain future mining access to sand and gravel?

Water Resources

- Is the parcel located in the area of an **unconsolidated aquifer** (Figure 9)?
 - If so, read on p. 24 about the importance of the aquifer to the public welfare, and the sensitivities of aquifer areas to human activities (e.g., contamination from septic leachate, fertilizers, pesticides, de-icing salts, leaks or disposal of petroleum compounds or other toxic materials, or depletion due to ineffective stormwater management).
 - Can the pavement, structures, stormwater management, and other features of the proposed project be designed to protect the water quality of the aquifer and to facilitate ample onsite infiltration of stormwater runoff?
- Are there **streams, ponds, or wetlands** on or near the site (figures 9 and 10) that might be directly or indirectly disturbed by the proposed development (e.g., by disrupted water movement overland or through the soils, contaminated runoff, or removal of shade)?
 - If so, can the project be designed to avoid or minimize those harms?
- Is the site in a **100-year floodplain** or an **Active River Area** (Figure 14)?
 - If so, read about those areas on p. 49-53, and consider the following:
 - Will the proposed land uses be **threatened by floods** in future large storms?
 - Will the proposed land uses
 - obstruct, redirect, or concentrate water flows during a flood event, **creating or exacerbating a local or downstream flood hazard**?
 - create a **contaminant or projectile hazard** during a flood event?
 - create new vulnerabilities to **soil loss** (e.g., from unvegetated soils)?
 - result in **elevated stream temperatures** (e.g., from forest clearing or new impervious surfaces)?

- result in **loss of ecological connections** between the floodplain and stream, or reduction of organic material to feed the stream habitat structure and food web?
- Can the project be designed to prevent those effects?

Biological Resources

- Is the property partially or entirely located in any of the following?
 - **Significant Biodiversity Area** or **Area of Known Importance** (Figure 16)?
 - **floodplain forest** (Figure 15)?
 - **large forest** (Figure 12)?
 - **large meadow** (Figure 13)?
- If so, read about those features on p. 42-56 and 60-62, and see if the new development can be designed to avoid or minimize fragmentation and other harms to the most sensitive areas.
- See the General Conservation Measures for Biological Resources on p. 65.

Farmland Resources

- Does the site contain **active farmland** (Figure 13)?
 - If so, can the new development be located and designed so that active farmland remains intact and unfragmented, thus preserving possibilities for continued or future agricultural use?
- Does the property contain areas of **Prime Farmland Soils** or **Farmland Soils of Statewide Importance** (Figure 17)?
 - If so, can the new development be designed such that large areas of the best soils are maintained intact in large, broad configurations, unfragmented by roads, driveways, or buildings, thus preserving possibilities for future agricultural use?

Scenic Resources

- Has the site been identified as one of the **scenic areas** of the town (Figure 19), or does it possess especially scenic features visible from public roads or other public access sites?
 - If so, can the new development be designed to avoid or minimize impairment of the scenic values of that landscape?

Protected Land

- Is the site adjacent to or near land with formal protected status (Figure 22)?
 - If so, can the new development be designed so that broad undeveloped areas of the site remain well-connected to the protected lands?



Farmland and forests of Lebanon Valley viewed from US Route 20.
Moy Wong © 2017

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False hellebore is a common plant of stream terraces. Peg Munves © 2017.

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Summary

The Town of New Lebanon is a rural town of approximately 36 square miles on the lower slopes and foothills of the Taconic Mountain range in northeastern Columbia County, New York. It is notable for large forests, clean, coldwater streams, abundant high-quality farmland, and common and rare habitats that support many plant and animal species of conservation concern—those that are rare or declining in the region or the state. This *Natural Resource Conservation Plan* identifies natural resources throughout the town, explains their significance to the New Lebanon community, and provides guidance for land use planning, land development, and conservation.

The New Lebanon bedrock is predominantly phyllite, schist, and limestone throughout much of the town, and marble in the valleys of the Wyomanock Creek and the Stony Kill. The materials overlying the bedrock are predominantly glacial till, but significant areas of glacial outwash, kame deposits, and recent alluvium are along the major streams. Soils tend to be shallow at the higher elevations, deep at the lower elevations, and somewhat calcareous (calcium-rich) in much of the town due to the underlying marble and limestone.

The entire town is in the watershed of the Kinderhook Creek, a major tributary to the Hudson River estuary. The eastern half of the town drains to the Wyomanock Creek—a large tributary to the Kinderhook—and much of the western half of town is in the Hollow Brook and Stony Kill drainages. Many small streams, both perennial and intermittent, feed those larger streams, including many that do not appear on publicly available water resource maps.



Kinderhook Creek. Forested stream corridors help to protect stream water quality and habitat quality. Conrad Vispo © 2017.

Prior to European settlement the land was occupied by the Mahican people who had a small village in the vicinity of today's West Lebanon and other small villages in nearby areas of today's Columbia

Summary

and Rensselaer counties. They roamed widely over the land, hunting and foraging for food and fiber, for tool-making and construction materials, and for other resources that supported their communities. Although the Mahicans were not farmers, they occasionally cleared forests by fire to attract deer and other game to the openings, but widespread clearing of large areas did not occur here until European settlers began clearing for agriculture.

It was a Mahican who reportedly introduced a European from western Massachusetts to the warm spring in the eastern hills in 1756, an event that led to the European settlement of the area over the next few decades. In 1787 the Shakers established a community on Mount Lebanon that engaged in agriculture, tool-making, and furniture-making for the next 160+ years. Today, the land and buildings of the former Shaker community are owned and stewarded by the Shaker Museum/Mount Lebanon, the Abode of the Message, the Darrow School, and other private landowners.

The land area of the town was split off from Canaan and became New Lebanon in 1818, by which time the several hamlets were well-established—West Lebanon, New Lebanon Center, New Lebanon, Lebanon Springs. By 1826 the Mahicans had left the region.

By 1835 much of the formerly forested landscape was in pasture or cropland, even many of the high-elevation areas. Agriculture continued to be prominent in the town for the next 100+ years, but with its gradual decline in the 20th century, many of the open areas reverted to oldfield, shrubland, and forest. Today, over 70 percent of the New Lebanon landscape is again forested. Small farms keep agriculture alive in the town, however, raising beef cattle, dairy heifers, sheep, pigs, and poultry, and producing feed crops, fruits, vegetables, honey, and maple syrup. In addition, many households have gardens, fruit trees, and chickens and other small livestock for domestic use.

Active farmland and good farmland soil are widespread in the town but are most concentrated in the valleys of the Wyomanock and Kinderhook creeks. Maintaining viable farmland and active farms will preserve the town's ability to produce food locally, contribute to the town's economy, and carry on the long tradition of a working landscape that has built and sustained the town for over two centuries.

Mining of sand and gravel and harvesting of timber and firewood are local uses older than the town itself. Three commercial gravel mines were active in the Wyomanock Valley in 2017. In addition, some farms excavate sand and gravel from their own borrow pits for onsite uses. Sand and gravel are widely used in construction industries but are expensive to transport long distances, so maintaining local sources can be important to local construction interests and the town's local self-sufficiency. In addition to their commercial value, gravel mines have significant habitat value for native plants and animals. Inactive areas and abandoned mines are used by many kinds of wildlife (e.g., nesting turtles, snakes, and songbirds) and support communities of pioneering plant species that sometimes include rarities.

Summary

Groundwater is the source of most of the town’s drinking water, so a continuing supply of ample and clean groundwater is of paramount importance to New Lebanon residents and businesses. The areas with highest well yields and the shallowest wells are in the glacial deposits of sands and gravels of the Wyomanock and Kinderhook valleys. These “unconsolidated aquifers” are also the places where groundwater is most vulnerable to contamination from our activities on the ground surface, such as petroleum products from leaks, spills, and stormwater runoff, or applications of pesticides and fertilizers to cropfields and gardens. Maintaining the groundwater recharge potential of these areas, as well as protecting the ground from contamination, will help to ensure the town’s abundant supply of high-quality groundwater long into the future.

Some of New Lebanon’s large forests are part of much larger forest areas that extend beyond the town and have been identified by The Nature Conservancy as regionally significant for wildlife and plants due to their large size and relative lack of fragmentation. Large forests are especially valuable for maintaining high-quality surface and groundwater supplies, for area-sensitive wildlife—those that require large habitat areas to maintain local populations (e.g., red-shouldered hawk, Kentucky warbler, scarlet tanager, bobcat, black bear)—and for local and regional climate moderation. Forests and other intact habitats in floodplains and adjacent areas help to accommodate floodwaters and reduce downstream flood hazards. Forests of any size, if kept intact, can provide long-term storage of large amounts of carbon in above-ground and below-ground biomass, and can thus help to offset some of the carbon emissions from human activities.



Lebanon Valley from the US Route 20 overlook. Craig Westcott © 2017.

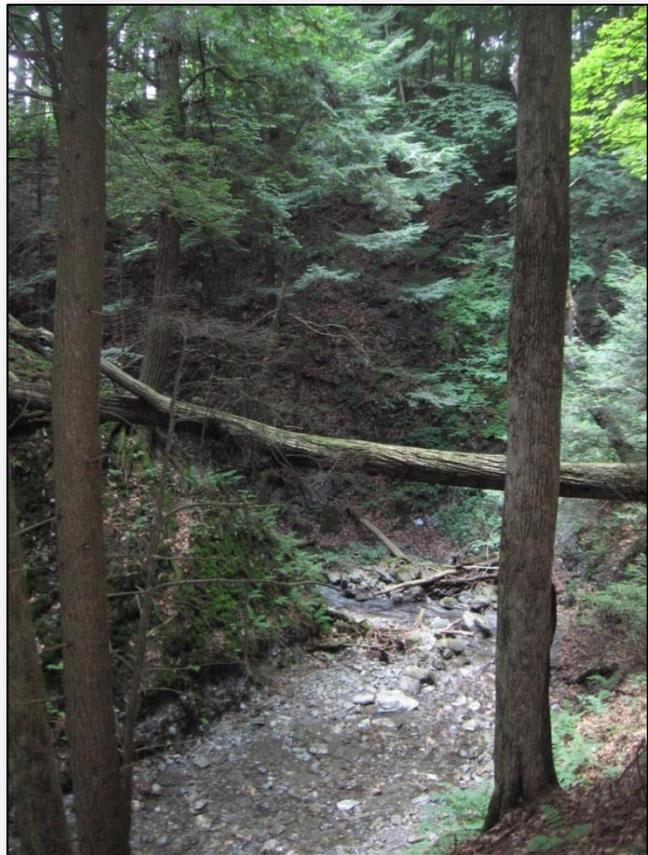
Summary

New Lebanon has many other habitats of value to wildlife and plants of conservation concern, and to the ecosystem as a whole. Oldfields and shrublands that develop after abandonment of agriculture provide food for butterflies, moths, bees, other pollinators, and a host of other important insects, homes for small mammals, hunting grounds for their predators such as foxes, coyote, and raptors, and habitat for other kinds of wildlife. Shrublands also offer nesting habitat for habitat-specialized birds such as blue-winged warbler and golden-winged warbler, and large shrublands with dense shrub thickets may be used by the rare New England cottontail.

Meadows of any size can be valuable to wildlife, but large meadows (e.g., 10+ acres) are especially important for grassland breeding birds such as bobolink and eastern meadowlark whose populations have been declining in the Northeast for several decades. The size of the meadow, kinds of meadow vegetation, and the kinds of management (e.g., mowing schedule, grazing intensity, etc.) will determine the actual value of any particular meadow for species of grassland birds.

New Lebanon has wetlands such as forested swamps, shrub swamps, vernal pools, marshes, and wet meadows, and perennial and intermittent streams well-distributed throughout the town. Many of the small wetlands and streams do not appear on publicly available maps, however, so need to be identified on a site-by-site basis. The New Lebanon CAC has embarked on a project to find and map small streams and wetlands so that the town will have a more comprehensive inventory of these important resources, and will be better able to protect them by means of voluntary actions by landowners and through local regulations.

New Lebanon also has some unusual habitats, such as cool ravines, calcareous ledges, and a circumneutral bog lake, that, because of their unusual microclimate or the chemistry of the rock, soil, or water, support plants and animals that are uncommon or rare elsewhere in the town or the region.



Cool ravines may act as refuges for wildlife in a warming climate. Claudia Knab-Vispo © 2017.

Summary

To draw attention to important resources in different parts of the town, we divided the town into four “conservation areas”— the **High Taconics**, the **Wyomanock and Kinderhook Valleys**, the **Rocky Foothills**, and the **Western Hills**—based on factors such as topography, geology, and the prominence of certain natural resource features (Figure 1).

The eastern edge of town encompasses the lower slopes of the **High Taconics**, part of the Taconic Mountain range which has been recognized by the DEC as a Significant Biodiversity Area due to the large forests, species of conservation concern, and importance as a water source feeding the wetlands, streams, and groundwater of the adjacent valleys. The Taconic slopes have ledge and talus habitats, cool ravines, many seeps and intermittent streams, and several perennial streams, one of which has been designated by the New York Natural Heritage Program as an important area for sensitive coldwater stream habitats, including wild native brook trout. New Lebanon’s famed warm spring, the only such feature known to occur in New York, emerges at the summit of Spring Hill Road. The Taconics are a prominent scenic feature visible from places along and westward of NYS Routes 20 and 22, and represent one of the “enduring features” of fundamental conservation importance to the region. The lands and buildings of the former Shaker community on Mount Lebanon are a renowned and treasured historic landmark.

The **Wyomanock and Kinderhook Valleys** hold the largest glacial outwash and kame deposits and thus the three commercial gravel mines, and the town’s major unconsolidated aquifers. These aquifers are where groundwater yields and accessibility are likely to be much greater than elsewhere in the town, but where the groundwater is also the most vulnerable to contamination. There are broad floodplains in some places along these streams, including areas of floodplain forests, which are especially important for maintaining high-quality stream habitats. The mainstems and major tributaries of the Wyomanock and Kinderhook are identified by the New York Natural Heritage Program as sensitive coldwater stream habitat areas. The valleys contain numerous wetlands—including the large Shaker Swamp complex, known to support rare and uncommon species of plants and animals. Prime Farmland Soils, much of the active farmland, and many of the large meadows are concentrated in these valleys. The Wyomanock valley is part of the especially scenic vistas along County Route 5A and US Route 20. The Corkscrew Rail Trail parallels the northern reach of the Wyomanock in New



Snapping turtles inhabit marshes and ponds for much of the year, but the females migrate to upland nesting areas in the spring or early summer. Moy Wong © 2017.

Summary

Lebanon, and the banks of the Kinderhook and the lower reach of the Wyomanock are designated for public fishing access.

The **Rocky Foothills** encompass the hilly area in the central part of New Lebanon with many of the high-elevation areas including West Hill and The Knob. The Knob has been identified by the New York Natural Heritage Program as a “Known Important Area” for biodiversity because of the high-quality mesic beech-maple forest on the summit and slopes. The adjacent “Little Knob” has a community of calcicolous (calcium-associated) plants, including many that are rare or uncommon in



Spring beauty, an uncommon spring-flowering forest wildflower of calcium-rich soils. Conrad Vispo © 2017.

the county. The nearby wetland called “The Bog” may be the town’s only occurrence of a circumneutral bog lake, an uncommon habitat type in the region that is known to support rare plants and animals. The Rocky Foothills also have some of the largest contiguous forests (1000+ acres) internal to New Lebanon. The northern forests of the Rocky Foothills and The Knob have been identified as part of regionally significant forest areas connecting large forest blocks with special value for supporting area-sensitive and interior-forest wildlife and providing landscape connectivity

between habitat areas. The Rocky Foothills

contain the headwaters of Hollow Brook and another small perennial stream that have been designated as “Known Important Areas” for coldwater stream organisms, and many other small, intermittent streams. The corridor along County Route 5a and West Hill Road has large areas of Statewide Important and Prime Farmland Soils, and contains several parcels identified as priority agricultural lands in the Columbia County *Farmland Protection Plan*. Areas along County Route 5 have exceptional scenic views of the Lebanon Valley and the Taconic hills.

The **Western Hills** contain the lower-elevation hills, much of the Hollow Brook mainstem and tributaries, most of the large open waterbodies in the town, and small areas of bedrock types that occur nowhere else in the town. Hollow Brook and several other streams have been identified as “Known Important Areas” for sensitive coldwater stream organisms. The Western Hills have large areas of good farmland soils, and a few parcels identified as priority agricultural lands in a county-wide study. The Hand Hollow Public Conservation Area (PCA) and the Hand Hollow State Forest are the two largest areas for public recreation in the town, and the PCA has been recognized as a place of special scenic importance. The PCA and State Forest together with adjacent private properties with conservation easements create a very large block of formally protected land, augmenting the conservation value of any one piece.

1. Conservation Areas

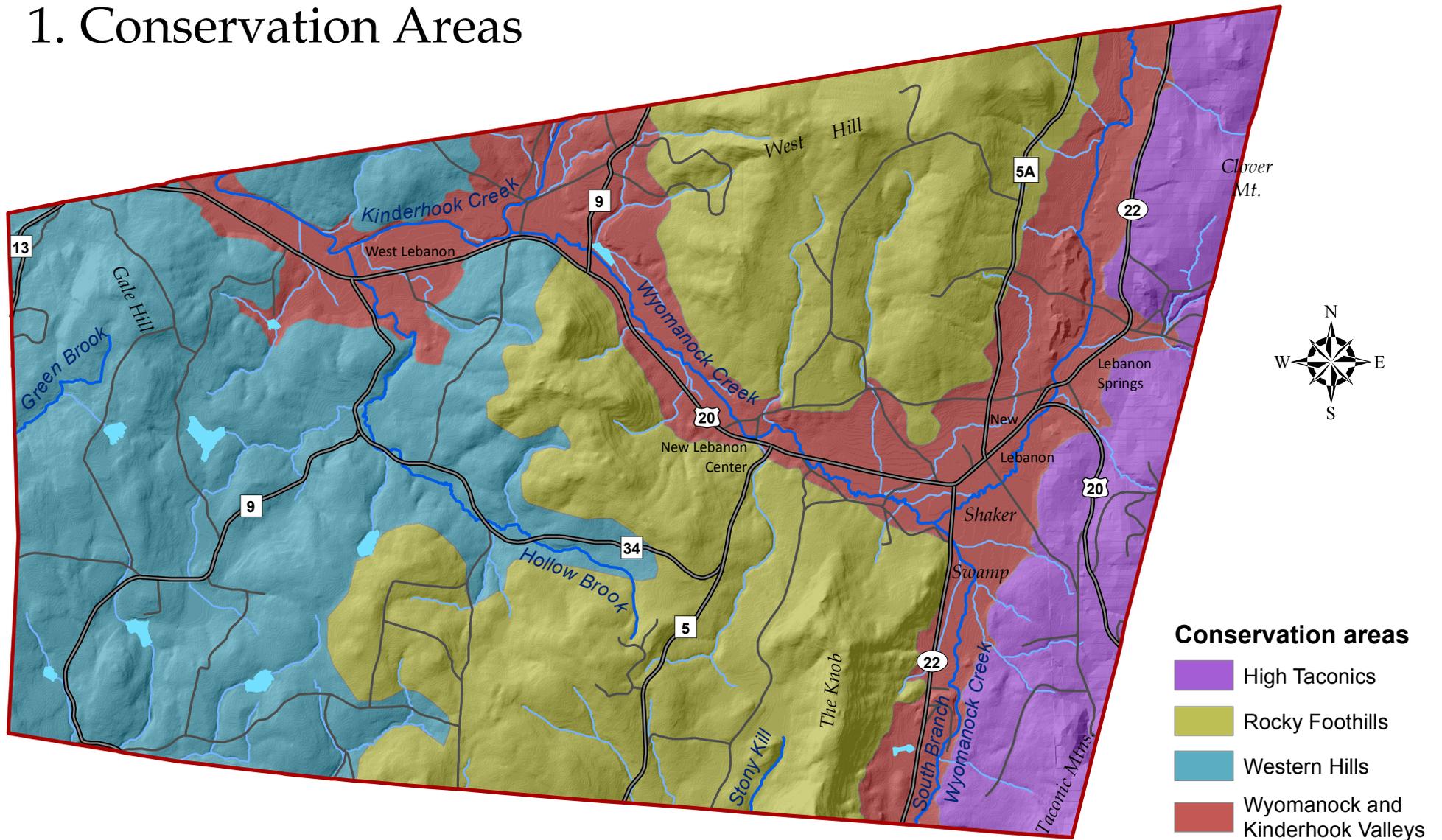


Figure 1. Conservation areas in the Town of New Lebanon, Columbia County, New York. New Lebanon Natural Resource Conservation Plan, 2017.



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DATA SOURCES

Conservation areas delineated by Hudsonia according to physiography, water, and biological features. Political boundaries and roads: New York State GIS Clearinghouse. Streams and waterbodies: USGS National Hydrography Dataset. Map created by Hudsonia Ltd., Annandale, NY.



Spiegelberg Lake, a scenic gem at the Hand Hollow Public Conservation Area.
Peg Munves © 2017

The climate has been changing measurably in the northeastern US for decades, and the effects are likely to be felt more acutely in the coming years—larger and more frequent storms and floods, higher temperatures, droughts, and wildfires, as well as some less dramatic symptoms such as increases in invasive pests and in pathogens affecting humans, livestock, and wildlife, and depletion of native biological diversity. The future effects on local biological and water resources could be large, but the specific nature and magnitude of those effects are still difficult to predict. Planning for expected changes will help to reduce the risks to structures, property, and human safety.

This *NRCP* offers many recommendations for sustainable uses and conservation of the town's natural resources, and lists specific actions that can be undertaken by landowners, other citizens, town agencies, and conservation organizations to help ensure that important resources are maintained intact for present and future generations.

Summary

Some of the action items include, for example:

- voluntary actions by landowners for protection of streams and other sensitive resources on their own lands;
- a citizens' survey of scenic locations and vistas, so that those places and landscapes can be considered in future townwide planning and site-specific land use decisions;
- expansion of public recreational opportunities;
- establishment of performance standards for stormwater management;
- adoption of new procedural measures for environmental reviews of land development projects, to improve the knowledge base for land use decisions;
- establishment of Critical Environmental Areas and conservation overlay districts to help protect resources such as aquifers, sand and gravel deposits, or unusual habitat areas from harm or misuse; and
- adoption of regulatory measures to better protect wetlands and streams.



Superb jewelwing is a damselfly associated with swift-flowing forested streams.
Conrad Vispo © 2017

Introduction

This *Natural Resource Conservation Plan* (henceforth the “NRCP” or “Plan”) was developed to guide the town’s stewardship of the land and water that supports the people, farms, businesses, and natural areas of New Lebanon. The NRCP helps to carry out the goals of the *Town of New Lebanon Comprehensive Plan* (2005) and the *New Lebanon Open Space Inventory* (2014), and is consistent with the recommendations of the *Columbia County Farmland Protection Plan* (2013). The NRCP also builds on a *Habitat Summary* prepared for the town by the Hudson River Estuary Program of the DEC (Strong 2010).

The Town of New Lebanon is within the Hudson River Valley National Heritage Area—one of 49 such areas designated by the US Congress as a place where natural, cultural, and historic resources form a nationally important landscape (National Park Service 2014). New Lebanon’s physical and biological attributes, and the history of mining, manufacturing, timber harvest, and agriculture, have all helped to shape the present-day hamlets, the working landscapes of fields and forest, and the less-trammeled wildlands.

This document describes some of the natural resources throughout the town—with special attention to resources of conservation concern—and illustrates their distribution, discusses principles and measures for effective stewardship, and sets forth means of accomplishing the town’s conservation goals. Recognizing that human uses of the land will continue to expand, and that all parts of the landscape cannot be formally protected in their current uses or their natural state, the *Plan* provides general conservation guidelines for the town, and identifies some of the features of highest priority for special care and stewardship.



Starry Solomon’s seal (regionally uncommon) in a forested swamp. Claudia Knab-Vispo © 2017

Throughout the NRCP we use the term and concept of “**protection**” in both an informal and a legal sense. Informally, for example, any landowner can “protect” the stream running through their property by voluntarily maintaining a broad, forested buffer zone along the stream corridor, or by installing a fence to keep livestock from trampling the streambank. The formal or legal protections for land can be from local or state regulations, or the conditions of

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conservation easements or site plan approvals, or the formally-stated purposes of publicly-owned lands such as parks and reserves. The town, for example, could adopt land use legislation to prevent contamination of the shallow aquifer. Or, a conservation easement on a particular parcel could specify that a pasture area be fenced away from the stream to protect the stream from contamination from manure and from streambank disturbance. Both formal and informal protections are equally important to the overall maintenance and restoration of environmental quality in New Lebanon.

President Theodore Roosevelt said, “*Of all the questions which can come before this nation, ...there is none which compares in importance with the great central task of leaving this land even a better land for our descendants than it is for us...*” (August 31, 1910, Osawatomic, Kansas). We intend that the NRCP will bring aspects of New Lebanon’s natural wealth to the attention of citizens, businesses, visitors, and town officials, and inform land management decisions by individual landowners, as well as the town’s policies and practices, so that we can leave this land even a better land for those who come next.

Appendix A contains a glossary of terms used in the NRCP; throughout the document, terms included in the Glossary are in **bold green** type on their first mention in each major section. Appendix B has lists of plants and animals of the town and Columbia County, including species of conservation concern, and a list of common and scientific names of plants mentioned in the NRCP. Appendix C explains the rarity ranks of plants and animals (e.g., Endangered, Threatened, Special Concern) referred to in the *Plan*. Appendix D has a summary of the General Conservation Measures given for natural resources throughout the *Plan*.



The common but non-native eastern cottontail (above) looks very similar to the rare New England cottontail, whose populations have declined precipitously in recent decades. Moy Wong © 2017

This *Natural Resource Conservation Plan* was prepared by Hudsonia biologists, with information from the Hawthorne Valley Farmscape Ecology Program, members of the New Lebanon Conservation Advisory Council, and a variety of other public and private sources. The work was funded by a grant to the town from the New York State Environmental Protection Fund through the Hudson River Estuary Program of the New York State Department of Environmental Conservation.