# TOWN OF AUSTERLITZ COMPREHENSIVE PLAN REPORT SUPPLEMENTS: PART2 Maps and Natural Resource Inventory

March 2024

# PART 2 - MAPS AND MAP NARRATIVES

The following maps have been developed to detail the various environmental and cultural features of the Town of Austerlitz. This Part of the Comprehensive Plan shows the map and provides detail describing the features shown on each map. Note that additional information on natural resources can be found in the Columbia County Natural Resources Inventory found at the County Website. Other information for Austerlitz may also be found at the New York State Hudson Valley Environmental Resource Mapper.

The purpose of the following natural resource information, along with that developed by the County and New York State, is to inform planning for the future in ways that support the Town's natural assets and the benefits they provide. The natural resource information for Austerlitz is complimented with a complete set of maps able to be used at the parcel level and found at www.austerlitzny.com.

### A. Topography and Steep Slopes

Elevation refers to the height of the land above sea level and topography refers to the hill, valley, and other surface features of the landscape. Topography strongly influences an area's environment, visual character, settlement patterns, land uses and recreation opportunities. Changes in elevation help to determine differences in microclimates and ecological functioning. Steep slopes are sensitive areas that are vulnerable to erosion and slope instability. Disturbances to steep slope areas can impact viewsheds, water quality of nearby streams, and changes in wildlife use of an area.

Understanding elevation in Town is important because elevation influences ecological systems such as microclimates, vegetation and habitats. Hills, ridges, valleys, slopes, basins, floodplains, and other topographic features influence where certain kinds of habitats occur (e.g., wetlands in basins, on floodplains, and on seepy slopes; rocky streams on steep slopes; cool ravines on deeply-cut hillsides); where the best farmland occurs (on floodplains and other areas with flat to gently-sloped land); where major roads are constructed and where settlements develop (in valleys and other areas of gentle terrain, where possible); and many other aspects of the natural features and human uses.

Topography in Austerlitz ranges from a low of 452 feet found throughout the western portions of Town to a high of 2,064 feet above mean sea level at the far eastern portion of Austerlitz. The topographic map shows the west to east change from relatively low elevation to higher elevations.

Steep slopes are shown in four categories: less than 10%, 10-15%, > 15% to 25% and > 25%. Moderate to very steep slopes (>15%) are found throughout Austerlitz, even in the low elevation areas. The mid to eastern portion of Town is dominated by steep slopes.

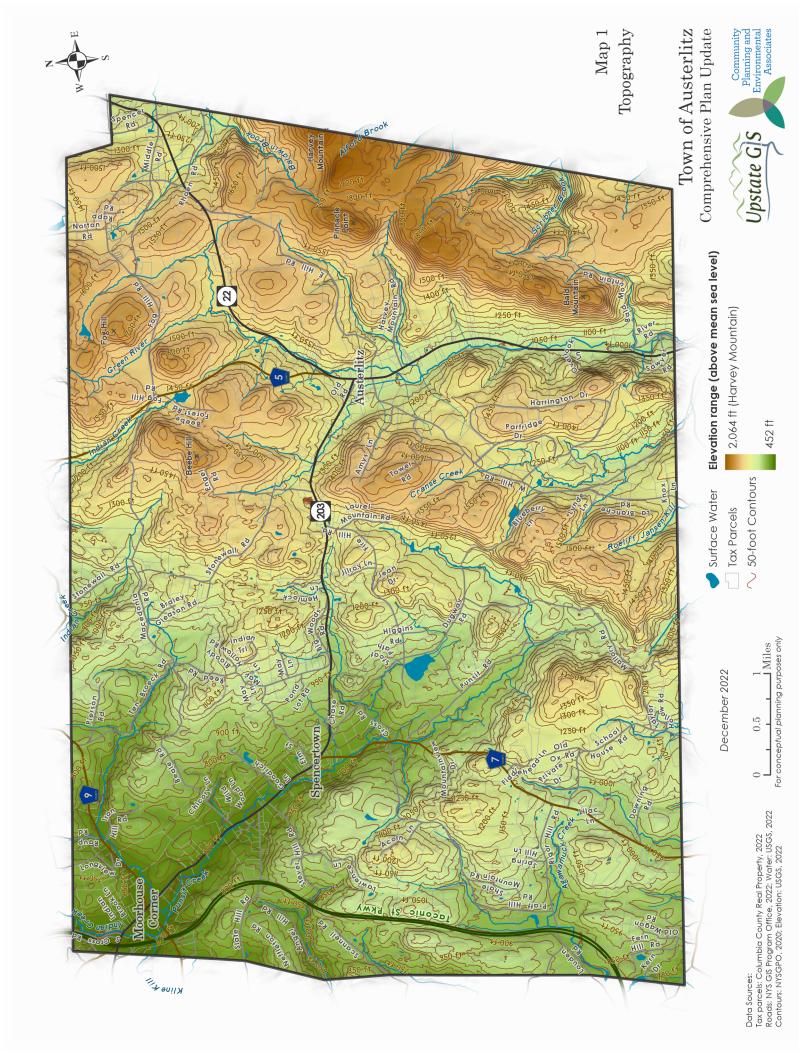
Understanding elevation and topography is an important consideration in land use planning. Generally, lands that are greater than 15% slope have challenges for development due to high risks of erosion and instability, as well as difficulty building structures and septic systems. Slopes > 25% are generally not

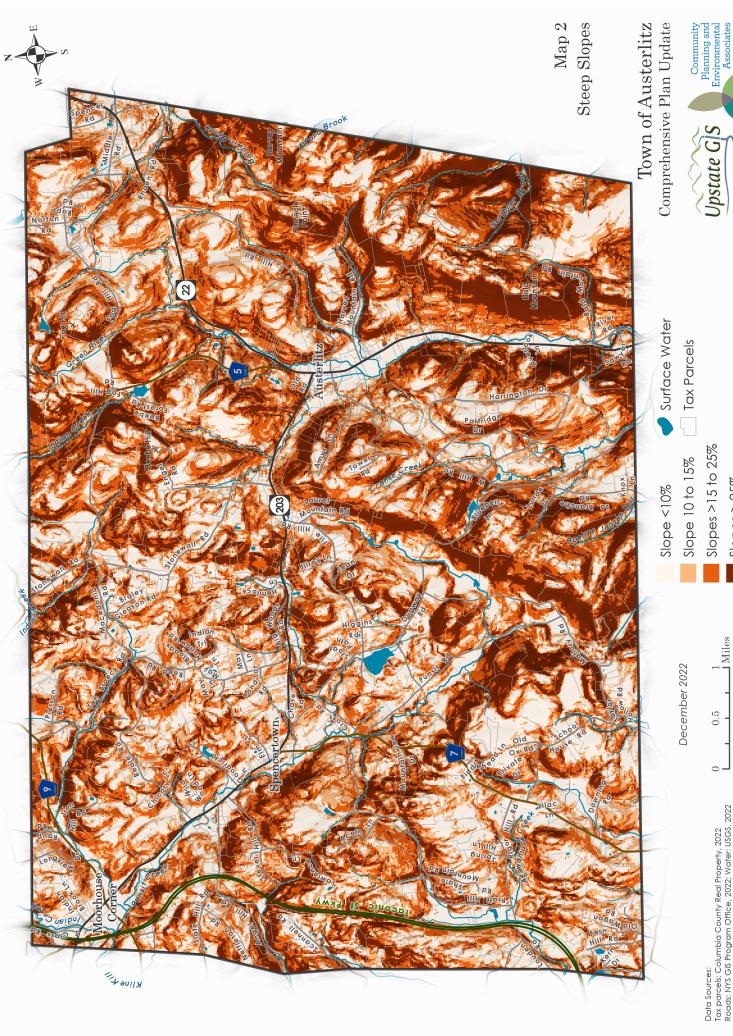
<sup>&</sup>lt;sup>1</sup> https://geodata-cc-ny.opendata.arcgis.com/pages/ccnri

<sup>&</sup>lt;sup>2</sup> https://gisservices.dec.ny.gov/gis/hvnrm/

buildable while those 15% to 25% may be buildable with careful engineering, design and siting. Many communities prohibit development on slopes > 20%.

Impacts associated with some land uses in areas having steep topography include the potential for soil erosion, loss of soil permeability with large impervious surfaces, and impacts related to substantial regrading and clearing of natural vegetation that is often required where there are steep slopes. Additionally, increased runoff and sedimentation from disturbed hillsides often requires flood control, stormwater management or impacts to lakes, wetlands, streams and rivers.





Data Sources: Tax parcels: Columbia County Real Property, 2022 Roads: NYS SIS Program Office, 2022; Water: USGS, 2022 Slopes: Defived from USGS DEM, 2022

Slopes > 25%

For conceptual planning purposes only

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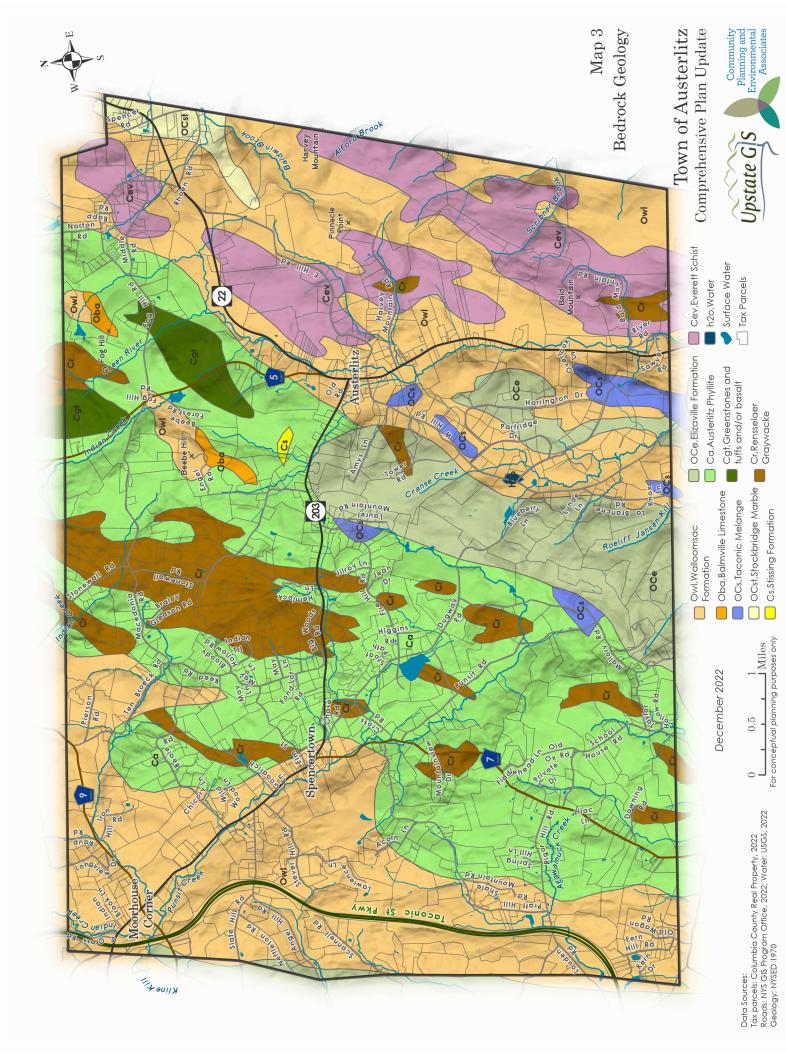
Upstate GIS

# B. Bedrock Geology

Bedrock geology determines many aspects of natural systems and human land uses, such as how and where roads and structures can be safely built, and the accessibility and vulnerability of groundwater. The underlying bedrock predominantly controls the topography. Austerlitz has four major bedrock types: Walloomsac Formation, Austerlitz Phyllite, Elizaville Formation, and Everett Schist. Smaller areas of bedrock are intermixed within these types and include Rensselaer Graywacke, Greenstones, Taconic Melange, and Stockbridge Marble. One small distinct area of Stissing Formation is found north of Route 203 and two small areas of Balmsville Limestone are found north and south of Beebe Hill.

These bedrock types are further defined as follows:

- Walloomsac Formation.
- Balmville Limestone
- Taconic Melange
- Stockbridge Marble
- Stissing Formation
- Elizaville Formation
- Austerlitz Phyllite
- Greenstone
- Rensselaer Graywacke
- Everett Schist: Cambrian metamorphic rocks



# C. Surficial Geology

Surficial geology describes the loose material that has been transported and deposited on top of bedrock over time and the organic material that has developed in place. These materials have been deposited through the action of glaciers, by wind, by moving water (called fluvial) or stationary water (called lacustrine), by deposits made at the base of hills by erosion, and by downslope creep (called colluvial). Surficial materials also include the peat and muck that has developed from decaying organic material in wetlands.

While the bedrock geology of an area highly influences the physical relief of the landscape and the chemistry of water and soils, the surficial geology describes some of the visible landforms we see today as well as the sediments that lie beneath the ground surface. The surficial geology of the Town of Austerlitz is a natural feature that influences critical elements of the Town's environment such as the water supplies, types of habitats, and soils suitable for agriculture and other land uses. Surficial geology affects the suitability for septic systems, the flow and quality of surface water and groundwater, and appropriate locations for roads and buildings.

Most of the sediments in Austerlitz are remnants of the last glaciation which ended approximately 12,000 years ago. These include glacial till (unsorted material of all sizes), and glacial kame deposits (sand and gravel) left by meltwater of the receding glacier. As shown in the Surficial Geology Map, most of the Town's surficial geology is Till. Pockets of kame deposits are found from Moorhouse Center to Spencertown, along Route 22 south through Austerlitz to the Town Boundary and several other pockets throughout Town. Two areas of exposed bedrock are found with the largest on Bald Mountain in the southeastern corner of Town. Two areas of recent alluvium are also a surficial geologic feature: One area is found along the Punsit Creek, and the other along the Green River, just south of the hamlet of Austerlitz.

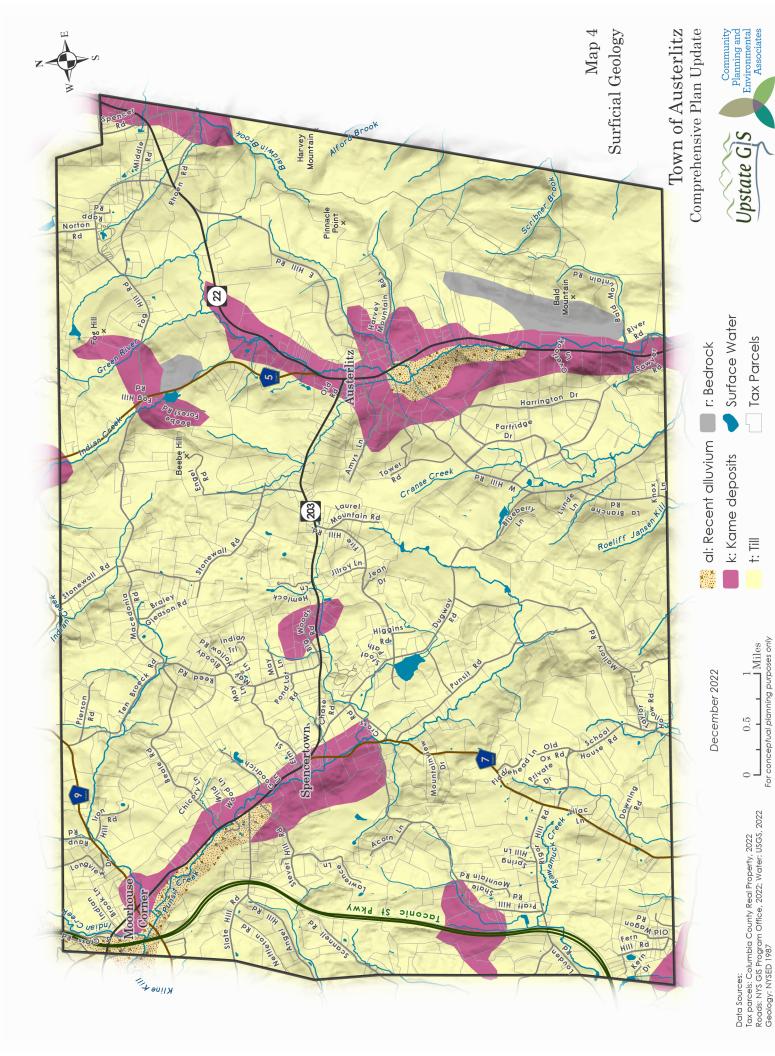
The surficial geologic features in Austerlitz are described as follows:

**Till:** Till is dense, unsorted clay, silt, sand, gravel, and boulders left from glaciers. It was the principal material left by the glacial ice sheet. They have variable texture (boulders to silt), are usually poorly sorted sand-rich deposits resulting from erosion and have variable thickness (1-50 meters).

Kame Deposits: These are mound-like hills of poorly sorted glacial drift, made up mostly of sand and gravel deposited at or near the edge of a glacier. As the glacial ice began to retreat to the north, meltwater streams flowed on, in, under, and along the margins of the ice. These streams transported and deposited sediments. This deposit generally formed the characteristic landforms we see today known as eskers and kame deltas. Eskers are narrow sinuous ridges that formed in ice-walled river channels within or beneath the melting ice. Kame moraines and deposits are deltas formed at the contact with the ice. They consist of coarse to fine gravel and/or sand, with variability in sorting, texture, and permeability, may be firmly cemented together with calcareous cement particles, and have variable thickness of 10-30 meters.

**Recent Alluvium**: These are 1-10 meter thick deposits of soil left from modern streams, rivers, and small tributaries. It is oxidized fine sand to gravel, permeable, and generally confined to flood plains within a valley. In larger valleys, it may be overlain by silt and subject to flooding.

**Exposed Bedrock**: This is exposed rock that is at or near the soil surface (generally within 1 meter). Two areas of exposed bedrock can be found along Route 22 at Bald Mountain, and along County Route 5 near Fog Hill Road. These areas can pose challenges for placement of structures and infrastructure such as septic systems and may provide unique habitats.



# D. Soil Drainage

Soils are organic or unconsolidated mineral materials that have been acted on by weathering and organic processes. Soil types are distinguished and classified according to depth, texture, color, chemistry, and wetness or dryness. Soil characteristics are much influenced by the "parent" materials of origin—that is, the bedrock, surficial deposits, or organic material—and by topography, climate, hydrology, vegetation, and time. Soils are at the foundation of most ecosystems and of agriculture. Soils regulate water flow, influence the type and health of vegetation and habitats, dictate agricultural potential, affect forest growth, impact water quality, and support human structures such as buildings, septic systems and roads. Soil chemistry, texture, and drainage determine where certain habitats occur, and what kinds of plants and animals they will support.

"Drainage" refers to how wet or dry the soil is. The Soil Drainage Map shows six soil drainage classes in Austerlitz. These range from "somewhat excessively drained" (the driest) to "well-drained" (medium moisture) to "poorly drained" and "very poorly drained" (the wettest). Soils that are described as poorly or very poorly drained are likely to indicate that wetlands are present. The Agricultural Lands map further identifies certain soils that are Prime Farmland Soils, and Farmland Soils of Statewide Importance.

Soil type, drainage class and slope are also inter-related. Together, they highly influence both natural resources and the built environment. For example, soils on slopes greater than 15% are erodible if not well-vegetated and are limited in their ability to absorb sewage effluent.

Drainage classes are as follows:

**Somewhat Excessively Drained:** Water is removed from the soil rapidly. Many somewhat excessively drained soils are sandy and rapidly pervious. Some are shallow. Some are so steep that much of the water they receive is lost as runoff. All are free of the mottling related to wetness.

**Well drained:** Water is removed from the soil readily, but not rapidly. It is available to plants throughout most of the growing season, and wetness does not inhibit growth of roots for significant periods during most growing seasons. Well drained soils are commonly medium textured. They are mainly free of mottling.

**Moderately well drained:** Water is removed from the soil somewhat slowly during some periods. Moderately well drained soils are wet for only a short time during the growing season, but periodically they are wet long enough that most mesophytic crops are affected. They commonly have a slow pervious layer within or directly below the solum or periodically receive high rainfall, or both.

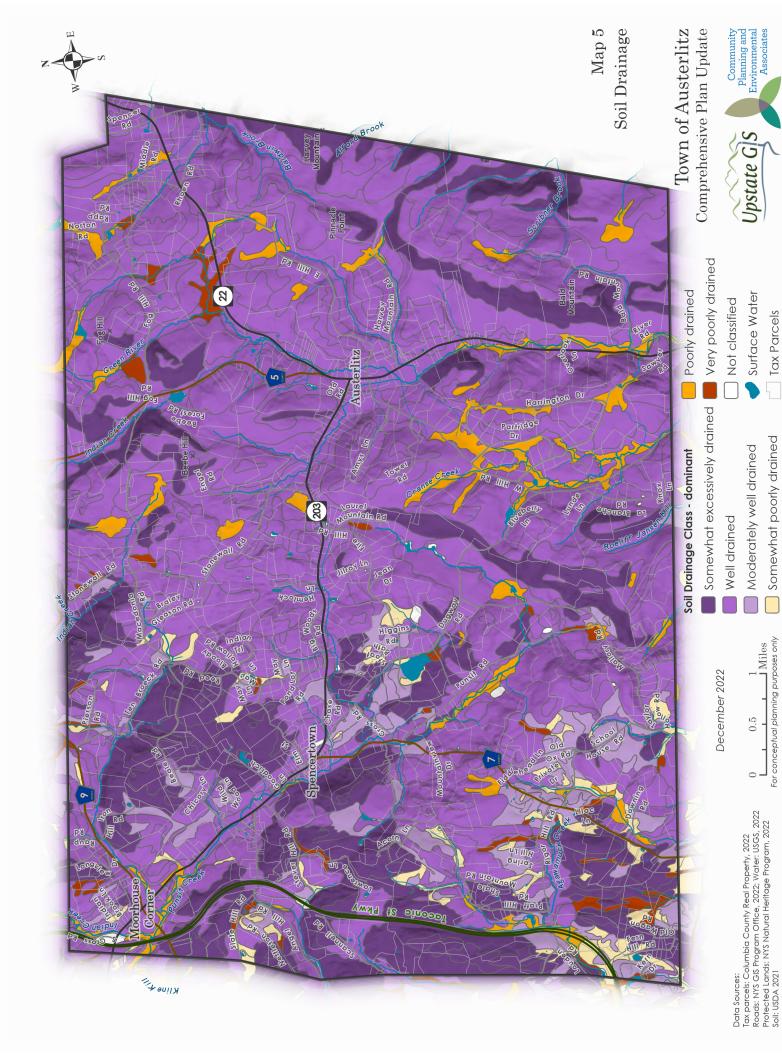
**Somewhat poorly drained**: Water is removed slowly enough that the soil is wet for significant periods during the growing season. Wetness markedly restricts the growth of mesophytic crops

unless artificial drainage is provided. Somewhat poorly drained soils commonly have a slowly pervious layer, a high water table, additional water from seepage, nearly continuous rainfall, or a combination of these.

**Poorly drained:** Water is removed so slowly that the soil is saturated periodically during the growing Season or remains wet for long periods. Free water is commonly at or near the surface for long enough during the growing season that most mesophytic crops cannot be grown unless the soil is artificially drained. The soil is not continuously saturated in layers directly below plow depth. Poor drainage results from a high water table, a slowly pervious layer within the profile, seepage, nearly continuous rainfall, or a combination of these.

**Very poorly drained**: Water is removed from the soil so slowly that free water remains at or on the surface during most of the growing season. Unless the soil is artificially drained, most mesophytic crops cannot be grown. Very poorly drained soils are commonly level or depressed and are frequently ponded. Yet, where rainfall is high and nearly continuous, they can have moderate or high slope gradients.

The Drainage Map shows that a significant portion of the Town is considered well drained to somewhat excessively drained soils. The somewhat excessively drained soils can be found throughout town, but mostly concentrated in the western portion of Town. Moderately well drained soils can also be found in scattered locations in the western portion of Town. There are isolated pockets of soils throughout Town classified as poorly drained and very poorly drained. These poorly drained areas correspond to locations where wetlands are found.



### E. Aquifers and Watersheds

Groundwater is water that resides beneath the ground surface in spaces between sediment particles and in rock fissures and seams. Many residents and businesses in New Scotland rely on groundwater resources for drinking water. Groundwater is also used for crop irrigation and water for livestock. In addition to supporting the human population, groundwater feeds our streams, ponds, and wetlands, A watershed is the entire land area that drains to a particular place such as a stream, wetland, or pond.

Watersheds are divided from each other by ridges and other high points on the land surface. Every location in the Town is part of a watershed because all lands drain into one water body or another. Watersheds are further divided into sub-watersheds (or sub-basins). Each tributary of a major creek or river has its own sub-watershed. Like the streams and other waterbodies they feed, watersheds can be regional and span multiple towns, counties or states. Understanding the extent and boundaries of watersheds and sub-basins helps us understand the sources of water for our streams, wetlands, and ponds, the direction of water movement over the land, the volumes of water reaching any location along a stream, and the fate of rainwater and snowmelt runoff from any location. and supports many of Austerlitz's habitats, plants and animals.

Two major watersheds are found in Austerlitz – the Hudson River and the Housatonic River. The western part of the Town drains to the Hudson River Estuary and the eastern part to the Housatonic River, which flows into Long Island Sound.

There are six sub- watersheds in Austerlitz:

- Kline Kill
- Green River
- Williams River
- Agawamuck Creek
- North Creek
- Headwaters Roeliff Jansen Kill

The Kline Kill and the Green River watersheds are the largest and most of the land in Austerlitz drains within these two. Streams in Austerlitz are either moderate- or high-gradient cold water creeks and streams and thus are important habitat areas for trout and other cold-water species of importance.

While watersheds show the extent and influence areas of surface waters, aquifers are underground water features. Water enters the ground from rain and melting snow. Where the water table (the top of the saturated area within the ground) is near the surface of the land, wetlands occur. At times of drought when there is no stream flow from runoff, water in streams comes from groundwater sources.

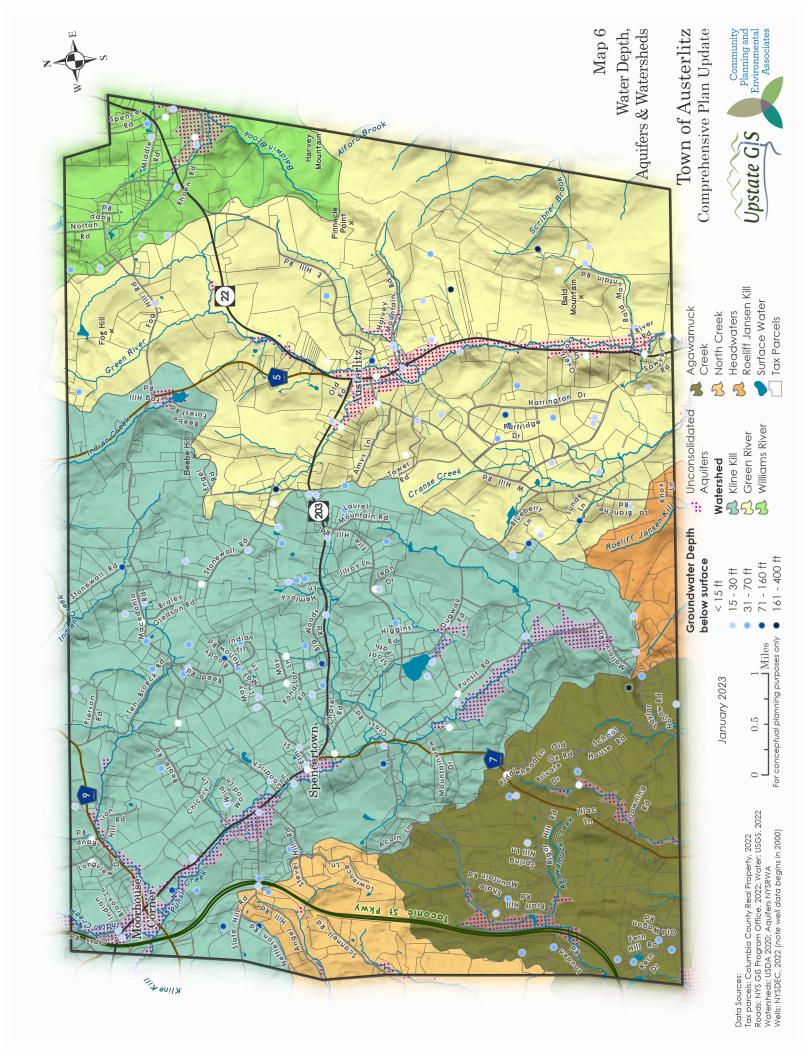
Aquifers are underground locations having porous rock or sediments that are saturated with groundwater. Different aquifers have different characteristics related to how permeable and how porous they are. Aquifers are directly related to both the bedrock and surficial geology of an area. For example, well-sorted sands and gravels (those with little silt and/or clay) have excellent permeabilities

and yield water very well. Clay, due to its very small particle size, has very low permeability and does not readily yield water.

Bedrock can yield high quantities of water when large joints or fractures exist, when they are well connected, and when they fill with water. If a layer of material with poor permeability overlies an aquifer, the aquifer is termed a confined aquifer. Water within such an aquifer is normally under pressure. If there is no overlying layer, it is known as an unconsolidated aquifer.

Groundwater in unconsolidated aquifers generally have the best water yields because they have higher permeabilities, are usually in a favorable location to receive recharge from streams, are easy to dig or drill in, and are usually of good quality. The one disadvantage is that they are prone to contamination because they have more surface connections and often require strict regulation in order to remain viable water supply resources. Narrow areas of unconfined aquifers are found associated with the various creeks and rivers in Town. Most notably, the largest unconfined aquifers are along the Punsit Creek from Moorhouse Corner south to Spencertown, and along the Green River and Route 203 from Austerlitz south.

The Aquifer and Watershed map also shows groundwater depth below surface. These are water well locations and the information about depth to water comes from well logs filed with the County and New York State. Many depths show depth of groundwater at less than 15', but there are also many between 15 and 30'. The southeastern portion of Town has wells where groundwater depth is much deeper.



### F. Wetlands

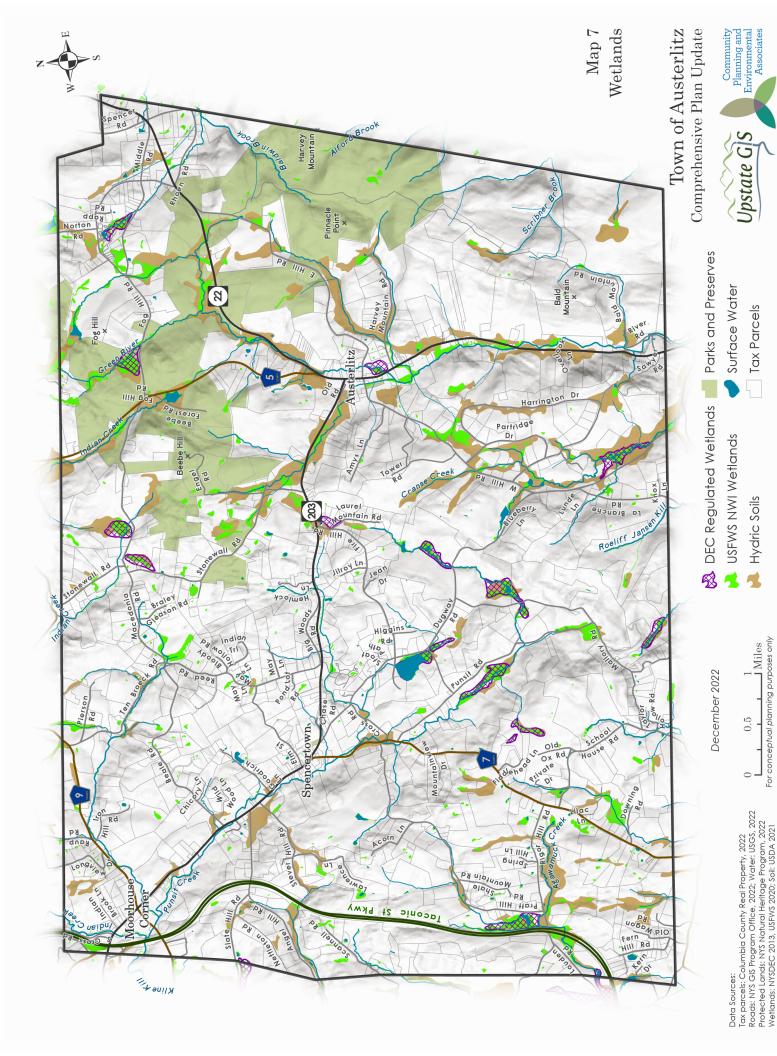
A wetland is a vegetated area that has saturated soils in the rooting zone of plants for a prolonged period during the growing season. Some wetlands are permanently flooded, and some have little or no standing water for most of the year. Wetlands include swamps, marshes, wet meadows, vernal pools, bogs, and similar areas. While wetlands were once thought of as wastelands and were routinely filled in or drained, now their important ecological role is more deeply understood. Wetlands provide critical habitats for plants and animals, but also benefit the broader environment and human communities by controlling flooding, filtering water to remove pollutants, sequestering carbon, providing wildlife habitat, and providing a host of other services.

According to federal and New York State definitions, to be identified as a wetland, an area must have: (1) hydrophytic vegetation, (2) hydric soils, and (3) indicators of prolonged wetness (wetland hydrology). ("Hydrophytic vegetation" consists of plants adapted to the low-oxygen conditions associated with prolonged soil saturation. "Hydric soils" are soils that are saturated for long enough during the growing season to developed anaerobic (low-oxygen) conditions.)

Certain wetlands receive some regulatory protection from New York State and the federal government. For example, activities in large wetlands (>12.4 acres) and a few smaller wetlands of "unusual local importance" are regulated by the New York State Freshwater Wetlands Act (Article 24 of the New York Conservation Law). Activities in wetlands of any size that are functionally connected to "navigable waters" are regulated by the federal government under Section 404 of the Clean Water Act. Many of the small and hydrologically isolated wetlands are unprotected by these laws, despite their great ecological importance. In some locations, state and federal regulated wetlands overlap.

Given the topography, slope, and surficial geology of Austerlitz, wetlands are not large natural features in Town. However, there are many scattered, smaller wetlands. The Map shows that there are several DEC regulated wetlands – mostly found in the southern portion of the Town. State wetlands can be found along Dugway Road, Punsit Road, Taconic State Parkway, W. Hill Road, and just south of Austerlitz. USFS NWI wetlands are scattered and found associated with many streams and tributaries. Hydric soils, also shown on the map, are also found in narrow bands and are associated with streams and creeks. Other types of wetlands such as vernal pools (or intermittent woodland pools) and other small wetlands, ponds and other water bodies, while not mapped, have important ecological roles.

Note that NYS DEC is proposing to change wetland definition rules by 2025. Currently, all wetlands 12.4 acres or larger are state-regulated (which also require 100 foot buffers). By 2028, all wetlands 7.4 acres or larger will be state-regulated and smaller wetlands that meet one of eleven criteria established by the State will also be regulated. Thus, in the future, Map 7, that currently shows NSY DEC regulated wetlands will be information only, and DEC will be required to make a jurisdictional determination for all wetlands.



### G. Flood and Riparian

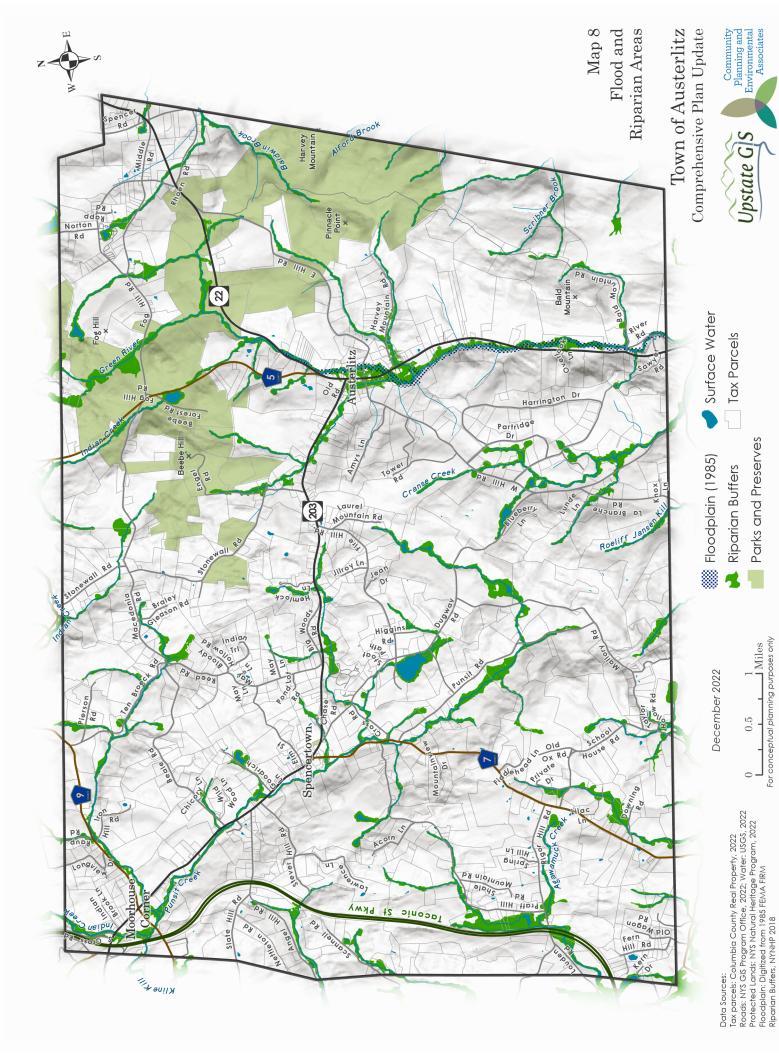
Stream habitats include not only the stream channel, but also streambanks, floodplains, and non-floodplain areas along the bank and adjacent wetlands. Those areas adjacent to the stream channel are known as the riparian buffer. All of these components contribute to the types and quality of habitats in the stream channel itself.

A mapped floodplain exists in Austerlitz only along the Green River from the hamlet of Austerlitz south. There are no other mapped floodplains in Town. However, each stream has a mapped riparian buffer area.

The stream channel itself offers a variety of different habitats along its length, based on the flow of water, depth of water, and channel substrate. Each pool, riffle, or long run of flowing water offers its own array of microhabitats. Pools with slower moving water may have silty substrates and support submerged vegetation; swift water areas may have a gravelly substrate that some fish species require for spawning; and riffles have rocks and churn that serves to oxygenate the water, which improves the habitat for many sensitive aquatic species. Rocks, pools, backwater areas, and overhung banks all provide microhabitats important to stream organisms. The vegetation of streambanks and floodplains helps to determine the stability of the stream channel, the stream water temperature, the kinds of streamside habitats, and the quality of organic material available to feed the stream food web.

Perennial streams flow continuously in years with normal precipitation. They provide essential water sources for wildlife throughout the year, and are critical habitat for many plant, vertebrate, and invertebrate species. Intermittent streams may flow for a few days or weeks or months, but ordinarily dry up at some time during the year. They also provide important habitat and nutrient cycling services themselves, and are vital sources of water, nutrients, organisms, and structural material that feed perennial streams, lakes, ponds, and wetlands.

Many kinds of wildlife rely on streams and riparian corridors, including American mink, muskrat, bats, birds, turtles, salamanders, and dragonflies, damselflies, and many other invertebrates.



### H. Water Quality and Barriers

The State classifies all streams into five categories (AA, A, B, C, and D). Each of these major classifications is further modified by an additional classification identifying whether that water body supports a trout population (T) or trout spawning (TS). Streams suitable as trout habitat have special requirements to ensure that those waters continue to sustain this sensitive fisheries resource.

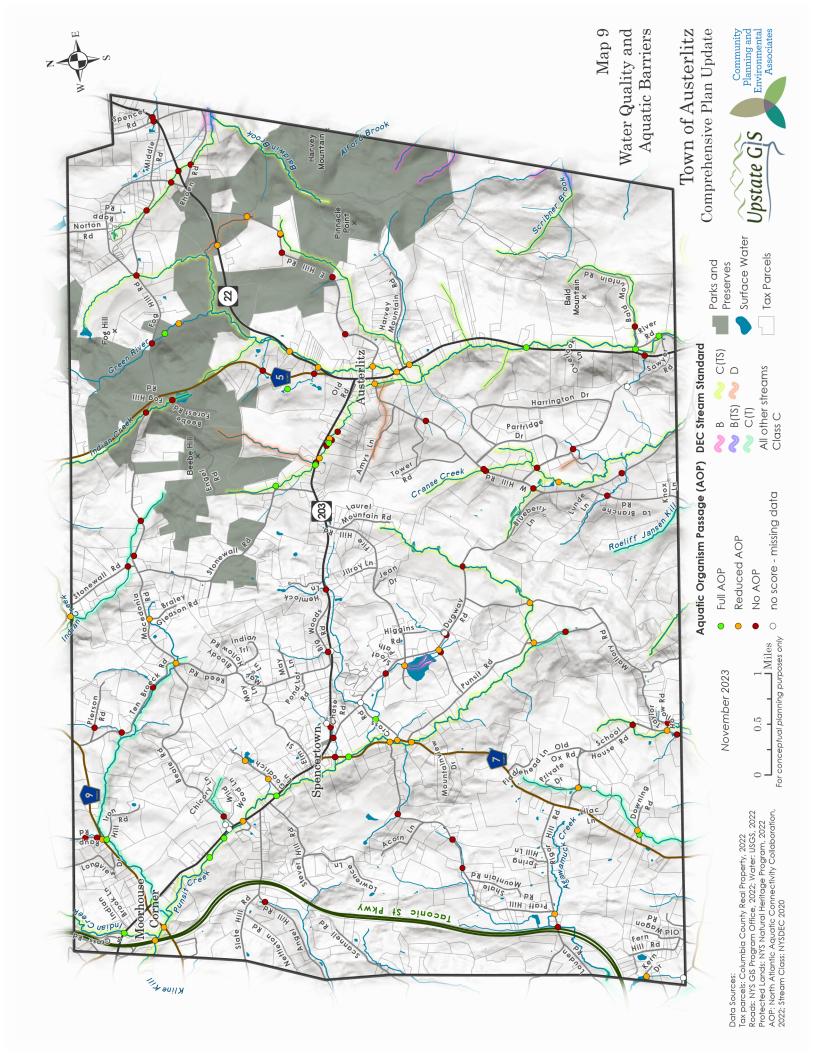
Trout require well-shaded, cool to cold, flowing water and are sensitive to warmer temperatures. While all streams benefit from adequate streamside vegetation, it is especially important for maintaining clean, coldwater habitats that support native species like brook trout.

The NYSDEC stream classifications in Austerlitz show five classes of streams: B, B(TS), C(T) – suitable for trout habitat, and C(TS) – suitable for trout spawning, and D. The Class B through C(TS) are generally high quality cold water streams. The Green River is largely classified as C(TS) throughout its length. There are a few smaller tributaries however, that are Class D: Along Amys Lane, one flowing from Beebe Hill to Route 203, and another Flowing from the conserved area near E. Hill Road crossing Route 22. Punsit Creek is also classified as a C(TS) stream. Indian Creek and a tributary to Punsit Creek in the northern part of Town and the Roeliff Jansen headwaters in the south are Class C(T) streams. Small portions of streams at the eastern edge of Town are of the highest water quality – class B, as shown on the Map.

In 2020, the Town participated in a program sponsored by Trout Unlimited to evaluate road stream crossings for aquatic animals. A road stream crossing is a location where a road, paved or unpaved, crosses over a body of water within the physical extents of all supporting infrastructure (i.e., the proposed crossing infrastructure, wingwalls, etc.). The Town of Austerlitz Road Stream Crossing Management Plan is designed to improve community and ecosystem resiliency by identifying high priority road stream crossing replacement projects that reconnect high quality aquatic habitat and improve community flood resiliency and road infrastructure condition within the Town of Austerlitz.

Inadequately sized or incorrectly installed culverts can be a seasonal or year-round barrier to aquatic species, fragmenting habitat and disconnecting the natural flow of organisms, material, nutrients and energy along river systems. This loss of stream connectivity is a critical threat to valuable and already vulnerable species such as the native Eastern brook trout (Salvelinus fontinalis), the American eel (Anguilla rostrata) and river herring (Alosa spp.).

There are eleven registered dams in the Town, nine have a hazard classification of "A" which is the lowest hazard risk classification. Two have a hazard code of "D," which means they have been breached or removed or otherwise no longer impound water and present a risk. Most of the dams in Austerlitz are privately owned and provide little to no public benefit to the community. A few of the dams appear to be open to the public for recreation. The exception is the Tower & Scafford Wildlife Marsh Dam that is owned by NYS DEC and managed for wildlife. Since most of the dams are in the upper watershed dam removals would have limited aquatic connectivity benefit apart from the Asbjorne Lunde Pond Dam and the Austerlitz Corporation Dam. Both are located on a tributary to Punsit Creek which is a high-quality stream.



### I. Important Habitats

Biological diversity, or biodiversity, refers to the variety of all life on Earth, and includes the variety among animals, plants, and microorganisms, their genes, and the communities, habitats, landscapes, and ecosystems where they occur.

Diverse habitats, ecological communities, and native species of plants, animals, fungi, and other organisms are fundamental to the ecosystem functions that we rely on for soil building, clean water, breathable air, food, control of insect pests and diseases, and uncountable other services. Native biological diversity helps to ensure the sustainability of ecosystems in the face of extreme weather, catastrophic events (such as fires, floods, droughts), diseases, and other hazards of life on Earth.

A variety of habitats and landscapes in Austerlitz contribute to the biodiversity of the Town, County and broader Hudson River Valley region. Many kinds of forest, meadow, wetland, and stream habitats exist. On a region-wide scale, however, a few places have been identified by NYSDEC, and the NY Natural Heritage Program as having special value for local and regional biodiversity.

### These include:

Important Areas for Coldwater Stream Habitats: The New York Natural Heritage Program (NYNHP) has designated zones that are especially important for organisms of cool water streams. The mapped areas include locations identified in NYSDEC fish surveys since 1980. Coldwater stream habitats are in decline across the Northeast due to impacts of land uses and the fragmentation of free-flowing streams by dams and culverts. Native coldwater fishes such as brook trout are also harmed by thermal pollution, sedimentation, and introduced exotic species such as smallmouth bass and non-native trout, which are better adapted to warm water temperatures . Of significance is that all streams and their tributaries in Austerlitz are identified as important areas for coldwater stream habitat. This correlates to the NYS DEC Classifications and riparian buffers shown on other maps.

Important Areas for Terrestrial Animals: Important Areas include the lands and waters needed to support the continued presence and quality of known populations of rare animals and rare plants, known locations of rare ecological communities, and/or high-quality examples of common ecological communities. Important Areas include the specific locations where the animals, plants, or ecological communities have been observed, as well as: habitat to support rare animal and plant populations, including areas which may be used by rare animals for breeding, nesting, feeding, roosting, or overwintering; areas that support the natural processes critical to maintaining these plant and animal habitats, or critical to maintaining significant ecological communities (e.g., stream buffers). Conserving habitat for rare species also benefits many common plants and animals found within the Important Areas. Species within these areas could include NY State-listed animals (Endangered, Threatened, some Special Concern), Unlisted rare animals (<20 locations statewide), Rare plants (<20 locations statewide) or Migratory fish (diadromous species). One large, and one smaller area identified as an important area for terrestrial animals is located in Austerlitz. The larger one is found in the largely conserved areas of State Owned forest lands from Route 22 to Pinnacle Point and Harvey Mountain. A smaller area at the southwest corner of Austerlitz is also identified as an important area for terrestrial animals. Due to the

sensitivity of identifying specific locations of important terrestrial areas, the data does not specifically identify what species or the exact location of the species. As a result, broader areas, shown in broad circles on the map show the area where an important terrestrial animal has been found. Direct inquiries on a parcel by parcel basis can be made to NYS DEC for more information.

Important Areas for Natural Communities and Important Areas for Plants: One small areas at Fog Hill in the northeastern corner of Town, on State preserved areas is identified as an important area for a natural community and plants. This shows areas important for sustaining known populations of rare plants based on occurrence records form the NYNHP. Important areas include the specific locations where rare plants have been observed, as well as areas that support ecological processes critical to maintaining the habitats of these rare plant species. These area will contribute to the long-term survival of rare plant species and their associates.

Meadows and Open Habitats: While largely forested, Austerlitz has some sizeable meadows and open habitats. Lage meadows are a conservation priority in the region and birds that depend on them have been declining. Having these open habitats is important and contributes to habitat diversity in a town largely forested. As a result, reduction of meadow habitats should be carefully evaluated and limited where possible when future development is proposed.

### Taconic Ridge

Regionally, the Taconic Ridge is a Significant Biodiversity Area. A large part of Austerlitz is within the Taconic Ridge. The following is excerpted from the Hudson Valley Wildlife and Habitat Conservation Framework (https://www.dec.ny.gov/docs/remediation\_hudson\_pdf/hrebcf.pdf):

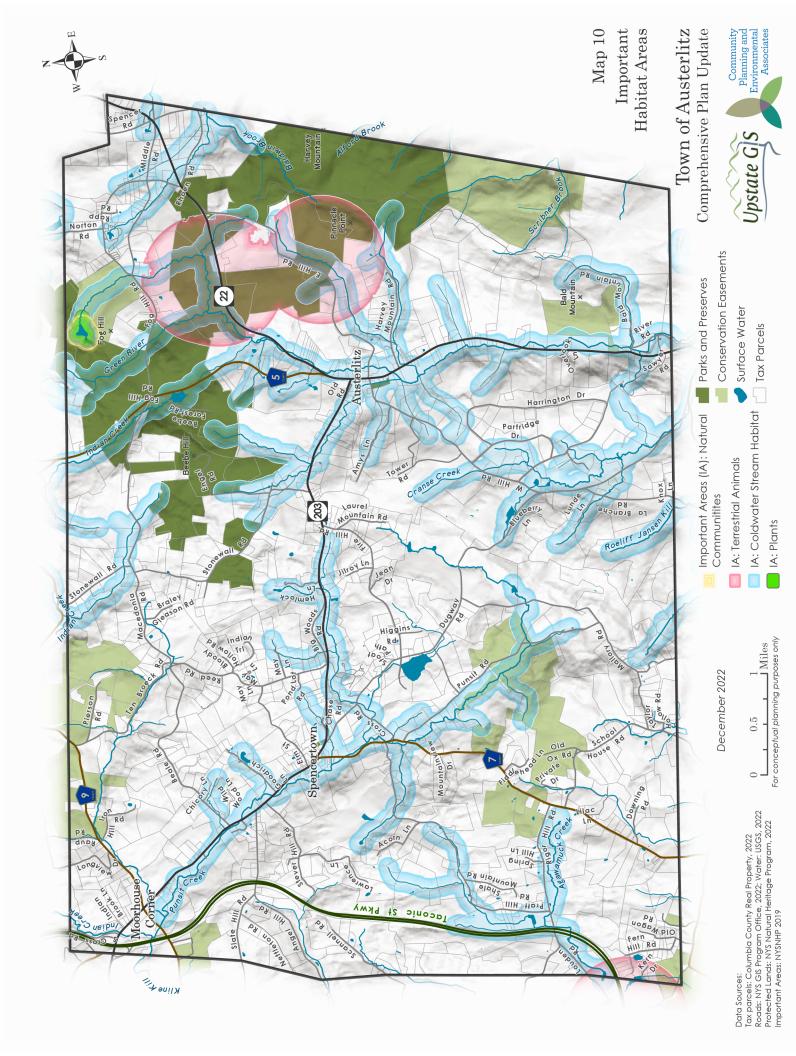
"The Taconic Ridge encompasses large areas of contiguous, high quality, northern hardwood forest underlain by complex metamorphic bedrock. It serves as a principle watershed and recharge area for numerous rich fens and associated rare plant and animal species. The Taconic Ridge extends nearly 60 miles along the eastern edge of New York State and is about 12 miles wide at its widest point. Within New York, it covers approximately 78,700 acres. Running along the divide between the Hudson and Connecticut River Watersheds, 53,600 acres of this area fall within the Hudson River Watershed.

Hemlock-northern hardwood forest and Appalachian oak-hickory forest are the most common matrix forest types. Patch communities include pitch pine-oak-heath rocky summit, acidic talus slope wetland, and rocky summit grassland.

The Taconics contain high topographic variability that enhances diversity of community types and associated species. About 450 million years ago (the Ordovician Period), colliding continents caused the formation of a mountain chain the size of the Himalayas in eastern New York and western New England. These mountains have eroded to what is now the Taconic Range. The bedrock geology consists of various types of metamorphic rocks; mainly deformed sedimentary rocks that were pushed up from the ocean floor from the advancing continent. These bedrock formations have fewer buffering capabilities against acid rain and other pollutants than the limestone-rich areas of the Hudson River Estuary corridor. Communities in the Taconics are likely to be more sensitive to chemical changes in

atmospheric deposition. In the upper elevations of the Taconics, the surficial geology is mapped as bedrock, the lower elevations are generally considered to be glacial till. Although till is very rocky, the range of particle sizes (clay and silt all the way to boulders) and the recent exposure/creation of these particles increases the quality of the soil for the plant communities.

The Taconic Ridge is notable for its large, contiguous northern hardwood forests. It is one of the best occurrences of northern hardwood forest communities in the region. It serves a diverse population of resident and migratory bird species as wintering and breeding habitat and as a migratory corridor. The area also supports regionally rare plant and animal species. Examples include bog turtle and timber rattlesnake, and the globally and state rare Ogden's pondweed and Hill's pondweed."



# J. Important Forests<sup>3</sup>

A large portion of Austerlitz is forested. These forested areas have an important role in maintaining the biodiversity of wildlife and plants in the Town, but also in the Region.

Forest Core: Of especial importance are the Forest Core areas and Linkage areas. Core forests are interior forest areas surrounded by at least a 100-meter wide buffer of edge forest habitat. Core forest is especially important for sensitive wildlife including many forest songbirds, which avoid nesting near areas with human disturbance. Although the value of individual forest patches for wildlife depends on landscape context and other factors, core forests that are at least 500 acres in size are more likely to provide enough suitable habitat to support a diversity of interior forest species. The fragmentation of large forests by new roads and development into smaller forest patches reduces or eliminates core forest and is a leading driver of biodiversity loss. Fragmentation decreases forest habitat quality, disrupts wildlife movement, and facilitates the spread of invasive species. There are many forest core areas throughout the Town. The entire eastern portion of the Town is considered a forest core.

Linkage Zone: Linkage zones are largely intact forested connections between matrix forest blocks that allow animals and plants to move or disperse across the landscape. Forest linkages enable genetic exchange among populations and will allow plants and animals to move north and higher in elevation as the climate warms. The higher elevations of Austerlitz are all included in a Forest Linkage Zone.

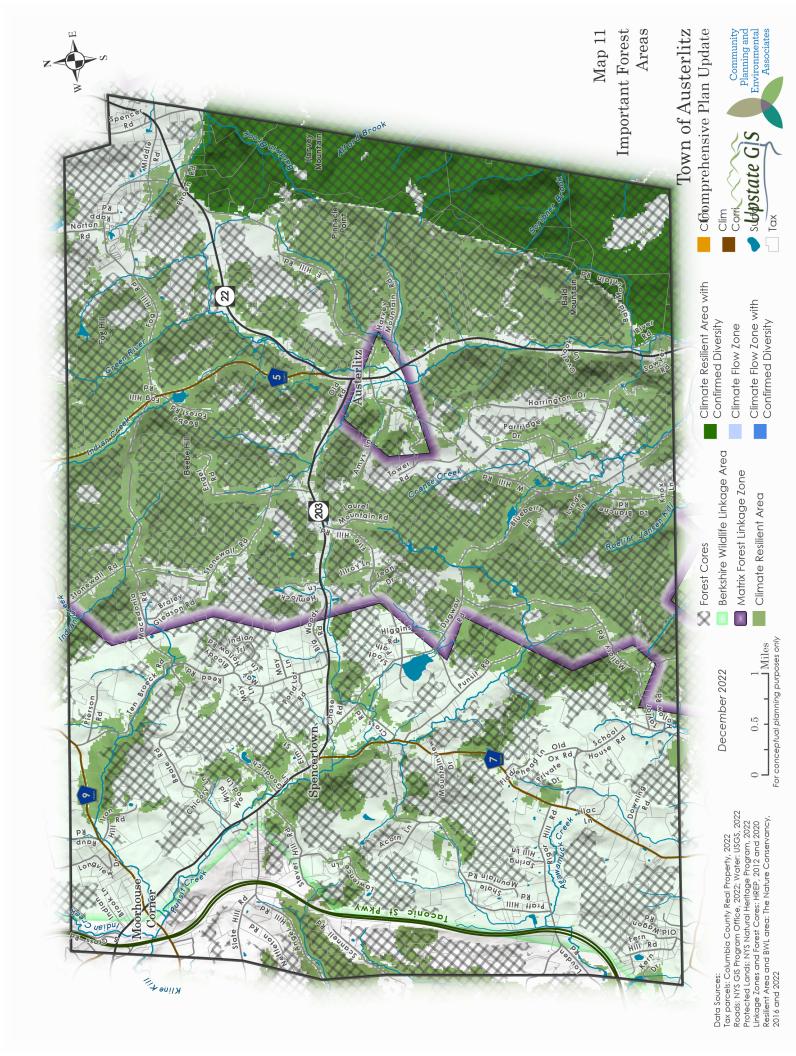
This map also shows climate resilient areas and climate resilient areas with confirmed diversity. The Resilient and Connected Network is based on three factors:

- 1) Resilient Sites: These are sites with connected microclimates representing all physical environments therefore supporting a diversity of plants and animals as they respond to climate change.
- 2) Confirmed Biodiversity: These are sites recognized for their current biodiversity values.
- 3) Climate Flow: These are corridors or flow zones that facilitate plant and animal movement for climate adaptation.

Austerlitz has forest patches that rank extremely high compared to other forested areas in the Hudson Valley as a whole. These rankings account for forest condition including size, whether they are fragmented, habitat connectivity, stressors to the forest area, habitat and ecosystem values, and carbon sequestration value. Forest conditions can be viewed through the Hudson Valley Natural Resource Mapper (https://gisservices.dec.ny.gov/gis/hvnrm/) under the Forest Menu.

There is a small area of mapped floodplain forest in Austerlitz, which are rare and important habitats. Data are available for viewing or downloading from the Columbia County NRI data portal.

<sup>&</sup>lt;sup>3</sup> From https://gisservices.dec.ny.gov/gis/hvnrm/layerInfo.html#flz



### K. Agricultural Resources

The topography, slopes, and soils dictate where agriculture takes place. There are not a lot of agricultural activities taking place currently in Austerlitz, but agricultural resources in the form of prime farmlands and farmlands of statewide importance do exist – mostly in the western, lower elevation, flatter lands. These resources are described as:

**Prime Farmland,** as defined by the U.S. Department of Agriculture, is land that has the best combination of physical and chemical characteristics for producing food, feed, forage, fiber, and oilseed crops and is available for these uses. It could be cultivated land, pastureland, forestland, or other land, but it is not urban or developed land or waterbodies. Prime Farmland Soils have the soil quality, growing season, and moisture supply needed to economically produce sustained high yields of crops when proper management, including water management, and acceptable farming methods are applied.

In general, prime farmland has an adequate and dependable supply of moisture from precipitation or irrigation, a favorable temperature and growing season, acceptable acidity or alkalinity, an acceptable salt and sodium content, and few or no rocks. The water supply is dependable and of adequate quality. Prime farmland is permeable to water and air. It is not excessively erodible or saturated with water for long periods, and it either is not frequently flooded during the growing season or is protected from flooding. Slope ranges mainly from 0 to 6 percent. In New York, somewhat poorly drained soils are designated as Prime Farmland if Drained if they meet all criteria for prime farmland other than depth to water table.

Lands having prime soils are shown on the Map and occur predominantly around Spencertown and in the northwestern corner of Town.

Soils of Statewide Importance. In some areas, land that does not meet the criteria for prime farmland is considered to be "farmland of statewide importance" for the production of food, feed, fiber, forage, and oilseed crops. There are many areas having these soils, especially throughout the hamlet of Austerlitz, and from Moorhouse Center to Spencertown along the Punsit Creek. The criteria for defining and delineating farmland of statewide importance are determined by New York State. Generally, this land includes areas of soils that nearly meet the requirements for prime farmland and that economically produce high yields of crops when treated and managed according to acceptable farming methods. Some areas may produce as high a yield as prime farmland if conditions are favorable.

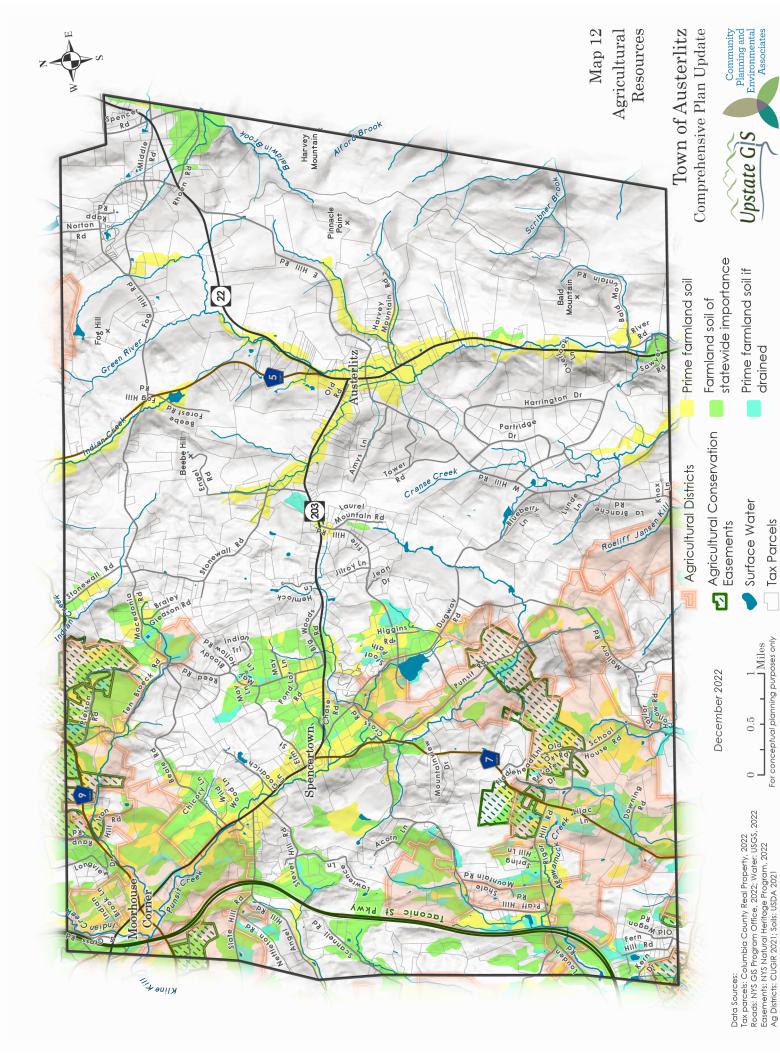
Actively farmed land today, shown on Map 24, can be found throughout the Town on straddling prime, prime if drained, and statewide important soils. Farms are not concentrated in one area in Town but are found throughout Austerlitz. However, as discussed above, there are several locations in Town that have more of a concentration of farm activities. Those areas are significantly fragmented by residential land uses.

The Agricultural Resources Map also shows the NYS Agricultural District. Agricultural Districts are intended to encourage the continued use of farmland for agricultural production. Enrollment of viable agricultural lands into a certified Agricultural District provides protection of accepted agricultural

practices through New York State Agricultural Districts Law. The Certified Ag District is also found where the best agricultural soils are found and overlaps those resources in the western portion of the Town.

Several areas in Austerlitz are also protected through an agricultural conservation easement. These are parcels of land where the development rights have been sold or donated, usually to an organization like the Columbia Land Conservancy to prevent development and protect agricultural or open space resources.

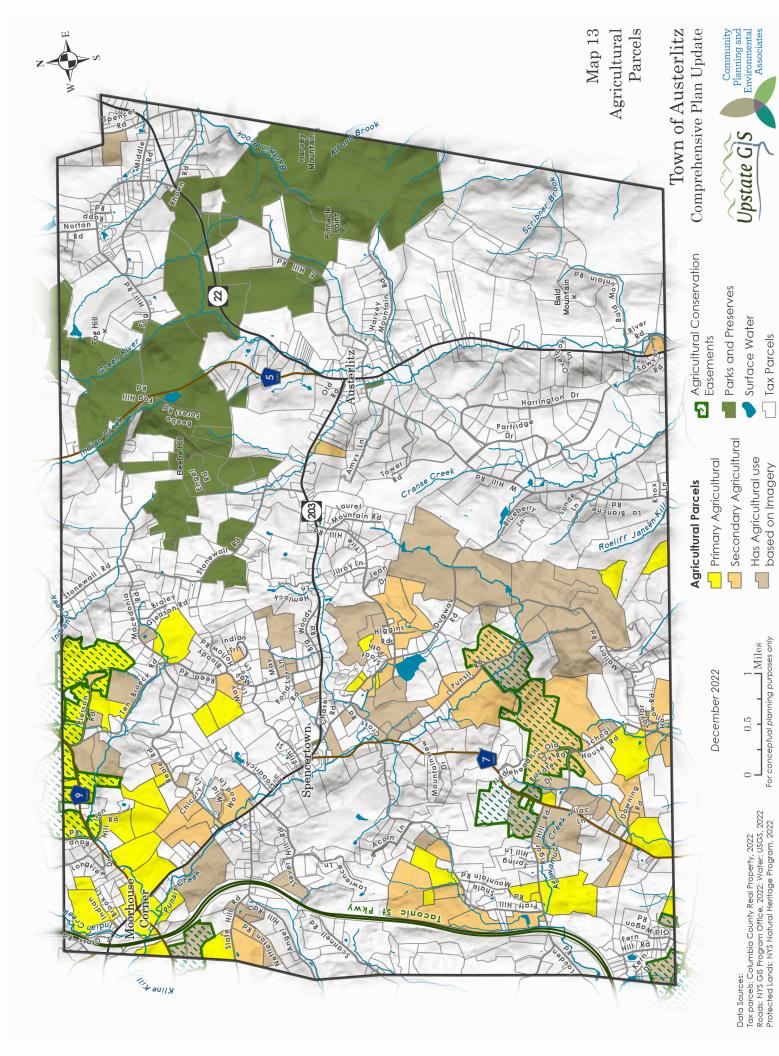
As mentioned above, there are several large open areas and meadows in Austerlitz. Some of these may be agricultural fields. These open areas contribute to the biodiversity of the area, and as Austerlitz is largely forested, such areas hold important ecological roles for plants and animals that require open habitats.



# L. Agricultural Parcels

The Agricultural Parcels Map shows places where agriculture is the primary use of a parcel of land, and those places where a residence is the primary use of land, but agriculture also takes place and is a secondary use of a parcel. These are parcels of land identified by the Town's Tax Assessor as being in agriculture or having agriculture on the parcel. A third category is included on this map – agricultural lands identified based on aerial imagery, but not identified as agricultural by the Tax Assessor.

Lands identified as having agricultural use are the same areas as those included in the NYS Certified Agricultural District. There are 1,794 parcel acres of primary agricultural use, 1,675 parcel acres of secondary agricultural use, and 2,611 parcel acres of agriculture as identified from imagery.



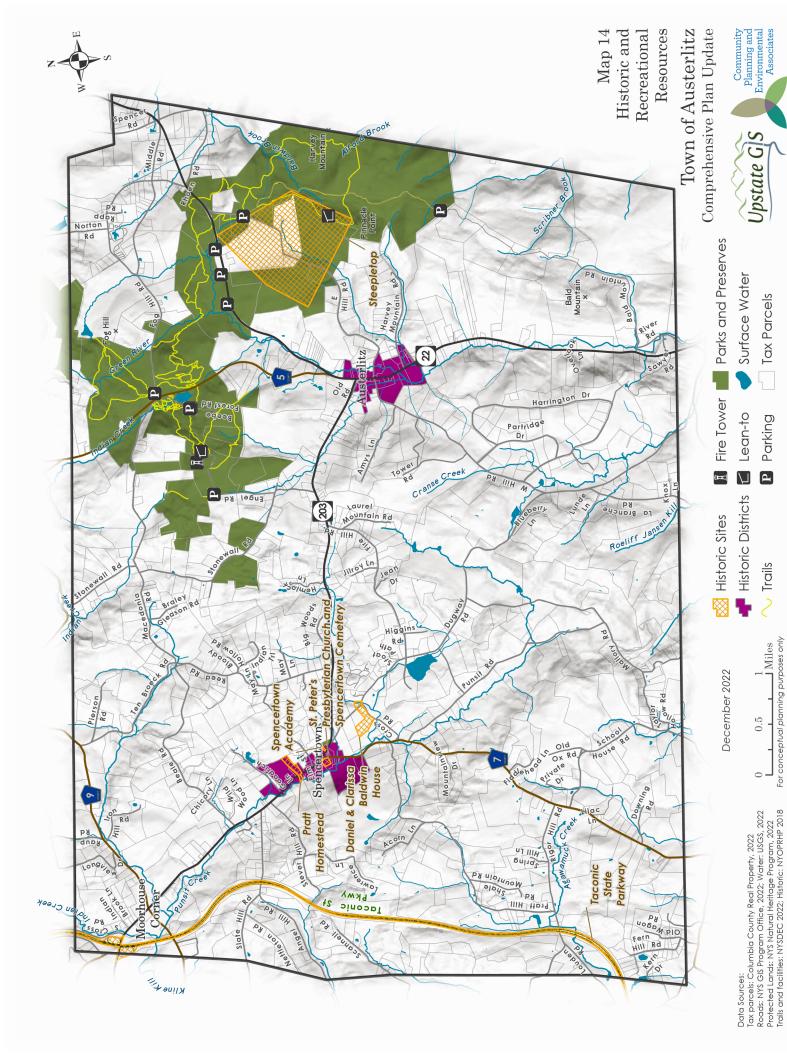
### M. Historic and Recreational Resources

Historic Resources: Part 3 of this Plan offers a detailed description of the historic resources in Austerlitz. As a summary, the following historic resources are found in Town:

- <u>St. Peter's Presbyterian Church</u>, on The Green in Spencertown a 250+ year old clapboard structure.
- Old Austerlitz (including a historic former church and schoolhouse directly across the main grounds on Rt 22).
- <u>Steepletop:</u> Home of Pulitzer Prize winning poet Edna St. Vincent Millay, and a National Historic Landmark.
- Spencertown Academy, erected in 1847.
- Spencertown Historic District. This area, listed on the State and National Register of Historic Places, was established in 2018. The Spencertown Historic District encompasses the entire historic hamlet of that name in the Town of Austerlitz, which is located on the eastern side of Columbia County at the border of New York State and Massachusetts. The historic district contains 67 properties, of which 40 can be documented from an 1888 map of the hamlet and are pivotal to its significance.
- <u>Austerlitz Historic District</u>. The Austerlitz Historic District is located in a hamlet and a Town of
  the same name along the eastern boundary of Columbia County, which is also the border
  between New York State and Massachusetts. It is situated between the Taconic and Berkshire
  mountain ranges on the west and east, respectively, and contains the Green River, which is part
  of the Housatonic River watershed. The historic district contains 37 properties, of which 23 can
  be documented in an 1888 map of the hamlet and are pivotal to its significance.
- <u>Various homes and other sites</u> are registered on state/national Register of Historic Places.<sup>4</sup> This
  includes the Danial and Clarissa Baldwin House in Spencertown, St Peter's Presbyterian Church
  and Spencertown Cemetery, and the Taconic State Parkway

The recreational resources also shown on this Map include eight parking areas for State owned lands, a fire tower, and two lean-twos located in Beebe Forest. A significant system of hiking trails can be found throughout the Harvey Mountain/Beebe Forest State Lands.

https://data.ny.gov/Recreation/National-Register-of-Historic-Places/iisn-hnyv/explore/query/SELECT%0A%20%20%60resource\_name%60%2C%0A%20%20%60county%60%2C%0A%20%20%60national\_register\_date%60%2C%0A%20%20%60sphinx\_number%60%2C%0A%20%20%60xx60%2C%0A%20%20%60yx60%2C%0A%20%20%60georeference%60%2C%0A%20%20%60%3A%40computed\_region\_yamh\_8v7k%60%2C%0A%20%20%60%3A%40computed\_region\_wbg7\_3whc%60%2C%0A%20%20%60%3A%40computed\_region\_kjdx\_g34t%60%0AWHERE%20%60county%60%20IN%20%28%27Columbia%27%29/page/filter\_and\_https://en.wikipedia.org/wiki/National\_Register\_of\_Historic\_Places\_listings\_in\_Columbia\_County,\_New\_York

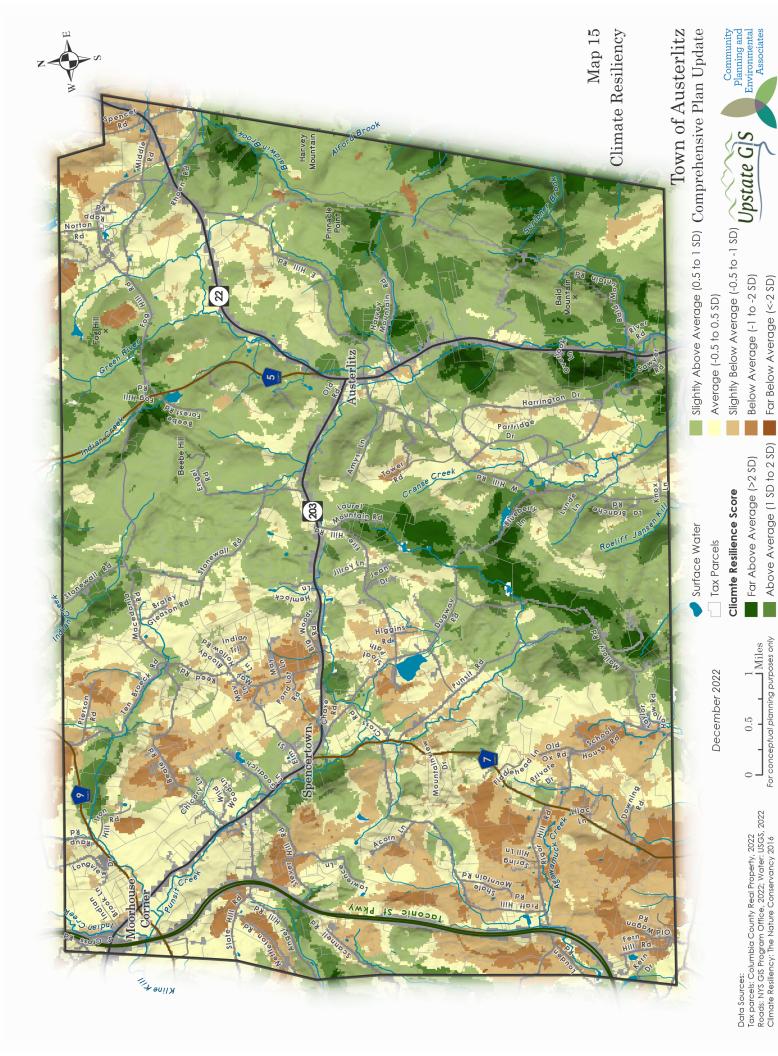


### N. Climate Resiliency

The Climate Resiliency Map shows information from The Nature Conservancy Resilient Land Mapping Tool. The Tool comes from a study that identified locations where the natural habitat areas may be best able to adapt to climate change. The study found that conserving places that possess geophysical diversity will help to protect diverse species and natural processes as environmental conditions change with the warming climate. The Tool uses 'resiliency scores' that use different criteria to indicate parts of the landscape with greater or lesser potential for species to adapt as the climate changes. Resiliency Scores identify places that are 'buffered from the effects of climate change because the site offers a wide range of micro-climates within a highly connected area." Features used that contribute to resiliency include topographic and elevation diversity that provide a range of habitat types and microclimates, and identification of places having minimal barriers that restrict movement of species or ecosystems.

The Map shows darker greens that indicate areas with higher estimated resilience graduated to yellow and then browns, that indicate areas more vulnerable to the effects of climate change. The Climate Resiliency Map identifies scores ranging from 'Far Below Average' to 'Far Above Average.'

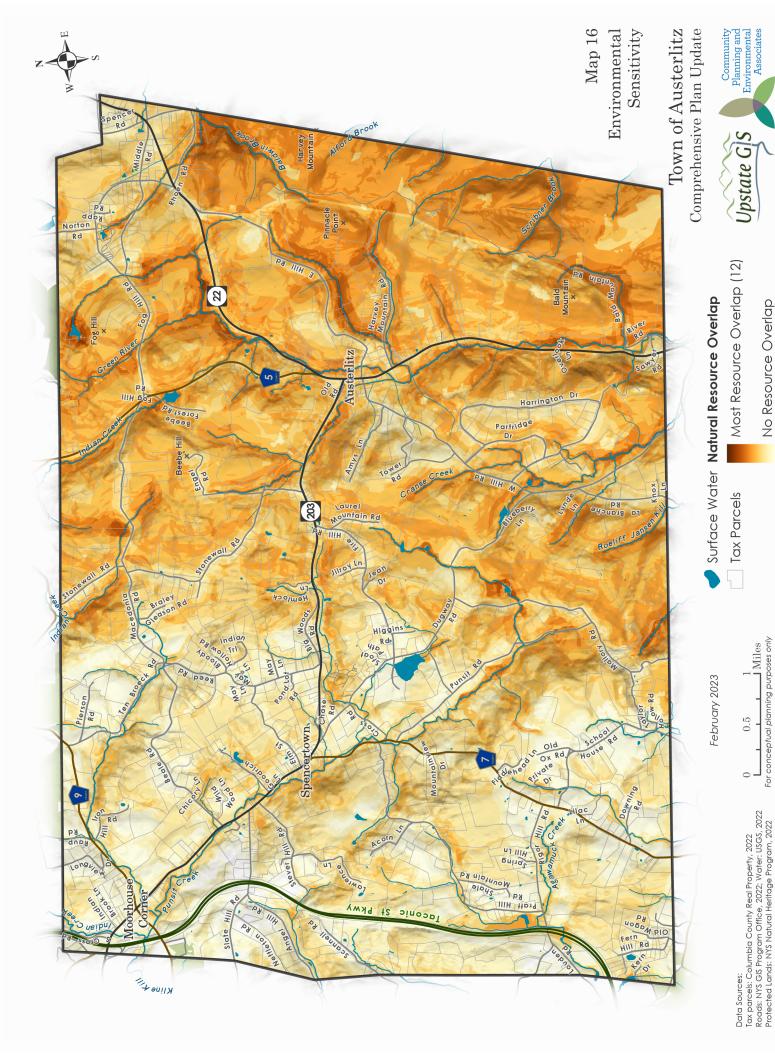
The more climate resilient locations are also those that have important core forest areas, steeper slopes, and higher elevations. In general, the western portion of Town has lower climate resiliency scores that are average to slightly below average. This is due to the character of that area of open areas intermixed with low density residential development. The eastern portion of town has slightly above average, above average and far above average resiliency.



# O. Environmental Sensitivity

The environmental sensitivity map was developed through use of a Geographic Information System (GIS) that allows each layer described above to be put together. The premise is that the more overlap of different nature resources, the more sensitive that land area is. Thus, parcels having little overlap is generally considered to be less sensitive than those having many overlaps. On the Map, the darker the color, the more natural resources are located there. And following along with descriptions above, the western portion of the Town has less sensitivity (fewer natural resources there), but the central and eastern portions have much sensitivity. The State/conserved lands and the entire eastern portion of town has many areas having overlap of a high number of resources.

From an environmental perspective therefore, development in the central and eastern portion of town has more risk to environmental damage and more challenges/barriers to such development. This map can be useful in identification of other environmental overlay areas that may be important to help conserve these natural resources.



No Resource Overlap

### P. Conserved Properties

The following conserved properties are located in Austerlitz:

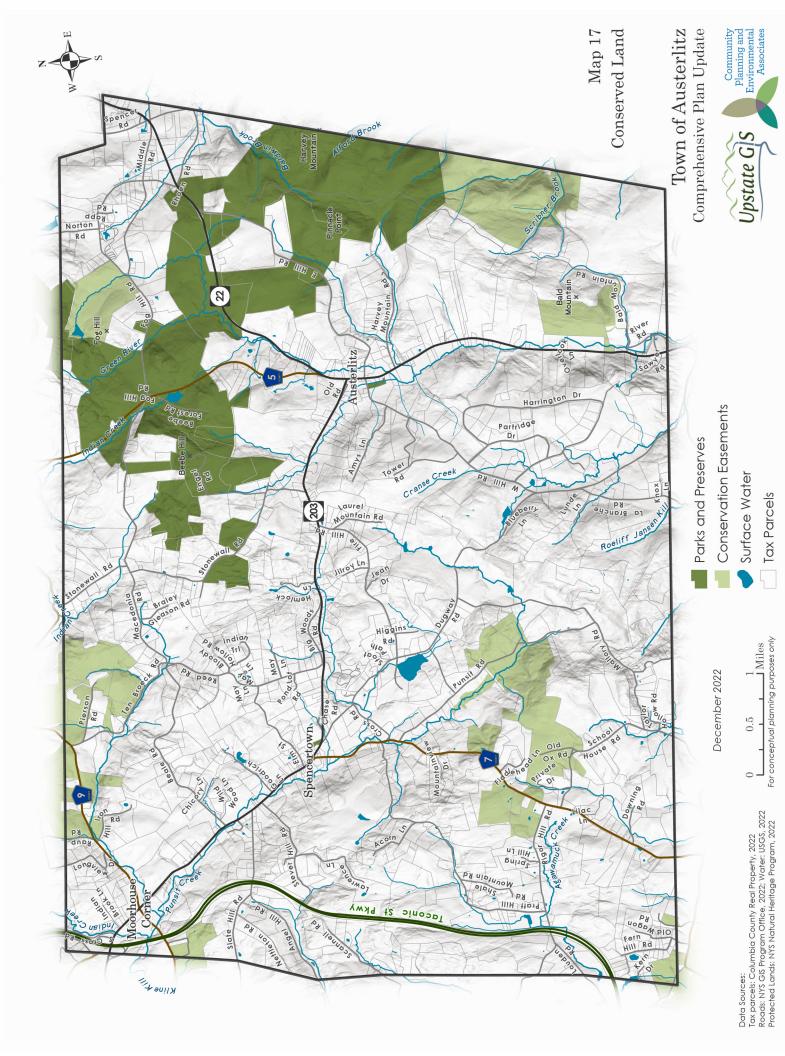
Beebe Hill Multi-Use Area and Harvey Mountain State Forests - The 2,018-acre Beebe Hill Multiple Use Area and the 2,007-acre Harvey Mountain State Forest are managed for multiple uses, including timber production, watershed protection, wildlife habitat, and recreation. Harvey Mountain is the highest elevation in Columbia County at 2,065 feet. The forests provide ample opportunity for outdoor recreation year round Beebe Hill and Harvey Mountain State Forests feature one lean-to each. These lean-tos can be accessed by the multiple use trails. Beebe Hill and Harvey Mountain State Forests feature several bodies of water open to fishing including the 6.5-acre warm Barrett Pond, the 5-acre No Bottom Pond, as well as 5.5 miles of various streams. Fish species found on the property include largemouth bass, black crappie, bluegill, brown bullhead, pumpkinseed, rock bass, yellow perch and golden shiners. In addition, primitive camping is allowed. There are horse trails located at the Fog Hill parking area. Camping must be at least 150 feet from a water body, trail or road. Camping for more than three nights or in a group of 10 or more requires a permit from a Forest Ranger. There is an unmaintained hand-launch on Barrett Pond, which provides visitors access to the pond.

Harris Conservation Area – on Bloody Hollow Road, it is a 76 acre parcel with 1.5 miles of trails of easy to moderate hiking and open to the public. The property features woodland pools, hemlock forests and rare plants.

Austerlitz Park – see Part 3 for further description.

Spencertown Park – See Part 3 for further description.

There are 15 properties in Town having conservation easements, seven of which are for agricultural properties. Of all these, 14 are Columbia Land Conservancy properties and 1 is in the Natural Resources Conservation Service Wetlands Reserve Program.



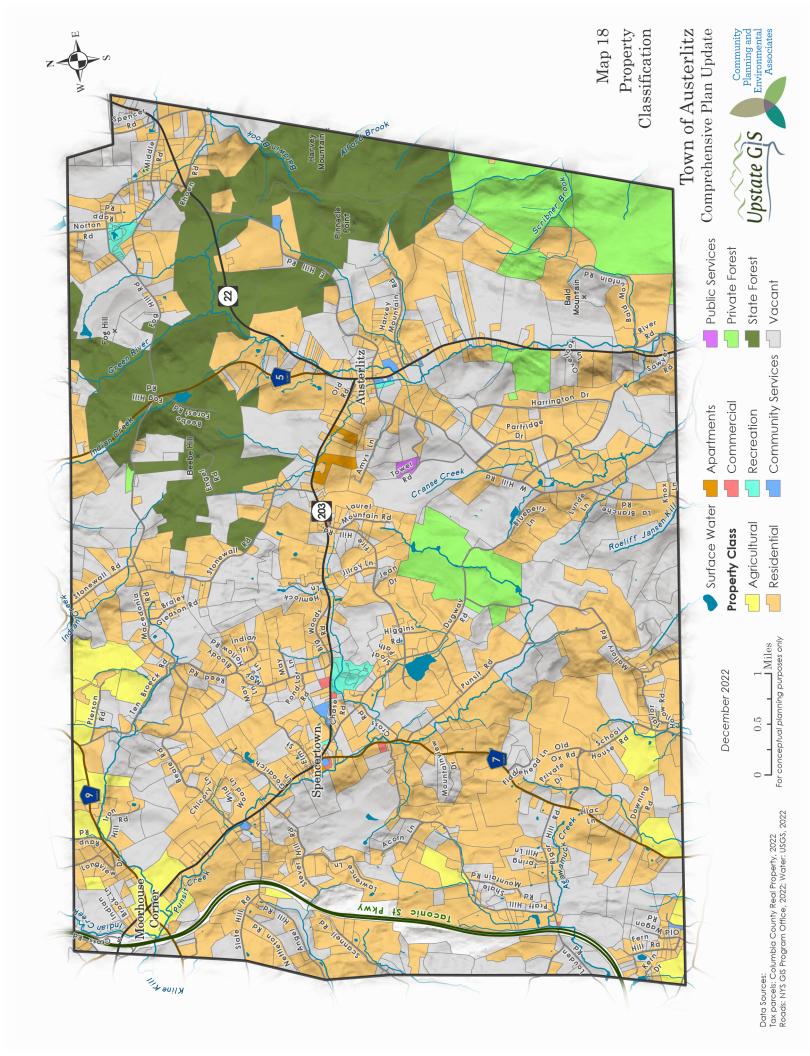
# Q. Property Classes

The Town Tax Assessor classifies every parcel of land in the Town of Austerlitz as to its use. Each type of property is given a code ranging from 100's to 900's. The Property Class Map reflects the codes assigned to each parcel. Note that although there are guidelines and definitions for Assessors to use from New York State, there is still some variability in how properties are classified. For example, a parcel that has a house and agricultural land on it may be a residence, farmland, or an estate. The Property Class map does give a good approximation of land use in the Town. The vast majority of land uses in Town are residential or vacant properties not improved or otherwise used. In the hamlets, community services and limited number of commercial properties are seen. There are very few commercial properties outside the hamlets (although home occupations do exist but would be classified as a residential property. Three commercial properties are located south and east of Spencertown – on Route 7, and two on Route 203.

The following chart details the acres and parcels for each land use:

Property Class	Number of Parcels	Number of Acres
Agricultural v(1)	20	932
Residential	958	13,023
Apartments	4	55
Commercial	9	17
Recreational	5	116
Community Services	24	54
Public Services	3	19
Private Forest	6	1,734
State Forest	17	3,532
Vacant	469	10,701

(1) Note that this number for agriculture reflects only those parcels classified in the 100 class (agriculture), but agriculture takes place on other parcels as a secondary use. Thus, some of the residential-class parcels have agriculture taking place on it.



### R. Year Built

An important feature to analyze in a Comprehensive Plan is how a community has grown over time. One way to evaluate that growth is to consider where and when new homes have been built. The Year Built Map details the growth of residences in Austerlitz from 1750 through 2020. This information is provided through the Columbia County Real Property Department and is part of the data included with every tax parcel in Town.

The highest concentrations of older homes (built prior to 1904) are in the hamlets of Spencertown and Austerlitz. Older homes are found along the entire length of Route 203 in Town. Scattered older homes are found in other places and represent farmsteads that were established early in Austerlitz's history.

Over time, growth has spread out from the traditional hamlet areas and Route 203 and many homes were built throughout the Town between 1904 and 1998. The highest number of new homes were built between 1967 and 1983, but since then, the number of new homes have been almost double what it was in earlier time frames. Note that the Map shows 230 new homes built between 1967 and 1983. This is more homes built in 16 years than were built in the first 150 years of the Town's existence. Another 186 new homes were built between 1999 and 2020. The growth pattern in Austerlitz is not focused on the hamlet areas as in previous decades, but now has expanded to most areas of the Town giving a low density rural sprawl pattern.

# **Year (Number of New Homes Built)**

1750 - 1810 (49)

1811 - 1852 (63)

1853 - 1904 (50)

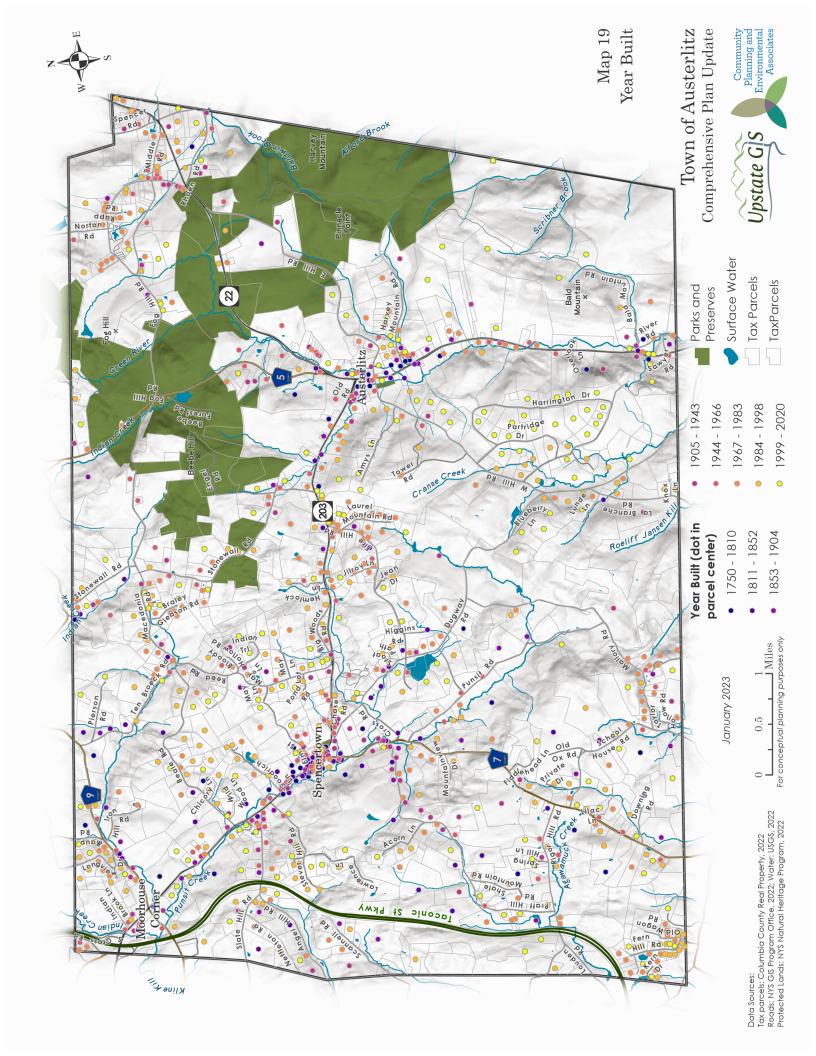
1905 - 1943 (94)

1944 - 1966 (110)

1967 - 1983 (230)

1984 - 1998 (181)

1999 - 2020 (186)



# S. Zoning

The zoning districts in Austerlitz are focused on the two hamlets with the rest of the town included in one zoning district. The zoning map shows three base zoning districts: Rural Residential (RR), Austerlitz Hamlet (A-HM) and Spencertown Hamlet (S-HM). Zoning establishes development standards for the hamlet areas as different than all other places. Within the RR district, all new development needs to meet one set of development standards. While this zoning clearly establishes the difference between hamlet and all other areas, it does not take into consideration the many actual differences in the landscape throughout the rest of the Town, See Part 5 Audit for more information on benefits and challenges of the current zoning.