

Draft Report to Update the Town of Gallatin on the Conservation Advisory Council and Consultant’s Progress of the ongoing Gallatin Natural Resource Conservation Plan December, 2024

Introduction

This is an interim report to update the Gallatin Town Board and others about the progress of the Natural Resource Conservation Plan as the Board undertakes updating the Town’s zoning regulations.

Gallatin’s 2023 Comprehensive Plan calls for the Conservation Advisory Council (CAC) to complete a Natural Resources Inventory (referred to here as a Natural Resource Conservation Plan) and to establish a Forest Protection Overlay District¹. Since March, 2024, the CAC and JN Land Trust Services have had regular meetings, conducted field surveys, consulted with the Hudson River Estuary’s Christine Vanderlan and given updates to the Town Board at May 21, September 17 and November 19 Board meetings. The following information will be presented at the December 17 Board meeting. This update is preliminary and will be modified based on direction from the Board, other committees and departments and the public.

**Town of Gallatin
Comprehensive
Plan**

**Part I: Vision, Goals and
Strategies**

**This Plan Updates the 2007 Version
March 2023**

Gallatin’s Comprehensive Plan calls for
Forest Protection Overlay Districts

Executive Summary

Gallatin’s Forests

Gallatin is home to some of the top forested areas in the Hudson Valley. Our forest links the Mount Washington-Mount Riga forest to the northeast and the Shaupeneak forest to the southwest and more broadly links the Appalachian and Catskill Mountain ranges to larger ranges in New England.² Gallatin’s intact, unfragmented forest connections allow animals and plants to move across the landscape, important as the climate warms because they will allow plants and animals to move north and higher in elevation. Our forests also provide recreational, commercial and other environmental services including water purification, shading and cooling, drought moderation, stormwater retention, flood prevention, carbon absorption and scenic beauty.

¹ Town of Gallatin Comprehensive Plan, Page 28, 32-33.

² Town of Gallatin Comprehensive Plan, Pages 28, 32-33.

Threats

Our surveys in the summer of 2024 found several threats to Gallatin's forests. Damaging clear cutting has occurred in many locations in Gallatin as roads and driveways are cut along steep slopes and plateaus and ridgelines are cleared for potential home sites. Many of these driveways and logging skid trails are rutted and the forest has failed to regenerate, leaving invasive mugwort and stilt grass. Tree removal has also occurred up to the edges of wetlands and vernal pools.

Currently, these activities are not regulated by Gallatin zoning regulations. Gallatin's Ridgetop Protection Overlay District does not prevent landowners from pre-clearing before applying for Planning Board approval to build on ridgelines. Non-commercial tree removal is not yet regulated in Gallatin. The regulation of commercial harvesting in Gallatin is focused primarily on preventing damage to the Town's roads and not yet on preventing clear cutting or protecting watercourses and steep slopes. Gallatin's Watercourse Protection Overlay District only applies to certain floodplains and does not regulate activities in wetlands, vernal pools or watercourses.

Other threats include deer browse which across the forests has prevented the understory and tree canopy from regenerating. Disease threatens hemlocks, ash, beech and elms, though many hemlocks in the interior forests appear healthy. Invasive plants are common along roadways and where the forest has been disturbed, but have not penetrated deeply into the interior forests.

Recommended Actions

A Forest Protection Overlay District (FPOD) can address some of these threats while still allowing sustainable harvesting and responsible development by limiting tree removal, protecting watercourses, steep slopes and ridgelines, increasing lot size and requiring conservation subdivision. A Tree Protection Ordinance can prevent clear cutting that is intended to avoid FPOD and existing zoning standards. DEC's timber harvesting Best Management Practices can be made mandatory in an updated Commercial Harvest Permit to protect watercourses and steep slopes and prevent clear cutting.

FPOD Boundaries

Rather than being a town-wide ordinance, a forest overlay can apply only to the resource, Gallatin's forests. The CAC initially sought to limit the proposed FPOD to forest patches that were ranked by the Hudson River Estuary Program based on New York Natural Heritage Program (NYNHP) criteria as being in the top 90% of forests in the Hudson Valley. Realizing that significant 'stepping stone' forests in Gallatin were excluded, it is recommended that the FPOD be extended to all forest patches that rank 80% or higher. Boundaries for the proposed FPOD are shown on the 'Possible Forest Overlay Zone Map' in Appendix1 (page 21).

Initial Focus on Forests

While the Natural Resource Conservation Plan will research all of Gallatin's natural resources, including water and wildlife resources, the initial focus has been on the forests in Gallatin which are, perhaps, Gallatin's most prominent natural resource. A full 78% of Gallatin is forested³. Forests and wetlands (including streams, ponds and vernal pools) are among the most prominent and recognized natural resources in town. Gallatin's biologically diverse forests provide numerous benefits, as mentioned, including absorbing stormwater, protecting streams, filtering water, reducing flood damage, promoting groundwater infiltration for drinking water, protecting steep slopes and reducing erosion, providing shade and moderating temperature, improving air quality, protecting plant and wildlife habitat, allowing plant and wildlife movement in response to climate change, creating opportunities for recreation, protecting scenery, raising property values and providing forest products.

And forests are highly valued by Gallatin residents. The most important issue for Gallatin residents, according to the April 2022 town wide survey, was protection of the environment and natural resources.⁴

Poorly planned development, habitat loss and fragmentation negatively affect these valuable ecosystems . These impacts are further amplified by assaults from natural forces like storms, droughts, and invasive species that have increased due to climate change. The ultimate result of such fragmentation is that ecosystems lose species and vitality of functions. The NRCP and the work being done to understand Gallatin's forests will enable the Town to update its land-use regulations to avoid future habitat loss and fragmentation.

Proposed Forest Protection Overlay District

A Forest Protection Overlay District (FPOD) is a tool with a broader view. The establishment of a FPOD is specifically recommended in the Gallatin Comprehensive Plan⁵. New York State's Department of Environmental Conservation's *Municipal Official's Guide to Forestry* writes that "the adoption of a forest zone is the ideal way to assure that forest land can be readily managed ... and help prevent the fragmentation and conversion of forest land to other developed uses".⁶ A FPOD may contain a number of provisions designed to keep forests intact while permitting sustainable forestry and thoughtful development. Development proposed for the District may have limited tree and vegetation removal,

³ HRE. Habitats and Wildlife in Gallatin. Christine Vanderlan. August 18, 2022.

⁴ Town of Gallatin Comprehensive Plan. March 2023. Page 11.

⁵ Town of Gallatin Comprehensive Plan. Page 32

⁶ A Municipal Official's Guide to Forestry in NY State. NY State DEC, NYPF, ESFPA. 2005.

wetland, watercourse and steep slope protections, increased lot size to 10 or 20 acres⁷ and mandatory conservation subdivision design.

The proposed FPOD would be an extension of Gallatin's existing Ridgeline Protection Overlay District which prohibits clear cutting, (which can be defined as the removal of 10 or more trees or the removal of all vegetation on a quarter acre)⁸, minimizes other clearing of vegetation and can require replanting of vegetation. The FPOD would also be an extension of Gallatin's Watercourse Protection Overlay District and Gallatin's Conservation Overlay District, both of which seek to minimize any negative impacts caused by development in or near wetlands, watercourses, lakes, ponds and floodplains while protecting wildlife habitat and increasing recreational opportunities.⁹

Proposed Tree Protection Ordinance

Complementing or part of a FPOD can be a Tree Protection Ordinance which would prevent a future applicant from removing or clear cutting trees and vegetation in order to avoid the requirements of the FPOD. The neighboring towns of Red Hook and Milan have such ordinances and a similar ordinance can be applied to parcels in the FPOD or town wide on certain sized parcels. A Tree Protection Ordinance can also prevent some of the damaging clear cutting that is occurring now in many locations in Gallatin as roads and driveways are cut along steep slopes and plateaus and ridgelines are cleared for potential home sites. This activity is not currently regulated and is considered an immediate threat to Gallatin's natural resources by the Town's Conservation Advisory Council.

Neighboring towns have taken steps to protect trees. The Town of Milan requires that two-thirds of all larger-than-average trees be preserved when commercial logging is done. It also prohibits clear cutting (defined as the removal of most or all of trees of any size) on 480a properties and on commercial logging harvests.¹⁰ This, however, does not prevent a landowner from conducting a non-commercial clear cut on their property in anticipation of applying for subdivision, site plan or a building permit. The Town of Red Hook addresses this omission by requiring site plan approval to remove trees on any lot larger than one acre. Site plan applications must include a survey of all trees of six inches in diameter and greater. Permits are granted only when "absolutely necessary" and clearing on slopes greater than 20% is prohibited.¹¹

⁷ A Municipal Official's Guide to Forestry. Page 15.

⁸ Town of New Castle NY Environmental Protection Overlay regulations Sec. 64-5.

⁹ Zoning Law of the Town of Gallatin. December, 2011. Pages 20-24.

¹⁰ Town of Milan Code. Sect. 200-40 Commercial Logging. [Town of Milan, NY Supplementary Regulations \(ecode360.com\)](http://ecode360.com)

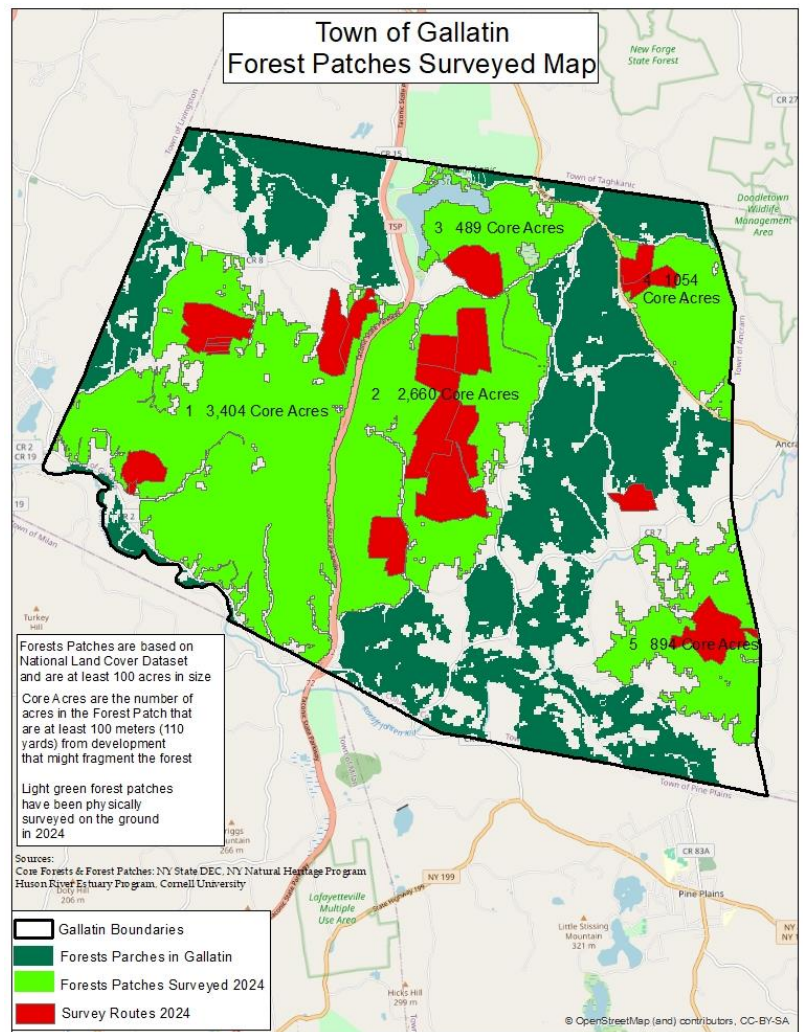
¹¹ Town of Red Hook Code. Sect. 143-27.2. Tree and Topsoil Removal.

Proposed Timber Harvest Permit

Forest surveys in the summer of 2024 did not find evidence of improper commercial timber harvesting and Town staff agrees with this assessment. However, requiring future timber harvests to comply with the Department of Environmental Conservation's (DEC) Best Management Practices for timber harvests can prevent potential damaging harvests in the future.¹² Since most foresters across the state are already following these BMP's, clarifying that they are required should not be an undue burden.

Inventoried and Evaluation of the Forests—Forest Surveys

Gallatin's forests can be evaluated based on forest assessments done by the NYNHP for the Hudson River Estuary Program (HRE), a project of New York's DEC, NYNHP and Cornell University. NYNHP uses the National Land Cover Dataset of 2016 to outline large areas of wooded land cover that are at least 100 acres in size which are labeled 'Forest Patches' (see Forest Patches Map, page 21). Since this is based only on satellite data, NYNHP recommends that this remote evaluation process be further refined by conducting on-the-ground field surveys, which we did in 2024 with nine field surveys. We assume that the sampled areas are representative of the forest patch as a whole. What follows are summaries of these surveys.



Nine field surveys were conducted in 2024 in five of the forest patches to verify results of the remote sensing done by HRE

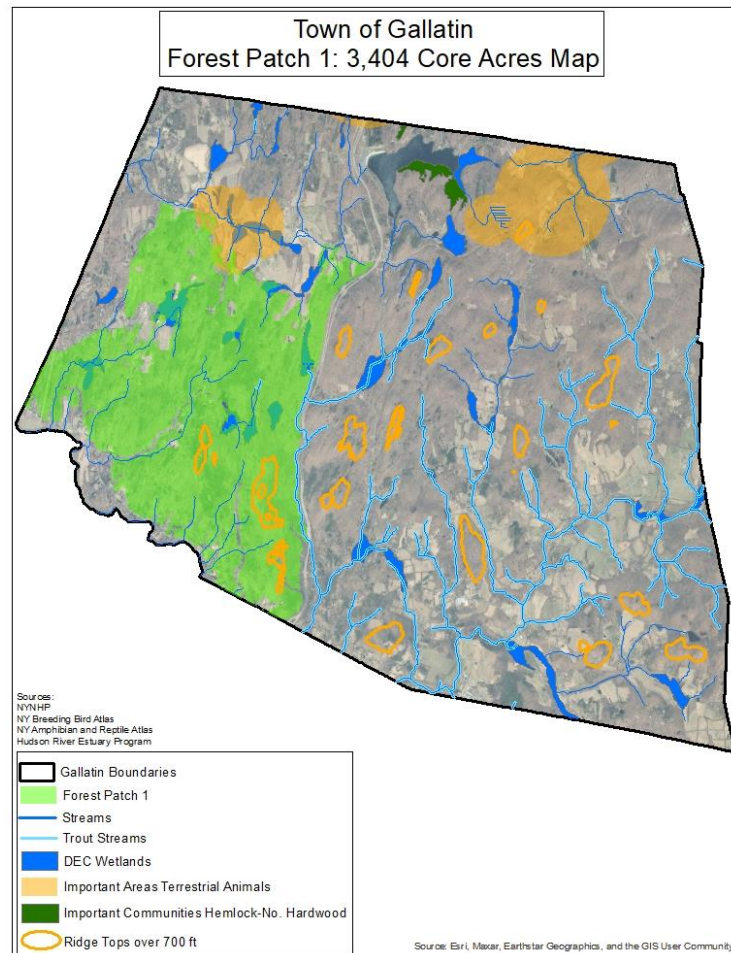
¹² New York State Forestry BMP Field Guide [New York State Forestry Best Management Practices for Water Quality Field Guide](#)

Summary of Forest Surveys

Forest Patch 1:

This 3,404 acre forest runs from Snyderville Road to the west to the Taconic Parkway to the east and from Route 8 in the north to Jackson Corners Road to the south. It includes observations of Rare Terrestrial animals along the Doove Kill¹³, at least three ridgetops of between 695 and 937 feet in elevation, the Roeliff Jansen and its tributaries, the Fall Kill river trout stream and seven wetlands that are 12.4 acres or larger and mapped by DEC which total 235 acres in size, in addition to unmapped wetlands and vernal pools.

Surveys on May 21, July 13 and September 7, 2024 revealed mature hemlock-white pine groves with many of the hemlocks in good condition despite the spread of wooly adelgid infestations in the region. Red maple swamps have tupelo and large white oaks and buttonbush, nannyberry, arrowwood viburnum and spicebush shrubs. Wood frogs observed here indicate that the vernal pools are producing these and possibly other obligate vernal pool species such as spotted salamanders. Hillsides are dry and thin-soiled with medium size (12"-15" diameter at breast height [dbh]), even-aged red, black and chestnut oaks and pignut hickories with an understory of serviceberry, black birch, sassafras, hornbeam and hop hornbeam trees, huckleberry, low bush blueberry and maple-leaf viburnum shrubs and Pennsylvania sedge. The even age of the trees indicates previous logging activity. Many skid trails still are deeply rutted and have failed to regenerate except with invasive mugwort and stilt grass. Invasive plants, however, were rarely found in the rest of the forest. The many rocky outcrops have lowbush blueberry and pasture rose shrubs and rock harlequin and columbine wildflowers. The understory is generally sparse due to deer browse, but in a 12-acre deer exclosure native honeysuckle along with other native saplings are regenerating. Although much of the area has been logged in the past as indicated by the even-aged trees, this forest is rich in biodiversity which is clear from the diversity of bird species observed here in May, July and September including field sparrows

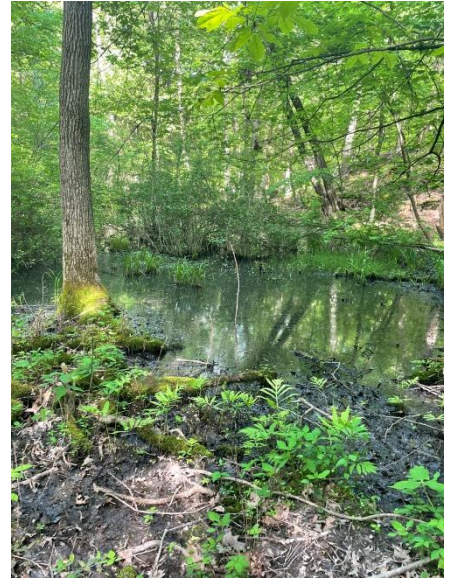


¹³ Rare Terrestrial Animals and Significant Communities occur all over Gallatin. They have only been observed and recorded by NYNHP where scientists have had access to public lands. It should not be assumed that these are the only occurrences

in the meadows, indigo bunting and great crested flycatchers along the wooded edges, veery in the wooded wetlands and ovenbird, pee-wee, red-eyed vireos and scarlet tanagers in the interior woods.



Wood frogs breed only in vernal pools and were observed
In several places in Gallatin



One of several vernal pools



Native honeysuckle shrub growing within deer enclosure



Resprouting oak, evidence of past logging



Trees have failed to regenerate in this logged clearing and along skid trails



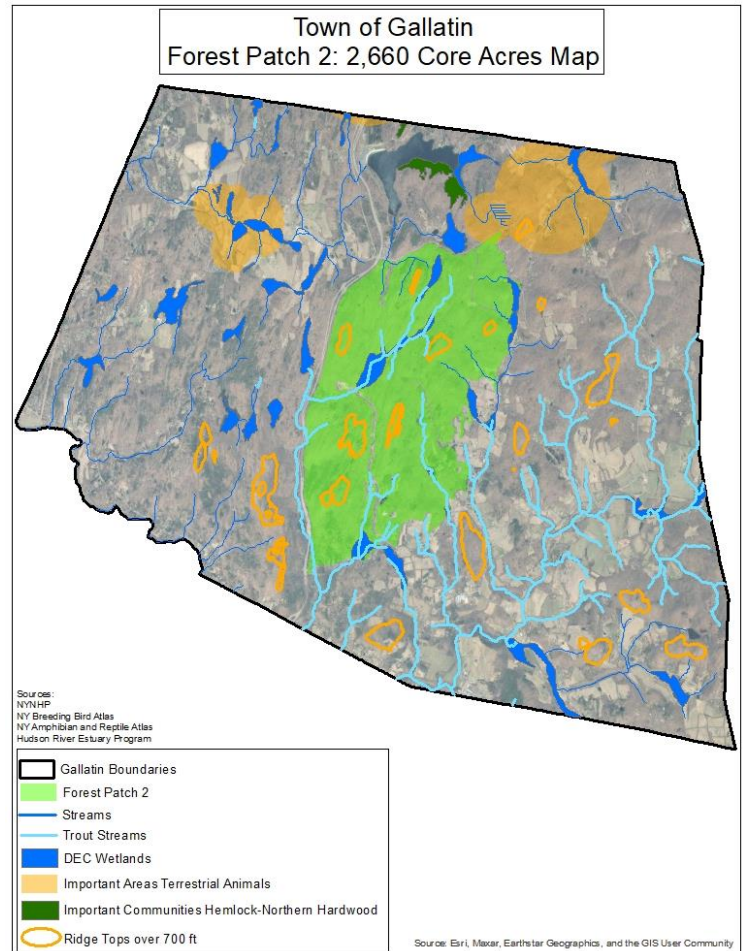
Healthy hemlock-oak grove



Columbine wildflower

Forest Patch 2:

This 2,660 acre forest-one of the most extensive, intact forests in the region-runs from the Taconic Parkway to the west to Route 11 and from Route 8 to the north to Near and Barnett Roads to the south. It includes at least nine ridgetops of between 893 and 1,040 feet in elevation including Green Hill, Signal Rock and Tiffany Hill, tributaries to the Roeliff Jansen-several of which support native trout-at least four DEC wetlands totaling 171 acres in size and vernal pools along Green Hill Road and on Tiffany Hill in addition to unmapped wetlands and other vernal pools. Birds observed during surveys done on June 8, June 17 and August 8, 2024 include field sparrow and towhees in the shrubby meadows, Louisiana water thrush and veery in the wetlands and ovenbirds and scarlet tanagers in the interior forest, all indicative of a high quality forest interior ecosystem.



View west from Signal Rock of Shawangunk and Catskill Mountains

The lower elevations of Signal Rock and the Green Hill range have red maple, elm, sugar maple, black birch, black cherry, shagbark hickory, basswood and white pine trees of medium size along with a few large white oaks. Witch hazel is common along with maple leaf viburnum and a somewhat rare snowberry shrub. Several vernal pools are found along the Green Hill Road path and on Tiffany Hill. Invasive plants are found only along Skiba Road and Green Hill Road, both of which eventually turn into dirt roads with closed canopies that do not fragment the Forest Patch.



Green Hill and Skiba Roads turn into dirt and grass covered trails and do not fragment the forest

At higher elevations, plant species shift to chestnut oak and pignut hickory interspersed with yellow birch and healthy hemlock-white pine groves. Hemlocks dominate the ridges at the northern portion of this Forest Patch and are the same type of community as the Hemlock-Northern Hardwood Forest Significant Natural Community around Lake Taghkanic as classified by NYNHP. Hop hornbeam and hornbeam grow in the understory and witch hazel, lowbush blueberry and maple leaf viburnum grow in the shrub layer along with a rarely found native honeysuckle shrub growing on rocky cliffs that deer cannot reach.



Hemlock-Northern Hardwood Forest
Significant Natural Community

At about 850 feet in elevation at the ridgetops, chestnut oak, white pine and pitch pine grow along with striped maple and lowbush blueberry, azalea, pasture rose and huckleberry shrubs. Rock outcrops are common with rock polypody and marginal wood ferns. This can be classified as a Pitch Pine-Oak-Heath Rocky Summit¹⁴. Along with native honeysuckle some of the rarer plants observed here include: pink lady slipper, fringed polygala ('gay wings'), columbine, rock harlequin and trailing artibus. These may be growing here because the ridgetop is less accessible to deer.



Rocky Summit Community above 850 feet elevation

¹⁴ Ecological Communities of NY State. Reschke, C. NYNHP, NY State DEC. 2014

Five ridgetops and the roads to them, often on steep slopes, have recently been cleared. The areas cleared range from one half acre to one acre in size, except for a larger, four-acre clearing. The clearings have not regrown and are dominated by invasive plants including ailanthus (tree of heaven), autumn olive, miscanthus grass, swallowwort, garlic mustard and stilt grass. Tree removal has also recently occurred on steep slopes and adjacent to vernal pools in this Forest Patch. Gallatin’s Ridgetop Protection Overlay District does not prevent landowners from pre-clearing before applying for Planning Board approval to build on ridgelines. Non-commercial tree removal is not yet regulated in Gallatin. Gallatin’s Watercourse Protection Overlay District only applies to certain floodplains but does not regulate activities in wetlands, vernal pools or watercourses, so this damaging clearing is not now regulated. NYS DEC’s “Forestry Best Management Practices” recommends that forest cover be maintained within 15 feet of a stream or wetland and that 50% of the tree canopy be maintained within 35 to 100 feet of a stream or wetland, but this is only directed at commercial timber harvests.¹⁵



Clearing of ridgetop



Clearing of ridgetop

¹⁵ NYS DEC Forestry Voluntary Best Management Practices for Water Quality.
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Clearing on steep slopes

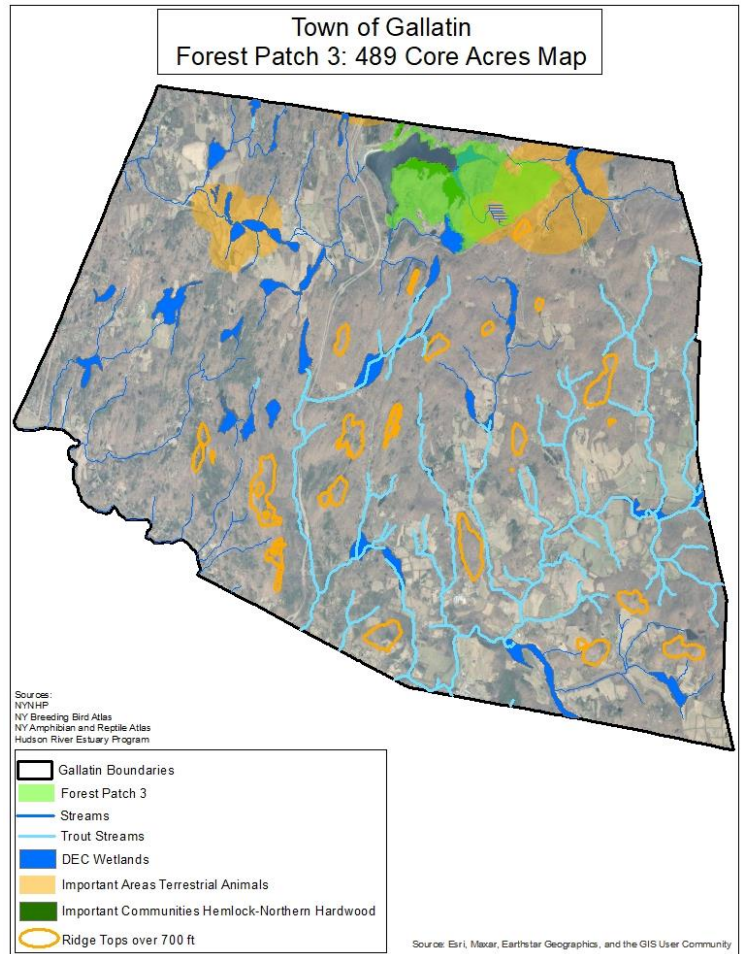


Clearing to edge of vernal pool

Forest Patch 3:

This 489 acre forest runs from Lake Taghkanic south to Pond Lily Pond. It includes Gallatin Bog in addition to unmapped wetlands and other vernal pools and an NYNHP designated Significant Community, a Hemlock-Northern Hardwood forest, as well as Important Areas for Terrestrial Animals, including several reptiles and amphibians listed as Special Concern.¹⁶

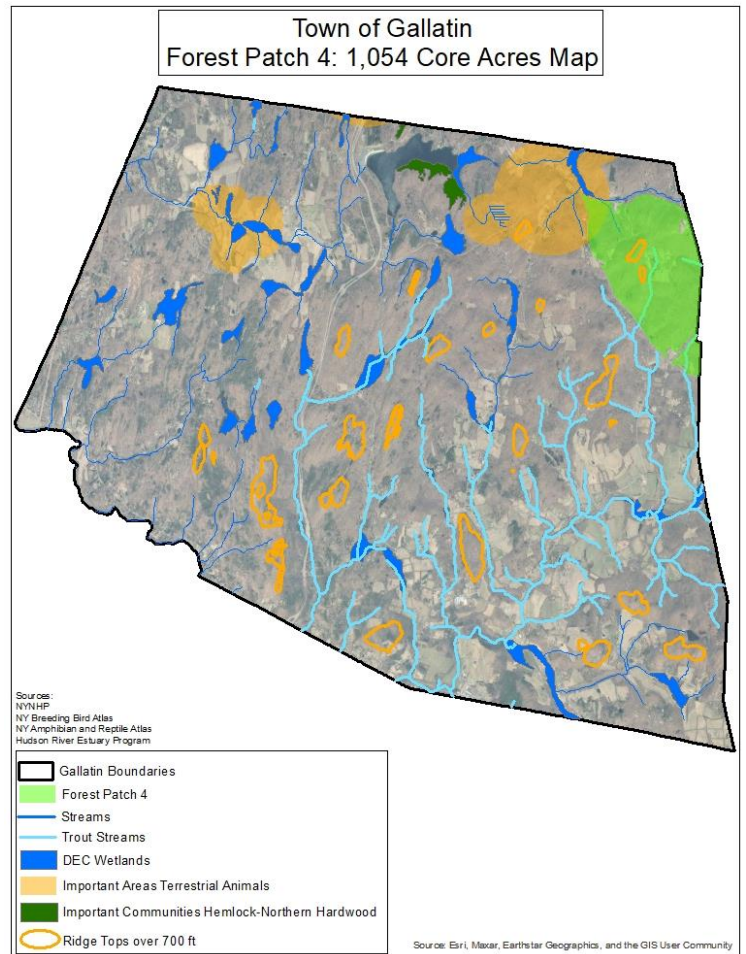
Because this area has been extensively surveyed for plants and wildlife in the past and is mostly parkland, only Pond Lily Pond was walked. The pond has extensive meadows and has a shoreline vegetated with cattails, pickerel weed and blue vervain.



¹⁶ Rare Terrestrial Animals and Significant Communities occur all over Gallatin. They have only been observed and recorded by NYNHP where scientists have had access to public lands. It should not be assumed that these are the only occurrences

Forest Patch 4:

This 1,054 acre forest runs from Doodletown Road south to Route 82 and includes tributaries to Suydam Creek, two native trout streams, wetlands and a 1,076 foot hilltop sometimes referred to as Wilmer Hill. The Forest Patch extends another 250 acres across the town boundary into Ancram. As is the case in many other parts of Gallatin, this area has been logged in the recent past. Where timber harvests have occurred white and black birch groves of small to medium size grow. Red maples dominate the wetter, lower elevations while red and white oaks grow further up the hillside with chestnut and red oak and pignut and mockernut hickories at higher elevations. A grove of planted Norway Spruce is found near the center of the forest while a large grove of white pines grow along Route 82. Like several other ridge tops in Gallatin, the hilltop and roads leading up to it have been cleared, presumably for subdivision purposes. Invasive mugwort grows here along with native goldenrod and other herbs.





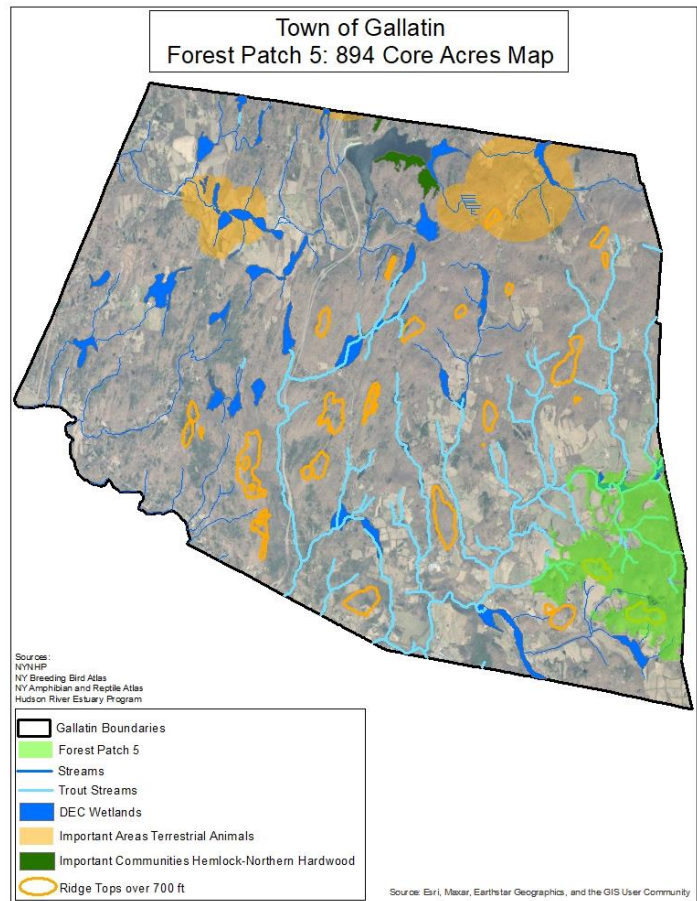
Clearing of access roads and hilltop

Forest Patch 5:

This 894 acre forest in the southeastern section of Gallatin runs from Route 7 south to Sigler Road and extends another 40 acres across the town boundary to Ancram. A beaver pond occasionally visited by moose lies at the southern edge of the Forest Patch. A moose was also recently observed just northwest of this Forest Patch. Two hilltops, each greater than 850 feet in elevation, rise in the forest's center. The forest also has several tributaries that support native trout, one of which flows into the Shekomeko Creek.

As in many other areas of Gallatin, these forests have been logged and are regrowing with small (6-11 inch diameter) to medium sized (12 to 24 inch diameter) sugar maple and red oaks. And as in other forests in the region, deer have browsed the understory.

Further up the hillsides, large, nearly two feet in diameter red and black oaks dominate. At



the ridgetops vegetation turns to an oak opening-grass savannah community dominated by small to medium size oaks.



Beaver pond with occasional moose sightings



Small to medium sized oaks with little understory



High, dry oak savannah at hilltop

Determining District's Boundaries Based on Forest Health, Diversity, Size and Location

Methodology

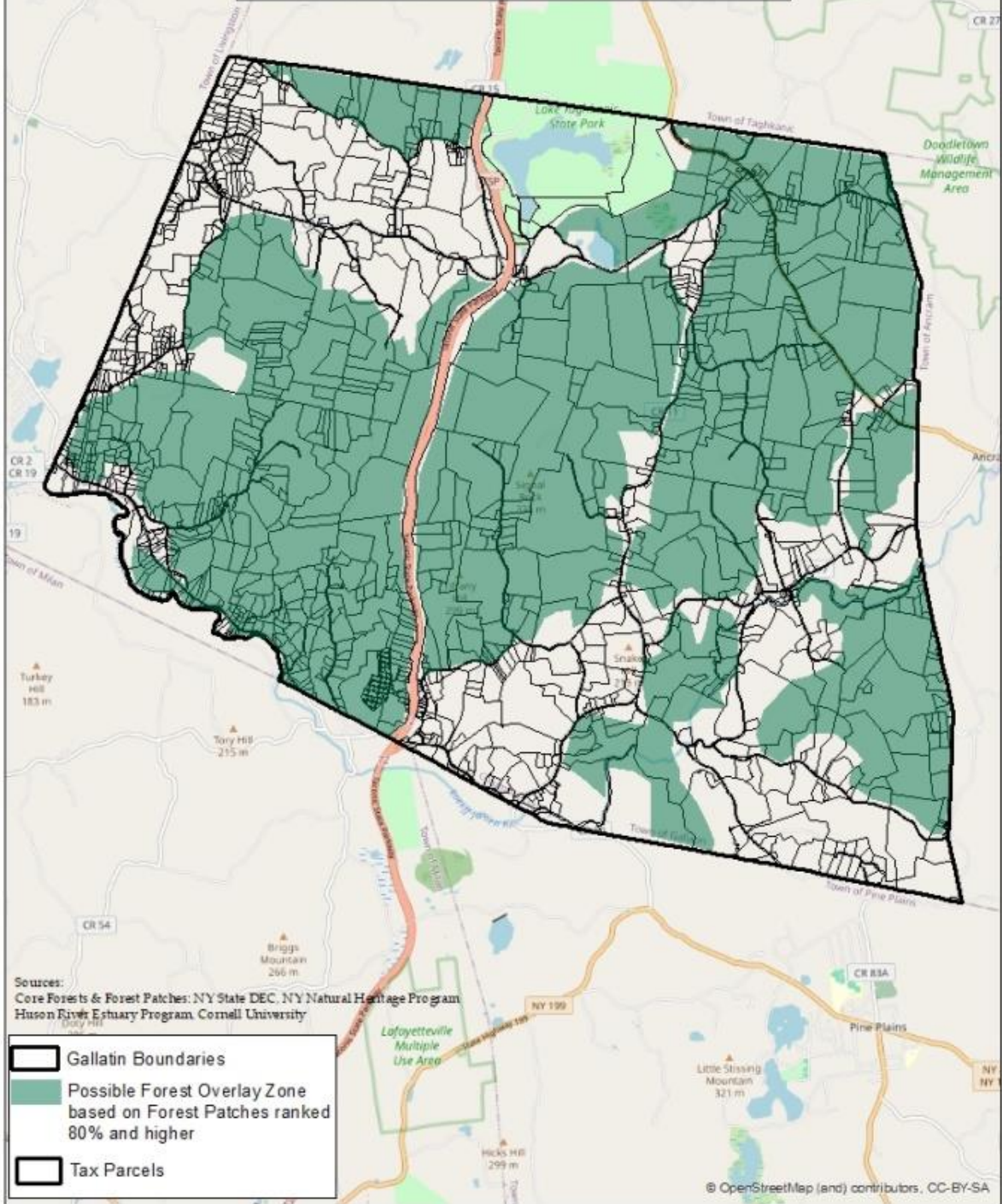
As mentioned, NYNHP assesses Gallatin's forests using the National Land Cover Dataset of 2016. Large Forest Patches are found running northeast to southwest on both sides of the Taconic Parkway. Smaller Forest Patches in Gallatin's northwest and southeast corners are also important as they are part of larger forests in neighboring towns (see Forest Patches Map, page 21). These Forest Patches are a link between the Appalachian and Catskill Mountain ranges to the south and the Taconic Ridge and larger ranges in New England to the north. Connected forests such as these allow plants and wildlife to reproduce and also allow them to migrate in response to climate change. NYNHP refines the Forest Patch classification into "Core Forests", which are Forest Patches that are relatively unfragmented, and therefore healthier, by being at least 100 meters (110 yards), from roads or buildings (see Core Forest Map, page 21).

NYNHP then assesses the condition of these forests based on 22 measurements including: the size of the unfragmented forest; its connectivity to other large forests; the age of the forest; the amount of fragmentation by roads and buildings; the presence of important wildlife and the presence of wetlands.

The NYNHP forest patch and assessment report acknowledges that the remote sensing used in the report is not sufficient and that field surveys are recommended to gather additional information about forest health. To overcome these limitations we conducted nine field surveys in five forest patches, walking as a group and documenting flora and fauna. We believe that these nine field surveys are representative of all of Gallatin's other Forest Patches (see Forest Survey Map, page 5). These on-the-ground surveys found that perceived structural barriers in Core Forests such as the Green Hill, Skiba, Camp and Church Roads were not major barriers to wildlife, having nearly intact tree canopies over narrow and in many cases, unpaved dirt roads. Surveys also found that while invasive plants are found on portions of these roads, they have not penetrated adjacent forests. For these reasons, the Forest Patches Map, and not the Core Forests Map, may be the best reflection of the extent of healthy, intact forests in Gallatin (see Core Forest and Forest Patches Maps, page 21). The Forest Patches Map also encompasses important forests at Tinker Hill and East Pond Lilly Road that appear more fragmented when roads are included in the Core Forest Map. These Forest Patches can be considered stepping stones connecting with other forests and their protection is an important goal of members of the Conservation Advisory Council (CAC). Town Board members also stated the importance of these smaller Forest Patches at the September 17, 2024 Town Board meeting at which preliminary survey findings were discussed. For these reasons, the Forest Patch Map can be a reliable basis for establishing the bounds of a possible Forest

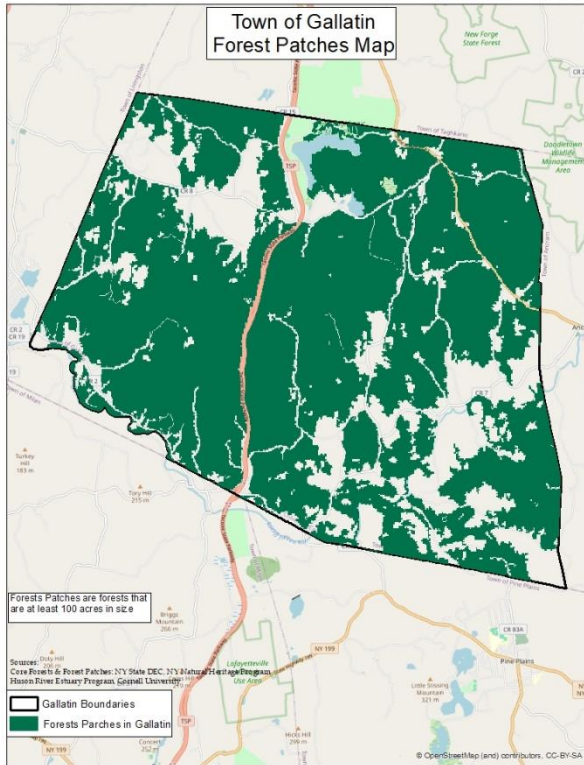
Protection Overlay District (FPOD), shown on the map on the following page. The proposed boundaries in this draft are only approximate and preliminary and will be adjusted following direction from the Board, committees, departments and the public. As is the case in Warwick and New Castle, New York, the overlay boundaries follow the natural resource, in this case, the forest, and may include only portions of some parcels. When this is the case, the FPOD standards can be applied to all of the parcel that is only partially in the District, or the standards may be applied only to that portion of a parcel that is only partially in the District. Another option is to apply the FPOD standards only to certain larger parcels in the District, perhaps to parcels 10 acres and larger, depending on the Town Board's decision.

Town of Gallatin Possible Forest Overlay Zone Map

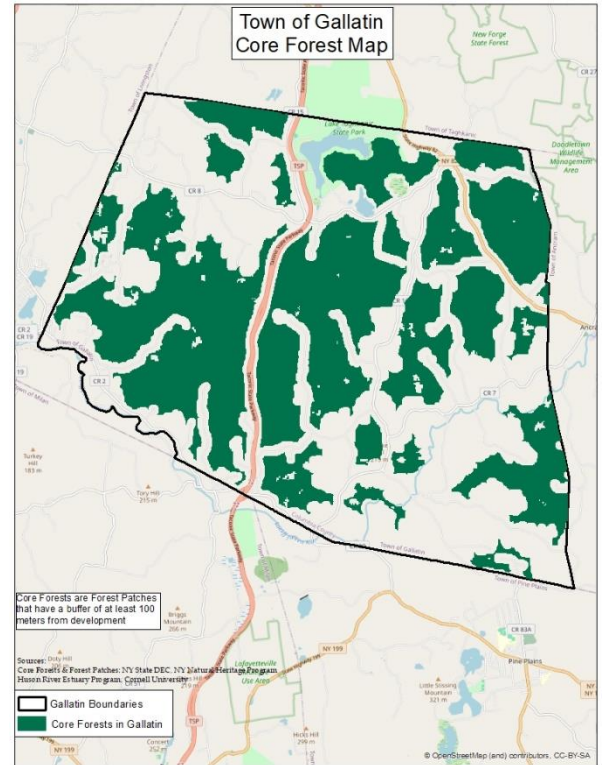


The Possible Forest Overlay Zone 'smooths out' the boundaries so that smaller tax parcels are not included in the District. This is a preliminary attempt to delineate the District's boundaries and will be modified over time by the Town Board

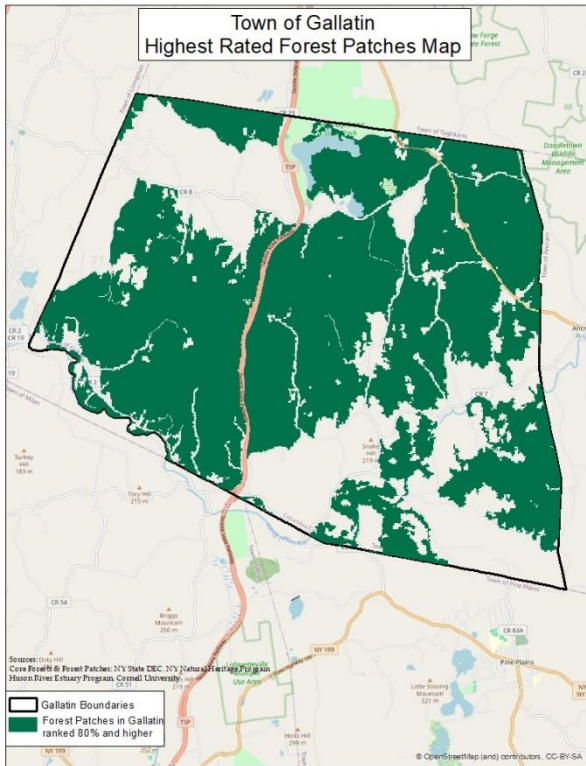
Appendix I: Maps



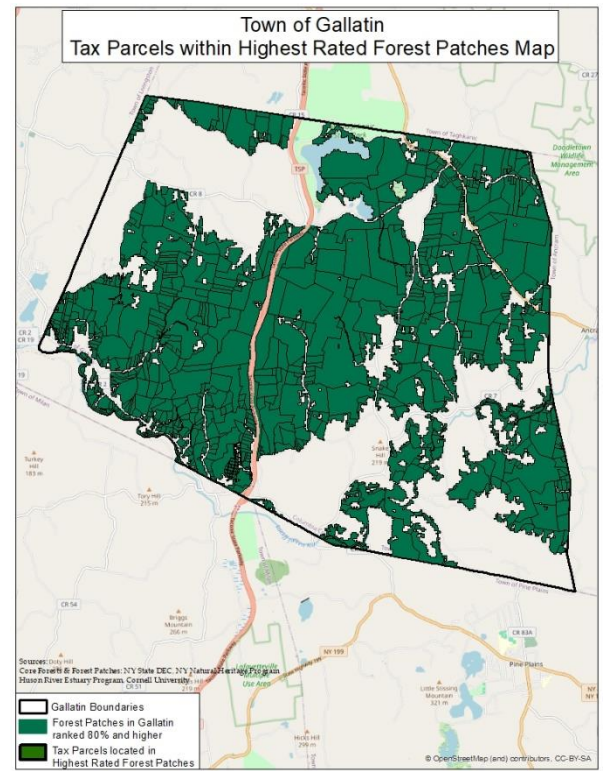
Map 1. Forest Patches are forested areas larger than 100 acres



Map 2. Core Forests are Forest Patches that are at least 100 meters (110 yards) from development, so many roads are excluded. Only Core Forests ranking above 80% are included in this map, so smaller Core Forests are excluded. subject to change.



Map 3. These are Forest Patches that rank in the top 80% for forest quality based on HRE's 22 criteria



Map 4. These tax parcels fall within the Forest Patches that rank in the top 80% for forest quality based on HRE's 22 criteria