

3. Natural & Cultural Resource Inventory



The existing conditions resource inventory documents, through the use of maps and narratives, the important open space resources that exist within the Town of Pleasant Valley. The inventory provides a Town-wide blueprint of the natural, agricultural and cultural systems that shape the Town and provide residents with clean air, clean drinking water and food production assets.

The maps in this Plan are especially helpful for locating resources at the Town-wide scale and helping display how resources are interconnected not only within the Town, but also to the regional resource network. This information will be very helpful for future planning efforts for:

- Reference material used by the Planning Board, property owners, developers, design professionals, and residents when planning, designing, reviewing, and permitting land development projects and to help guide the identification of conservation and development areas within a land development project;
- Supporting documentation for use by Town staff, Boards and Committees for grant submissions, such as applications to the NYS-DEC and New York State Farmland Protection Programs;
- Use by the Town Board when developing updates to the Town's Comprehensive Plan;

- Use by the Town Board to guide the feasibility of Town investment in open space conservation, such as a general obligation bond, real estate transfer fee, or budget allocation; and
- By New York State, Dutchess County, and other municipalities surrounding Pleasant Valley to help coordinate potential inter-municipal efforts such as watershed protection and development of trails.

It is important to note that the maps included as part of this Plan are not final documents; they will change over time as data changes and is further developed and improved. The maps in this Open Space and Farmland Plan illustrate the most current information available by the agencies and organizations that are responsible for developing the data. These maps simply provide a useful way to visualize the natural and man-made features and patterns in Pleasant Valley. It is always important to check with regulatory agencies for any more current updates and/or site-specific information at the time that such data is needed to inform a decision or action. None of the maps in this plan replace the requirement to consult with local, state, and federal regulatory agencies or process an action through SEQRA.

A. EXISTING CONDITIONS

The Town of Pleasant Valley is rich in natural resources including water, soils, habitat, and topological features. Each resource can be considered by itself, but it is crucial to understand the interconnection between them. The glacial period has formed the basic geology of the Town exposing the hills and valleys we experience today. Fresh water is essential to all life, ours and all the plants and animals that make up our landscape, in addition to the fields on which we depend for food. Good soil is needed by wild plant life as well as farm crops. Fertile soil exists only because of the layers of plants that have decomposed over time. We now duplicate that process in our compost piles. The oxygen we breathe is dependent on trees and plants that in turn utilize CO₂.

Plants and animals evolve in an ecosystem with particular water and soil conditions. This process produces a variety of forests, wetlands, meadows, shrub land and ridges. A turtle exists in an ecosystem consisting of ponds, upland areas, specific soils, and plant and animal life for food. We know that our farmland, if not utilized, changes into shrubby fields and eventually into forests. From the point of view of biodiversity, forests may not always be visible and swamps may not be beautiful, but they are very valuable as open space.

Ecosystems contribute to the overall quality of life for people, as well as our sense of place. The Town of Pleasant Valley lies in the west central part of Dutchess County, but is part of the larger ecosystem of the Hudson River Watershed, a region with distinctive characteristics that supports diverse habitats, abundant water resources, productive farmland, and miles of scenic landscapes.

Examples of this connection between humans and natural resources are local orchards that are both businesses and recreational areas and contain important agricultural soils, serve as an aquifer replenishment site and provide a scenic view for all who pass by. The State of New York Taconic Hereford Multiple Use Area, is a State owned recreational resource in Pleasant Valley that is comprised of a forested land that is rich in biodiversity.

B. REGIONAL CONTEXT

As noted in Chapter 2, the Town of Pleasant Valley is located in the Hudson Valley region of New York State, and is one of 30 incorporated municipalities (Cities, Towns, and Villages) that comprise Dutchess County. Pleasant Valley, located at the center of the County, is bordered by the Towns of Poughkeepsie, Lagrange, Washington, Clinton and Hyde Park. As the Town's name indicates, Pleasant Valley lies in a small, subtle valley and straddles a portion of Wappinger Creek; "A Pleasant Valley" as the story of the Town's naming goes. The Wappinger Creek bisects the Town and is the largest stream and

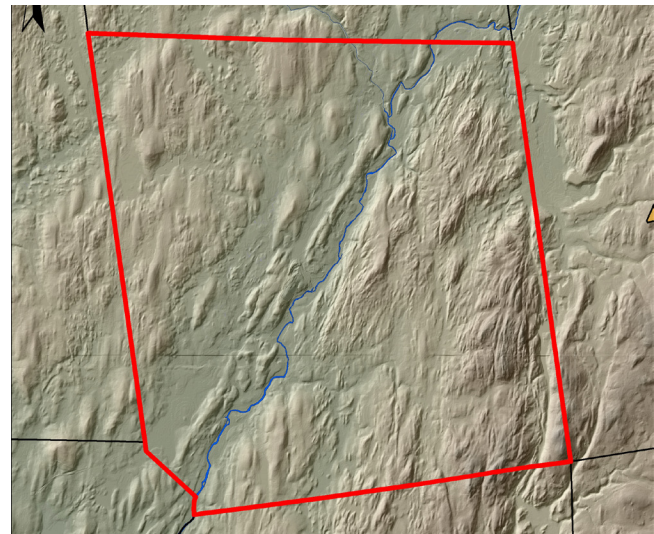


Exhibit 3.1—Pleasant Valley Terrain

watershed in Dutchess County. The Wappinger Creek Valley is the distinctive topographic feature within Pleasant Valley, forming a swath approximately one-mile wide through the Town from northeast to southwest. This valley is bordered by a ridgeline to the east and gently rolling farmland to the west. See Exhibit 3-1, Pleasant Valley Terrain.

Since 2002, eight other Dutchess County municipalities, mostly along the western side of the County, as well as the County itself, have adopted Open Space and/or Farmland Plans or incorporated open space conservation policies into their municipal Comprehensive Plans, see Exhibit 3-2, Dutchess County Communities with Open Space Plans. These successful land conservation initiatives have created a north-south “Green Belt” of open space conservation with one obvious missing area, the Town of Pleasant Valley.

The land area of the Town measures approximately 33.2 square miles, of which, 32.9 square miles is land and 0.3 square miles is surface water in the form of small lakes, ponds and streams. The Town of Pleasant Valley (see Exhibit 3-3), contains three main hamlets that define distinct areas of the Town: Pleasant Valley (the Town center), Salt Point (the agricultural core of the Town) and Washington Hollow (a historic outlying hamlet area). The areas radiating outward from these core hamlets are intermingled with agricultural and residential development crossing a variety of natural systems, landforms and land patterns.

C. EXISTING STATE OF LAND CONSERVATION

Existing open spaces in Pleasant Valley (see Exhibit 3-4, Open Space) include a variety of

landscape types including riparian areas, farms, and forests. Currently, of the approximately 21,200 acres that comprise the Town of Pleasant Valley, there are about 1,700 acres (8 percent of the Town) that is either publicly owned property or permanently protected/conserved as open space. Most of the publicly owned and conserved land lies between the Taconic State Parkway and the Town’s eastern border and to the west of Salt Point. There are also several small Town Parks and other lands owned by the Town in the Salt Point hamlet areas.

These land areas are summarized as follows:

1. STATE OWNED LANDS

The NYSDEC Taconic-Hereford Multiple Use Area (a.k.a. The 909)

The NYSDEC Taconic Hereford Multiple Use Area is the largest multiple-use area in Dutchess County and is also the largest land area under single ownership in the Town of Pleasant Valley. The 909 extends south into the Town of Lagrange and contains approximately 20 miles of multi-use trails offering opportunities for hiking, mountain biking, cross-country skiing, hunting and trapping and general observation of nature. The 909 also includes three parking areas, two of which are located in the Town of Pleasant Valley. The 909 is an extremely popular regional mountain biking location and attracts users locally, regionally and from out-of-state.

2. TOWN OWNED LANDS

The Town of Pleasant Valley operates five distinct Town parks totaling approximately 80 acres of land area. Town parks in and surrounding the hamlet of Pleasant Valley and Salt Point include Cady Recreation Park (an active park straddling Wappinger Creek); Mill Site Memorial Park (a

Exhibit 3.2—Dutchess County Communities with Open Space Plans

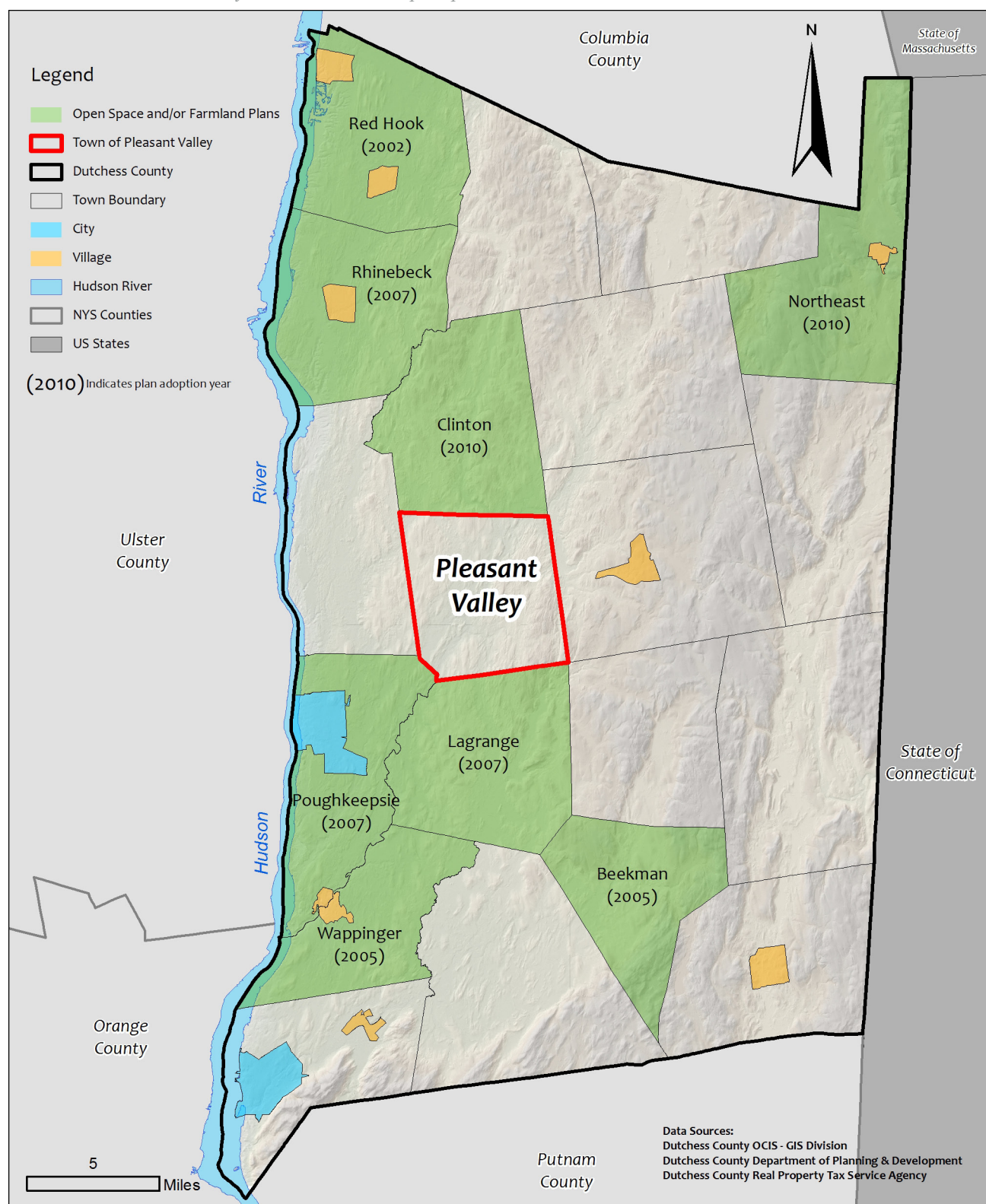
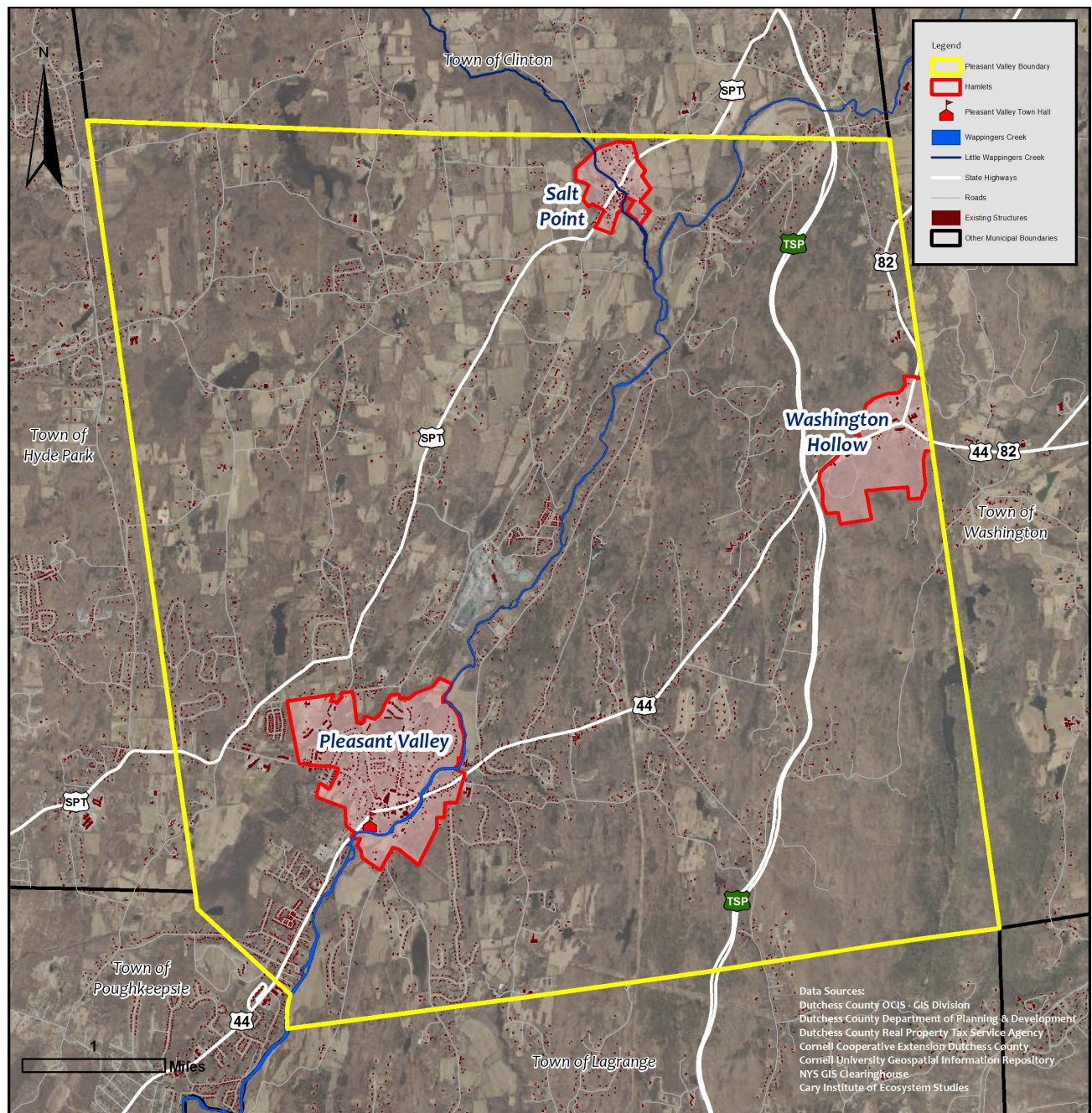


Exhibit 3.3—Town of Pleasant Valley



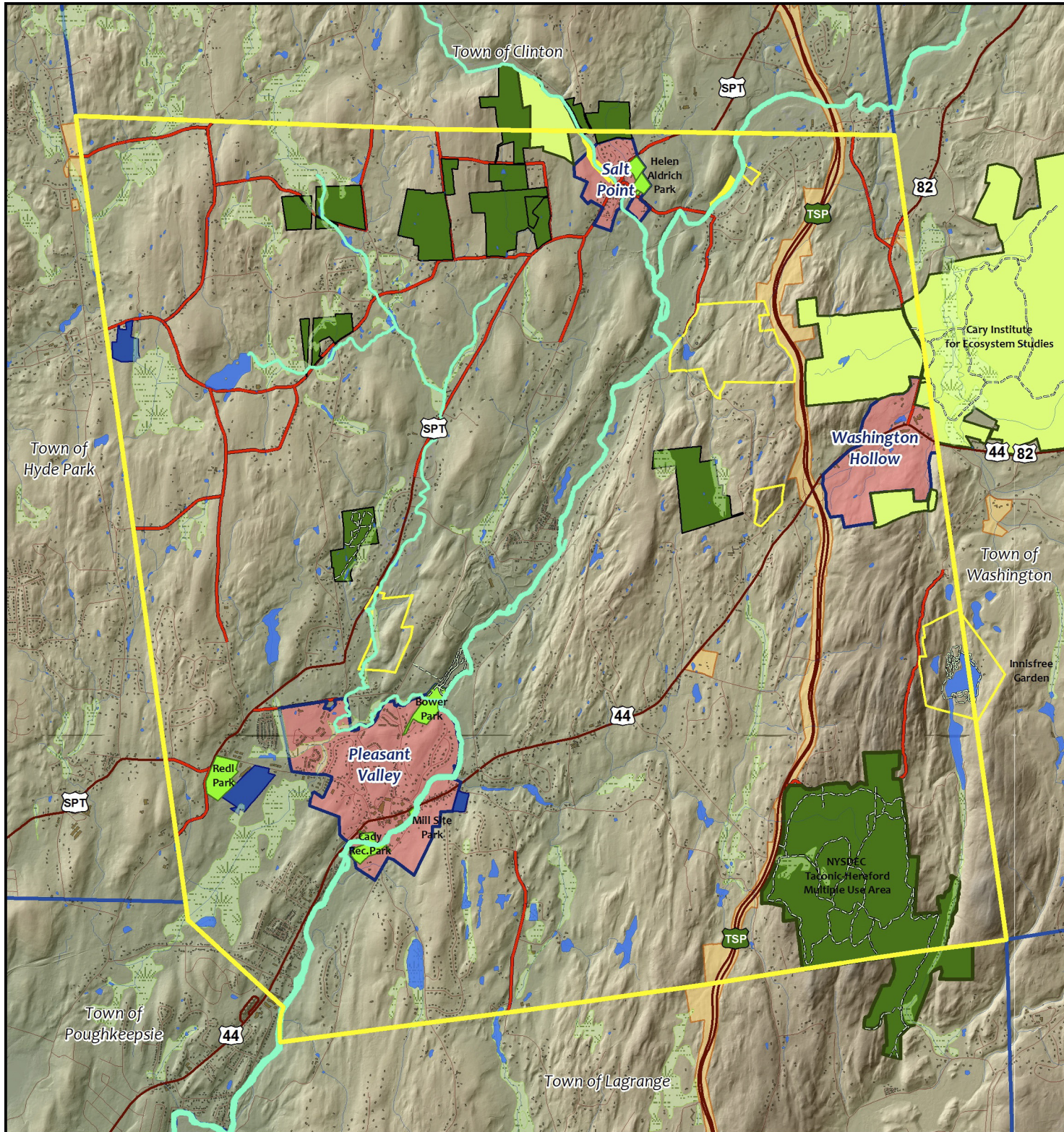


Exhibit 3.4—Open Space

Legend

-  Pleasant Valley Boundary
-  Wappingers Creek
-  Little Wappingers Creek
-  Great Spring Creek
-  Trails (Open to Public)
-  Water Body
-  Streams
-  NYSDEC Wetland
-  Town Parks
-  Taconic Hereford Multiple Use Area (NYSDEC)
-  Public School
-  Other Town Owned Parcels
-  Private Recreation Facilities
-  Lands of Cary Institute of Ecosystem Studies
-  Conservation Easements (DLC)
-  Hamlets
-  Scenic Roads
-  State Highways
-  Roads
-  Structures
-  Sites with Historic Status
-  Other Municipal Boundaries

1 Miles



passive park on Wappinger Creek); Bower Park (an active park with soccer fields, walking trails and a new handicap accessible playground); Redl Park (vacant parkland on West Road / VanWagner Road); and Helen Aldrich Park (an active park with recreation offices, softball field, playground, and pavilion).

The Town also owns three other parcels of land totaling approximately 25 acres that are not officially designated as parkland. The first area consists of two parcels along the western shore of the Little Wappinger Creek in Salt Point, north of the Salt Point Turnpike, to the Town of Clinton border. The second parcel is along the western shore of the Wappinger Creek just north of the Hibernia Road bridge.

The 2011 Pleasant Valley Recreation Master Plan outlines potential development of these parcels as passive town parks that could provide additional trails and access to water activities such as fishing and canoeing/kayaking.

3. OTHER PRIVATE LANDS IN CONSERVATION

The Cary Institute for Ecosystem Studies owns several parcels in the northern and eastern portions of the Town. The Cary Institute is a private, not-for-profit environmental research and education organization located in Millbrook, NY with research focus areas on the ecology of infectious diseases, environmental chemistry, invasive species, and climate change. The Cary Institute main campus comprises over 1,000 contiguous acres, a portion of which extends into the northeast corner of the Town of Pleasant Valley. The Cary Institute also owns a small parcel of land south of Washington Hollow and a small parcel of land northwest of Salt Point extending into the Town of Clinton.

The Dutchess Land Conservancy (DLC) holds a handful of conservation easements on privately owned land in the Town of Pleasant Valley, mostly to the north and west of Salt Point. To protect the privacy of property owners, the plan has purposefully not identified the owners of these properties.

D. NATURAL RESOURCE INVENTORY

1. LANDFORM (TOPOGRAPHY AND STEEP SLOPES)

Pleasant Valley is situated within a portion of the Wappinger Creek valley. The Wappinger Creek corridor is the topographically distinctive feature within the Town running diagonally from Salt Point to Poughkeepsie.

As stated in *Dutchess County Natural Resource Inventory (NRI)*, bedrock and surficial geology shape the topography and landscape of an area, including its settlement patterns. Pleasant Valley's landscape is influenced by the underlying geology. The surficial geology map from Dutchess County NRI shows that the western two-thirds of the Town are comprised of glacial till with stream sediments and glacial outwash areas following larger stream networks, such as Great Spring Creek. To the east of Wappinger Creek and primarily to the east of the Taconic State Parkway, is a large bedrock formation that includes more steeply sloping terrain with ridges and bedrock outcrops. Steep slopes that are greater than 15 percent are found throughout the Town. Those areas where the slope is 25 percent or greater are located on the ridges adjacent to the Wappinger Creek and throughout the eastern portion of town.

As illustrated in Exhibit 3-5, Topography, the Town of Pleasant Valley is fairly flat with rolling hills in the north and west and steeper, rockier elevations in the south and west. Generally, elevations range from between 200 and 400 feet above mean sea level, however, three peaks in the southeast corner of the Town rise above 800 feet. Two notable hills in the north and west of Town are Barnes Hill and Dennis Hill, both in excess of 500 feet in elevation.

As illustrated in Exhibit 3-6, Steep Slopes, steeply sloped areas are generally located in the eastern half of the Town. Throughout the Town, most hills and ridges are aligned in a general north-to-south orientation, reflecting underlying bedrock ridges and the alignment of hills by historic southward direction of glacier movement across Dutchess County.

2. WATER (CREEKS, STREAMS, PONDS, AND WETLANDS)

All surface and groundwater resources in Pleasant Valley are collectively part of a larger watershed system. A watershed drains to a common waterway, such as a stream, lake, wetland, or aquifer, and is based on surface topography.

a. Creeks and Streams

For Pleasant Valley, approximately 90 percent of the landscape drains into the **Wappinger Creek**, and ultimately, into the Hudson River (see Exhibit 3.7, Surface Hydrology). As noted in the Natural Resource Management Plan for the Wappinger Creek Watershed, the Wappinger Creek is:

“Contained entirely within Dutchess County, New York, [and] originates in extensive headwater wetlands and lakes in the Town of Pine Plains in northern Dutchess County. Its watershed drains 134,871 acres in 11 towns and 2 villages. The Wappinger Creek is fed by approximately 320 miles of tributaries, including (north to south) Cold Spring Creek, Hunns Lake Creek, Tamarack Creek, Grist Mill Creek, Willow Brook, East Branch Wappinger Creek, Upton Lake Creek, Little Wappinger Creek and Great Spring Creek. At 38 miles long, the Wappinger Creek enters the Hudson River at Wappinger’s Falls, about one mile north of the New York City back-up water supply intake at Chelsea. Land use within the watershed is extremely diverse ranging from agriculture and forestland in the north to extensive commercial and residential development in the south.”

Several major tributary streams join the main stem of the Wappinger Creek as it flows through Pleasant Valley including the Little Wappinger Creek, the Great Spring Creek and the Pleasant Valley East Creek.

*”The **Little Wappinger Creek** subwatershed encompasses 21,296 acres in the northwestern portion of the Wappinger Creek watershed. Contained within the Towns of Milan, Clinton, Stanford, and Pleasant Valley, this subwatershed is the second largest in the Wappinger Creek*

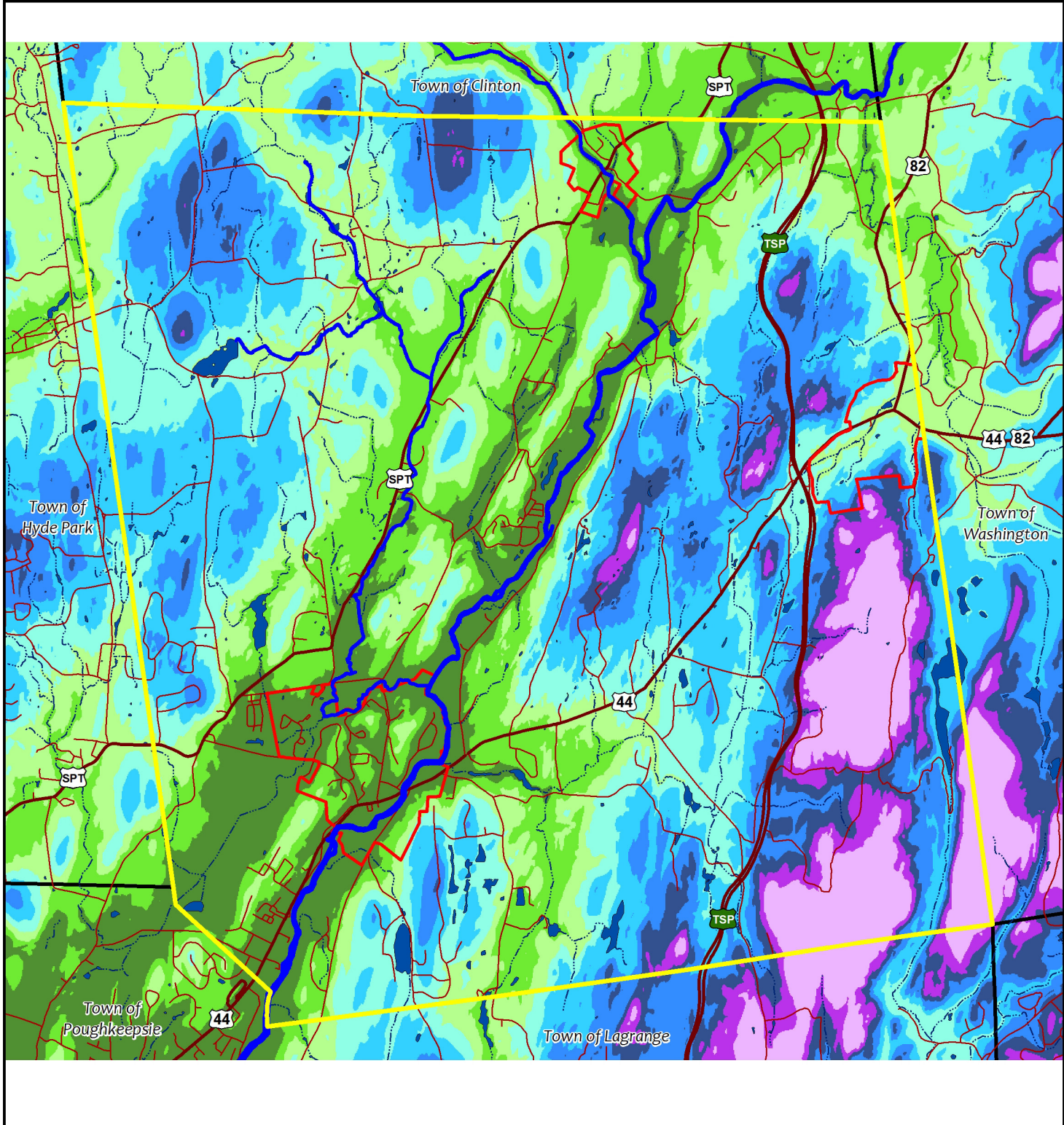
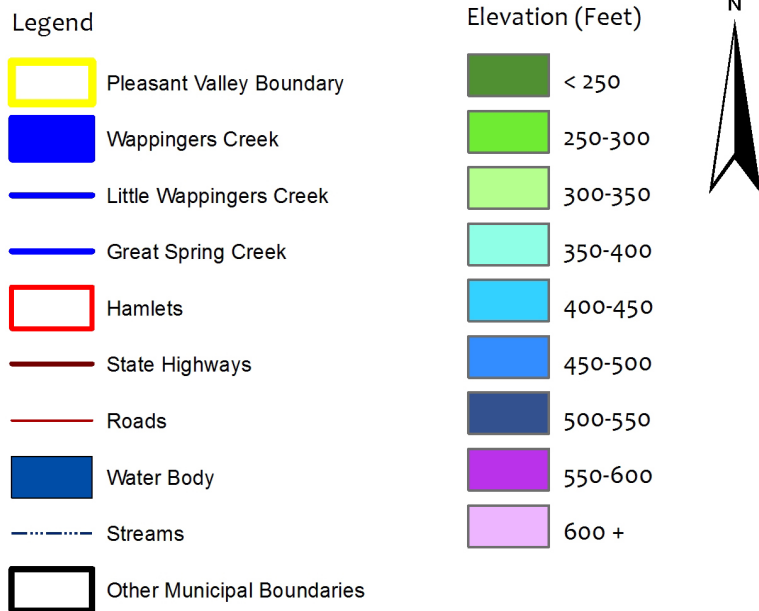


Exhibit 3.5—Topography



Data Sources:
 Dutchess County OCIS - GIS Division
 Dutchess County Department of Planning & Development
 Dutchess County Real Property Tax Service Agency
 Cornell Cooperative Extension Dutchess County
 Cornell University Geospatial Information Repository
 NYS GIS Clearinghouse

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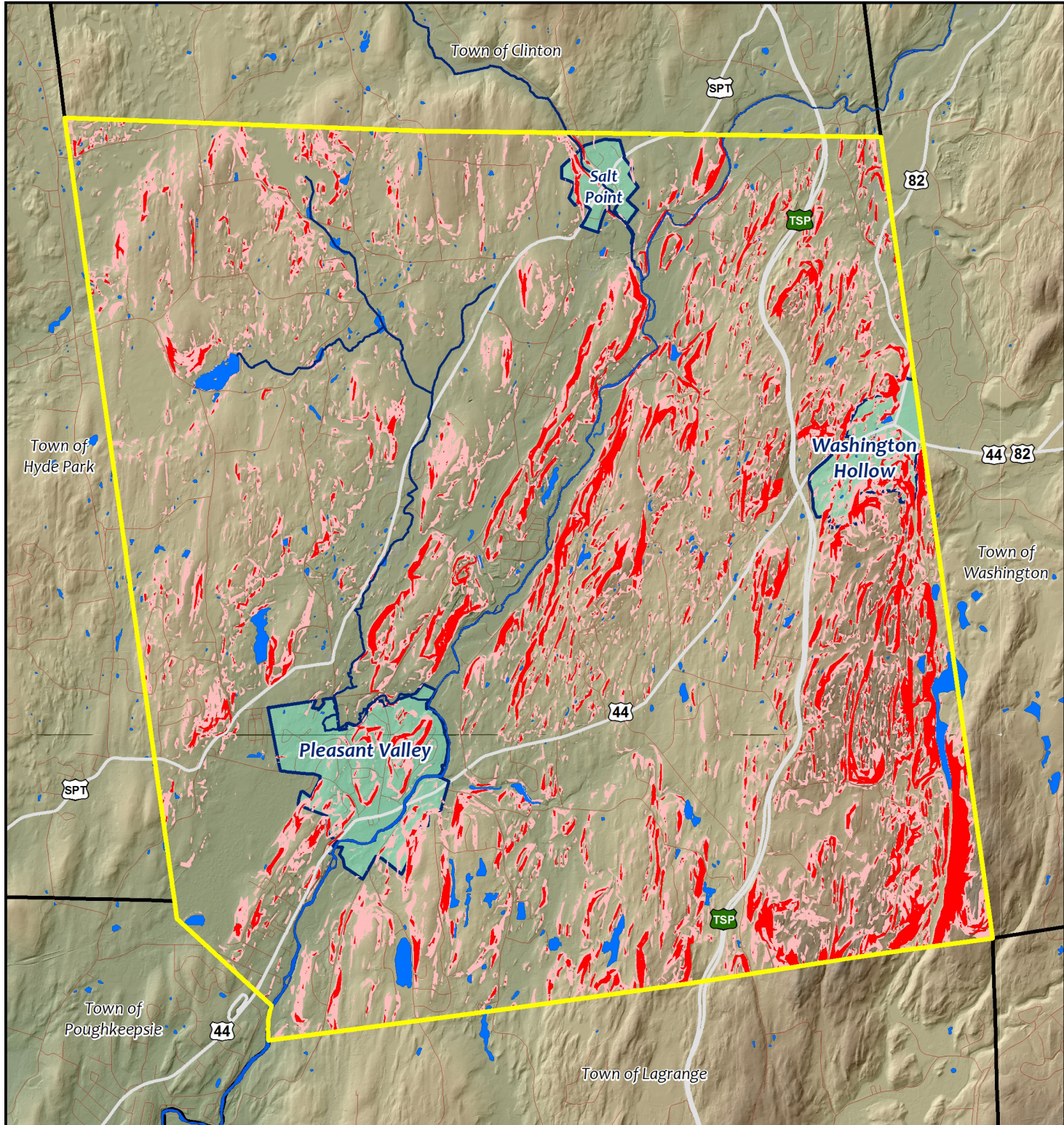
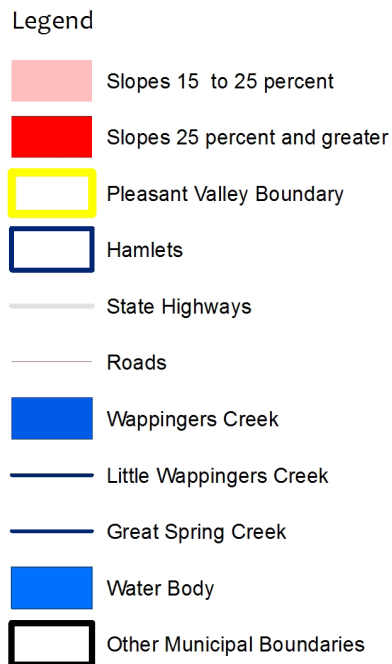


Exhibit 3.6—Steep Slopes



Data Sources:
Dutchess County OCIS - GIS Division
Dutchess County Department of Planning & Development
Dutchess County Real Property Tax Service Agency
Cornell Cooperative Extension Dutchess County
Cornell University Geospatial Information Repository
NYS GIS Clearinghouse

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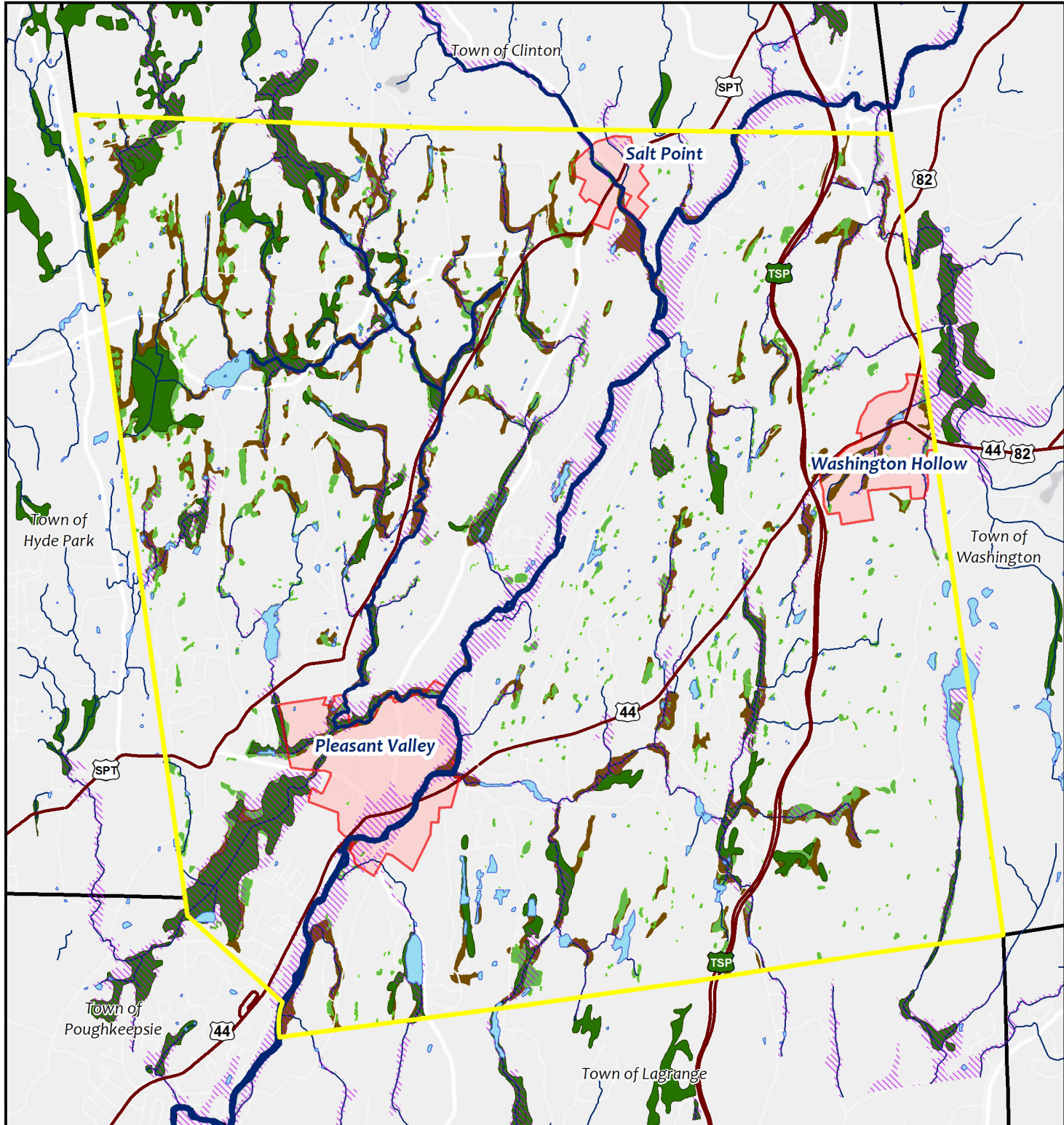
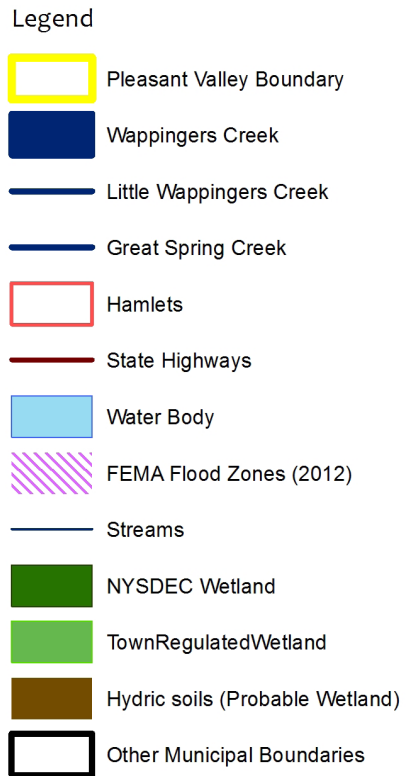
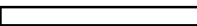


Exhibit 3.7—Surface Hydrology



Data Sources:
 Dutchess County OCIS - GIS Division
 Dutchess County Department of Planning & Development
 Dutchess County Real Property Tax Service Agency
 Cornell Cooperative Extension Dutchess County
 Cornell University Geospatial Information Repository
 NYS GIS Clearinghouse
 Cary Institute of Ecosystem Studies

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 Miles



watershed, comprising 16% of the entire watershed area. Subwatershed land use consists of 17% agriculture, 56% forested (third highest among all subwatersheds), 17% residential, 6% wetland and waterbodies, 2% transportation and communication, and .8% public land and outdoor recreation. The stream contributes 15% of the total major tributary flow to the Wappinger Creek.

The confluence point of the Little Wappinger Creek and the Wappinger Creek is located just south of the Salt Point hamlet.

Continuing from the Natural Resource Management Plan for the Wappinger Creek Watershed:

*“The **Great Spring Creek** subwatershed encompasses 12,068 acres in the central portion of the Wappinger Creek watershed (Map 19). Contained within the Towns of Clinton, Hyde Park, Poughkeepsie, and Pleasant Valley, this subwatershed is the third largest and comprises 9% of the entire Wappinger Creek watershed.*

Subwatershed land uses consist of 32% agriculture, 38% forested, 20% residential, 7% wetland and waterbodies, 1.5% transportation and communication, .42% commercial strip, .8% stone quarries, and .6% public land and outdoor recreation. The stream contributes 5.4% of the total major tributary flow to the Wappinger Creek.”

*“The **Pleasant Valley East Creek** subwatershed encompasses 8,967 acres in the central portion of the Wappinger Creek watershed.*

Contained within the Towns of Pleasant Valley and LaGrange, the subwatershed comprises 7% of the entire Wappinger Creek watershed. Subwatershed land use consists of 10% agriculture, 58% forested (fourth highest among all subwatersheds), 24% residential, 5% wetland and waterbodies, 1.3% transportation and communication, .07 gravel mining, .36% commercial strip, and .4% public land and outdoor recreation. The stream contributes 7.1% of the total major tributary flow to the Wappinger Creek.”

There are many small bodies of water (small lakes and ponds) scattered throughout the Pleasant Valley landscape including Horton Lake, Freedom Lake and the lake at Camp Nooteeming. Many of these bodies of water are small impounded water features that have been created along natural stream corridors and/or in support of agricultural production.

b. Wetlands

Wetlands serve a myriad of valuable ecological functions important to public welfare and the economic vitality of the region and are therefore a high priority for preservation efforts. Wetlands are critically important for flood control, pollutant filtering, and wildlife habitat and provide additional environmental benefits including:

- Providing a common linkage between aquatic systems (aquifers, floodplain, wetlands, lakes, rivers, etc.);
- Protecting water quality by functioning as chemical and biological oxidation basins and nutrient traps for nitrogen and phosphorus and as filters for surface water pollutants;
- Controlling flood and stormwater runoff by storing or regulating natural flows;
- Controlling erosion and water turbidity by serving as sedimentation areas and filter basins, absorbing silt and organic matter;
- Providing a critical living, breeding, nesting and feeding environment for many form of wildlife, including, but not limited to, mammals, wildfowl, migratory birds, shorebirds, reptiles, amphibians, rare species, especially endangered and threatened species, and other dependent plants and animals;
- Providing breeding and spawning grounds, nursery habitat and food for various species of fish;
- Providing open space and visual relief from residential and commercial development;
- Providing areas for recreational uses including, but not limited to, hunting, fishing, boating, hiking, bird watching, photography and camping; and
- Serving as outdoor laboratories and living classrooms for the study and appreciation of natural, history, ecology and biology.

As shown in Exhibit 3-7, Surface Hydrology, Pleasant Valley contains many variations of high-quality wetland systems, both permanent and

seasonal. In total, Pleasant Valley contains approximately 1,030 acres of NYSDEC regulated wetlands (or 5 percent of the Town's land area) and approximately 1,180 acres of Town regulated wetlands (or 6 percent of the Town's land area). Wetland areas that are smaller than 12.4 acres do not fall under the more rigorous jurisdiction of the NYSDEC.

The Pleasant Valley Wetland, Waterbody and Watercourse Ordinance (adopted on April 14, 2003) has been effective in protecting the quality of water with graduated wetland buffers for wetlands between one half acre and 12.4 acres. The ordinance also includes a 100 foot buffer for perennial streams, including the Wappinger Creek. In all cases, the ordinance encourages a minimum 25 foot buffer of natural vegetation around wetlands and watercourses below one-half acre wherever possible. Wetlands should also be given adequate buffer space and upland habitat needed for amphibians and other wetland and vernal pool breeding species.

In addition to the perennial wetlands, Pleasant Valley contains seasonal wet pockets known as intermittent woodland or vernal pools. Vernal pools are seasonal bodies of water, likely located in a wooded area that fill with water in the spring from snow melt and/or spring rain runoff. Vernal pools are an important habitat feature that supports high biodiversity. As these small pools are typically dry by summer, they do not support fish populations and offer breeding opportunities for amphibians and other invertebrates where there is no threat from the predation of fish.

c. *Aquifers*

The portion of rainfall that does not run off into a water body moves below the earth's surface and infiltrates underground water storage areas called aquifers, where it can be tapped for human use. Substantial aquifers are found under the Wappinger Creek and Great Spring Creek. Throughout the Town is a network of streams, ponds and wetlands, as well as open and forested land, that control the water flow and helps recharge the aquifers. This is important as aquifers represent the sole source of water for the residents of Pleasant Valley.

As shown in Exhibit 3.8, Aquifers, the Wappinger Creek corridor is underlain by a large permeable aquifer, described as a Zone 1 Aquifer in the Dutchess County Water Supply Protection Program Report (Horsley & Witten Inc., 1993). Permeable deposits directly over the aquifer, cause water to move quickly and directly into the aquifer, with little or no natural filtration by the soil. Protection of these Zone 1 areas is critical, as contaminants can also move quickly into the aquifer.

There are also some small pockets of Zone II aquifers to the northwest of the main Wappinger Creek Zone I Aquifer. Zone II aquifers are less permeable than Zone I aquifers, and are located up-gradient from the primary aquifer. Zone II aquifers contribute to recharge of the aquifer both overland runoff and through ground water flow. Contaminant pathways are generally longer and slower in Zone II aquifers than in Zone I aquifers (Horsley & Witten Inc., 1993).

3. BIODIVERSITY AND SPECIAL HABITATS

Biodiversity is the variety, as well as variation, of all living organisms in the context of their habitats and ecological systems. Pleasant Valley is rich in variety of biological systems that support high local biodiversity including freshwater streams and wetlands, ravines and ridges, springs and seeps, large contiguous forest tracts and expansive grasslands.

Special habitats that support threatened and endangered species of plants and animals are interlaced with the water, field and forest areas. A prime example of this is Blandings Turtle, a New York State Threatened Species that requires a series of distinct land covers in close proximity to each other in order to complete its life cycle. Pleasant Valley is part of two small pockets of verified Blanding's Turtle habitat; part of the "Dutchess County Wetland Complex." The first habitat extends north from Lagrange (known as the Lagrange Site) and the second habitat extends south from Hyde Park and Clinton (known as the East Park Site). Verified sightings of Blandings Turtle have occurred in Pleasant Valley at kettle shrub pools, a favored habitat, north, south, and east of Horton Lake and along Freedom Road.

a. *Biodiversity*

In 2006, the NYSDEC Hudson River Estuary Program completed its *Wildlife and Habitat Conservation Framework: An Approach for Conserving Biodiversity in the Hudson River Estuary Corridor* (Penhollow, Jensen & Zucker, 2006). The Study includes an area called the "Dutchess County Wetlands Complex", which includes wetlands in the northeast and south-central portion of the Town and states their ecological significance:

“Dutchess County is made up of wetland complexes with many habitats that are unusual or scarce in the region. In addition to being valuable in their own right, these wetlands also support a number of local populations of the state listed threatened Blanding’s turtle, one of the few sites for this species in the northeastern United States. The wetlands also support the state- endangered bog turtle. Other rare reptile and amphibian species in this area include the state listed northern cricket frog (the only known occurrence of this species east of the Hudson River), and the regionally rare blue-spotted salamander, marbled salamander, four toed salamander, spotted turtle, wood turtle, eastern box turtle, red bellied snake, and the eastern ribbon snake. The only documented consistent overwintering by golden eagles in the region occurs in this area. Additionally, pied-billed grebe nesting sites and great blue heron rookeries have been documented in the area. The extensive complex of diverse wetlands and upland forests include rich red maple hardwood swamps containing the state rare swamp cottonwood, floodplain forest, deep emergent marsh, rich sloping fen, and medium fen communities. Other rare plant species include prairie sedge and the state listed rare smartweed dodder.”

The Report also recommends that Towns increase their local preservation efforts for entire natural habitats rather than limiting their effort on

specific species. Habitats may have multiple species or benefits that warrant wider protection.

To that end, Hudsonia, Ltd. is currently assisting the Pleasant Valley Conservation Advisory Council (CAC) in mapping the important habitats throughout the Town. As of the writing of this Plan, the CAC and Hudsonia, Ltd. have completed preliminary mapping for the northwest and south-central sections of the Town. Mapped habitat areas include many different types of stream corridors, wetlands, forests, and fields.

b. Special Habitats

The following types of wetlands (as defined by the Hudsonia, Ltd. assisted mapping) are currently being assessed in the Town:

i. Kettle Shrub Pool

Kettle Shrub Pools were formed by the melting of large blocks of glacial ice. These pools are somewhat deep, often with a center island and with no discernible inlet or outlet. Notable flora species include buttonbush, shrubby willow, highbush blueberry and red maple. Surface waters may include duckweed and floating liverworts. Notable fauna include water snake, green frog, pickerel frog, spotted salamander, and painted turtle.

Most importantly, Kettle Shrub Pools are part of the critical habitat for Blanding’s Turtle, the blue spotted salamander, and spotted turtle, all New York State species of special concern. Blanding’s Turtles use Kettle Shrub Pools as a base and winter habitat. In Pleasant Valley, Blandings Turtles have been identified in the vicinity of Ruskey Lane, Gretna Road, and Freedom Road. Known Kettle Shrub Pools exist in many parts of the

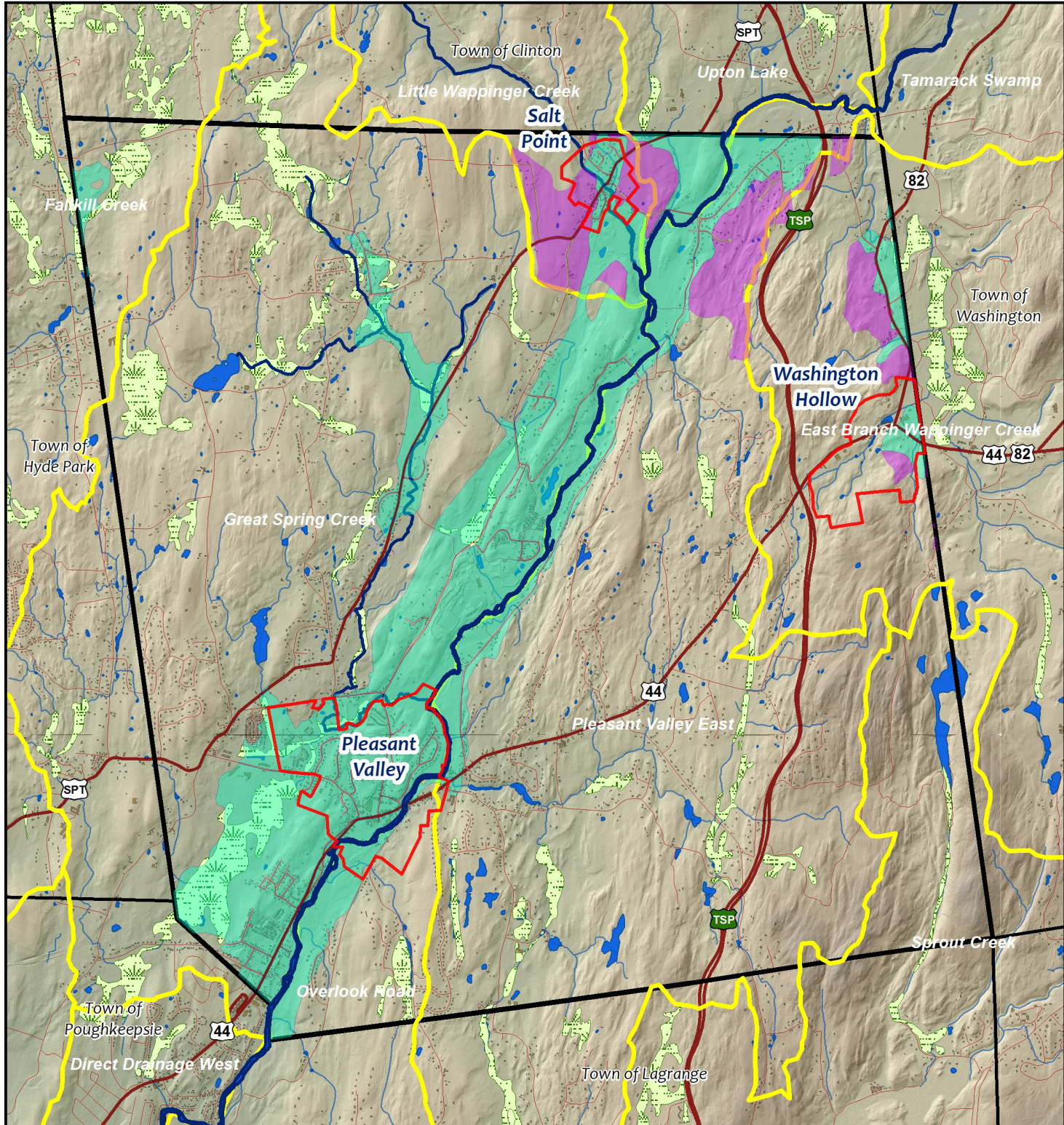


Exhibit 3.8—Aquifers



Data Sources:
 Dutchess County OCIS - GIS Division
 Dutchess County Department of Planning & Development
 Dutchess County Real Property Tax Service Agency
 Cornell Cooperative Extension Dutchess County
 Dutchess Land Conservancy
 Cornell University Geospatial Information Repository
 NYS GIS Clearinghouse
 Cary Institute of Ecosystem Studies
 Taconic Site Design & Landscape Architecture

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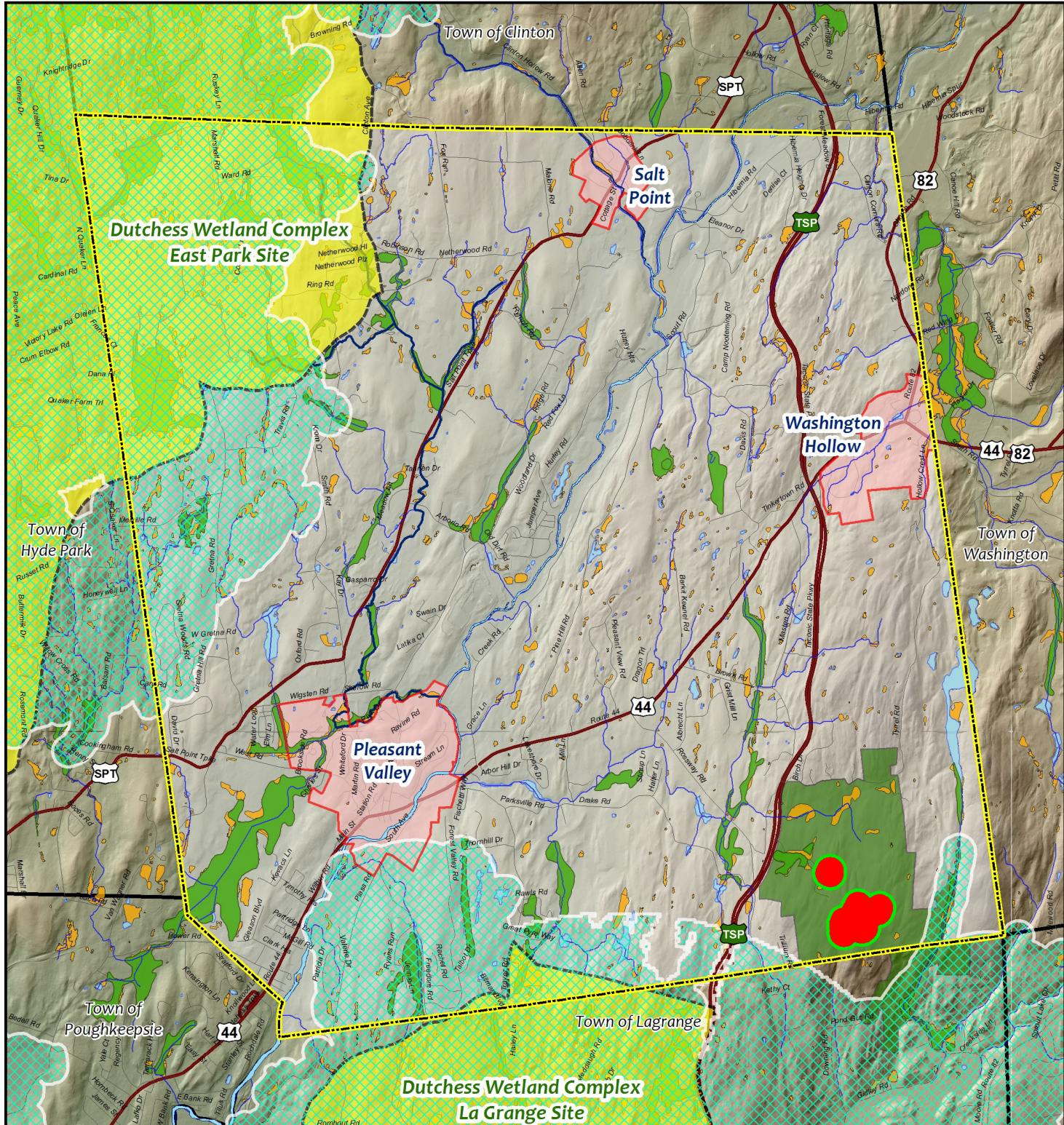
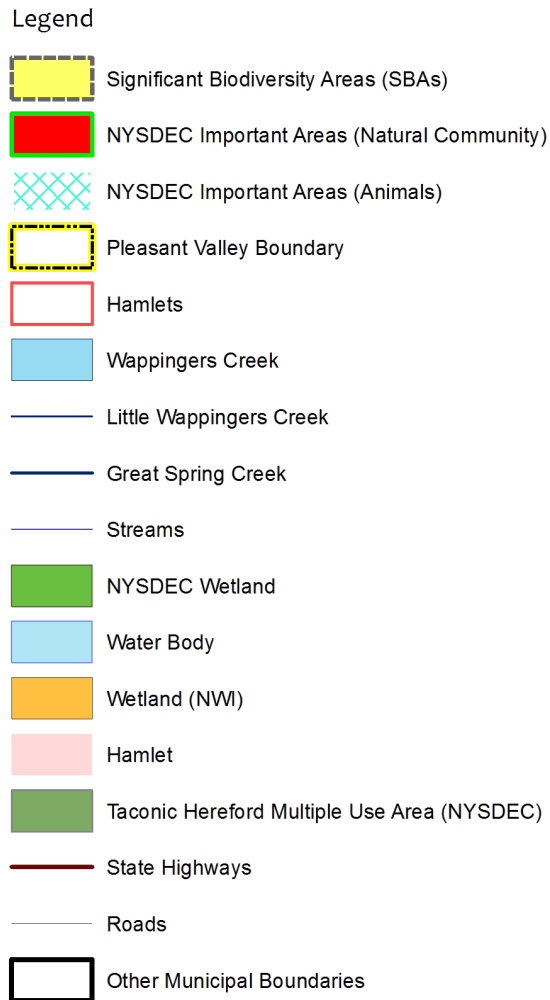
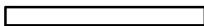


Exhibit 3.9—Significant Ecosystems



Data Sources:
 Dutchess County OCIS - GIS Division
 Dutchess County Department of Planning & Development
 Dutchess County Real Property Tax Service Agency
 Cornell Cooperative Extension Dutchess County
 Cornell University Geospatial Information Repository
 NYS GIS Clearinghouse
 Cary Institute of Ecosystem Studies
 NYSDEC Natural Heritage Program

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Town. These pools often indirectly connect with other nearby bodies of water, which are necessary for viable Blandings Turtle habitat.

ii. Intermittent Woodland (Vernal) Pool

An intermittent woodland or vernal pool is a shallow depression surrounded by upland forest that retains water in the spring through June and dries up in the summer. Often, a ring of large trees including: red maple, white ash swamp or white oak surrounds these pools. Often present are hummocks that support red maple and other trees. There is often no inlet or outlet; therefore the pool does not support fish populations. It will have a bottom of dead leaves and will have water for six to nine months but dry up in summer. The pools may also contain plant hummocks, bushes, sedges, moss, duckweed, watermeal and algae.

Intermittent woodland pools are critical breeding grounds for several amphibian species. Those on the New York State list of special concern include: Jefferson salamander, marbled salamander, Blanding's Turtle and spotted turtle, all of which make use of these pools. Of regional concern are spotted salamander, four toed salamander and wood frog. The salamanders and frogs will move into the surrounding forest after the breeding season.

Other fauna frequently found in vernal pools include: fairy shrimp, caddisfly larvae, waterfleas, sowbugs, water-strivers, diving beetles, spring peeper, green frog, gray treefrog, red-spotted newt. Also larger animals such as ducks and raccoons will utilize the pool.

Due to their seasonal nature, vernal pools are very vulnerable to development and alteration.

Species that depend on vernal pools also rely on the upland areas surrounding the pools. It is therefore important to provide protective upland buffers around the pools as a protection of the pools themselves.

iii. Wet Meadow

A wet meadow is a semi-wetland meadow, which is saturated with water throughout much of the year. Wet meadows may occur due to restricted drainage or the receipt of large amounts of water from rain or melted snow.

Unlike a marsh or swamp, a wet meadow would not have standing water except for brief to moderate periods during the growing season. Instead, the ground in a wet meadow fluctuates between brief periods of flooding and longer periods of wetness. Wet meadows often have large numbers of wetland plant species, which frequently survive as buried seeds during dry periods, and then regenerate after flooding. Wet meadows therefore do not usually support aquatic life but rather have a high diversity of plant species, and may attract large numbers of birds, small mammals and insects including butterflies

Vegetation in a wet meadow usually includes a wide variety of herbaceous species including sedges, rushes and grasses and other plant species. The high water levels in wet meadows prevent invasion by woody plants. Characteristic flora include rice cutgrass, soft rush, woolgrass, Joe-Pye weed, arrowleaf tearthumb, late goldenrod, and tall hairy goldenrod. Also present are sensitive fern, marsh fern, boneset, vervain, umbrella sedge, and dark green bulrush sedge. Trees and shrubs such as arrowwood (*Viburnum*), silky dogwood, red maple, willow, alder may be present.

Unfortunately, wet meadows are sometimes taken over by invasive species such as purple loosestrife, phragmites/common reed, reed canary grass, and multiflora rose. Brown beetles have been released to inhibit the growth of loosestrife with limited success. Nevertheless, wet meadows serve important water functions.

iv. Calcareous Wet Meadow or Fen

A Calcareous Wet Meadow or Fen is one of the six main types of wetland and one of two types of mire (the other being a bog). Fens are usually fed by mineral-rich surface water or groundwater and are characterized by their water chemistry, which is neutral or alkaline with relatively high dissolved mineral levels but few other plant nutrients.

Fens frequently have a high diversity of plant species and may be dominated by wet meadow plants, grasses and sedges, and brown mosses. Fens are also home to characteristic plants including sweetflag, New York ironweed, small flowered agrimony, roughleaf goldenrod, spreading goldenrod, lakeside sedge, and tallow sedge. Fens will also contain shrubby cinquefoil, autumn willow, hoary willow, sterile sedge, and porcupine sedge.

v. Hardwood Swamp

Hardwood swamps are dominated by trees with deciduous leaves. Red maple is a component of all the hardwood swamp types that are currently recognized, but black ash, green ash, yellow birch, silver maple, American elm, and swamp white oak are other common hardwoods that may be abundant or dominant.

4. FORESTS

Forests act as the lungs of our environment by accumulating carbon dioxide and releasing

oxygen, thus helping to replenish our supply of clean air. Forests also provide critical ecosystem services such as water filtering, regulating stream flow, aquifer recharge and critical habitat for plants and animals. For humans, forests provide many important economic, health, and social benefits including timber products such as firewood, raw materials for lumber and paper and maple syrup, and opportunities for outdoor recreation.

Exhibit 3-10, Woodlands, and accompanying classification of forest blocks on the following pages illustrate the extent of forest cover in Pleasant Valley and explain the significance of various sizes of forest cover. This map can be used to help guide conservation development to encourage preservation of large blocks of forest as well as stepping stone forests, which are small forest areas that are located close enough to one another to provide pathways, or “stepping stones” for wildlife.

a. *Forest Classifications (as provided by NYSDEC Hudson River Estuary Program)*

i. Globally Important Forests (Forest Areas greater than 15,000 acres)

Globally Important Forests are large and intact forest ecosystems that support characteristic, wide-ranging and area-sensitive species, especially those that depend on interior forest. In Dutchess County, these species include many birds (broad-winged hawk, barred owl, neotropical warblers), mammals, reptiles and insects. Globally Important Forests are large enough that, over time, they will express a range of forest successional stages including areas that have been subjected to recent large-scale disturbance such as blowdowns and fire, areas under recovery, and

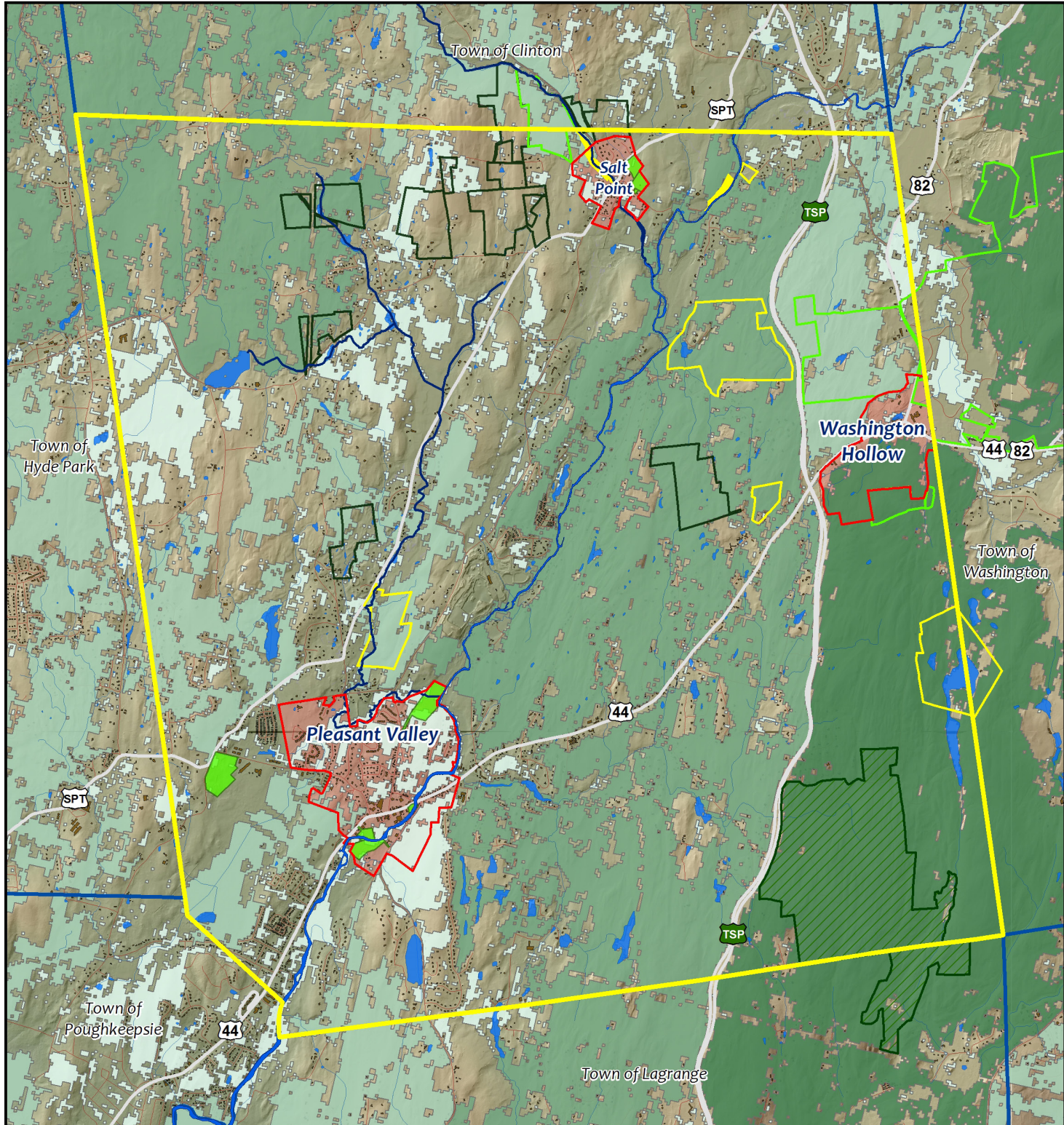
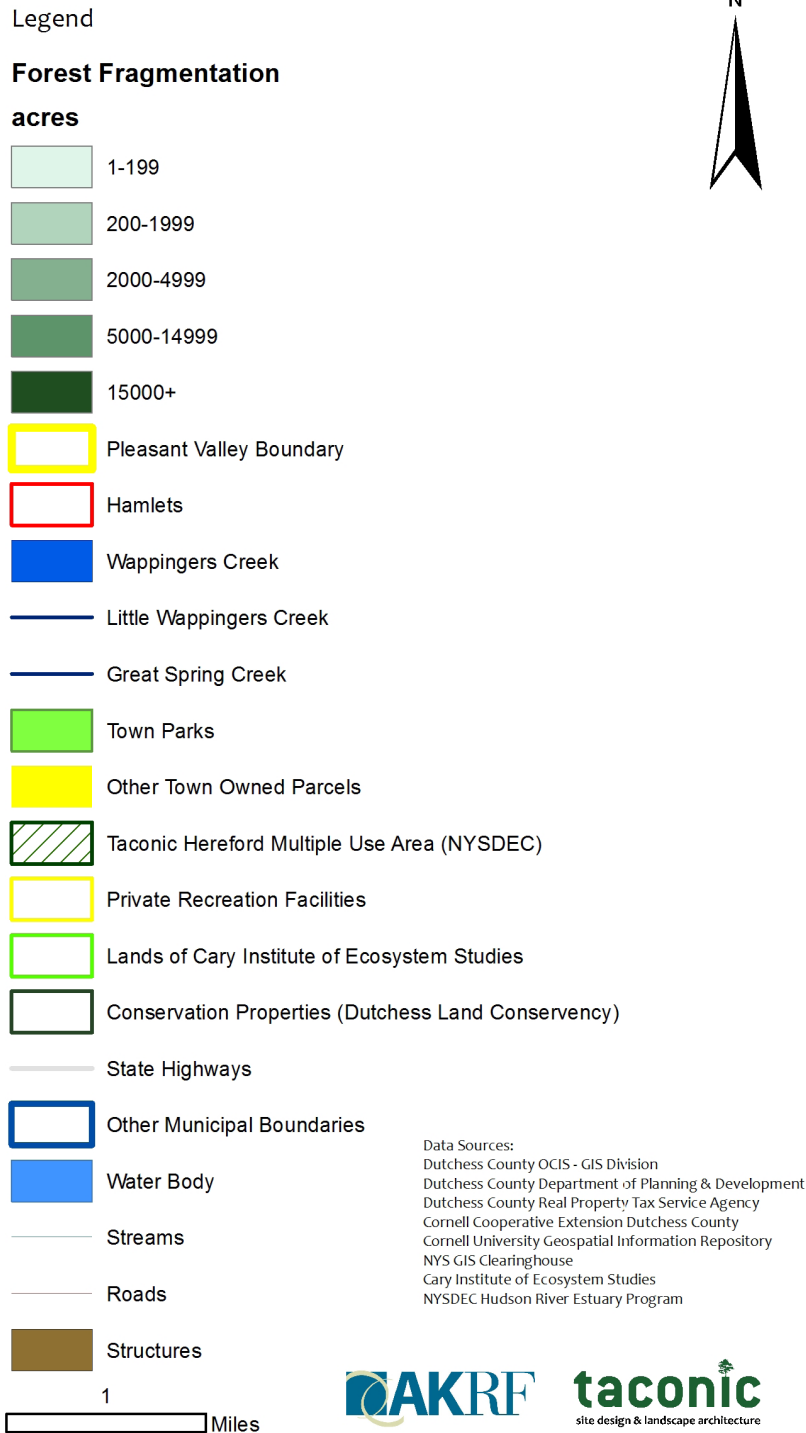


Exhibit 3.10—Woodlands



mature areas. These forests also provide sufficient area to support enough individuals of most species to maintain genetic diversity over several generations.

ii. Regionally Important Forests (Forest Areas 15,000 acres to 6,000 acres)

Regionally Important Forests include patches greater than 6,000 acres that provide habitat to more area-sensitive species and can accommodate the large-scale disturbances that maintain forest health over time. Smaller patches are often less able to maintain the entire range of needed habitats and successional stages after large-scale disturbances.

iii. Locally Important Forests (6,000 to 2,000 acres)

These smaller but Locally Important Forest ecosystems, often represent the lower limit of intact, viable forest size for forest-dependent birds. Such bird species often require 2,500 to 7,500 acres of intact interior habitat. These forests, like the larger Regionally Important Forests, also provide important corridors and connectivity among forest ecosystems within Dutchess County.

iv. Stepping Stone Forests (2,000 acres to 200 acres)

Stepping Stone Forests provide valuable relatively broad (not just a narrow strip) corridors and links to larger patches of habitat such as the local, regional, and global forests found in Dutchess County. These smaller forests, therefore, enable a large array of species, including the County's wide-ranging and area-sensitive species, to move from one habitat to another across an otherwise hostile and fragmented landscape. They also provide important habitat at key times during many animals' life cycles. These forests should be considered the absolute minimum size for intact forest ecosystems. Forests as small as 200 acres will

support some forest interior bird species, but not others and species that prefer "edge" habitats will dominate.

b. Pleasant Valley Forests

More than half of Pleasant Valley is covered in woodlands (11,000 Acres or 52 percent of the Town). Much of this forest is second-growth, and 75 years after heavy agriculture use, it may still retain an understory, soil, and herbaceous characteristics that are still developing toward mature old-growth conditions. Mature deciduous forest may contain a greater richness of spring ephemeral flowers as well as a richer soil microbial community, mushrooms, and other characteristic woodland flora and fauna.

In addition to numerous small patches of woodland throughout the Town, large areas of forest exist in the corridor east of the Taconic State Parkway including lands owned by the Cary Institute of Ecosystem Studies, Innisfree Foundation, Rockefeller University, Taconic Hereford Multiple Use Area and many private landowners. This broader area is designated as a *Significant Area of Dutchess County* by the Dutchess County Environmental Management Council and as a *New York State Significant Habitat* by the NYS Department of Environmental Conservation.

Along with the forest corridor east of the Taconic State Parkway, the area west of the Taconic State Parkway stretching from the Camp Nooteeming Boy Scout Camp to Route 44 in the central part of Pleasant Valley (known as Pine Hill) provides an opportunity to protect additional forest. This Pine Hill area is made up of largely private property and contains a large pocket of undisturbed, forested land.

c. *Plant and Animal Species of Interest*

Plant and animal species of interest that require forest as part of their life cycle include a variety of spring ephemeral flowers, eastern box turtle, wood frogs, salamanders, woodland warblers, woodpeckers, American turkey, and Indiana bat. Sugar maple, a traditional dominant, is a species of special concern because it is widely being displaced by the similar-looking Norway maple. Less common but notable species include the Cooper's hawk, barred owl, pileated woodpecker, black bear, bobcat, and southern flying squirrel.

The two primary concerns related to the forests in the Town of Pleasant Valley include fragmentation of forests and unsustainable forest management practices.¹

E. AGRICULTURE (FARMS AND SOILS)

Agriculture is the defining factor that gives Pleasant Valley its genius loci or sense of place and was the driving economy of its early development.

Today, the number of properties in the Town that are being actively farmed has decreased, but the Town still possesses the resources for productive agriculture. As noted in the 2009 Town of Pleasant Valley Comprehensive Plan, approximately 4,100 acres of land (19 percent of the Town's land area) can be described as "in agricultural use" with approximately 2,900 acres of land in active farmland and 1,200 acres described as vacant or abandoned farmland.

¹ Section 480-a of the New York State Real Property Tax Law provides some tax relief to landowners with at least 50 acres of contiguous acres of forest land. In order to qualify for the tax relief landowners must follow a management plan prepared by an approved forester for the next succeeding ten years beginning each year that they receive a tax exemption. The 480-a program encourages landowners to manage their forests and to produce sustainable forestry crops over the long-term.

a. *Farms*

The number of active farms in Pleasant Valley are a fraction of what they were 100 years ago. Today, Pleasant Valley's farms are consistent with the average size of other farms in the Hudson Valley, but are small when compared to other areas of New York State. Keeping farmland productive and protected is good for the environment as well as the economy.

Most of Pleasant Valley's active agricultural properties are located north and west of the Wappinger Creek and surrounding Salt Point. Exhibit 3-11, Agricultural Districts and Exemptions, presents parcels within Agricultural Districts and/or that receive Agricultural Exemptions from Dutchess County. Currently, the Town contains 6,900 acres (32 percent of the Town) of Agricultural District land area and 3,400 acres (16 percent of the Town) receives agricultural exemption status from Dutchess County. It is important to note that many of the agricultural districts and agriculture exempt areas overlap.

Agricultural types or uses range widely in Pleasant Valley and have shifted in the Town's most recent past from dairy production to gentlemen farming. However, local commercial farmers are currently producing corn, vegetables, small-scale dairy, livestock and poultry, horse boarding, silva-culture, and maple syrup. A large portion of peripheral agricultural lands are used to grow hay and feed for livestock, a critical supporting agricultural use.

A secondary benefit of open farmland is the habitat it provides for hundreds of species of plants, animals, insects, and birds that rely on open spaces as part of their life cycle. In aquifer zones, farmland helps preserve water quality, which is

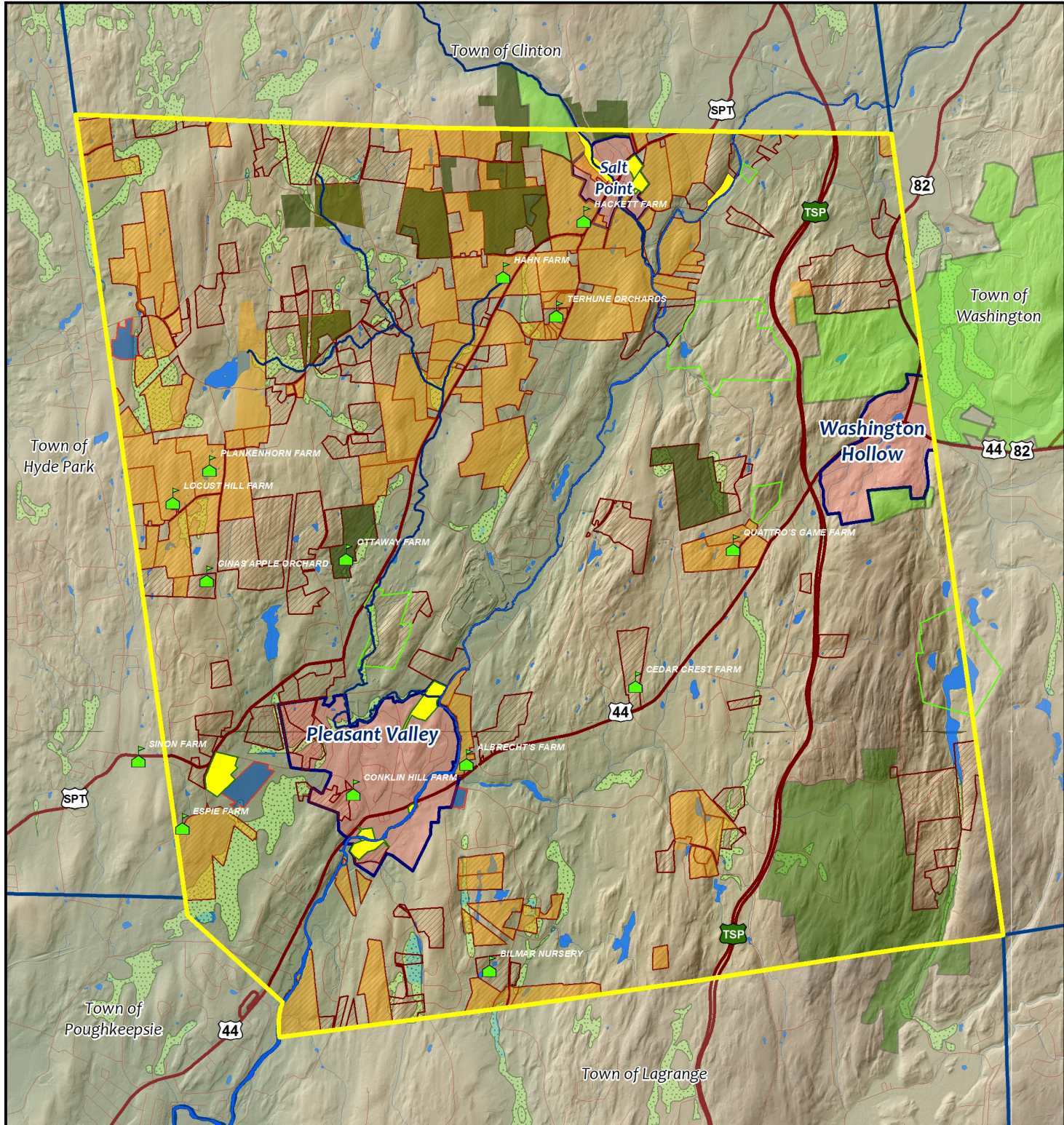


Exhibit 3.11—Agricultural Districts
and Exemptions

Legend

-  Active Farms
-  Agricultural Districts
-  Agricultural Exempt Parcels
-  Pleasant Valley Boundary
-  Wappingers Creek
-  Little Wappingers Creek
-  Great Spring Creek
-  Town Parks
-  Taconic Hereford Multiple Use Area (NYSDEC)
-  Public School
-  Other Town Owned Parcels
-  Private Recreation Facilities
-  Lands of Cary Institute of Ecosystem Studies
-  Conservation Properties (Dutchess Land Conservancy)
-  Hamlets
-  Water Body
-  Streams
-  NYSDEC Wetland
-  State Highways
-  Roads
-  Other Municipal Boundaries



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Data Sources:
Dutchess County OCIS - GIS Division
Dutchess County Department of Planning & Development
Dutchess County Real Property Tax Service Agency
Cornell Cooperative Extension Dutchess County
Cornell University Geospatial Information Repository
NYS GIS Clearinghouse
Cary Institute of Ecosystem Studies



critical to providing a safe and reliable source of drinking water for residents.

Preserving open farmland, especially along Town designated scenic roads also helps preserve the scenic views of rural landscapes that define the character of Pleasant Valley.

1. IMPORTANT SOILS

A complimentary and deeper approach to assessing agricultural resources is not to just plot the locations of existing farms, but to plot the location of viable agricultural production. This can be achieved by mapping Prime Soils and Soils of Statewide Significance within the Town.

Prime soils have the highest ability to support productive agriculture with the least amount of effort, amendment or irrigation. In other words, prime soils are the highest yielding soils and the best lands on which to grow crops. Prime soils are defined and mapped by the United States Department of Agriculture (USDA).

Soils of Statewide Significance include those soils that do not meet the criteria for Prime Farmland soils; however, these soils are nearly Prime and can economically produce high yields of crops when treated and managed according to acceptable farming methods. Some soils may produce yields as high as Prime Farmland if conditions are favorable.

Prime Farmland Soils account for 1,400 acres (6.5 percent of the Town) while Soils of Statewide Significance account for 6,550 acres or 31 percent of the Town. As Exhibit 3-12, Soils, indicates, most of the agriculturally productive soils are located north and west of the Wappinger Creek and south of the Pleasant Valley hamlet.

2. RECREATION (PARKS & TRAILS)

It is important to identify areas for recreational use that can also promote the Town's scenic and natural resources. Examples of recreational efforts that can enhance natural resource protection and economic diversity include expanding existing parklands, developing additional public access to lands and scenic areas (i.e. trails, bike routes, etc.), and increasing opportunities for access to water, especially the Wappinger Creek. For the purposes of open space planning, the Open Space Committee defines recreation in the broadest terms to include active sports, walking, hiking, biking, canoeing, cross country-skiing, and equestrian activities as well as passive activities such as picnicking in parks, bird-watching, visiting historic sites and farms or following scenic routes via car.

In the Town of Pleasant Valley, besides Town parks, public recreation areas and activities are somewhat limited. At this time residents can use the NYS Taconic-Hereford Multiple Use Area all year for hiking, mountain biking and cross-country skiing.

a. Town Parks

The Town owns five distinct parks as follows:

- Cady Recreation Park (portion adjacent to the Town Hall) – Large formal parking area, that includes one softball field with lights (Cady Field), two tennis courts, children’s playground, boat launch, picnic area, and storage buildings;
- Cady Recreation Park (portion off South Avenue) – Formal access driveway and parking area, one softball field (Field 2), and one junior baseball field (Field 3);
- Mill Site Memorial Park – Passive interpretive and memorial park with benches, gardens, war memorial, gazebo, outdoor performance stage and seating area, fishing platform, and historic Mill building with museum (current home of Historical Society) and Meeting room;
- Redl Park – Undeveloped parkland that contains existing access driveway and rough trails.
- Bower Park – Formal driveway and parking area, two soccer fields, walking trails, handicap accessible children’s playground, and access to Wappinger Creek; and
- Helen Aldrich Park – Softball field with lights (Baker Field), children’s playground, tennis court, picnic area and pavilion, basketball courts, volleyball court, schoolhouse building (currently occupied by Town Recreation Department) with meeting room.

These Parks are distributed throughout Pleasant Valley and are relatively small. As recommended in the adopted Town of Pleasant Valley Recreation Master Plan, the Town should actively pursue opportunities to expand existing parklands with additional land, especially at Bower Park and Helen Aldrich Park.

b. Other Town-Owned Parcels

The Town also currently owns land at two locations that are not currently designated as parkland but could easily be opened to residents for passive recreational use and access to water. Recommendations for future use include:

- Hibernia Road Property – Establish small parking areas and trailhead connections to new walking trails and fishing points along Wappinger Creek; and
- Salt Point Dam Property – Formalize existing gravel parking area and provide safe access to new walking trails and fishing points along the Little Wappinger Creek.

c. Other Trails

- Cary Institute for Ecosystem Studies – Walking trails open from April to October. Entrance for parking is from the Town of Washington;
- Innisfree Garden – Private garden property with walking trails, glacial lake and water features. Entrance to property is from Tyrell Road in the Town of Washington; and
- Ottoway Farm – Private farm under private conservation easement with active trail system open to the public at the discretion of the property owner. (Entrance from trailhead off Kay Drive.)

d. Biking

Pleasant Valley offers miles of rural, low-traffic roads for biking through beautiful farmland. Biking is supported by well-maintained shoulders and appropriate speed limits and becomes more disconnected and dangerous with the increase of sprawling residential development projects that causes increases in traffic throughout the Town.

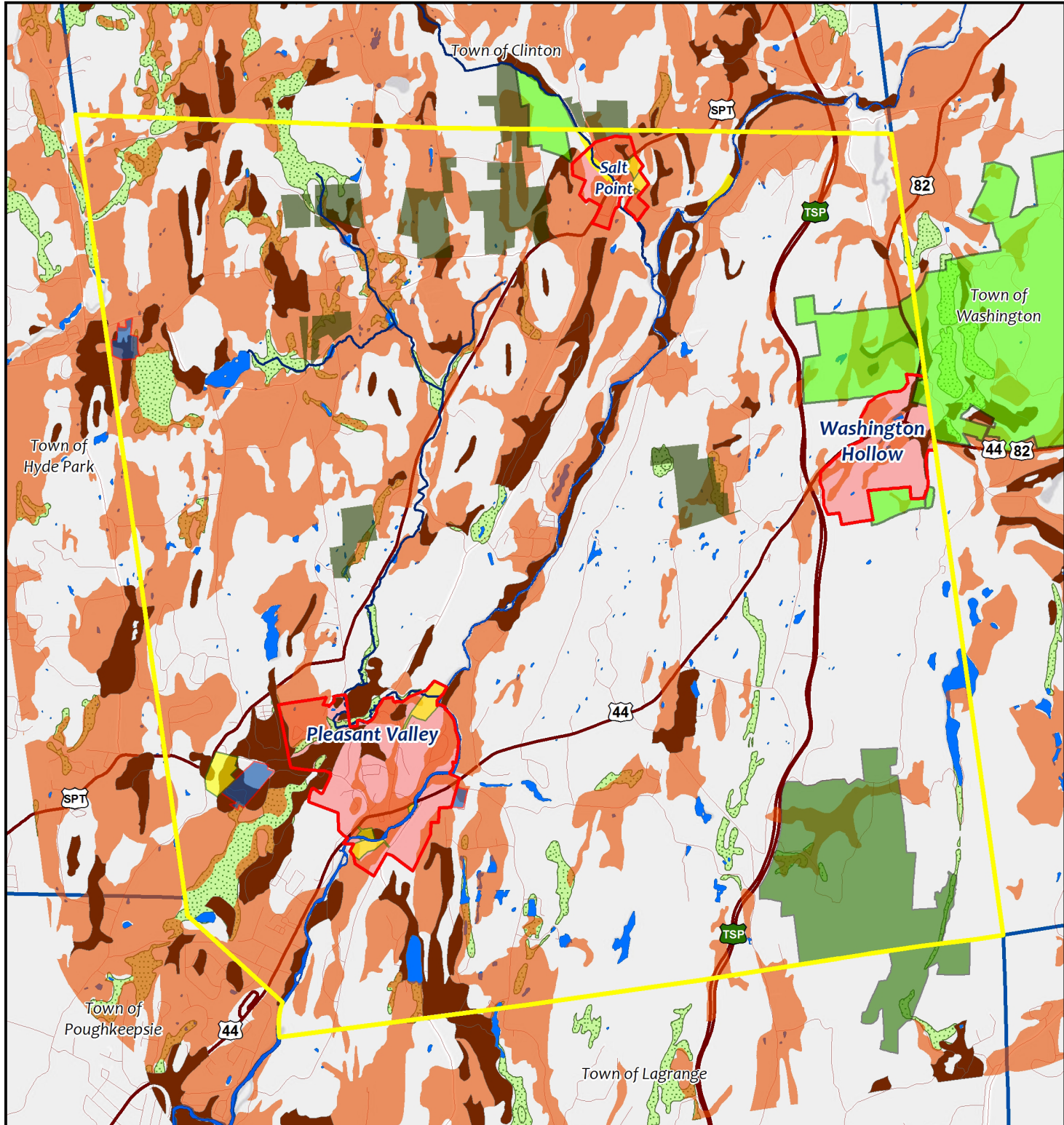
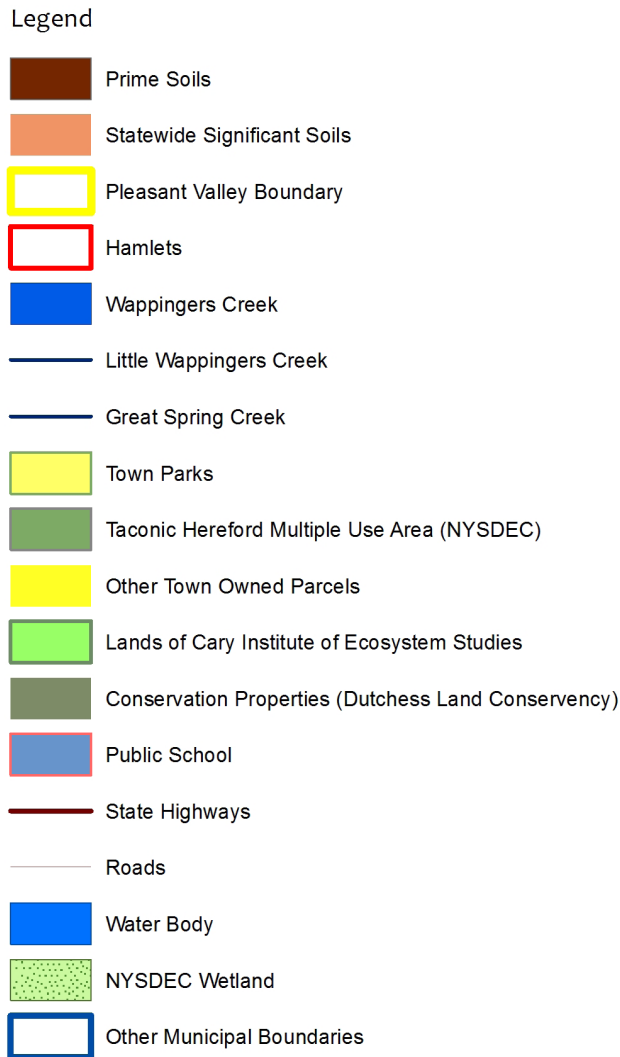


Exhibit 3.12—Soils



Data Sources:
 Dutchess County OCIS - GIS Division
 Dutchess County Department of Planning & Development
 Dutchess County Real Property Tax Service Agency
 Cornell Cooperative Extension Dutchess County
 Cornell University Geospatial Information Repository
 NYS GIS Clearinghouse
 Cary Institute of Ecosystem Studies

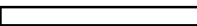
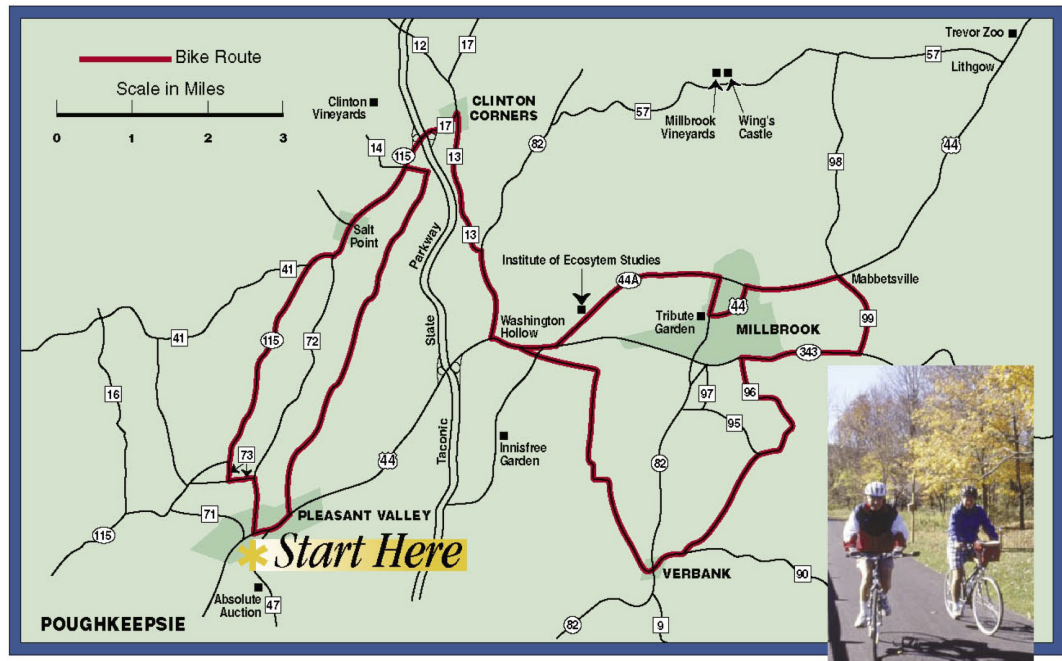
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Exhibit 3.13—Biking Trails in Dutchess County

Source: Dutchess County Tourism Biking Pamphlet

The Dutchess County Transportation Council's 1996 *Bicycle and Pedestrian Plan* identifies the Pleasant Valley hamlet as a pedestrian zone and recommends a network of sidewalks and bicycle routes. The Plan proposes bicycle routes on both US 44 and the Salt Point Turnpike (NYS Route 115) to connect residents to employment, shopping and transit hubs. Bicycle routes could include dedicated or a mixed use paths, or well-maintained and striped road shoulders.

The Dutchess County Department of Tourism has a published brochure highlighting six bike tours through Dutchess County. Route #4 includes portions of the Salt Point Turnpike, Sherow Road, North Avenue and Creek Road in Pleasant Valley (see Exhibit 3.13).

e. Access to Water

The Wappinger Creek provides high quality opportunities for fishing and canoeing.

Exhibit 3-14, Recreational, Scenic, and Historic Resources, indicates locations of current public access points for fishing and boating along the Wappinger Creek.

The 2011 Pleasant Valley Recreation Master Plan recommended that the Town consider establishing a water trail for canoes and kayaks beginning at the town-owned Hibernia Road property and exiting at Bower Park. This Wappinger Creek Water Trail could be a very unique recreational feature that would attract local and regional users to the Town of Pleasant Valley, providing not only a recreational benefit, but also a stimulus to

the local economy. With modest investments in improvements and marketing, this water trail is an easily achievable project.

F. SCENIC AREAS (VIEWSHEDS AND ROADS)

1. VIEWSHEDS

Several important scenic viewshed corridors have been identified in previously adopted planning documents. These viewshed corridors were selected because they characterize the rural character of Pleasant Valley and include: the Salt Point Turnpike corridor from Sherow Road north to the Taconic State Parkway, the Gretna Road corridor, the Netherwood Road Corridor, and along Traver Road south of Parksville Road.

The areas east of the Taconic State Parkway offer views west over the Hudson Valley to the Catskill Mountains; however, most vantage points are either wooded or privately owned, so opportunities for western views is limited.

2. SCENIC ROADS

As shown on Exhibit 3-14, Recreational, Scenic, and Historic Resources, the 2009 Pleasant Valley Comprehensive Plan identifies locally designated scenic roads that showcase the divergent viewsheds in Pleasant Valley. The drive along designated scenic areas can be through landscapes that highlight the rural beauty of Pleasant Valley or from higher elevations, which provide broader view of hillsides, farms and waterways in the Town, Dutchess County and beyond.

As the Comprehensive Plan states, the Town's most prominent public spaces are its roads. Roadways can serve as greenways, whether or not they are designated as scenic. How roads are

presented, planted medians, tree-lined streets, bicycle and walkways, and repaired sidewalks, reflects how the Town visualizes their community.

G. CULTURAL RESOURCES

The Town has identified over 150 buildings that form the historic character of Pleasant Valley. Respondents to the 2006 Comprehensive Plan Community Survey overwhelmingly supported keeping historic buildings intact, as well as ensuring that new buildings architecturally fit with the historic character of each distinct hamlet area.

Unfortunately, most of Pleasant Valley's historic structures do not have any formal protections. Only a select few properties and sites are listed on the National Register of Historic Places. These include: the Taconic State Parkway, the Newcomb-Brown Estate at the corner of Route 44 and Brown Road, and the Bloomvale Historic District on Route 82 including the Bloom House and the Old Mill at the Falls. Over the past 100 years, the Town has lost some significant historic



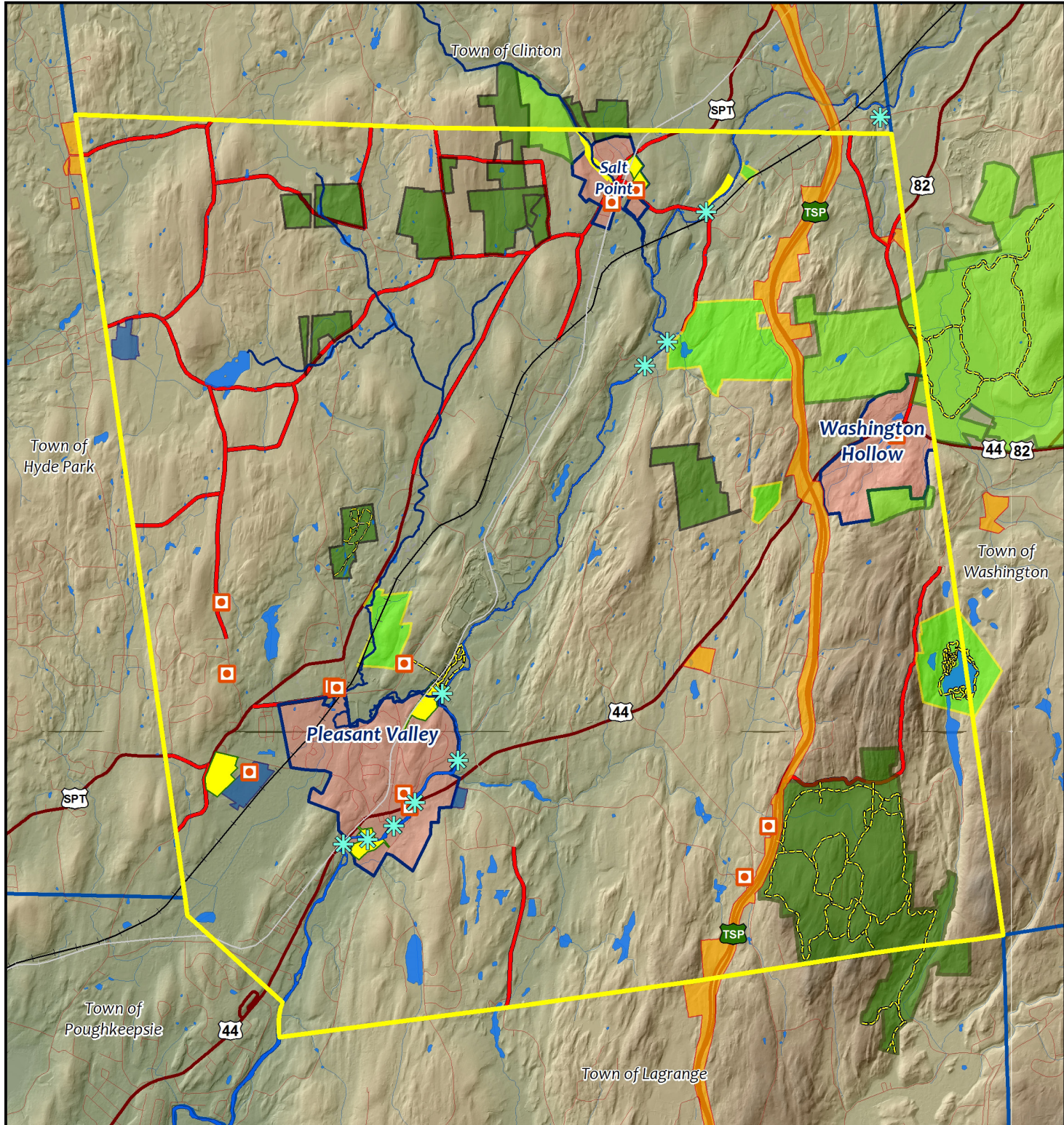


Exhibit 3.14—Recreational, Scenic
and Historic Resources

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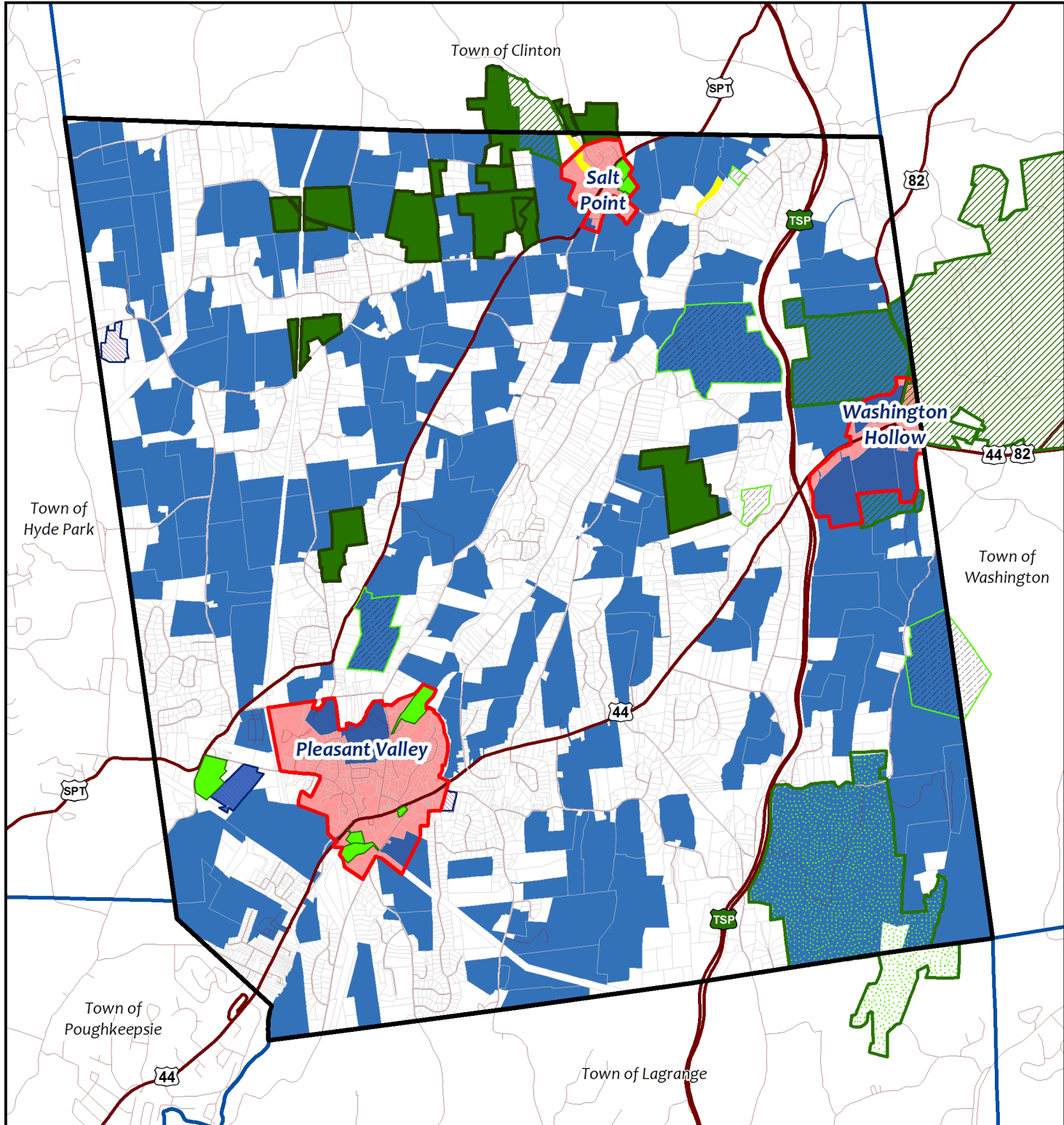
-  Town Parks
-  Taconic Hereford Multiple Use Area (NYSDEC)
-  Walking Trails (Open to Public)
-  Public Fishing Access Points
-  Private Recreation Facilities
-  Other Town Owned Parcels
-  Lands of Cary Institute of Ecosystem Studies
-  Conservation Properties (Dutchess Land Conservancy)
-  Public School
-  Scenic Roads
-  Local Historic Sites
-  Sites with Historic Status
-  Historic P&E Railroad
-  Historic P&C Railroad
-  Wappingers Creek
-  Little Wappingers Creek
-  Great Spring Creek
-  Water Body
-  Streams
-  Pleasant Valley Boundary
-  Other Municipal Boundaries
-  Hamlets
-  State Highways
-  Roads



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Miles



Data Sources:
Dutchess County OCIS - GIS Division
Dutchess County Department of Planning & Development
Dutchess County Real Property Tax Service Agency
Cornell Cooperative Extension Dutchess County
Cornell University Geospatial Information Repository
NYS GIS Clearinghouse
Cary Institute of Ecosystem Studies
Dutchess Land Conservancy



*Exhibit 3.15—Parcel Size
Distribution*

Legend

-  Parcels less than 50 Acres
-  Parcels 50 Acres and Larger
-  Pleasant Valley Boundary
-  Hamlets
-  Town Parks
-  Taconic Hereford Multiple Use Area (NYSDEC)
-  Public School
-  Other Town Owned Parcels
-  Private Recreation Facilities
-  Lands of Cary Institute of Ecosystem Studies
-  Conservation Easements (Dutchess Land Conservancy)
-  State Highways
-  Road Centerline
-  Other Municipal Boundaries



Data Sources:
 Dutchess County OCIS - GIS Division
 Dutchess County Department of Planning & Development
 Dutchess County Real Property Tax Service Agency
 Cornell Cooperative Extension Dutchess County
 Cornell University Geospatial Information Repository
 NYS GIS Clearinghouse

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structures, which has transformed areas of the Town, especially the hamlet areas, away from its historic character.

In 1986, the Dutchess County Department of Planning and Development organized an inventory of Pleasant Valley's historic properties as part of a Countywide survey. This inventory noted over 150 structures and sites in Pleasant Valley worthy of inclusion. The Inventory also described significant scenic views and important stone wall locations. These sites were determined to merit further historic research toward local landmark designation or possible nomination to the National Register of Historic Places.

In 2002, a zoning amendment was adopted by the Town creating a local Historic Register, whereby an owner of an historic structure can voluntarily elect to be included in the local Town Historic Register. This designation requires an additional level of review by the Town Planning Board or Zoning Board of Appeals for exterior alterations or any construction or demolition of a listed structure.

To date, as shown on Exhibit 3-14, Recreational, Scenic and Historic Resources, fourteen buildings and/or sites have been officially adopted as part of the Local Historic Register.

H. PARCEL SIZE DISTRIBUTION

As with any Town, over time, large parcels of land are subdivided into smaller and smaller pieces. This often impacts the quality of any natural systems that may have existed. Large continuous parcels of land often maintain high quality systems and provide the best opportunity to protect the most meaningful open spaces. For the purposes of this Plan, individual tax parcels that are 50 acres or larger have been identified to highlight the largest open land areas in Town.

As shown in Exhibit 3.15, there are easily definable areas of contiguous large land parcels including the area to the east of the Taconic State Parkway, the area surrounding the Salt Point hamlet, the area along the Town boundaries with Clinton and Hyde Park extending south along Gretna Road, the area surrounding Van Wagner Road, and the area east of Traver Road south of the Pleasant Valley hamlet.