

Natural Resource Value  
of Land in Western Clifton Park, NY:  
a Student Internship Project for the  
Friends of Clifton Park Open Space  
**Final Report**

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## Summary

Urban and suburban development can threaten our natural resources. A first step toward protecting these resources is to gain a better understanding of the natural resources present in our communities. The objective of this project is to identify natural resources in Western Clifton Park and to determine the natural resource value of the land in Western Clifton Park. This objective is met through (1) the collection of natural resource data for Western Clifton Park, (2) development of a natural resource rating criteria, by which tax parcels are evaluated, and (3) the presentation of the results through a series of maps of Western Clifton Park. The value of tax parcels for an individual resource system (habitat potential, water resources, and agriculture) as well as cumulative natural resource value are presented. The natural resource value of lands parcels were determined by using a rating system developed by the Friends of Clifton Park Open Space and Siena College.

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# 1 Introduction

As the world's population rapidly concentrates in urban and suburban regions, it is increasingly important to protect Earth's natural resources so that these resources may continue to provide benefits to all species, both animal and human. A first step toward this goal is to understand the natural resources that are present in our communities.

The natural resource value of the land in our communities depends on a number of factors. Foremost, the presence of a natural resource increases the total natural resource value of a tract of land. A natural resource is a naturally occurring material that species (animal or human) depend on for survival. Thus a natural resource could be a resource for humans such as aquifers or a resource for animal species such as undisturbed open space. In general, a natural resource is more valuable if it is undisturbed or unimpaired by human activities. For example, a pristine stream channel provides more benefit than a polluted one. Also, the natural value of a tract of land depends on the size of the land tract and its spatial relationships to other tracts of land. The larger the land tract, the greater the number of individual animals and animal species that can live there. Fragmented landscapes, that is, tracts of open space segmented by development, greatly reduce or eliminate animal populations. The problem is exacerbated when tracts of open space are separated by long distances, which reduces an animal's ability to migrate from one land tract to another.

These principles are used here to evaluate the natural resource value of land in Western Clifton Park. Three natural resource systems are examined: water resources, habitat potential and woodlands, and agriculture value. We expand the definition of natural resources to include materials that are naturally occurring, but may be produced by humans (such as crops from agricultural lands). The natural resource value of land in Western Clifton Park is determined

through field work and GIS analyses. Geographic Information Systems (GIS) is a tool for viewing and analyzing spatial information. Natural resources in Western Clifton Park are identified and rated based on their relative value (see Section 3). This rating criteria is applied to tax parcels in Western Clifton Park to determine each parcel's natural resource value. The rating system was developed by the Friends of Clifton Park Open Space and Siena College. Lastly, the natural resource value of Western Clifton Park tax parcels in each of the above mentioned categories (water, habitat/woodlands, and agriculture) and the cumulative natural resource value of tax parcels are presented graphically (see Sections 4 and 8).

## **2 Data Resources**

The key resources for this project include natural resource data and any additional data that facilitate interpretation and analysis of natural resource data. Data for this project were obtained in geospatial format from data clearinghouses (namely, the New York State GIS Data Clearinghouse) and from the Clifton Park Department of Planning. Data were also collected in the field and converted to geospatial format. The following are descriptions of and the sources for the data used in this project.

### **2.1 Natural Resource Data**

- **Soil:** Soil locations and classifications were obtained from the United States Department of Agriculture/Natural Resources Conservation Service (USDA/NRCS). Data were downloaded in geospatial digital format from the New York State GIS Data Clearinghouse.
- **Land Cover:** Land cover is defined using a 2001 National Land Cover

Data Set (NLCD) obtained from the Multi-Resolution Land Characteristics Consortium (MRLC). The Consortium consists of the U.S. Geological Survey (USGS), Environmental Protection Agency (EPA), National Oceanic and Atmospheric Administration (NOAA), U.S. Forest Service (USFS), National Atmospheric and Space Administration (NASA), the Bureau of Land Management (BLM), National Park Service, U.S. Fish and Wildlife Service (USFWS), National Aeronautics and Space Administration (NASA), Office of Surface Mining (OSM), and the Natural Resource Conservation Service (NRCS). Land cover classifications include categories such as low, medium, and high intensity development; deciduous forest; evergreen forest; and woody wetlands. Data were downloaded in geospatial digital format from the New York State GIS Data Clearinghouse.

- Land Use: Land use classifications (agricultural, residential, open space, vacant, etc.) are from the Saratoga County Real Property Tax Service Agency and were obtained from the Town of Clifton Park Department of Planning.
- Surface Waters: Locations and classifications of surface water features such as lakes, ponds, streams, rivers, springs and wells were obtained from the National Hydrography Dataset (NHD) available through the U.S. Geological Survey (Figure 3). Surface water quality observations and stream classifications were obtained from the New York State Department of Environmental Conservation (DEC) Protection of Waters Program. Surface water bodies can be classified as AA, A, B, C, or D. According to the DEC, “the classification AA or A is assigned to waters used as a source of drinking water. Classification B indicates a best usage for swimming and other contact recreation, but not for drinking water. Classification C is for

waters supporting fisheries and suitable for non - contact activities. The lowest classification and standard is D.” Data were downloaded in geospatial digital format from the New York State GIS Data Clearinghouse.

- Aquifers: Locations of aquifers are provided by the New York State Department of Health. Data were downloaded in geospatial digital format from the New York State GIS Data Clearinghouse.
- Wetlands: Locations of wetlands are provided by numerous sources including the U.S. Army Corps of Engineers (USACOE), Department of Environmental Conservation (DEC), National Wetlands Inventory (NWI) from the U.S. Fish & Wildlife Service (Figure 3). These data were made available by the Town of Clifton Park.

## **2.2 Additional Data**

The following data are not natural resource data, but may allow for the analysis or interpretation of natural resource data or aid in project analyses in some other way.

- Tax parcel map: A map of tax parcels in Clifton Park is from the Saratoga County Real Property Tax Service Agency and was obtained from the Town of Clifton Park Department of Planning. This data set includes information on the use, size, and location of tax parcels.
- 2007 Orthoimagery (aerial photographs): Orthoimagery was obtained from the State of New York in 1 ft Natural Color resolution. Data are available through the New York Office of Cyber Security and Critical Infrastructure Coordination. Data were downloaded in geospatial digital format from the New York State GIS Data Clearinghouse.



- Digital Elevation Model (DEM): A DEM is a map of topography (elevation values) and was obtained from the U.S. Geological Survey. Drainage pathways and drainage areas were derived from the DEM. Data were downloaded in geospatial digital format from the USGS website.

### 3 Natural Resource Rating Criteria

Natural resources that were identified in Western Clifton Park were rated based on their relative value. For example, a pristine water body was rated highly whereas an impaired stream was given a lower rating (see Appendix A for details). The rating criteria were applied to all tax parcels in Western Clifton Park (a total of 2414 tax parcels). Because of the large number of tax parcels, parcels could not be analyzed individually. Instead a GIS model was developed to automate the computation of the natural resource value of each tax parcel. The advantage of using a GIS model to compute the natural resource value of tax parcels is that small changes could be made to the rating criteria, anchor points, or any other aspect of the project and the value of the parcel was automatically updated. Also, because the process is automated, human error is reduced. (For more information on GIS models see <http://webhelp.esri.com/arcgisdesktop/9.2/index.cfm?TopicName=Anoverviewofmodels>.)

#### 3.1 Scoring

Tax parcels receive rating points for the presence and relative quality of a natural resource (described below in the following subsections and in detail in Appendix A). Based on the presence and quality of a natural resource, each parcel receives an absolute natural resource score in each of the 3 categories considered, habitat potential and woodlands, water resources, and agriculture. This value is then divided (normalized) by the maximum score that any tax parcel

received in that category. For example, the highest natural resource score of any tax parcel in the agriculture category is 13. The natural resource score of all tax parcels is divided by this number and multiplied by 10 so that the natural value of all tax parcels falls between 0 and 10. A tax parcel with a natural resource value of 0 is the least valuable and a tax parcel with a score of 10 is the most valuable.<sup>1</sup>

### 3.2 Habitat Potential and Woodlands

The value of tax parcels in the habitat/woodlands natural resource category depends on the size of the tax parcel, connectivity to other parcels of open space, quality of the woodlands, and the presence and quality of surface water features such as streams and wetlands. These evaluation criteria are rooted in fundamental concepts in ecology. Ecologists Robert MacArthur and Edward Wilson observed in their seminal work, *Island Biogeography*, that islands hold fewer species than other land tracts of equal area. (MacArthur and Wilson, 1967) This led later ecologists to develop the concept of “habitat islands”, that is, an animal habitat surrounded by uninhabitable land. Just like ocean islands, habitat islands, which occur when habitats become fragmented by development, generally hold fewer species than an area of the same size in continuous habitat. Fragmentation of habitats reduces the ability of individual animals or animal species to migrate and the more fragmented the landscape (i.e. the further

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<sup>1</sup>The natural resource score of each tax parcel is divided by the maximum score that any tax parcel receives - i.e. the “practical” maximum score - rather than the theoretical maximum score that a tax parcel could receive based on the number of natural resource rating criteria. This is done to prevent bias toward categories with easily met criteria. For example, in the water resource category there are several rating criteria that only a few tax parcels fulfill such as whether the tax parcel is designated exclusively for water supply or flood control. These rating criteria increase the theoretical maximum natural resource score of the tax parcels, but few tax parcels will ever meet that theoretical maximum because so few tax parcels are designated for water supply or flood control. Thus if the natural resource score of each tax parcel were divided by the theoretical maximum, the natural resource value of tax parcels in the water resource category would be very small compared to the natural resource value of tax parcels in another category. This is the reason for dividing by the practical maximum natural resource score as opposed to the theoretical maximum natural resource score.

one habitat island is from another), the more difficult migration becomes. In addition, large tracts of land are more likely to provide animal habitats and contain a larger number of animal species. There are several reasons: large areas are more likely to include sparsely distributed species, more likely to hold a greater variety of habitats, and can support species that require large home ranges such as mammals that lie on the top of the food chain. (EPA, 1999) Furthermore, undisturbed woodlands are able to support a greater number of animal species and more individual animals than degraded or altered woodlands. This is because undisturbed, native woodlands are more likely to contain the food sources and shelter native animal species need. Lastly, the presence of a surface water body such as a wetland or stream channel (especially if the water body is of high quality) will increase the likelihood that the land tract supports aquatic species. Surface waters also provide a valuable habitat resource for non-aquatic species.

### **3.3 Water resources**

The water resource value of tax parcels is determined based on the presence and quality of a water feature and the potential of the tax parcel to provide water quality benefits. Water features are considered that provide resources to animal species such as a wetland as well as water features that provide resources to humans, such as an aquifer. Unimpaired or undisturbed water features are valued more highly than those that are impaired. Furthermore, tax parcels that lie within the watershed, or drainage area, of anchor point or that lie within a certain straight-lined distance to a surface water body are also valued highly because they are important for preserving the water quality of the nearby surface water body or anchor point. Stormwater runoff generated on this tax parcel (and the contaminants carried by the runoff) could flow to an anchor

point or enter the nearby water body.

### **3.4 Agriculture**

The agriculture value of tax parcels is assessed based on the presence of existing agriculture practices, proximity to an anchor point or other agriculture tax parcel, and the quality of the tax parcel for agriculture production, namely the quality of the soil.

### **3.5 Total Resource Value**

As discussed above, a natural resource is a naturally occurring material that species (animal or human) depend on for survival. Thus a natural resource could be a resource for humans such as aquifers or a resource for animal species such as undisturbed open space. In this study, we have expanded the definition of a natural resource to include materials that are naturally occurring, but may be produced by humans (such as crops from agricultural lands). Thus the total natural resource value of each tax parcel is based on the natural resource value of the parcel in each the above categories, habitat/woodlands, water resources, and agriculture. The water resources and habitat/woodlands categories are weighted more heavily than the agriculture category. As an example, a tax parcel that receives a rating of 8 in the agriculture category, 9 in the water category, and 5 in the habitat/woodlands category would receive a total natural resource rating of 7.2 ( $0.2 \times 8 + 0.4 \times 9 + 0.4 \times 5$ ).

## 4 Results

### 4.1 Natural Resource Value of Parcels in Western Clifton Park

Once the natural resource rating criteria has been applied to tax parcels in Western Clifton Park, the value of each parcel is determined. The results are presented in graphical form (Section 8). In the habitat/woodlands natural resource category, the tax parcels with the highest resource value (greater than 7) are those in close proximity to the anchor points, a tax parcel off of Glenridge Rd, a tax parcel off of Riverview Rd, a tax parcel off of Ashford Dr (near Van Vranken Rd), two tax parcels off of Vischer Ferry Rd, and three tax parcels on the corner of Tanner Rd and Rt 146A (Figure 5). In the water resource category, many tax parcels are of high value. In general, smaller tax parcels receive a lower water resource value, because statistically, these parcels are less likely to contain a water body (Figure 6). The tax parcels with the highest resource value (greater than 8) in this category are located in close proximity to Veterans Memorial Park (as well as along Schaubert Rd), Garnsey Park (as well as along Riverview Rd), the Future Town Preserve anchor point (as well as along Appleton Rd), and the agriculture anchor point (as well as along Riverview, Sugar Hill, Grooms, Ray, and Vischer Ferry Roads). In the agriculture resource category, the tax parcels with the highest resource value (greater than 7) are located along Sugar Hill, Droms, and Grooms Roads (Figure 7). In terms of total natural resource value, the most valuable tax parcels (natural resource value greater than 7) are adjacent to the four anchor points and along Sugar Hill, Riverview, and Droms Roads (Figure 8).

## **4.2 Uncertainties**

There are inherent errors in the data used for this project. Some data may be out of date or not accurate at the small spatial scales investigated here. Therefore, although results do provide an accurate picture of the general natural resource value of the land in Western Clifton Park, the score for an individual tax parcel may or may not be 100% accurate. However, because of the large number of tax parcels addressed in this project, verification of the natural resource value of every tax parcel is not feasible. If a particular tax parcel is of interest, that tax parcel should be visited and its natural resource value confirmed through field investigation (see additional discussion in Section 7).

## **5 Current Protections and Potential Protection Mechanisms**

In Western Clifton Park, there are currently no land parcels under the care, custody or control of the New York Department of Conservation or the Federal Government. The New York State Canal Corporation owns riverfront land along the Mohawk River, including a strip in Western Clifton Park, at Rexford, and most of the Vischer Ferry Nature and Historic Preserve. A 78 acre parcel on Route 146A is enrolled in a New York State Forestry Tax Program under Real Property Tax Law 480 (Figure 1). The Town of Clifton Park has also permanently protected 187 acres of farmland/open space through the acquisition of Permanent Conservation Easements:

1. King Crest Farm, north side of Grooms Road (41 acres)
2. Riverview Orchards, Riverview Road (87 acres)
3. Heckman Farm (former Cloverdale Farm), Hubbs Road (59 acres)

Kings Crest Farm and Riverview Orchards comprise Anchor Point 4. Under the Saratoga P.L.A.N., the 2010 holdings in Western Clifton Park include properties on Tanner Road, Waite Road, and near Garnsey Park (Figure 1).

One potential protection mechanism for tax parcels that are not already protected in Clifton Park would be to establish a local land trust. Such a land trust organization exists for the County (Saratoga P.L.A.N.). A town-based trust could work with Saratoga P.L.A.N. to promote the easement of properties by local landowners. Among many examples of town-based land trusts include those located in Concord, Massachusetts (<http://www.concordland.org/land.html>), Coventry, Rhode Island (<http://www.town.coventry.ri.us/landtrust.htm>), and Hinesburg, Vermont (<http://www.hinesburg.org/hlt.html>). The Land Trust Alliance provides many resources for land trust organizations. Information specific to the northeast can be found at <http://www.landtrustalliance.org/community/northeast/>.

In addition, the Natural Resource Conservation Service/US Department of Agriculture supports several easement programs including the Emergency Watershed Protection Program (Floodplain Easements), Farm and Ranch Lands Protection Program, Grassland Reserve Program, Healthy Forests Reserve Program, and Wetlands Reserve Program (more information is available at: <http://www.nrcs.usda.gov/programs/>). Of particular interest is the Farm and Ranch Lands Protection Program (FRPP) under which agriculture land may be purchased and protected. According to the FRPP, the program will provide, “matching funds to help purchase development rights to keep productive farm and rangeland in agricultural uses. Working through existing programs, USDA partners with State, tribal, or local governments and non-governmental organizations to acquire conservation easements or other interests in land from landowners. USDA provides up to 50 percent of the fair market easement value

of the conservation easement. To qualify, farmland must: be part of a pending offer from a State, tribe, or local farmland protection program; be privately owned; have a conservation plan for highly erodible land; be large enough to sustain agricultural production; be accessible to markets for what the land produces; have adequate infrastructure and agricultural support services; and have surrounding parcels of land that can support long-term agricultural production.” (NRCS) More information is available at: <http://www.nrcs.usda.gov/programs/frpp/>.

## 6 Feasibility of the Agriculture Anchor Point

One possible use for the agriculture anchor point would be to develop a community garden, where members of the community lease a section of land to grow their own vegetables or other crops. A community garden requires that an individual or group oversee the garden, but, in general, operation costs are low because members of the community garden are responsible for the management of their own plots.

Another possible use for the land would be to develop a community-supported farm. The USDA defines community supported agriculture (CSA) as, “a community of individuals who pledge support to a farm operation so that the farmland becomes, either legally or spiritually, the community’s farm, with the growers and consumers providing mutual support and sharing the risks and benefits of food production.” (USDA) Typically members of the CSA will pay the farm or farmer an annual fee and/or work the farm for a given number of hours or days during the year and, in return, receive a share in the harvest. The USDA describes two basic CSA models: “Subscription CSA (farmer-driven). In this approach, the farmer organizes the CSA and makes most of the management decisions. Farm work is not required of subscribers. A permutation is



the farmer cooperative, where two or more farmers organize to produce a variety of products for the CSA basket.” The second model is: “Shareholder CSA (consumer-driven). This type of CSA typically features an existing “core group” that organizes subscribers and hires the farmer. The core group may be a not-for-profit organization and land may be purchased, leased, or rented. Most key decisions are made by core group personnel.” (USDA) The objectives of each CSA will depend on the goals of the community it serves but could include energy efficiency, production of organic produce, and/or maintenance of humane animal harvest practices. The ultimate goal of every CSA is sustainability, both economic and environmental.

In addition to the many resources available on sustainable farming, there are resources specific to the development of a CSA. Of note are those available through the Robyn Van En Center housed at the Wilson College Richard Alsina Fulton Center for Sustainable Living. The Robyn Van En Center offers a handbook with information on budgets, job descriptions, and community outreach tactics entitled, *Formula to Create Community Supported Agriculture; a guide for starting, operating, and joining a CSA*; and a book entitled, *Sharing The Harvest: A Citizen's Guide to Community Supported Agriculture*. Books and handbooks are available to order for a cost of between \$10 and \$35. See <http://www.wilson.edu/wilson/asp/content.asp?id=1275>

## 7 Suggestions for Future Work

- There are inherent uncertainties in the natural resource data used in this project. Some data may be out of date or not completely accurate at the small spatial scale of the smallest tax parcels. Thus the natural resource value of some parcels may not be completely accurate. However, because of the large number of tax parcels in Western Clifton Park (over 2400

parcels), the accuracy of the natural resource data for each parcel could not be validated through ground truthing (determining the accuracy of the analysis through a site visit). Instead, if a particular tax parcel (or several tax parcels) are of interest to FCPOS, an individual assessment of that parcel (or parcels) should be made to verify that the results presented here are accurate. The assessment would need to be made through a comprehensive field study. However, the results presented here do provide a foundation or baseline of information that will inform any future field study.

- Of particular interest, in terms of ground truthing, are lands classified as agriculture. Currently tax parcels considered in this study to be agricultural are those classified as abandoned agriculture, bee products, cattle farm, dairy farm, field crops, fruit crops, horse farm, orchard crop, rural residential & agriculture, and vacant farmland (Figure 4). In some cases, these tax parcels may have overgrown since they were originally classified and now could be considered wild and/or undeveloped open space. Conversely, a tax parcel that was originally classified as rural residential may now be used for agricultural purposes. The current use of a tax parcel should be validated through a site visit.
- For the tax parcel data used in this study, there is a spatial gap in the data at most major roadways. Therefore, a tax parcel that is across the road from an anchor point, for example, does not receive additional rating points for being proximate to the anchor point. For some of the analysis categories, such as habitat, this is appropriate. Roadways are one of the landscape features that most fragment habitats. However, for other types of analyses, such as agriculture value, roadways, especially a rural road, may not impact the proximity of one tax parcel to another. Thus

a tax parcel across the road from a agriculture tax parcel should receive additional rating points. Future work could resolve this issue and take into consideration the role of roadways in terms of habitat, agriculture, and other natural resource fragmentation.

- In this study, tax parcels were rated based on their potential to provide wildlife habitats (based on the size and location of the tax parcel, see Section 3), not on whether a tax parcel actually provides a habitat, that is, animal species do, in fact, live there. This is because comprehensive data on the existence of habitats are not available for this region and it is difficult to collect these data without extensive fieldwork. The Vischer Ferry Nature and Historic Preserve has been classified as a Bird Conservation Area by the NYS DEC and an Important Bird Area (IBA) by the Audobon Society, but these are the only known data sources on animal habitats for the region. Therefore the presence of wildlife habitats would need to be assessed for individual tax parcels in the field.

The Natural Heritage Foundation does include some data on habitats. These data are available to view on-line through the Natural Resource Mapper at: <http://www.dec.ny.gov/imsmaps/ERM/viewer.htm> According to the Natural Heritage Foundation, the following data are currently available through the Natural Resource Mapper:

- “Freshwater wetlands regulated by the State of New York (outside the Adirondack Park)....
- “Animals and plants that are rare in New York, including those listed as Endangered or Threatened (generalized locations). [Updated May 2008]
- “Significant natural communities, such as rare or high-quality forests, wetlands, and other habitat types. [Updated May 2008]”

However, these data are currently unavailable for Western Clifton Park or are available at a spatial scale that is inappropriate for the type of analyses presented here. Future work could incorporate information on significant natural communities and/or rare plants and animals as more data become available.

## Acknowledgments

The authors would like to acknowledge Jennifer Viggiani, Open Space Coordinator for the Town of Clifton Park Department of Planning; and Dr. Larry Woolbright, Departments of Environmental Studies and Biology, Siena College.

## References

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## 8 Figures

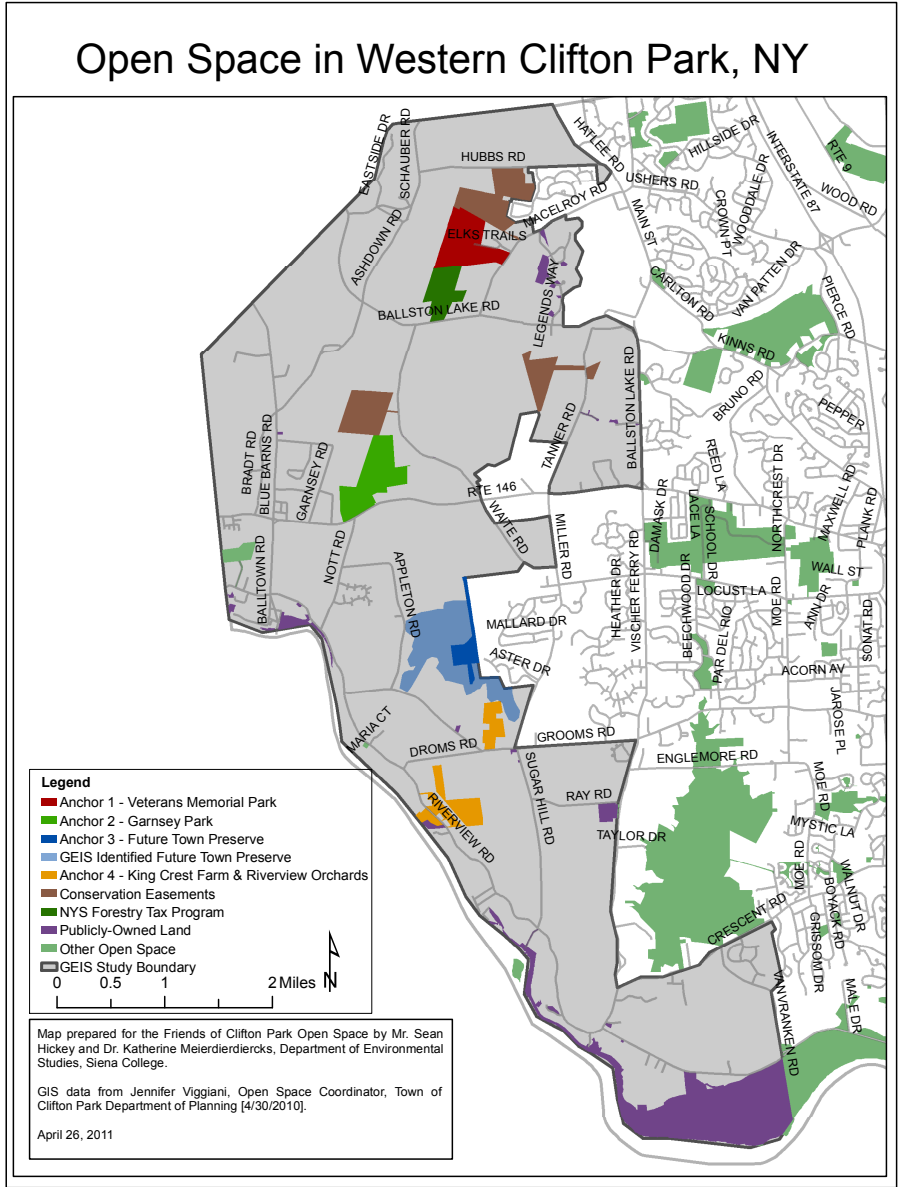


Figure 1: Publicly-owned land and open space in Western Clifton Park including the four open space anchor points. The Western Clifton Park Land Conservation Plan Generic Environmental Impact Statement (GEIS) study boundary is shown in grey.

## Woodlands in Western Clifton Park, NY

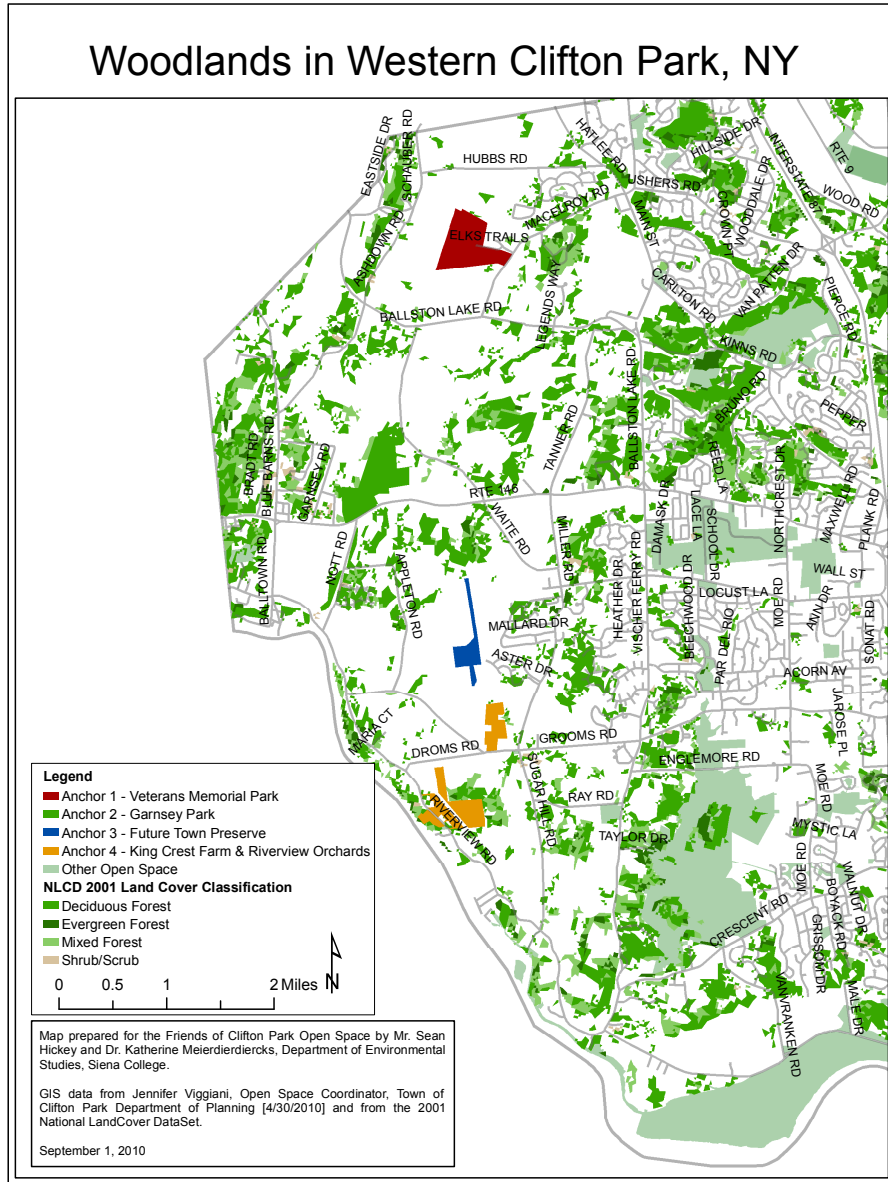


Figure 2: Forest land in Clifton Park according to the National Land Cover Data Set 2001 land cover classifications.

## Water Resources in Western Clifton Park, NY

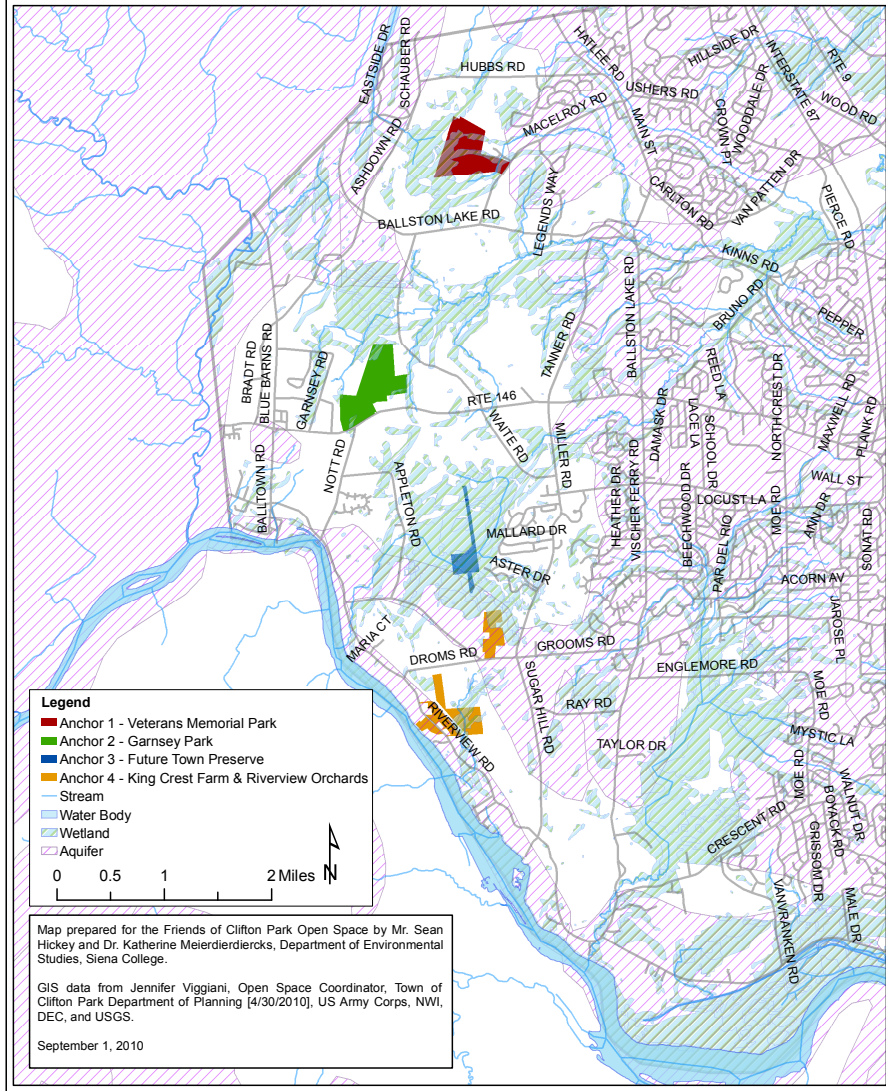


Figure 3: Water resources in Clifton Park. Data are from the National Hydrology Data Set (USGS), NYS Department of Health, US Army Corps, NWI, DEC, and the Town of Clifton Park.



# Agriculture Land in Western Clifton Park, NY

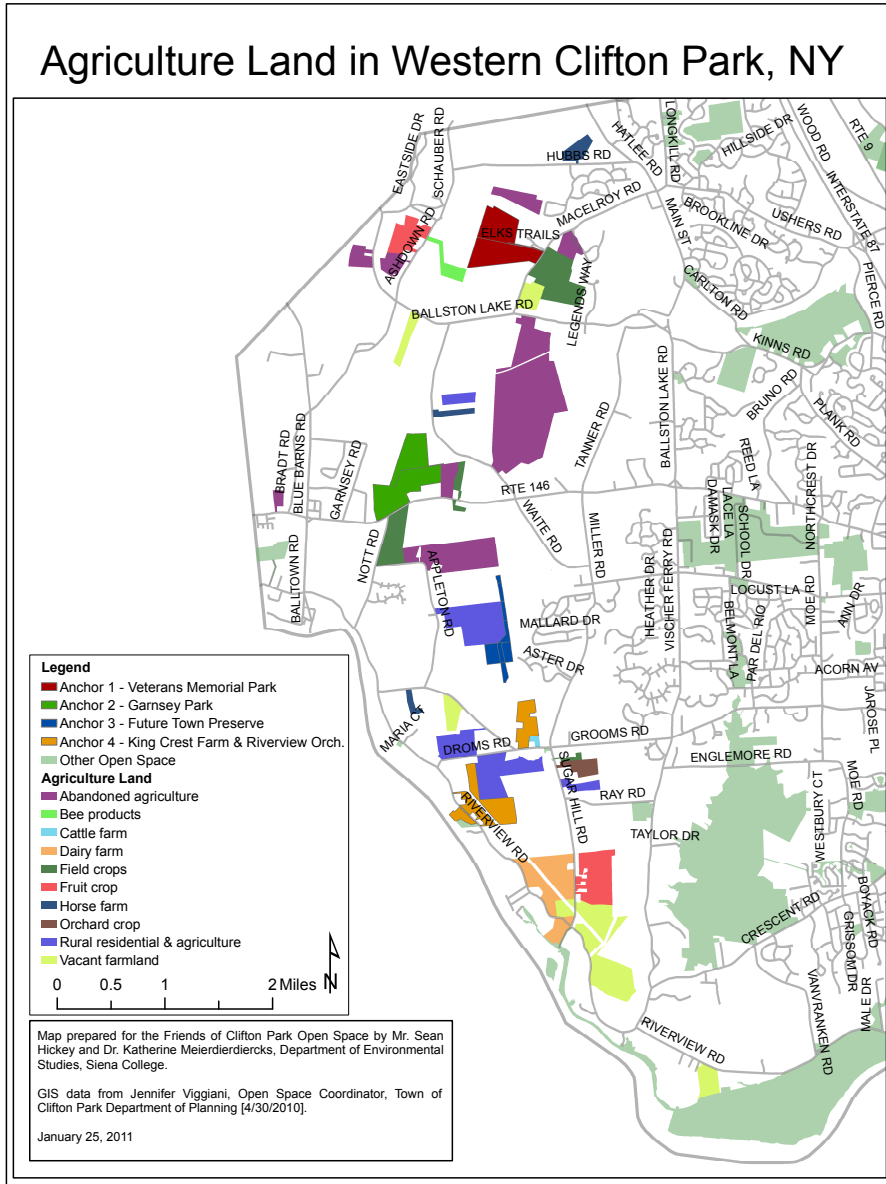


Figure 4: Agriculture land in Western Clifton Park. Data are from the Town of Clifton Park.

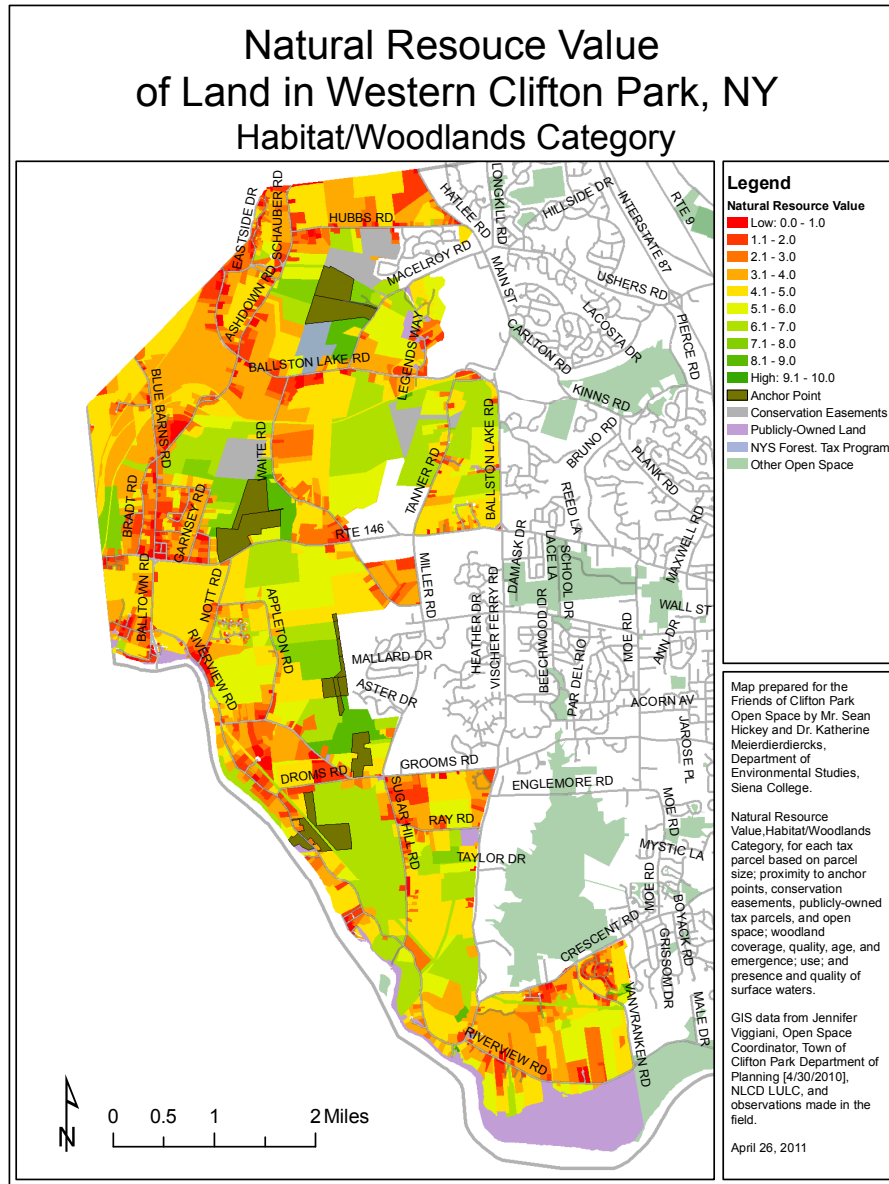


Figure 5: Natural resource value of land in Western Clifton Park, habitat potential & woodlands category.

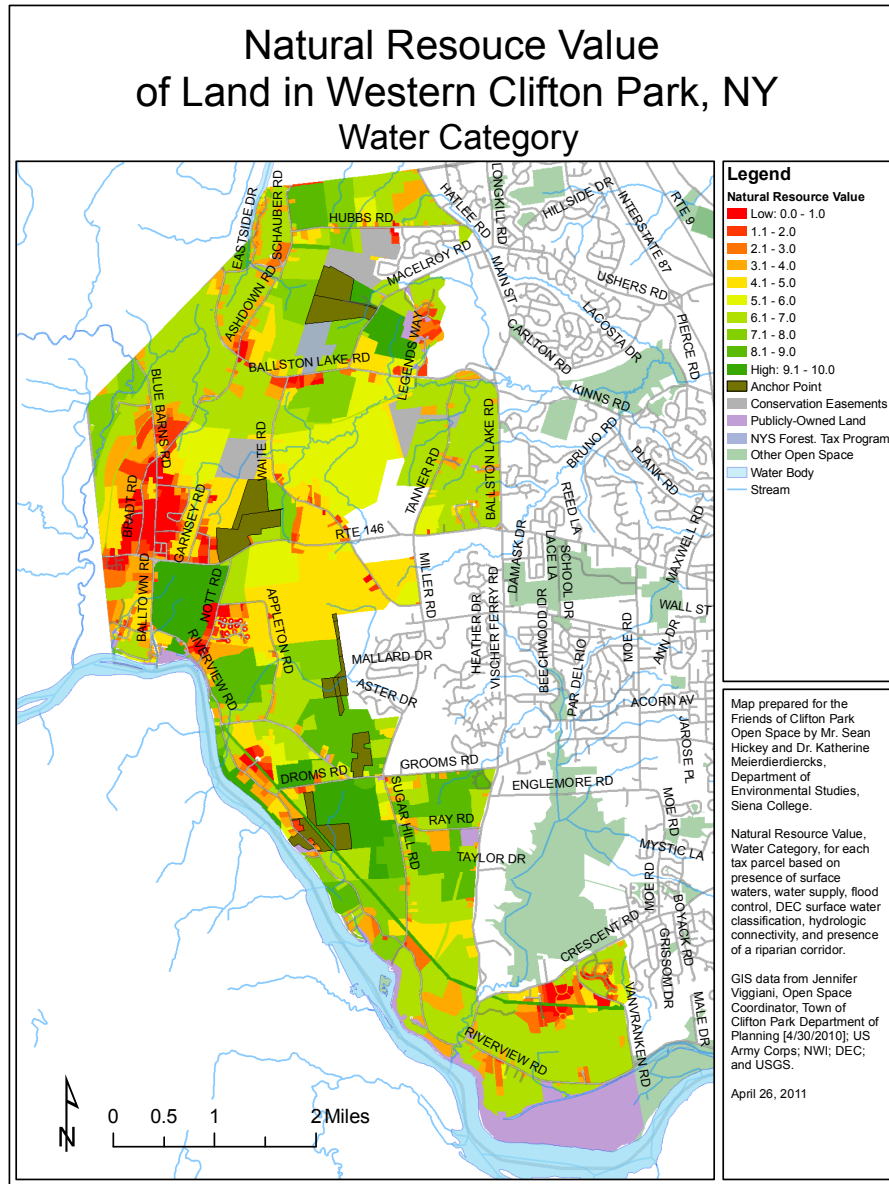


Figure 6: Natural resource value of land in Western Clifton Park, water resource category.

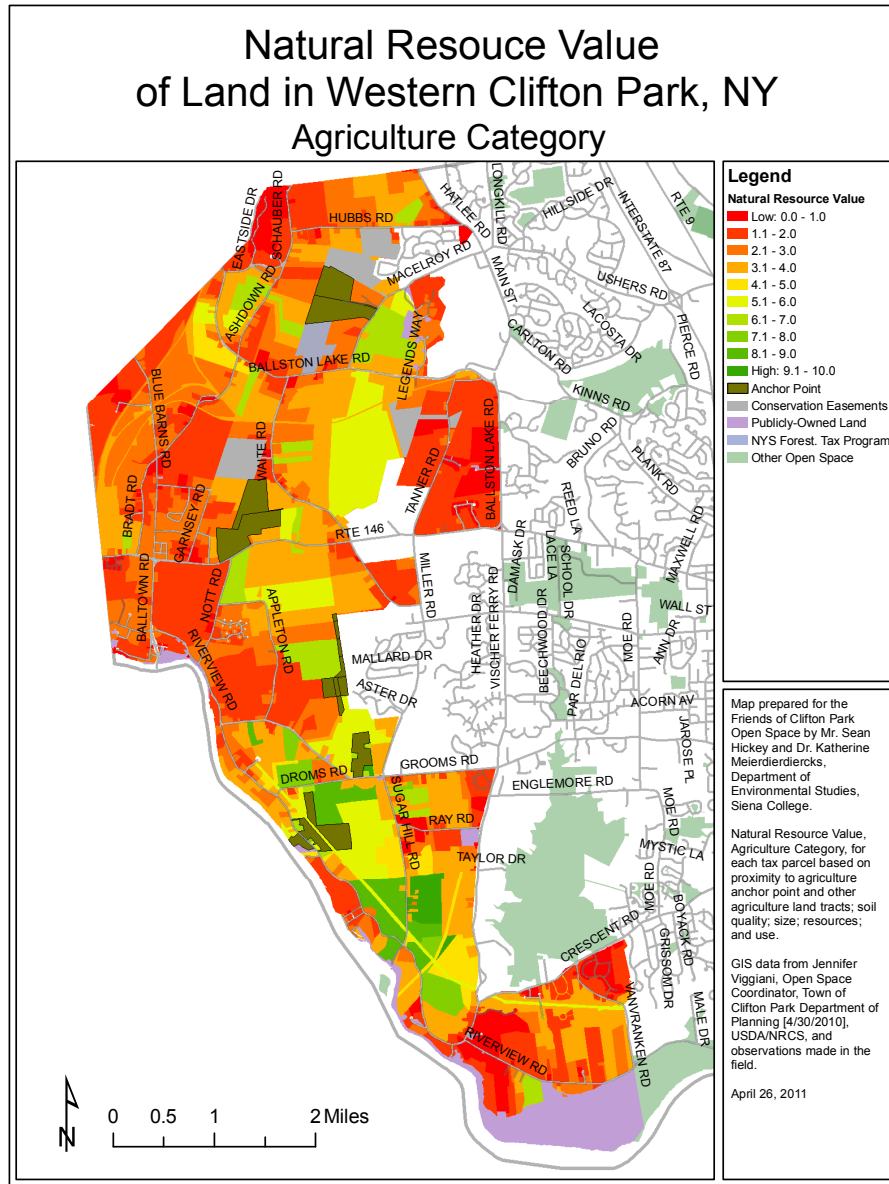


Figure 7: Natural resource value of land in Western Clifton Park, agriculture category.

# Natural Resource Value of Land in Western Clifton Park, NY

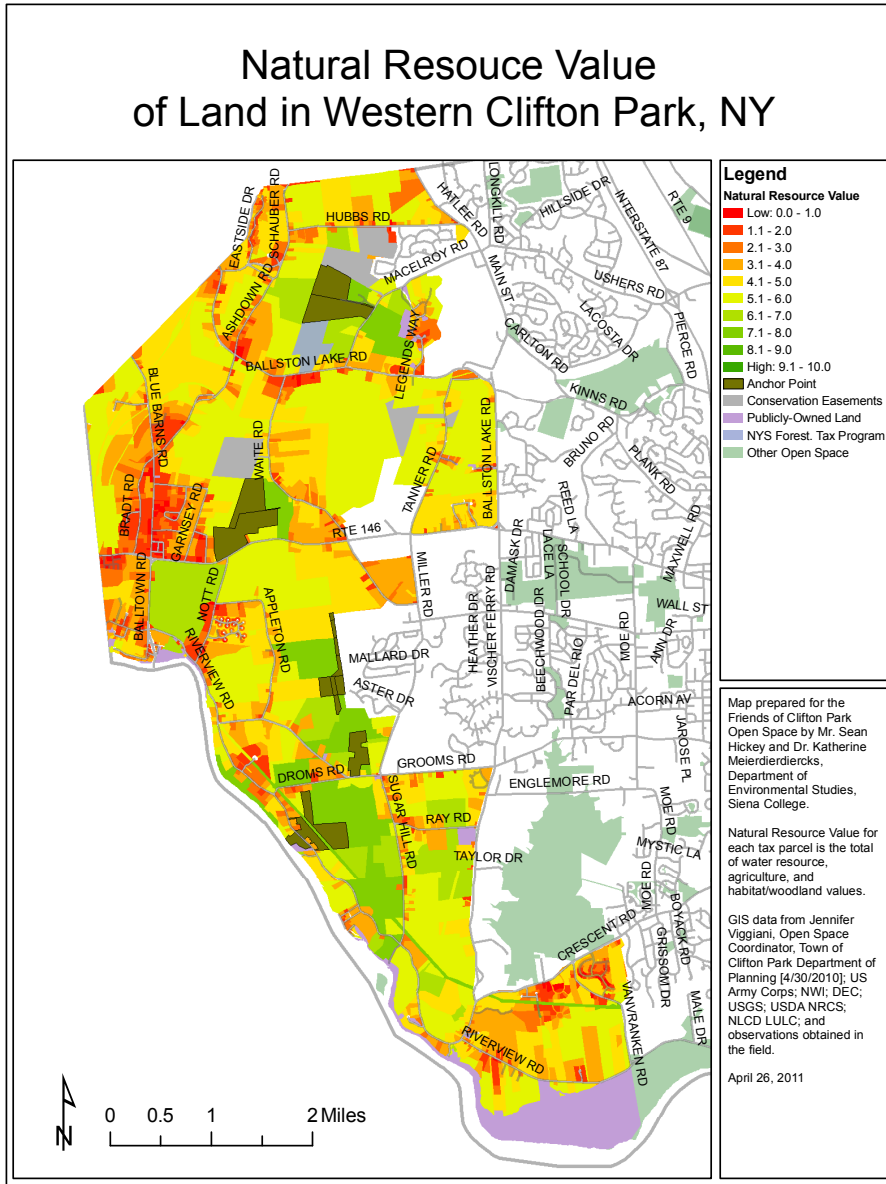


Figure 8: Natural resource value of land in Western Clifton Park.

## A Rating Criteria Computation Details

### A.1 Habitat

- Proximity: tax parcels that are connected to an anchor point, publicly-owned land, conservation easement - that is the border of the tax parcel touches that of a anchor point, publicly-owned land, conservation easement tax parcel - receive the highest rating. tax parcels that are separated from anchor point, publicly-owned land, conservation easement tax parcel by one tax parcel receive a moderate rating and tax parcels that are separated by two or more tax parcels receive the lowest rating.
- Size: The largest tax parcels (more than 100 acres) receive the highest rating, 100-50 acre tax parcels receive a high rating, medium sized parcels (5-50 acres) receive a moderate rating, and the smallest tax parcels (less than 5 acres) receive the lowest rating.
- Vacant: Vacant lands receive additional rating points. The vacancy of a tax parcel is determined using data from the Town of Clifton Park and is defined as residential, agricultural, commercial, industrial, and public utility tax parcels classified as “property that is not in use, is in temporary use, or lacks permanent improvement”.
- Presence and quality of surface water bodies: tax parcels that contain a wetland, lake, pond, reservoir, swamp, marsh, and/or stream channel receive the highest rating. If the quality of the surface water is high, the tax parcel receives additional rating points. (Quality of surface water bodies not does not include wetlands.)

## A.2 Woodlands

- Private woodlands: Determined using data from the Town of Clifton Park. tax parcels classified as “private wild and forest lands” receive an additional rating points.
- Degree of coverage: Determined using the National Land Cover Data Set. tax parcels that are mostly covered (by acreage) by deciduous, evergreen, mixed, and/or shrub/brush vegetation receive the highest rating, tax parcels that are at least half covered by these vegetation types receive a moderate rating, and tax parcels that are partially covered by these vegetation types receive the lowest rating or 0 rating. tax parcels with no forest cover receive a rating of 0.
- Quality of woodlands: A tax parcel with at least some deciduous forest cover receives the highest rating, tax parcels with mixed forest cover or evergreen receive a moderate rating, and tax parcels with only shrubs and brush receive the lowest rating.
- Age of growth: The age of growth of the woodlands is estimated based on trunk diameter. This information is collected in the field for tax parcels with the largest percentage coverage by woodlands (by acreage). tax parcels for which most trees have large trunks receive the highest rating. tax parcels for which most trees have medium sized trunks receive a moderate rating. tax parcels for which most trees have small trunks receive the lowest rating.
- Emergent woodlands: Observations are made in the field for tax parcels with the largest percentage coverage by woodlands (by acreage). tax parcels with woodlands transiting from soft to hardwoods receive the highest rating. tax parcels with woodlands transitioning from brush to

evergreens or deciduous trees receive a moderate rating.

### **A.3 Agriculture**

- Proximity: All tax parcels that are connected to the agriculture anchor point or other agriculture parcel - that is the border of the tax parcel touches that of a anchor point or other agriculture tax parcel - receive the highest rating. Tax parcels that are separated from the agriculture anchor point or other agriculture parcel by one tax parcel, receive a moderate rating and tax parcels that are separated by two or more tax parcels, receive the lowest rating. In addition, existing, privately owned agriculture parcels receive additional rating points. Tax parcels that are adjacent to a privately owned agriculture parcels receive an additional moderate rating and tax parcels that are separated by one tax parcel receive an additional low rating.
- Use: Whether a tax parcel is used for agriculture was determined using data from the Town of Clifton Park. Whether that tax parcel is actively being used for agricultural purposes (Summer 2010) is determined in the field through a site visit. Active agriculture tax parcels receive the highest rating and non-active agriculture tax parcels receive the lowest rating.
- Soil productivity: The soil productivity of the land is determined from USDA NRCS soil data. Soil types classified as “prime farmland” by the USDA NRCS receive the highest rating. If the soil type of a tax parcel is deemed moderately productive for either pasture or cropland by the USDA NRCS it receives a moderate rating and if it is unproductive farmland the parcel receives a rating of 0 in this category.



- Size: The largest pasture, cropland, orchard, and vacant agriculture tax parcels (more than 50 acres) receive the highest rating, medium sized parcels (5-50 acres) receive a moderate rating, and the smallest tax parcels (less than 5 acres) receive the lowest rating.
- Resources: If the agriculture tax parcel provides a local food source or is a community resource/commercial enterprise, the tax parcel receives an addition rating point. The resource provided by the agriculture tax parcel is determined in the field through a site visit and through Internet-based research.

#### **A.4 Water Resources**

- Surface water: tax parcels that contain a stream channel or surface water body such as a pond or lake receive rating points. tax parcels that are adjacent to major water bodies (Ballston Lake and the Mohawk River) receive additional rating points.
- Watershed: tax parcels within an anchor point “watershed”, that is rain water that falls on that tax parcel will eventually flow through an anchor point, receive rating points. Anchor point watersheds are derived from a USGS Digital Elevation Model (DEM).
- Riparian corridor: tax parcels within a 100 or 300 foot riparian corridor receive the highest ratings. tax parcels within 600 feet of a stream channel receive a moderate rating, tax parcels within 1000 feet of a stream channel receive the lowest rating, and tax parcels further than 1000 feet from stream channel receive a rating of 0.
- Water quality: tax parcels with surface water of excellent and good water quality receive the highest rating. tax parcels with surface water of mod-

erate quality receive a moderate rating and tax parcels with poor water quality receive the lowest rating. Water quality data provided by the New York State Department of Environmental Conservation (DEC) Protection of Waters Program.

- Aquifer: tax parcels that contain an aquifer receive additional rating points. Aquifer locations are determine from data provided by the New York State Department of Health.
- Wetland: tax parcels that contain a wetland (as classified by the National Wetlands Inventory, New York State Department of Environmental Conservation, and/or the Army Corps of Engineers) receive additional rating points.
- Water supply: tax parcels classified as providing a water supply receive additional rating points.
- Flood control: tax parcels classified as providing flood control receive additional rating points.