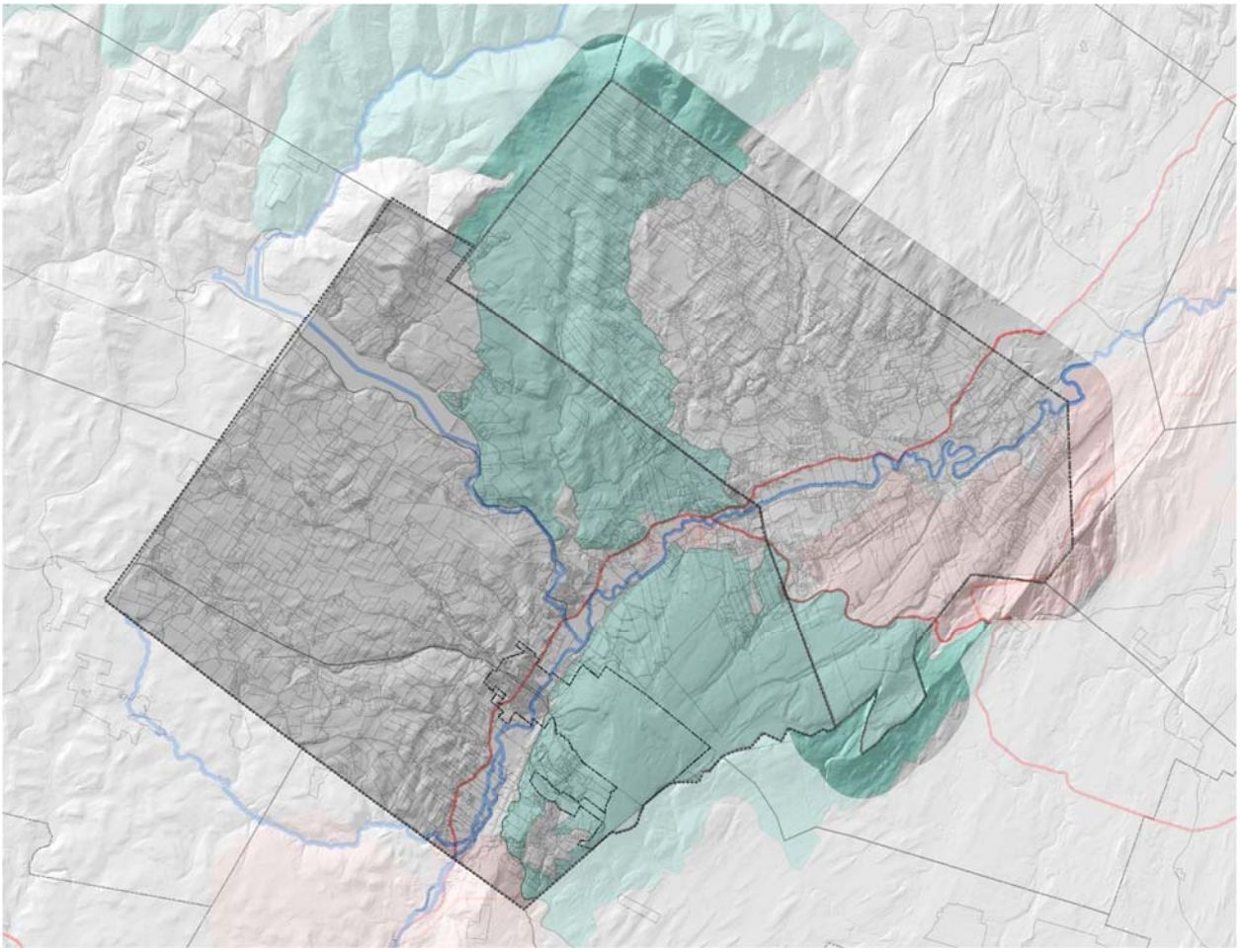


Town of Rochester Natural Heritage Plan

Created under the Rochester and Wawarsing Intermunicipal
Open Space/Natural Heritage Planning Project

April 2, 2018

Submitted by:

John G. Mickelson, Geospatial & Ecological Services
501 Stage Road, Monroe New York 10950
(845) 893-4110
john.mickelson@yahoo.com

and
David E. Church, AICP
3540 Route 52, Pine Bush, New York 12566
(845) 744-5903 (845) 702-0050 (m)
dchurch@hvc.rr.com

This project has been funded in part by a grant from the New York State Environmental Protection Fund through the Hudson River Estuary Program of the New York State Department of Environmental Conservation.

Town of Rochester – Natural Heritage Plan (2018): Table of Contents

TABLE OF FIGURES:

TOWN OF ROCHESTER NY
NATURAL HERITAGE PLAN

INTRODUCTION

Executive Summary

The Town of Rochester, in partnership with the Town of Wawarsing, has completed an Intermunicipal Open Space/Natural Heritage Plan Project. This Plan is presented as an amendment and supplement to the previously adopted 2006 Comprehensive Plan. With grant support from the Hudson River Estuary Program of the New York State Department of Environmental Conservation (NYSDEC) the Town worked with a citizen committee, professional consultants, a wide range or advisors, and peers in the neighboring Town of Wawarsing. This work builds on the 2016 *natural heritage and open space inventory* of the Town. Included is an audit of existing town polices and codes relevant to open space and natural recourses, a comprehensive analysis with maps of town resources – collectively known as Conservation Open Area Maps, part of the Open Space Index. In addition, a set of *recommended actions* that the town should consider are included, which, if enacted individually and collectively can serve to protect and enhance the important open spaces and natural heritage of the town while respecting other priorities of the town including elements of the adopted Town Comprehensive Plan.

Project Team and Acknowledgements

This Project was funded in part by a grant from the New York State Environmental Protection Fund through the Hudson River Estuary Program of the New York State Department of Environmental Conservation. A central ***Project Team*** was appointed by the Town Boards of Rochester and Wawarsing to direct this project, in partnership with the 2 hired consultants. Members, three from each town, included:

- Rochester:
  - Carl Chipman, Town Supervisor
  - Laura Finestone, Town Environmental Conservation Commission, Chair
  - Rick Jones, Town Environmental Conservation Commission & Planning Board member
- Wawarsing

- Jack Grifo, Town Environmental Conservation Commission & Rezoning Committee member
- Jorge Gomes, Ellenville – Wawarsing Parks & Recreation Committee
- Terry Houck – Wawarsing Town Board member

In addition, there was strong and regular ongoing participation from a wide range of members of each of the Towns Environmental Conservation Commissions and other boards, including:

- Rochester
  - Judith Karpova - Town of Rochester Environmental Conservation Commission member (who also served as alternate to the Project Team)
  - Larry Dewitt – Town of Rochester Planning Board member
  - Angela Doris – Town of Rochester Environmental Conservation Commission vice-chair
- Wawarsing
  - Hank Alicandri – Town of Wawarsing Environmental Conservation Commission – Chair
  - John Adams, Town of Wawarsing Environmental Conservation Commission member and Colony Farm project coordinator
  - Sarah Underhill, Town of Wawarsing Environmental Conservation Commission member
  - Hank Bartosik, Town of Wawarsing Environmental Conservation Commission member
  - Jamie Deppen - Town of Wawarsing Environmental Conservation Commission member

Advisors and consultants to this Plan were:

- John Mickelson, Geospatial & Ecological Services, West Hurley, New York
- David Church, AICP, consultant land use planner, Pine Bush, New York
- Laura Heady, Conservation and Land Use Coordinator, Hudson River Estuary Program

Acknowledgements:

The Project Team would like to thank Larry Dewitt for his important work in conceptualizing this project and seeking funds to support it. We also want to thank Supervisor Carl Chipman for his leadership from the beginning and throughout the project, Laura Heady of the NYSDEC Estuary Program for her steady and enthusiastic support, and Jack Grifo from Cragsmoor whose volunteer work exceed all expectations and showed what a true intermunicipal project this is.

BACKGROUND

The Town of Rochester, in partnership with the Town of Wawarsing, has completed this Intermunicipal Natural Heritage Plan. It is presented as an amendment and supplement to the previously adopted 2006 Comprehensive Plan. With grant support from the Hudson River Estuary Program of the New York State Department of Environmental Conservation (NYSDEC) a broad, two-town Project Team coalition was convened, led by a team of consultants, to complete the Plan. The work builds on the 2006 draft *natural resource inventory* (Chazen) and the 2016 *open space inventory* of the town. The detailed *open space inventory* project outlined and identified the major town-wide resources: open space, cultural, historical, recreational and natural heritage systems and included a mile-wide buffer area around the town. The open space inventory still holds great value for readers wishing to understand the baseline components of the town and we refer readers to it for specific details. Deliverables of the Inventory included over 100 component data layers that were converted into KML format, for use by anyone with Google Earth. These data allow analysis of the greater Rochester area at scales ranging from neighborhoods to watersheds. Training for Rochester staff in the use of Google Earth was also included in that project. The design of the resulting database is to allow updates, edits and changes to the base layers, such as those being included with this plan, which greatly expand the utility of printed paper maps.

Along with existing Town polices and codes relevant to local open space and natural resources, an analysis of related Ulster County and New York State open space plans are included. Map graphics, collectively known as the *Conservation Open Area Maps*, all part of the final *Open Space Index* are included (***Appendix A***). Lastly, a set of detailed *recommended actions* the town may consider jointly with Wawarsing and/or alone are presented. They are designed to protect and enhance the important open spaces and natural heritage of the town.

This Plan is presented both as an outline of how the two towns can work as partners to better protect important features, resources and places that they share in common as well as how they can individually address their own unique assets. The Plan uses the best available science-based information and stakeholder-based collaborations to provide the background and recommendations for the Town of Rochester to pursue consensus- building across municipal lines. Such a regional approach more broadly and effectively protects the important natural and open spaces resources of each town at a scale not available to either town alone.

Additionally, when considering important resources such as landscape corridors, habitats and watersheds, intermunicipal approaches are needed when these resources cross borders. Plans and programs to preserve important cultural and historical features such as robust agricultural systems, recreational rail/bike/ski trails, and flood control measures all benefit greatly from a broad, regional approach.

The purpose of this Plan is to first define the “what do you have.” What are the unique natural, cultural, historical, land and water characteristics that exist within the Town of Rochester. Then the Plan identifies and outlines “how best to protect it” actions -- those best suited for protecting

and enhancing these components, now and for future generations. These two terms "what" is important to protect and "how" can it be protected will figure prominently.

Like all settings, the Town of Rochester is unique and ever changing. Open space must be defined by the current town settings, as presented through the *Conservation Open Area maps* and the *Open Space Index* found in this Plan. The various suite of items considered for the plans were termed "components". These include the region-wide built and natural-infrastructure, cultural and physical systems, and the detailed features and site-specific resources of a given locality. Through this process, we sought to understand any background that a topic or cause had previously undergone within the public discourse. It is useful to know of any failed or attempted "cause célèbre" or effort to mobilize public opinion around the conservation of an asset that either fell flat or for which "it just wasn't the right time".

Also acknowledged is that nearly 32% of the land area of Rochester is already in permanently protected status– notably through New York State Park and State Forest designations. There are significant private conservation lands as well. Though conditions and priorities related to natural heritage and open space will shift through time, the roles and needs of Town residents remain a priority in defining what is open space and how best to protect or address these resources.

One of the key concepts built into the project was the importance of the role that the Environmental Conservation Commissions (ECCs) and Boards play in understanding and weighing the eventual tradeoffs of any proposed conservation or development plan brought before a town. An engaged Environmental Conservation Board (ECB)can bring indispensable information and analytical resources to bear when considering any development or protection project. Through investing in an ECB, delicate and sometimes complex perspectives can be better understood and effectively reconciled by the Towns in the same way that Town Planning and Zoning Boards help shape the trajectory of a Town's growth pattern. Elevating the ECC to a Conservation Board could provide invaluable oversight, information and perspectives that can support the Town's commitment to a resilient and sustainable future.

Review of Plans, Policies and Codes – Summary of the Town Audit

This Town Natural Heritage Plan is written to directly support two key documents. They are the 2006 Town of Rochester Comprehensive Plan and the 2007 Ulster County Open Space Plan.

The Town of Rochester Comprehensive Plan

The Town Comprehensive Plan has a set of essential, consensus-based goals which directly relate to the purpose of this Natural heritage plan. First, the Comprehensive Plan has eight (8) lead goals which this new Plan shall be consistent with:

- Growth can take place without compromising the quantity or quality of drinking water available ….
- New development is sited and designed to minimize the amount of taxes that must be raised town-wide to provide new facilities and services ….

- Town government expands its ability to collaborate and share services … with a variety of other governments….
- Rochester may take advantage of changes in the national and regional economy to build the Town's economic base by encouraging small business, tourism, arts, agriculture and historic preservation.
- To the greatest extent possible, the Town remains an affordable place to live.
- Development complements and strengthens Rochester's small-town quality and character.
- Growth occurs in a way that minimizes loss of open spaces or scenic views.
- As part of this approach, eminent domain and condemnation of property will <u>not</u> be used in implementing the recommendations of this plan.

Additionally, this Plan shall be consistent with the "Plan Concept" as depicted in Figure 2 page 11 of the Comprehensive Plan.

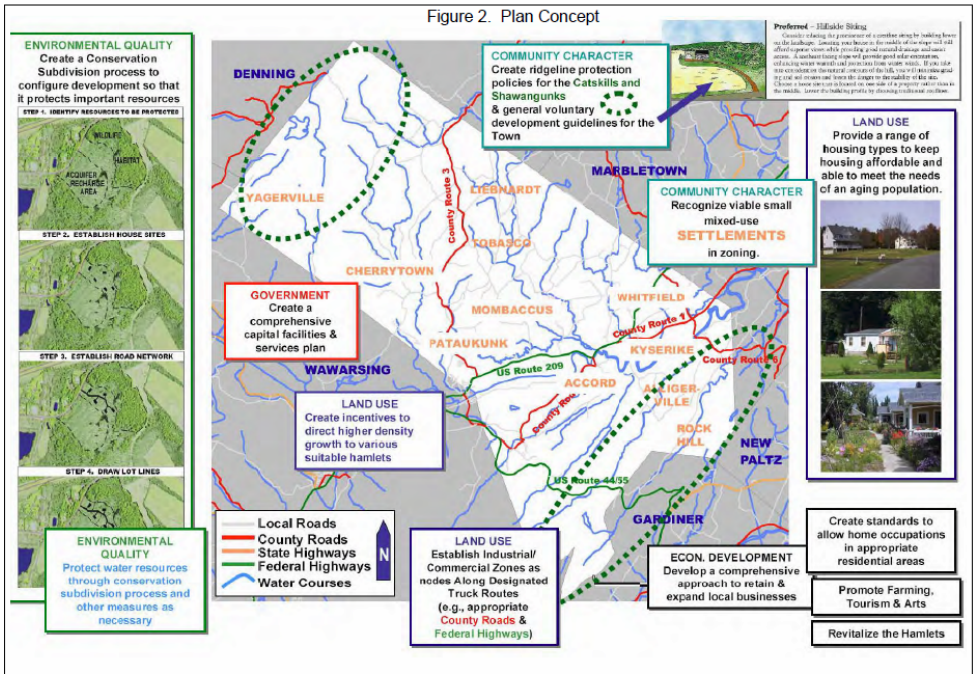


Figure 1. Plan Concept from Town of Rochester Comprehensive Plan (2007)

This Natural Heritage Plan also addresses many objectives and policy recommendations stated in the Town Comprehensive Plan under six (6) Plan Elements: *Environmental Quality, Land Use, Economic Development, Community Character, Infrastructure, and Government Services.* This consistency between Plans is summarized later under the specific recommended actions.

The Ulster County Open Space Plan

A second, and essential guidance document for this Town Plan is the 2007 Ulster County Open Space Plan. That document focuses on what the County can do as a leader as well as a partner with Towns and Municipalities. It also provides context and examples for the Town on the history of open space protection within the region. Included are the potential risks in seeking some protections as well as lead definitions and inventory of resources within the broader region (County), and a set of principles for next steps that have informed this new Town Plan.

In particular to Rochester, the Ulster County "Principles of the Open Space Plan" provided a framework for completion of this Town Plan, and they are summarized here:

1. Identify critical natural resource "systems".
2. Preserve and protect open space, unique natural areas and heritage areas and sites, wetlands, water and woodland resources, scenic views, areas of natural beauty, and the rural character….
3. Integrate and link planning, development and environmental goals and efforts by creating a coordinated policy and management framework.
4. Integrate considerations of community well-being economic prosperity, and ecological integrity.
5. Protect water resources and critical watershed areas….
6. Enhance the viability of existing farming operations and agricultural businesses, and encourage new ones to be formed.
7. Protect and enhance … the most valuable open space landforms and natural features with coordinated planning and safeguard policies.
8. Safeguard priority biological diversity areas by promoting biologically-sensitive land use and increasing research and understanding.
9. Create, preserve enhance and provide managed access to parks, hiking trails, active and passive recreation facilities, and historic resources.
10. Balance consideration of present and future generations through sustainable development.

As a preliminary support for the Plan, an independent audit of codes and policies in both the Towns of Rochester and Wawarsing was conducted. The team received feedback and reviews from the Project Team as well as additional officials and stakeholders from both towns and from the region. These findings complement an audit matrix documented for each of the two Towns and on file. This summary emphasizes findings deserving attention in and shared by both Rochester and Wawarsing.

Policy\Code Audit: General Lead Findings.

- Water Quality & Visual / Scenic Resources a common thread. There is significant recurring interest and policy in support of these resources
- Trails are important and anchor the regional recreational system. There remains strong, consistent interest in enhancing a trail system, and improving regional links.
- Agriculture – as both a landscape/open space feature but also a critical economic activity – needs more organized support building on Rondout Valley Growers initiatives.
- Both Towns have unique and important relationships with state land management overseen by both New York State Department of Environmental Conservation (NYSDEC) and New York State Office of Parks, Recreation and Historic Preservation / Palisades Interstate Park Commission (NYSOPRHP/PIPC).
- There is a known set of location-defined resource areas (including corridors) and sites that are identified and inventoried as important and need to be prioritized and matched to a set of tools for protection.

Technique Specific Lead Findings

- TDR. Transfer of Development Rights is prioritized and available for use in both Towns but has not been used. TDR use needs to be researched and reviewed.
- Incentive Zoning. This tool in zoning is not currently used and should be evaluated.
- Conservation Subdivisions – Right Size for use. Both Towns emphasize this tool in policy, and authorize it use in zoning and subdivision regulations. But the tool has yet to be used. Feedback suggests overall lack of development may play a role.
- Active Land Conservation – building on Cragsmoor Conservancy etc. County senior staff and others have expressed the need and opportunity for the Towns with property owners and with conservation organization partners to step up stronger on actual land preservation financing and grant applications. A particular note has been made regarding farmland preservation. This should be reviewed to determine what is needed to grow interest in financing land conservation.
- Shawangunk Mountain Scenic Byway Management Plan & Design Guidance. Take steps to implement these documents including incorporation of design guidance into Town codes.
- Research for enhancement 480a Forest Management programming in Towns
- Roles for CACs in project application reviews. Implement best options for each Town to incorporate smart comments from respective CACs when considering planning and zoning permit reviews.

Geographic Focus

- Both Towns share strong interest in further protection of the following important and iconic geographic areas: Shawangunk Ridge, Shawangunk Mountains Scenic Byway, Catskill – Shawangunk open space and ecological Link/Corridor, stream corridors including the Rondout Creek, rail/canal corridor, etc.
- Both Towns recommend complementing land and environmental protection with targeted support for development and redevelopment in the existing hamlets.

Project Specific

There is a set of specific properties or projects that are of interest to both Towns as well as key individuals or groups. These include

- Colony Farm; both as important agricultural area and key connection region for the valuable Catskill Shawangunk Greenway Corridor
- Lundy property (being considered for protection by NY State agencies)
- Rondout Creek corridor
- D & H rail trail corridor, (O&W canal path), etc.
- This listing of special places is being actively developed and prioritized and matched to most effective tools and techniques for protection and enhancements.

OUTREACH & EDUCATION EFFORTS

Over the past eighteen (18) months, outreach, discussion, and public input has been undertaken on how best to understand, define, protect and connect the important ecological, cultural, scenic and recreational place and resources in the Town of Rochester and surrounding regions. A focus has been to have complementary and parallel efforts in the neighboring Town of Wawarsing, to strengthen conservation effectiveness through collaborative efforts.

The expanded Project Team met on a monthly basis to advise this work. All meetings were open to the public. Additionally, public information meetings were held in Accord and in Ellenville (October 2016), to provide updates on the project and solicit guidance from the public of both Town partners. On March 1, 2017 a half-day symposium was held to seek input and support on one of the major components of the Town Plans. Some thirty (30) regional stakeholders joined State, County and municipal officials and staff to collectively review the Catskill Shawangunk Greenway Corridor and Colony Farm project. This regionally important feature contains critical environmental areas and regionally identified ecological corridor resources. Spanning the

boundary of the two towns, it's been identified as a generational opportunity to help reconnect the Catskills with the greater Shawangunk systems, two of the most important biodiversity regions of the mid-Hudson region. (***See Appendix B for Symposium Summary***)

An extended Project Team group, including members of both Towns' Planning, Zoning and Town Board members (in addition to the ECC members) were provided several half-day, hand-on computer training sessions in "conservation applications of Google Earth Pro". All of the hundred-plus Open Space Inventory geospatial (GIS) layers from the respective towns' previous projects have been converted into KML format for use within Google Earth. The intention of the consultants was to help establish critical place-based analytical skills within the Project Team and the respective Environmental Conservation Commission members. Static map compositions, such as the Conservation Open Area Maps, are an important and integral part of any such inventory and planning process. However, they lack the ability to help the user access, query, and ultimately understand the sometimes-complex interactions of the layers, across scales. Google Earth can provide both 3D (X,Y,Z) and 4D (time) access to virtually unlimited sets of any of the hundreds of geospatial layers made available for the project. They also provide much quicker and more effective updates, as any new layer can be easily modified and added to the Towns comprehensive databases.

To ensure that the perspectives and inputs of important stakeholders and industry representatives regarding natural heritage and open space protection were heard, the Project Team sought out and interviewed numerous people. Personal interviews of key members of a wide range of groups were conducted, including:

- the *agricultural community* and farmers, including:
    - US USDA Farm Bureau
    - NYS Ag & Markets agency
    - Ulster County Soil & Water Conservation Service
    - Rondout Valley Growers association & member farmers
- regional *environmental, ecological and forest-resource* agencies:
    - NYS DEC – Division of Lands and Forestry
    - Shawangunk Ridge Biodiversity Partnership
    - The Nature Conservancy
    - NY Natural Heritage Program
    - Open Space Institute
    - Catskill Center
    - Mohonk Preserve
    - Riverkeeper
    - NYC DEP
    - Watershed Ag Council
    - Local land protection and land trust agencies
- Ulster County Planning
- Ulster County Department of the Environment
- the Historical Preservation Commissions from both towns
- each town's Planning board
- each towns Town board

- NY-NJ Trail Conference (recreation)
- Rondout Valley Business Association

SHARED REGIONAL RESOURCES

The dramatic and scenic landscapes of western Ulster County support an impressive diversity and vast expanse of high-quality private forest, park, and protected recreational lands. The geological underpinnings of the region, largely slate and shale (Catskill region) and quartz-conglomerate (Shawangunks) form the striking ridges, escarpments and broad, undulating plateaus that draw so many to the area. Water has and continues to play a major role over the ages in acting upon successive periods of deposition, erosion, scouring, and material transport mixed with physical uplifting and deformation. All share similar timing and attribution in forming the northern section of the Appalachian Mountains.

As the rains, creeks, and rivers slowly eroded the region, they left behind fertile, alluvial (river fed) soils as well as the abundant surface water systems, rivers and trout streams that we see today. These modern-day tributaries, such as the Vernooy, Peters and Bear Kill (kill = Dutch word for creek) and the Sandburg, Mill, and Rochester Creeks, all contribute to one of the regions defining features: the Rondout Creek.

The intact and iconic forest and park blocks that the region sustains are due in no small part to the extensive State, public and private conservation land holdings. The peaceful Catskill forest and the associated Park and Preserve stretch across the stream-carved plateaus to the north\northwest of Wawarsing and Rochester. The scenic ridges, unique habitats, and abundant recreational opportunities of the Shawangunk Ridge form the southerly wall of the area. Nestled in between is the fertile, river-fed agricultural lands of the Rondout Creek valley. This central region contains the important Rt. 209 transportation corridor, much of the commercial enterprises of the two Towns as well as a majority of the known groundwater aquifers supporting the municipalities.

Many of these geographic resources are shared in common by the two towns, such as the Rondout Creek valley, Rt. 209 transportation and commercial corridor, running northeast towards Kingston. The rich alluvial soils of the region support important farms and farming operations across both municipalities and within much of the Rondout Valley. The historic path of the Ontario & Western railroad is actively being developed as a regional recreational rail-trail through this same general region, paralleling the geography of the old Delaware & Hudson (D&H) canal. Prominent streams and creeks span both towns, such as the Vernooy Kill and the Peters Kill, before emptying into the Rondout Creek. With the relative lack of public water supply systems, both towns share the responsibility of monitoring and safeguarding the groundwater aquifers and drinking water supplies that many residents depend upon for the hundreds of individual wells. Public and private conservation lands (parks, forests, forest

preserves, easements, etc…) represent nearly 33% of the land area of Wawarsing and 32% of Rochester. Much of the unique shared biological and recreational resources of the Shawangunk Ridge enjoy a level of protection, falling along the south-easterly boundaries of both towns. The Catskill State Park and associate forest preserve extends south through the northern sections of Rochester on down along the municipal boundary the two towns share. Combined, the remaining intact Catskill forested lands (Vernooy Kill State Forest) stretching close to a northern section of the Shawangunks (Minnewaska State Park), represent a unique, generational opportunity to maintain a corridor of ecological connectivity linking these two important regional biodiversity reservoirs. Coincidentally, the region representing the critical connecting zone between the two greenway systems is occupied by an historic farm property; the Colony Farm. These lands have been identified as important by multiple resource agencies as critical to the success of the greenway corridor, as well as for their current and historical agricultural value.

Ranked Components & Outline

Establishing ranked priorities -- which components might be protected, one above another -- clarified things greatly and began with a fairly logical approach. For example, some team members agreed that the abundant forest lands and green spaces bringing tourism to the town and providing residents with a high quality of life would be critically important to include. Other members suggested that clean, available water was essential for life in the Town of Rochester and for nature alike. So water and places that water is found seemed a fairly clear priority for protection.
This process proceeded on down the range of grouped components, using an online questionnaire tool to capture and order the results. While the category summaries and constituents shifted somewhat, and while all were considered important, the resulting rank order array would hold throughout the rest of the planning process.

This final ranked summary of "REGION-WIDE COMPONENTS" included:

A. ECOLOGICAL RESOURCES\TERRESTRIAL HABITATS
B. HYDROLOGICAL RESOURCES\AQUATIC HABITATS
C. AGRICULTURE & AGRO-RELATED CULTURAL RESOURCES
D. RECREATIONAL RESOURCES
E. SCENIC RESOURCES
F. HISTORIC & CULTURAL RESOURCES
G. OTHERS

Expanded, each of these groups is composed of a range of related, although individual features, facilities, and place-based resources:

A) AGRICULTURE & AGRO-RELATED CULTURAL RESOURCES, included:
   a. Farms & farmlands (active and fallow), row crops, dairy, vegetable, orchards, pastures, vineyards and hops cultivators, (livestock farms – largely not present in region) , etc…
   b. Sustainably harvested private forest lands (especially those >50 ac.) (480a lands) though these were eventually eliminated

c. Important agricultural soils (future\potential farmlands)
    i. Prime
    ii. Soils of Statewide Importance
d. Agricultural Districts (Ulster County)
e. Farm stands, agro-tourism related facilities,
f. Pick-your own, Christmas tree farms, maple syrup operations

B) ECOLOGICAL RESOURCES\TERRESTRIAL HABITAT, including:
a. Natural vegetated areas
    i. Forests, fields, post-ag, scrub, unmanaged grass and woodlands
b. Corridors and landscape connectivity\linkage features
c. Important wildlife habitats and biodiversity areas
    i. Significant biodiversity areas
    ii. Habitats important for species of greatest conservation need (SGCN)
    iii. Regions supporting rare and endangered species and communities
    iv. Large contiguous, intact matrix systems
d. Biophysical resources critical to ecological functioning
    i. Soils, geology, (surface, bedrock), terrain, etc…
e. Frequently includes existing:
    i. protected Parks and park lands (County, State & Town public & private protected lands)
    ii. conservation lands (nature and wildlife preserves)
    iii. Private lands with easements

C) CULTURAL & HISTORIC RESOURCES
a. Historic, cultural and heritage resources
    i. Hamlets
    ii. Historic homes, landmarks, farmsteads, and estates:
        1. Especially those listed within Historical Registry and Districts
        2. Cemeteries
    iii. Favorite Places – that are significant to residents as well as tourists
        1. Small parks, picnic areas, swimming holes, features “the region is known for”.
        2. Hunting and fishing lands and places and endemic areas
    iv. Rural Character
        1. Fuzzier to define, includes:
            a. Integration of multiple other components such as:
                i. Agricultural landscapes
                ii. Green spaces: forested\fields
                iii. Both built and unbuilt places
                iv. Scenic vistas and ridges
                v. Lack of:
                    1. Strip-mall, high-visual impact developments
                        a. Such as along Rt. 209

D) HYDROLOGICAL RESOURCES\AQUATIC HABITAT including:
a. Surface waters: lakes, ponds, streams, rivers (including the Rondout Creek) etc…, important to human uses
b. Riparian corridors (de facto reserves, when protected)

c. Ground waters: aquifers, drinking water wells and resources, etc…
d. Wetlands, springs, seeps and vernal pools
e. Watershed basins and floodplains
f. Water and aquatic systems (necessary to sustain terrestrial and aquatic life)

E) RECREATIONAL RESOURCES, includes:
   a. Parks
      i. State, county, local (also part of Ecological Resource category)
      ii. Picnic areas, day use areas
      iii. Ice caves
   b. Golf courses, play grounds, ball and play fields, mini-golf
   c. Trails
      i. hiking\biking\ski trails
      ii. rail trails
      iii. rock climbing areas
      iv. linear parks (Canal)
      v. Natural areas access points, parking lots
      vi. Off-road vehicles (motorized and non-motorized)
   d. Glider, hang-gliding
   e. Boating, canoeing, kayaking, fishing\hunting\game clubs etc…

F) SCENIC RESOURCES, including:
   a. Scenic character of region
   b. Scenic roads, trails, and by-ways (Shawangunk Mountain Scenic Byway)
   c. Ridgelines, ridges, vistas, overlooks, view points and viewsheds
   d. Gateway areas (entry ways via major road corridors)
   e. Unpolluted nighttime skies (light)
   f. See also: rural character

G) MISC. OPEN SPACE FEATURES (of recognized value to consider, protect and maintain)
   a. Small local airports
   b. Non-buildable lands\building constraints
      i. Steep slopes
      ii. Wetlands
      iii. Riparian corridors (defacto reserves)
   c. Utility right-of-ways
   d. Vacant lots
   e. Landfills, brownfields, etc…

In addition to the region-wide set of "systems", the team was also asked to include any detailed, site-specific features, places, or landmarks that they felt their town, collectively, should consider for long-term protection. The list of specific "components" suggested by the Project Team included:

- Colony Farm and the surrounding region (as vital agricultural area as well as connection point for the Catskill Shawangunk Greenway Corridor) - 6 votes
- Catskill Shawangunk Greenway Corridor – regional connectivity feature - 5 votes
- Shawangunk Mountains, ridges, scenic resources and ridge protection issues – 5 votes

- Scenic resources within entire region, including: views along Rt. 209, around the Shawangunk Mountain Scenic Byway (SMSB), near Kelder Farm, the Nevele, Witches Hole State Park – 5 votes
- Rondout Creek and watershed – 4 votes
- Iconic wetlands and significant wetland complexes in each town, including: Cedar Swamp (Wawarsing) and Great Pacama Vly (Rochester) - 4 votes
- NYS DEC, OPRHP and private Parks and forest lands and preserves including: Minnewaska State Park, Sam's Point Preserve, Mohonk Preserve, Lake Maratanza – 4 Votes
- O&W Rail Trail system and regional restoration project, D&H Canal structures and associated historical farms – 4 votes
- A range of single vote suggestions, including:
    - Vernooy Kill
    - Barns at Kelly Farm
    - Bear Hill Preserve
    - The Long Path
    - Stonykill Falls
    - Dark skies (light pollution)
    - Indian Hill
    - And several others

Obviously, there is clear and frequent overlap between categories as many components serve multiple functions and offer manifold human and ecological services. For instance - forested systems hold value from the perspective of virtually all of the major groupings, including:

- the **timber** and financial value of the commercial **forest products** resources (agro-forestry) within the town, now and into the future, if managed sustainably
- the **habitat**, cover, food, shelter, nesting and other irreplaceable services utilized by myriad wild plant and animal species
- the **hydrological** and soil-related functions of keeping rain water "in place" to recharge local aquifers, as well as filtering and purifying it and keeping overland flow from sweeping sediment into stream systems
- the **cultural, recreational, scenic**, aesthetic, artistic and spiritual renewal sense of place and quality of life functions that draw so many to the region parks and excellent trail networks
- the **climate and global warming** functions of sequestering carbon (above and below ground) and helping to keep us cool in the mean time
- forests can actually generate their own **micro-weather patterns**, slowing down winds and helping to keep airborne dust and soil in place.
- despite recent articles indicating how some trees in certain conditions can give off terpenes and other volatile organic compounds, within our region, trees and forests are still a source of **net air cleaning**, contributing major amounts of oxygen to the atmosphere and taking up CO2 and pollutant gases such as: nitrogen oxides, ammonia, sulfur dioxide and ozone
- in many areas, living near trees have been shown to statistically lower ones risk of dying as well as increasing the health and birth weight of babies born to mothers living near green spaces (refs). So it's still fairly widely held that: **trees = good**!!!

The Project also adopted a "place-based" perspective with the realization that multiple components shared or had overlapping "footprints" (geographic position or landscape) This is also an effective way of considering appropriate protection measures for a range of overlapping components. For example: conserving places where abundant, high-quality, and healthy forest lands are found would *at the same time* provide water and air quality, flood mitigation, recreational and forest product benefits, as well give a boost to trout habitat.

TOWN-SPECIFIC RESOURCES - ROCHESTER

Focus on Rochester Resources - Forests

Of the region-wide systems that contribute immensely to local economies as well as quality of life, none are more important that the matrix forests and woodlands. From a 2011 satellite-derived landcover analysis perspective, forests appeared to cover some 76% of the Town of Rochester and the figure is closer to 85% if forested wetlands are included. (***Figures 2 & 3***)

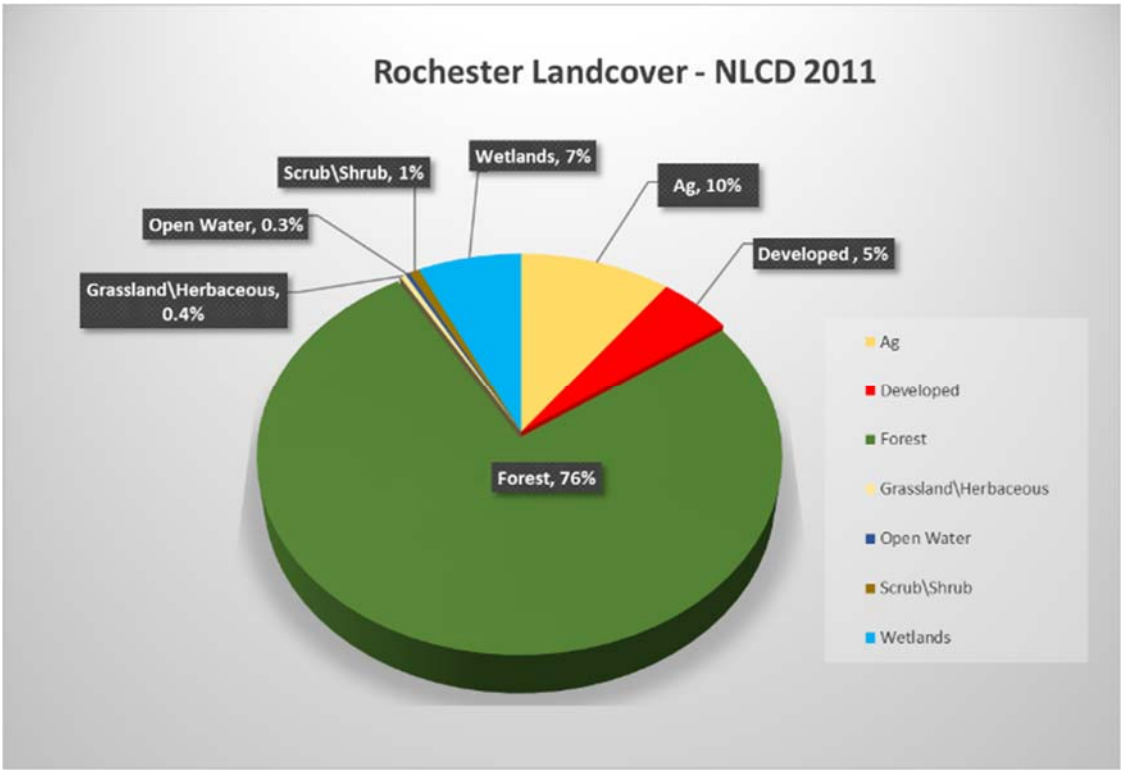


Figure 2 From a Landsat satellites' perspective, Rochester land cover appears ~85% forested, if forested wetlands are included. (National Land Cover Data 2011)

Though looking at a *functional* perspective of these matrix systems, where the fragmentation of roads, transportation, utility and built-land developments is considered, (***Figure 3&4***) the remaining "core area" forest blocks represent just 44% of the Towns land area. Core Area is a well used metric of forest function and productivity that is related to the size of remnant forest

patches and the distance to the edge of the patch. Patch function is sensitive to the size, shape, distribution and other spatial patterns of each individual patch and research has shown that the smaller the patch size, the less able the forests are to deliver the ecological services that larger, intact systems can. *The species contained, the ability to provide food, shelter, and landscape linkages, all tend to be diminished with smaller patches.* The Green Infrastructure Center (GIC) of Virginia, with the support of the US EPA, developed such a CORE layer for the entirety of Ulster county in 2013 and built a range of metrics into each individual patch. Components such as: habitat geometry, diversity, and water quality\quantity all provided aspects that were summarized and assigned a rank. The "top" combined ranking is "Outstanding" followed by: "Very High", "High", Medium and "General".

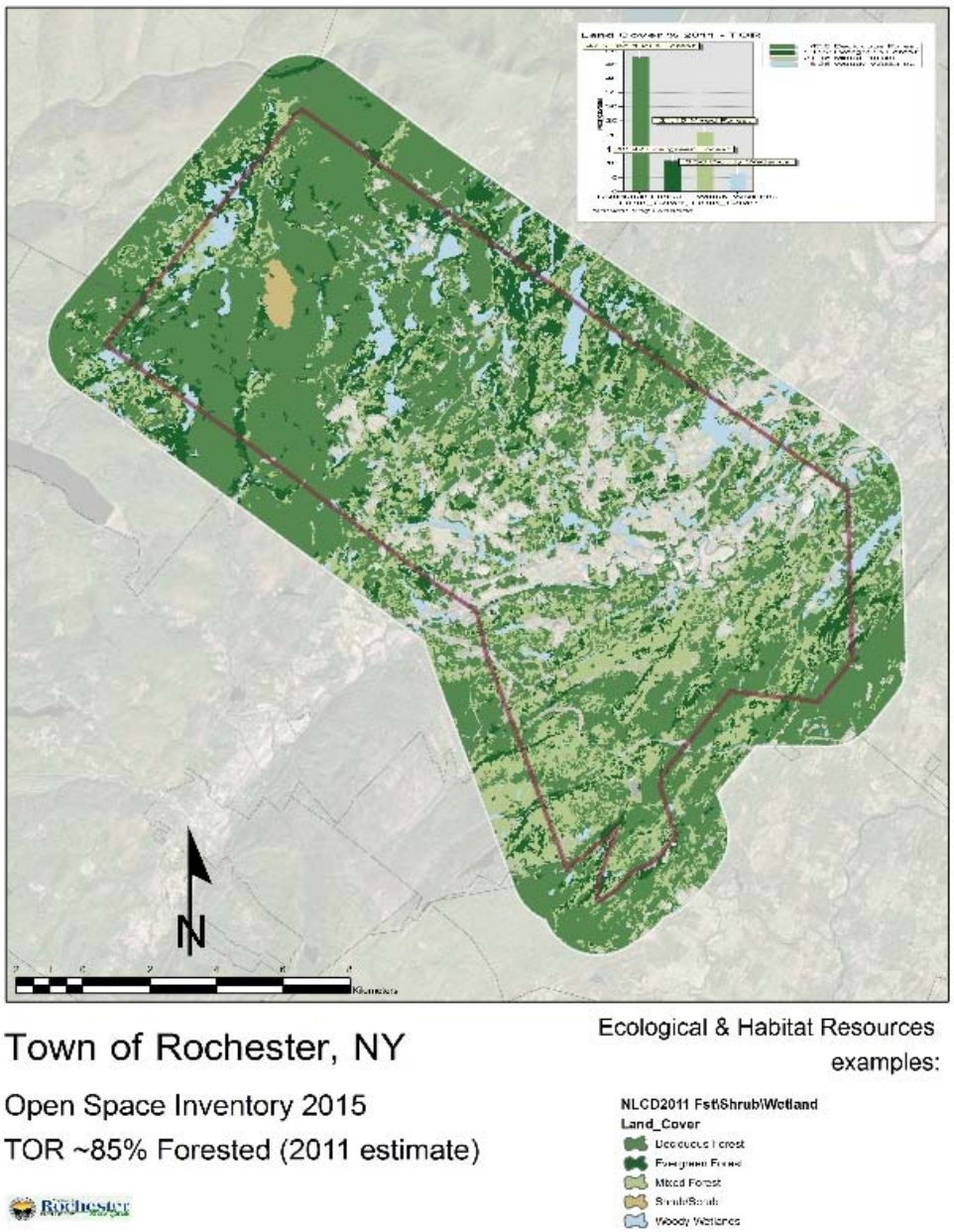


Figure 3. National Land Cover Database (NLCD) 2011.Image of all Forest Classes (combined)

Rochester enjoys a clear majority of forest blocks falling in the "Outstanding" combined rank, though the remaining classes possess fairly low amounts of forest cover.

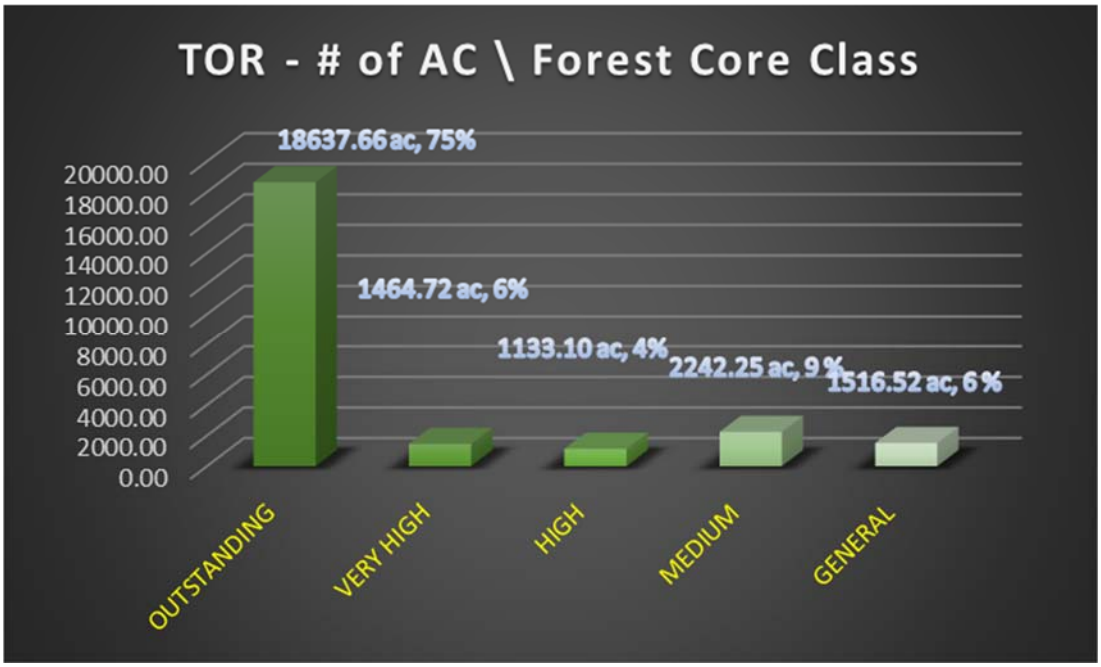


Figure 4. Quality ranking of "Core Areas" within Rochester forest blocks (2013 Green Infrastructure study of Ulster County). 75% of the remaining, intact forest blocks are ranked "OUTSTANDING"

Rochester (forest cover estimates)
% Forested land cover – 76.4 % - using 2011 NLCD satellite image
% "Functional Forest" - 43.8 %- using 2013 GIC "Cores" analysis

So while forested systems will likely continue to provide immensely valuable services to the Town and region, their overall health, integrity, resilience (ability to adapt to change) and overall number of services should not be taken for granted. Many habitats and the plant and animal species dependent upon them have been killed by what is known as "death by 1,000 cuts". And it is seldom known if it will be 590th or the 741st cut that will be the decisive one, but the concepts

of tipping points and complex systems urge us to err in favor of proactive and conservative approaches to protection.

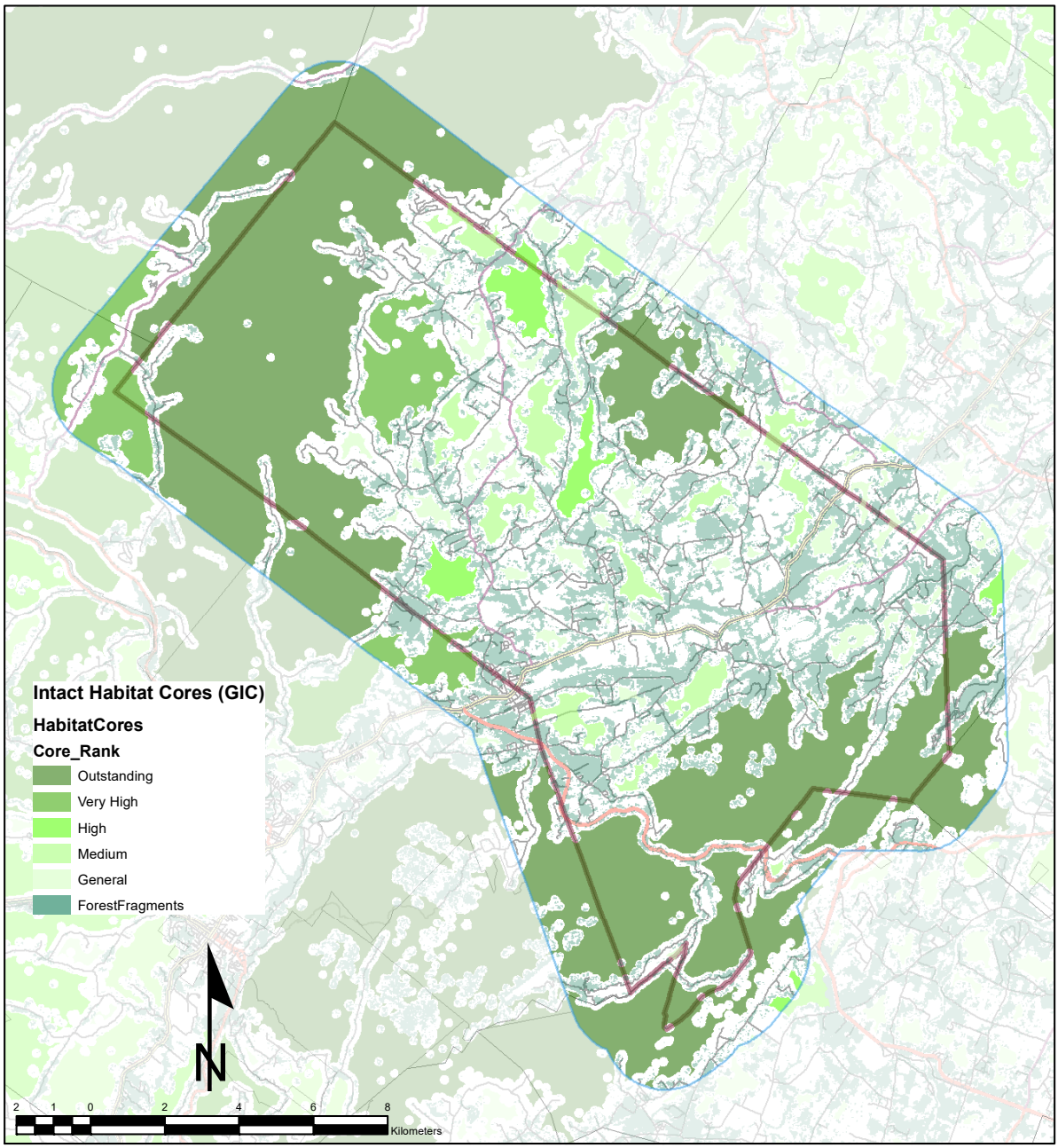


Figure 5. Map of Rochester "CORES" forest patches, from a "functional" perspective; forest cover closer to 44% of town using this metric. From 2013 Ulster County\EPA study by Green Infrastructure Center. >76% of patches were ranked "OUTSTNDING" by the study. Cor

Focus on Rochester Resources – Water & Aquatic Habitats

Water, both surface and ground, for both human and habitat uses, also plays an important role in the life of Rochester. While the majority of smaller, local stream systems in Rochester fall within the NYS DEC higher water quality rankings: “AA” or “A”, the central Rondout Creek receives sufficient levels of pollutants to give it a “C” or “D” classification across the region. Maintaining adequate water quality monitoring, field surveying and remediation programs will go a long way to helping the Town maintain the integrity of this most precious resource.

The excellent and very detailed ground water protection plan performed for Rochester in 2006 by the NY Rural Water Association (NYRWA) should become a seminal and often-referenced data source, as the town plans for the future. The detailed spatial analysis provides assessments of local ground water resources, bedrock and surficial geology as well as public and private water sources and wells, supplying the town. Considering the plans’ recommendations and suggested strategies for zoning and development can save valuable time and monies, through protecting this most precious commodity.

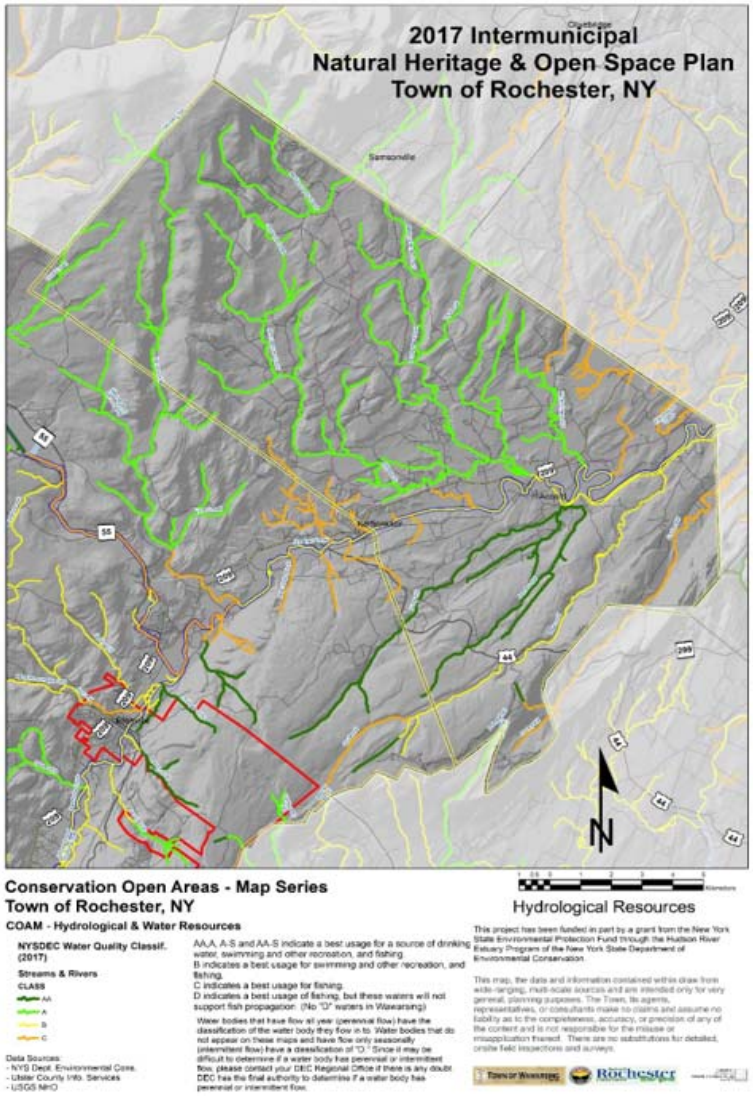


Figure 6. Water Quality Patterns of Surface Waters – NYS DEC

Maintaining adequate and healthy riparian and wetland buffer systems (areas adjacent to streams and wetlands) will both help protect the systems themselves as well as the down-stream portions of the watershed in providing flood protection and aiding on-site water recharge.

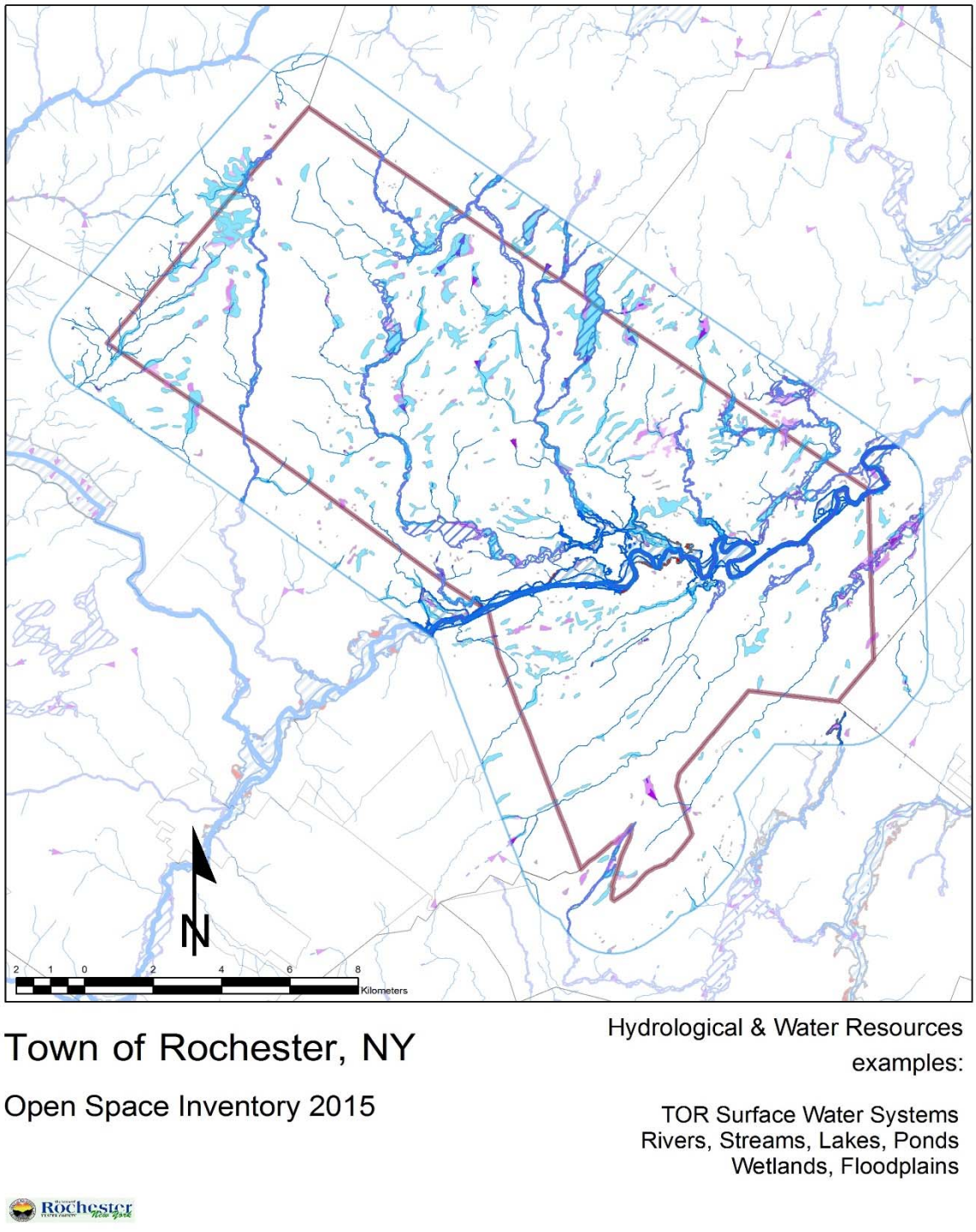


Figure 7. Surface water, wetlands, floodplains (see also Conservation Open Area Maps)

Maintaining adequate monitoring, field surveying and remediation programs will go a long way in helping the Town maintain the integrity of this most precious resource.

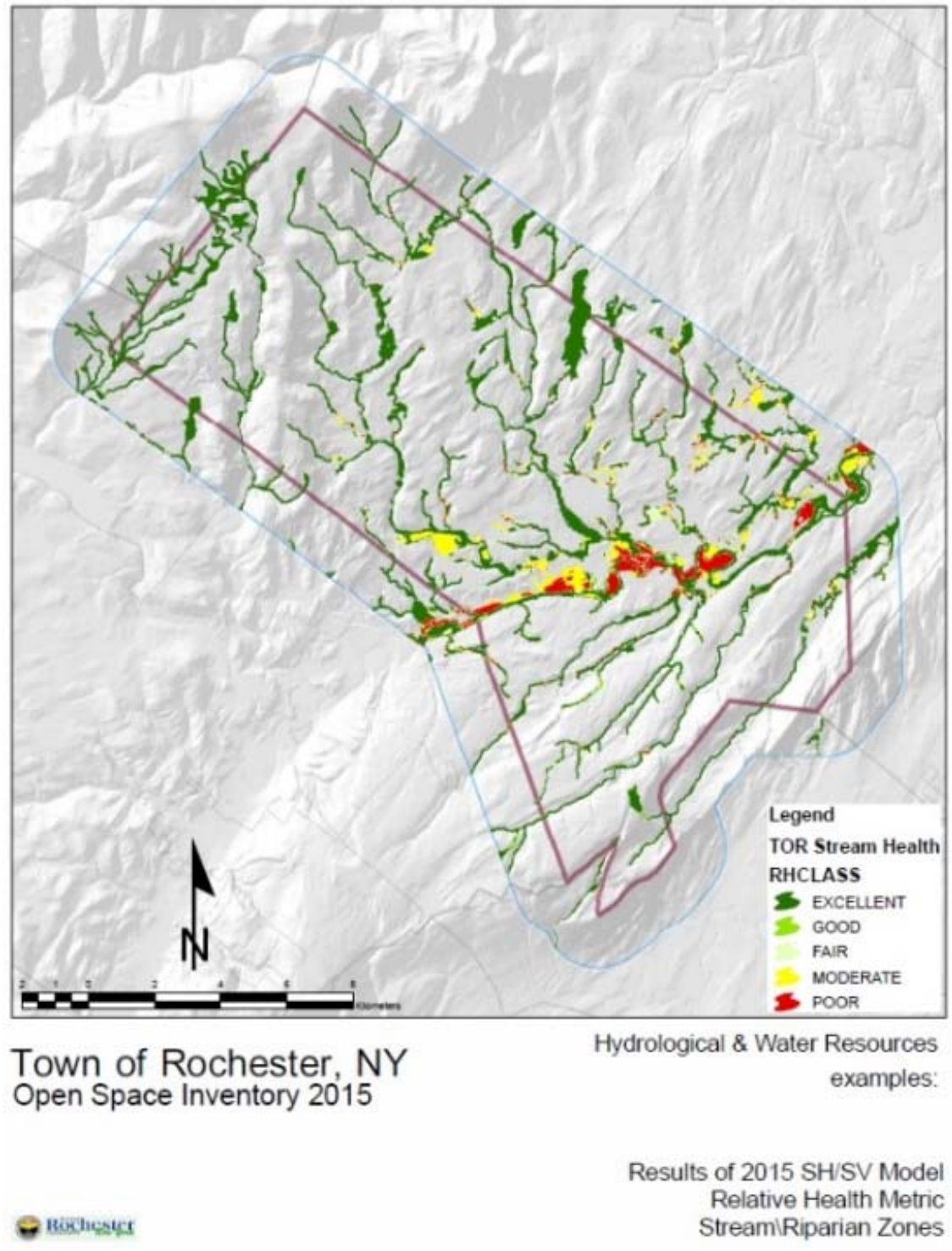


Figure 8. Estimates of Stream Health (2016) from Open Space Inventory project

Details from the NYRWA 2006 study can and should steer and inform development patterns within and around the town for years to come. Note especially the convergence of both high-density drinking water demand around the Rt. 209 transportation and commercial-focused region.

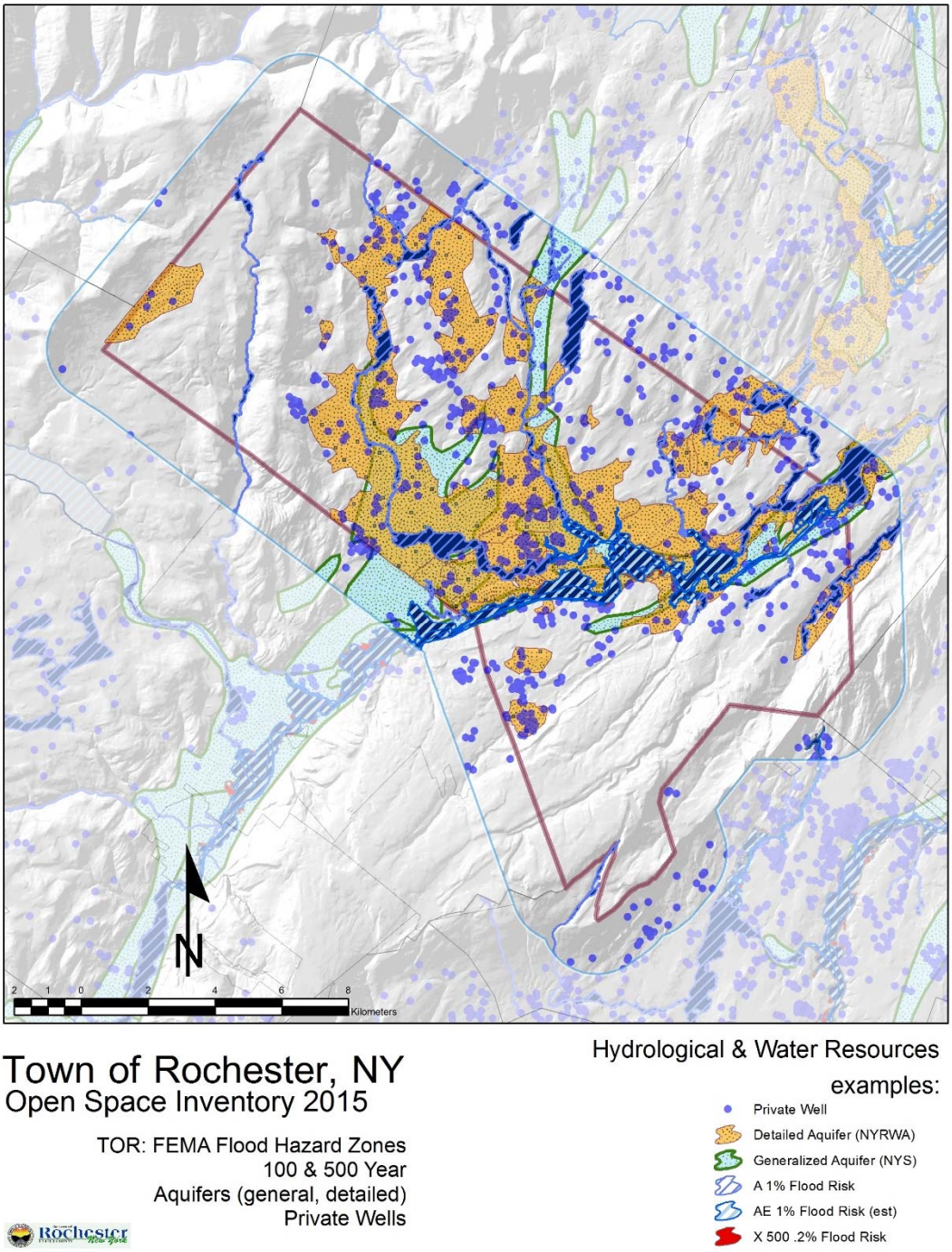


Figure 9. Surface water, wetlands, floodplains (see also Conservation Open Area Maps)

Focus on Rochester Resources – Agriculture

Agriculture and farming have long formed the foundation of cultural life in and around Rochester. The rich soils within the Rondout floodplain as well as many further upslope (within circled areas of the map below) would benefit from protection. Many of the Prime and Soils of Statewide Importance do currently fall within the County Agricultural Districts.

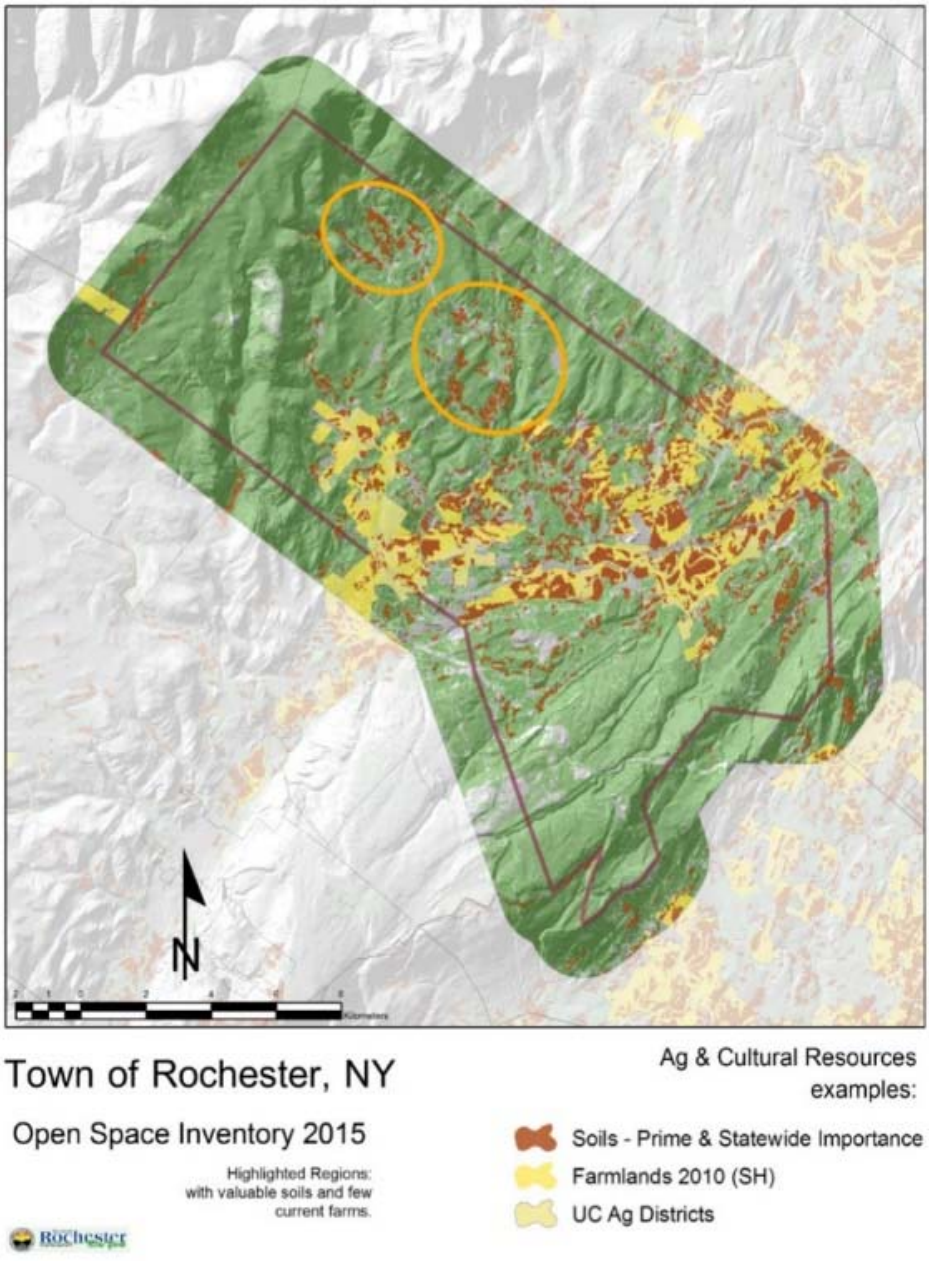


Figure 10. Important agricultural regions of Rochester. Note regions of unprotected ag soils (in ovals)

Focus on Rochester Resources – Recreational

Recreational resources of the town and region include everything from small, private fishing locations to State parks and forest preserves thousands of acres across. Dozens of miles of high-quality hiking, skiing and rail-trails abound and there are numerous private recreational facilities, retreats and golf courses.

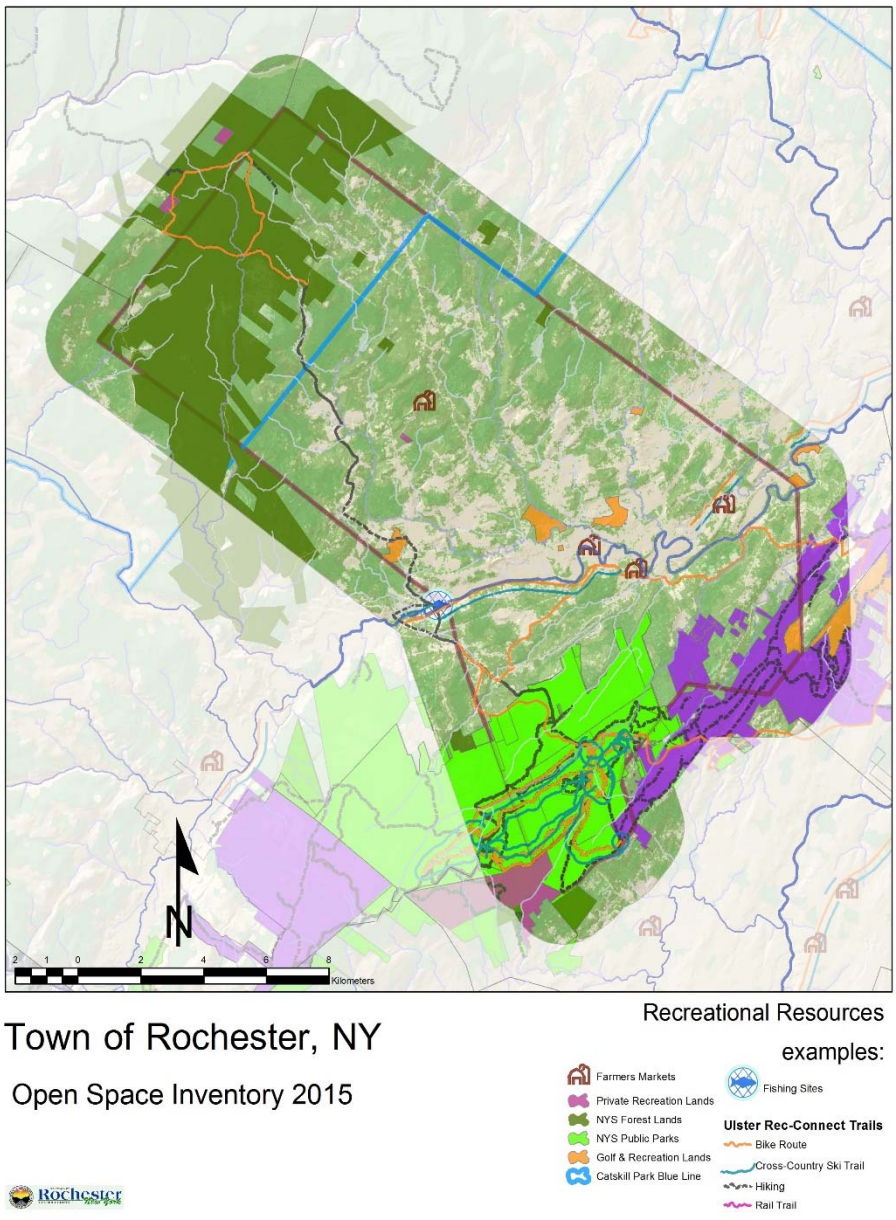


Figure 11. Recreational services flourish across the town and form an important growth area to the economy.

Focus on Rochester Resources – Scenic, Historical

The scenic and historical resources of Rochester may be too easily taken for granted. Formal and detailed assessment studies of each would help to quantify and clarify the precise spatial dimensions and aid in establishing specific programs to ensure that their value is extended well into the future.

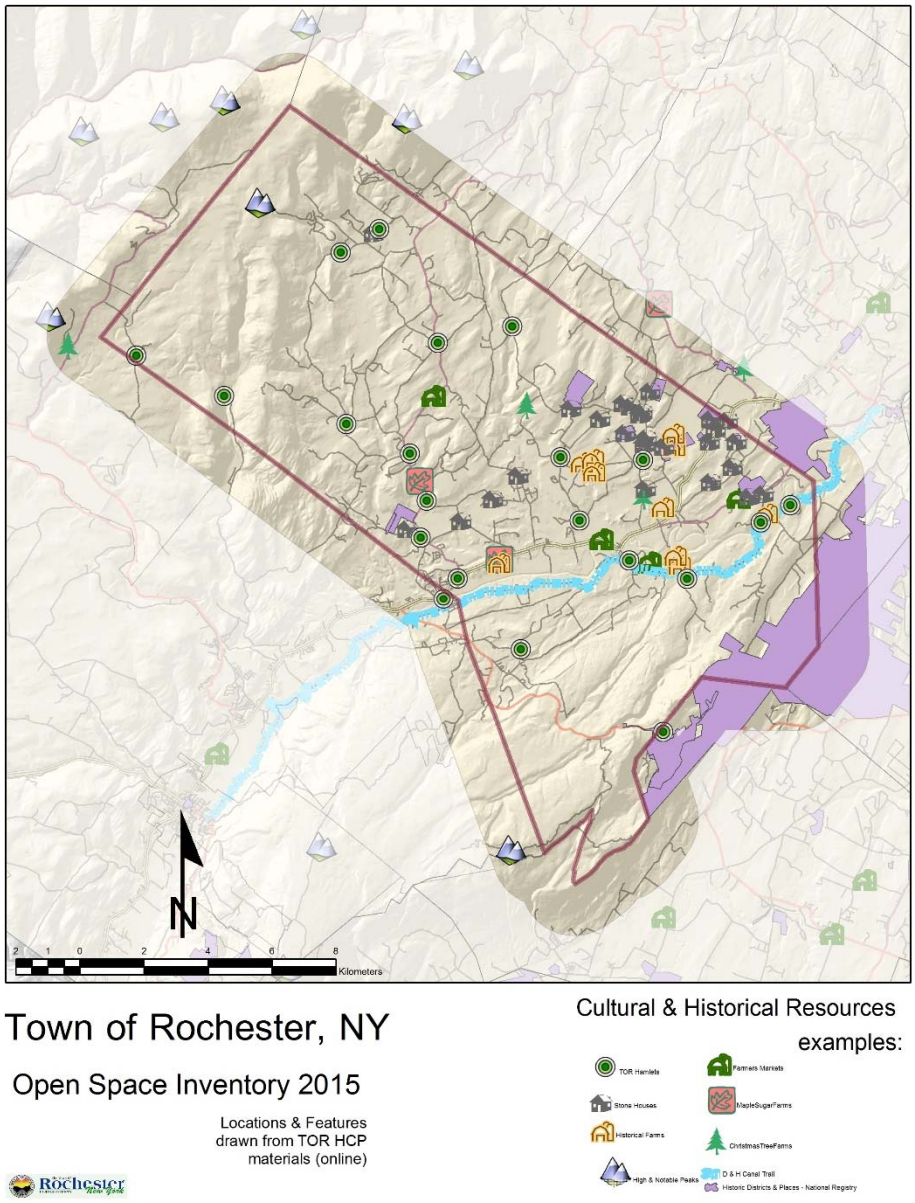


Figure 12. Scenic & Historical resources contribute immeasurably to the local economy, character and quality of life in Rochester

FINAL ROCHESTER COMPONENTS & RECOMMENDED ACTIONS

This chapter presents the final "components" or the "what do you have" that the Project Team selected for protection within the plan. It also includes the *recommended actions*, the "how" to effectively and comprehensively protect and conserve those resources. ***Recommended actions*** are based on a set of activities and research outlined in the Introduction to this Plan. These activities and research include; an Audit of existing (2016) Town policies and codes, research on a wide range of protection tools available to towns, the consensus of the Plan Project Team after consultation with various Town officials and the full Environmental Conservation Commission, and outreach to a variety of constituents, professionals and organizations. The recommended actions also were discussed in public information sessions and during a half-day public Symposium when citizens, property owners, farmers, conservationists, and public officials discussed the future of the Catskill – Shawangunk region and connection relevant to the towns of Rochester and Wawarsing.

A wide range of nearly one hundred potential actions and tools for protection were itemized and considered that match the landscape values of the Town. These actions were the result of an inventory, mapping and discussion of the Town's natural heritage and open space resources and a review of the Town's existing programs and codes that support open space and natural heritage protection. These potential actions were tracked and presented to the Project Team in a regularly updated matrix that is included in the documentation and provided to the Town in support of this Plan.

The Final "Matrix" titled ***Town of Rochester Natural Heritage & Open Space Ranked Components & Selected Protection Options*** is included at the end of this Chapter. A complementary matrix outlining all the Components and Tools considered along with findings of the Audit is on file with the Town.

This Chapter summarizes those Recommended Actions - with strong consensus and agreement that the Town should act promptly when ready – where draft code, resolutions, or program language were written for review and action by the Town. Reference should be made to the attached Matrix for fuller set of recommended actions, many of which do not require code amendments or formal Town approvals. Appendix C includes specific draft land use code, resolutions, or program language for Town consideration that lead to implementation of most of the recommended actions found below.

Final Components

This list defines the following components: places, features or systems as lead priorities for protection within the Rochester Plan:

- **Town-wide Water quality and flood management**
  - Focusing on riparian (stream side) areas and wetlands through tighten design standards and riparian zone building\disturbance set-backs to help eliminate degradation of filtering and recharge capacity of the systems

- Perform town-wide point and non-point pollution assessment to better understand what types of pollutants are commonly introduced into the water cycles and where, so that remediation efforts can be more effectively targeted.
- Develop education, outreach and information tools and partnerships, including ongoing education programs to town citizens and public agencies on the value of and effective methods for protecting riparian zones to improve water quality and flood control capacity.
- Leverage and enhance the town Environmental Conservation Commission or Board's role in providing informed guidance, input, oversight, geospatial and technical support when conservation and\or development proposals are presented to the town.

- **Protection of the Rondout Creek**
  - Support, continue and enhance ECC-led water quality sampling programs to help establish regional baselines and trends
  - Establish public education, outreach and stewardship programs to highlight value of Rondout Creek and to facilitate increased awareness of and concern for the river through direct access programs, such as: creek cleanups, paddling and kayaking programs etc.
  - Enhance access to Rondout Creek convening a River Access group, to:
    - Identify current and potential access points
    - Establish and further efforts by town to develop incentive programs for landowners who own properties that could provide easy and safe access to the river
    - Increase sport fishing and boating access with appropriate signage and parking
    - Seek program funding assistance to support increased river access, supporting and leveraging development of local river-centric businesses (outfitters, bait shops, boat rentals, etc….)

- **Agriculture and Heritage Farm Protection**
  - Help to ensure that this cornerstone of the Rochester economic and cultural life remains healthy and prosperous for generations to come
    - Pursue Federal, State and local grants to support the development of a regional Ag Advisory Council and an Ag projection plan for Rochester, similar to what the town of Marbletown has.
    - Engage local farmers in regular education meetings with the town ECC.
    - Perform an inventory and expand signage for significant regional farms
    - Work with farmers to formalize scenic road design guidelines to both sustain the remarkable visual resources in a way that also benefits farmers
    - Establish program to protect at least 50% of important agricultural soils within the town (Prime and of Statewide Significance)

- **Catskill Shawangunk Greenway Corridor and Colony Farm**

- Promote generational, intermunicipal opportunity to protect the remaining critical ecological corridor and agricultural regions shared by Rochester and Wawarsing along their common boundary
- Preserve the integrity of the lands falling within the corridor, that lie outside of already protected parcels
  - Develop program of tax incentives for landowners of such property
- Continue to actively participate and take leadership role in partnership with Wawarsing and associate agencies who are developing a feasibility study for the extended Colony Farm region

- **O&W Rail Trail Project**
  - Continue to support regional historical, recreational and connectivity project, helping to draw recreation and outdoors enthusiasts to and through the region
  - Participate in study to identify and help resolve obstacles and gaps in proposed linear park route.
  - Work with Rochester boards to ensure clarity of project details, needs and opportunities
  - Develop, distribute and present educational and promotional materials helping to see the regional project through to completion

- **Biodiversity Protection**
  - Promote integrity and continuity of regions ecological systems and habitats; work to reduce fragmentation
  - Protect ridge tops and steep slope areas
    - Separate Ridge Top Protection assessment recommended
  - Refine understanding of detailed plant, animal, habitat\community occurrences within the town and greater region
    - Separate biodiversity and site-specific natural resource mapping assessment recommended
    - Actively develop, distribute and engage ecologically-based public education materials
    - Continue to support and work with regional efforts of NY Department of Environmental Conservation (DEC) – Hudson River Estuary Program
  - Rochester ECC to assume and play major role in all of the above

- **Scenic Viewsheds & Gateways**
  - Highlight importance, value and detailed plans for preserving the integrity of these irreplaceable and too often taken for granted regional resources
  - Create plan for all scenic resources and gateways into the town, centered along Rt. 209 corridor, integrated with ridge protection plan with specific design guidelines and participant incentives
  - Protect against light pollution and promote and educate town Boards and stakeholders on the value of "natural" night skies.
    - Augment local codes to help forward retrofitting of light producing infrastructure, as they are updated.
    - Encourage use of LED streetlights.

Appendix 1. Town of Rochester: Natural Heritage & Open Space Component Matrix

TOWN OF ROCHESTER NATURAL HERITAGE & OPEN SPACE RANKED COMPONENTS & SELECTED PROTECTION TOOL OPTIONS

The first several months of our project focused on reviewing the major natural, cultural, built and historical systems spanning the region, that drew from and built upon the work of the respective Town Comprehensive Plans and Open Space Inventories.

This matrix portrays the breakout and details of the various system-wide natural heritage and open space components that the Project Team prioritized for protection, matched with the range of codes, protection tools and recommended actions that were developed during the second part of the project. They are presented here with links to those protection tools (as Tabs) as well as the range of Conservation Open Area Maps (COAM) that will form the core natural resource and open space reference for the Town, as the the Open Space Index. It is hoped that the adoption of this Open Space Index, together with the respective Natural Heritage and Open Space Plans will at the same time see the advancement of each Towns Environmental Conservation Commissions (ECC) to that of an Conservation Board. It is through the understanding of the importannce and engagement of such capacity within each Towns conservation and development policies and protocols that will ultimately ensure the long-term protection of those features, places, life-supporting resources and unique heritage critical to the long-term future of each municipality.

REGION-WIDE COMPONENT SYSTEMS (Ranked)
A. ECOLOGICAL RESOURCES\TERRESTRIAL HABITAT
B. HYDROLOGICAL RESOURCES\AQUATIC HABITAT
C. AGRICULTURE & AGRO-RELATED CULTURAL RESOURCES
D. RECREATIONAL RESOURCES
E. SCENIC RESOURCES
F. HISTORIC & CULTURAL RESOURCES
G. MISCELLANEOUS

TOOL LEGEND
CODE\ORDINANCE APPROACH - to be enacted officially by the Towns and it's Boards and agents
NON-CODE APPROACH (ECC activity, Partnersh - to be undertaken over time, by the ECCs and eventually, Conservation Boards

"TOR_RA1" Refers to Recommended Action (code\policy, etc...)
#1 for TOR (see corresponding Tab TOR_RA1_StreamsWetlands)
"TOR_COAM_xxxxxx" refers to Conservation Open Area Map sets (see corresponding Tab)

COMPONENTS	RECOMMENDED ACTIONS			SUPPORTING MAPS
Resource\Goal	**RA1**	**RA2**	**RA3**	**COAM Components**
PLAN GOAL: Protect and ensure Town-wide water quality, ground water and storm water management	Adopt measures to help seccure public welfare, water quality, flood control costs, aquatic habitat and stream\wetland integrity.			
Actionable Aspect: Water Quality Protection	Stream & Wetland Setback proposal **(TOR_RA1)**	Work with farmers & RVGA to reduce non-point erosion and runoff pollution	Suggest Town consider: adding National Wetland Inventory (NWI) wetlands to NYS Protected Wetlands for protection in near future.	**TOR_COAM_Hydro (3 map set) TOR_COAM_AgResouces**
Actionable Aspect: Water Quality Protection	Stream & Wetland Setback proposal **(TOR_RA1, TOR_RA1.1)**	Perform town-wide point and non-point source and drawdown studies, within context of improved riparian protection code	Support reviving the Rondout Creek Watershed Alliance	**TOR_COAM_Hydro (3 map set)**
Actionable Aspect: Flood Management	See: stream corridor protection code	Buffer\Development Setback	Strengthen site plan review to steer disturbance, filling, crossing of wetlands and\or streams	**TOR_COAM_Hydro (3rd map panel)**
	Highlight importance of riparian buffers for pollution and flood control	Tighten environmental standards in plan reviews	Look to how other NY Towns have approached it: Pawling, New Paltz, Poughkeepsie, Phillipstown, New Castle, Coxsackie, Woodstock, Ulysses	**As above**
Actionable Aspect: Public Engagement & Education	Establish tools & education methods on the use and preservation of riparian buffers as flood and pollution control (esp. in woodland farming). **(TOR_RA1)**	Partnerships		
Actionable Aspect: Expand conservation information access	Educate Town Boards on Conservation Open Areas Maps (COAM) and Open Space Index (OSI) **(TOR_RA2)**	Expand and enhance role of TOR ECC in TOR conservation & development concerns **(TOR_RA2)**		**Full set of COAM Maps**
PLAN GOAL: Protection of the Rondout Creek	Protection of one of the defining regional features is vital			
Actionable Aspect: Protect Water Quality	Continue and expand ECC-led water quality sampling to establish baselines and trends	ECC to develop and expand partnerships; Revive RCWA	Acknowledge that all local water quality improvements (streams, wetlands) will immediately affect the Rondout, locally and downstream	**TOR_COAM_Hydro (3rd map panel)**
Actionable Aspect: Enhance and Expand Public Stewardship of River Through Engagement & Education	Tax incentives for property owners containing desirable access locations. **(TOR_RA3)**	Recreation access - Enhance identification with River, expand access and use, identify and facilitate access points (in process). Obtain capital improvement $.		**TOR_COAM_Hydro (3 map set) TOR_COAM_TerrainScenicRec**
	Ensure long-term use and integrity of the River as an economic draw, for sports fishing, boating, swimming. **(TOR_RA3)**	Support from COAM Maps		
	Solicit assistance (State, Federal, County) for increasing recreational use (kayaking, fishing, etc...). Local canoe\kayak outfitters taking local school outings.	Partnerships	ECC Initiatives	
PLAN GOAL: Agriculture & Heritage Farm Protection	Maintain health, vitality of this large TOR economic base	Pursue NYS Ag & Farms ag plan grant		
Actionable Aspect: Help ensure long-term viability of healthy and prosperous ag community	Engage local farmers in regular education meetings; support their acquiring UC grant assistance to aid the development of a Regional Ag Advisory Council.	**Right to farm law (in place) (TOR_RA4)**		**TOR_COAM_AgResources**
Actionable Aspect: Protect at least 50% of important TOR farm soils (Prime, Statewide Importance)	Inventory and expand signage for significant regional farm operations	Partnerships		
	Protect cultural heritage & rural character	**Design Guidelines (TOR_RA5)**		
	Work with Rondout-Esopus Land Conservancy to identify potential easement program			**TOR_COAM_AgResources**
Actionable Aspect: Quantify and formalize coherent Ag protection plan for TOR	Seek grant $ to replicate Ag Protection Plan similar to Town of Marbletown **(TOR_RA4)**			**TOR_COAM_AgResources**
PLAN GOAL: Catskill-Shawangunk Greenway Corridor	Promote generational opportunity to protect critical evironmental and agricultural regions spanning the two towns			
Actionable Aspect: Preserve integrity of parcels within corridor and outside of protected lands	Overlay zones for target parcels (within corridor\outside protected areas), & CEA **(TOR_RA6)**	Tax incentives to help protect parcels **(TOR_RA3)**	Include within COAM maps	**TOR_COAM_CEA_ColonyFarm**
Actionable Aspect: Actively participate in and support feasibility study for Colony Farm region	Symposium held March, 2017	Summary report to become appendix to NH&OSP	Take leadership role in CSGC advisory committee	**TOR_COAM_CEA_ColonyFarm**
PLAN GOAL: O&W Canal	Include in Official map\COAM Map			
Actionable Aspect: Support and ensure completion and success of project through region, helping to attract recreation & tourism dollars to TOR	Participate in study to identify and help resolve obstacles to gaps in proposed linear park route.	Regional partnerships	ECC (internal) and partnership driven	**TOR_COAM_TerrainScenicRec**
	Ensure TOR Boards are up to speed on details, needs, and opportunities of project	Expand educational materials (PPT, PDF, graphics and maps) to distribute, update regularly		
	Help identify linear park access points and secure capitol funding to develop parking & related services			
PLAN GOAL: Biodiversity Protection	Promote integrity and continuity of ecological systems and habitats; reduce fragmentation			
Actionable Aspect: Protect ridge top areas and steep slopes	Consider density adjustment for protecting steep slopes	Development Guidelines **(TOR_RA5)**	Additional Study and RA suggested	**TOR_COAM_TerrainScenicRec**
Actionable Aspect: Refine understanding of detailed plant, animal and habitat\community occurrences within Town.	Conduct detailed, field-based biodiversity study.	Apply to HREP grant program	CAC to play prominent role	**TOR_COAM_EcoHabitat**
	Actively enhance public engagement and education and appropriate recreational access			
	Elaborate plans for acquistion of a setting aside of properties contiguous to CSGC see also Open Space Index **(TOR_RA7)**	Open space park setaside/ payment in lieu **(TOR_RA3)**	Open Space Index (OSI)	
	Establish critical environmental areas for discrete (e.g. mappable) areas and zones (Pacama Vly) **(TOR_RA8)**	Partnerships		**TOR_COAM_CEO_GPV**
PLAN GOAL: Scenic Viewsheds	Highlight & bring attention to currently taken-for-granted and irreplaceable resources and locations			
Actionable Aspect: Ensure integrity, access to and long-term future of scenic areas and vistas	Plan for scenic development along the Rt. 209 Corridor	Conduct scenic resource & gateway study	Route 209 design standards **(TOR_RA5)**	**TOR_COAM_TerrainScenicRec**
	Ridge protection	Map overlay zones and develop scenic route design guidelines		
Actionable Aspect: Help protect dark night sky resources	Augment local codes to help forward retrofitting of light producing infrastructure as they are updated **(TOR_RA9)**			

APPENDIX A: Conservation Open Area & Critical Environmental Areas Maps

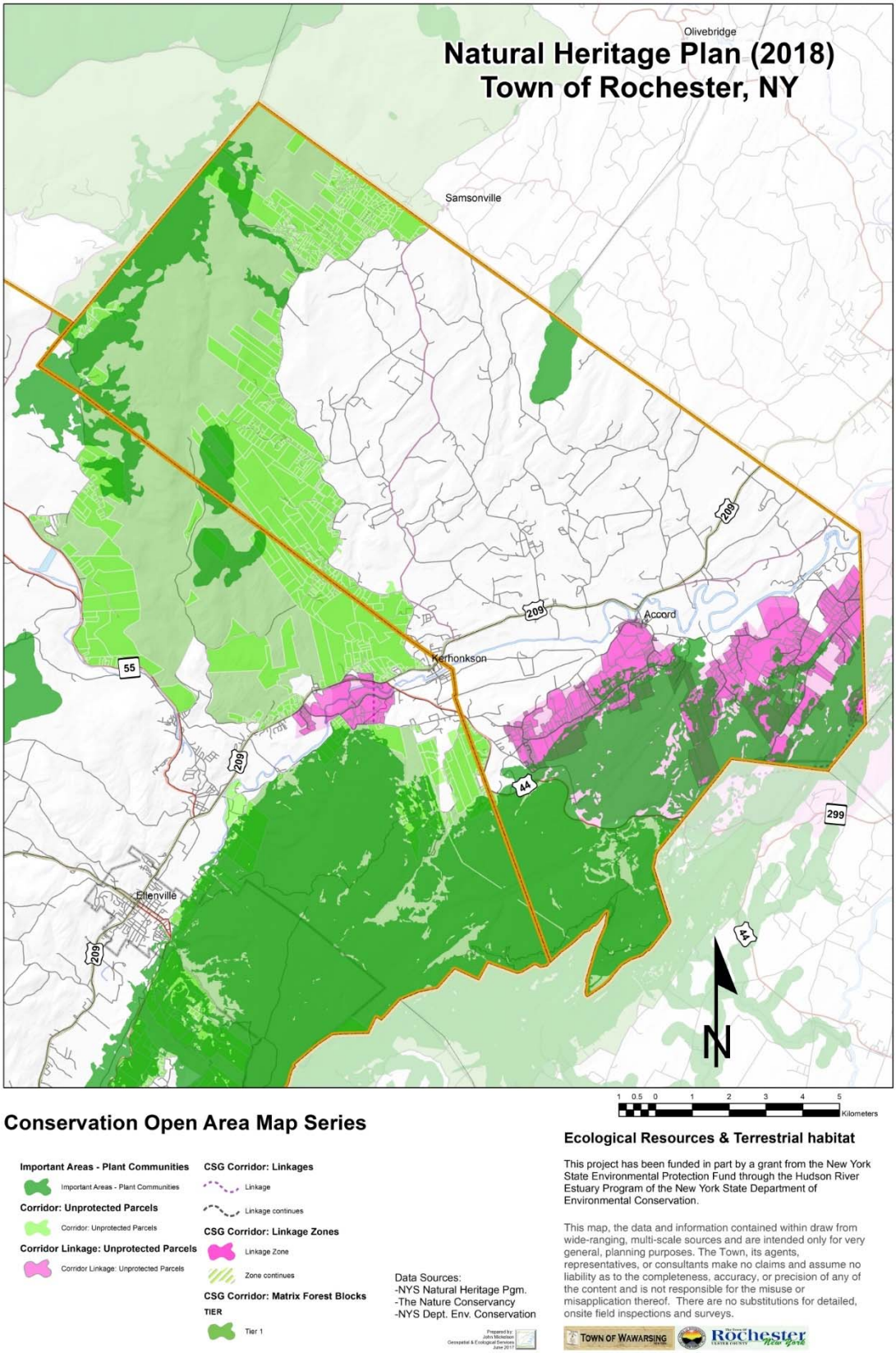


Image 1.. Important Ecological Resources & Terrestrial Habitat

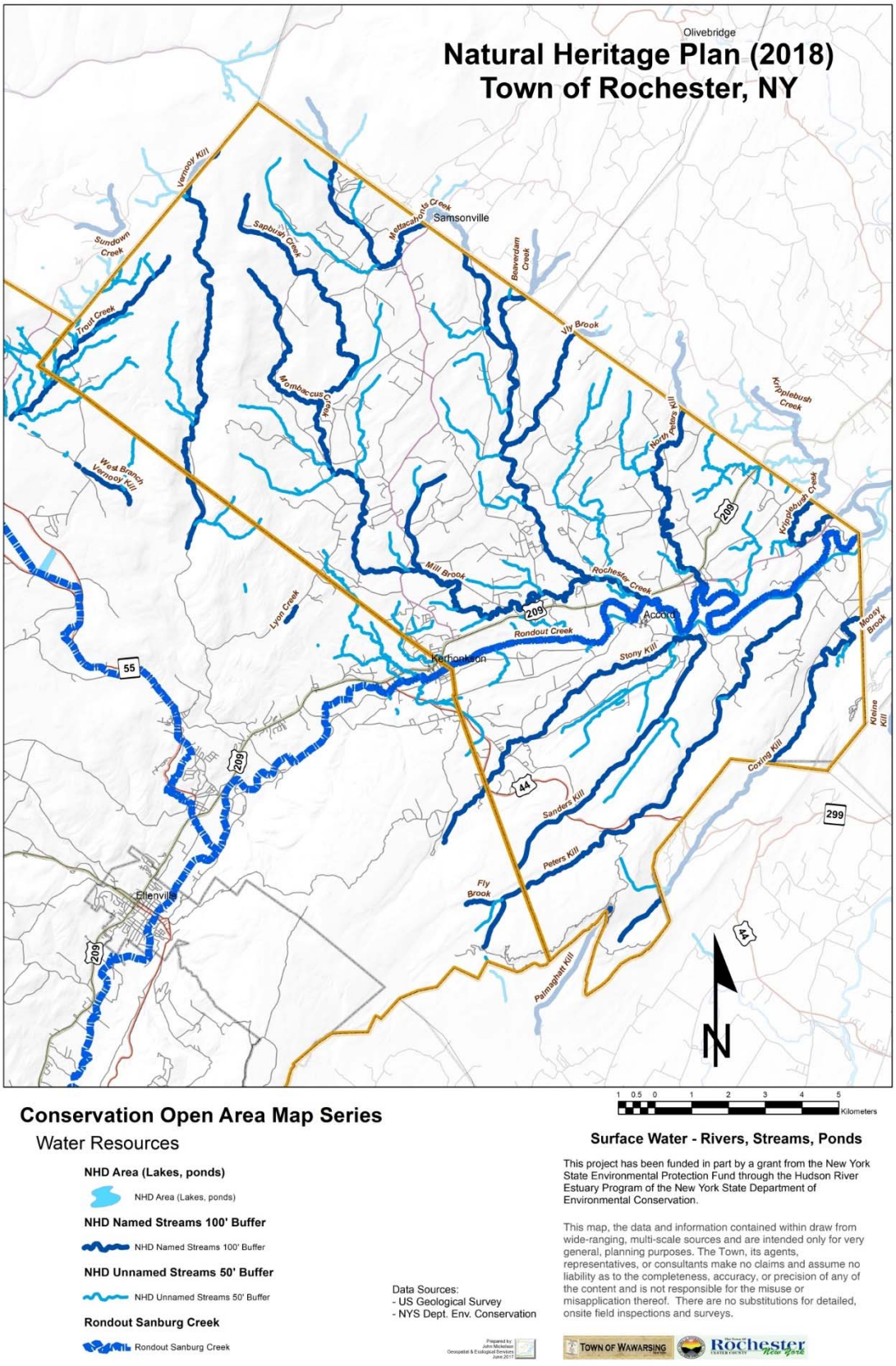


Image 2.. Important Surface Water Systems: River, Streams, Ponds

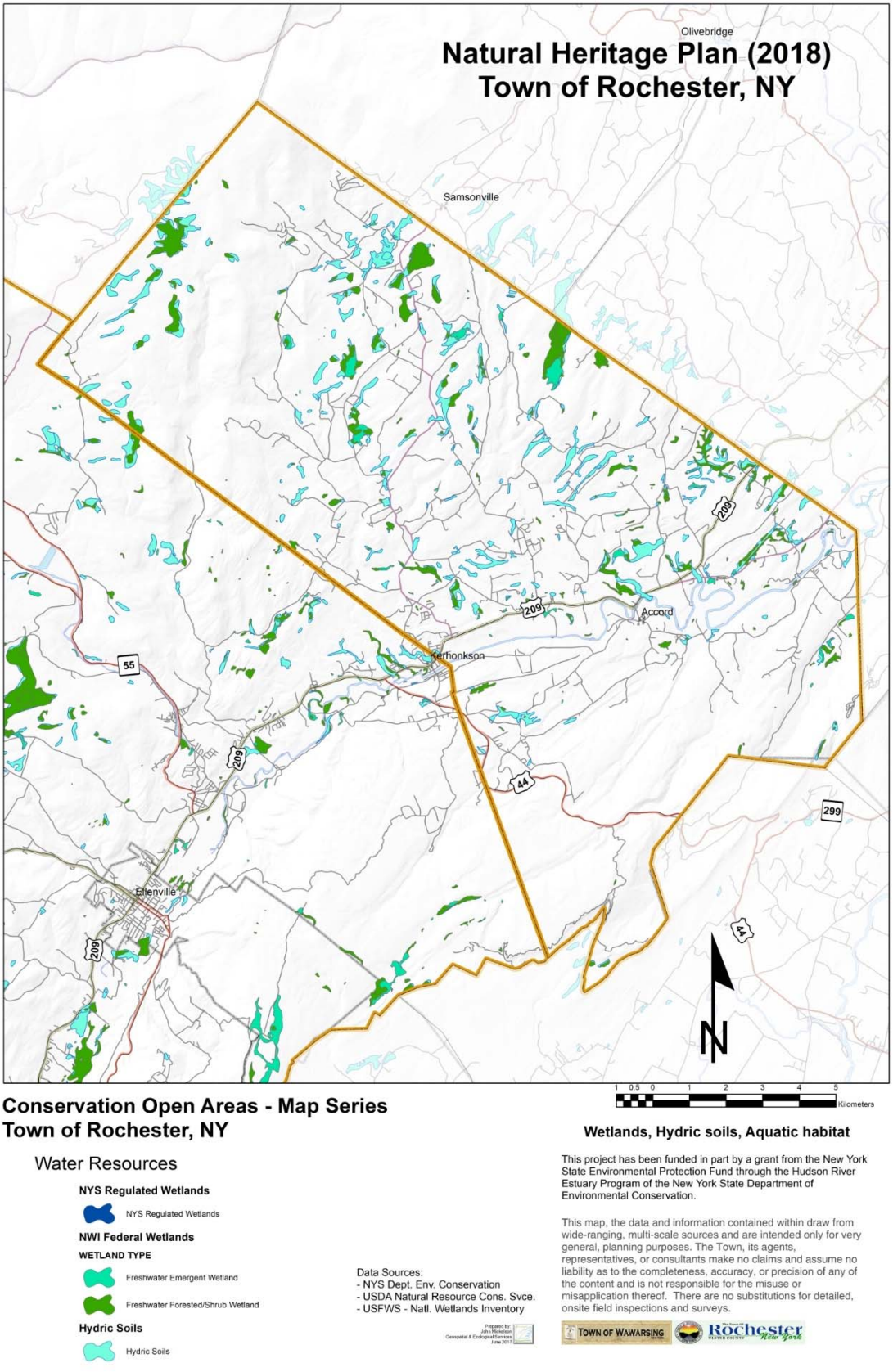


Image 3. Important Sub-surface Water Systems: Wetlands, Hydric Soils, Aquatic Habitat

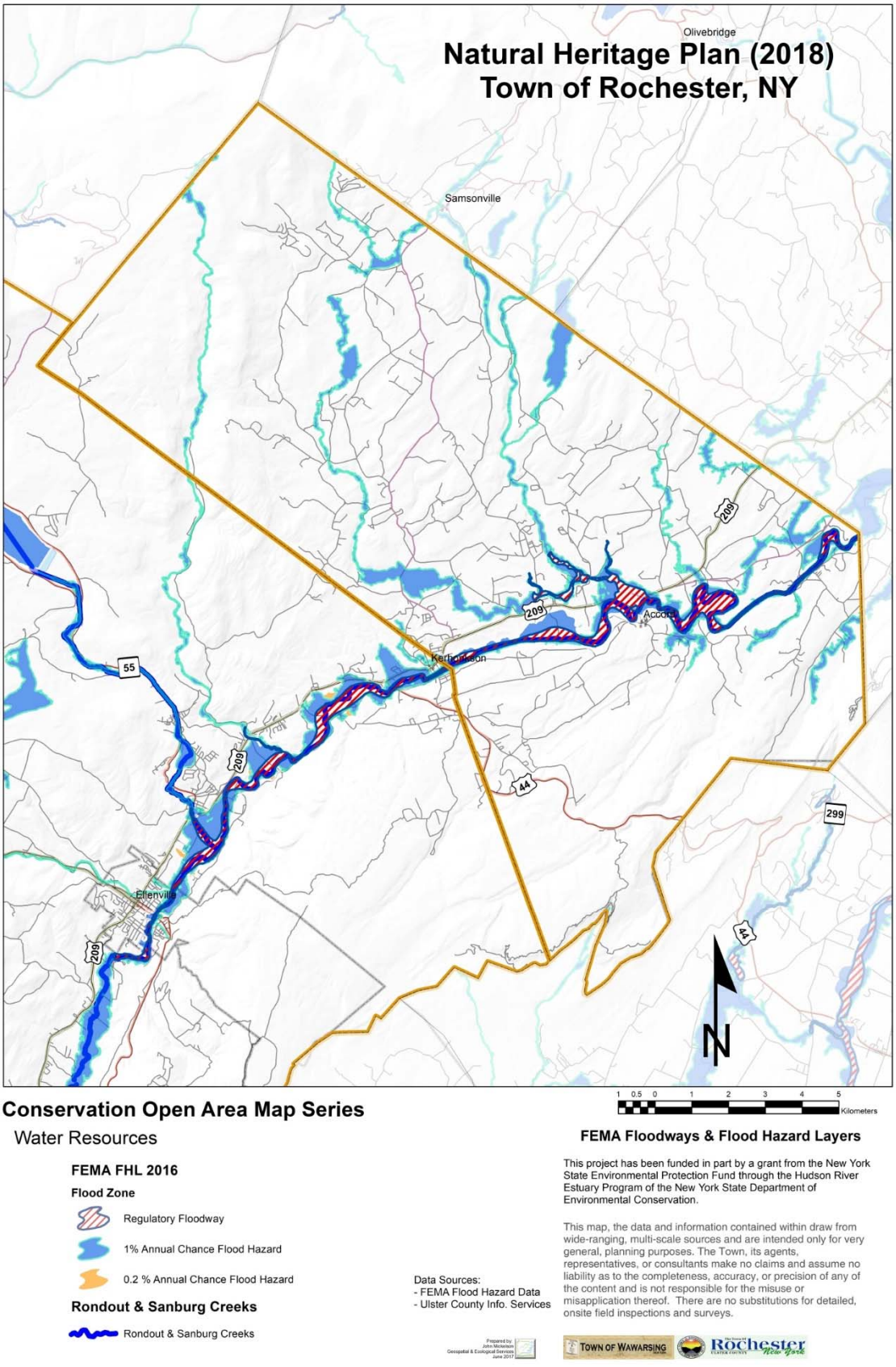


Image 4. Important Water Systems: Regions Prone to Flooding (FEMA)

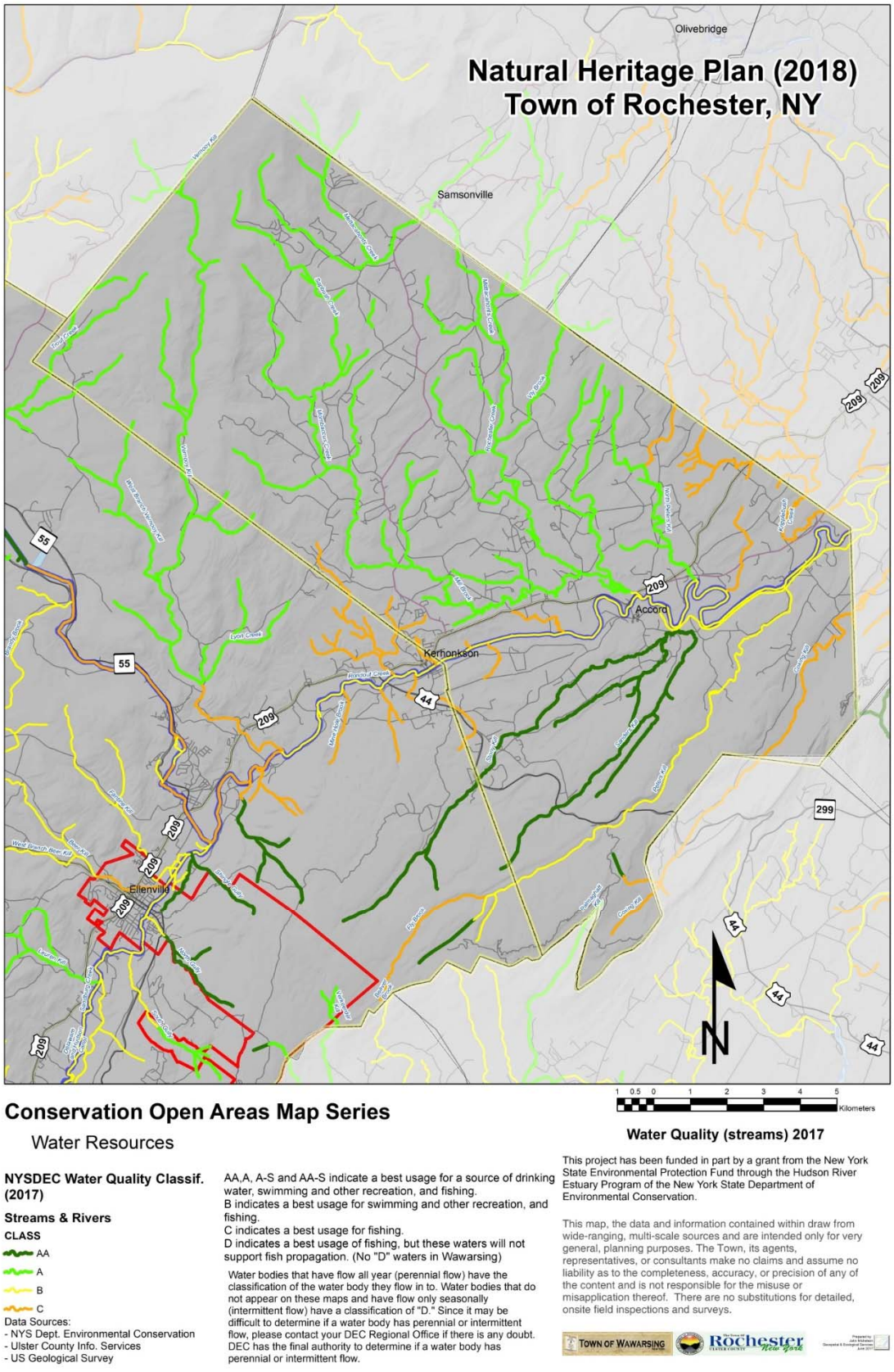


Image 5. Important Surface Water Systems – Surface Water -Water Quality Classification

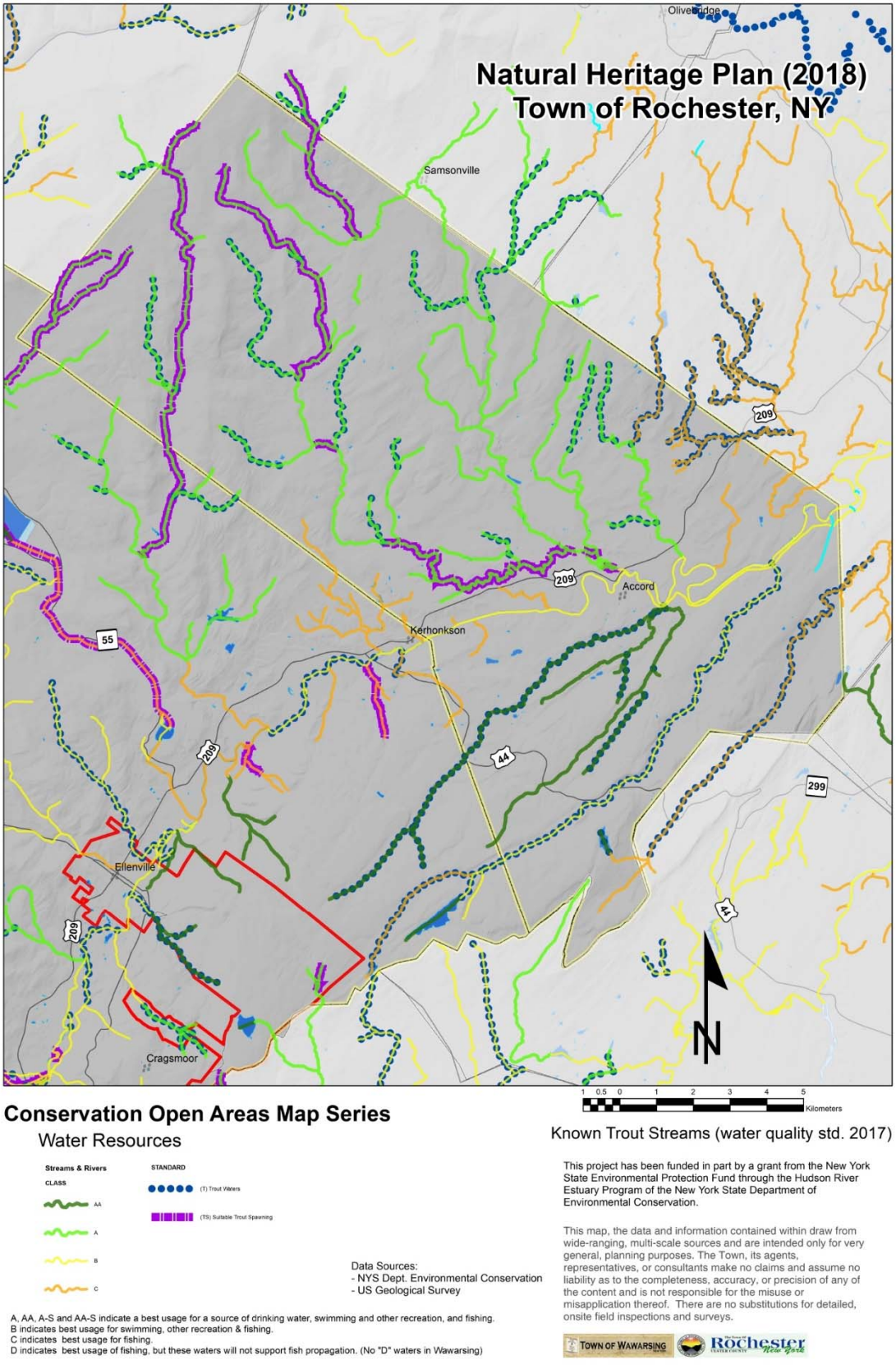


Image 6. Important Surface Water Systems - Surface Water Quality & Known Trout Streams

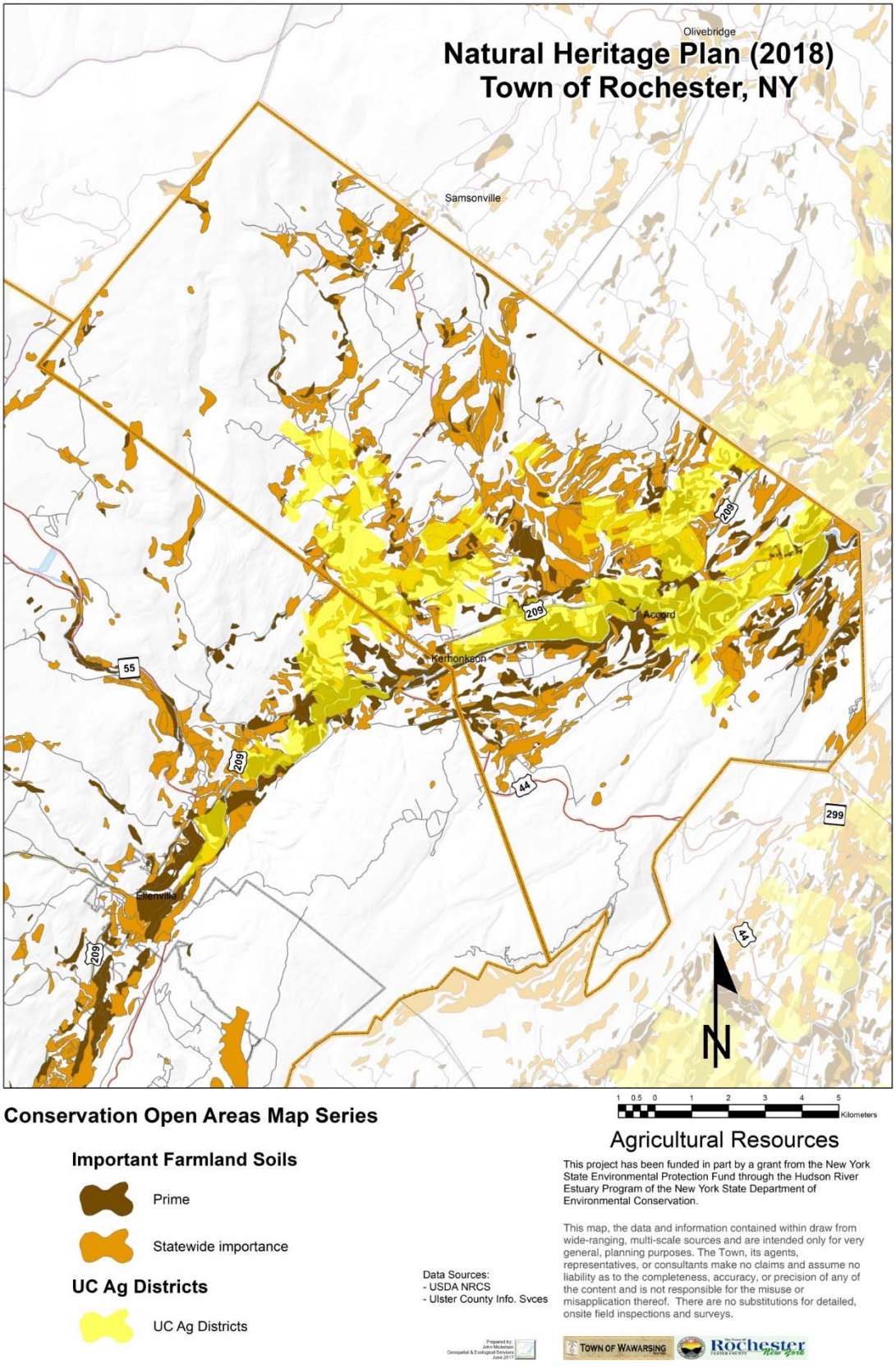


Image 7. Important Agricultural Areas and Resources

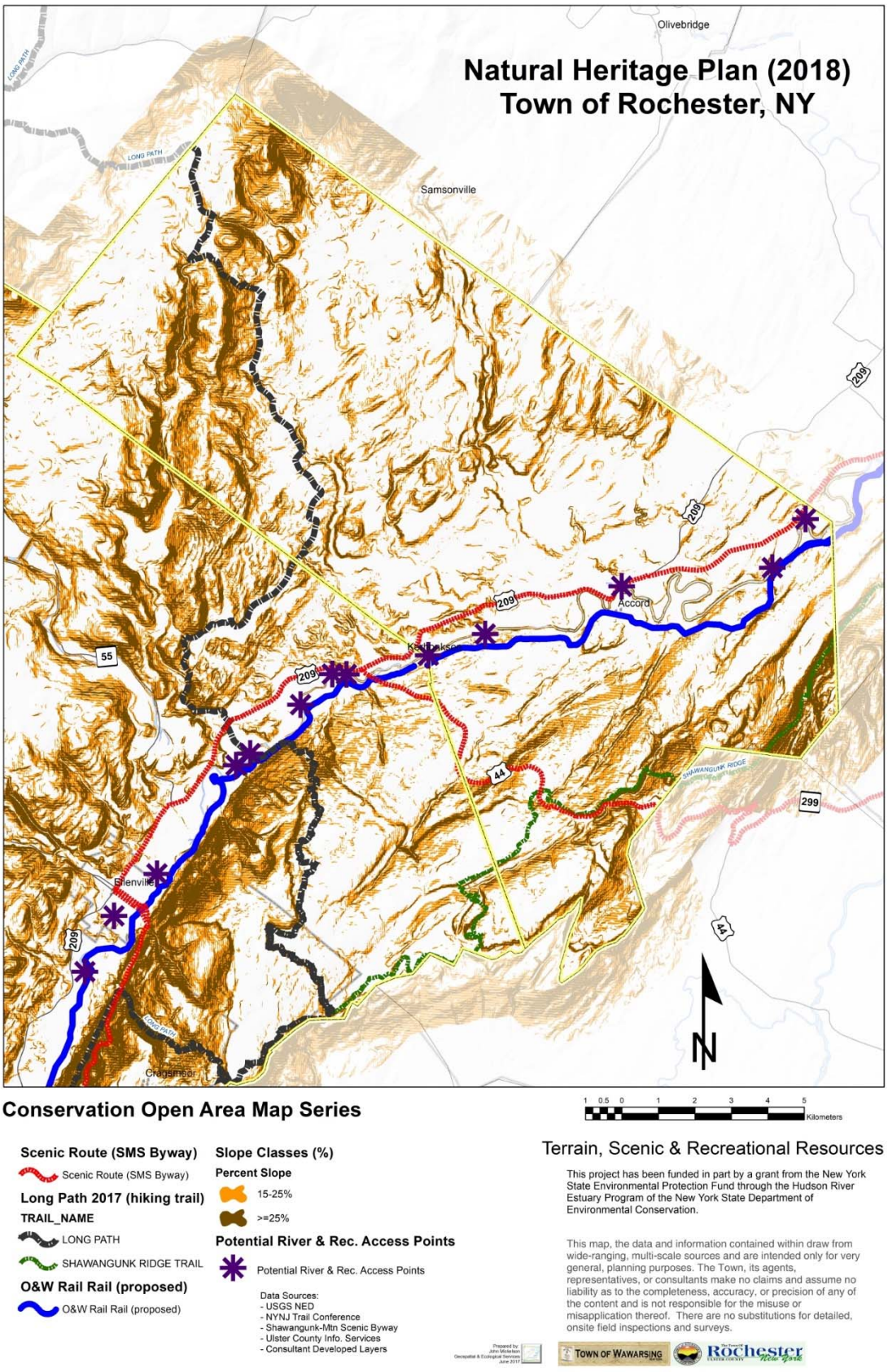


Image 8. Important Features: Terrain, Scenic & Recreational

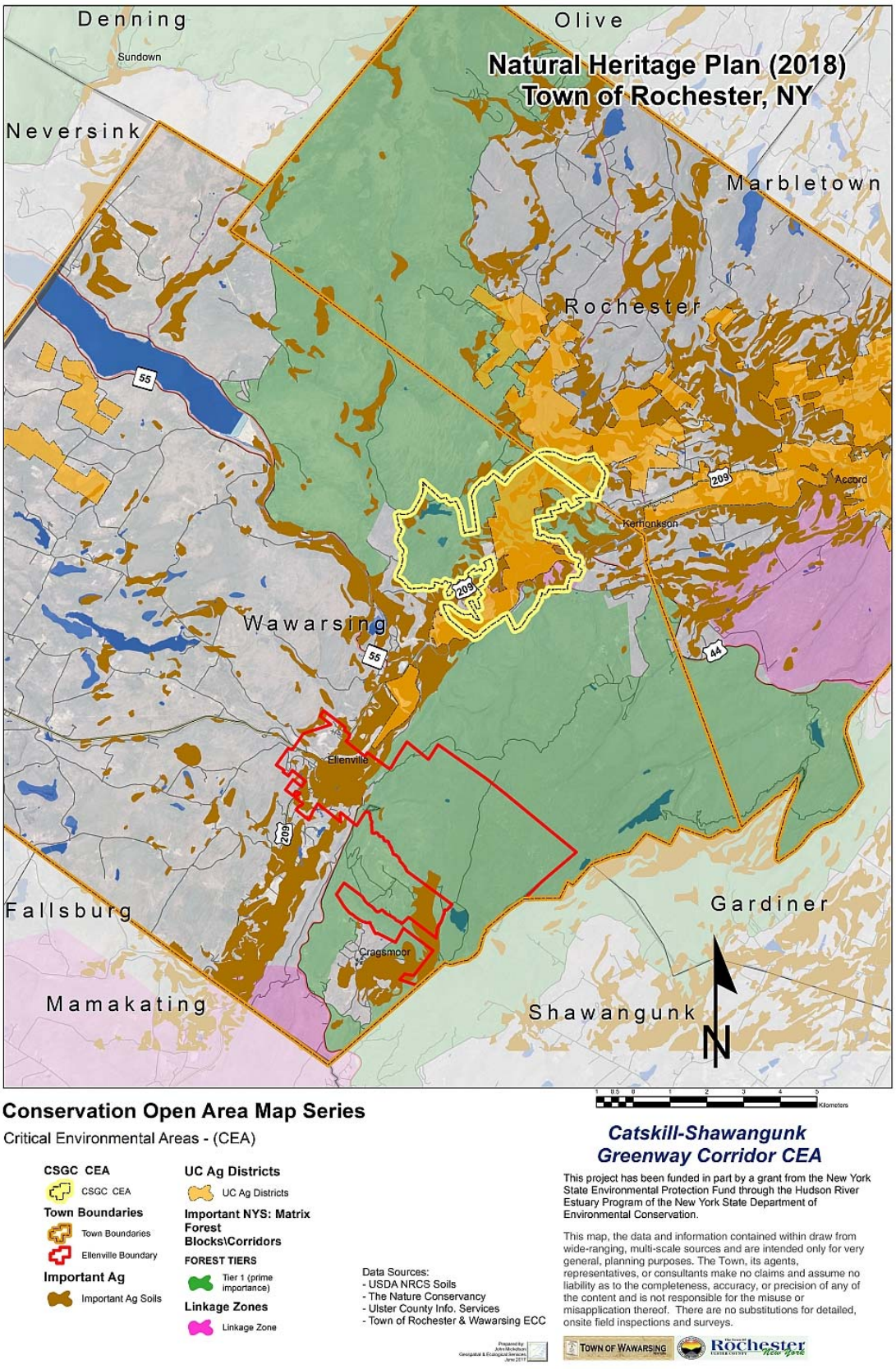


Image 9. Critical Environmental Areas (CEA): Catskill-Shawangunk Greenway Corridor at Colony Farm

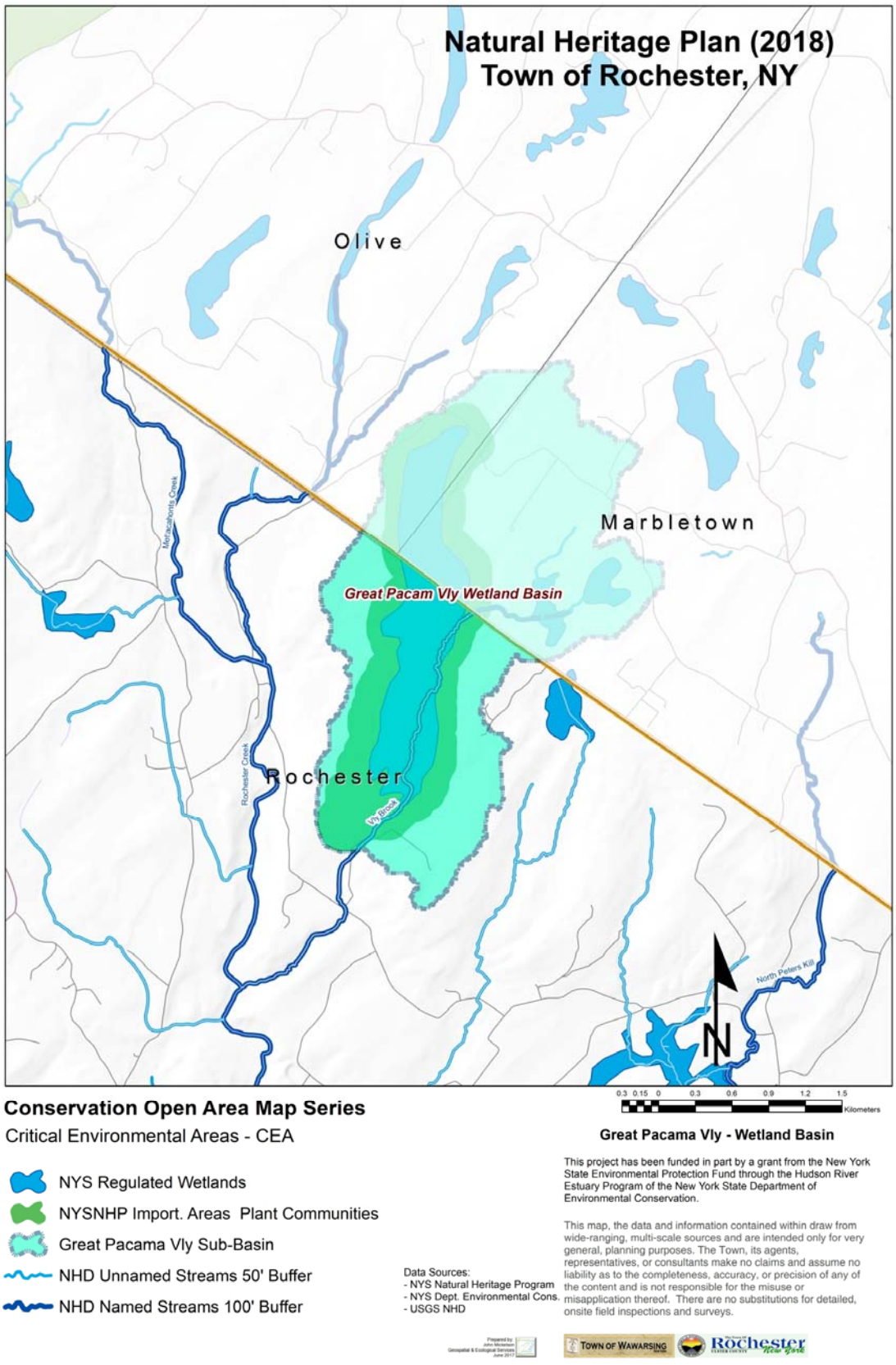
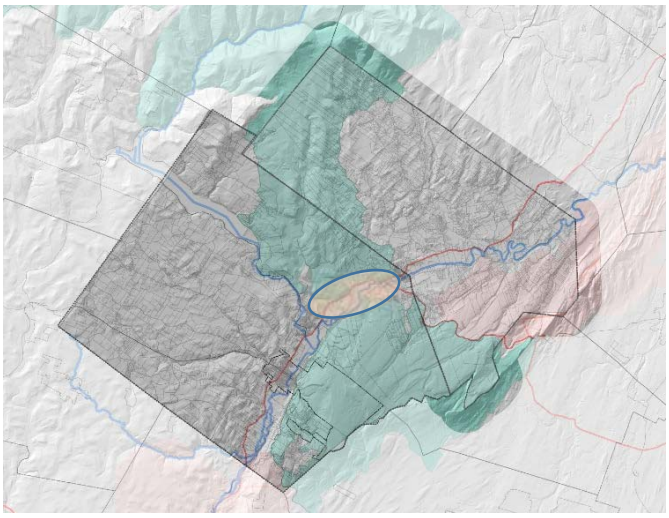


Image 10. Critical Environmental Areas (CEA). Great Pacama Vly

APPENDIX B:

Catskill Shawangunk Greenway Corridor (CSGC) Symposium Summary Report



Catskill – Shawangunk Greenway Corridor – 2017 Symposium

Wednesday, March 1, 2017

1:00 – 5:00 p.m.

Rondout Municipal Center, 1915 Lucas Ave. Cottekill, NY 12419

Introduction

The Towns of Rochester and Wawarsing, in developing an intermunicipal natural heritage and open space plan, have prioritized for protection the Catskill-Shawangunk Greenway Corridor (CSGC). This large forested region spans the Towns shared boundaries and encompasses the ~500-acre Colony Farm complex along Rt. 209. (*see Figure above*).

This region has long been considered of high value on several fronts, by multiple conservation and resource agencies. The greenway corridor represents a generational opportunity to connect the intact, large-block forest matrix lands of the Catskills with the ecologically important Shawangunk region. In addition, the central Colony Farm area holds great promise both as a critical connection region for any corridor but also as the nexus of an agro-tourism feature, providing vital economic life and resources to the region.

The concept for this Catskill-Shawangunk Greenway Corridor (CSGC) has been studied in some depth over many years and John Adams, a local farmer and long-term project veteran, has recently worked with the Town of Wawarsing to obtain funding to undertake a feasibility study for the agricultural lands of Colony Farm.

SYMPOSIUM

Our project convened a half-day symposium to gather existing information, data, maps and insight to help inform actions that the two Towns might take within their current planning efforts. In addition, we hoped to both renew and sustain interest in the ongoing topic as well as gather materials for the feasibility study. Several dozen regional stakeholders were invited and some thirty County, State, municipal, conservation, recreation and agricultural leaders volunteered their time and energy to the efforts (*Table 1*). Following an overview of the project by Mr. Adams, the contributors broke out into working groups to consider and refine a SWOT analysis (*Strengths, Weaknesses, Opportunities, Threats*) for four main topics, relating to the corridor and the Colony Farm connecting area:

- Agriculture and Agro-tourism
- Ecology and Corridor Science
- Regional Recreation
- Economic Factors

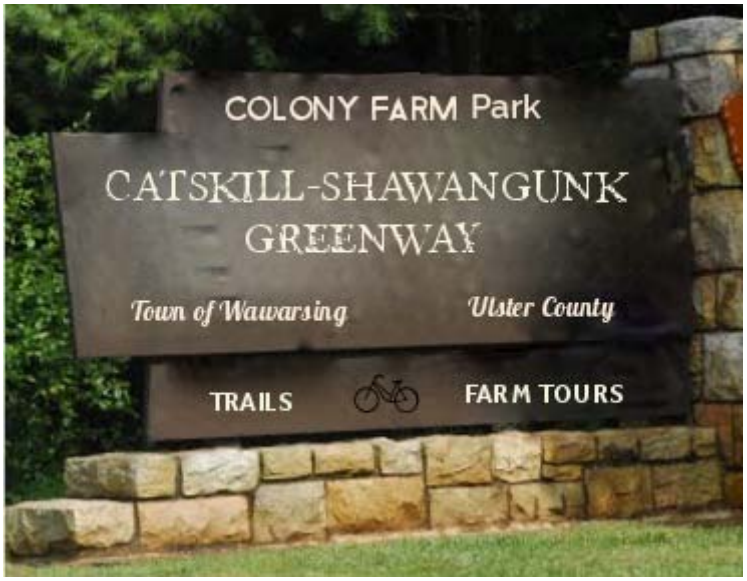
John Adams introduction set the stage for the group activities, using the theme of the Catskill-Shawangunk Greenway as a central gateway to the Catskills and the Rondout Valley, through the Shawangunks Mountain region.

BACKGROUND\VISION

John outlined, how, in 2015, Gov. Andrew Cuomo traveled to Minnewaska State Park to announce state funding of improvements of over $7 million dollars to the gateway of the park, and "putting the spotlight on the State's unparalleled recreational opportunities". After the ceremony, the Governor led a motorcycle procession down Rt. 44-55 to Kerhonkson. It was pointed out that the motorcade did not stop in the Town of Wawarsing because the state land along the way has not been developed for tourism. In future visits, we envision the Governor riding down into the Rondout Valley to see a crosswalk sign announcing the O&W Rail Trail, with abundant trailhead parking for tourists who might like to visit shops in old downtown Kerhonkson, or go on to Main St. in Accord or the Town of Rochester's Veterans' Park. John proceeded to provide details of his vision for the greenway and the Colony Farm, in a virtual walk-through of the region. His narrative took us through:

- At the intersection of Rt. 44-55 & Rt. 209, a roundabout or attractively landscaped island could welcome visitors to the Rondout Valley with signage and installations of native plants. The experience could be dramatic, and people would realize that they had arrived at the gateway to a special place- a unique and engaging destination.
- Turning left, they would see that the NYS DOT lands were similarly welcoming them to the Catskill-Shawangunk Greenway, with old Rt. 209 transformed into a bike path and trailhead with a monument sign, lawns and flowers. On the east side of the highway, DEC lands would be improved into a park-like setting and access to the Rondout Creek for fishing boats and canoes. The path, filled with hikers and cyclists would parallel Rt. 209 on the west side of the highway to Colony Farm, passing scenic farms along the way.
- The bike path would continue to the south of Colony Farm with a crosswalk at Foordmor Rd. to trailhead parking at the corner of Foordmor Rd. & Rt. 209. The "Catskill Shawangunk Greenway Trail along Foordmor Rd. would lead cyclists to the Rondout Creek and the O&W Rail Trail, Long Path and Point Lookout in the Shawangunks.
- A monument sign would welcome folks to Colony Farm.

- The farm lane at Colony Farm would be transformed into the western leg of the "Catskill-Shawangunk Greenway Trail" and pass the hang gliding practice hill visible from the highway.
- Farm tours would be available at the farm. A retail farm stand, possibly Including a *Taste of NY Store*, a cafe and ice cream stand would be a destination. Artisan cheeses, ice cream and Greek yogurt could be manufactured, sold and distributed from there.
- Colony Farm, with 1300 linear feet of road frontage on the Shawangunk Mountains Scenic Byway to the public lands of the Catskills would be the central gateway to that mountain range.
- Its trails would join with Lippmann Park and its mountain biking trails and the Vernooy Kill State Forest and Catskill Park beyond.
- On future visits, the Governor would stop at Colony Farm for a tour and a photo op to showcase New York State's dedication to revitalizing the old Borscht Belt with tourism and agriculture, which together are already a $1,000,000,000 industry in Ulster County.



Inspired by the vision and long-term opportunities of the region, the participants broke out into the respective Working Groups, to collectively pool their respective experience, knowledge, insight and critical talents. At the end of the session, the Groups came back together to share and review with the full symposium, the materials, thoughts, framework concepts and detailed assessments of what the potential SWOT analysis might look like. Several groups went beyond that scope and included additional suggestions and approaches that might help further the evolution of the topic area and the project.

RESULTS

The results of the Working Group SWOT analysis and suggestion summaries are presented below (Tables 2,3,4,5).

Some of the more immediately significant and actionable items that our project drew from the gathering:

- Strong support continues for the concepts and opportunities that the project represents, across a wide range of stakeholder groups and agencies
- There will be great ecological value in extending the corridor concept to include the entire riparian, floodplain region of the greater Rondout Creek, along its length through both Towns.

- Protection of the areas wetlands and riparian zones will serve multiple, overlapping purposes helping both human protection, flooding, civil and infrastructure, economic, ecological and recreational areas.
- Review of and, if possible, refinement of the Zoning and protection approach within the Town of Wawarsing for the greater Colony Farm area could help a great deal.
- Spatial information for Trails and Recreation resources need updating and revision.
- Aiding support for priority growth areas (e.g. Hamlets),as already mentioned within the comprehensive plans of both towns, as well as conservation development (within identified important biological areas) can ease pressure on development within sensitive and irreplaceable zones where connectivity and resilience can protect the regions long-term ecological integrity and ecosystem services.
- Regional collaborations and partnerships will continue to greatly enhance the effectiveness of both conservation as well as development efforts.
- Agriculture and agro-tourism will likely continue to expand and serve as a foundation for the regional economic health. This and future planning efforts should continue to support and enhance these constituents.

Table 1. CSGC Symposium Attendees

AGENCY	FNAME	LNAME
Project Manager - CSGC	John	Adams
OSI	Bob	Anderberg
TOR Planning Chair	Mike	Baden
Benjamin Center at SUNY New Paltz	Gerald	Benjamin
TOR Supervisor	Carl	Chipman
NH&OSP Consultant	David	Church
RVGA	Deborah	Dewan
TOR Planning Bd. Member	Larry	Dewitt
UC Planning Director	Dennis	Doyle
Hudson Valley Agribusiness Development Corp.	Todd	Erling
Center for Bioregional Living	Andrew	Faust
TOR ECC Chair	Laura	Finestone
NYNJTC	Andy	Garrison
TOW ECC Member	Jorge	Gomes
TOW ECC Member	Jack	Grifo
NYS DEC HREP	Laura	Heady
TOR ECC Member	Rick	Jones
TOR ECC Member	Judith	Karpova
TNC	Cara	Lee
NYNJTC	Sonya	Mason
NYS DEC	Evan	Master
Town of Wawarsing	Paul	McAndrews
NH&OSP Consultant	John	Mickelson
Rondout-Esopus Land Conservancy	Gloria	Mirsky

RVGA\Local farm-to-table advocate	John N.	Novi
Graphic artist	Maria	Reidelbach
NYS DEC	Jeff	Ryder
Catskill Center\CRISP	John	Thompson
RVBA	Richard	Travers
TOW ECC Member	Sarah	Underhill

Table 2. Ag Working Group: SWOT Analysis & Suggestions

Agriculture & Agro-tourism Working Group

Group leader: John Adams - Port Ben Farm			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREATS**
17,000 acres of farmland in Ag Districts with an increase in farmland across the Rondout Valley	No site control (D.O.C owned) of the immediate property	Mid-Hudson Sustainability Plan supports Ag industries and can continue to.	Need ag-friendly zoning
Long-term farming heritage of the lands and property within the Colony Farm region.	D.O.C. has no plan; property could be split up	Dept of Corrections does not have a plan	Dept. of Corrections: may be unwilling to part with the land
Keeping it going would be a continuity of use		Planning	
		Prime property for cultivation	
		CFA grants may be available	
		Town policy supports Ag uses at Colony Farm	
Suggestions and Items to Address			
Initiate study of prison\farm properties in Hudson Valley	Importance of engaging NY State & other officials		
Related to: historical use of lands, potentials and support for agricultural basis	Importance of getting officials & agencies on your side		
Dairy focus v.s. diversified operation for Colony Farm	Maps show Colony Farm is the critical connecting feature of a regional corridor		
Identify what Rondout Valley needs to succeed	Ag\Biz with zoning along Rt. 209 corridor		
Responsive to changing conditions & markets	Towns bring visibility to prison farm land issues		
Ag\Tourism = foundation of local economy	DEC taking ownership of DOC lands could be supportive of many ecological options; though Ag uses might be limited		

Table 3.Ecology Working Group: SWOT Analysis & Suggestions

Ecology and Corridor Science Working Group

Group leader: Cara Lee - TNC			
STRENGTHS			
Lots of protected lands with the potential for linkages	WEAKNESSES	OPPORTUNITIES	THREATS
Large patches of unfragmented forest lands	Some of existing zoning might not encourage connectivity	Nature-based tourism can be a strong economic driver	Incompatible growth of Air B&B industry, limited use for natural or rural areas?
Abundant trail systems - can support connectivity for hikers, etc…	Challenge of balancing development and protection of linkages	Could provide strong local economic stimulus for: biking, hiking, restaurants	diminished connectivity
Ecological goals largely compatible with agricultural goals		Clustered\Priority growth areas, in Comp plans coincides with potential corridor development	Incompatible development along Rt. 209 corridor
Floodplain protection & connectivity provides community resilience to flooding		Improve wildlife connectivity as bridges & culverts are replaced, oversize and improve to enhance aquatic connectivity as well as animal movements	Diminished water quality
Davis & Kelly Farms		Repurposing or restoration of areas with idle business and abandoned structures could ease development in undeveloped areas	
		Protection of riparian zones can serve many purposes, as habitat, water recharge, water filtering, slowing flooding, hiking and recreation	
Suggestions and Items to Address			
"What can Wawarsing & Rochester *do*"?			
Name streams to include more protection	DEC\TNC Culvert study (2012) with camera traps showed animal activity through culverts, show that a corridor is needed	Hunting, fishing communities seen as supporting conservation; wild material foraging could go either way	
Buffer all streams, even if they may be intermittent	Public access points (Colony Farm, Lundy property) help connect important regional features		
Rt. 209 Corridor: find places to preserve connectivity	Promote forest management with private landowners		
Find places that are good for cluster\conservation development (sensitive\important)	Educational opportunities on connectivity and stewardship		
Identify development constraints (floodplains & stream corridors)	Citizen science: e.g. use iNaturalist to collect observations of wildlife use across corridors		
Park of municipally owned parcels	County owned lands (?)		

Table 4 Recreation Working Group: SWOT Analysis & Suggestions

Recreation Working Group

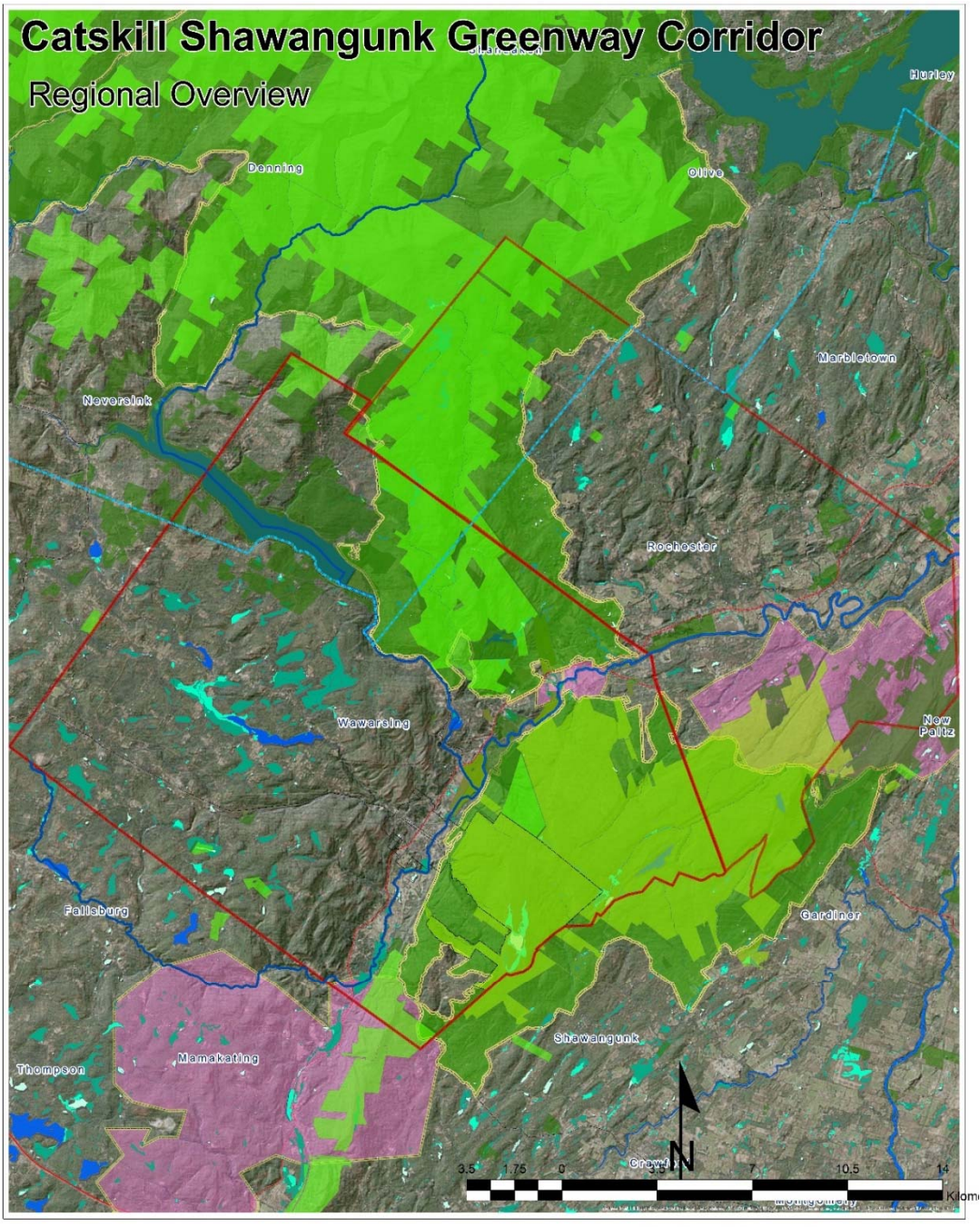
Group leader: Andy Garrison NYNJTC			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREATS**
Lots of recreation density & diversity	Trailhead Parking	Lots of public lands	Private sale of Colony Farm\prison lands
Many existing connection between State and local recreation assets	Signage for locating recreation opportunities	Sharing town servicers to regionalize town park systems	Farm land for other than ag\rec.
Colony Farm makes good trail hub	Water access especially for Rondout Creek	Trails\Recreation opportunities for Ellenville, Bicycle opportunities	Tax cap restrictions in allocating local funds for recreation
Agritourism potential & farm stays	Recreation development fees; don't currently exist (?). How to implement	Tie proposals more closely to management plans (Sundown\Vernooy Kill State Forest)	
	Lacking in affordable\desirable local overnight accommodations	Develop signage plan	
Suggestions and Items to Address			
Extend stakeholder groups to include groups such as: mountain bike representatives, hunting, fishing, water sport groups			

Table 5 Economics Working Group: SWOT Analysis & suggestions

Economics & Agro-tourism Working Group

Group leader: Richard Travers - Rondout Valley Business Association			
STRENGTHS	**WEAKNESSES**	**OPPORTUNITIES**	**THREATS**
Cheese Farm (potential for) = great idea!	Rail Trail gaps & crossings	More agro-themed recreation & education	Waste disposal, cleanup for increased tourists
Great fishing in areas (and opportunity to expand) could be real draw	Rt. 209 splits the Long Path and ecological corridor	Strong emphasis on healthy, delicious agriculture	More parking
Rail Trail – Needs to be completed, Ellenville – Kerhonkson, will be important for region	Rt. 209 development now random and unattractive	Rondout Valley branding	Box\stores, strip malls, sprawl along 209
Town Park in 'Village of Kerhonkson – potential would be welcomed	Lack of funds	Draw hoards visiting near-by parks	
Wawarsing Zoning Update to preserve rural character along Rt. 209 is welcomed	Prison bureaucracy, Dept. of Corrections	Popularize routing to avoid New Paltz traffic\ establish Rt. 17 as major gateway	
Great local farms along Rt. 209 corridor & some upland	Wawarsing zoning	Foodies - food tourism	
UC Tourism (ulsteralive.com) very helpful and supportive		Expand bike trails and bike rentals	
		Put-ins, Take-outs access to Rondout Creek with boats, kayaks, canoes	
		Rental of E-Bikes	
		Zoning limitations ?	
Suggestions and Items to Address		Better regional transportation to get to Ellenville	
Envision and work on: overpass\underpass passages for animals to safely cross RT. 209		Better wayfinding throughout valley to point out strengths	
Restaurants **– more and better**		Bike lane\Mtn. bike trails along Rt. 209	

		Bed & Breakfasts along Shawangunk Side	
		Expansion of Bike & Canoe rentals	



Legend

NHD Areas
Rondout Creek
NYS Park Lands
DEC Lands
All Protected Lands
NWI Wetlands
Matrix Forest Blocks
HBA
Linkage Zones
Forest Block Linkages

Regional Perspective

Hydrology and Wetlands
Protected, Forest and Park Lands
Proposed Regional Corridor Footprint

TOWN OF WAWARSING
The Town Of Rochester ULSTER COUNTY New York