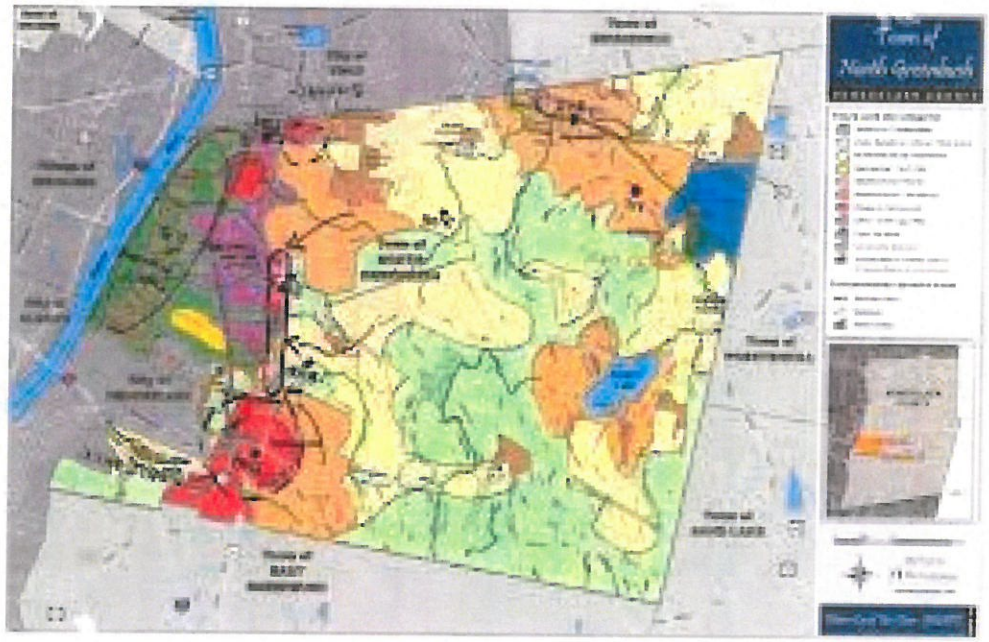


The Town of North Greenbush

www.townofng.com

Cornell Cooperative Extension Rensselaer County

Climate Smart Resiliency Planning

Town of North Greenbush

Hudson Estuary Watershed Resiliency Project

A program of Cornell Cooperative Extension in partnership with the NYS DEC Hudson River Estuary Program, NY Water Resources Institute and Cornell University with support from the NYS Environmental Protection Fund.

www.blogs.cornell.edu/estuaryresilience

Cornell University
Cooperative Extension

NEW YORK
STATE OF
OPPORTUNITY
Hudson River
Estuary Program

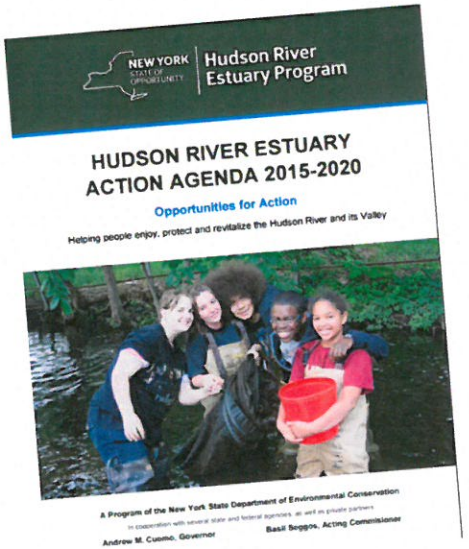
A Program of the New York State Department of Environmental Conservation

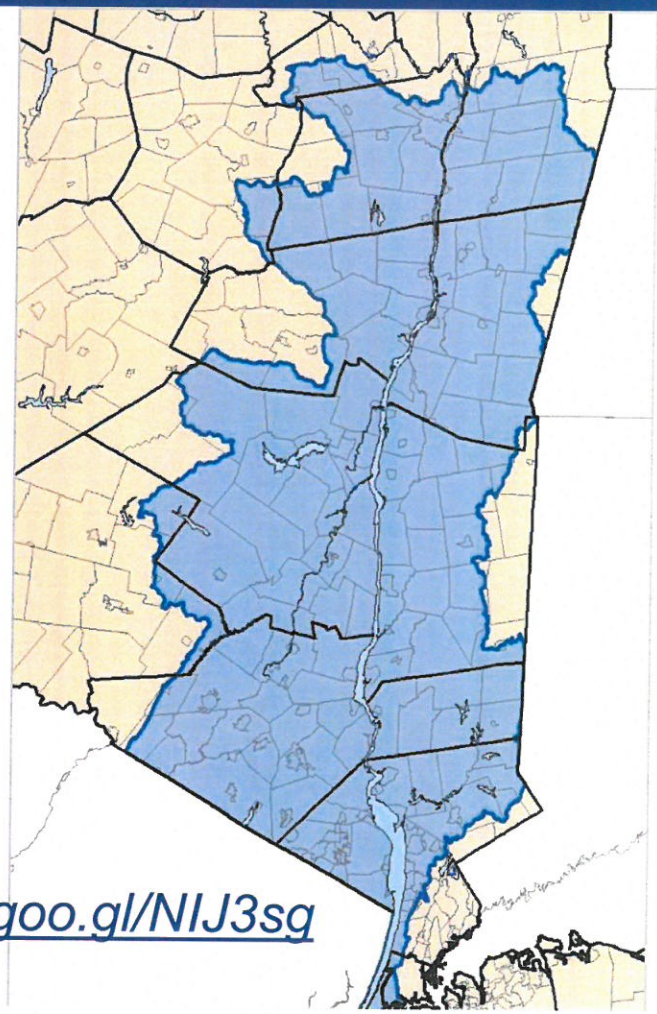
New York State
Water Resources Institute
Cornell University

The Hudson River Estuary Program

Working to achieve
6 key benefits:

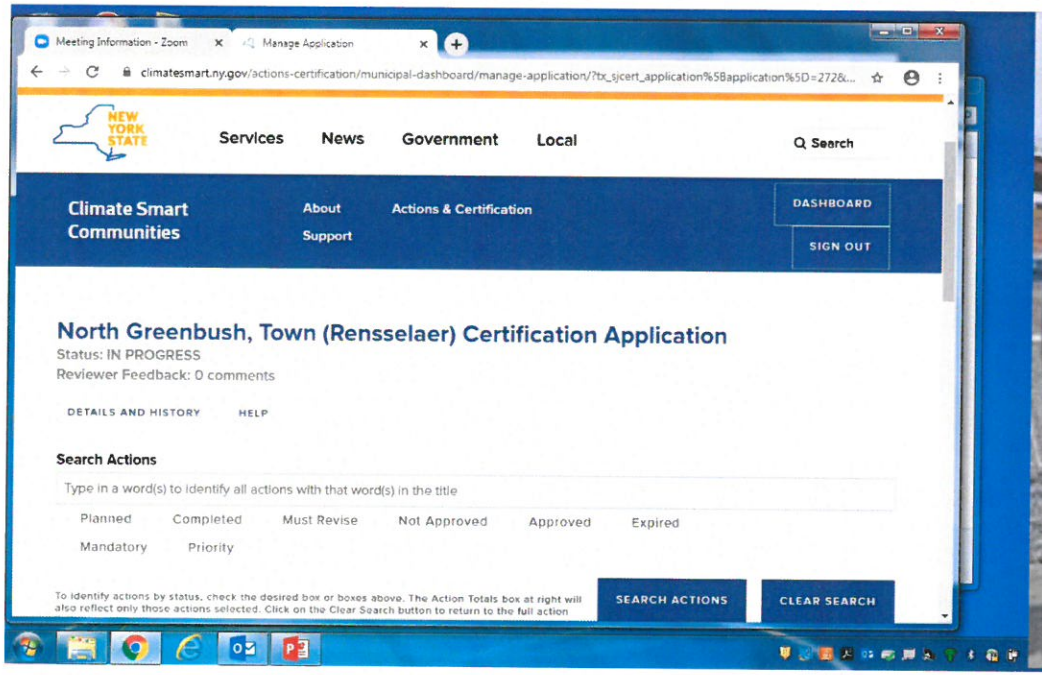
- clean water
- ***resilient communities***
- vital estuary ecosystem
- fish, wildlife, and habitat
- natural scenery
- education, access, recreation, and inspiration





http://goo.gl/NIJ3sg

Climate Smart Communities Certification



https://climatesmart.ny.gov/

What are the benefits of becoming a Climate Smart Community?

NEW YORK STATE OF OPPORTUNITY. | Climate Smart Communities

- **Free technical assistance**
- **Guidance:** website, decision-support tools
  - Monthly webinars, email list, workshops
  - Certification program offers a frame work for a menu of actions
- **Networking:** learn with like-minded community leaders

- **Leadership recognition:** state-level attention for local leaders
- **Funding:** better positioned to compete for funds; CSC grants; ZEV rebates

Slide credit: Kristin Marcell, NYS DEC HREP

The CSRP tool covers six planning areas that are key for climate resiliency

- Section 1 – Community Plan Checklist
- Section 2 – Risk and Vulnerability Assessments
- Section 3 – Public Outreach and Engagement
- Section 4 – Planning Integration
- Section 5 – Disaster Preparedness and Recovery
- Section 6 – Hazard Mitigation Implementation

Slide credit: Libby Zemaitis, NYS DEC HREP – photo credit Mary Frances Sabo

Climate Smart Resiliency Planning Tool

	Section 1: Commu+A2:F12nity Plan Checklist	Yes	No	Adoption Year	Update Frequency	Notes
1.1	Municipal Master Plan	x		2009		https://www.townofng.com/boards-committees/comprehensive-plan/final-plan-december-2009/
1.2	Zoning Ordinance	x		1981		Modified in 2016 -
1.3	Subdivision Ordinance	x		1960		Reviewed in the past couple of years by the Codes Committee
1.4	Open Space Plan	x		2007		Possibly put a committee together to review this
1.5	Natural Resource Conservation Plan	x		2018	2018-2030	Rensselaer Land Trust - https://www.renstrust.org/images/projects/ConservationPlanFinal/RLT-Conservation-Plan---Reduced-Quality.pdf
1.6	Stormwater Management Plan	x		1980		Will be updated this year based on comments by Eric Westfall the Storm Water Management officer.

- A Community plan checklist that helps identify gaps at the beginning of the assessment process
- Helps local decision makers identify planning and adaptation opportunities to improve resilience through existing planning mechanisms, public engagement, and disaster preparedness.

Climate Smart Resiliency Planning Tool

- Completing the Climate Smart Resiliency Planning Tool satisfies Climate Smart Communities Certification Action 7.3, and is worth a total of 6 points.

- The purpose of completing the tool is to reduce your community's vulnerability to climate hazards such as extreme precipitation, flooding, storm surge, sea level rise, extreme heat, heat waves, and drought.

Section 1: Community Plan Checklist	Yes	No	Adoption Year	Update Frequen
1.1 Municipal Master Plan				
1.2 Zoning Ordinance				
1.3 Subdivision Ordinance				
1.4 Open Space Plan				
1.5 Natural Resource Conservation Plan				
1.6 Stormwater Management Plan				
1.7 Coastal Plan or Element in Other Plan				
1.8 Shoreline Restoration Plan				
1.9 Coastal Erosion Hazard Area Ordinance				
1.10 Multi-Hazard Mitigation Plan				
1.11 Floodplain Management Plan				
1.12 Flood Damage Prevention Ordinance				
1.13 Evacuation Plan				
1.14 Emergency Response & Short-term Recovery Plan				
1.15 Continuity of Operations Plan				
1.16 Disaster Recovery Plan				
1.17 Long-term Recovery Plan				
1.18 Economic Development Plan/Strategy				
1.19 Capital Improvements Plan				
1.20 Metropolitan Transportation Plan				
1.21 Historic Preservation Plan				
1.22 Local Waterfront Revitilization Plan				
1.23 Climate Action Plan				
1.24 Other:				

Deliverables & Outcomes

- Completed CSRP Tool
- Identify gaps in existing plans and policies
- Next Steps - Recommendations

The Team!

Mary Frances Sabo – Town Councilwoman &
Chair of the Climate Smart Committee

Michael Miner – Town Building Department Coordinator

Eric Westfall – Town Engineer

David Wilson – Town Planning Board Member

Mark Premo – Highway Superintendent

John Greaves – Climate Smart Committee Member

Morgan Ruthman – Climate Smart Committee Member

Karl Lampson – Climate Smart Committee Member

Scott Noel – Climate Smart Committee Member

Climate Resilience Strengths
Town of North Greenbush

- The Town has taken the Climate Smart Pledge and has a motivated Climate Smart Committee.
- Town is part of the National Flood Insurance Program and tracks repetitive loss properties
- 2020 Updated County Multi-Jurisdictional Hazard Mitigation Plan
- Local Waterfront Revitalization Plan filed (1990)
- Knowledgeable and hard working Town staff and Elected Officials dedicated to Strengthening the Town of North Greenbush.
- Strong relationship with the RPI Tech Park (critical due to proximity to the Hudson River).

Rensselaer Technology Park

RPI Technology Park (RTP) Climate Smart Practices

The Rensselaer Technology Park Campus is comprised of approximately 1,250 acres. 660 of those acres are set-aside as undevelopable, resulting in valuable view shed and habitat protection. Climate Smart practices that have been adopted at the Tech Park over the past several years include, but are not limited to the following:

Over the last twenty years, the monarch butterfly population has decreased by 90%. The Tech Park has set-aside a two acre site to help save the monarch butterfly by growing vital habitat that support monarch breeding and migration patterns. The Tech Park is home to an official Monarchs in the Rough Foundation, Monarch Butterfly Habitat Site.

120 ash trees along Jordan Road and internal lanes are treated annually to mitigate the emerald ash borer. Thus far those treatments have been highly effective. In addition, the Tech Park has instituted a one-for-one tree replacement plan to offset the loss of trees due to illness or injury.

The Tech Park has the first ground mounted solar farm in the Town of North Greenbush, constructed at the GE Healthcare facility. The solar farm offsets approximately 8% of the annual electric usage at the facility. The Tech Park office worked with GE to develop a site plan that included site grading and landscaping so as to minimize any visual impacts from Stone Clay Road.

The Tech Park organizes frequent electronic recycling events.

The Rensselaer Environmental Health and Safety department collects and disposes of spent batteries, light bulbs and lighting ballast at the Tech Park and these materials are disposed of in an environmentally responsible manner.

RPI Technology Park (RTP) Climate Smart Practices

Over the last several years the Tech Park has implemented water conservation measures with respect to landscaping activities. Open areas of the Tech Park are mowed less frequently (reducing carbon emissions in the process) and seasonal landscaping that are water intensive are being removed and some planting areas are being replaced with hardscape materials.

The Tech Park has master planned design guidelines for the development of any of its parcels. Included are stringent guidelines with respect to the preservation and protection of wetland areas and the creation of storm water prevention and retention requirements that exceed the minimum design requirements.

The Tech Park has implemented measures to reduce light pollution, also known as light trespass. The Tech Park is designated as an E2 area of low ambient brightness. Our goal is to maintain or improve that rating by replacing high intensity light trespass exterior fixtures with down directed light fixtures. The Tech Park is replacing street light and parking lot lighting with LED fixtures with dimmable/sensor capabilities. Exterior wall packs, typically one of the largest sources of trespass light, are being replaced with less intense, wall washing spreads.

The Rensselaer Lighting Research Center (LRC) conducted a demonstration project where the Tech Park retrofit 270 existing, obsolete fluorescent lighting fixtures at 125 Jordan Road and installed state of the art controls and sensors to best manage energy usage. This project is innovative because it will be the first time that an independent lighting laboratory conducted field research in an occupied commercial space and are able thereafter to accurately measure, calculate and compare performance energy savings, operation and occupant feedback/acceptance of the lighting system options.

The Tech Park requires street and building signage be back-lit and not lamped from the ground or from above.

Bloomingdale Brook is the largest stream within the Park and approximately three acres and 3,000 linear feet of the brook was part of a substantial wetlands habitat improvement project. The goal was to create a more desirable ecological habitat, including the installation of swales, spillways and ponds and desirable tree and shrub plantings. Today, that habitat has flourished, resulting in a premier wetland environment of its type.

For over 20 years, the Tech Park and the Town of North Greenbush have maintained a small system of walking trails for use by Park tenants and local residents. The trails are approximately 3.2 miles. The most used trail is the loop trail on Global View Road. The one mile loop trail was recently renovated with support from nearby Tech Park tenant Regeneron Pharmaceuticals.

The Tech Park expects to install three dual port EV charging stations by the spring of 2021.

Areas of Opportunity
Town of North Greenbush

- Strengthen storm water management plans
- Update the Town Comprehensive Plan to include climate resiliency/sustainability
- Explore the inclusion of ZEV and charging station capacity
- Make the final CSRP Tool available to residents – town website
    - Initiate steps toward becoming a Climate Smart Certified Community

Storm Water Management
Comprehensive Plan Update - Sustainability
Town of North Greenbush

- Update Storm Water Plan
  - Mapping
  - Developers - Over Retaining

- Update the Town Comprehensive Plan to include climate resiliency/sustainability elements
  - When updating the Comprehensive Plan within **CSC PE6 Action: Comprehensive Plan with Sustainability Elements (3-21 pts).**[6]

Stormwater Management Program (SWMP) Plan

The Town of North Greenbush SWMP Plan has been developed to comply with the New York State Department of Environmental Conservation General Permit for stormwater discharges to is a Municipal Separate Storm Sewer Systems (MS4s). The SWMP consists of six main program elements designed to reduce the discharge of pollutants. These elements, titles Minimum Control Measures, are as follows:

MCM 1: Public Education and Outreach

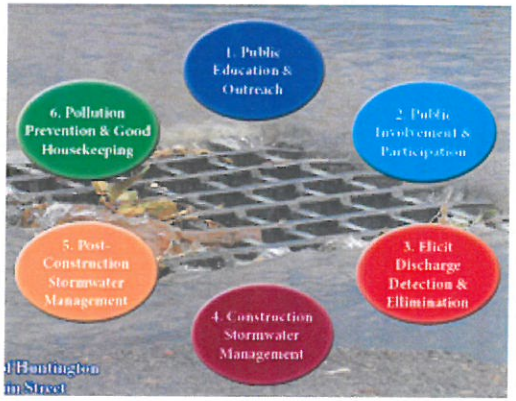
MCM 2: Public Involvement/Participation

MCM 3: Illicit Discharge Detection and Elimination

MCM 4: Construction Site Runoff Control

MCM 5: Post-Construction Stormwater Management

MCM 6: Pollution Prevention/Good Housekeeping for Municipal Operations



Stormwater Management Program (SWMP) Plan

The Town works to meet the MCM Goals in many ways …

Annual review and update of the SWMP - Updating Stormwater Laws

Submission of Annual MS4 Report - Public Website and Bulletin Board

Public Activities - Illicit Discharge Mapping and Inspections

SWPPP Review - Site Stormwater Inspections

Stormwater Management Areas - Good Housekeeping BMPs

Minimization of Pollutants - Standardization of Procedures

Participation in the Rensselaer County Stormwater MS4 Communities Coalition

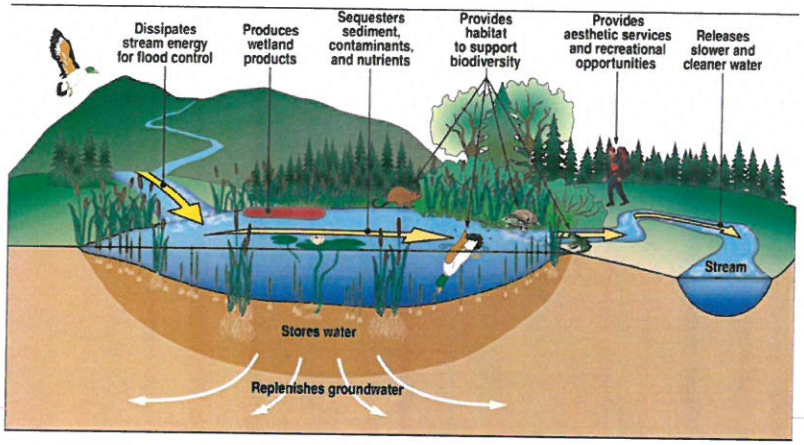
Participation in the Climate Smart Community Program

Establishment of a Stormwater Management Website and Emergency Contact

Climate & Stormwater
Natural Resource Remedies

Wetlands

- *Sequester significant amounts of carbon.*
- *Mitigate flooding by storing/slowly releasing rainfall and runoff.*
- *Filter water.*
- *Groundwater recharge / groundwater discharge (i.e. springs).*
- *Biodiversity hot spots.*
- *Aesthetics & recreation.*
- *Over half of our original wetlands in the lower 48 states have been drained and converted to other uses.*



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Trees

- *Curb climate change directly by removing carbon dioxide from the atmosphere.*
- *By catching rainwater, reducing erosion, and creating more permeable soils, trees help prevent nearly 400 billion gallons of runoff annually in the continental U.S.*
- *The U.S. Forest Service estimates that on average, 100 mature trees keep about 140,000 gallons of water a year from flowing into storm sewers.*

Slide Compliments of John Greaves

Town of North Greenbush
Climate Smart Community Presentation
Topic: EV Charging Stations

- *Overview*
- *NYSERDA Charge Ready Program*
- *National Grid EV Charging Station Program*
- *DEC Municipal Zero-emission Vehicle (ZEV) Rebates*

Slide Compliments of Morgan Ruthman

Overview

Reforming the Energy Vision

- New York State's renewable energy initiative, **Reforming the Energy Vision (REV)**, was launched in 2014 and has the stated purpose of "transforming the way electricity is produced, bought and sold in New York and enabling the integration of renewable energy generation and smart grid technologies on the electric grid".
- **NYSERDA's Charge Ready** program is among REV's 40+ programs and provides rebates of $4,000 per charging port for Level 2 charging stations installed at public, workplace, and multi-unit dwelling parking lots.
- The NYS Public Service Commission (PSC) also recently expanded its "Make Ready" program to incentivize utilities and charging station developers to site electric vehicle charging infrastructure; "Make Ready" incentives are available in the Capital Region through **National Grid's EV Charging Station** program.

Slide Compliments of Morgan Ruthman

NYSERDA Charge Ready Program

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- The Charge Ready program offers incentive funding to applicants for **purchase and installation costs** of electric vehicle charging stations.
- Incentives are currently capped at $4,000 per charging port; most Level 2 stations have 2 ports, resulting in $8,000 per station.
- Covered costs can include charging station, activation costs, installation costs, and subscription costs of hosting platform.
- Application process is managed through NYSERDA portal and requires initial outlay by applicant; refund in 30-60 days from final approval.
- Link: https://www.nyserda.ny.gov/All-Programs/Programs/ChargeNY

Slide Compliments of Morgan Ruthman

National Grid EV Charging Station Program

nationalgrid

- National Grid offers "Make Ready" funding for the **electrical infrastructure costs** required to service EV charging stations.
- Incentive funds are currently being revamped for 2021 and should cover up to 90% of "Make Ready" work, with funds payable directly to approved installer; funding currently "capped" at $5,000/station.
- Covered costs include site assessment, installation of underground electrical infrastructure, and concrete pedestal with bolt pattern.
- Charging station is owned by the applicant and National Grid owns and maintains the electrical infrastructure.
- Link: https://www.nationalgridus.com/Upstate-NY-Business/Energy-Saving-Programs/Electric-Vehicle-Charging-Station-Program

Slide Compliments of Morgan Ruthman

DEC Municipal Zero-emission Vehicle (ZEV) Rebate

NEW YORK STATE OF OPPORTUNITY | Department of Environmental Conservation

- The DEC offers:
  - (1) rebates to municipalities for purchase or lease eligible new zero-emission vehicles for fleet use;
  - (2) grants to municipalities for installation of electric vehicle charging stations for public use; and
  - (3) grants to Climate Smart Communities for eligible climate mitigation and adaptation projects.
- DEC funding and NYSERDA Charge Ready incentives cannot be pursued for same installation.
- EVs with an electric range of 51 miles or greater are eligible for rebates of $5,000, and eligible vehicles must be new and be placed into municipal service at a dealership in New York State.
- In 2020 $500,000 was available to municipalities for the purchase or lease of eligible vehicles for fleet use. **2020 funding currently depleted; need to stay tuned for 2021 funding allocation and application timeframe.**
- Link: https://www.dec.ny.gov/energy/109181.html

Recommendations
Town of North Greenbush

- Update Storm Water Plans/ mapping
- Update the Town Comprehensive Plan - resiliency/sustainability
- Explore the inclusion of ZEV and charging station capacity
- Make the final CSRP Tool available to residents – town website
    - Continue steps toward becoming a Climate Smart Certified Community

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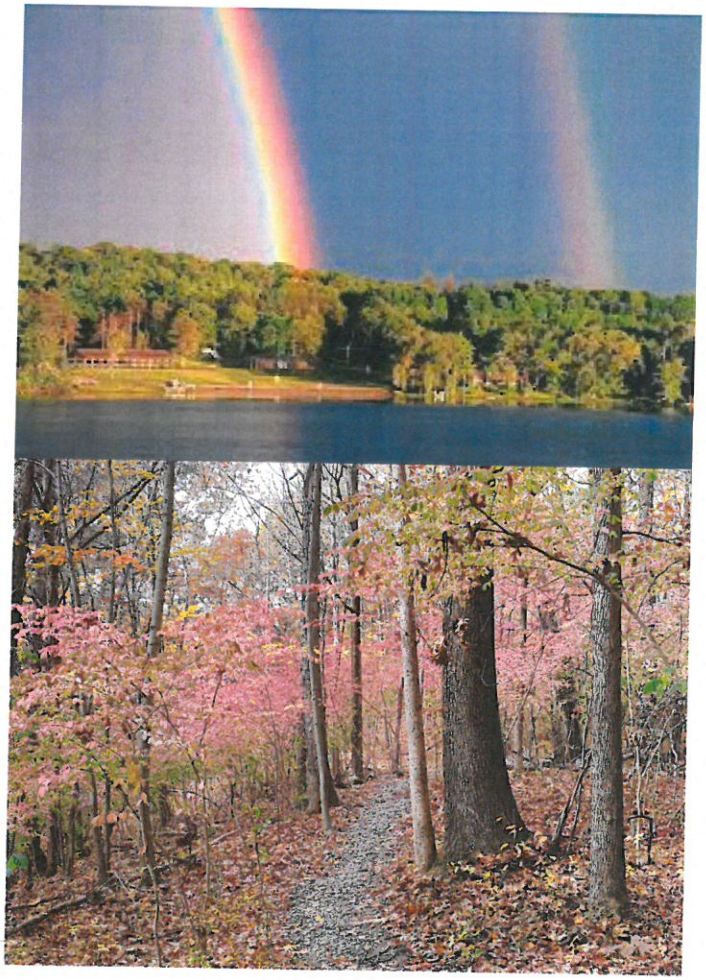

North Greenbush 2020