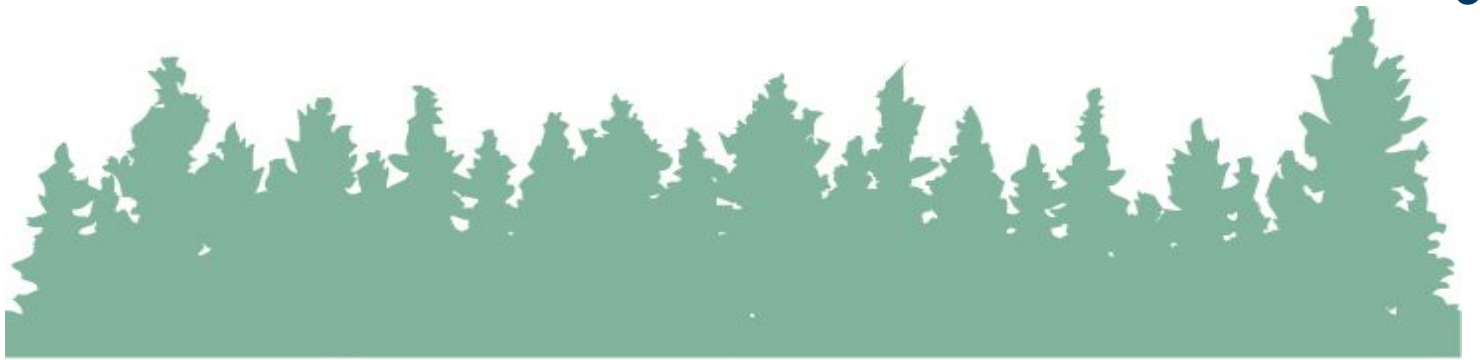
Town of East Greenbush
Natural Resources Inventory



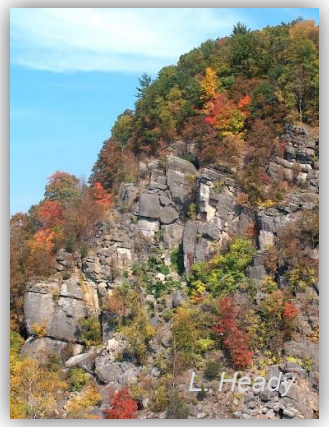
NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation | Hudson River Estuary Program

Cornell University

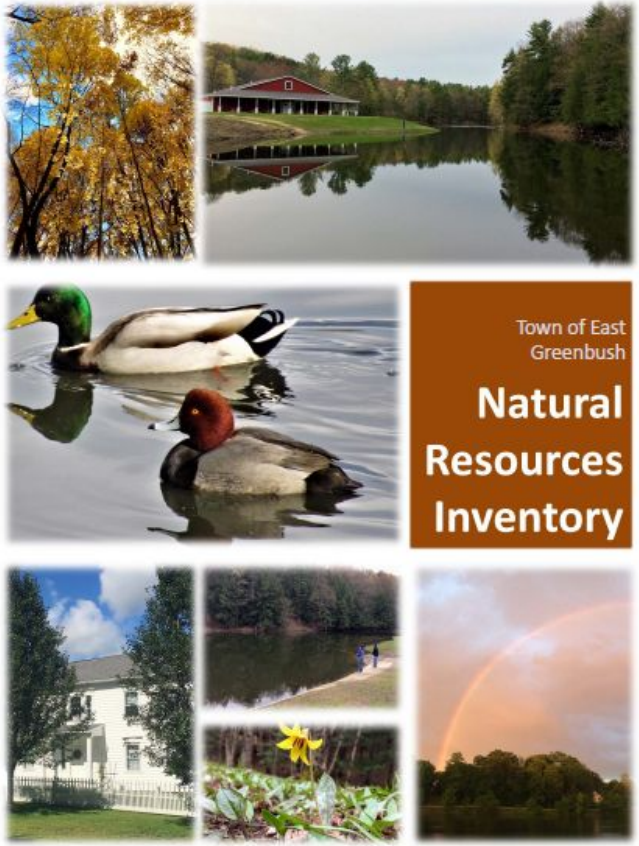
TOWN OF EAST GREENBUSH EG RENSSELAER CO. N.Y.

What is an NRI?

- Geology & soils
- Water Resources
- Habitats
- Land Use
- Climate Conditions
- Cultural Resources



Why inventory natural resources?



- Foundation for comprehensive planning & zoning
- Valuable tool for land use planning
- Educate landowners and developers
- Keep track of “big picture”

East Greenbush NRI

NRWG Volunteers:

Victoria Manieri (Chair)

Jennifer Dean

Jennifer Hixon

Nancy Kupiec (Planning Board)

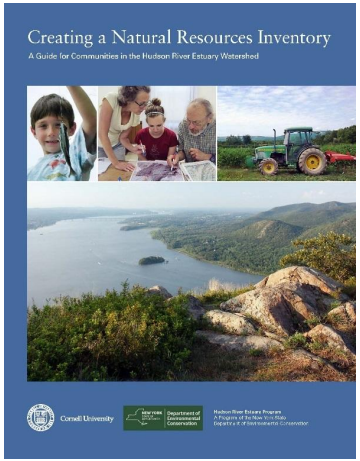
Andrew Poitras

Bob Wood

Adam Yagelski (Town Planner)

Guy Warner (Town Board)

Tina Tierney (Town Board)



With support from:

Ingrid Haeckel

(DEC Hudson River Estuary Program)

Andrew Varuzzo

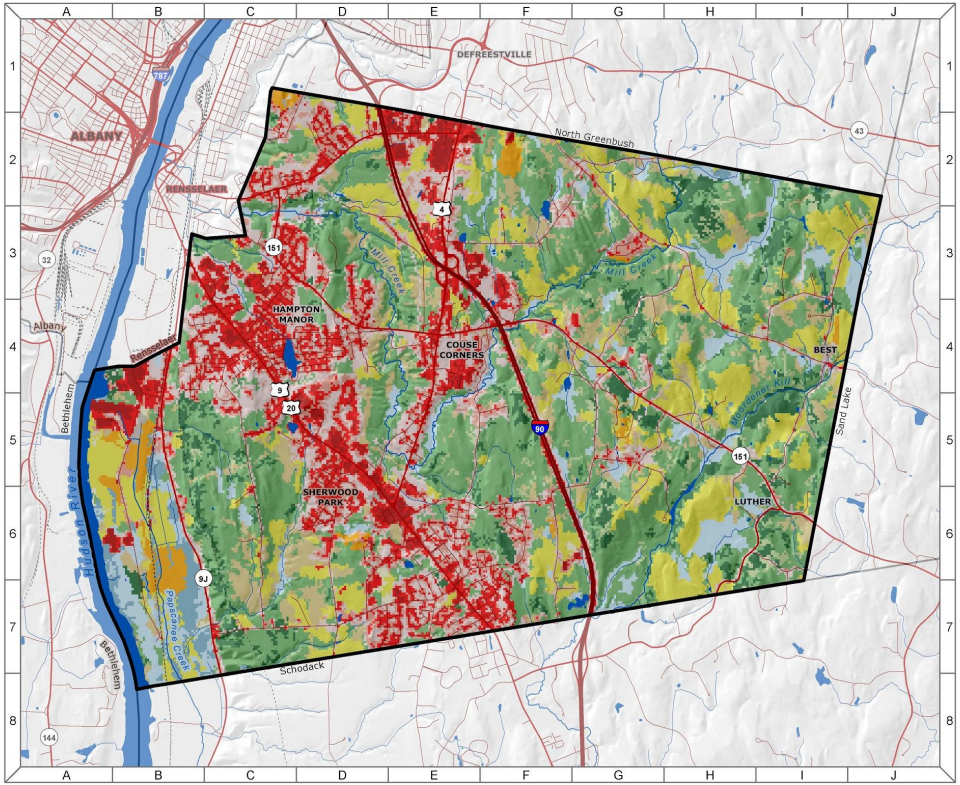
(Cornell GIS Intern)

Nick Conrad and David Hunt (Rensselaer Land Trust)

Land Use

A 10% increase in impervious cover can double runoff and increase flood risk by 28%

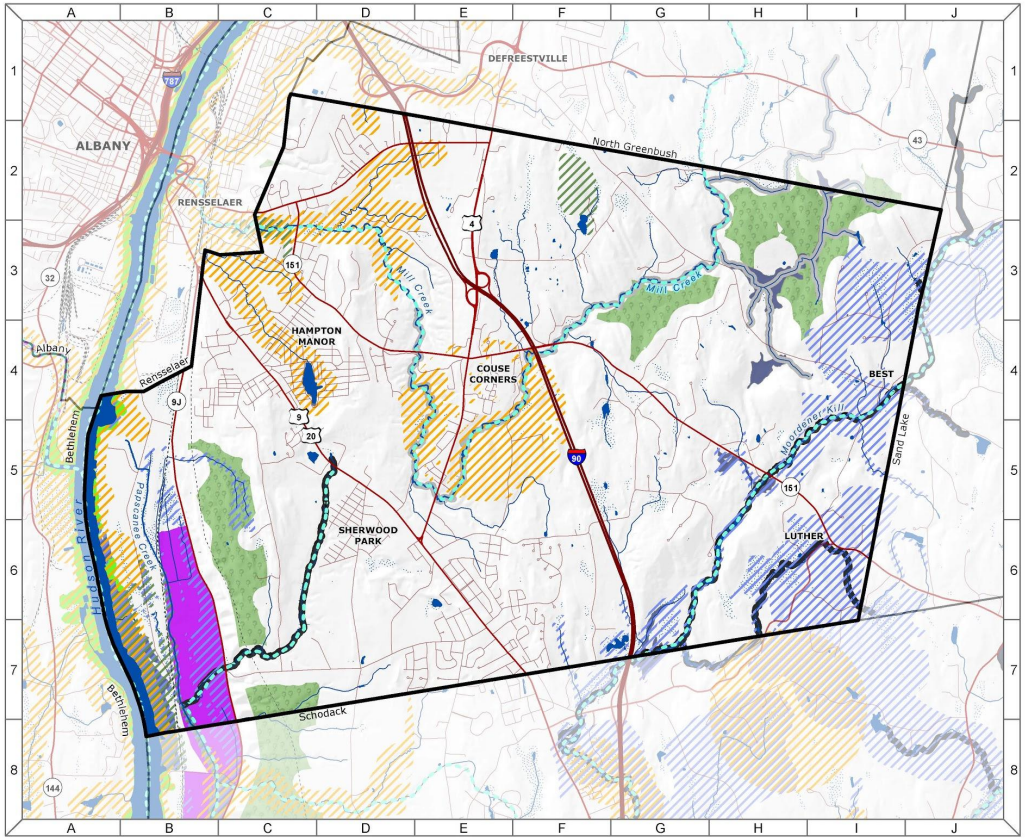
(United States EPA)



Habitats & Significant Ecological Features

Habitats:

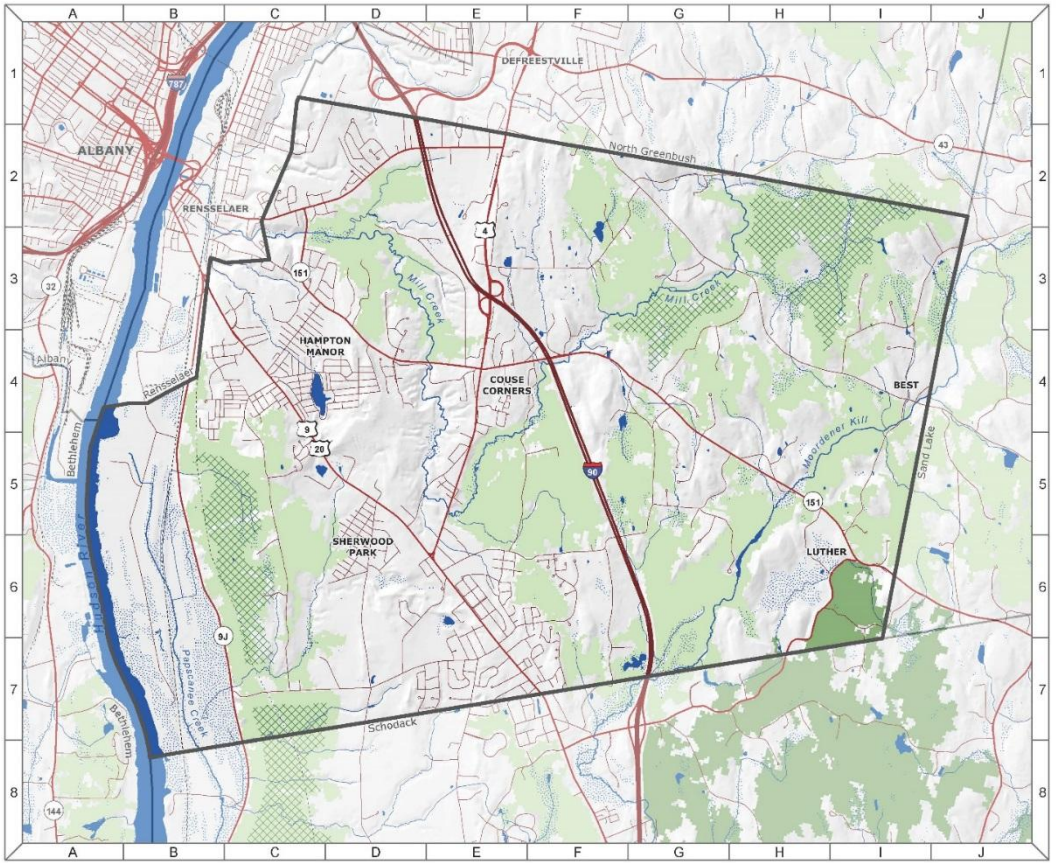
- Coastal/ Hudson River Estuary
  (tidal wetlands and shoreline, and underwater areas)
- Streams
- Riparian and floodplain areas
- Wetlands
- Large forests
- Grassland, shrubland, and young forests



Large Forests

Forest blocks provide many benefits

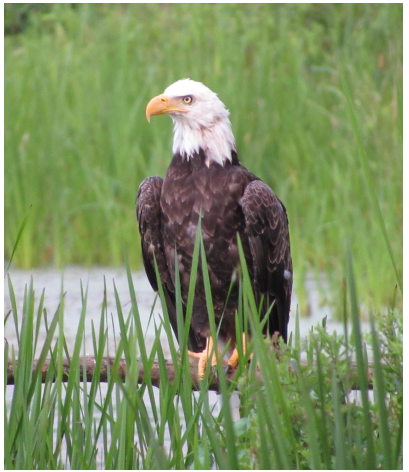
- Habitat for forest-interior species
- Serve as corridors for wildlife movement and plant dispersal
- Help protect water quality
- Reduced exposure to invasive species
- Increased quality of life



200 – 1,999 acres – Stepping Stone Forest

2,000 – 5,999 acres - Locally Significant Forest

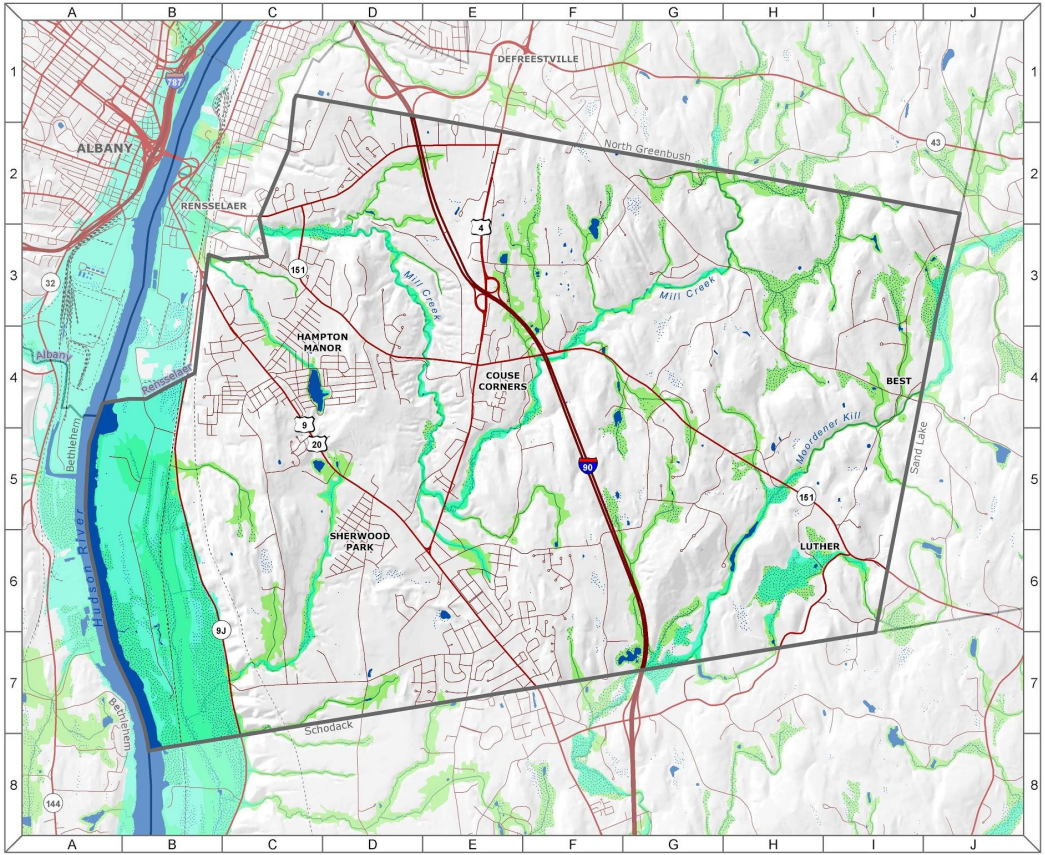
Important Forest Interiors



Photos by East Greenbush resident Jodie Krulikowski

Floodplains and Riparian Areas

- Provides critical habitat
- Control flooding
- Reduce damage from storm surge
- Recharge groundwater
- Filter & purify surface water
- Provide recreational opportunities



Town of East Greenbush
Natural Resources Inventory

11. Floodplains and Riparian Areas

Map Legend

FEMA Flood Hazard Areas
- 1% (100-Year) Flood Zone

Hydrology
- Riparian Areas
- Open Water
- Wetland
- River/Stream

Roads
- Interstate
- State/US Highway
- Local Street
- Railroad

Municipality

Scale: 1:40,000

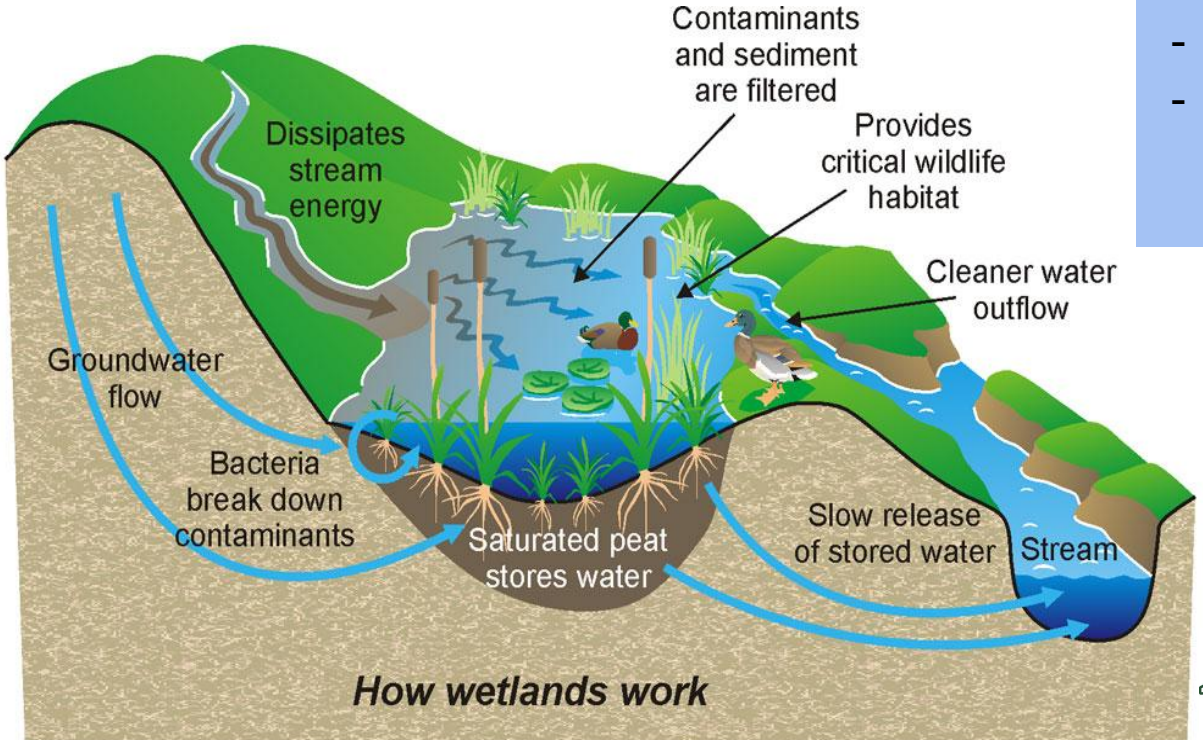
0 0.25 0.5 1 Mile

N W E S

Data Sources: *Flood Zones:* Federal Emergency Management Agency (June, 2015). | *Riparian Areas:* NY Natural Heritage Program (2018). | *Roadways:* ESRI North American Detailed Streets (2010). | *Railroads:* NYS DOT (May 2013). | *Towns:* NYS GIS Program Office (January 2017). | *Elevation:* NYS DEC and U.S. Geological Survey (date unknown). | *Rivers/Streams:* National Hydrography Dataset: NYS DEC and US Geological Survey (March 2017). | *Wetlands:* US Fish and Wildlife Service(2012) and NYS DEC (2013). **Note:** This map is intended for general planning and education purposes and is not a substitute for site-level surveys. It relies upon public data sources that may contain errors or omissions. Town of East Greenbush Natural Resources Inventory maps were completed with technical assistance from Cornell University, with funding from the NYS Environmental Protection Fund through the NYS DEC Hudson River Estuary Program. http://hudson.dnr.cals.cornell.edu. Map by Andrew Varuzzo, 2018.

Cornell University | NEW YORK STATE DEPARTMENT OF ENVIRONMENTAL CONSERVATION | Department of Environmental Conservation | Hudson River Estuary Program

Wetlands



Wetlands can remove or trap:

- 20 to 60% of metals
- 80 to 90% of sediment
- 70 to 90% of entering nitrogen

(Ecological Society of America)

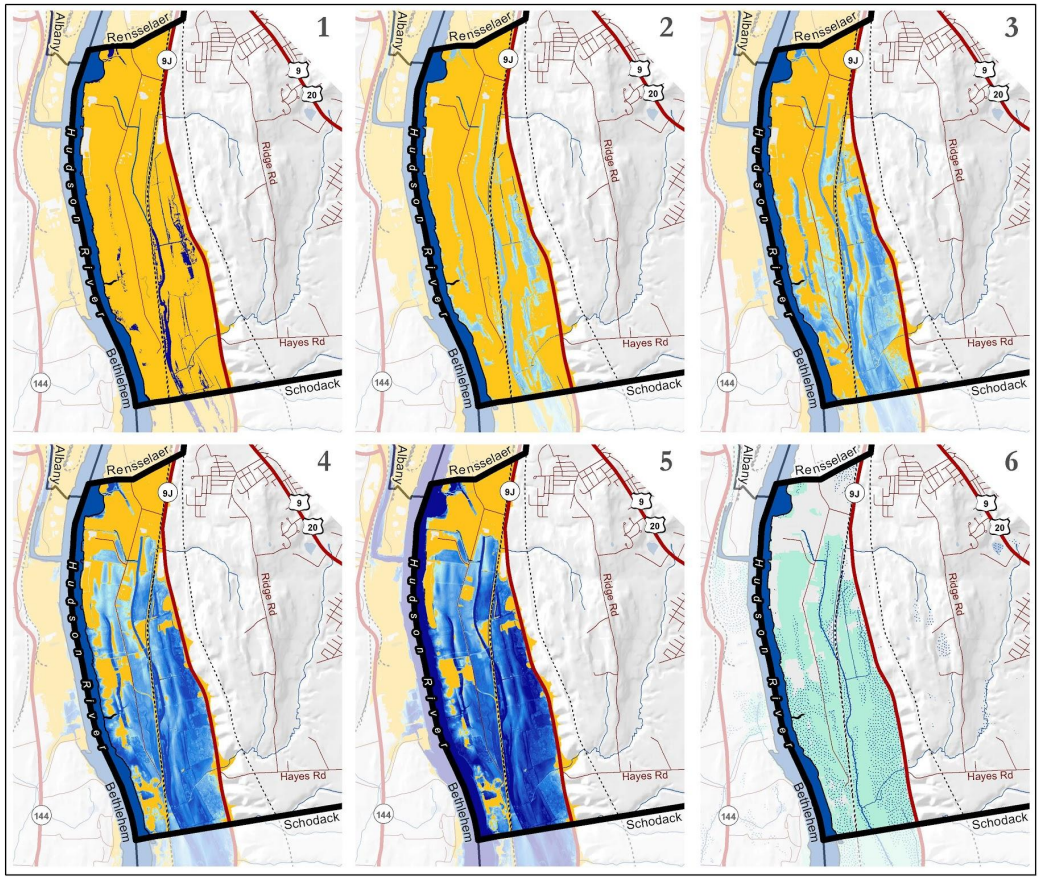
A single acre of wetland can store 1-1.5 million gallons of floodwater

(United States EPA)

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation | Hudson River Estuary Program

Climate Trends

- Increasing temperatures
- Changing precipitation patterns
- rising sea levels



Town of East Greenbush
Natural Resources Inventory

19A. Sea Level Rise

Map Legend

Inundation Depth (in)

- ≤72
- 66
- 60
- 54
- 48
- 42
- 36
- 30
- 24
- 18
- 12
- 6
- >0

Roads

- State/US Highway
- Local Street
- Railroad

Hydrology

- Open Water
- River/Stream
- Current Wetlands (Inset Map 6)
- 1% Annual "100yr" Flood Zone
- Tidal Wetland Pathways (Inset Map 6)
- Municipality

Scale: 1:40,000

0 0.25 0.5 1 Mile

N W E S

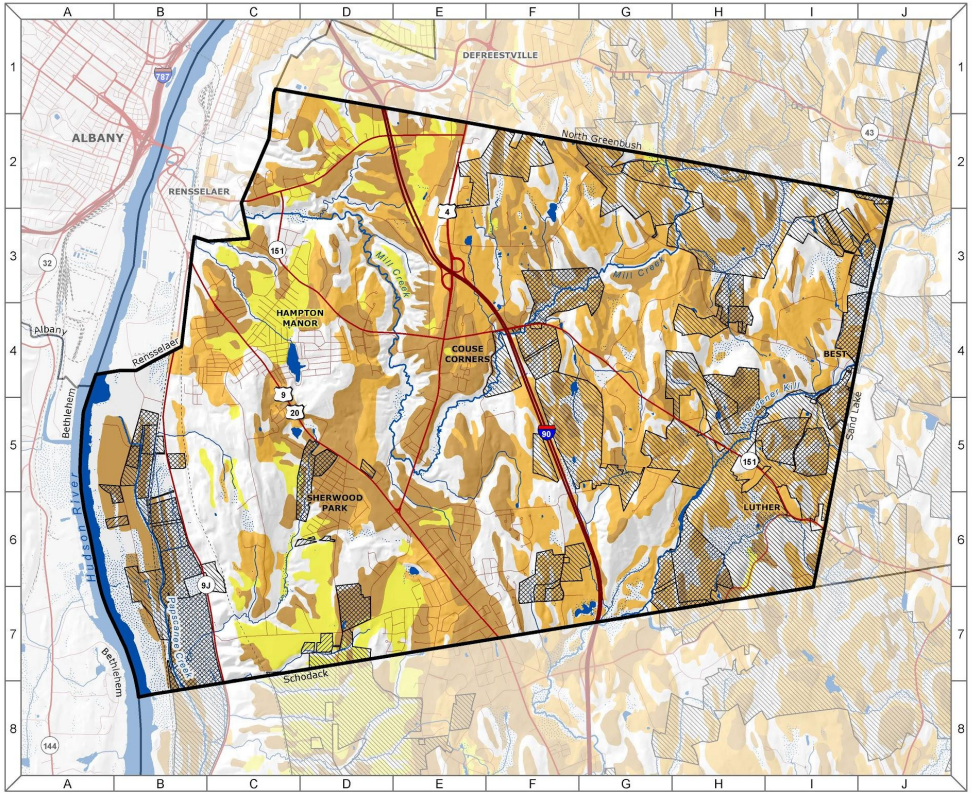
1. 0in of sea level rise: current water level and 100-year flood zone.
2. 12in of sea level rise: expected inundation and 100-year flood zone.
3. 30in of sea level rise: expected inundation and 100-year flood zone.
4. 54in of sea level rise: expected inundation and 100-year flood zone.
5. 72in of sea level rise: expected inundation and 100-year flood zone.
6. Tidal wetland pathways. These are areas where tidal wetlands are likely to move by 2100 as sea level rises.

Data Sources: *Expected Inundation and Flood Zones:* Scenic Hudson Sea Level Rise Mapper (2013). | *Tidal Wetland Pathways:* Scenic Hudson - Sea Level Affecting Marshes Model (SLAMM) (2015). | *Roadways:* ESRI North American Detailed Streets (2010). | *Railroads:* NYS DOT (May 2013). | *Towns:* NYS GIS Program Office (January 2017). | *Elevation:* NYS DEC and U.S. Geological Survey (date unknown). | *Rivers/Streams:* National Hydrography Dataset: NYS DEC and US Geological Survey (March 2017). | *Wetlands:* US Fish and Wildlife Service (2012) and NYS DEC (2013). **Note:** This map is intended for general planning and education purposes and is not a substitute for site-level surveys. It relies upon public data sources that may contain errors or omissions. Town of East Greenbush Natural Resources Inventory maps were completed with technical assistance from Cornell University, with funding from the NYS Environmental Protection Fund through the NYS DEC Hudson River Estuary Program. http://hudson.dnr.cals.cornell.edu
Maps by Andrew Varuzzo, 2018.

Cornell University | NEW YORK STATE Department of Environmental Conservation | Hudson River Estuary Program

Agricultural Resources

- Prime Farmland Soils are defined by USDA & NYS
- Agricultural district incentives
- Large areas of farmland promote long term viability of agriculture
- Benefits:
  - Economy
  - Health
  - Flood control
  - Habitat
  - Scenic beauty



Town of East Greenbush
Natural Resources Inventory
23. Agricultural Resources

Map Legend

Agricultural Resources
- Prime Farmland Soils
- Prime Farmland Soils if Drained
- Farmland Soils of Statewide Importance
- Agricultural Tax Exemption
- County Agricultural District Designation
- Tax Exempt Parcel in County Ag. District

Hydrology
- Open Water
- Wetland
- River/Stream

Roads
- Interstate
- State/US Highway
- Local Street
- Railroad

- Municipality

Scale: 1:40,000

0 0.25 0.5 1 Mile

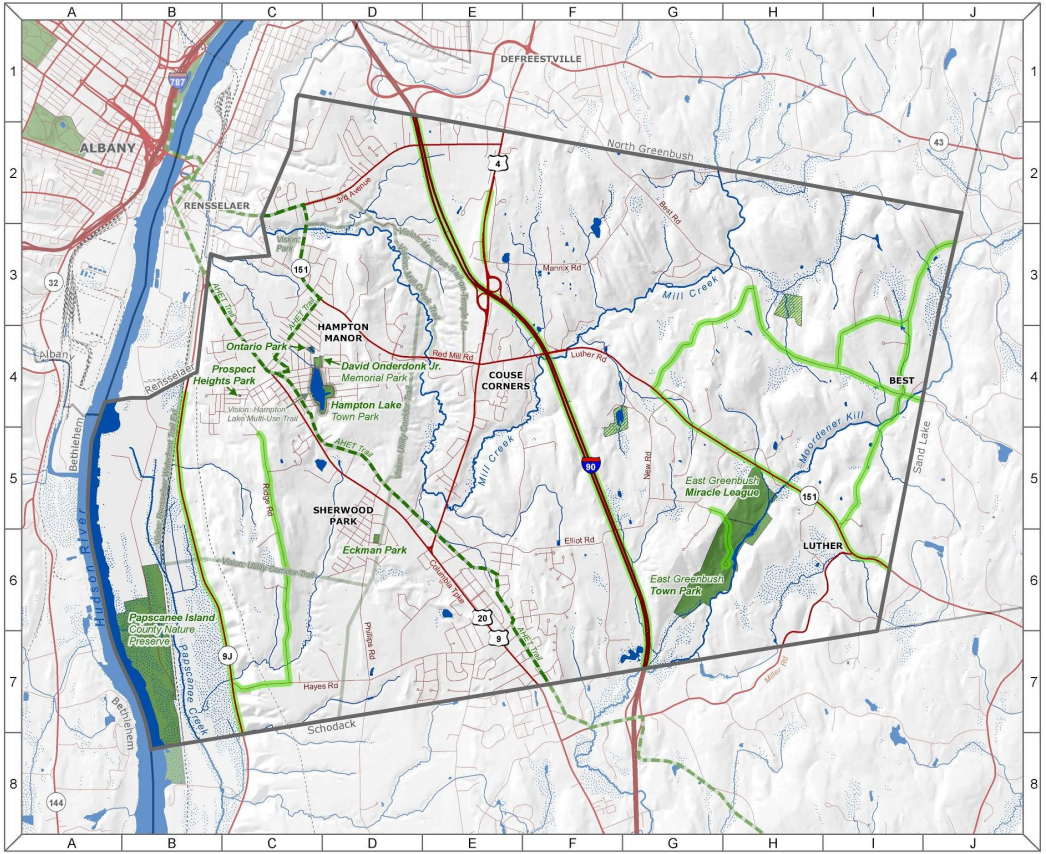
N W E S

Data Sources: *Prime and Statewide Important Farmland Soils:* USDA Natural Resources Conservation Service (December 2006). | *Agricultural Tax Exemptions:* Rensselaer County Tax Services Department (March 2018). | *County Agricultural Districts:* NYS Department of Agriculture and Markets (March 2017). | *Roadways:* ESRI North American Detailed Streets (2010). | *Railroads:* NYS DOT (May 2013). | *Towns:* NYS GIS Program Office (January 2017). | *Elevation:* NYS DEC and U.S. Geological Survey (date unknown). | *Rivers/Streams:* National Hydrography Dataset: NYS DEC and US Geological Survey (March 2017). | *Wetlands:* US Fish and Wildlife Service (2012) and NYS DEC (2013). **Note:** This map is intended for general planning and education purposes and is not a substitute for site-level surveys. It relies upon public data sources that may contain errors or omissions. Town of East Greenbush Natural Resources Inventory maps were completed with technical assistance from Cornell University, with funding from the NYS Environmental Protection Fund through the NYS DEC Hudson River Estuary Program. http://hudson.dnr.cals.cornell.edu
Map by Andrew Vanzzo, 2018.

Cornell University | NEW YORK STATE Department of Environmental Conservation | Hudson River Estuary Program

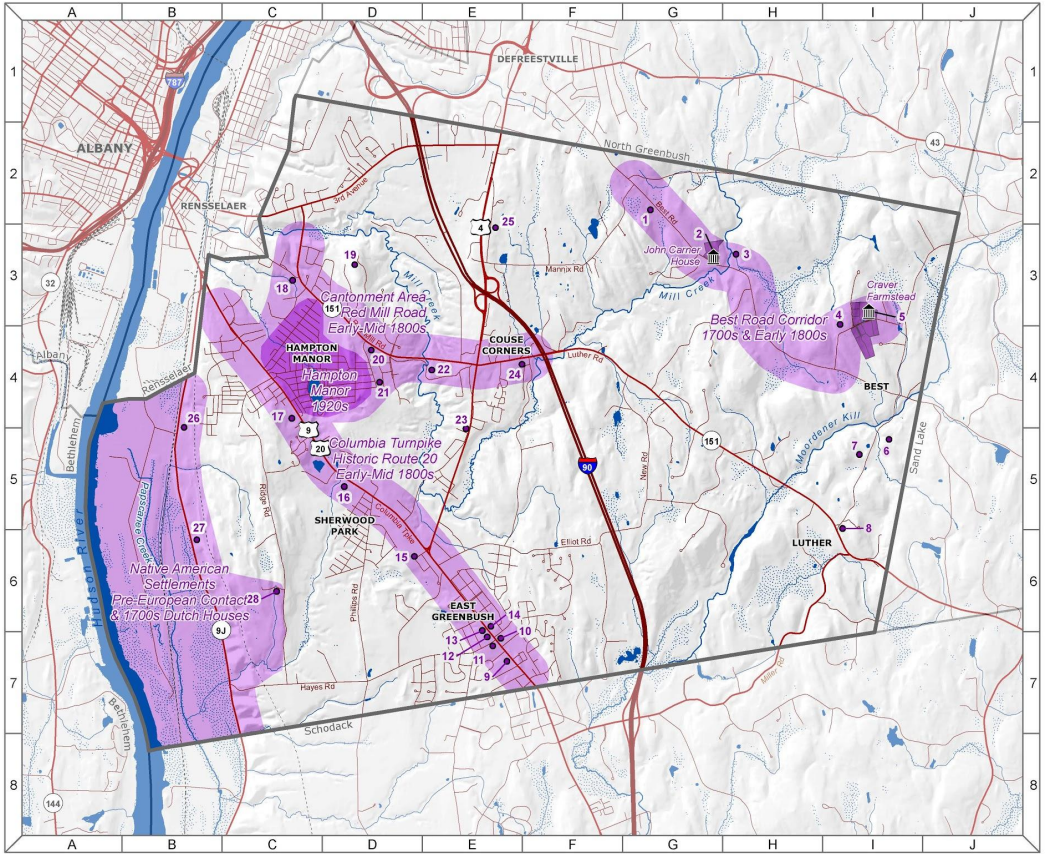
Outdoor Recreation & Scenic Areas

- Grow bicycle & pedestrian connections
- Develop funding strategy for amenities plan
- Highlight & promote Papscanee Island and other recreation areas



Cultural Preservation

- Encourage re-use of remaining historic buildings
- Create community restoration program
- Encourage adaptive re-use with overlay district or special approval process
- Create database of resources



Town of East Greenbush
Natural Resources Inventory
25. Historic Preservation Assets

Map Legend

Historic Sites
- National Register Historic Site Parcel
- National Register Historic Structure
- Locally Recognized Historic Site
- Sensitive Historic Area

Roads
- Interstate
- State/US Highway
- Local Street
- Railroad

Hydrology
- Open Water
- Wetland
- River/Stream

Municipality

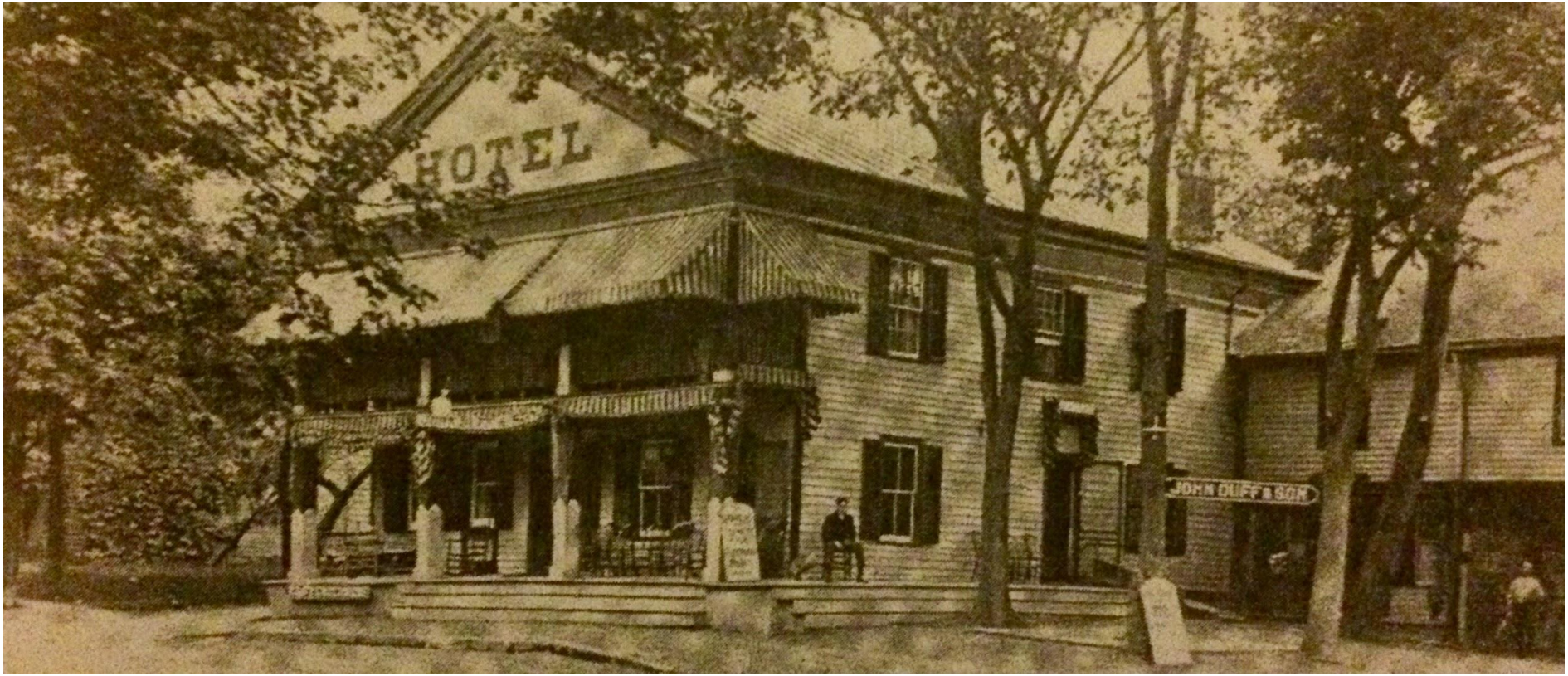
Scale: 1:40,000
0 0.25 0.5 1 Mile

N W E S

Data Sources: *National Register Historic Sites:* National Register of Historic Places data courtesy of NYS Office of Parks, Recreation and Historic Preservation (February 2017). | *Locally Recognized Historic Sites:* Georeferenced from Town of East Greenbush 1993 Comprehensive Development Plan Update and verified/updated by NRWG (2018). | *Sensitive Historic Areas:* NRWG (2018) | *Roadways:* ESRI North American Detailed Streets (2010). | *Railroads:* NYS DOT (May 2013). | *Towns:* NYS GIS Program Office (January 2017). | *Elevation:* NYS DEC and U.S. Geological Survey (date unknown). | *Rivers/Streams:* National Hydrography Dataset: NYS DEC and US Geological Survey (March 2017). | *Wetlands:* US Fish and Wildlife Service (2012) and NYS DEC (2013). **Note:** This map is intended for general planning and education purposes and is not a substitute for site-level surveys. It relies upon public data sources that may contain errors or omissions. Town of East Greenbush Natural Resources Inventory maps were completed with technical assistance from Cornell University, with funding from the NYS Environmental Protection Fund through the NYS DEC Hudson River Estuary Program. http://hudson.dnr.cals.cornell.edu
Map by Andrew Varuzzo, 2018.

Cornell University | NEW YORK STATE Department of Environmental Conservation | Hudson River Estuary Program

Defreest Hotel 1802



Defreest Hotel Today

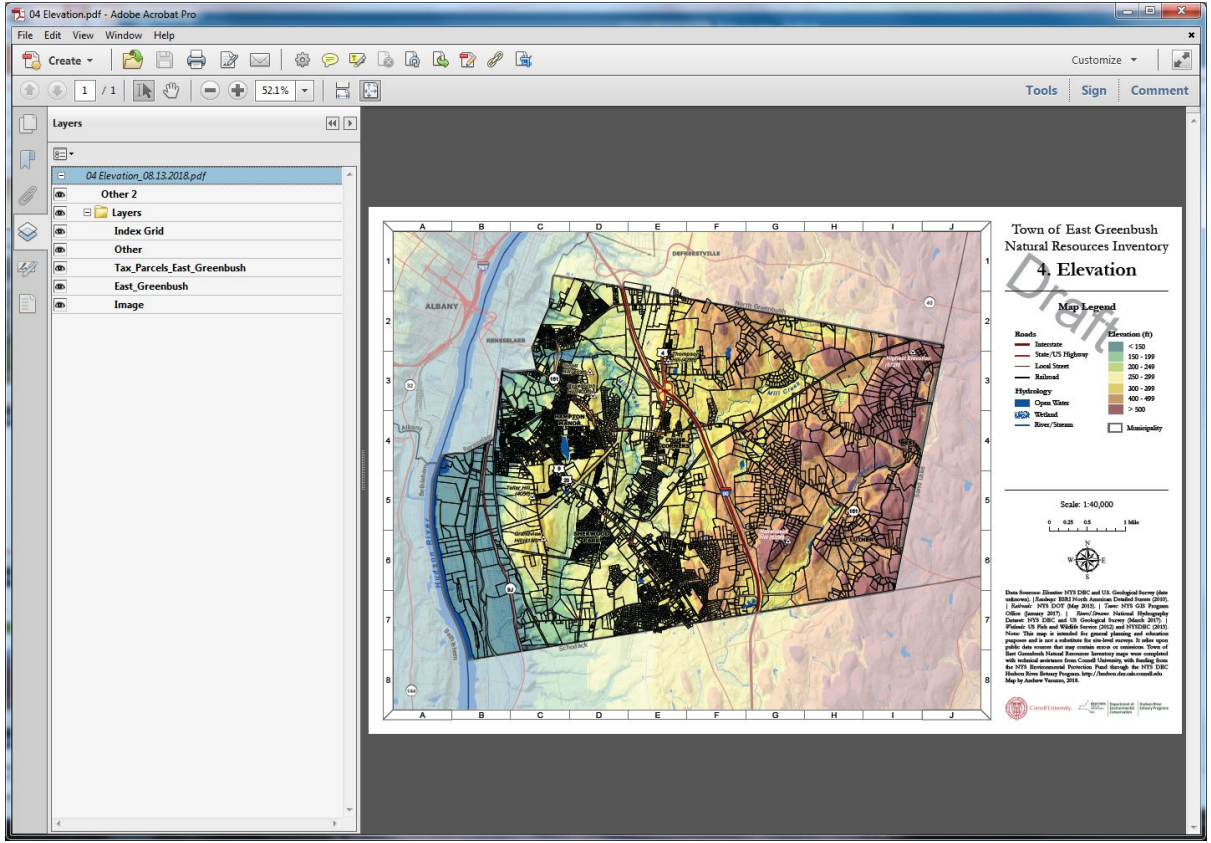
School House #6

Recommendations

- Revitalize a Conservation Advisory Council (CAC) to promote community involvement in natural resource protection
- Develop a strategic approach to natural resources
- Encourage smart growth & development
- Position East Greenbush to be prepared and resilient in a changing climate
- Improve outdoor recreation opportunities and access to natural and scenic areas
- Preserve and enhance important historic resources

Viewing Tax Parcels

- Open PDF in Adobe Acrobat
- Expand layers
- Click “+” to expand all layer groupings
- Click on parcels



Maps and full NRI report available online:
https://www.eastgreenbush.org/departments/planning-zoning/natural-resources-inventory

Recommendations Memo:
https://www.eastgreenbush.org/application//5515/5907/0070/NRI_Planningmeetingpacket-FINAL.pdf

Questions & comments:E-mail: nri@eastgreenbush.org

Hudson River Estuary Program:
http://hudson.dnr.cals.cornell.edu/

NEW YORK STATE OF OPPORTUNITY. Department of Environmental Conservation | Hudson River Estuary Program

Cornell University

TOWN OF EAST GREENBUSH RENSSELAER CO. N.Y.