

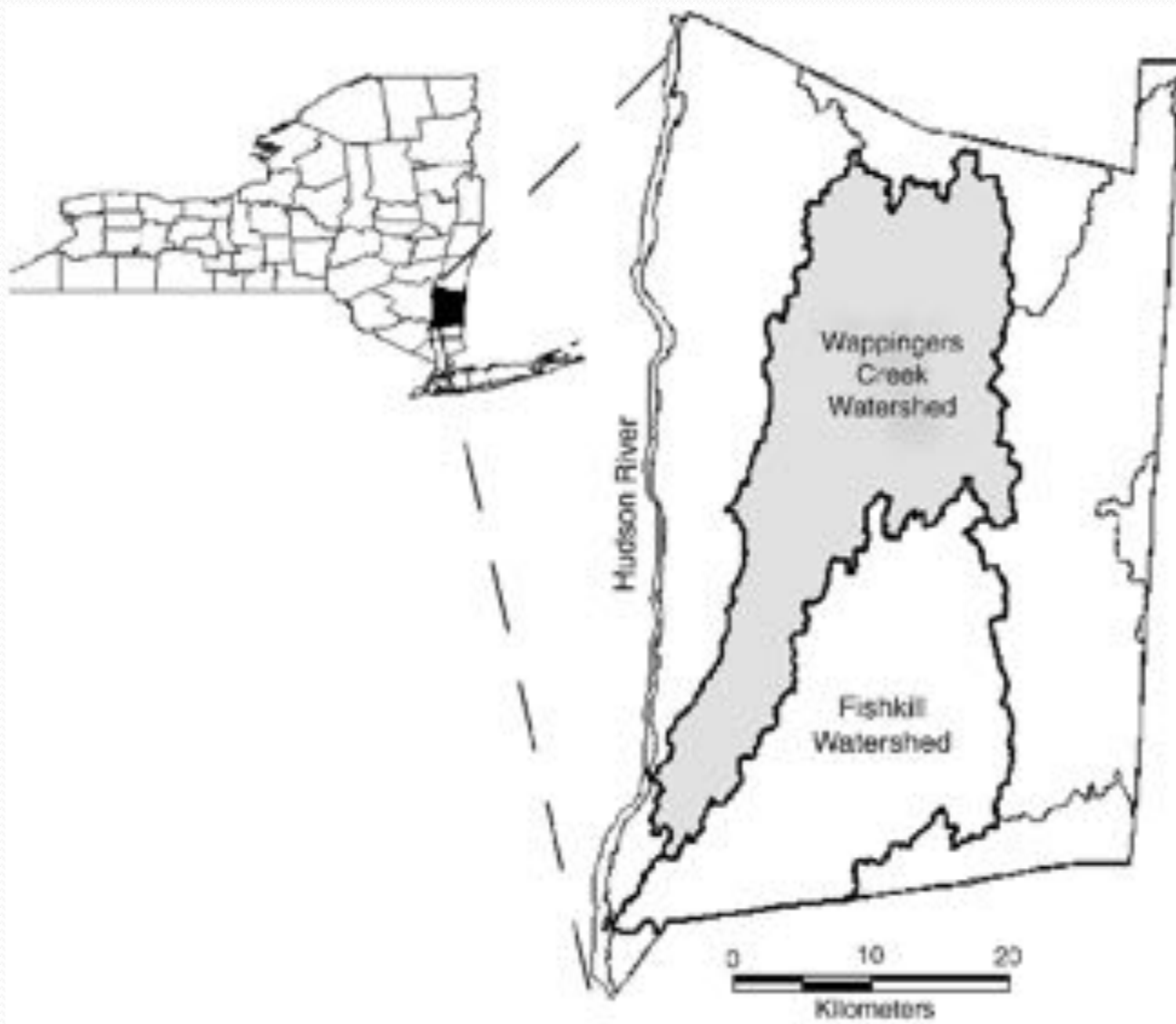
Wappinger Creek Nine Element Plan

Matt Alexander, Mayor
Village of Wappingers Falls



Wappinger Creek Watershed

- Drains 134,871 acres in 11 towns and 2 villages
- 37 miles long
- The Creek runs through 13 municipalities
- Includes Wappinger Lake – a 303(d) Impaired Water body
- Largest watershed in Dutchess County
- 25 wastewater treatment facilities and thousands of septic systems discharge into Wappinger Creek

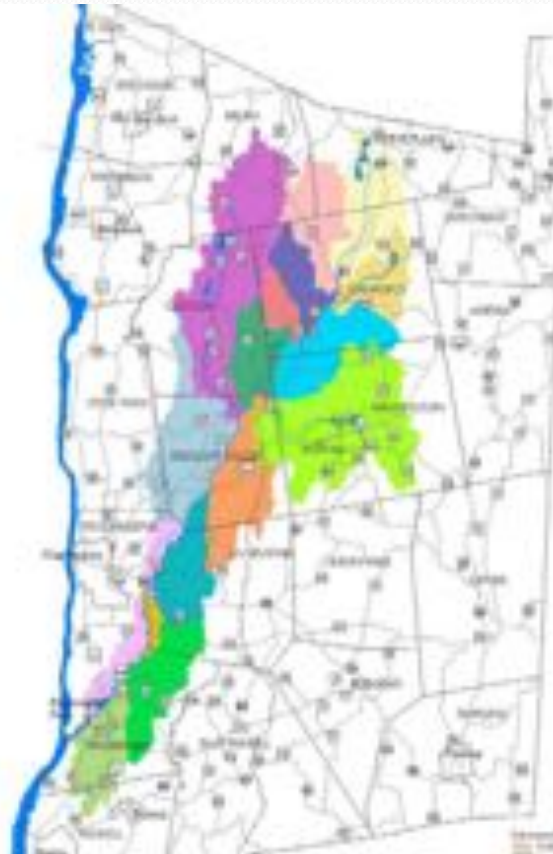




15 Sub Watersheds

- Cold Spring Creek
- Dutchess County Airport
- East Branch
- Great Spring Creek
- Grist Mill
- Hunns Lake Creek
- Little Wappingers
- Direct Drainage East
- Pleasant Valley East
- Direct Drainage West
- Tamarack Swamp
- Upton Lake
- Headwaters
- Wappingers Falls
- Willow Brook

Map of Subwatersheds



Environmental Degradation

- High fecal coliform bacteria counts
- Sedimentation
- Excessive weed growth
- Algae blooms
- Nitrates and phosphorus loading
- Lost recreational capability and revenue



Invasive Species

- Milfoil
- Water Chestnuts



Village Water Treatment Facility

- Iron-clad bacteria from Wappinger Lake penetrated the Village's drinking water wells
- Required the Village to spend \$6.4 million to construct an upgraded water treatment facility and new wells







Top Ten Threats

- Identified in 1998 Watershed Conference
 - Nonpoint source pollution
 - Lack of interagency/municipal cooperation
 - Over-development within the watershed
 - Loss and/or fragmentation of habitat and accompanying biodiversity
 - Lack of stream management and enforcement of existing regulations
 - High property taxes promote non-sustainable agriculture and forestry practices

Top Ten Threats

- Identified in 1998 Watershed Conference
 - Lack of information regarding the public water supply
 - Lack of funds, volunteers and public interest
 - Over-development causing excessive water consumption that results in reduced base flow and increased impervious surfaces
 - Division of interests and lack of communication among groups that are using the same resources.





Planning Documents & Initiatives

- Army Corps of Engineering Study, 1993
- Natural Resource Management Plan, 2000
 - Funded by EPA Wetlands Demonstration Grant, NYSDEC Watershed Planning Grant, and Rural NY Grant Program
- Village of Wappingers Falls Sedimentation Study, 2009
 - Funded by NYS DEC HREP
- Wappinger Creek TMDL (Not Completed)
 - NYS DEC



Wappinger Creek Intermunicipal Council



- Founded in 2006
- Mission
 - To cooperatively address common issues that may affect the quality of the Wappinger Watershed
- Formed to address the lack of intermunicipal cooperation in the Watershed and better educate Dutchess County residents about the importance of Watershed health

Projects Completed

- Southern Dutchess News Managed Ecosystem (2013)
 - GIGP
- Route 9 Vortech Separators
 - WQIP
- Spring Street Bioswale (Wappingers Falls)
 - EFC
- Installation of filtration units in storm drains (WF)
 - EFC



Dutchess County Municipal Innovation Grant

- Town of Wappinger and Village of Wappingers Falls are completing water infrastructure consolidation studies
- Aim to decommission two wastewater treatment facilities (one private, one public)
- Consolidate sewer into the regional Tri-Municipal Sewer Treatment Facility



Recent Planning Efforts

- In 2013 the Wappinger Creek was listed as a Designated Inland Waterway by New York State
- In 2015 the Village of Wappingers Falls, Town of Poughkeepsie, and Town of Wappinger met with DEC for guidance into developing a new strategy of improving water quality
- It was decided that a 9 Element Plan would have the largest impact

Wappinger Creek Nine Element Plan

- \$287,500 LWRP grant from NYS Department of State awarded in 2015
- Sub-contractors
 - Cornell Cooperative Extension of Dutchess County
 - K.C. Engineering & Land Surveying, P.C.



Wappinger Creek Nine Element Plan

- Nine Element Plan
 - Recommendations will be issued based on a completed Watershed Characterization Report and comprehensive public input
- Implementation of Pilot Project
 - Following recommendations \$100,000 will be used to implement a replicable water quality improvement project



Watershed Characterization

- The following are being utilized to compile a comprehensive characterization of the watershed:
 - Dutchess County Planning and Development GIS Data
 - SPDES Data
 - DEC RIBS Data
 - Local Planning Documents
 - Regional Planning Documents
 - MS₄ Outfall Maps
 - Water sampling

Watershed Characterization

- Streambank Assessments
 - Led by Marist and Vassar interns
 - Public outreach was conducted to gather interested residents





Watershed Characterization

➤ Water Sampling Goals:

- ❑ Identify where the pollutants of concern (phosphorous and silt/sediment) are entering the creek
- ❑ Estimate pollutant loading
- ❑ Identify pilot infrastructure implementation projects
- ❑ Measure progress following implementation and update watershed management plan

➤ Monitoring Program:

- ❑ Monthly sampling for six to twelve months
- ❑ Parameters: sediment, phosphorus, nitrogen, turbidity, DO, BOD, Coliforms
- ❑ Pollutant data collection from sewage treatment plants and industrial activity discharges

Public Outreach

- Starting in 2016 we have met with a number of groups to solicit guidance and compile existing information
- We have also met with the Supervisors of the following Towns to discuss existing planning documents and identify local goals for the watershed:
 - Poughkeepsie
 - Wappinger
 - Lagrange
 - Pleasant Valley
- By the end of this process each municipality in the watershed will be met with and their planning goals and efforts will be incorporated into the plan



Public Outreach – Steering Committee

- The following committees and organizations are represented in a newly formed Steering Committee:
 - DEC - Bureau of Water Resources Management
 - Dutchess County MS4
 - Cary Institute of Ecosystem Studies
 - Wappinger Creek Intermunicipal Council
 - Tri-Municipal Sewer Commission
 - Mid-Hudson Trout Unlimited
 - Cornell Cooperative Extension
 - Dutchess County Planning and Development
 - Dutchess County Soil and Water



Pilot Project

- Following the 2009 HREP-funded Sedimentation Study and 2013 GIGP-funded creation of a managed ecosystem the Village aimed encourage upstream investment in water quality projects
- Must be replicable
- Must utilize innovative green technology or methodology

Pilot Project

- \$100,000 to complete a water quality project
- Based on the recommendations of the Nine Element Plan



