

Chapter 1: Introduction

1.1 Evolution of the Mohawk River Watershed Management Plan

The Mohawk River Watershed Management Plan (the Plan) presents the findings of the Mohawk River Watershed Coalition of Conservation Districts and other members of the Mohawk River Watershed Advisory Committee regarding the actions needed to restore and protect the Mohawk River Watershed. The Mohawk River Watershed Coalition of Conservation Districts (the Coalition) was formed in March 2009, and includes the 14 counties of Albany, Delaware, Fulton, Greene, Hamilton, Herkimer, Lewis, Madison, Montgomery, Oneida, Otsego, Saratoga, Schenectady, and Schoharie. The Coalition’s mission is “to implement conservation initiatives that protect, promote, and enhance the resources of the Mohawk River Watershed in partnership with local, state, and federal stakeholders.” The Watershed Advisory Committee (WAC) was established as an outgrowth of the 2009 Environmental Protection Fund Local Waterfront Revitalization Program grant to Montgomery County to facilitate communication and cooperation among local governments, county and state agencies, and others essential to the preparation and eventual implementation of the Plan.¹ Preparation of this Plan was funded in part through a New York State Department of State (NYS DOS) Title 11 Environmental Protection Fund Local Waterfront Revitalization Program grant to Montgomery County, working in partnership with the Coalition and the WAC.

1.1.1 Vision and Goals for the Watershed

The Mohawk River Watershed Advisory Committee worked collaboratively to develop a vision for the future of the watershed in which:

The Mohawk River Watershed’s natural hydrologic conditions are respected. Diverse fish and wildlife habitats and agriculture are flourishing, and superior water quality is celebrated. Vibrant watershed communities find prosperity in the strong economy where water-based recreation and tourism thrive along the waterfront.

Guided by this vision, the WAC established seven goals:

1. Protect and restore the quality and ecological function of water resources.
2. Protect and enhance natural hydrologic processes.
3. Promote flood hazard risk reduction and enhanced flood resilience.
4. Protect, restore, and enhance fish and wildlife habitat.
5. Revitalize communities and waterfronts and adopt smart growth land use practices.
6. Promote agriculture and other working landscapes.
7. Increase watershed awareness.

In 2010, NYSDEC established the Mohawk River Basin Program, which is intended to focus efforts to conserve, preserve, and restore the environmental quality of the Mohawk River and its watershed, and manage the resources of the region for a sustainable future.

¹ WAC members include representatives from NYSDOS, NYSDEC, USGS, SUNY, Union College, U.S. National Park Service, The Nature Conservancy, NYS Canal Corporation, Cornell Cooperative Extension, Cornell Water Resources Institute, NYS Dept. of Agriculture and Markets, Tug Hill Commission, Capital District Regional Planning Commission, Herkimer-Oneida Counties Comprehensive Planning Program, USDA NRCS, USACOE, NYSDOT, Empire State Development, USFWS, all 14 SWCDs in the Mohawk River Watershed, and watershed municipalities.

This broad interest in the Mohawk River Watershed is evidence of both its importance as a resource and its management challenges. By developing this Plan and partnering with other agencies and local stakeholders, the Coalition intends to make significant contributions toward meeting these watershed goals. The Plan may be considered complementary to the NYSDEC Action Agenda; it includes recommended practices, actions, and projects at the subwatershed scale that will address broader and more specific goals.

1.1.2 Related Initiatives

In 2011, a New York State initiative related to community revitalization (but focused on economic development) began when Governor Andrew Cuomo announced the creation of ten Regional Economic Development Councils and tasked each of them with developing strategic plans for their region's economic growth. The Mohawk Valley Regional Economic Development Council (MVREDC) encompasses six counties located in the center of the watershed: Fulton, Oneida, Herkimer, Montgomery, Otsego and Schoharie. These counties encompass the majority of land area within the Mohawk River Watershed. Four watershed counties (Albany, Schenectady, Greene, and Saratoga) are included in the Capital Region Economic Development Council; two counties (Hamilton and Lewis) are within the North County Regional Economic Development Council. Madison County is in the Central New York Regional Economic Development Council, and Delaware County is part of the Southern Tier Regional Economic Development Council.

While each Regional Economic Development Council has a unique strategic plan and set of goals, there are common themes that relate directly to the priorities and approach of the watershed planning process.

- Commitment to a regional approach to identifying challenges and finding solutions;
- Recognition of the need to invest in infrastructure;
- A focus on education and the need to improve scientific literacy and prepare for innovation;
- An embrace of smart growth concepts: recognition of the need to increase spatial efficiency and contribute to energy efficiency and sustainability;
- Support for local agriculture;
- Reclamation of waterfront assets for community and economic development;
- Recognition of the need to strengthen the effectiveness of government and civic institutions in order to improve the quality of life for all.

1.2 Overview of the Watershed: Political Boundaries, Natural Boundaries

A watershed is an area of the landscape that drains into a single body of water. The high ground delimiting a watershed constitutes a natural boundary within which resources, especially water resources, can be effectively managed. At 3,460 square miles, the Mohawk River Watershed is the largest tributary of the Hudson River, comprising 25% of the Hudson's entire watershed. The Mohawk River itself extends over 140 miles as it flows from north of Rome on the Tug Hill Plateau to its confluence with the Hudson River near Albany. The watershed includes some 6,656 miles of freshwater rivers, streams, and canals ([Map 1-1](#)).

The watershed encompasses portions of 14 counties. Due to the basin's size and the diversity of both landscape (natural conditions) and land uses (human uses) that it exhibits, much of the detail within this Plan is organized in

three regions based on geographic areas within the watershed: Upper Mohawk, Main River, and the Schoharie Watershed.

The Upper Mohawk encompasses parts of Lewis, Hamilton, Oneida, Herkimer, Madison and Otsego Counties. The headwaters of many of the streams in this region lie in heavily wooded, undeveloped areas, some within the Adirondack Park, and this section of the Mohawk River flows through agricultural land and the cities of Rome, Utica, Little Falls, and the Village of Herkimer.

The Main River region includes portions of Fulton, Montgomery, Schenectady, Saratoga, and Albany Counties. The upstream parts of this section drain fertile and heavily farmed agricultural land, whereas the downstream, eastern portion of the Mohawk Valley is highly developed, including the cities of Amsterdam and Schenectady and the suburbs of Albany.

The Schoharie Watershed, whose headwaters lie in the Catskill Mountains, primarily in wooded landscapes, includes portions of Schoharie, Greene, and Delaware Counties. Schoharie Creek contributes to the public water supply of New York City water through a pipeline from the Schoharie Reservoir, and strict land use and water quality regulations are in effect for this portion of the Schoharie Watershed.

There are 170 municipalities within the Mohawk River Watershed and a 2010 population of 600,388. The Mohawk Valley constitutes one of the most important transportation corridors in New York State, with the river itself and the New York Barge Canal as well as the New York State Thruway and a major rail route. From the opening of the Erie Canal in the early nineteenth century to the present, this corridor has played an important role in the economy of the state and the nation, as it opened up transportation to the Great Lakes and beyond.

Because of its long history of agricultural and industrial development, the Mohawk River Watershed has suffered from many kinds of pollution and hydrologic modification, the remnants of which still pose environmental challenges. Even the relatively pristine upper reaches of the watershed in the Adirondack and Catskill Parks continue to be subject to acid precipitation and other forms of atmospheric pollution carried from sources far to the west. The watershed has experienced severe flooding, most recently during Hurricane Irene and Tropical Storm Lee in 2011.

An online [Interactive Mapping Tool for the Mohawk River Watershed](#) was created to supplement this watershed management plan. This mapping tool provides multilayered information about watershed boundaries, hydrology, soils, residential development, habitat, infrastructure, pollution, floodplains, governance, and much more. Developed by Stone Environmental Inc. for the New York State Department of State with funds provided under Title 11 of the Environmental Protection Fund, the online map draws on numerous data sources. It can be viewed at various scales, allowing detailed examination of specific areas within the watershed while also facilitating an understanding of patterns and relationships across the watershed as a whole.

1.3 Value of a Watershed Management Plan

A watershed can provide various “services” that benefit the people living within it, as well as support the mosaic of aquatic, terrestrial, and wetland ecosystems of which people are but one component. A well-managed watershed provides flood protection, habitat for fish and wildlife, and recreational and aesthetic benefits. Surface and groundwater resources within the Mohawk River Watershed are a source of potable water. The landscape supports agriculture and forestry, and the river and canals serve as a transportation corridor as well as a destination for recreation and tourism.

One of the largest and most important watersheds in New York State, the Mohawk River basin has suffered past abuses, potentially jeopardizing the services it provides. A well-developed watershed management plan is the beginning of restoring and protecting this important resource. The Mohawk River Watershed Management Plan has been developed as a living document, one that will change as current issues are resolved and new issues are encountered.² The Plan is not a mandate; rather, it will serve as a guide to effective actions to protect and restore the quality of the watershed, and enhance quality of life for its residents. The Plan is designed to serve as a roadmap for protecting the vital natural resources the watershed provides while balancing the need for economic growth and development among the watershed's communities.

Implementation of these recommended actions will require commitment at many levels: federal, state, and local government; natural resource and agricultural management agencies; and watershed landowners and residents. The problems affecting the watershed are the cumulative results of many activities and natural conditions within the watershed boundaries, and the responsibility for improvements rests with the entire community.

1.4 Planning Process and Partners

Preparation of the Mohawk River Watershed Management Plan follows the approach jointly developed by the NYS Department of State and NYS Department of Environmental Conservation and described in the guidebook *Watershed Plans: Protecting and Restoring Water Quality*. The Plan will make substantial contributions toward meeting the Watershed Advisory Committee's goals, described in section 1.1.1. Ultimately, a successful watershed management plan will address the following questions:

- **Where are we now?** That is, what is the current status of the natural, cultural, and political environment within the watershed? What are the assets, existing problems, and emerging threats and opportunities?
- **Where are we going?** What processes and programs are in place that will affect the future of the watershed?
- **Where do we want to be?** What is our vision for the future of the watershed? What desirable conditions or attributes of the watershed do we want to maximize, and what undesirable properties do we want to minimize or eliminate?
- **How do we get there?** What strategic actions will enable us to achieve the goals and vision? What specific practices and projects will help restore and protect the watershed, and how do we best leverage funding opportunities?
- **When will we get there?** When will the recommended projects be advanced, and how will the priority actions be decided?
- **How do we measure progress?** What is the plan for tracking improvement and deciding what else needs to be done?

Maximizing the benefits that the Mohawk River Watershed can provide to the basin's communities requires careful cooperative planning and management. Bodies of water—lakes and streams—typically delineate political boundaries rather than being contained within them. Effective management of those waterbodies, therefore,

² Changes over time will be reflected in the [Interactive Mapping Tool for the Mohawk River Watershed](#), where multilayered maps will be used to track implementation of the watershed strategies as specific projects and activities are carried out at the subwatershed scale. Updates to the Plan itself will be published on the [Mohawk River Watershed Coalition website](#).

requires partnerships and cooperation among the municipalities within the watershed, and the inclusion and buy-in of a diverse group of stakeholders beyond the elected and appointed officials of those municipalities.

1.5 Sources of Data and Information

Each of the Soil and Water Conservation Districts in the Coalition assessed watershed characteristics within its land area at the fine-scale, 12-digit Hydrologic Unit Code (HUC-12) level. These assessment reports provide the bulk of information on water quality characteristics within the Mohawk River Watershed and have been summarized into subwatershed and basin-wide characterizations of water quality.

The local regulatory framework affecting water quality in each municipality was reviewed and summarized in order to identify improvements that will allow local municipalities to more effectively address water quality impacts from land development activities, and community-specific recommendations were developed.

Further information, especially with regard to stakeholder concerns, came from implementing a Community Outreach/Public Participation Plan that identified forums and methods to engage interested individuals, organizations, and agencies in the preparation of the Mohawk River Watershed Management Plan. The draft Plan was made available online and was presented at public meetings held in each of the three major regions of the watershed. Public input was solicited at these meetings, recorded, and incorporated in the final document.

1.6 Challenges to be Addressed

A watershed management plan is valuable only insofar as it can be implemented, and implementation always depends on forging cooperation among stakeholders—the public, municipalities, and government agencies at all levels. To achieve this cooperation, it is essential that a viable public outreach and participation plan is in place before the watershed management plan is developed and implemented. Stakeholders whose concerns were heard and included in the Plan are much more likely to participate actively in its implementation.

The goals set out in this Plan represent best practices for smart growth, designed to protect and improve water quality. The Plan recommends that relatively pristine areas within the watershed be protected and that areas that have been degraded be restored. Smart growth preserves hydrologically sensitive areas, limits impervious surfaces by promoting compact community design, and plans for handling storm water and point and nonpoint pollution in a proactive manner. Inasmuch as this Plan can only recommend such actions, implementation will, in many instances, require that the recommendations be incorporated into local laws that take a landscape view of development and growth, consistent with watershed-wide management. This may present a challenge in that New York State's "home rule" policy, granting relative autonomy to local municipalities on land use issues, will demand that local laws be coordinated among municipalities in the watershed.

In the late summer of 2011, the Mohawk River Watershed experienced back-to-back episodes of severe flooding as Hurricane Irene and Tropical Storm Lee, with their heavy rainfall, passed through the area within two weeks of each other. Global climate change means that the Mohawk River Watershed, like other areas of the world, will be increasingly subject to such episodes of extreme weather. There is a tendency to base future actions on past events, but the environment is dynamic—especially under global climate change conditions—and it will be challenging to implement a plan that takes such change into account.

The Mohawk River Watershed Management Plan will be updated as new projects are undertaken, the effectiveness of actions is documented, and new challenges arise (see the [Mohawk River Watershed Coalition website](#) and [Interactive Mapping Tool for the Mohawk River Watershed](#) for updates). Regular monitoring of water quality and other sensitive elements of the watershed are essential components of adaptive management. Continuing in their role as natural resource managers at the local level, Coalition members will coordinate implementation of projects with the many state, federal, academic, and nonprofit organizations that joined forces to focus on the watershed and contribute to this Plan. Ultimately, realizing the vision for a healthy and economically vibrant watershed depends on this collaborative approach.

Finally, it will be challenging to find funding to implement the many recommendations made in this Plan. Nonetheless, the existence of a well-developed, watershed-wide management plan should make finding such funding less challenging than for individual, uncoordinated projects.

The Mohawk River Watershed Management Plan provides a roadmap from current conditions toward an improved watershed. The vision of the desired future is for a healthy, restored watershed as expressed in the seven goals listed in section 1.1.1. The goals include elements related to human uses of the resource and the sustainability and vitality of the communities within it, as well as maintenance of natural habitats and ecosystem functions. By working together, the Coalition and its many partners in state and local government, the not-for-profit sector, and the academic community can focus their efforts toward restoring and protecting the watershed for future generations.

