

# Executive Summary

Mohawk River Watershed Management Plan



Mohawk River Watershed Coalition of  
Conservation Districts  
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# Executive Summary

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## The Development of the Plan

### Partners

The Mohawk River Watershed Management Plan assesses the present state of the Mohawk River Watershed, the changes it is undergoing and the challenges it is facing in the future. In light of this assessment, the Mohawk River Watershed Management Plan recommends actions needed to restore and preserve the watershed. The Mohawk River Watershed Coalition of Conservation Districts (the Coalition) developed the plan in collaboration with other members of the Mohawk River Watershed Advisory Committee. The Coalition, formed in 2009, is comprised of the 14 Soil and Water Conservation Districts within the Mohawk River Watershed. The Mohawk River Watershed Advisory Committee includes representatives from the NY State Dept. of State (DOS), the NY State Dept. of Environmental Conservation (NYSDEC), the US Geologic Survey (USGS), the State University of New York (SUNY), Union College, the National Park Service (NPS), The Nature Conservancy (TNC), the Canal Corporation, Cornell Cooperative Extension (CCE), the NY Dept. of Agriculture & Markets, the Tug Hill Commission, the Capital District Regional Planning Commission, Herkimer-Oneida County Comprehensive Planning Program, the Natural Resource Conservation Service (NRCS), the Army Corps of Engineers (ACOE), the NY State Dept. of Transportation (DOT), Empire State Development (ESD), the US Fish & Wildlife Service, and all 14 Soil and Water Conservation Districts (SWCD) in the Mohawk River Watershed.

The preparation of this Mohawk River Watershed Management Plan, funded in part through a DOS Title 11 Environmental Protection Fund (EPF) Local Waterfront Revitalization Program (LWRP) grant to Montgomery County, represents a collaborative effort among local governments, county and state agencies and others, including representatives of government agencies, non-profit organizations, and academic institutions.

### Vision and Goals

Guided by a vision for the future of the Mohawk River 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;”*

the Mohawk River Watershed Advisory Committee adopted seven specific 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 practices
6. Promote agriculture and other working landscapes
7. Increase watershed awareness

## Approach

The Coalition used the watershed planning approach described in the NY Department of State Guidebook *Watershed Planning: Protecting and Restoring Water Quality* to identify practices, actions, and projects that will help meet the seven goals. Addressing these goals will contribute to the restoration and protection of the entire Mohawk River Watershed, which is an important resource for New York State.

In order to characterize the current state of the Mohawk River Watershed and to identify threats to water quality, each of the SWCDs in the Coalition assessed watershed characteristics within its land area. These assessment reports were then summarized into larger subwatershed and basin-wide characterizations of water quality. Furthermore, a review and summary of local laws and other regulatory conditions affecting water quality led to recommendations to assist municipalities in addressing water quality issues.

## Public Input

A Community Outreach/Public Participation Plan directed at interested individuals, organizations and agencies and a draft plan, made available on-line and presented at public meetings, solicited broad public input to the development of the Mohawk River Watershed Management Plan.

This management plan will change as new challenges appear and new opportunities arise. Progress in improving water quality and other sensitive elements of the watershed can be assessed by consistent monitoring.

## The Nature of the Mohawk River Watershed

### Setting

The Mohawk River Watershed is one of the largest and most important physical features of New York State, encompassing 3,460 square miles within 14 counties between the Adirondack Mountains to the north and the Catskills to the south (Map 1). Over 600,000 New Yorkers live within the watershed's 170 municipalities. The Mohawk River Watershed is conveniently divided into three main sections: Upper Mohawk, Main River, and the Schoharie Watershed. Many streams in the Upper Mohawk and the Schoharie Watershed originate in pristine, wooded areas in the Adirondack or Catskill Parks, while downstream sections flow through agricultural land. The cities of Rome, Utica and Little Falls, and the Village of Herkimer, and other developed areas lie along the Upper Mohawk. The Main River section includes fertile agricultural land as well as developed areas, including the cities of Amsterdam and Schenectady and the suburbs of Albany.

### History

With the advent of the Erie Canal in the early 19<sup>th</sup> Century, the Mohawk Valley developed as an important transportation link, a center of manufacturing and other industry, and a productive agricultural region. The growth of industry and agriculture in the 19<sup>th</sup> and 20<sup>th</sup> Centuries had significant negative impact on water quality in the Mohawk River and its tributaries. With the passage of the Clean Water Act in the 1970s water quality began to improve and continues to improve to this day, but many problems remain. Among these are pollution with harmful chemicals, including PCBs, nutrient enrichment from inadequate sewage treatment, and erosion and sedimentation from agricultural practices and development. 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. Flooding has a long history in the Mohawk River Watershed, and climate change with more frequent episodes of heavy precipitation can be expected to make the problem worse. The watershed experienced severe flooding most recently during Hurricane Irene and Tropical Storm Lee in 2011.

## Land Use and Land Cover

The largest cities wholly in the watershed are Utica, Rome, Amsterdam, and Schenectady. The western edge of Albany is also included. Most of the population in the Mohawk River Watershed is located in the lowlands and mid-uplands along the main stem of the river as are most of the roadways and railways, and the New York State Barge Canal.

Forests dominate the land cover in the Mohawk River Watershed, with agriculture the second most common land-cover type. The principal types of land use within the watershed are residential, wild lands, forested conservation lands, agriculture, and vacant land. Land cover and land use follow largely similar patterns, with the forested lands in the Adirondack highlands to the north and the Catskills to the south. Agriculture and human settlement dominate the lowlands near the Mohawk River and the mid-uplands along major tributaries to the north and south.

## Pollution Sources

Discharges from sewage treatment plants and some municipal stormwater outfalls are regulated under the State Pollution Discharge Elimination System (SPDES). These pollution sources are classified as “point sources” because the discharge enters the water at a defined point (usually a pipe). Combined Sewer Overflows (CSOs), which are present in some older cities and villages in the watershed, are also considered point sources of pollution. Combined sewers use a single piping system to convey wastewater and stormwater to a treatment facility. During times of high rainfall or snowmelt, the capacity of these pipes is exceeded, resulting in overflows of untreated sanitary waste and stormwater to regional waterways. These overflow points are designated as CSOs and regulated by NYSDEC.

Other pollution sources reach the waterways through diffuse sources; they are not conveyed by pipes and are referred to as nonpoint sources. Developed lands and agricultural lands cover significant regions of the Mohawk River watershed and affect water quality conditions. Densely populated areas have many surfaces where rain and snowmelt cannot seep into the ground (impervious surfaces). Runoff from rooftops, driveways, parking lots and roadways, carrying various pollutants, eventually finds its way into waterways. Suburban sprawl, characteristic of rapidly growing communities in the Mohawk River Watershed, contributes to this problem with a greater proportion of impervious surfaces compared to older, more compact cities and villages. Runoff from agricultural areas containing animal waste, fertilizers, other chemicals, and eroded topsoil constitutes another important nonpoint source of pollution in the Mohawk River Watershed.

The most frequently cited sources of pollution in the Mohawk River Watershed are atmospheric deposition, agricultural activities, habitat/hydrologic modification and streambank erosion. There are areas in watershed where water quality and/or habitat conditions do not support the designated best use of the waterways—for drinking water, recreation, aquatic life support. These areas require active measures to reduce pollutant sources and restore the lands and waters. In addition, there are pristine areas in the watershed that require protection to ensure that they remain intact. Some of these pristine areas play an essential role in protecting and maintaining the watershed. For example, wetlands provide a

buffer against flooding, woodlands help protect waterbodies from runoff, vegetation stabilizes steep slopes prone to erosion, etc. The role these natural areas play in mitigating the potential for adverse impacts on lands and waters of the Mohawk River Watershed would be costly or impossible to replace.

## Regulations

Local laws related to impervious surfaces, site plan reviews, setbacks from waterways, development in floodplains, and erosion and sedimentation controls can have a significant effect on water quality. Largely because New York municipalities are responsible for formulating their own land use regulations (the “home rule” provision of General Municipal Law), there are significant differences among municipalities with regard to local laws governing land use.

Most municipal codes in the Mohawk River watershed do not adequately address the overall protection and preservation of water quality. Noteworthy gaps in the regulations include provisions dealing with impervious surfaces, development on steep slopes, floodplains, and provisions affecting lake and stream protections.

## Recommendations

### Defining Priority Actions, Practices and Projects

In an effort to define priority areas, members of the Coalition evaluated each of the 116 subwatersheds in the Mohawk River Watershed and assigned each a score based on current conditions of water quality, land use, and habitat. The evaluation was completed at this relatively detailed scale, because it is at this level that efforts for restoration or protection will be implemented. As one might anticipate, subwatersheds in the forested upland areas of the Adirondacks and Catskills have relatively high assessment scores, reflecting healthy conditions, while subwatersheds in highly developed and agricultural areas have low scores, reflecting the need for restoration.

The assessment report for each of the subwatersheds includes a list of recommended strategies to restore or protect watershed health, thereby promoting the seven goals of the Mohawk River Watershed Management Plan. Progress toward achieving these goals will not only restore or protect the natural processes of a healthy watershed, but also bring beneficial economic consequences to the communities within the watershed. There are four major groups of recommendations designed to reduce the movement of water and materials from the landscape to the waterways and to protect the attributes of the Mohawk River watershed:

1. **Restore natural hydrology** by actions that reduce impervious surfaces and associated runoff, thus encouraging absorption of water into the soil and/or vegetation to restore aquifers and reduce the risk of flooding;
2. **Reduce erosion and sedimentation** by actions that keep the topsoil on the land and reduce streambank erosion;
3. **Minimize pollution** by reducing or eliminating the flow of nutrients or toxic chemicals into waterways;
4. **Protect and restore habitats** that encourage diverse and healthy native plant and animal communities; take active measures to prevent and limit the spread of invasive species.

## Implementing the Recommendations

Members of the Coalition have proposed many specific projects or other actions toward implementing the recommendations that resulted from the detailed planning effort. Each of these projects is directed to a specific area or waterbody within one of the three main regions of the Mohawk River Watershed and focused on the subwatersheds exhibiting low assessment scores, indicating the need for restoration. In addition, some of the recommended actions and practices are designed to be protective; these are relevant to mid-scoring and high-scoring subwatersheds as well. Some projects have already been funded but not yet installed, some have been submitted for grant funding, and some have been recommended for future funding.

These recommended projects have been listed by watershed region and are shown in this report by order of priority. The lead agency, potential funding sources, potential cost and the timing for each project are also given. Other projects will certainly be added in the future as this watershed management plan for the Mohawk River Watershed is implemented. As future actions are recommended, they will be prioritized and initiated to the extent that they address the seven goals (listed on Page 1) and the four major management strategies (listed on Page 4) of this plan. Thus, the Mohawk River Watershed Management Plan remains a work in progress, evolving as conditions in the watershed change.

## Municipal Actions

Municipalities also have a role in restoring and protecting watershed health through their policies and local laws, reducing the potential for nonpoint source pollution and flooding. The Coalition and consultants recommend a number of strategies:

1. **Encourage cluster development** to reduce the impact of new construction by limiting impervious surfaces and encouraging buffers around streams and lakes. Plan for cluster development at the hamlet-, village- and/or city-scale;
2. **Manage development on steep slopes** to reduce erosion and protect sensitive habitats;
3. **Enhance floodplain protection** to encourage the absorption of stormwater, thereby preventing downstream flooding, reducing erosion and trapping sediment and pollution in naturally vegetated areas;
4. **Limit impervious surfaces** by encouraging the development and redevelopment of hamlets, villages and cities; by utilizing green infrastructure practices; by defining and regulating “total impervious surface;” and by prohibiting development of impervious surfaces in wetlands or riparian buffer zones;
5. **Protect riparian areas** by requiring setbacks from shorelines, requiring exclusionary livestock fencing around streams, and by encouraging plantings and protecting natural vegetation in riparian areas;
6. **Protect wetlands** by ensuring that all development complies with state and federal regulations regarding wetlands and adopting local wetland protection ordinances protecting wetlands smaller than 12.4 acres, where the state and federal guidelines do not apply.

## Monitoring and Assessment

The implementation of the Mohawk River Watershed Management Plan will be monitored at two levels: the first level is the ongoing implementation of watershed projects and municipal actions to restore and protect the watershed; the second level is the long-term monitoring of watershed health over a period of

years. The description of each of the recommended projects/actions includes measures to track implementation and to determine success over the short and the long term.

Implementation activities will be monitored, tracked and made available through an online web interface. Details will be displayed at the subwatershed scale and include information regarding the goals, estimated timeline, estimated cost, potential funding sources, responsible party, and project status/progress. Implementation strategy status is viewable on the Mohawk River Watershed Coalition's website (<http://mohawkriver.org/mapping-tool/>).

The current status of water quality in each sub-watershed is reflected in its assessment score. By periodically repeating the assessment procedure one can follow progress toward achieving the goals set out in the management plan. The status of each waterbody is reported on the NYSDEC Waterbody Index/Priority Waterbodies List (WI/PWL) which is updated every five years; this compendium provides important information for calculating the assessment scores. Updating the assessment scores will provide insights into the effectiveness of the actions taken to date, and the need for additional measures to restore and protect the lands and waters of the Mohawk River watershed.

## Looking Ahead

The Mohawk River Watershed Management Plan is a living document, and will be updated as new projects are undertaken, the effectiveness of actions is documented, and new challenges arise. Continuing in their role as natural resource managers at the local level, the Mohawk River Watershed Coalition of Conservation Districts will coordinate implementation of projects with the many state, federal, academic, and non-profit organizations that joined forces to focus on the Mohawk River Watershed. Ultimately, realizing the vision for a healthy and economically vibrant Mohawk River Watershed depends on this collaborative approach.

