

PRESERVING THE KISHWAUKEE WATERSHED

Guiding development in the Marengo-Union region

Executive Summary



This project is funded through a grant from the Joyce Foundation

*Sponsored and funded by the City of Marengo, Village of Union, McHenry County,
Coral Township, Marengo Township, and Riley Township*



MANAGING THE WATERSHED AND ITS GROWTH

The governments within the greater Marengo-Union area have established a partnership to develop and implement a plan for collaboratively managing natural resources and growth. These entities value the quality of life that is derived from high quality natural resources, well-planned development, and the preservation of the historical character of the landscape.

Three townships, two municipalities, and McHenry County have partnered to jointly create this watershed plan as a guide for sustaining environmental, community and economic vitality for this region. Local governments are central to effective watershed planning and management. As sponsors of the watershed plan, they have authority for planning, regulating development, providing community amenities and services, educating the public, and providing leadership. These roles and responsibilities are the focus of this plan.

This Greater Marengo-Union Area Watershed Plan covers a critical portion of the Kishwaukee River watershed. While the State of Illinois has designated it as a healthy “Class A” Illinois river, it is a river at risk. The Kishwaukee and its tributaries are threatened because construction and agricultural activities do not adequately control pollution or flooding. The rich landscape of ancient glacial features, farms, historic communities, fragile streams, wetlands, and woodlands is vulnerable to any development not carefully designed for resource protection. Throughout the Kishwaukee River Watershed,

important natural and cultural features are not adequately protected. Underlying groundwater supplies that provide drinking water are not being conserved. These watershed concerns are particularly serious in the Greater Marengo-Union Watershed Planning Area; its population is forecasted to increase from 14,803 in 2000 to 30,650 people by 2030.



The Greater Marengo-Union Watershed Planning Area is within the Kishwaukee River Watershed.

WHY TAKE A WATERSHED APPROACH?

This plan considers how the watershed functions as a living, continuous landscape that directs and alters water from where rain falls to where the Kishwaukee flows into the Rock River. Therefore, the quality of the Kishwaukee River depends on how water is managed as it follows its path:

From here ...



to here ...



and here ...



and here ...



and here.



Nearly every action taken potentially effects the health of the Kishwaukee River and its watershed.

THE PLAN AND ITS PRINCIPAL FINDINGS AND RECOMMENDATIONS

This plan builds upon previous efforts by local governments, natural resource agencies and organizations, and private citizens to create a plan for action. It has a number of components:

- This executive summary, which highlights critical needs and actions.
- The full Greater Marengo-Union Area Watershed Plan, with its detailed assessment, recommendations, and technical assistance information.
- Large “green infrastructure” and resource inventory maps, for use by the project sponsors when working with developers and planning for growth and conservation.
- Detailed recommendations for strengthening local development regulations.
- Online and CD access to the above.

Most importantly, the plan calls for a strategy of cooperative, collaborative, and consistent actions for managing growth and protecting resources.

RECOMMENDED STRATEGIES: A FRAMEWORK FOR ACTION

The plan’s overall recommendations are intended to address the watershed’s challenges with these general strategies:

- 1) Establish and maintain a collaborative intergovernmental mechanism for managing the watershed over time, in cooperation with local, state and federal agencies and organizations.
- 2) Create and manage a network of “green infrastructure,” open space that is integrated with the pattern of development, and protects habitat, provides recreation, and preserves the scenic character of the landscape.
- 3) Increase the capacities of county and municipal governments to protect, restore and manage the watershed’s resources with effective and consistent regulations, leadership, and public education.
- 4) Promote the use of advanced stormwater management and agricultural practices, particularly best management practices (BMPs) that conserve aquifers and protect surface waters.

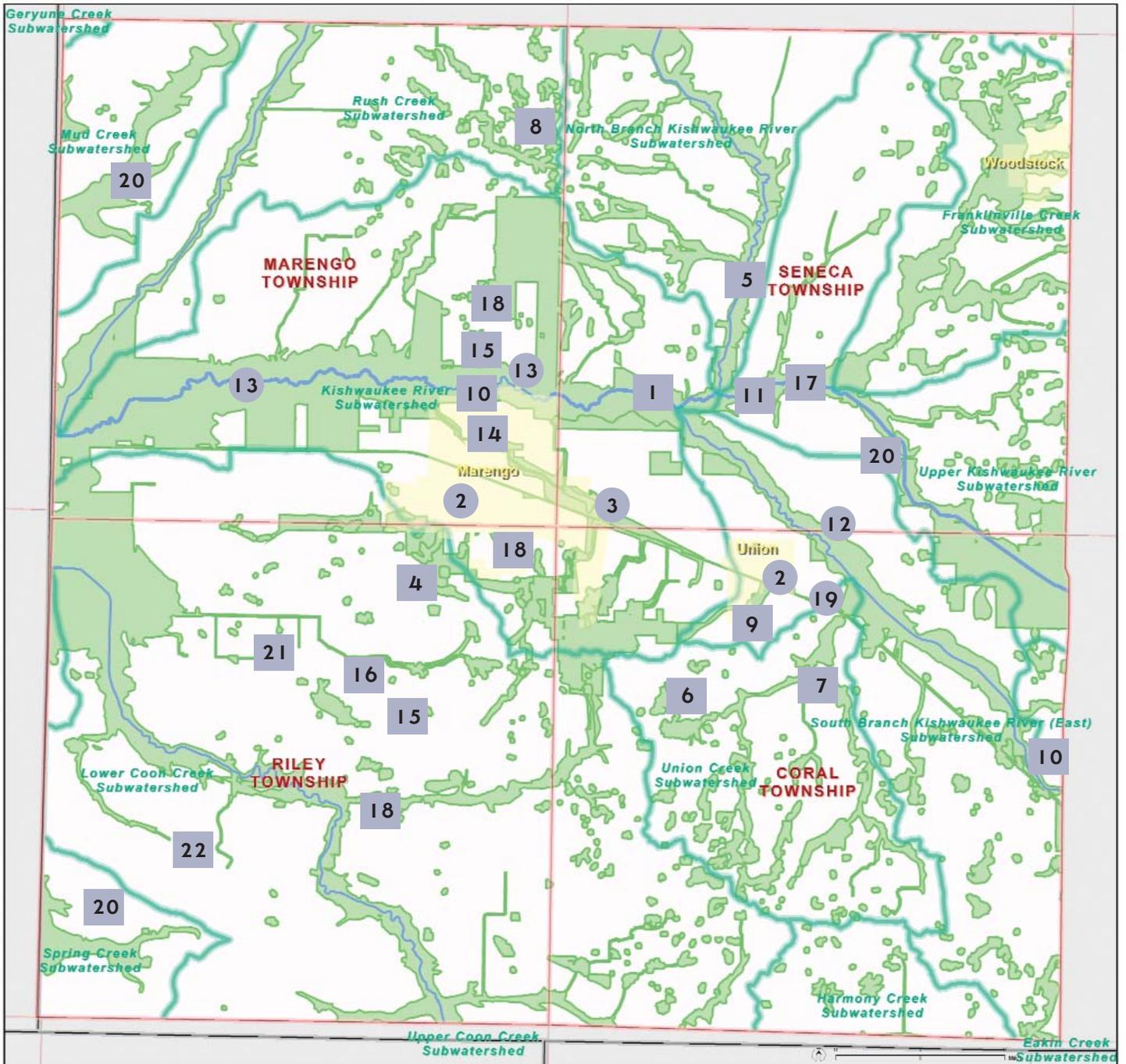
CHALLENGES TO WATERSHED PROTECTION

The challenges of the watershed are myriad, complex, interconnected, and daunting. The largest issues are:

- Adoption of development techniques and farming practices that effectively manage precious ground and surface water resources.
- Strengthening of tools local governments can use to create economic development that protects natural resources and maintains quality of life.
- Improvement of intergovernmental coordination to achieve consistency of growth and resource management across the watershed.
- Creation of greater citizen awareness, appreciation and responsibility regarding resource protection.
- Protection of sensitive environmental features and preservation of open space.

GREEN INFRASTRUCTURE MAP AND KEY IMPLEMENTATION ACTIONS

The planning area contains waterways, floodplains, wetlands, high quality natural areas, and existing public and private open spaces that together are fundamental to the health and beauty of the area. They are illustrated below, in the aggregate, as a Green Infrastructure Map. Green infrastructure is land that should be reserved, enhanced, managed properly as open space, and protected from potentially harmful adjacent activities.



PLAN RECOMMENDATION HIGHLIGHTS:

- 1** Protect and properly manage “green infrastructure” areas, especially the Kishwaukee River corridor and the area of its confluence with its north and south branch tributaries.
- 2** Strengthen zoning and subdivision ordinances of the City of Marengo and Village of Union to improve water resource management and protect sensitive environmental resources.
- 3** Create a detailed, intergovernmental land use, stormwater management, and habitat restoration plan for the Marengo-Union inter-jurisdictional area.
- 4** Use transportation planning and engineering particularly for roadway location and design, to protect and enhance green infrastructure.
- 5** Preserve natural stream corridors and provide native vegetation buffers along the Kishwaukee River and its tributaries.
- 6** Protect state and county natural area inventory sites and wetlands through permanent protection methods.
- 7** Restore and maintain Kishwaukee tributary streams where they are included within development projects.
- 8** Protect and manage woodland areas on public and private property.
- 9** Promote the increased use of land application wastewater treatment systems to support compact, contiguous development, farmland preservation, efficient provision of services, and protection of water quality.
- 10** Manage municipal wastewater discharges to protect stream quality and aquatic habitat.
- 11** Preserve a minimum base flow in streams to protect their ecology and quality.
- 12** Expand Siems Park and provide for restoration of the South Branch with a trail connection to the H.U.M. Trail.
- 13** Develop Kishwaukee River canoe access facilities.

- 14** Retrofit community infrastructure and recreational facilities with BMPs.
- 15** Install BMP demonstration projects at public properties to illustrate that watershed management is everyone’s responsibility.
- 16** Minimize impacts of gravel mining to water quality and implement reclamation plans for future land uses.
- 17** Expand county scenic road designations.
- 18** Protect landscape features that enhance visual quality, preserve local heritage, and instill a sense of place and stewardship, such as historic sites, views and vistas.
- 19** Encourage landscape protection and design to enhance the setting for the Illinois Railway Museum.
- 20** Advocate sound land-management practices on agricultural lands to provide stream buffers, prevent erosion, and eliminate water pollution.
- 21** Increase farmers’ voluntary participation in the program established by the Illinois Agricultural Areas Conservation and Protection Act.
- 22** Recognize the attributes of hydric soils and groundwater recharge areas for water management, ecological restoration, and limitations on development.

KEY:

-  Sample project locations representing multiple sites
-  Site-specific project locations

SHORT-TERM PLAN IMPLEMENTATION PROGRAM

ISSUE: Implementation of the watershed plan requires ongoing collaboration among the planning area's jurisdictions and organizations. The planning project steering committee planted the seed of an ongoing plan implementation mechanism, but it needs to be managed by committed local leadership and representatives of the diverse interests of the area, and supported financially.

1. Create an ongoing watershed management steering committee to promote watershed plan implementation, provide a forum for coordination, and initiate and support fundraising efforts on behalf of the watershed. The steering committee should include official representatives of the current participating entities, as well as additional public and private entities that have a role in plan implementation.
2. Recruit a paid or volunteer, part-time, locally based watershed coordinator, potentially in collaboration with other watershed areas or organizations.

ISSUE: The watershed planning process has initiated changes in local planning, and land and water resources management. These shifts need to be completed and included in official policies, rules and regulations.

3. Continue a collaborative process of amending and upgrading Marengo, Union and McHenry County ordinances and stormwater regulations to create consistent and effective standards for development and land use practices that conserve natural resources and protect water quality.
4. Adopt the Greater Marengo-Union Area Watershed Plan and Green Infrastructure Map at the municipal, township and county levels as a guide for public and private sector watershed management, including open space preservation and location of naturalized areas within conservation-oriented development.
5. Adopt intergovernmental agreements for jurisdictional boundaries, future land use, and stormwater management with water quality and habitat benefits.
6. Begin a local discussion among elected officials from municipalities, townships, McHenry County, and community organizations on how to anticipate needs and improve local government capacities for preserving and managing open space for multiple benefits.
7. Use the collaborative network established by the watershed planning process to participate in and contribute to the new Regional Water Supply Planning Initiative being coordinated by the Chicago Metropolitan Agency for Planning (CMAP).

CHICAGO WILDERNESS MAGAZINE



The restoration of Nippersink Creek provides a model for re-meandering, streambank stabilization, and use of native vegetation buffer strips to improve water quality and restore habitat.

ISSUE: The watershed planning work that has been done via this planning process and through the major work of the Kishwaukee River Ecosystem Partnership (KREP) has not satisfied all of the watershed planning requirements of the U.S. and Ill. Environmental Protection agencies (USEPA and IEPA). If this can be done, the eligibility for implementation funding can be increased significantly.

ISSUE: Existing programs and organizations have the capacity to demonstrate effective watershed management techniques, and build support for their widespread application and increased cooperation and collaboration. It is critical to develop multi-generational participation in stewardship and day-to-day behaviors that help achieve the goals of the plan.

- 8. Collaborate with KREP to finalize multijurisdictional plans and projects for high priority sub-watersheds, in part to satisfy all IEPA criteria and maximize eligibility for funding under Section 319 of the Clean Water Act and the Illinois C2000 Program.
- 9. Work with IEPA to procure Section 319 funding for addressing nonpoint source pollution in the Kishwaukee River Watershed, particularly with respect to streambank stabilization, installation of stormwater BMPs, and use of native landscaping in filter and buffer strips.

- 10. Participate in two projects approved and funded by Chicago Wilderness:

- *Watershed Plan Implementation via Conservation Design and BMP Demonstration Projects*
- *Facilitating On-Going Maintenance of Naturalized Features in Conservation Developments*

The success of these projects can be enhanced with the assistance and collaboration of such organizations as the McHenry County Conservation District, Land Conservancy of McHenry County, and other conservation organizations.

- 11. Work with KREP, McHenry County Conservation District, local school districts, Sierra Club, and the Ill. Dept. of Natural Resources to increase volunteer stream-monitoring activities.

- 12. Work with the Natural Resources Conservation Service and Soil & Water Conservation District in McHenry County to tour sites that demonstrate conservation farming practices.

- 13. Conduct tours for public officials to study sites within the greater metropolitan area that demonstrate sustainable development practices and land treatment/reclamation wastewater treatment technologies.

- 14. Sponsor Kishwaukee River volunteer events that include intergenerational study, clean-up, and recreational activities. Leadership could be provided by the municipalities, KREP, McHenry County Conservation District, township governments, school districts, local organizations, and media.



CONSERVATION DESIGN FORUM, INC.

Parking lots designed to slow and infiltrate runoff help improve water quality and provide opportunities for rain gardens as well.

Steering Committee Representatives:

City of Marengo: Don Lockhart, Mayor; Scott Hartman, Administrator
Village of Union: Robert Wagner, President
McHenry County: Suzanne Ehardt, Director of Planning and Development
Coral Township: Roger Naylor, Supervisor
Marengo Township: Steven Weskerna, Supervisor
Riley Township: Donna Bernardi, Supervisor

Participating Organizations:

Applied Ecological Services, Inc.
Baxter & Woodman Consulting Engineers
Conservation Design Forum, Inc.
Dunham Township
Engineering Enterprises, Inc.
Illinois Department of Natural Resources
Kishwaukee River Ecosystem Partnership
Marengo Park District
Marengo Public Library
McHenry County Conservation District
McHenry County Defenders
McHenry County Department of Health
McHenry County Gravel Advisory Council
McHenry County Soil and Water Conservation District
Natural Resources Conservation Service
Northeastern Illinois Planning Commission
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PROJECT BACKGROUND

The Greater Marengo-Union Area Watershed Planning Project is the third phase of "Water Resources and Sustainable Growth," a joint initiative of the Metropolitan Planning Council, Openlands, and Campaign for Sensible Growth, with funding from the Joyce Foundation. The project's research reports, *Changing Course* and *Troubled Waters*, stressed the importance of local governments in effective watershed planning and plan implementation. The Joyce Foundation subsequently funded two pilot watershed planning projects in growth areas with important water resources — the Greater Marengo-Union Area in McHenry County and Trim Creek Watershed in Will and Kankakee Counties — in order to support local government involvement in watershed planning.



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