



County of McHenry – Division of Water Resources

# Water Resources Action Plan

## Section I: An Overview of the WRAP

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**Items in Blue** – Appendix or Attachment available

**Items in Red** – Definition available

# Water Resources Action Plan

## Section 1. An Overview of the WRAP

### A1) Water and McHenry County

McHenry County is a landscape of unique natural beauty known for its open spaces, scenic farm fields, abundant wetlands, and gently rolling glacial topography. The county is also home to thousands of businesses and more than a quarter million residents. Since 1990, real per-capita personal income (PCPI) in the county has grown at a rate of about one percent per annum. Today, it is the fourth highest in the state of Illinois.<sup>1</sup>

McHenry County's prosperity, household success, and natural beauty and bounty are all dependent on clean water. In the most basic terms, homes and businesses in McHenry County have no value without clean water to drink. Therefore, the natural resources that protect the groundwater resources and contribute to the quality of life for our residents must be preserved and protected.

McHenry County's *sole source* for all of its **potable water** needs--including all private and public water supplies--is groundwater. McHenry County's shallow groundwater resources are a vital renewable resource. Any contamination to the water supply could prove to be detrimental to the county's health and safety. The protection of this water resource is essential for the current and future generations of McHenry County.

The old economic growth paradigm required people to choose between commerce and conservation. Those days have passed, and today economic development and community planning professionals worldwide recognize that the way to ensure a healthy, sustainable economy is by finding ways to balance development with resource conservation.

#### **Groundwater**

Groundwater is a finite resource. All wells within McHenry County withdraw groundwater from either locally recharged shallow aquifers or deeper, regionally recharged aquifers. The county's more permeable soils make local groundwater more susceptible to contamination—a substantial portion of the county is underlain by soils that exhibit a “high potential for groundwater contamination.”<sup>2</sup>

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<sup>1</sup> McHenry County Groundwater Resources Management Plan, June 2007. Report 1.

<sup>2</sup> Ibid <sup>2</sup>.

A McHenry County multi-year water resources study, titled the Groundwater Resources Management Plan (GRMP), was released in November 2006. The GRMP concluded that there are several aspects of groundwater concerns in McHenry County.

1. The primary impact of increased groundwater pumping on the existing water supply.
2. The potential for groundwater contamination that grows proportionally with population increases and the increased business activity in the area. This threat includes spilling of hazardous materials on the surface and increased discharge of fully or partially treated wastewater and wastewater treatment residuals.
3. A less evident, but nevertheless important aspect of groundwater use, is the potential impact on natural wetlands, fens, streams, and lakes. These natural areas are dependent on groundwater discharges to the surface, and excessive pumping may reduce or eliminate these flows.

### **A growing county**

McHenry County is one of the fastest growing counties in the nation. In 1990, the population in the county was approximately 182,000. In 2000 it had grown to 260,000: an increase of 42 percent. Projections indicate that population may grow to nearly 350,000 by 2020<sup>3</sup> and 450,000 by 2030. Much of the population growth is projected in eastern McHenry County, where existing groundwater withdrawals are already dangerously close to exceeding the maximum sustainable yield of the aquifers.

In 2000, water use in the county amounted to an annual average of 34.6 million gallons per day (mgd), from a review by Baxter and Woodman, Inc. Baseline forecasts indicate that average annual water use will grow to 51.0 mgd by 2020 and to 67.5 mgd by 2030. That means McHenry County is projected to be using nearly double the amount of water from 2000 to 2030. However, if each of the comprehensive plans of all of the municipalities in the county are fulfilled in the future, total water use in McHenry County could grow to as much as 160 to 180 mgd.

The estimated sustainable yield of shallow and deep aquifers in McHenry County is estimated to be approximately 120 mgd. The possibility exists that the county will not be self-sustaining if it is developed to its full potential in the long-term and there is no change in our water use.

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<sup>3</sup> Northeastern Illinois Planning Commission, "Toward 2020: Population, Household and Employment Forecasts For Counties and Municipalities in Northeastern Illinois." September, 2000.

To ensure there is a sufficient quantity of water for McHenry County, and to ensure that the groundwater water we use is of sufficient quality for our natural areas and human use, we need to plan and follow through on ways to protect our county's water supplies. The Water Resource Action Plan for McHenry County outlines how we can be prepared for a healthy, prosperous future.

## **A2) The Water Resources Action Plan**

McHenry County recognizes that, in addition to being beautiful, magical, and powerful, water is essential. The county is committed to developing and implementing a Water Resource Action Plan to ensure a sustainable water supply to meet the demands of the projected 2030 population and the longer-term needs of future generations of McHenry County.

The McHenry County Water Resource Action Plan was completed in June 2007 to answer the future water supply challenge: How will McHenry County provide a water resources to a growing population in the most efficient and environmentally responsible manner? The plan lists a series of objectives that call for a holistic, coordinated, resource-based approach to water resources planning within the county and the municipalities it serves. This approach includes water conservation, wastewater re-use, pollution prevention, water supply protection and best management practices for planning and managing groundwater, surface water, potable water supplies, rivers, streams, floodplains, and wetlands.

### **Participants in the plan**

Traditionally, groundwater resource planning in many parts of the United States has been a top-down process with little or no stakeholder involvement. In Illinois, however, counties have no statutory authority outside of unincorporated areas. Furthermore, people are more likely to support that which they help to create. In order to create a plan built on the ideas, needs, and capabilities of local stakeholders throughout the county, the County Board created a strategic initiative to hire a Water Resources Manager to coordinate the development of a Water Resource Action Plan, utilizing a cooperative planning process.

In July of 2007, the Groundwater Protection Task Force was assembled to develop a Groundwater Protection Action Plan to protect and preserve the quality and quantity of groundwater in McHenry County. The seven-step integrated water resources planning process encouraged the involvement of local government leaders, regional partners, state and federal agencies, special interest groups, agriculturalists, business and industry, and citizens in the development of a county-wide groundwater protection action plan.

All sections of the WRAP were developed by the Task Force in subcommittees and underwent a public review and comment period from January 2009 – August 2009.

Comments received through August 31, 2009, were compiled and considered for the final Water Resource Action Plan, distributed in October 2009.

McHenry County continues to proactively reach out to its stakeholders to ensure that our water supply planning efforts are coordinated with and meet or exceed the goals of state, regional, and sub-county water planning efforts and/or programs. The WRAP will be reviewed on an annual basis, and the county continues to promote public awareness through community outreach, public presentations, and school-aged education programs.

Any suggestions for improving the October 2009 plan may be addressed to [waterresources@co.mchenry.il.us](mailto:waterresources@co.mchenry.il.us), with WRAP in the subject line. The WRAP Task Force will be reconvened annually beginning in October 2010 to review and revise the WRAP. McHenry County Government Division of Water Resources will publish an annual report indicating the status of the WRAP implementation county-wide.

### **What is in the Water Resource Action Plan**

The goal of Water Resource Action Plan is to find solutions that reach across political boundaries to protect and preserve the quantity and quality of water for current and future generations, including the built and natural environments. It strives to create a culture of conservation and awareness and to guide residents and businesses toward more efficient use and quality protection of our County's finite water resources.

The Water Resource Action Plan (WRAP) is compilation of the best available information for water resources protection. It can be used as a guide for McHenry County's five major water use sectors to protect and preserve the County's finite water resources for current and future generations. The Five Major Water Use Sectors include:

1. Agriculture
2. Business and Industry
3. Government: Municipal, Township, State, and Federal
4. General Public
5. Private

With a holistic approach that links water resource management to land use decisions, the GPAP serves as a toolkit that links water resource management goals with other community goals such as economic prosperity, public safety, and quality of life. It may assist with prioritizing water conservation, maximizing water efficiency, and protecting the quantity and quality of all water resources. In McHenry County, the ultimate goal is not to prevent water use, but to maximize the benefit of each gallon through sound resource planning and quality protection.

During the planning process it was also recognized that additional scientific data regarding the state of water in McHenry County was needed. Therefore, McHenry County Water Resources:

- has completed the installation of an “real-time” observation well network
- is coordinating the development of a hydrologic flow model
- is coordinating the development of a three-dimensional, hydro-geological map to further support the Groundwater Protection Action Plan

Improving the collective understanding of water use, efficiency, and conservation is critical to improving how McHenry County manages its water resources. This plan encourages further study of water use, water conservation practices, and the effect of water conservation investments, so that water users are able to make the best possible decisions when managing water supplies.

### **A3) How to Use WRAP**

Ensuring the availability of a clean, safe, affordable water supply requires a coordinated effort on the part of state, regional, county, and local governments, along with water utility operators, business, industry, and the public. The McHenry County Groundwater Task Force recommends that all these entities work as partners to pursue the activities noted below:

- Promote:
  - Water conservation
  - Water quality protection and pollution prevention
  - Aquifer recharge protection
  - Stormwater infiltration
  - Conservation design
  - Alternatives for wastewater
  - Sensible salting practices for winter road operations
  - Natural areas protection
  - Coordinated planning for drought, disaster, and water supply
- Increase awareness about “Water” through:
  - Public outreach
  - School education
- Improve Science of McHenry County:
  - Map the geology
  - Map the groundwater flow

- Revise the assessment of groundwater availability and sustainable yields based on new data
- Monitor/record groundwater levels of the shallow sand and gravel aquifers with an observation well network
- Monitor/record groundwater and surface water interactions with stream gauges
- Monitor/record changes in groundwater quality in the shallow sand and gravel aquifers using the observation well network

It is important to note that in the State of Illinois, there is no statutory authority for counties to control groundwater withdrawals and there are limited controls on protection of groundwater quality. Therefore, this model policy is intended to help guide development decisions. If adopted, this model policy has the potential to impact municipalities, townships, developers, and the county through placing protections on groundwater quality and quantity.

Municipalities and the county are the primary parties responsible for permitting residential and commercial developments within McHenry County. Municipalities and the county have the ability to influence and control growth and development decisions through annexations and zoning. Developers, residents, business owners, local, regional, and state governments, and other agencies are all stakeholders in this process. Development decisions have the potential to impact groundwater recharge by increasing impervious surfaces and groundwater withdrawals as well as by increasing pollution potential that development brings. If implemented, best management practices have the ability to offset these impacts.

It is essential that all land use and development options be carefully examined and planned within sensitive groundwater recharge areas to ensure that water quality, quantity, and natural recharge functions of the area are safely maintained. Establishing aquifer recharge protection zones and identifying potential pollution risks are important mechanisms for source water protection in groundwater dependent communities. Finally, through protection of groundwater recharge and water conservation, the county and its stakeholders<sup>4</sup> can begin to work towards maintaining consistent, sustainable, and high-quality yields from our potable water resource.

The WRAP should be used to guide decisions related to water use, water management, and water quality protection by:

- Informing water users and distributors about the importance and value of water
- Informing water users and distributors about the risks and costs of contamination to our water resource

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<sup>4</sup> Stakeholders include residents, businesses, developers and engineers, local, regional and state governments, special interest groups, and the County.

- Informing water users and distributors about water conservation practices and the goals they can accomplish
- Assisting water use sectors in improving water use efficiency
- Assisting water use sectors to collectively protect water quality
- Working across jurisdictional boundaries to protect and preserve water resources for all

## A4) Acknowledgements

### Groundwater Protection Action Plan Task Force Participants\*:

**Alden Township:** Preston Rea

**Algonquin Township:** Bob Miller

**Village of Algonquin:** Katie Parkhurst

**Baxter and Woodman:** Larry Thomas

**Village of Bull Valley:** Ed Ellinghausen

**Village of Cary:** Cris Papierniak, Kevin Sullivan

**City of Crystal Lake:** AJ Reineking, Andy Resek, Eric Lecuyer

**Dorr Township:** Robert Pierce

**Environmental Law and Policy Center:** Nancy Wagner, Jessica Dexter

**Village of Fox River Grove:** Larry Thomas

**General Public:** Patrician Kennedy, Jane Collins

**Hartland Township:** Evert Evertsen

**City of Harvard:** Dave Nelson

**Hebron Township:** Greg Kuhs, Peter Arroyo

**Huemann Water Management, Inc.:** Joseph J. Huemann

**Village of Huntley:** Jay Kadakia, Steve Zonta

**Village of Johnsburg:** John Huemann

**Village of Lake in the Hills:** Larry Feffer

**Village of Lakewood:** Paul Ruscko

**City of Marengo:** Steven Weskerna, Josh Blakemore

**Marengo Groundwater Technical Advisory**

**Committee:** Lorence Brown

**MCSEEP:** Sue Burke

**McHenry County Association of Realtors:** Conor Brown, Elise Livingston

**McHenry County Conservation District:** Deb Chapman, Gabriel Powers, Kim Hankins

**McHenry County Council of Governments:** Anna Bicanic-Moeller

**McHenry County Defenders:** Cindy Skrukud, Ed Ellinghausen

**McHenry Environmental Alliance:** Dennis Dreher

**City of McHenry:** John Schmitt, Mike Palmer

**Village of Prairie Grove:** Dave Bartik

**Richmond Township:** Tammy Valentine-Garza

**Riley Township:** Cathy Johnson, Richard D'Ambrosa

**Village of Ringwood:** Roni Gaddis

**Schmitt Engineering:** Albert M. Schmitt

**Smith Engineering Consultants:** Ed Coggin, Stephen R. Bicking

**Soil and Water Conservation District:** Ed Weskerna, Spring Duffy

**Village of Spring Grove:** Ron Kopke

**Village of Union:** Robert Wagner

**USDA—NRCS:** David Brandt

**Village of Wonder Lake:** Larry Reinhard  
**Woodstock Environmental**

**Commission:** Scott Kuykendall

**City of Woodstock:** John Isbell, Will Smith

**The County of McHenry-**

- **Board:** Ken Koehler, Barb Wheeler, Ersel Schuster, Mary Donner, Mary McCann, Randy Donley, Kathleen BerganSchmidt

- **Administration:** Peter Austin, Cassandra McKinney

- **Department of Health:** Patti Nomm, Kristy Hecke, Brenda Berg, Jeff Levato, Mike Eisele, Sarah Berg

- **Division of Transportation:** Mark Devries, Ed Markinson, Wynnyth Adair,

- **Emergency Management Agency:** Barry Valentine, Bob Ellsworth

- **Geographic Information Systems Department :** Nicole Gattuso

- **Planning and Development:** Dennis Sandquist, Matt Hansel, MaryAnne Wanaski, Mark Phipps, Alicia Law, Darrell Moore

\* This acknowledgement list represents the stakeholder organizations and representatives that attended five or more meetings

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