

Of Droughts, Floods, and Record Snows

Summary of Findings of the Water Resources Subcommittee of the McHenry County 2030 Plan Commission May 14, 2008

Over the past year McHenry County experienced drought, severe flooding conditions, and record snowfalls. These cycles of not enough water and too much water are a reminder of the need to address water resource concerns in an integrated and proactive manner. In response, starting in 2007 the Water Resources Subcommittee of the 2030 Plan Commission has entertained a series of presentations from outside experts to better understand the relationships between land use and water resources. What we have learned is that:

- The County is blessed with abundant water supplies and with streams and wetlands that have, historically, been among the highest quality in the region.
- Land use changes and development can have significant impacts on water resources.
- Effects of land use changes may be seen on groundwater and related water supplies; water quality and recreational uses of streams, lakes, and wetlands; and stormwater and flooding.
- Water resource issues and problems are often inter-related. That is, if a new development increases stormwater runoff, it also may have adverse effects on groundwater recharge and water quality.
- It will take integrated, comprehensive strategies to address important water resource issues.

Resource Conditions

The County has probably the highest quality stream resources in the region (mostly A and B condition), although their quality is being threatened by the impacts of urbanization.

The county has a relatively high coverage of wetlands, most of which have been degraded over time. However, many high quality wetlands remain, including unique spring, seep, and fen systems that depend on continuous recharge of clean groundwater.

The county also has extensive acreage of drained hydric soils (i.e., former wetlands).

The county has very extensive acreage (roughly 50%) of soils with high permeability that are highly susceptible to groundwater contamination.

McHenry County, as a whole, is water rich with respect to aquifer capacity for water supply. Virtually the entire county depends on shallow or deep wells for its supply.

Existing water demand is rapidly approaching available supply in some areas (i.e., Algonquin Township), with this trend forecasted to extend into other townships (i.e., Grafton and McHenry) by 2030.

The county has already exceeded its “share” of withdrawal from the deep sandstone aquifer. Substantial remaining capacity exists in the shallow aquifer but this may not be enough for the potential ultimate demand in some locales.

Issues and Threats

Aquatic resources are threatened by various water quality impacts related to urbanization, including fertilizer runoff from lawns and farms, construction site erosion, wastewater and septic system discharges, and roadway runoff.

Aquatic resources also are impacted by physical disturbances including fragmentation, channelization, and filling.

The hydrology of aquatic systems is being adversely impacted by soil disturbances and compaction, impervious surfaces, modification of hydric soils and natural depressions, and unsustainable stormwater management practices.

Groundwater is being withdrawn in some parts of the county at rates that are close to exceeding the natural capacity of the aquifers to recharge. This is exacerbated by excessive water use related, in part, to irrigation of lawns.

Conventional development and stormwater management practices are reducing the ability of aquifers to naturally recharge. This is related – particularly in municipalities -- to mass grading, soil compaction, impervious surfaces, and stormwater management approaches that convey runoff in sewers without the ability to recharge.

The quality of groundwater is threatened by urban runoff pollutants, septic systems, and industrial uses. Chloride from water softeners and road salting is a pollutant deserving particular scrutiny.

Conventional wastewater collection and treatment systems may contribute to water resource problems. Centralized collection and treatment systems convert groundwater resources to surface discharges, thereby preventing the recharge of groundwater. Conventional septic systems effectively recharge groundwater but can potentially contaminate groundwater quality.

Policies under Consideration

The Water Resources Subcommittee has developed draft policies and recommendations that are being reviewed by the full Plan Commission. After initial sign-off by the Plan Commission, the draft findings and recommendations will be considered by the County’s Planning and Development Committee. Some of the key policy topics include:

Linking recommended land uses to the natural resource constraints and opportunities of the underlying landscape, and avoiding certain types of development in the most sensitive areas.

Protecting groundwater recharge areas.

Encouraging broader utilization of holistic stormwater best management practices that seek to filter and infiltrate precipitation and runoff.

Encouraging broader use of conservation design principles for new development.

Developing long-range, intergovernmental plans for water use and groundwater pumpage.

Encouraging adoption of water conservation ordinances.

Utilizing innovative wastewater treatment and reclamation strategies to better protect surface and groundwater.

Establishing integrated greenway/green infrastructure networks throughout the county.

Applying recommendations and practices across entire watersheds. More specifically, developing coordinated water resource approaches between the county, townships, municipalities, and adjacent counties.

Getting Involved

Individuals and organizations are encouraged to participate in the McHenry County's 2030 planning process. Currently, the Plan Commission meets on the second and fourth Thursdays of the month at 6 p.m. For more information, please visit the Plan Commission website at <http://www.mchenrycounty2030plan.com/> .