

Fri, 11 Feb 2005

Folks,

Attached is an excellent 68 page report from August of 2000, on High Capacity Wells, that I picked up from Stephen Born's web site. He is a Prof. at the Univ. of Wis. Madison, Dept. of Urban and Regional Planning. Prof. Born focuses his research, professional and outreach activities on water and related resource planning and management issues, and the theory and application of integrated environmental management concepts. He is a leader in using Wisconsin environmental management situations as models for other states, even other countries. As a former Wisconsin State Planning Director, he is also involved with state, regional and intergovernmental policy and planning issues.

Managing Wisconsin Groundwater Management: Reforming the High Capacity Well Laws is a UW-Extension publication intended to help guide policy-makers, agencies, interest groups and citizens in better managing Wisconsin's groundwater. The report summarizes the potential impacts of high capacity wells on the environment, reviews existing groundwater law and management in Wisconsin and several other states, and outlines strategies for improving groundwater quantity management in Wisconsin.

Look at the diagrams and hydrogeologic basics. On page 10 is a description of the Village of Mukwonago's memorandum of agreement with the DNR regarding its high capacity shallow well near the Vernon Marsh.

Happy reading.....

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EXECUTIVE SUMMARY

Although Wisconsin has one of the most comprehensive groundwater quality protection laws in

the nation, the legal framework for managing groundwater quantity has become a serious concern as

demands for water increase. This report is not intended to be a comprehensive study of water resources

management in the state. Rather, its focus is on high capacity wells, groundwater-surface water

interactions and environmental impacts. This report discusses the potential impacts of high capacity wells

on the environment, summarizes the existing law for managing groundwater quantity in Wisconsin,

reviews programs in selected states, and discusses issues and strategies for improving groundwater

quantity management in Wisconsin.

Groundwater is the major source of water supply in Wisconsin, where an average of 759 million

gallons of groundwater is withdrawn each day. Groundwater pumping has been associated with

substantial declines in groundwater levels in Wisconsin. While field data on environmental impacts of

groundwater pumping is very limited, cases reported here illustrate potential problems. In Madison, water

table levels have dropped three to six feet, threatening arboretum wetlands and fens. Irrigation pumping

has reduced streamflow by 25-30% in the Central Sands Plain region; projected pumping rates indicate

that the Little Plover River faces severe ecological impacts. Bloody Run Creek, a Class 1 trout stream, has

been dewatered by high capacity wells.

The current high capacity well laws are inadequate to manage and protect Wisconsin's

groundwater and related environmental resources. Water use has grown 33% over the past 15 years and is

likely to continue rising into the future. The Wisconsin Department of Natural Resources (WDNR) has

explicit authority to restrict permits for high capacity wells only in cases where the supply of water to a

public utility well may be impacted. Further, the WDNR has not routinely required high capacity well

users to report water use, except in the case of impact to a public utility well, so water use is largely based on estimates.

While increased scientific understanding of surface water and ecological impacts from

groundwater withdrawals is needed in Wisconsin, several other states have modernized their statutes and

management practices so as to acknowledge the hydraulic continuity between surface water and

groundwater. Florida has an integrated permitting process that ensures biological input and review.

Minnesota has provisions to adapt management programs and incorporate new information as it becomes

available. Oregon and Washington address groundwater management in a broader watershed and

planning context. All four states include public interest and environmental protection criteria in the permit

review process.

To close the gaps in groundwater resource management without pursuing statutory changes,

Wisconsin could pursue citizen suits involving the public trust doctrine, expand on nuisance common

law, and exercise agency discretionary authority to enforce existing statutory language.

We identify several issues that any new legislation for improved groundwater quantity

management should address, including: explicit legislative recognition of

hydraulic continuity; expanded

criteria for review and permitting; program targeting; monitoring, reporting and data acquisition

strategies; exemptions; cumulative impacts and future uses; and continuing research support. As the new

century begins, Wisconsin has the opportunity to be proactive in addressing these issues and enhance

protection of the quantity and quality of its “buried treasure.”