

Groundwater Advisory Committee
Options Paper
for
November 15 Ballot

Date: November 14, 2007

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Title (Subject): Recommendation Regarding the 1200' GPA Parameter

DISCUSSION:

Groundwater pumping from high capacity wells continues to impact water levels and flows in Wisconsin lakes, springs, streams, and wetlands, with increasing ecological and economic ramifications. For example, in Wisconsin's central sands region, groundwater models assessing declining lake and river levels increasingly implicate nearby high capacity wells as a cause of the region's declining water levels. In burgeoning southeastern Wisconsin, disputes between lake property owners and municipal utilities related to lake level concerns are continuing to increase in number and frequency. Likewise, concerns over declining lake levels in the northeast and northwest portions of the state will surely be compounded if drought conditions continue as they have.

In the years to come, the extent of these groundwater impacts on even the most prized of Wisconsin's waters—those designated Exceptional Resource Waters (ERWs), Outstanding Resource Waters (ERWs) and Trout Streams—will undoubtedly increase for the reason that (1) Wisconsin lacks a comprehensive program for measuring and assessing groundwater-surface water impacts, and (2) Wisconsin accomplishes few, if any, assessments of the impact of specific wells upon nearby water resources.

Basing the definition of a Groundwater Protection Area (GPA) solely on a pre-defined distance from the protected resource—like the 1200 feet currently provided under the statute—fails to take into account any of the other critical hydrogeologic and scientific parameters that require consideration in order to prevent adverse impacts on surface water resources from groundwater pumping.

Without hydrogeologic information as a guide, the extent and degree of the proposed high-capacity well's impact cannot be predicted. The distance of a well from a protected resource is just one of many parameters that affect its impact on water resources. Other factors that are at least as important as distance include hydraulic conductivity and the connection between groundwater and the protected surface water resource. Indeed, even the simplest of models includes parameters other than distance. As such, an arbitrary, pre-defined distance like the 1200 foot distance provided under the statute is not an appropriate regulatory means to ensure the protection of designated water resources.

A more appropriate, rational and science-based regulatory approach would help assure fairness for all applicants and would not be significantly different from what DNR currently does. Such a process would enable a detailed hydrogeologic review process, as

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outlined by Jill Jonas in her September 11th GWAC presentation and by Ken Bradbury in his July 10th GWAC presentation, which would allow the DNR to take into account key factors beyond mere distance, such as aquifer parameters, estimated drawdown, and other estimated surface water impacts. [*reference:* <http://www.dnr.state.wi.us/org/water/dwg/gac/meetings.htm>]. Finally, a science-based approach will allow the DNR-approval process to be both flexible and firm in protection of this resource.

RECOMMENDATION:

Designation of Groundwater Protection Areas (GPAs) should not be limited to a pre-defined distance from a protected surface water body as is currently provided under the statute.

In place of the arbitrary distance provided under the statute, the Department shall utilize an articulated, rational process based upon a hydrogeologic analysis that evaluates the potential impact of a proposed high-capacity well on near surface water resources and identifies opportunities for mitigation.