

GROUNDWATER THRESHOLDS PROJECT

Highlights of Stakeholder Meeting 3

October 21, 2015

COMMENTS ON PRESENTATIONS *(responses in italics)*

1. Erik Smith presentation on USGS potential recharge map

Questions/comments

- How is model used by MPCA? --*To calculate vulnerability of aquifers to water quality degradation*
- How do lakes, wetlands, factor into model? --*Model doesn't recognize open water 'cells' but does include peatlands, other wetland types*
- Will you incorporate more recent land use data? --*Not immediately – USGS is doing some modeling of larger areas, and may do so. But at a 1-km grid, land use changes don't make that much difference. Needed to balance size of grid for accuracy vs. calculation time; not meant to be a site-level tool.*
- What about multiple lenses of groundwater and balancing of flows between aquifers? --*Model doesn't calculate that; would need a more site-specific model. Not modeled for specific aquifers.*
- What's the 'error' range for actual recharge compared to potential recharge? --*Highly variable, depending on location. Can't be measured based on a specific precip. event.*
- Does pattern tiling prevent recharge? --*Not part of this model. New study underway through LCCMR at field scale.*
- What about runoff from hard (impervious) surfaces? --*Captured in urban land use categories; not significant in rural ones.*
- What about differences in urban soil types? *Yes, those are factored in?*
- Can model be overlaid on a groundwater model? *Yes, that's the intent.*
- Could you model recharge pre-European settlement? *You could base it on land cover if you assumed the climate to be same as current period.*

2. Presentations on appropriation and hydrogeology (Hovey, Thompson)

Questions/comments

- How much water is authorized compared to how much is actually pumped statewide? *Will look into this.*
- Is there an estimate for the amount of pumping from domestic wells? *No (check USGS estimate)*
- Do you consider water quality issues in domestic wells as a permitting issue? *Yes, if notified of them.*
- How critical is availability of Geologic Atlases in permitting decisions? --*Need to use what's available*
- Length of time to complete all atlases? *TBD*

- If a well's static level is lower than surface water (river), can it ever affect water levels in river? *Yes, because pumping can change the hydraulic gradient.*
- Why did shift of cities to surface water sources (recommended many years ago) not occur? *Cost, primarily, and reluctance to switch to new withdrawal and treatment systems. Groundwater needs less treatment. However, Burnsville and Shakopee did switch.*
- Were permits in 2014 largely for ag irrigation? *Yes*
- Does DNR ever lower permitted volumes after permits are issued? *We are beginning to consider this*
- Well interferences? *Fairly common, can often be resolved by lowering pump*
- Irrigation permits – are downstream water quality impacts considered? *Sometimes – nitrate example, permit had conditions such as scheduling of fertilization*
- Are contaminants considered negative impacts? *DNR's focus is primarily quantity, but we need to consider quality in some situations. Nitrates – primarily MDA's role, not covered by DNR's permit program.*
- Limited permits will create costs for cities and water users if they need to find new sources.
- As pressure in well is lowered (confined aquifer) does recharge increase? *Yes, recharge is induced.*
- Do well-drillers have a role in permitting process? *Yes, are asked to provide information.*
- Cost of aquifer testing for permittees is high.

Summary of worksheet responses

(Answers to some questions shown in italics)

Question 1. *What key questions/concerns do you have about the way streams, lakes, and/or wetlands are impacted by groundwater appropriations?*

- Why are we looking at this issue in a silo? (Appropriations vs. usage vs. other impacts)
- Are seasonal impacts being considered? (recognize the time lag between water use and impact to resource)
- How can long-term impacts to ecosystems be assessed?
- Will climate changes be taken into account in assessing future appropriations?
- How thresholds apply to current conditions vs. desired conditions
- How will the DNR determine the protected flow (i.e., 85%) of a stream?
- Is enough "local" information being collected in the process for the viability of the program? Many [economic] impacts are permanent.
- How can the accuracy of the analysis be assured without long-term monitoring?
- Want to see quantifiable limits in each area. Will DNR stop/cancel permits or ration use?
- Will DNR's threshold decisions be peer-reviewed?
- Will the DNR issue provisional permits until monitoring is complete?

Question 2. *What key questions/concerns do you have about the possible approaches DNR has presented to developing thresholds for streams, lakes, and wetlands?*

- How to determine cause of impact – climate, pumping, drainage patterns?
- Is time of travel accounted for in pumping limits? Impacts from furthest away – later in year (i.e., not in August)
- Additional protective threshold for coldwater streams should not be limited to “drought” periods.
- How will thresholds be enforced?
- As species change, will the thresholds change?
- How will thresholds change what is happening in Cold Spring?
- How would these thresholds change what happened to White Bear Lake?
- Does “Waters of the U.S.” federal rule impact DNR appropriations? – *No, we don’t believe it does.*
- [DNR is] trying to protect the “best” levels for ecology. Why not use the lowest natural level if ecosystem can rebound from it?
- What happens when the levels are reached – will wells be shut off?
- Will levels be adjusted in long-term drought? If a stream normally dries up from drought, why limit pumping?
- How will thresholds be translated into operational metrics? How will the metrics be enforced?
- Will specific levels be set in statute or left to the discretion of DNR?
- Groundwater is only 3% impact but the assumption is that it’s the only control on the system. Other things can be done to offset pumping – i.e., use of stormwater for recharge.
- How would new threshold impact existing permits? (How to transition from old to new process?)
- Will thresholds be set at a regional scale, given the diversity of conditions across MN?
- How long will it take to implement the 20% of the thresholds that will deliver 80% of the value?
- What’s the availability of hydrogeologic data? Need up-to-date data for accuracy.

Question 3. *What key questions/concerns do you have about the way DNR makes permit decisions?*

- Provide more information on negative impacts to permit holders
- Lack of sound hydrologic models.
- Should there be a public input process for certain permits?
- What are current thresholds used by DNR?
- Equitable implementation (in terms of allocation)
- Appropriation thresholds need to be equitable and promote conservation.
- Models won’t be ready in time.
- Will water rights (use priorities) be re-evaluated?
- How often will appropriation permits be reviewed (term of permit)?
- How will we adapt thresholds – is there a review process?
- Effects on drinking water supplies.

Question 4. *What additional questions or insights do you have given your unique stakeholder's perspective (i.e., your locality, your field, the group you represent)?*

- Water quality for all users needs to be considered.
- More information on water use that falls below permit thresholds (i.e., private wells) is needed.
- How are economic impacts considered in this process, both now and in future?
- Extreme drawdowns of shallow lakes may not be a bad thing – i.e., already used for lake management.
- What is the technology used for groundwater monitoring? Need to continue to invest in new technology.
- Translate scientific data into information that will help the public with land use decisions.
- How does water use by municipalities compare with their permitted appropriations? – *Most don't use all that they've requested, since they don't want to exceed the permitted maximums.*
- Is existing groundwater data being reviewed and evaluated often enough?
- When was DNR's current modeling program developed? Are newer models available? *We're using latest models.* Would DNR consider privately-developed models?
- Report should acknowledge that water use cuts across other sectors – in spite of narrow focus of report. The Legislature needs to look more broadly. Need to acknowledge bigger picture.
- Why not have different regional thresholds?
- Concerned not enough stakeholder group members are showing up for meetings.
- Recognize that the Legislature will have its own process in terms of law or rules.