THRESHOLDS PROJECT

Stakeholder Meeting 4 November 12, 2015

Stakeholder Advisory Group Attendees: Dell Erickson, Warren Formo, Kevin Hoppe, John Lenczewski, Jack MacKenzie, Jeff McManigle, Jay Riggs, Brian Ross, Steve Schultz, Michelle Stockness (for AWWA), Steve Woods. **Other Attendees:** Jeff Berg, Bart Biernat, Dave Brown, Sen. Michelle Fischbach, Brad Hagemeier, Rep. Jeff Howe, Barb Huberty, Andy Juelich, Bruce Kleven, Brent Neisinger, Janelle Taylor, Dave Schulenberg, Jon Stueve, Steve Traut, Dan Whitney. **DNR Staff:** Luke Skinner, Jason Moeckel, Ian Chisholm, Tom Hovey, Greg Kruse, Doug Norris, Dan O'Shea, Suzanne Rhees, Steve Thompson, Dave Wright; Charlie Peterson (Facilitator).

Discussion of groundwater recharge (*responses are in italics)*

- Will there be more recharge of GW based on more stormwater recharge? -- *Amount of impervious is highly variable, especially in older urbanized areas. Hard to know what impacts will be long-term. See recent MPCA efforts, including MIDS.*

Discussion of draft report (*responses are in italics)*

- Add language that negative impacts are due to GW withdrawal
- Why using term "thresholds" and not "negative impacts" in all cases?
- How can you prove the negative? (i.e., "will have negative impact"?)
- Trout streams – temporary permits – aren't all permits 'temporary'? *Yes, but DNR defines temporary as a one-time use, like construction dewatering.* Maybe 'temporary' should be redefined as a one-time or "single use" permit.
- It's not explicitly stated that we aren't trying to manage surface waters that aren't connected to groundwater – that should be added.
    - Example - Lake Minnetonka is not very well connected to deep aquifers, which is where most of the GW withdrawal comes from in that area, so there would be less concern about GW impacts on the lakes water level.
- Preliminary well construction assessments – why so few "green" and so many "red" and "yellow"? *Because most well construction requests are in areas that already have multiple appropriators – goal is to be cautious and make applicants aware of what else is in the neighborhood.*
    - *Trade-offs – rapid response vs. more detailed analysis. Looking for opportunities to refine the process. The DNR is open to ideas to improve the process.*
- Change in flow as negative impact – be aware that natural dynamics can create negative impacts. *Yes, but this report focuses on effects of human use – our withdrawals*
- It's an altered condition to begin with. Some wetlands are being "swamped" by excess runoff, in which case some extra GW appropriation might not be a bad thing.
- Does "characteristic long-term biological community" allow degradation from "many trout to a few trout"? Do we need a qualifier as to the size of the impact?

- Interested in discussing economic impacts, since we are talking about streams, lakes, recreational impacts. Why the focus on trout streams? *Statute (103G.285) speaks to all streams/basins, and specifically to trout streams.*
- Not discussing impacts this will have on individuals and communities. *DNR is obligated by statute to look at economic use of water resources as well as protection of those resources – not an either/or question.*
- Any discussion of impacts of recharge of drain tiles? – *USGS has proposed a study of drain tile impacts on recharge. Not much data available at present.*
- Is the 15% August median flow withdrawal = to total withdrawal from that catchment? For what percentage of streams do we have an "August median flow."? *We have 286 monitoring gages, but need to model flows elsewhere.*
- Models are extremely complicated and need good data – applying this approach will require years of data*. This approach would be applied in areas where there is stress on surface water supplies (per map of intensive use areas). The map suggests where we might be "crossing thresholds." Examples include Vermillion River, Little Rock Creek, Cold Spring, and others.*
- Would there be a different permitting process in these areas? *No, the permit review process is the same everywhere, but the level of technical analysis needed is higher in such areas.*
- Are the definitions in the draft the actual statutory language that DNR would propose? *These are possible approaches we might include in the report. It's too early to predict if this will become an executive branch legislative priority.*
- Negative impact language is well-written but vague – stick with specific threshold language to be clarified in statute. Statute is where the problems are – most people are unaware of provisions in rule.
- Is DNR making progress on "delisting" trout streams? *Fisheries Section is reviewing trout stream designations through a rulemaking process – it appears roughly 140 miles may be un-designated, but others may be added as well.*
- "Trout streams" should be specifically identified as a stream type in report and in statute.
    - Are highly cold water/groundwater dependent
    - Act as "canary in coal mine" to indicate overuse of groundwater
    - We could establish a threshold percentage in statute but would still need to model and test the specific dynamics of a stream, so locking in a number won't solve the problem.
- What will trigger local needs for thresholds and models?
- Be more flexible when water supplies are plentiful – "thatch roof and hardwood floor"
- Do you manage the aquifer or the uses – if the aquifer has many uses and new ones come in, how do you manage them? *These are questions about allocation, so go beyond the scope of this project, but we are researching approaches in other states.*
    - Need to recognize the issue in the report
    - How do you allocate among users with the same priority? *(See rules on well interference (6115.0730) and water use conflicts (6115.0740))*

- Is the Q90 in a specific location a moving target? How often is it recalculated? *We envision evaluating the models and monitoring results on a 5-year basis, then adjusting; trying to give economic uses some certainty.*
- How good is the DNR's baseline data? Be aware of and use other agencies' data as well.

Small Groups Discussions: Priorities

1) *What do you like about the working draft, the possible definitions, the possible approaches to thresholds, and the rationale provided for the thresholds?*

- Pleased that this is still a "working draft"
- Like more local approach based on the GW resource rather than a blanket number like ½ acre foot
- Good start on quantitative approach
- Will create more certainty for [appropriation] requests – move away from a gut reaction approach
- Effort to define "terms"
- Public shareholder process
- Show current and proposed language (strike-out/ underline)

2) *How would you improve the working draft, the possible definitions, the possible approaches to thresholds, and the rationale provided for the thresholds? Are there parts of the draft that need clarification?*

- Negative impact – proposed definition is based on what? Loss of habitat?
- Consider local economic impacts
- Emphasize data needs; provide references for data sources
- Some sensitive ecosystems require lower thresholds – 0 to 15% or just 15%?
- Long-term vs. short-term negative impacts – how do you define long-term? Short-term impacts can also be severe
- Long-term – defined in terms of years or dry-wet cycles?
- Not enough data to establish thresholds – state is too diverse. (constraints in applying approach statewide)
- Need more clarity on threshold for long-duration low-flow (drought) in streams
- Should water quality impacts be considered?
- Demonstrate how this approach would work
- No peer review - one size fits all (15% limit may not work for all streams – have to be adjusted = lack of long-term certainty
- Address impacts on actual water use rather than permitted use – but allow total permitted use if needed
    - Make sure actual permitted amount is sustainable
- Add expectations of the long length of time needed to create models before implementation

- "Baseline" and "natural" are vague terms – do they shift with time, climate change, perception?

3) *From your perspective, are there any "fatal flaws" in the working draft, the possible definitions, the possible approaches to thresholds, and the rationale provided for the thresholds? (A "fatal flaw is an idea or approach that renders the whole product unacceptable.)*

- Set separate (lower) thresholds for sensitive resources – more certainty
- Not enough data/emphasis/explanation on recharge/storage
- Why only trout as an indicator of biological impact?
- Given the consequences of DNR decisions, there needs to be a level of accountability. (Need an audit process – hearings are time-consuming and answers from DNR staff are vague)
- Changing thresholds: effects on businesses
- Trout streams are an indication that a location is more vulnerable – indicates that GW and SW are closely connected – if 15% is too high, then what's the lower number? Need certainty for business.
    - Do you set flows for the "1 in 20 year" level, or allocate more except when the "1 in 20" flow occurs?
    - Municipalities have more flexibility than a business such as a brewery (because of summer irrigation)
- Fails to spell out process to be used in droughts? Give businesses more certainty now.
- Set lower thresholds – new users will gobble up any excess
- Wetlands – vegetation lags behind changed to hydrology – how to deal with irreversible changes to plants?
- Is Q90 modeling accurate enough and fast enough to provide information for permitting?
- Don't oversell ability to model this well (expensive, complex, ultimately pretty crude)
- Can't support this level of analysis and management once Legacy Amendment funds go away (build a cheaper system)
- Get well-driller logs and utilize them – (DNR does use them in Geologic Atlases and permit evaluations)
- Looking at too big a picture – more regional solutions – approach is statewide, but data and analysis are localized (must be)
- Could 15% be modified to 20% in certain locations?
- Droughts – certainty
- Most wetlands in the "less than 50%" counties are very altered – you don't have the exceedance curves for them and can't afford to create them
- Project justifies status quo – predetermined outcome

4) What else should the project report have in it?

- Precautionary principle (avoid ecosystem harm)
- Economic effects
- How do we prioritize places on the landscape?
- Add a section on how this will be used in practice (i.e., Jason's sketch)

- Address the need for conservation of water
- Address need for an equitable distribution (for reduction events)

Further Discussion

- How would you apply a 15% threshold to the different priority users? --
    - *Need to look at each permit in terms of priority use, then determine what's allowed under that permit.*
    - City (Cold Spring) allows private wells for lawn watering, further reducing withdrawal from aquifer.
    - *See rules on water use conflicts.*
- Do lower priority users get cut off completely before you restrict higher priority users?
    - *No – rule gives room for planning among users, analysis*
- Discussion of Cold Spring situation – There is a belief that as long as brewery is pumping high-nitrate water, nitrates won't affect the city well. If not, the city may need to treat city water for nitrates. The City is currently evaluating and testing alternative sites with lower nitrate that wouldn't affect the trout stream. Trout stream and increase in appropriation request was precipitating factor for this project. Can't pump at maximum capacity because of trout stream. Pumping by brewery influences City's wellhead protection area and gradient of high-nitrate GW.

Discussion of questions from meeting #3 – Did any questions make us change thresholds? *No, but we are considering how to address water quality.*

Calcareous fens – how do they fit into thresholds? *Fall into wetland categories.*