

Metro MAWD Meeting Minutes

*“Metro MAWD” is the Metro Chapter of the
Minnesota Association of Watershed Districts*

7:00 PM, Tuesday, January 19, 2016

Capitol Region Watershed District

Attending:

Board Members

Joe Collins, Capitol Region
Mike Thienes, Capitol Region
Bill Olson, Minnehaha Creek
Brian Shekleton, Minnehaha Creek
Marianne Breitbach, Prior Lake Spring Lake
Jill Crafton, Riley Purgatory Bluff Creek
Pat Preiner, Rice Creek
Perry Forrester, Riley Purgatory Bluff Creek
Cliff Aichinger, Ramsey Washington Metro
John Waller, Rice Creek
Jodi Peterson, Nine Mile

Staff and Guests

Jim Haertel, BWSR
Mark Doneux, CRWD
Phil Belfiori, RCWD
Tim Kelly, CCWD
Terri Yearwood, DNR
Jim Shaver, CMSCWD
Gwen Willems, CRWD /RCD
John Hanson, VBWD
Doug Snyder, MWMO
Suzanne Rhees, DNR
Todd Shoemaker, Wenck Associates
Michael Welch, Smith Partners
Kevin Bigalke, NMWD
Mike Kinney, FLCLWD
Jen Sorensen, DNR
Terri McDill, MPCA

I. Call to Order

- a. Mike Thienes called the meeting to Order at. Attendance was taken and introductions were made.
- b. Motion by Mary Texer, seconded by Jill Crafton to accept the agenda as presented. Motion carried.

II. Special Reports

A. Governor’s Water Summit

The Governor is holding the first Governor’s Water Summit on Saturday, February 27 from 8:30 a.m. to 3 p.m. at the InterContinental Saint Paul Riverfront, 11 East Kellogg Boulevard, Saint Paul, MN.

The summit will focus public attention on the serious challenges facing Minnesota’s water supplies – in both rural and urban areas of the state – and continue statewide dialogue around steps that must be taken to address those challenges. It will bring together water quality experts, farmers, legislators, regulators, the business community, members of the public, local leaders, and a wide

variety of other stakeholders. It was noted that registration was full but individuals interested in attending could get on a wait list. An on line survey was available to be completed by attendees prior to the summit to give planners a better sense of priorities for discussion.

B. MAWD Strategic Planning Process

Perry Forester and Mary Texer gave an update on the MAWD Strategic Planning process. A survey will be sent out to all Managers and Administrators seeking input on the future of MAWD.

C. Groundwater Thresholds Project

The DNR has completed a draft report to the Legislature on the Definitions and Thresholds for Negative Impacts to Surface Waters.

This report was prepared in response to Laws 2015, chapter 4, article 4, which directed the Department of Natural Resources (DNR) to consult with interested stakeholders and develop recommendations for statutory or rule definitions and thresholds for negative impacts to surface waters.

The DNR is charged with managing water resources to assure an adequate and sustainable supply for multiple uses. Minnesota has a modified riparian water law system, in which landowners have the right to make reasonable use of the abutting surface waters or the groundwater beneath their land, as defined and regulated by the water appropriation permitting program. The water itself is a public trust resource, and the state grants the right to water beyond personal use – above 10,000 gallons per day or one million gallons per year – through water appropriation permits. In recent years, it has become increasingly clear that Minnesota’s water resources, while abundant in many areas, are not unlimited. In some areas, increasing water withdrawals are using more groundwater than is naturally being recharged. In other areas, groundwater supplies are limited due to the underlying geology. Groundwater contamination is also a limiting factor in many areas. The variability of Minnesota’s climate and geography mean that rainfall is not always available in the quantities we need at the times when it is most needed. Increasing demands on both surface water and groundwater supplies can cause negative impacts to the ecosystems and riparian uses of streams, lakes, and wetlands. While water levels fluctuate naturally throughout the year and across multiple years, water appropriations can push low levels lower, significantly reducing stream flows and more frequently putting fish, wildlife, plant communities and riparian uses at risk. This report examines the effects of groundwater use on rivers and streams, lakes, and wetlands. DNR’s analysis and recommendations are based on the fact that surface water bodies go through seasonal and multi-year cycles of high and low water levels. The seasonal patterns, known as the seasonal hydrograph, are primary drivers in creating and maintaining the unique ecology and associated aquatic and riparian habitats of each water body. To preserve the seasonal hydrograph, protected flows must be established for streams, and protection elevations for lakes and some wetlands. These protection levels can then be translated into a quantity of water that can be sustainably withdrawn. Multi-year dry cycles and extreme droughts also serve important ecological functions, but may require a different approach to determining sustainable water use—e.g., water use that is ecologically sustainable under the normal seasonal hydrograph may need to be reduced during extreme drought.

This report was prepared with input from a broad range of stakeholders, as described in the

Introduction and Appendix A. This report also incorporates and summarizes scientific studies, including an examination of approaches used in other states and countries. The recommendations in this report represent the DNR's suggestions to further define and describe methods of determining protected flows and protection elevations. These recommendations are based on the DNR's assessment of available information, analytical tools and the practicality of applying them in Minnesota.

Recommendations

The recommendations in this report fall into three categories: 1) definitions to be added in statute; 2) integration of statutory provisions dealing with surface water and groundwater; and 3) approaches to determining the thresholds for streams, lakes, and wetlands.

Definitions

The following definitions are recommended to be added in statute:

- Negative impact to surface waters – in relation to water appropriations, a change in hydrology sufficient to cause ecosystem harm or alter riparian uses long-term.
- Ecosystem harm – in relation to water appropriations, to change the biological community and ecology in a manner that results in a less desirable and degraded condition.
- Sustainable diversion limit – in relation to water appropriations, a maximum amount of water that can be removed directly or indirectly from a surface water body in a defined geographic area on an annual basis without causing a negative impact to the surface water body.

Statutory changes

The DNR also recommends combining many of the provisions in section 103G.285, which deals with surface water appropriations, and 103G.287, which deals with groundwater, into a single "Water Appropriations" section. This revision would recognize the interconnected and interdependent nature of surface and groundwater resources while removing the circular references between the two sections of statute that make it difficult to identify and assess 'negative impacts.'

Approach to determining thresholds

A "threshold" is essentially the point at which negative impacts occur. Thresholds can be estimated based on data and scientific literature. Calculating thresholds at a statewide scale is not appropriate or practical, however, given the number of variables involved – e.g., which species or which riparian uses are negatively impacted. The diversity of Minnesota's surface water and groundwater resources, land use, and climatic factors would make a single number misleading and inappropriate for many locations and conditions. The precautionary principle would require that any such statewide threshold be set to be protective of the most vulnerable resource, thereby unnecessarily restricting water use in many areas. Therefore, the DNR proposes establishing specific thresholds for specific watercourses, water basins, watersheds, or hydrologic areas in those parts of the state where water use is at risk of causing negative impacts.

Streams: The DNR's research and a review of scientific literature indicate that a 20% change in hydrologic regime (relative to the August median base flow) will negatively affect the ecosystem, while a change less than 10% is not likely to be detectable. Setting a diversion limit of no more than 10% of the August median base flow will preserve the seasonal variability of the natural hydrology under all but the most extreme drought conditions. A 15% diversion limit would preserve much of the seasonal variability, but is not adequate to protect ecosystems during periods of

drought. We recommend a 10% limit in most circumstances, but recognize a diversion limit of up to 15% may be appropriate in some areas where water uses are less dependent on a consistent supply. Lakes: The DNR recommends an approach that establishes sustainable diversion limits for two categories of lakes.

Lakes connected to stream systems that outflow most of the time. For these lakes, the outflowing stream's diversion limit would be applied to the lake and a separate protection elevation for the lake would not be necessary.

Lakes with infrequent surface outflow. For these lakes, protection elevations specific to the lake could be established based on key considerations related to hydrology, ecology, and riparian uses. Water levels at and above the protection elevation are expected to maintain the characteristic hydrology, ecology, and riparian uses of the lake most of the time. Water levels below the protection elevation put one or more of the water body's resources or uses at risk. The protection elevation is used to establish the sustainable diversion limit.

Wetlands: Different types of wetlands have distinct and characteristic seasonal water levels that maintain their characteristic plant and animal communities. Most wetland types in Minnesota depend to some extent on groundwater for at least some part of the growing season. Some wetland types, such as fens, are highly connected to and dependent on groundwater, while others, such as floodplain forests, are more directly influenced by surface-water. However, as yet there is no systematic method for evaluating potential negative impacts on wetlands due to groundwater appropriations, due to limited wetland-related hydrologic data.

The DNR is proposing to establish a comprehensive wetland hydrology characterization and monitoring program statewide. An initial step in this process is to begin testing the feasibility of establishing target hydrographs for the various wetland types, with a particular focus on areas of the state experiencing a heavy demand for groundwater appropriation. A target hydrograph is a range of acceptable water levels throughout the year for each various wetland types, extending from "normal" levels to infrequent or rare low levels that stress the characteristic plant and animal communities. The target hydrograph would be used as a guide for developing allowable diversion limits throughout the growing season to maintain the characteristic hydrologic regime. Impacts to wetlands are also regulated under other authorities, primarily the Minnesota Wetland Conservation Act and the Public Waters Permit Program. The DNR's goal under this approach would be to avoid wetland drainage that would trigger regulation under those programs.

Methodology

The DNR would focus its efforts to set thresholds for negative impacts primarily in those areas of the state where the intensity of groundwater use and/or scarcity of groundwater supplies is causing concern, such as the groundwater management areas or individual water bodies known to be negatively affected by groundwater use. In these areas, the DNR will implement the following steps:

- 1) establish negative impact thresholds for surface water bodies;
- 2) establish sustainable diversion limits that will maintain protected flows and protection elevations of those water bodies;
- 3) conduct groundwater modeling to determine the effects of groundwater withdrawals on the surface water bodies; and
- 4) assess to what degree individual groundwater withdrawals may need to be adjusted.

Applying this approach to water use permitting

Water users, whether they are public suppliers, agricultural irrigators, industry, businesses or golf courses, need reliability and predictability. Establishing negative impact thresholds and sustainable diversion limits should ultimately improve the predictability and consistency of water appropriation decisions. It should also reduce the need to modify permits during drought and thus allow water users to rely on a fixed quantity in most years, although extreme drought conditions extending over multiple years may still call for emergency water use restrictions.

Establishing negative impact thresholds and sustainable diversion limits is the first step in the process of allocating water resources among individual appropriators. Further discussion is needed as to how best to engage current and prospective water users in allocation decisions once we have determined the amount of available water in a given hydrologic area.

Minnesota's water appropriation statutes were formulated in an era when groundwater resources were viewed as essentially unlimited. Allocating water resources in an environment where those resources may in fact be limited calls for additional research and discussion. Our statutes and rules may need to be revised to provide better guidance. The DNR is currently researching potential models of water allocation systems used in other states and regions as part of this larger discussion.

Local governments also play a significant role in the water allocation process through their planning and land use controls, which help to determine the number and nature of residential, commercial, and industrial water users in a given community. In planning for future development, local governments should carefully consider the sustainability of their water supplies and the extent to which new waterintensive uses should be allowed or encouraged. A planning process that considers the needs of all water users, future needs, and opportunities for water conservation can help to sustainably manage existing and proposed water use.

Conclusions

- Minnesota is in the “urgency room,” not the “emergency room,” in terms of water use management.
- The state's water management policies, statutes, and rules are strong and conceptually sound. However, the state's water management statutes could be improved by clarifying terminology and better recognizing the interconnected nature of surface water and groundwater.
- There is a strong scientific basis for maintaining the natural dynamic patterns of surface water bodies by establishing protected flows for individual streams, protection elevations for individual basins, and target hydrographs for wetlands.
- Over the next five years, the DNR intends to set protected flows, protection elevations, and target hydrographs for water bodies in places where demand for water may be exceeding sustainable supplies. The changes to statute recommended in this report would help support that work.

The full report is available at:

file:///W:/08%20Orgs-Cities-Agencies/MAWD/Metro%20MAWD/gw-thresholds-project_report.pdf

III. Agency and Association Updates

A. BWSR Updates, Jim Haertel

Jim Haertel gave the BWSR Report. Jim stated that the Target Watershed program will be seeking applications again this spring. BWSR continues to work on WCA Rule Changes.

A significant amount of time is working on the buffer legislation and developing guidance documents for this new law. BWSR is also working on a model ordinance for Excessive Soil Loss.

B. MPCA Update, Teresa McDill

Teresa McDill gave the MPCA update. Teresa stated they are working on 319 funding. She also stated they are working on clarifications for the MS4 exemption for the Buffer rule. Teresa also stated that the RFP for State Revolving Fund loans and grants will be coming out in February. Bill Dunn is the contact.

C. DNR Updates, Terri Yearwood

Terri Yearwood gave the DNR update. Terri focused her update on the mapping for the buffer rule. She stated that draft maps will get agency and public input. The maps are evaluating public ditches/public drainage system. A DNR Mapping Tool is being used for the effort.

D. MDH Updates

No update

E. Met Council Updates

No update

F. MAWD Updates, Ray Bohn

No update

G. Administrator's Update, Kevin Bigalke

Kevin Bigalke gave the Administrators update. Kevin stated that the ADA has been working on the Strategic Planning Committee with three Administrators on the group. The Administrators will meet at the Legislative Breakfast and assist Ray and Peg with the Summer Tour.

IV. Action Items

A) Approve October 20, 2015 minutes. Action held over due to minutes not being ready.

V. Unfinished Business

A) Education

B) Permitting & Regulations

C) Governance

D) Stormwater Research

VI. General Information

Roundtable Discussion – Current Issues, Trends and Topics, All

VII. Next meeting

Tuesday, April 19, 2016, 7:00 – 9:00 PM, CRWD Offices

Next Meeting topic: TBD

VIII. Adjournment

Motion by Mary Texer, seconded by Marianne Breitbach to adjourn the meeting. Motion carried.

The meeting was adjourned at 9:00 PM.

Respectfully submitted,

Mark Doneux, Administrator
Capitol Region Watershed District

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