

*Minnesota Board of Water and Soil Resources
Meeting Highlights – March 27, 2019
(from MAWD's perspective)*

These notes were put together by Executive Director Emily Javens and are not meant to be a complete summary of the meeting, but rather highlights of activity thought to be of interest to MAWD members. Note: this month's meeting was held at our office!



BWSR Meeting at Capitol Region WD and MAWD Headquarters

If you have questions about BWSR meetings, please contact our representatives on the Board:

- Jill Crafton, 952-944-5583
- Joe Collins, 651-488-5108
- Harvey Kruger, 507-360-2011

1. **New BWSR Staff** – The Board welcomed Melissa Wenzel, the new Technical Training and Certification Program Coordinator. She replaces Megan Lennon and comes from the MPCA's Industrial Stormwater training program.
2. **Public Relations Stories** – At each meeting, board members receive copies of stories that will be highlighted on the home page of the BWSR website. March highlighted the Sand Hill River WD and April highlighted the Riley Purgatory Bluff Creek WD. Those stories are attached to this update.
3. **Executive Director Review** – The Board completed an annual review of Executive Director John Jaschke and found performance to be satisfactory in all areas and rated him with high performance in nearly all categories.
4. **MAWD Update** – Javens gave an update of current legislative efforts and announced details of our summer tour (June 26-28 in Moorhead).
5. **Natural Resource Conservation Service (NRCS) Update** – Troy Daniell updated the Board with a summary of the 2018 Annual Report.
6. **Transition Plan for the MN Wetland Delineator Certification Program** – The Board authorized development of a plan to transition this certification and training program from the University of Minnesota to BWSR.
7. **Wetland Mitigation Fee Policy Addendum Reduction in Credit Value for Agricultural Wetland Banking Fees** – The Board reduced the multiplier for the fees charged when banking agricultural wetlands.
8. **Leech Lake River One Watershed One Plan** – The Board approved the first non-pilot One Watershed One Plan for the Leech Lake River Watershed. Local partners included Hubbard and Cass Counties and Soil and Water Conservation Districts (SWCDs) and the Leech Lake Band of Ojibwe.
9. **One Watershed One Plan Planning Grants** – The Board approved sending out a request for proposals for the next round of planning grants. Staff noted the grants policy for planning grants is unchanged from last year. The Request for Proposals will be open for ten weeks.
10. **Miscellaneous Decisions** – The Board approved the following items: (1) an update to the Kanabec County Local Watershed Management Plan, (2) a change in location of principal office headquarters for the Meeker SWCD, and (3) guidance to direct the acquisition of wetlands for Local Government Road Replacement Program.
11. **Miscellaneous Announcements:** During the meeting, it was announced that Katrina Kessler, former MPCA employee and City of Minneapolis Stormwater Supervisor, has been named Assistant Commissioner of the MPCA.
12. **Next BWSR Board Meeting:** May 22, 2019 with location to be determined. (Note: April meeting has been canceled.)

To review the full BWSR Board Packet, go to:
[http://bwsr.state.mn.us/boardpackets/2019/
BWSR_BD_Packet_Mar_27_2019.pdf](http://bwsr.state.mn.us/boardpackets/2019/BWSR_BD_Packet_Mar_27_2019.pdf)

Shaping new drainage solutions

In Polk County, one farmer's quest led to the creation of the Sand Hill River Watershed District and ditch specifications now widely used in Minnesota

“When you go into a water problem, 99 percent of the time it's nothing to do with water.”

— Daniel Wilkens, recently retired Sand Hill River Watershed District administrator, Red River Watershed Management Board founding member, stakeholder Drainage Work Group member, longtime farmer



Left: Daniel Wilkens attended the Minnesota Association of Watershed Districts' annual conference in November in Alexandria. Wilkens played a central role in the Sand Hill River Watershed District's drainage improvements. **Below:** The Sand Hill River flows through farmland. **Photos:** Ann Wessel, BWSR



Inspired by drainage needs on his own Polk County farm, Daniel Wilkens started what turned into 50 years' work on water solutions. Those solutions — flatter ditch side slopes plus side inlets and wider buffer strips — became standard in the 500-square-mile Sand Hill River Watershed District and beyond.

Today, the watershed's 89 miles of ditches are quite stable with 4:1 side slopes, side inlets, and

buffer strips measured from the top of the slope and extending 1 rod into the field. Rarely do these ditch systems require clean-outs.

Starting the first drainage project took hours of legal research, the establishment of a watershed district and 12 years' time — including 10 years of work to secure petitions, establish the project, and achieve a unanimous vote from the board of managers.

Wilkens began researching the 1955 Watershed Act in 1969, soon after he married and bought a farm near Fertile, 20 miles from where he grew up. Drainage was poor. His father had farmed 3,000 acres in the valley south of Crookston, where drainage also was poor. Wilkens recalled one year when it was too wet for his father to plant any crops. Wilkens' job that fall was to till fields full of 6-foot-tall weeds.



“You’d lose your crops all the time because of flooding. And I think that maybe does something to you internally. At least it did to me. You wanted to try to fix these things,” Wilkens said.

So Wilkens researched the law. He had help from Erling Weiberg, executive secretary of the Minnesota Water Resources Board, a precursor of the Minnesota Board of Water and Soil Resources (BWSR). With Don Ogaard, the Red River Watershed Management Board’s first and longtime chairman, Wilkens later worked to build watershed districts in the Red River Valley.

“This land is just beautiful land. There’s not a ... drowned-out crop, people are making money every year, paying their bills,” Wilkens recalled remarking last fall on the way back from a site visit with a Sand Hill River Watershed District board member. “In this day and age you can’t miss crops. It’s just too much money in the ground.”

Here the land is flat, the soil is relatively impervious clay. Without proper drainage, water stands on the fields. Working with gentle field swale and ditch slopes allows standing water to drain. But a hard rain creates a mud slurry. Imperceptible in the field, it carries topsoil that eventually fills road ditches and county ditch systems — which then require cleaning out every few years, if good science and experience isn’t used.

When north-flowing spring floodwaters reach snow- and ice-filled frozen ditches, they have nowhere to go.



Recently retired Sand Hill River Watershed District Administrator Daniel Wilkens talked about drainage with Chief Engineer Al Kean of the Minnesota Board of Water and Soil Resources.

The first ditch was built with 3:1 side slopes along the township road and 4:1 slopes on the field side with open field swales into the ditch. The rest — including Wilkens’, which was No. 3 on the list — were built with at least a 4:1 side slope and side inlets. Required 1-rod buffer strips also were installed.

Once farmers saw how well it worked, they petitioned for similar ditch improvements.

“All of a sudden these people see, ‘These guys to the north here, they’re not drowning anymore. They’re getting crops every year. We’re getting one out of 20. It’s not good. So maybe we need some.’ So it started a roller coaster, and then we started doing more ditches. We’ve done them all, all the way across the watershed now,” Wilkens said.

Flatter side slopes made the banks more stable, an important consideration given the region’s clay soils. Additionally, flatter south-facing side slopes on the east-west ditches got more sun, so thawing started sooner.

“You don’t have the field runoff running onto nothing but ice and snow in the ditch. So it has stability, which also means better erosion control on that side

slope,” said BWSR Chief Engineer Al Kean. “Even in terms of drifting full (of snow), with a flatter side slope you don’t have as much of a problem (in the spring).”

Not until later did the full benefit of side-inlets become apparent in the Sand Hill River Watershed District. At first, they were simply a way to meter the water.

Kean said it was a more equitable use of ditch capacity.

“And the ditch worked,” Wilkens said.

“In the process, you solved a lot of erosion problems,” Kean said. He elaborated.

“By metering flow, you create short-term ponding on the field that causes sediment to drop out. So you meter flow and trap sediment — and if there is a significant difference in elevation between the runoff from the field and the bottom of the ditch, then you’re solving what otherwise could be a head-cutting erosion problem.”

The ditch buffer strips helped curb wind erosion by trapping sediment. They also provide good access for ditch inspections.

To keep drainage projects moving forward, Wilkens

applied a lesson he learned as a township snowplow driver.

“About every 10 miles ... there’s a different leader. There’s different ethnic backgrounds, different religious backgrounds and values. If you’re going into a space like that to sell ditching, for example, you need to know who the leaders are, their value system and all the rest of it,” Wilkens said.

So every project had a local promoter.

“Everything in this world takes an idea, which is cheap. They’re plentiful. And then it takes money, which everybody thinks is the worst part. But that isn’t,” Wilkens said. “You can have money and you can have an idea but if somebody isn’t pushing it, it ain’t going nowhere.”

As Wilkens’ watershed work grew, he dealt with flooding issues on a larger scale. He’s an original member of the Red River Watershed Management Board, founded in 1976; and past chairman of the Red River Basin Commission (RRBC), a 41-member board that deals with flooding and other water issues in Minnesota, North Dakota and Manitoba

He reflected on his No. 1 achievement with the Red River Watershed Management Board.

“The biggest accomplishment (was) having funding and a place to learn from each other,” Wilkens said. “We had funds to gather knowledge, to work on myths and get science. It was the key to all other water management in the valley.”

School forest unites volunteers, watershed



Left: An erosion-control blanket was visible after work on a stormwater inflow was complete at the Scenic Heights School Forest restoration site on the grounds of Scenic Heights Elementary School in Minnetonka. The Riley Purgatory Bluff Creek Watershed District project restored a 7-acre oak savanna and woodland. **Middle:** After a winter clearing, part of the restoration appeared more open as spring undergrowth took hold. **Right:** A gravel bed tree nursery was part of the project. Partners included the Minnesota Department of Natural Resources, Minnetonka Public Schools, Hennepin County, Three Rivers Park District, the City of Minnetonka, Boy Scouts and Girl Scouts. **Contributed Photos**

MINNETONKA — Riley Purgatory Bluff Creek Watershed District (RPBCWD) staff seized an opportunity to stack the benefits of their conservation work by partnering with Scenic Heights Elementary School, where a large-scale habitat restoration that started in 2018 will improve water quality and wildlife habitat, reduce soil erosion and revive a healthy ecosystem.

More than 1,000 students and 40 volunteers dug in. The 7-acre oak savanna and woodland restoration benefits Purgatory Creek.

Michelle Jordan, the RPBCWD's education, outreach and cost-share coordinator, credited the project's success to a community of stewardship surrounding the school and its forest learning center.

For more than 10 years, teacher Dawn Christesen has organized lessons, as

Riley Purgatory Bluff Creek Watershed District staff builds upon a Minnetonka elementary school's flourishing stewardship to improve Purgatory Creek's water quality, habitat via restoration

well as volunteers and Scouts' work in the forest — including invasive buckthorn removal, planting and construction projects. The project allowed RPBCWD staff to support and expand upon that work.

Learning activities bring nearly 1,300 students to the spot each year.

The \$260,000 restoration project started in 2018. Funding sources include a \$50,000 Hennepin County grant plus \$45,000 from Minnetonka Public Schools.

Two separate Eagle Scout projects centered on the nursery bed and trail stabilization.

The restoration created distinct ecological zones

based on plant species, tree canopy density, soil conditions, and proximity to water bodies. It also addressed gully stabilization and stormwater infrastructure where culverts had collapsed.

Work focused on removing non-native plants such as buckthorn — an effort that began in 2003— and Tatarian honeysuckle. Both have led to soil degradation and downstream erosion. Some rapidly spreading native trees such as boxelder and black walnut were removed to allow other desired species to establish. Key native species that will be protected include white oak, bur oak, black cherry and American plum.

About 1.3 acres of the restoration will feature open prairie and flowering plants historically more common in the region. That variety will support a range of habitats for pollinators, small mammals and amphibians

Continuing work will involve monitoring the vegetation to manage invasive plant species and ensure native plants take hold. Without intervention, invasive species can dominate the landscape and the soil can continue to erode. Many native plants can be lost — resulting in less habitat for birds, mammals, frogs and pollinators.

Work planned for 2019 includes seeding 7 acres with native plants in late spring, and rounding up volunteers to plant more than 2,000 native flowering plants. Students will design signs and educational materials.

The project runs through 2020.