Item 5F.
BCWMC
10-19-17

MINNESOTA ASSOCIATION OF WATERSHED DISTRICTS, INC

Land and Water Shall be Preserved

November 30 - December 2, 2017

Arrowwood Conference Center

Alexandria, MN

2017 MAWD Annual Meeting & Trade Show

Please join the Minnesota Association of Watershed Districts (MAWD) for the 2017 Annual Meeting and Trade Show. The MAWD Annual meeting provides an opportunity for watershed district managers, staff, and key partners to join each other in professional development and training seminars. The Annual Meeting will also provide opportunities for watershed officials and staff to meet vendors and key partners from across the country at the Trade Show. In this packet you will find more details about the programming and events included in the Annual Meeting agenda. We look forward to you joining us for another successful MAWD Annual Meeting and Trade Show.

HOW TO REGISTER?

Online Registration & Hotel Reservations: Visit **www.mnwatershed.org** click on **WHAT'S HAPPENING** click on **2017 Annual Meeting**

Submit by Mail: Registration Form, Page 14
Pre-Conference Registration Form, Page 15
Hotel Reservation Form, Page 16

Address: MAWD - Annual Meeting
540 Diffley Road
Eagan, MN 55123

November 30 - December 2, 2017

Arrowwood®
RESORT & CONFERENCE CENTER
by CLUBHOUSE®

Registration Fee - $200 per person which includes all conference meals for each registrant. There is no registration fee for guests, there is a meal package available for $85.00. Spouses please register for the Gardening Workshop if you choose to attend. Registration Deadline: November 17, 2017.

The registration fee will increase to $250 per person after November 17. There is a $25.00 processing fee on all refunds. No refunds will be given after November 25, 2017.

Program Schedule Overview

THURSDAY, NOVEMBER 30

MAWD PRE-CONFERENCE SESSIONS

9A.M.-4P.M.	Minnesota Drainage Seminar
9A.M.-4P.M.	Basic Watershed Board Management Workshop
9:30A.M.-3:30P.M.	Advanced Administration Workshop: Guiding your Staff, Practical Tips for Building an Effective Workplace.
12P.M.	Lunch

MAWD ANNUAL MEETING

2-5P.M.	MAWD Board of Directors Meeting - Executive Board Room II
6-9P.M.	Registration & Trade Show
7:15-8P.M.	Concurrent General Session I
8-9P.M.	Welcome Reception - Trade Show Floor

FRIDAY, DECEMBER 1

7-9A.M.	Breakfast - Trade Show Floor
7:30A.M.	Resolutions Committee Meeting
8A.M.	Registration & Trade Show
8A.M.	Plenary Session I
9A.M.	MAWD Business Meeting
9A.M.	Concurrent Minnesota Administrators Watershed Association (MAWA) Technical Sessions
9:30-11:30A.M.	Spouses' Holiday Gardening Class with a Master Gardener
10A.M.	Break - Trade Show Floor
10:30A.M.	Resolutions Committee Report
11:30A.M.	Regional Caucuses & Administrators Meeting
12:15P.M.	Luncheon - Ballroom
	Keynote Speaker: Jeff Peterson, Water Resources Center, University of Minnesota
	DNR Watershed District of the Year & BWSR Watershed District Employee of the Year Awards
2-2:45P.M.	Concurrent General Sessions II
2:45-3:15P.M.	Break - Trade Show Floor (Last chance to visit with vendors)
3:15-4P.M.	Concurrent General Sessions III
4P.M.	Break - Refreshments available in the Lower Foyer
4:15-5P.M.	Concurrent General Sessions IV
6P.M.	Social Hour - Cash Bar - Ballroom
7P.M.	Banquet, Awards, Entertainment - Ballroom

SATURDAY, DECEMBER 2

7-9A.M.	Breakfast - Ballroom
9A.M.	Plenary Session II
10A.M.	Break
10:15A.M.	MAWD Business Meeting Continued

MAWD DRAINAGE WORKSHOP
Thursday, November 30

8:00 a.m. **Registration**

9:00 a.m. **Welcome; Working with the updated Minnesota Public Drainage Manual (MPDM)**
Presenters: Al Kean, Tim Gillette (BWSR)

The updated MPDM wiki went live on the BWSR website in October 2016. Several issues with use of the wiki have been identified. With support from MPCA staff, the MPDM wiki has received some useful upgrades for printing, navigation and overall use.

9:30 a.m. **Risk Management through the Reestablishment of Public Drainage System Records**
Presenters: Chris Otterness (HEI), John Kolb and Kale Van Bruggen (Rinke Noonan Attorneys)

Reestablishing missing or destroyed drainage system records under M.S. §103E.101, Subd. 4a. **Re-establishing records** can mitigate the risk of litigation and regulatory challenges, and simplify management of Chapter 103E drainage systems. Includes process and strategies using case studies.

10:15 a.m. **Break**

10:30 a.m. **Drainage Records Modernization – Database Template and Match Grants**
Presenter: Tim Gillette (BWSR)

How to obtain and use the GIS Database Template and Drainage Records Modernization Guidelines created for drainage authorities and their staff. And, an update regarding BWSR Drainage Records Modernization Match Grants funded by an LCCMR / ENRTF grant.

11:00 a.m. **Drainage System Acquisition of Ditch Buffer Strips and Alternative Practices**
Presenters: Al Kean, Don Buckhout (BWSR)

Drainage Law and Buffer Law provisions about buffer strip and alternative practices acquisition by Chapter 103E drainage systems, and associated process. Status of an associated 2017 legislative directive to BWSR and the DWG.

12 Noon **Lunch**

1:00 p.m. **Current Drainage Work Group Discussion Topics**
Presenter: Al Kean (BWSR) Summary of recent and current DWG topics of discussion and direction, including among other topics a Runoff and Sediment Delivery Charge Option for drainage law.

1:30 p.m. **Discovery Farms – Results Related to Drainage**
Presenter: Tim Radatz (Discovery Farms, MAWRC)

Results to date for edge-of-field data collected in real-world conditions that provides practical and credible information to support better farm management decisions, including surface and subsurface drainage management.

2:15 p.m. **Break**

2:30 p.m. **Overview of Clean Water Fund Research Projects Involving Drainage**
Presenter: Margaret Wagner (MDA) Clean Water Funds are used for several research projects each year, some of which involve drainage. An overview of pertinent projects past and current.

3:00 p.m. **Multipurpose Drainage Management Project Case Studies**
Presenters: Chad Engels (Bois de Sioux WD), Scott Henderson (Sauk River WD), Tanya Hanson (Red Lake SWCD)

Case studies providing insight into how multipurpose drainage management can be implemented for Chapter 103E drainage systems through drainage authority / SWCD partnerships.

4:00 p.m. **Conclusion**

BASIC WATERSHED BOARD MANAGEMENT WORKSHOP

Thursday, November 30

8:00 A.M **Registration**

9:00 A.M **Welcome, Introductions, and your chance to shape the agenda**

Watershed Districts, BWSR, and the World
Your WD is just one organization in a world full of state, federal, non-profit, citizen, and municipal interests with their own mandate to work for the public good. It really helps to know why you exist and what others around expect you to do and not do.

Watershed Districts' Legal Powers and Purposes
Managers have their own compact chapter of law—MN Statutes Ch. 103D. You can also play a big role in public drainage systems codified in MS 103E. The bottom line is that you can do quite a bit with the help of your staff if you choose to. We'll cover basic authorities, expectations, funding abilities, and even water management districts (stormwater utilities).

BREAK

The Value of Your Watershed Management Plan
Every organization on the planet from the Cub Scouts to the US Army has some sort of strategic plan to guide them. WD plans set priorities, outline tactics, and explain where the tax money will come from. You'll hear a bit about the process, more on what goes in these things, and then find YOUR plan's proposed actions. Plans with details help attract outside funding which your taxpayers will appreciate.

12:00 P.M. **LUNCH**

Your Role as Leader
Your county appointed you to the Board and probably expects you to make sure the organization does more than just exist. This section covers a few skills managers need to make the organization you lead excel—after all, it's your name on the board of directors… There are plenty of examples of districts that have had things go south on them. You don't want to go there. We'll share some horror stories if time allows.

Government Basics – the Open Meeting Law, Data Practices Act
We won't have an attorney on hand so our ability to go deep on these topics is low. This area has had a lot of manager interest so we'll do our best—then tell you to have your attorney provide a refresher for you. Suffice it to say, the public and private sectors operate differently. (Hold secret strategy meetings if you want to learn the hard way…)

BREAK

What Haven't We Covered?
We have covered many required topic areas. There are still others that contribute to the art of "boardsmanship". Any remaining time before we adjourn will be used to address questions you still have and to share a few stories from the trenches…

4:00 P.M **- Adjourn**

ADVANCED ADMINISTRATION WORKSHOP

GUIDING YOUR STAFF, PRACTICAL TIPS FOR BUILDING AN EFFECTIVE WORKPLACE

Thursday, November 30

This workshop will focus on tips, ideas, activities, and strategies to help your employees thrive – including performance management, time management, and conflict management.

9:30 AM – 11:30 AM (We will take a break around 10:30 AM)

Managing for Success: How to develop and maintain a confident, competent organization

Managing how your Watershed District gets work done, and building the skill sets of employees keys to your organization's effectiveness. This session will discuss how key supervision and performance management principles can help your Watershed District develop accountable, competent people who take ownership in their work. Participants will take home activity materials that any staff or board member can use to determine and prioritize skill sets for their work.

12:00 PM – 1:00 PM Lunch

1:00 PM – 2:00 PM

Time Management for Increased Productivity

Grant deadlines, construction schedules, urgent emails, board meetings, budget discussions. Many of us hop from emergency to emergency and can't seem to find the time or energy we need to be proactive instead of reactive. This session will help you improve your overall productivity by showing you how to better understand where your distractions are coming from, and help you identify your peak performance times.

2:00 PM – 2:15 PM Break

2:15 PM – 3:30 PM

Dealing with Difficult People

Faced with difficult people and conflict at home or work? In this session you will learn to identify difficult behaviors and how to respond to them. This session will focus practical management of difficult behaviors and conflict, and participants will use examples throughout the session to learn how to effectively work through difficult situations in the future.

CONCURRENT GENERAL SESSION I

Thursday, November 30 at 7:15-8P.M.

Seminar A: Preventing the Spread of Aquatic Invasive Species (AIS) with a Collaborative Watercraft Inspection Program.

Mike Sorensen - Comfort Lake-Forest Lake Watershed District

It is generally accepted that boater education is one of the best tools for preventing the spread of aquatic invasive species. As such, the CLFLWD, in partnership with Chisago County, manages a watercraft inspection program that continues to grow each year with generous support from a variety of partners. The 2017 program is currently on track to achieve more than 3,000 hours of inspections and more than 7,000 total inspections. A wide array of inspection survey data is analyzed at the end of each summer. For example, in 2016, inspections were performed on 314 watercraft coming from lakes containing AIS that are not currently found in CLFLWD lakes. Trends in drain plug violations, inspection rate, and previous lake of incoming watercraft were also observed. This presentation will highlight lessons that have been learned after more than five years of the CLFLWD's administration of the watercraft inspection program.

Seminar B: From Planning to Prioritizing, a Watershed District Story

Claire Bleser, Scott Sobiech, Greg Williams, Peggy Knapp, Michelle Jordan, Josh Maxwell, Erin Anderson-Wenz.

Understanding that public support is critical for the efficient and effective operation of any government organization, the District emphasized public engagement and outreach throughout the development of their 10-year Plan. As a result, the issues identified and emphasized in their Plan are the direct result of stakeholder input.

Furthermore, the results of the public engagement process identified "project prioritization" as an issue of high importance to stakeholders. Comments received at public meetings highlighted the difficulty in developing a clear and equitable method for project prioritization. To address this concern, the RPBCWD developed a proposed project prioritization method that allowed relative comparison of various watershed management type projects spanning across watershed boundaries and types of water resources (i.e. wetlands, creeks, lakes and groundwater).

This prioritization tool allowed a method for scoring these projects based on multiple benefits with consideration for logistical factors (i.e. timing, partnership dollars and coordination with partners to name a few). The logistical constraints for high priority projects were taken into consideration in the development of a 10-year Management Implementation Program and were included in the District's 10-Year Management Plan to guide the District as they protect, restore and manage their water resources.

Seminar C: Grey Cloud Restoration

John Loomis, South Washington Watershed District

The Grey Cloud slough is a side channel of the Mississippi River in southern Washington County. Flow from the Mississippi River into the slough was cut off following construction of an earthen embankment and roadway across the mouth of the slough in the 1960s. As a direct result, the slough exhibits stagnation, poor water quality, and severely degraded backwater aquatic habitat. SWWD and its partners are currently replacing the embankment with a bridge to restore flow to the channel. The project will be complete in October and is expected to make immediate significant improvement to water quality within the channel. We will present project background, development, and funding as well as extensive visual documentation collected before, during, and after the project for project promotion.

Seminar D: Sustainable Stormwater Analysis for the Ford Site Redevelopment in St. Paul

Bob Fossum, Capitol Region Watershed District, Wes Saunders-Pearce, City of St. Paul

Ford's former 122-acre Twin Cities Assembly Plant along the Mississippi River in St. Paul is in the process of being redeveloped over the coming years. Capitol Region Watershed District and the City of Saint Paul completed a Sustainable Stormwater Management Study, which defines the vision and lays the groundwork for future stormwater infrastructure, with one of the goals being to protect Hidden Falls. A centralized stormwater management approach was compared to a baseline parcel-by-parcel approach. Innovative tools for comparing feasibility costs, benefits, impacts and sustainability for the different options provided insights about the community value that redevelopment alternatives might generate. Sustainable Return on Investment (SROI) analysis using the software AutoCase allowed for monetizing the estimated environmental and social impacts of each alternative, thereby informing planning recommendations. The study outlines transformation of the Ford Site by featuring a stormwater-based amenity that reconnects the community to parks and the Mississippi River.

PLENARY SESSION I

8A.M. - Friday, December 1

Climate Adaptation & Mitigation - Erin Anderson Wenz, Barr Engineering Co.

Our climate is changing and citizens are asking about what can be done to prevent it from getting worse and how to adapt. Some organizations and industries are being proactive on this front and preparing for extreme storm events. Others are overwhelmed by the possible extent of impacts. Watershed districts are addressing this difficult issue in many ways. From dealing with unprecedented flood events to developing adaptation plans, MN watershed districts are being proactive. This presentation will feature current work of several watershed districts, including the Riley Purgatory Bluff Creek Watershed District and the Ramsey-Washington Metro Watershed District. Examples include facilitating climate resilience workshops with local communities for them to plan for upcoming changes from storms, floods, heat, and warming winters. The results of these workshops will be incorporated into their 2018 City Comprehensive Plans. Other examples include modeling for the 95% confident limit storm from Atlas 14 to predict extreme event flooding, infrastructure vulnerability studies, and designing plant community restorations prepared for invasive species encroachment. This presentation will provide several examples of climate adaptation projects initiated by watershed districts.

CONCURRENT TECHNICAL SESSION FOR MAWA

9A.M. - 10A.M. - Friday, December 1

A. Developing an Education and Outreach Plan Through Community Engagement and Need Identification

Michelle Jordan and Claire Bleser, Riley-Purgatory-Bluff Creek

As part of the ongoing process of updating its watershed management plan, the Riley Purgatory Bluff Creek Watershed District (RPBCWD) developed an associated Education and Outreach Plan (E&O Plan). The objective of the E&O Plan is to improve water quality within RPBCWD by leveraging the power of an engaged community to effect positive, meaningful change. In creating the E&O Plan, RPBCWD sought to craft messages and programs that would be meaningful to its audiences. To accomplish this, it needed to better understand the needs and interests of its community. A series of community meetings and surveys were conducted. The information gathered from stakeholders was interpreted, and community needs identified. This was then used to create a set of E&O strategies and guiding questions. Informed by this engagement process, the final plan seeks to build capacity to protect clean water by partnering with stakeholders to create a network of watershed champions.

9A.M. - 10A.M. - Friday, December 1

B. Cost Analysis of Water Quality Standards in Minnesota

Greg Wilson, Barr Engineering and Andy Henschel, Shell Rock River Watershed

Barr Engineering and Bolton and Menk recently completed an analysis of the overall capital and operating costs to maintain and upgrade wastewater and storm water systems for existing water quality standards, and well as recently adopted, proposed or anticipated changes to water quality standards for total suspended solids, nutrients, chloride, nitrate and sulfate on behalf of Minnesota Department of Management & Budget. The results showed that there could be significant cost implications for several cities/utilities across the state, with Albert Lea being one of the more notable examples that will be discussed in this presentation. This presentation will also include estimates of the incremental effect on receiving water quality, as well as the relative cost-effectiveness and affordability, based on the number of residential and commercial connections to treatment systems.

We are excited to announce our Keynote Speaker, Jeff Peterson, who will be attending the luncheon on Friday, December 1

Jeffrey M. Peterson is the Director of the University of Minnesota's Water Resources Center, a partnership of University Extension and the College of Food, Agricultural, and Natural Resource Sciences. As Director, he provides overall leadership for the center's outreach, teaching, and research activities involving faculty and students across the university. He also holds a faculty appointment as a professor in the Department of Applied Economics. He earned his Ph.D. from Cornell University in agricultural and resource economics. Prior to coming to Minnesota he held a faculty position in the Department of Agricultural Economics at Kansas State University for 15 years, including service as Director of Graduate Studies from 2014 to 2015. He is the recipient of national awards for his research on environmental policy analysis, focusing on water use and water quality impacts from agriculture. He currently serves as an editor of the Journal of Agricultural and Resource Economics.

MAWD BUSINESS MEETING

9A.M. - 10A.M. - Friday, December 1

President's Report - Ruth Schaefer
Secretary's Report - Barbara Haake
Treasurer's Report - Craig Leiser
2018 Proposed Budget - Craig Leiser
BWSR Report - John Jaschke, Director
New Executive Director Introduction - Ruth Schaefer

MINNESOTA ASSOCIATION OF WATERSHED DISTRICTS, INC

Land and Water Shall be Preserved

SAVE THE DATE:

MAWD Legislative Breakfast & Day at the Capitol

Wednesday & Thursday

March 7-8, 2018

SPOUSES GARDENING WORKSHOP

9:30A.M. - 11:30A.M. - Friday, December 1

Create your own Holiday Centerpiece (materials will be provided) and come ready with your gardening questions for the Master Gardener, Tami Gallagher from Home Sown Gardens!

- Is this a flower or a weed? (Bring a picture)
- When is the best time to split your perennials?
- Visit homesowngardens.com for more information.

Tami Gallagher, MNLA-CP, Master Gardener
Business Leader, Gardener Extraordinaire
Tami@HomeSownGardens.com

Tami loves all aspects of gardening and has a wide variety of annuals, perennials, shrubs, grasses, herbs, and vegetables growing in and out of her home. She loves to experiment and often refers to her gardens as labs. She is willing to try anything. While she tries not to get too attached to any one plant, she does tend to fall head over heels over certain ones.

HOME SOWN
•GARDENS•LLC

Restorative care for your garden and soul!

CONCURRENT GENERAL SESSION II

Friday, December 1 at 2-2:45P.M.

Seminar A: Measuring the Success of Shallow Lake Management in Anderson Lakes

Randy Anhorn, Nine Mile Creek Watershed District and Janna Kieffer, Barr Engineering Co.

Prior to 2008, Anderson Lakes (Northwest, Southwest, and Southeast) located in the Nine Mile Creek watershed were suffering from poor water quality due to excess phosphorus loading (watershed and internal) limiting the lake health and native plant communities. Release of phosphorus from the lake bottom sediments was also adding phosphorus, resulting in algal blooms and poor water clarity. In 2008, the Nine Mile Creek Watershed District (NMCWD) performed upstream pond improvements and a drawdown of Northwest and Southwest Anderson Lakes to address invasive Curlyleaf Pondweed. In 2012, the NMCWD conducted a buffered alum treatment of Southwest Anderson Lake to immobilize the phosphorus at the lake bottom. These shallow lake management techniques successfully controlled Curlyleaf Pondweed, surpassed phosphorus reduction and water clarity expectations and significantly improved the aquatic plant community.

Seminar B: Flood Prediction to Improve Planning in Southwestern Minnesota

Jason Love and Jared Oswald, RESPEC

The Big Sioux River Basin, located in South Dakota and southwestern Minnesota, has historically experienced flooding. A 2014 flood revealed a lack of understanding of flood events. State and local governments need accurate hydrologic and hydraulic model of the basin to predict the severity of floods and to implement appropriate flood reduction projects. This hydrologic and hydraulic study will provide this information. The resulting system will predict impacted areas under a range of flood scenarios. A one-stop web-platform will provide access to flood conditions, forecasts, visualizations, inundation maps, and applications. Real-time and historical conditions will be available by streaming data from automated sensors, gauges, and weather forecasts. The system includes a rainfall-runoff forecast model to provide a flood risk estimate at critical locations and to assess impacts of flood management strategies. Users will obtain a relative understanding of the current and forecasted conditions in relation to flood response actions.

Seminar C: Moody Lake Adaptive Management Project

Emily Heinz, Mike Kinney-Comfort Lake-Forest Lake Watershed District and Meghan Funke, Emmons & Olivier Resources

Moody Lake is on the impaired waters list for eutrophication due to excess phosphorus. The CLFLWD is in the final stages of a multi-year, multi-phase, adaptive management approach to reducing phosphorus loads to Moody Lake. Following completion of a TMDL, the District conducted intensive monitoring of tributary inlet streams to target the primary sources of phosphorus from the watershed. This resulted in excavation of phosphorus-laden soil from a degraded wetland and several small pond alum treatments to address legacy livestock loads. A fish barrier and aerator were also installed to control in-lake carp. The final phase will be a whole-lake alum treatment to address internal phosphorus loading. The combination of these projects should result in Moody Lake reaching a summer average phosphorus concentration of 40 g/L. Total estimated implementation cost is approximately $820,000. Total lifetime phosphorus load reduction is 17,000 pounds ($50/pound).

Seminar D: Why is Watershed Phosphorus Loading So Stubbornly Persistent?

Joe Bischoff, Wenck Associates

The traditional paradigm for reducing phosphorus loading from watersheds is to build or utilize nutrient sinks by settling phosphorus in stormwater ponds and wetlands. The primary assumptions in this approach is that phosphorus is permanently sequestered once it reports to pond or wetland sediments. Recent evidence for stormwater ponds and wetlands suggest that sediments expected to permanently sequester are releasing phosphorus to surface waters, offsetting any new efforts aimed at reducing watershed phosphorus loading. Further exacerbating the problem, phosphorus released from sediments is in dissolved forms that are not removed by traditional practices and can directly result in excessive algal blooms. Wenck analyzed ponds and wetland sediments from watersheds in the Twin Cities Metropolitan Area that receive stormwater to characterize their potential to release previously sequestered phosphorus. Results of these studies demonstrate that many sediments are high in mobile phosphorus and have the potential to offset watershed nutrient reduction efforts.

CONCURRENT GENERAL SESSION III

Friday, December 1 at 3:15-4P.M.

Seminar A: Innovative Drone Aerial Services for Watershed Management

Dr. Michael Vogt, Mr. Mark Vogt, Mr. Mark Lundquist, North American Robotics

Watershed management typically relies upon large-scale human-intensive sampling of waters and associated vegetation. Techniques often employed were established many decades ago, and few replacement technologies have been both practical and cost-effective. But, specialized near-remote sensing provided by professionally-operated small unmanned aircraft systems (UASs) or "drones", can deliver dramatically more water/shed condition information to improve: performing maintenance, diagnosing problems, evaluating remediation's, and communicating risks to residents. Three services in particular have been developed and refined over the past five years and are ready to improve key aspects of watershed management: lake algae photogrammetric inspections - to spatially track blooms during alerts, synthetic water clarity gradient mapping - to augment spot sampling and evaluate complex surface waters, and drainage ditch surveying to improve their maintenance and planning. Results from these services are high-resolution specialized maps and 3D models that on-demand capture conditions, and their rates-of-change, critical to improving watershed understanding, modeling and maintenance.

Seminar B: Conditioned Digital Elevation Models - Scale Matters

Charles Fritz, International Water Institute, Houston Engineering

The MN Legislature requires Clean Water Fund project sponsors to prioritize, target, and measure projects at watershed scale to ensure public accountability. Watershed and Soil and Water Resource Districts are developing geospatial data and state-of-the-art planning methods to establish goals and strategies to fulfill this requirement and appropriately manage Minnesota's water and soil resources. The most important and useful geospatial data is a hydro-conditioned digital elevation model (DEM). The DEM must be altered to accurately reflect surface water movement through an editing process that removes "digital dams." Products derived from hydro-conditioned DEMs are used to varying degrees in to advance business needs of local watershed and soil and water resource districts. This presentation will explore how the scale of a hydro-conditioned DEM can affect the application of derived products for planning and implementation efforts.

Seminar C: Longevity and effectiveness of alum to restore lake water quality

Greg Wilson, Keith Pilgrim, Kevin Menken (Barr Engineering) and Diane Lynch (PLSLWD)

Sediment phosphorus release is a pervasive problem in nutrient-impaired lakes. Guidance for watershed (external) phosphorus controls is abundant, but there is no guidance on in-lake phosphorus controls. In-lake alum treatment has been used in Minnesota for nearly 30 years to reduce sediment phosphorus release, but it is poorly understood and judgement of alum-treatment success is wide-ranging. With increasing lake temperatures and ever-expanding impaired waters listings for eutrophication, there is urgency to develop a better understanding of alum treatment and its role in mitigating these conditions. Barr has completed several recent studies, including a comparative analysis for PLSLWD, and published papers that have advanced the understanding of the use of alum to reduce internal phosphorus loading. This presentation will discuss results of these analyses, explain those factors that can optimize the longevity of in-lake alum treatments in Minnesota and present a checklist of considerations for future planning and assessment.

Seminar D: What Does Lake Restoration Look Like? Balancing Water Clarity Goals and Aquatic Plants

Matt Kocian, Rice Creek Watershed District

Lake restoration goals are often straightforward and typically involve reducing nutrient loading by a certain amount. Ultimately, managers aim to meet state nutrient standards, thus reducing algal blooms and supporting lake recreation. But what happens when lake restoration and lake recreation conflict? Nearly 25 years after Marten Sheffer and others conceptualized the idea of "alternate stable states" in lakes, watershed managers and lake residents are grappling with the desire (and mandate!) to improve water clarity, and the impact to recreation due to increases in lake plants. This presentation will document two lake restoration projects: Silver Lake, located in the City of St. Anthony, and Bald Eagle Lake, located in White Bear Township. Both experienced significant improvements in water clarity and increases in aquatic plants following restoration efforts. The restoration projects, changes in lake chemistry and ecology, public outreach efforts, and public responses will be presented.

CONCURRENT GENERAL SESSION IV

Friday, December 1 at 4:15-5P.M.

Seminar A: Getting it done Wright! Lessons Learned from the First Regional AIS Inspection Station

Alicia O'Hare, Wright Soil and Water Conservation District

Regional inspections were not a new idea, but they were never done before. A couple organizations considered it but no program ever got off the ground. But three lakes in Wright County finally had the chance to give it a try from October 11-31st, 2017. From securing the grant to outfitting the inspectors there were plenty of challenges along the way. But through the challenges came the data, and we got a little insight as to how to continue the program into 2018.

Seminar B: Building Innovative, Credible Watershed Plans

Rachel Olm - Houston Engineering, Margaret Johnson - Middle Fork Crow Watershed District

Success from a watershed planning effort should not defined by a completed plan. Rather, success should mean the completed plan is locally credible, and is used to actually implement the most cost-effective practices consistent with landowners business needs, to address resource issues locally-important to the community. Developing this credible plan requires engagement from all stakeholders in the watershed: agricultural producers, urban residents, lakeshore property owners, and more. The One Watershed, One Plan (1W1P) creates the platform to develop innovative, credible, implementation-focused plans. The North Fork Crow River 1W1P incorporates methodologies to both define altered hydrology and set measurable goals for mitigating impacts of a hydrologically-impacted watershed. The plan also pilots a "land stewardship" concept, which sets the framework for claiming good work already being done by rural, urban, and shoreland residents, and encourages field walkovers to increase information exchange and implementation of additional structural and nonstructural management practices within the watershed.

Seminar C: Data Collection/Monitoring; Water Quality Projects

Maddie Vargo (CRWD), Bob Fossum (CRWD), Britta Suppes (CRWD)

William Street Pond is a stormwater pond located in Roseville, MN. The pond receives stormwater from the surrounding urbanized residential neighborhood and discharges to Lake McCarrons, a 75-acre deep lake. Capitol Region Watershed District (CRWD) regards the phosphorus inputs to the lake as a high priority for improvement efforts. In 2011, CRWD installed two iron-enhanced sand filter benches (IESF's) at the pond's outlet, which remove dissolved phosphorus via surface sorption to oxidized iron. To assess the efficacy of the IESF's, CRWD collected influent and effluent water quality samples from 2013 to 2016 and analyzed them for multiple phosphorus species. Most samples taken showed a reduction of phosphorus. Further, effluent samples showed consistent, low concentrations for both phosphorus species regardless of influent concentrations. This suggests that the William Street Pond IESF's are reducing the amount of phosphorus entering Lake McCarrons. Monitoring will continue at William Street Pond to further analyze performance.

Seminar D: Permit Enforcement Techniques & Troubleshooting

Maggie Karschnia, Prior Lake-Spring Lake Watershed District

Struggling with repeat permit violators? Wondering what other enforcement tools are available to watershed districts? The session will highlight different permit enforcement approaches & protocols used by two seasoned watershed districts that handle 30+ new permits every year. The presenters of this session will outline their approach to permit enforcement and provide examples of permit projects that were successfully handled as problems continued or escalated. An overview of permit enforcement techniques throughout all watershed districts will also be presented based on a state-wide survey that will be conducted in fall 2017. There will be an opportunity at the end of the session to have an open discussion on common violation problems and successful resolutions. Participants will be asked to send in questions in advance to mkarschnia@plslwd.org -or- to bring questions to the session.

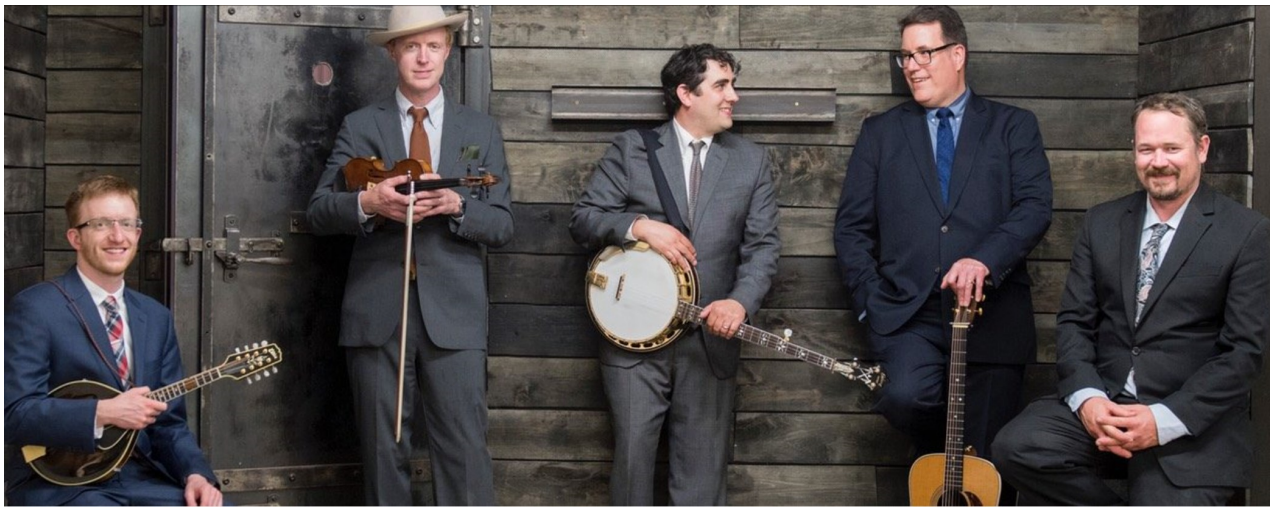
Friday, December 1

6P.M. **Social Hour - Ballroom**
7P.M. **Banquet Dinner**
8P.M. **MAWD Awards**

2017 Watershed Program of the Year
2017 Watershed Project of the Year

8:30P.M. Entertainment - The High 48's

Award winning bluegrass band from MN who mix traditional sounds w/ original songwriting & modern arrangements. Hosts of bluegrass jam camps & workshops.
thehigh48s.com



PLENARY SESSION II

9 A.M. - Saturday, December 2

Buffer Law Enforcement Update Field Progress
Presenters: David Weirens, BWSR, Justin Hanson, Mower SWCD and Cedar River Watershed District.
Get the latest update on the Buffer Law Enforcement program and how it is progressing from BWSR's viewpoint, and how it is working from the perspective of the Mower County SWCD and Cedar River Watershed District.

MAWD CONCLUSION BUSINESS MEETING

10:15 A.M. - Saturday, December 2
President's Report - Ruth Schaefer
Secretary's Report - Barbara Haake
Treasurer's Report - Craig Leiser
2018 Proposed Budget - Craig Leiser
BWSR Report - John Jaschke, Director

2017 MAWD ANNUAL MEETING & TRADESHOW REGISTRATION

Please return this form before November 17, 2017 or register online: www.mnwatershed.org

Name/Title: _____

Organization: _____

Address: _____

Phone: _____ Email: _____

◯ **MAWA Meeting (Watershed Administrators Only)**	**$25**
◯ **Registration Fee**	**$200**
◯ **Banquet Only Tickets**	**$35**
◯ **Guest Meal Package**	**$85**

Name of Guest: _____

◯ **Attending the Gardening Workshop**

Late Registration after November 17, 2017 will increase to $250.00 per attendee.
$25.00 refund processing fee before November 25, 2017 and no refunds after November 25, 2017

All meals are included in the registration fee.

Advanced Registration is recommended, on-site registration subject to availability.
Cancellations: Refund only if cancellation is received by November 25, 2017. Substitutes may be sent.
Registration questions please call 651.900.3285 or email: bohn.maddy@gmail.com

Please include form and make checks payable to:
Minnesota Association of Watershed Districts
540 Diffley Road
St. Paul, MN 55123

2017 MAWD PRE-CONFERENCE SESSIONS

Thursday, November 30 - 9:00 AM to 4:00 PM

For managers, administrators, staff, key Partners and local and state government officials

Name/Title: _____

Organization: _____

Address: _____

Phone: _____ Email: _____

Pre-Conference Seminar Registration - Please return this form before November 17, 2017

Includes workshop, registration packet, coffee breaks and lunch.

Please select the seminar of your choice:

- ◯ **Minnesota Drainage Workshop** **$85**
- ◯ **Basic Watershed Board Management Workshop** **$85**
- ◯ **Advanced Administration Workshop** **$85**
  Guiding your Staff – Practical Tips for Building an Effective Workplace

Advanced Registration is recommended, on-site registration subject to availability.
Cancellations: Refund only if cancellation is received by November 25, 2017. Substitutes may be sent.
Registration questions please call 651.900.3285 or email: bohn.maddy@gmail.com

Please include form and make checks payable to:
Minnesota Association of Watershed Districts
540 Diffley Road
St. Paul, MN 55123

Hotel Reservation Form

November 30 – December 2, 2017 at Arrowwood Conference Center

2100 Arrowwood Lane, Alexandria, MN 56308

Please note: Please register for the MAWD Annual Meeting on the Registration Form.
This form does not register you for the MAWD Annual Meeting.

Name: _____

Address: _____

City: _____ Zip _____

Phone: _____ Email _____

Please send completed form to Arrowwood by November 13, 2017.

Email: kchisholm@arrowwoodresort.com

Mail to: 2100 Arrowwood Lane, Alexandria, MN 56308 Fax: 320-762-0133 Phone: 866-386-5263

The reservation can also be made online by visiting: arrowwoodresort.com using promo code: MAWD17

Lodging – deadline November 13, 2017 • One form per party please - copy as needed.

- Please select **one room plan** per party.
- The room rates are for 1-4 persons
- All guest rooms are now non-smoking
- Big Splash Indoor Water Park discount tickets at $10 per person per day are available for MAWD.

☐ **Lodging I**	Thursday and Friday	$193.46
☐ **Lodging II**	One night only	$98.23
☐ **Townhouse units:**	per bedroom/night plus tax	$98.23

Select Unit Type desired: ☐ 3 bedroom/3bath ☐ 4 bedroom/3bath

(No elevators. Specify a first floor unit)

Guaranteed Payment: ____Visa/MasterCard ____ American Express _____ Other

Card Number: _____ Exp. Date: _____

Signature: _____

All rooms must be guaranteed. Individual reservations cancelled within 72 hours of the scheduled arrival date will be charged one night lodging on the date of cancellation. Check-in time is 4:00 PM. Checkout time is 12:00 noon.

MINNESOTA ASSOCIATION OF WATERSHED DISTRICTS, INC

Land and Water Shall be Preserved

We look forward to your attendance this year!

@mnwd46 **#mawd17** **Minnesota Association of Watershed Districts**