2018 Annual Meeting and Trade Show

MINNESOTA ASSOCIATION OF WATERSHED DISTRICTS, INC

Land and Water Shall be Preserved

November 29 - December 1

Arrowwood Conference Center

Alexandria, MN

You are invited to join us for the Minnesota Association of Watershed Districts (MAWD) for the 2018 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.

We would like to thank our Events Committee for their work and dedication in assisting with the development of our program this year, as well as to those who submitted an abstract and agreed to present at our workshops on Friday, November 30th. Finally we want to thank our exhibitors and annual sponsors for their financial contributions and the excitement they bring to our Annual 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.

New activities and programs for this year include:

Night at the Movies

Each Watershed District has been invited to submit their best video highlighting their district to be played Thursday night. The "Best Picture" award will be presented at the Friday night banquet.

Annual Sponsorship Levels

We have created four sponsorship levels for our exhibitors to select from which will grant them registration to our Annual Conference Trade Show and ongoing promotions throughout the year.

Watershed District Outreach and Education Award

All attendees will have access to vote for the WD with the best Outreach and Education Program on the Trade Show floor. There will be a row of Watershed District booths set up to showcase their work and attendees will have a ballot to vote. A winner will be announced and awarded a traveling trophy during Friday's banquet.

Registration Information:

Visit **www.mnwatershed.org** to get registered today or fill out the registration form in this packet.

$200 - includes all conference access and meals for each registrant.

Guest package is $85 which includes meals only.

The registration fee will increase to $250 after November 16.

There is a $25 processing fee on all refunds and no refunds will be given after November 23. The registration deadline is November 21.

Pre-Conference

$85 - includes access to all three workshops and meals on Thursday, November 29.

Lodging

Arrowwood Conference Center, call 866-386-5263 to make a reservation or send in the form in this packet.

Program Schedule Overview

WEDNESDAY, NOVEMBER 28

9 A.M.-2 P.M.	MN Association of Watershed Administrators (MAWA) Meeting
5 P.M.-7 P.M.	MAWA Social Hour and Reception

THURSDAY, NOVEMBER 29

PRE-CONFERENCE SESSIONS

8 A.M.-9 A.M.	Registration
9 A.M.-4 P.M.	Basic Watershed Management Workshop
9 A.M.-4 P.M.	Minnesota Drainage Seminar
9 A.M.-4 P.M.	Human Resources and Personnel Management Workshop
12 P.M.	Lunch

ANNUAL MEETING

4 P.M.-6 P.M.	MAWD Board of Directors Meeting
6 P.M.-9 P.M.	Registration, Trade Show Opening and Welcome Reception
7 P.M.-8:30 P.M.	Night at the Movies

FRIDAY, NOVEMBER 30

7 A.M.-9 A.M.	Breakfast - Trade Show Floor
8 A.M.– 10:45 A.M.	MAWD Business Meeting and Resolutions Hearing
8 A.M.-8:40 A.M.	Concurrent General Sessions I
9 A.M.-9:40 A.M.	Concurrent General Sessions II
10 A.M. -10:40 A.M.	Concurrent General Sessions III
11 A.M. -11:40 A.M.	Concurrent General Sessions IV
11:15 AM. -12 P.M.	Regional Caucuses
12 P.M.-2 P.M.	Luncheon

Keynote Speaker: Jeff Strock, Professor and Soil Scientist in the Dept. of Soil, Water and Climate
DNR Watershed District of the Year
BWSR Watershed District Employee of the Year Awards

2 P.M.-2:45 P.M.	Concurrent General Sessions V
2:45 P.M.-3:30 P.M.	Concurrent General Sessions VI
3:30 P.M.-4:15 P.M.	Concurrent General Sessions VII
5 P.M.-6:30 P.M.	Social Hour and Live Music
6:30 P.M.-8 P.M.	Dinner and Awards

Watershed District Program of the Year Award
Watershed District Project of the Year Award
MAWD Convention Award - Night at the Movies “Best Picture”
MAWD Convention Award - Best Education and Outreach Program Booth

SATURDAY, DECEMBER 1

7 A.M.-9 A.M.	Last Chance Networking Breakfast
9 A.M.-11 A.M.	MAWD Board of Directors Meeting

Basic Watershed Management Workshop

Pre-Conference Workshop | Thursday, November 29, 2018 | 9 A.M.-4 P.M.

9:00 – 9:15 WELCOME AND INTRODUCTIONS

9:15 – 10:30 YOUR ROLE as a WATERSHED DISTRICT

Understanding Watershed District Legal Powers and Purposes – Watershed districts have their own compact chapter of law – MN Chapter 103D and metro watershed districts also have 103B. This legal overview will provide insight into why watershed districts were created, and the legal authorities given to districts to pursue their missions.

Watershed Districts, BWSR, and the World – Your watershed district is just one organization in a world full of state, federal, non-profit, citizen, and municipal interests with their own mandates to do work for the public good. Sort out who's who and consider how partnerships could maximize your impact.

15-minute COFFEE and SNACK BREAK

10:45 – 12:15 YOUR ROLE as a WATERSHED "MOVER and SHAKER"

Every organization on the planet from the Girl Scouts to the US Army has some sort of strategic plan to guide them. Watershed district plans set priorities, outline strategies, and identify targeted and measurable goals. Learn the process for how to develop or update your plan and discover tips for getting those plans implemented.

60-minute LUNCH BREAK (Provided)

1:15 – 2:45 YOUR ROLE as a GOVERNMENT OFFICIAL

Has this happened to you?

1. Prior to the board meeting, another manager calls to encourage you to vote for an issue on the agenda. How should you respond?
2. The board treasurer is giving a report to the board. You spot a check to a vendor for a larger amount than what the board had previously authorized. What's the appropriate response?
3. A junior staff person tells you there have been inappropriate jokes in the workplace. Now what?
4. A county commissioner has let you know how she expects you to vote on an issue. Now what?
5. A citizen lets you know that the board did a terrible job approving a "stupid project." You happen to agree it wasn't a great project, but yours was one of only two dissenting votes. How do you respond?

This session will discuss how to respond to these and other scenarios that will help you do your job well and stay away from legal trouble and will provide an understanding of the Open Meeting Law, Data Practices Act, Freedom of Information Act, and other relevant rules and regulations.

15-minute COFFEE and SNACK BREAK

3:00 – 4:00 YOUR ROLE as a WATERSHED LEADER

Your county appointed you to the Board and they probably expect you to make sure the organization does more than just exist. Learn some techniques that contribute to the art of "boardsmanship" that will help your district excel.

Instructors: Steve Woods, Executive Director, Freshwater Society
Louis Smith, Water Law and Policy Attorney, Smith Partners
Kevin Bigalke, Central Region Manager, MN Board of Water and Soil Resources (BWSR)
Tera Guetter, Administrator, Pelican River Watershed District
Michelle Overholser, Yellow Medicine River Watershed District

#mawd18

Minnesota Drainage Seminar

Pre-Conference Workshop | Thursday, November 29, 2018 | 9 A.M.-4 P.M.

9:00 – 10:30 CLEAN WATER FUND RESEARCH and ALTERED HYDROLOGY

Overview of Clean Water Fund Research Projects Involving Drainage (Jeppe Kjaersgaard, MDA) – Clean Water Funds are used for several research projects each year, some of which involve drainage. This is an overview of pertinent Clean Water Fund research projects since the beginning of MN Department of Agriculture (MDA) Clean Water Fund Research Grants.

Altered Hydrology and Comprehensive Local Water Planning (Henry Van Offelen, BWSR) – This is an emerging issue associated with impaired waters stressor identification and comprehensive local water planning, including One Watershed, One Plan. There is a need to better understand what altered hydrology means and how to apply this topic to multipurpose watershed planning and implementation.

15-minute COFFEE and SNACK BREAK

10:45 – 12:15 PUBLIC WATERS AND PUBLIC DRAINAGE SYSTEMS

DNR Public Waters Authority over Work Done in Public Drainage Systems guidance document, Feb. 28, 2018. (Jim Sehl, DNR) – This guidance updates a DNR document from 1980 to clarify DNR's roles and responsibilities under M.S. Chapter 103G Waters of the State, M.R. Parts 6115.0150 - 6115.0270, and M.S. Chapter 103E Drainage that may involve DNR permitting or permission of drainage work. This presentation will walk through case studies to illustrate implementation of DNR's guidance.

Public Waters and Drainage Panel Discussion – Dialogue about experience to date using this DNR guidance. Panelists to include representatives of DNR, Drainage Authorities, and legal and engineering advisors.

60-minute LUNCH BREAK (Provided)

1:15 – 2:45 DRAINAGE LAW CURRENT TOPIC – REESTABLISHMENT OF RECORDS

There have been a number of drainage system records reestablishment proceedings since Section 103E.101, Subd. 4a. **Reestablishing records** was recommended by the DWG and adopted into drainage law in 2013. Some of these proceedings have involved public waters and some controversy. One was appealed by DNR to the MN Supreme Court. This is a current Drainage Work Group topic of discussion.

Drainage Engineer Information and Perspective (Chris Otterness, Houston Engineering)

DNR Perspective (Jim Sehl, MN Department of Natural Resources)

Drainage Authority Legal Counsel Perspective (Kurt Deter / John Kolb, Rinke Noonan)

These presentations and associated dialogue will help clarify the issues and the current status.

15-minute COFFEE and SNACK BREAK

3:00 – 4:00 DRAINAGE WORK GROUP COMMUNICATIONS and STAKEHOLDER INPUT

By mid-November, the Drainage Work Group plans to have summary information ready for stakeholders about topics that may see legislative action in 2019 or 2020. This will be an information and feedback opportunity for drainage stakeholders.

HR & Personnel Management Workshop

Pre-Conference Workshop | Thursday, November 29, 2018 | 9 A.M.-4 P.M.

9:00 – 10:30 AVOID LEGAL PITFALLS WHEN HIRING | MANAGING SOCIAL MEDIA RISK

Avoid Legal Pitfalls When Hiring

Hiring a new employee can be a time-consuming and demanding process. Public employers are required to navigate a series of laws, including federal and state nondiscrimination laws. This presentation points out some of the legal pitfalls that may be encountered by public employers during the hiring process. It also provides practical tips for making legally defensible hiring decisions.

Social Media Employment Risks and How Supervisors Can Manage Them

Social media has changed the way people share information. Employers have become aware of the impact that this form of communication has on the workplace. This session examines three areas of social media use in the public employment context that may expose government entities to risk: employee personal use of social media, the use of social media and Internet searches when making hiring decisions, and social media employment references. The session provides suggestions for managing that risk.

15-minute COFFEE and SNACK BREAK

10:45 – 12:15 BEST PRACTICES FOR HIRING OUTSIDE OF THE ORGANIZATION

Keeping Independent Contractors Independent

Budget constraints and hiring freezes have public entities looking for alternative ways to provide services. Subsequently, more members are looking to outsource instead of hire. This session examines the differences between an employee and an independent contractor and how coverage applies to each. Participants learn techniques to ensure that independent contractors remain independent.

Your Employee or Mine? Avoiding Unintended Consequences of Joint Employment Ventures

For years, watershed districts have collaborated to share resources, including employees. In this session, attendees learn the questions to answer to minimize exposures to potential liability when sharing personnel with other entities.

60-minute LUNCH BREAK (Provided)

1:15 – 2:45 WHAT TO DO (AND NOT DO) TO ATTRACT AND KEEP GREAT EMPLOYEES

Getting the right people on your team and managing their performance is one of the key building blocks for excellence in city performance. Through an interactive question and answer format, you will explore best practices in hiring and performance management processes in your organization.

15-minute COFFEE and SNACK BREAK

3:00 – 4:00 THE ROLE OF THE PERSONNEL COMMITTEE

Many watershed districts use Personnel Committees to vet board decisions about employee compensation, performance evaluations and disciplinary action. This session will be a quick dive into the topic, exploring best practices and includes audience discussion.

Instructors for this workshop are from the League of Minnesota Cities and Minnesota Counties Insurance Trust.

Meet our Keynote Speaker

Jeff Strock

Dr. Strock is a Professor and Soil Scientist in the Department of Soil, Water and Climate. He has been a member of the Faculty at the University of Minnesota since 1999 and is located at the Southwest Research and Outreach Center, near Lamberton, MN. Dr. Strock's research and outreach/education program focuses on agricultural drainage and water and nutrient management in agricultural systems, addressing production needs, and quantifying/mitigating negative off-site environmental impacts. Research includes testing and improving drainage water management practices (e.g. controlled drainage; bioreactors; vegetated, managed ditches; constructed wetlands; cover crops) to reduce nitrogen and phosphorus mobility; improving nitrogen management and understanding its storage, transformation and losses; and developing new, innovative agronomic management practices to improve crop yield and water and nutrient use efficiency (e.g. nitrogen mineralization, supplemental irrigation). Dr. Strock's experience in these areas spans a number of states and other countries. He has a successful history of collaborating with agencies, non-profits and the broad agriculture community and he has demonstrated a strong ability to work among groups with diverse perspectives.

Friday ◦ 12 p.m. ◦ Lake Darling Ballroom

Integrated Landscape Management for Agricultural Production and Water Quality

The Minnesota Department of Agriculture (MDA) selected two projects to receive Clean Water Fund research contracts in 2017. One project, titled "Integrated Landscape Management for Agricultural Production and Water Quality" was awarded to Dr. Jeffrey Strock and colleagues at the University of Minnesota Southwest Research and Outreach Center, Lamberton. This project established a small watershed scale site where the water quantity and water quality impact of multiple, best management practices (BMPs) were measured. Research will be used to identify in-field, edge-of-field and in-stream BMP strategies for achieving improved water quality in the Cottonwood River Watershed. The project aims to demonstrate the ability to meet the dual goals of maintaining farm productivity while improving watershed conditions and water quality. Information from this project will inform farmers and state agencies on the cumulative impacts of multiple, integrated BMPs in order to meet nutrient load reduction goals.

Conference Workshops

Concurrent General Session I ◦ Friday, November 30 ◦ 8 A.M.-8:40 A.M.

Research, Analysis, and Planning	WD Programs: Permitting and Education	Data Management
Harmful Algal Bloom Management in Minnesota Watersheds: Risks, Monitoring, and Controls. Watershed Districts spend countless hours and millions of dollars every year reducing phosphorus loading to combat eutrophication and nuisance algae blooms in their lakes. Yet little attention is paid to the risks and monitoring of these potentially toxic Harmful Algal Blooms (HABs). This presentation will provide guidance to watershed managers for risk assessment, sampling plan development and cost-effective control strategies. We will discuss potential risks faced by Minnesota Watershed Districts, selection and optimization of HAB monitoring programs throughout the watershed and alternatives for control strategies for the diverse waterbodies. HABs are a timely water quality issue that must be addressed on a watershed scale. It is critical for watershed managers to understand risk factors, sampling protocols and effective control strategies before a HAB occurs to minimize ecologic and public risk. **Anne Wilkinson-Wenck, Joe Bischoff-Wenck, Claire Bleser-Riley Purgatory Bluff Creek WD**	When Solar Comes to Town: The community solar garden industry is booming in Minnesota and projections indicate this trend will continue. Solar gardens are typically sited on rural parcels used for crop production or otherwise undeveloped land. Land for solar gardens is leased for 25+ years, after which the site may be decommissioned and returned to its former use. Installation of a solar garden is a change of land use that requires a host of regulatory approvals. The roads, equipment and solar panels are considered impervious and therefore require stormwater management. MPCA provides guidance to meet state standards but this guidance does not necessarily translate to watershed district standards. This talk provides valuable insights into stormwater management and will discuss potential benefits and issues related to vegetation, wildlife, soils, and water quality for an industry that may soon be (if not already) in your watershed. **Jim Shaver-Carnelian Marine St. Croix WD, Kristine Maurer-EOR**	The Metro Stormwater Geodata Project: At present, no data standard has been developed or adopted for the efficient translation and aggregation of geospatial data representing stormwater assets in Minnesota. In spring 2018, the MetroGIS collaborative, in partnership with private interests and public-sector agencies in the metro region have begun to document the specific business needs for, uses of, and needed contents and details for developing a data standard to help bridge this gap. This presentation will outline the benefits of developing this resource, its progress to date, and the anticipated steps toward its completion and implementation as a resource for the mapping, flow modeling and engineering interests that would make use of it in bringing data together. **Geoffrey Maas, GISP-MetroGIS/Metropolitan Council**

Conference Workshops

Concurrent General Session II ◦ Friday, November 30 ◦ 9 A.M.-9:40 A.M.

Research, Analysis, and Planning	WD Programs: Permitting and Education	Data Management
Does year-round aeration improve lake water quality? 3D modeling results are convincing Lake aeration is largely a misunderstood process. For 40 years Sweeney Lake homeowners have operated an aeration system year-round—intending to oxygenate the water, improve conditions for native fish and reduce the buildup of phosphorus and harmful algal growth in the impaired deep lake. While the TMDL study established a path toward better water quality, there was still a question about whether the lake's aeration system is part of the problem or the solution. As a result, the Bassett Creek Watershed Management Commission (BCWMC) initiated a study that employs three-dimensional water quality modeling to simulate sediment phosphorus release and phytoplankton/ zooplankton dynamics, with and without aeration, under different management efforts and climatic conditions. Temperature and dissolved oxygen outputs identified the best habitat for desired biota. This presentation will illustrate how animated modeling results improve our understanding of the problem and convince lake users that recommended management actions will meet the goals. **Greg Wilson-Barr Engineering Company**	Army Corps Regulatory Program Hot Topics: Permits, Jurisdiction and Policy Changes. In the past two years, the Army Corps St. Paul District's Regulatory program has streamlined the suite of general permits available to authorize projects with no more than minimal adverse effects, has been subject to various national legal decisions on jurisdiction, and has worked on numerous internal and external aquatic resource mitigation policy updates. This talk will cover the District's goals for these efforts and provide an overview of new permits, policies, and jurisdiction-related topics. **Jill Bathke-St. Paul District Army Corps of Engineers**	Development of a GIS-Based Water Quality Model for the City of Minneapolis: The City of Minneapolis needed a decision-making tool developed to identify, analyze, and prioritize water quality areas of concern to inform a variety of City initiatives. A key initiative is to incorporate water quality BMPs into planned City capital projects to best maximize City resources. To meet the City's goals, Barr Engineering Co. developed a citywide geographic-information-system-based (GIS-based) water quality (WQ) model to (1) quantify runoff and associated pollutant loading (i.e., total phosphorus (TP) and total suspended solids (TSS)) generated from various land uses (roadways, housing areas, industrial areas) and (2) estimate the runoff and pollutant removal that occurs at stormwater best management practices (BMPs) such as ponds, swales, and rain gardens. As a planning-level tool, the model will be used by City staff for big picture analysis of opportunities to improve the quality of stormwater being discharged through the municipal system into the lakes, creeks and the Mississippi River. **Michael Brice McKinney - Barr Engineering Co., Nicolas Cantarero-City of Minneapolis**

Conference Workshops

Concurrent General Session III ∘ Friday, November 30 ∘ 10 A.M.-10:40 A.M.

Research, Analysis, and Planning	WD Programs: Permitting and Education	Data Management
Watersheds Role in AIS: From Committee Concepts to Rapid Response. Like many watershed organizations, the Bassett Creek Watershed Management Commission (BCWMC) found it difficult to know their role in aquatic invasive species (AIS) management. The BCWMC convened an Aquatic Plant Management/Aquatic Invasive Species (APM/AIS) Committee that included BCWMC and city staff, lake groups, park districts, Hennepin County, Met Council, and the MnDNR. The committee identified activities needed to address AIS, identified the entities already filling all or parts of those roles, and determined how they could augment those activities. The committee recommendations included a new APM/AIS budget and development of an AIS rapid response plan for key AIS species in priority lakes. The plan was developed after discussions with various organizations and is the first of its kind to involve multiple partners. It outlines the actions required to address new AIS infestations and defines the roles of the BCWMC and partners so they can efficiently and effectively address new infestations. **Laura Jester- Bassett Creek Watershed Management Commission, Margaret Rattei-Barr Engineering Co., Karen Chandler-Barr Engineering Co.**	The Carrot and Hammer: Picking up where last year's permit-enforcement session left off, three experienced enforcers will describe and demonstrate legal tools available for ensuring compliance with watershed district permits, orders and rules. Enforcement efforts can be costly in terms of both staff resources and outside support, so the presenters will review ways to efficiently scale your efforts with real-world scenarios to illustrate best practices. The presenters encourage you to bring your own trials and tribulations with ne'er-do-wells for some collaborative problem-solving. **Maggie Karschnia-Prior Lake Spring Lake WD, Forrest Kelley-Capitol Region WD; Michael Welch-Smith Partners PLLP**	Monitoring Program Evolution: Capitol Region Watershed District (CRWD) established a monitoring program in 2004 to collect data on the water resources of the District. The goals of the program are to identify water quality problem areas, quantify runoff and pollutant loading, and promote understanding of District water resources. As the monitoring program expanded, the ability to effectively collect and use data was hampered by inefficient methods and limited staff time. CRWD has been able to optimize efficiency and accuracy by automating manual tasks, reducing time spent in the field by implementing telemetry, and developing a web data portal for user-generated reports. The monitoring program has been further optimized by tailoring monitoring site selection, equipment selection and sampling frequency to specific end goals. These increases in efficiency have allowed CRWD's monitoring program to continue to expand without increasing staffing or compromising data quality. CRWD hopes to share its solutions to some common inefficiencies. **Joe Sellner-Capitol Region WD, Britta Belden-Capitol Region WD**

Conference Workshops

Concurrent General Session IV ∘ Friday, November 30 ∘ 11 A.M.-11:40 P.M.

Research, Analysis, and Planning	WD Programs: Permitting and Education	Data Management
Grassy and Woody Riparian Shade Analysis and Implications for Restoring Biotic Health in an Urbanizing Coldwater Stream: Rising water temperatures in urban and farmed watersheds threaten the survival of coldwater biota. Managing baseflow, channel morphology, and riparian vegetation can lower temperatures, however there is limited research quantifying shade provided by grassy vegetation along narrow streams. Hemispherical photographs (HPs) were analyzed using WinSCANOPY to compare grassy and woody riparian shade along Brown's Creek, a small trout stream in Stillwater, Minnesota impaired by high temperatures and turbidity. The HP analysis results were extrapolated using LiDAR. Solitary trees were found to increase shade above 80% while grassy riparian shade ranged from 10% to 61% with an average of 34%. Implementation of a targeted shade restoration plan could reduce monthly mean stream temperatures in the summer by 0.16 to 0.52°C based on CE-QUAL-W2 model scenarios. Other strategies will be needed to address high temperatures in Brown's Creek. Targeting shade restoration will limit detrimental impacts of dense forest canopy on bank stability. **Karen Kill-Browns Creek WD, Olivia Sparrow -U of M, Camilla Correll- Emmons & Olivier Resources, Inc.**	River of Dreams Education Program: Most citizens are largely unaware of their local river's origins and where it travels downstream. The River of Dreams (ROD) program seeks to increase watershed understanding and sense of place among elementary students, making the next generation more aware of connections within their watershed to other rivers, lakes, oceans, and the people who utilize them. ROD is a fun and impactful education experience that gives participants a better understanding of their local rivers geography. Students are exposed to watershed concepts multiple times in ways that leave a lasting impression through writing activities, virtual tours, and a canoe launch event at a local river. **Andrew Ulven-International Water Institute, Asher Kingery-International Water Institute, Danielle Yaste-International Water Institute**	Minnesota's New & Improved Wetland Inventory: The Minnesota DNR is releasing the final phase of a statewide update of the National Wetland Inventory for Minnesota in the fall of 2018. The wetland inventory for Minnesota has been completely remapped using the latest GIS technology including lidar and high-resolution aerial imagery, making it the most comprehensive, current, and accurate inventory of wetlands in the country. More than just an improvement in the mapping accuracy, the new wetland inventory enhances the database to include additional wetland classification data to predict wetland functions. These data will improve our ability to support wetland management, land use planning, environmental impact assessment, and natural resource conservation and will benefit users spanning all levels of government, academia, private industry and non-profit organizations. This presentation provides an overview of the new wetland inventory along with information about how to access the data. Important features will be discussed and several example applications of the data will be highlighted. **Steve Kloiber-Minnesota DNR**

Conference Workshops

Concurrent General Session V ∘ Friday, November 30 ∘ 2 P.M.-2:45 P.M.

Planning and Adaptive Management	Bridging the Rural / Metro Divide: Flood Control	Bridging the Rural / Metro Divide: Models for a Successful Implementation	New Treatments and Technology
Moody Lake: Using Diagnostic Monitoring and the Pareto Principle to Rapidly and Economically Meet State Water Quality Goals. Moody Lake is currently on the impaired waters list for eutrophication due to excess phosphorus, but not for much longer. The CLFLWD is in the final stage of a multi-year, multi-phase, adaptive management approach to cost-effectively reduce phosphorus loads to Moody Lake. This project utilizes the Pareto Principle (a.k.a 80/20 rule) by identifying and addressing the highest phosphorus loads using the most effective BMPs. Project effectiveness monitoring shows progress made toward reducing watershed phosphorus loads to Moody Lake. This year we will complete the remaining watershed BMPs and begin the whole-lake alum treatment using a split treatment method this fall and next year. The combination of these projects are calculated to result in Moody Lake reaching a summer average phosphorus concentration of 40 ug/L, down from a previous summer average of more than 160 ug/L. Total estimated implementation cost is ~$1,000,000. Total lifetime phosphorus load reduction is 19,000 pounds ($53/lb). **Mike Kinney-Comfort Lake-Forest Lake WD, Meghan Funke-Emmons & Olivier Resources**	Buffalo Creek WD: Basic Water Management Projects: A Watershed-City Partnership. Flooding, drainage, and water quality issues often cross municipal boundaries, even within rural watershed districts. Further complications may be introduced when issues are located along private drainage systems with no managing authority which connect to downstream municipal storm sewer. Collaboration between cities and watershed districts is necessary to solve these water issues; however, without a clear and deliberate process, navigating this relationship has the potential to become adversarial. Through the petition process in MS 103D.605, the Buffalo Creek Watershed District (BCWD) and City of Glencoe embarked on two basic water management projects that forged a new relationship, gained the trust of adjacent landowners, and provided benefits to a wide range of stakeholders. These projects also bridge the city/county divide, solving an extensive range of water issues. This presentation will include a discussion on key steps in the process, facilitating discussions with project partners, and approaching the most contentious question: “Who pays?” **Corey Henke-Buffalo Creek WD, Chris Otterness-Houston Engineering, Inc.**	Red River Watershed Management Board: 40 Years of Flood Damage Reduction and Continued Water Management Efforts. The Red River Watershed Management Board (RRWMB) has been in existence since 1976. The RRWMB assists its member watershed districts in addressing flooding and water management issues. The RRWMB also works across state lines with its North Dakota counterpart, and both of these entities comprise the Red River Retention Authority (RRRA). The RRRA, recently secured a Partnership Agreement with NRCS through the Regional Conservation Partnership Program (RCPP) to provide funding for the development of watershed protection projects in the Basin. Currently, 20 individual sub-watershed plans are being developed throughout the basin to that will provide a wide range of benefits including Flood Prevention, Watershed Protection, Public Recreation, Public Fish and Wildlife Habit Improvement, and Agricultural Water Management. This presentation will give an overview of RRWMB governance and ongoing RCPP efforts in the Basin. **Robert Sip-Red River Watershed Management Board, Jerry Bents - Houston Engineering**	Improving Water Quality, Flood Storage and Habitat Diversity in New Brighton’s Hansen Park. Seeking to remedy declining water quality in downstream Pike and Long Lakes and reduce the risk of severe flood damage, the RCWD completed the Hansen Park Comprehensive Water Management Project, funded in part by a 2014 BWSR Targeted Watershed Demonstration Program grant. The project is expected to reduce the annual phosphorus load downstream by 150+ pounds per year, provide an additional 27.4 acre-feet of new flood storage within the park, and re-establish native habitats within the park. Learn about what made this project so ambitious, most notably a first-of-its-kind pump-controlled Iron-Enhanced Sand Filter system that uses multiple filter beds, automated valve controls, real-time water level monitoring, customizable user interface logic and remote real-time cellular control. The IESF system was designed to provide unrivaled operational and maintenance efficiency. This presentation will also touch on the site history, regulatory challenges, engineering solutions and construction procedures that contributed to the project’s success. **Kyle Axtell-Rice Creek WD, Dennis McAlpine, P.E. -Houston Engineering, Inc.**

Conference Workshops

Concurrent General Session VI ∘ Friday, November 30 ∘ 2:45 P.M.-3:30 P.M.

Planning and Adaptive Management	Bridging the Rural / Metro Divide: Flood Control	Bridging the Rural / Metro Divide: Models for Successful Implementation	NEW Treatments and Technology
Using GRAPS in Watershed Planning In this interactive 90 minute training session, you will learn how to integrate groundwater information presented in the Groundwater Restoration and Protection Strategy (GRAPS) report into the One Watershed, One Plan (1W1P) planning process. Using actual watershed examples, participants will work in small groups to: become familiar with the GRAPS report content, utilize GRAPS maps and groundwater condition summary to identify and target groundwater issues to be addressed in the 1W1P process, establish measurable goals, and identify appropriate actions to achieve restoration or protection goals. **Carrie Raber-Minnesota Department of Health, Annie Felix-Gerth-Board of Water and Soil Resources** **THIS IS A 90 MINUTE SESSION.**	Rice Creek WD: Using Technology and Partnerships to Manage Stormwater in the Ag/Urban landscape. As one of the most rapidly developing areas in the state, the Rice Creek Watershed District (RCWD) uniquely bridges the gap between agricultural land use and an established urban landscape. The evolving landscape requires a corresponding evolution in how runoff is managed, as increased volumes challenge the existing conveyance systems. This presentation will describe how the RCWD has utilized technology to provide a "crystal ball" into the future of stormwater management needs, and illustrate how collaborations with municipal partners address both short term and long term challenges. **Phil Belfiori - Rice Creek Watershed District, Chris Otterness - Houston Engineering, Inc.**	Minnehaha Creek WD: Model for Successful Implementation: Partnership, Focus, and Flexibility The Minnehaha Creek Watershed District (MCWD) is finding success in its innovative approach to water resource management by moving away from the traditional regulatory paradigm to partner with the land use community to align plans and investments to maximize economic, social, and environmental benefits for the communities it serves. The MCWD will share its approach which centers around three guiding principles: 1.Partnering with public and private entities to integrate goals, plans, and investments to maximize public benefit 2.Prioritizing and focusing in areas of highest need and opportunity to achieve significant, measurable results 3.Remaining flexible and responsive to opportunities created through coordination with land use planning. The presentation will include real world examples demonstrating the success of this approach and how it can be applied in other watersheds. **Becky Christopher-Minnehaha Creek WD**	Hydrologic Impacts of Corn Production Systems with and without Subsurface Drainage: Alterations of land use and management for agriculture have been implicated in surface and groundwater quality and quantity concerns. What remains poorly understood, however, is the influence of agricultural management practices on the landscape-scale water budget. In particular, conversion of perennial to annual vegetation, agricultural intensification, and installation of subsurface drainage systems have been implicated in changing water yield from farms in a manner that can result in increased incidence of flooding and more erosive rivers, potentially linking basin-scale water quality problems to farm-scale changes in the water budget. The goal of this project was to quantify all aspects of plot and field-scale water budgets for corn production systems (both with, and without subsurface drainage) and compare them against water budgets of sites with perennial vegetation. Results from this work will provide important information that will allow farmers to design water management infrastructure in a way that is both effective for production and environmentally responsible. **Jeff Strock-Professor and Soil Scientist - Department of Soil, Water and Climate**

Conference Workshops

Concurrent General Session VII ∘ Friday, November 30 ∘ 3:30 P.M.-4:15 P.M.

Planning and Adaptive Management	Bridging the Rural / Metro Divide: Flood Control	Bridging the Rural / Metro Divide: Models for Successful Implementation	New Treatments and Technology
THIS IS A 90 MINUTE SESSION, CONTINUED FROM THE 2 P.M. TRACK. Using GRAPS in Watershed Planning In this interactive 90 minute training session, you will learn how to integrate groundwater information presented in the Groundwater Restoration and Protection Strategy (GRAPS) report into the One Watershed, One Plan (1W1P) planning process. Using actual watershed examples, participants will work in small groups to: become familiar with the GRAPS report content, utilize GRAPS maps and groundwater condition summary to identify and target groundwater issues to be addressed in the 1W1P process, establish measurable goals, and identify appropriate actions to achieve restoration or protection goals. **Carrie Raber-Minnesota Department of Health, Annie Felix-Gerth-Board of Water and Soil Resources**	Using Technology and Partnerships to Formulate Flood Retention Strategies in Northwest Minnesota. As the second largest Watershed District in Minnesota, the Buffalo-Red River Watershed District (BRRWD) has formed a way to use technology and partnerships to develop comprehensive water resource management projects that not only benefit citizens of the District, but the Red River Basin of the North. This presentation will discuss why flood damage reduction (fdr) projects are needed, use of the Mediation Agreement, fdr types, project financing, and the use of new tools to develop fdr goals for a 1,785 square mile area. The BRRWD has successfully used these tools and strategies to develop projects such as the Wolverton Creek Restoration, Whisky Creek Tributaries, and the award winning Manston Slough Restoration. **Bruce Albright, Buffalo Red River WD, Erik S. Jones, P.E. - Houston Engineering, Inc.**	Various WDs: Setting Goals and Targeting Measurable Solutions for "Altered Hydrology" Across the State, “Altered Hydrology” is being cited as a stressor to biological impairments. However, measurable goals and targeted solutions for addressing this stressor are typically lacking. This presentation will cover approaches for setting measurable hydrology goals, targeting conservation to address “altered hydrology”, estimating progress towards goals, and developing rapid concept designs that position practitioners to implement solutions. Case studies will be presented for the Buffalo-Red River, Lac Qui Parle-Yellow Bank River, Middle Fork Crow River, and North Fork Crow River Watershed Districts. The results put local conservation practitioners in a position to begin implementing targeted conversation practices that will provide both water quantity and quality benefits. The presentation will show how the targeted solutions can be incorporated into local watershed plans, grant applications, and outreach information to landowners. **Drew Kessler-Houston Engineering, Inc., Mitch Enderson - Lac Qui Parle-Yellow Bank River WD, Margaret Johnson-Middle Fork Crow River WD, Cris Skonard -North Fork Crow River WD. Co-Author-Buffalo Red WD**	Chasing the Silver Bullet: Adventures in Alternative Stormwater Filtration Media (Iron Enhanced Sand and Spent Lime) Today’s stormwater practitioners are desperate for sustainable solutions that will filter stormwater to bind and remove pollutants in a cost-effective way. Where infiltration is impossible, we search for improved methods to remove particulate and dissolved phosphorus, metals and other pollutants from stormwater to meet permit requirements and improve the quality of downstream waterbodies. In addition, the stormwater community has great interest in putting byproducts, such as iron (as elemental iron) aggregate and spent lime, to good use in stormwater filters. There are some exciting recent advances in using these materials as stormwater filtration media. However, every success story has a cautionary backstory that has informed its success. This presentation will present these stories, including highlighting best practices in the design, implementation, monitoring and maintenance of Iron Enhanced Sand and Spent Lime Media filters. **Erin Anderson Wenz, PE, ENV SP-Barr Engineering Company, Keith Pilgrim, PhD-Barr Engineering Company, Paige Ahlborg -Ramsey-Washington Metro WD**

REGISTRATION FORM

Please join us for the 2018 MAWD Annual Convention and Trade Show
November 29, 2018 – December 1, 2018
Arrowwood Conference Center, 2100 Arrowwood Lane Northwest, Alexandria, MN, 56308

Last Name:_____ First Name:_____

Organization: _____

Address: _____

City: _____Zip _____

Phone:_____ Email_____

☐ I require a vegan meal ☐ I require a gluten-free meal ☐ I require a vegetarian meal

Conference Registration

Early Registration (Postmarked before Nov. 16)
☐ $200.00

Late Registration (Postmarked starting Nov. 16)
☐ $250.00

Guest Registration
☐ $85.00 (Before Nov. 16)
☐ $100.00 (After Nov. 16)

First Name of Guest: _____

Last Name of Guest: _____
☐ Vegan Meal ☐ Gluten Free Meal ☐ Vegetarian Meal

Pre-Conference Registration

Early Registration (Postmarked before Nov. 16)
☐ $85.00

Late Registration (Postmarked starting Nov. 16)
☐ $100.00

Payment
☐ Enclosed is a check payable to MAWD.
☐ I authorize payment on my credit card:
☐ Visa ☐ MasterCard ☐ Discover ☐ American Express

Cardholder Name: _____Signature: _____

Card Number: _____ Expiration Date: _____Total Charge:_____

Register online:
www.mnwatershed.org

Mail checks to:
MAWD
Attn: Maddy Bohn
1273 Arkwright Street
Saint Paul, MN 55130

If your check is returned due to insufficient funding, you will be charged $20. All information is kept private and is mandatory to submit payment.

#mawd18

HOTEL REGISTRATION FORM

November 29 – December 1, 2018 at Arrowwood Conference Center ⚬ 2100 Arrowwood Lane, Alexandria, MN 56308

This form does not register you for the MAWD Annual Conference, but only for a hotel room stay.

Name:_____

Address: _____

City: _____Zip _____

Phone:_____ Email_____

Please send completed form to Arrowwood by November 12, 2018.
Email: kchisholm@arrowwoodresort.com
Mail to: 2100 Arrowwood Lane, Alexandria, MN 56308 Fax: 320-762-0133 Phone: 866-386-5263

Lodging - deadline November 12, 2018 • One form per party please.

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.

Lodging I	Thursday and Friday + tax	$207.50
Lodging II	One night only + tax	$103.75
Townhouse units:	per bedroom/night plus tax	$103.75

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

☐ Yes, I would like a first-floor unit due to no elevators present.

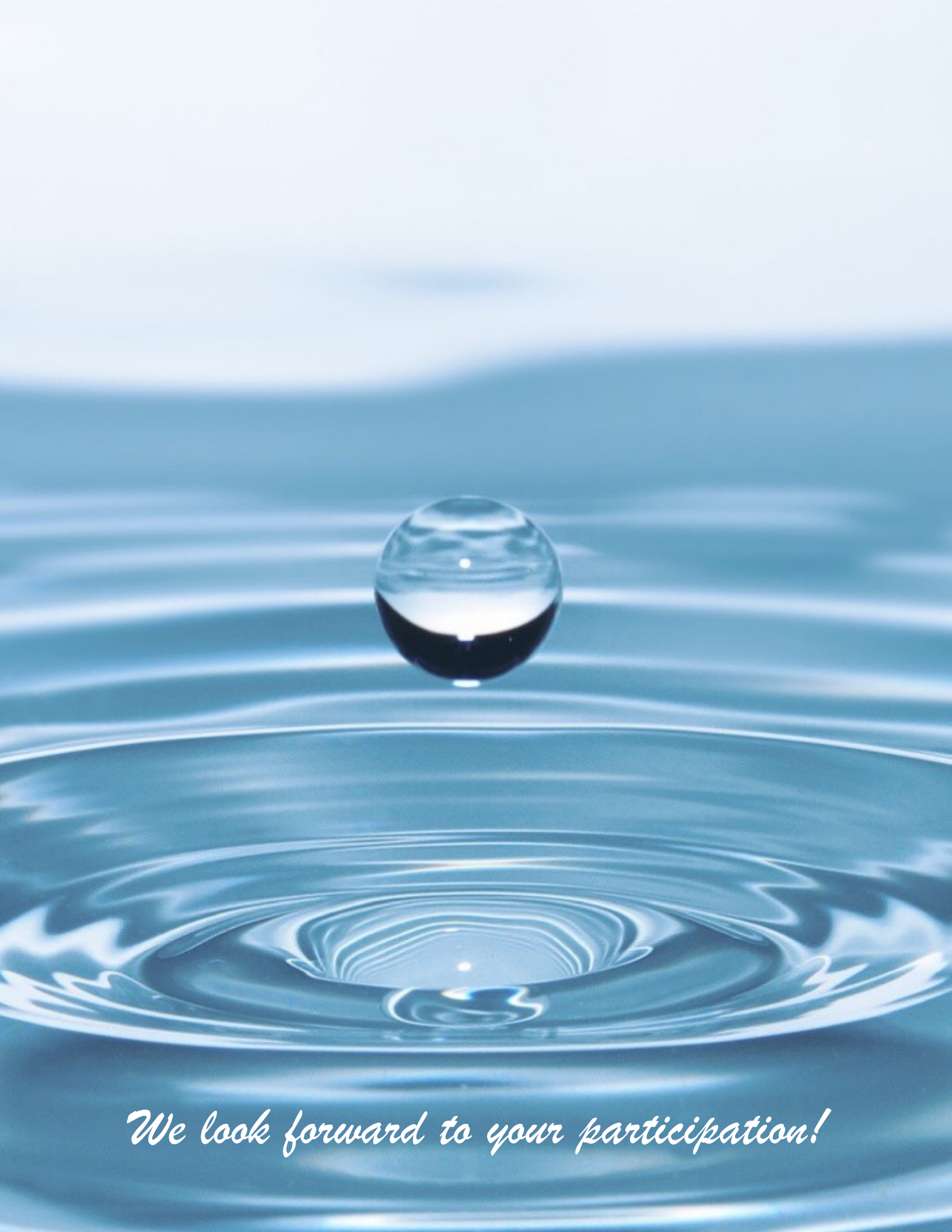
Payment

____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.


We look forward to your participation!