

**Minutes: Monday, December 11, 2017**  
**RPBCWD Citizen's Advisory Committee Monthly Meeting**  
**Location: RPBCWD offices: 18681 Lake Street, Chanhassen**

**CAC Members**

Anne Deuring	P	Peter Iverson	P	Joan Palmquist	P
Jim Boettcher	P	Matt Lindon	P	David Ziegler	P
Paul Bulger	P	Sharon McCotter	P		

**Others**

Michelle Jordan	District Liaison	P
Richard Chadwick	RPBCWD Board Member	P

**Summary of key actions/motions for the Board of Managers:**

The CAC wishes to formally thank Staff and the Management Board for sending CAC members to MAWD. It was a great experience, with much new and helpful information. In fact, we took much of this monthly CAC meeting to review and discuss information from the sessions. Thank you! We hope we can send members again in 2018.

**Agenda**

1. **Call CAC Meeting to Order:** Meeting was called to order by president David Ziegler at 6:01.
2. **Attendance:** as noted above.
3. **Matters of general public interest:**
  - a. No members of the public were present.
  - b. Manager Chadwick thanked the CAC members for their work last year and willingness to continue. He reminded us of the purpose of the CAC and statutory requirements. He passed out a copy of the Advisory Committee Statutes and reviewed duties.
4. **Approval of Agenda:** One item was added, an update on the CAC nomination process (7.c). Motion to approve was made by McCotter, seconded by Boettcher and passed, unanimously.
5. **Approval of previous (November) CAC Meeting Minutes:** McCotter/Iverson motioned to approve draft minutes from November 20 meeting. Motion passed, unopposed. Also note, we are changing the process by which minutes get distributed to members so they will have them earlier, at the same time they are sent to Staff for board packets.
6. **Learning from MAWD (David, Sharon, Pete)**

**Note:** Key takeaways from the sessions were distributed to all CAC members before the meeting. Their comments are included, as appendix A.

  1. **Drainage:** David attended and said most of this was about outstate MN but some of Best Practices might be appropriate for us—e.g. buffers. Also, note that buffers can be planted in non-row plants.

- 2. Basic Watershed Board Management Workshop:** Sharon attended this all-day session primarily for new watershed managers. In one exercise attendees shared their challenges in their watershed districts; lots of diversity based on location. 80% of BWSR funds go back to districts, through grants, and we are fortunate to have Administrator Bleser writing grants for us. Also, Lewis Smith is well respected authority and presented at this session. She reminded us that CAC has the ability to comment on anything, but takes direction from the Board.

The session included details of open meeting rules, which CAC is following, although we are not required to do so. These rules included that any communication should go through staff. We can send information to a specific board member, but not if there is a group/quorum. Skype/phone can be used only by state government. A good definition of what constitutes a meeting, and other good information was shared.

Excessive data requests can be harassing and we can charge for more than 100 pages. Details are in the watershed managers manual.

*"One Watershed One Plan"* is a little controversial—and even contentious, in the distribution of money across all of the watersheds. Participation in this would guarantee that each District would get a specific amount each year. By looking at boundaries a little differently, there may be opportunity for partnerships. Sharon suggests that we learn more about this, and request a speaker at one of next year's meetings. Metro watersheds maybe exempt from participating but we should know more details about how this plan is going to work.

- 3. Advanced Administration Workshop:** Michelle attended and included training of specific administrative things like recognizing and avoiding job burnout, working with people you find challenging, etc. Good practical suggestions.
- 4. Preventing spread of AIS with inspection:** Sharon attended. Good detailed program. Some of the best inspectors are law enforcement, teachers, retirees, not necessarily science people.
- 5. Sustainable Storm Water Analysis for Ford Site:** Pete and David attended. Looked back 100 years, before the plant was built, and now after demolition. The site was 135 acres of impervious materials—all pavement and concrete. Hidden Falls Stream ran through the site, and they paved over it so the stream basically became a pipe under the Ford plant. Became a bad erosion problem after rains. Even though the land is still owned by Ford, The Capitol Region Watershed District created a plan, which they sold to the city positioning it as an opportunity to make a big impact on a big site.
- 6. Climate Adaptation and Mitigation:** David and Sharon attended and will send the deck to us all. The session included information very similar to Climate Change Workshops we have done. The goal is to first try to minimize it, and then practice adaptation, including a plan for it and for the infrastructure and infrastructure replacement needed. The leader had participants think about what if there were a drought or windstorm, etc. The most vulnerable are those in poverty who are stuck—e.g. in suburbs where there is less public transportation. In planning, you need to think about whether your hospital would flood, and if you could get there. Also, they noted that bluff areas can have major erosion, which is not visible due to overgrowth or limited access.

- 7. Cost Analysis of Water Quality Standards in MN:** David attended. This session included discussion of use of credit exchanges, because smaller communities can't afford to bring their sewer systems up to meet standards. Water softeners can be a large source of chloride in rural areas.
- 8. Developing an Education and Outreach Plan:** Michelle presented and Sharon attended. People were in awe of the completeness of the process that Michelle led. She shared some specific Best Practices like including sticky notes on documents you give to someone to review, etc. with a personal note on them. Also, she informed attendees that topics addressed (e.g. shallow lakes, chloride) each year are chosen based on public feedback and need.
- 9. DNR Watershed District of the year:** Two of three finalists were River Watch organizations staffed by volunteers, like adopt a highway. Cedar River Watershed District was this year's winner.
- 10. BWSR Watershed Employee of the year:** Phil Belfiori of Rice Creek Watershed District won.
- 11. Director U of MN Water Resources Center WRC:** They are a resource for Watershed Districts to bring science into decision making.
- 12. Measuring Success of Shallow Lake Management in Anderson Lakes:** Pete and David attended. Several years ago, the decision was made to drain the lake, to let it freeze over and freeze out the curly leaf pond weed. The lake has 3 sections and residents of the SE lake opposed this, so chemical herbicides were used on that section. Although it would have been better to drain all sections, the project is considered a success. There was also some learning—like putting in a turtle crossing, to assist the turtles fleeing the lakes being drained. Pete requested information about what it cost, but has not received it yet.
- 13. Flood Prediction to improve planning in SW MN:** Sharon attended. This District was worried that a big event would happen, so they did modeling and predictions. Fortunately, the event they were worried about did not occur, but they decided to complete the modeling anyway. The model they use is a two-dimensional model. The current thinking is that the models could be used by county emergency coordinators.
- 14. Longevity and effectiveness of alum to restore lake water quality:** David attended. Use of alum is effective, but very expensive. It works best when there is high *internal* loading of phosphorous.
- 15. Staff Development: What does lake restoration look like?** Sharon attended and the focus of this session was how to make sure the public understands that just because a water bodies meets water quality standards it doesn't necessarily mean you can recreate there. You need to be specific and direct in telling them that it will be clean, but you may not be able to get a kayak through it. Any lake restoration needs a good plant management plan, as the natives will come in. The presenter concluded that the biggest problems associated with this is that the organizers did not talk about this issue and make it clear before the restoration.
- 16. Iron-enhanced Sand Filter Performance:** David attended. They described what they did to incorporate a pond as part of it of the sand filtration, so they counted on the bounce from larger rainfalls to capture water in the pond, where it could eventually be filtered thru the sand. It was very effective for that particular source, reducing external load of phosphorus by 50%.

**17. Permit Enforcement Techniques and Troubleshooting:** Sharon attended and said this presentation was excellent. She suggested we need to check if we have our enforcement methods outlined in our District rules. Also, they distributed a sheet with their best practices.

**18. Buffer Law Enforcement Update:** Buffers are controversial, but even so overall compliance now is quite high, at 97%.

**19. Flo-Water.net:** They make and sell filters for storm drains. \$130 for circular, \$160 for rectangular and they last two years and then the fabric can be replaced, and frame will remain functional. We discussed and agreed that this would be good for a cost sharing pilot. We will contact them.

**Note:** CAC people don't usually go to MAWD so it was a privilege for us to be able to go. Sharon talked to people from Prior Lake/Spring Lake Watershed District who are having trouble getting people for their CAC and suggested we could do a meeting with them to share our learnings. More to come in the new year.

## **7. Review 10-year plan (All)**

**a. Comments from 10-year plan Public Information Seccession (Michelle):** There was a public information session prior to the Dec. Board Meeting. Administrator Bleser presented to approximately 10-12 people and several people made comments.

**b. Recommendations for board and staff review if any:** The plan is now on the website. Sharon said she doesn't need to look at it again. Paul feels that the impaired waters is not as strong as he hoped it would be. Paul will write up his suggestions and distribute to us. We can then decide if we want to also make those same, or different comments.

**To do:** Each of us can review the changes we suggested and how they were included, or not. Enter any additional comments directly on the website. Paul will write up his suggestions and distribute then and then we can each individually decide if we want to make those same suggestions, or not. There is not another CAC meeting until after the public comment period ends, so this is why this approach is used.

**c. Update on CAC nomination:** All current members reapplied as well as two new applicants from Eden Prairie, both of whom are Master Water Stewards. All were accepted and the board decided to keep CAC applications open until the end of January and do a push to get additional nominees. Orientation of the two new members will be on Jan. 22, and a meet and greet with the Board will occur before the Feb. Board meeting at 5:30. If additional new members are appointed later, then a second orientation will be held.

Content of orientation: Michelle proposes that we start with icebreaker, and include a presentation from Administrator Bleser on administrative and structure, have a CAC member do a presentation on past year activities, and go over the 10-year plan process and plan updates. The orientation will begin at 5:30 and the meeting will follow. Notebooks will be created, like last year, and will include important information like Statutes, annual communication, fact sheet, acronym sheet, trail map, executive plan summary from 10-year plan, example agenda and meeting minutes from that meeting, MAWD summary and Education and Outreach Plan. Joan and Anne will look at this and give feedback to Michelle on what was most helpful to them as new members this year, and what acronyms we are using frequently.

**8. Updates from subcommittees as available**

- a. Storm Drain (Sharon, Matt): Sharon got the Freshwater's new kit and she will review it over the next few weeks and will follow up with the two cities in January.
- b. Ground Water (Paul) - none
- c. Silt Sock (Anne) - none
- d. Speaker's Bureau (Joan) - none
- e. Lake Associations (David) – none

**9. CAC 2018 meeting dates and agenda items for our next meeting (January) (All)**

- a. CAC 2018 Meeting Dates (2018 Jan 22, Feb 26, March 19, April 16, May 21, June 18, July 16, Aug 20, Sept. 17, Oct. 15, Nov. 19, Dec. 17) at 6:00PM. **Note:** We received agreement from the Board of Managers that we could change our meeting time to 6:00 and that we will receive information on the process to go through to change the bylaws.

**10. Upcoming events**

- a. Community Celebration of volunteers and friends, December 14<sup>th</sup>, at 6:30 PM, Bent Creek Golf Course
- b. RPBCWD Board of Managers Workshop January 3<sup>rd</sup> at 5:30 PM
- c. RPBCWD Board of Managers meeting January 3<sup>rd</sup> at 7:00 PM
- d. January 22nd Orientation and CAC meeting starting at 5:30 p.m.
- e. February 7 Meet and Greet with Board, informal get together prior to the Board meeting at 5:30.

**11. Adjourn CAC meeting: McCotter/Iverson made motion to adjourn, and we adjourned at 8:15.**

**Topics for next meeting and pre-meeting/orientation:**

- 1. New Member orientation workshop, introductions, what I care about
- 2. How to do bylaw changes,
- 3. Subcommittee updates
- 4. Update on public comments on 10-year plan
- 5. Draft calendar for 2018
- 6. Input on E&O for 2018 including how to interface with other CAC's.

Respectfully submitted,

Joan Palmquist  
Recorder

## Appendix A: 2017 MAWD Take Always

### 1. Drainage Workshop

- a. The updated Minnesota Public Drainage Manual (MPDM) is now accessible and searchable on line. [https://drainage.pca.state.mn.us/index.php?title=Main\\_Page](https://drainage.pca.state.mn.us/index.php?title=Main_Page)
- b. There is a procedure for reestablishing old records which were damaged due to fire, flood, age, or had undocumented changes or where not built to the plans.
- c. The goal is to make all of the records, (ACSIC) as constructed and subsequently improved condition, available on line. <http://www.bwsr.state.mn.us/drainage/>
- d. Buffer Law 16.5-foot buffer for all “Public” ditches.
- e. A 50-foot average buffer is required for all lakes, rivers, and streams (Farmers are not happy about this).
- f. Buffer strips can be planted with non-row crops like alfalfa and harvested by the land owners.
- g. Alternative practice, like side inlets, can be used in place of buffers.
- h. In some cases the buffers can be CRP (**Conservation Reserve Program (CRP)** is a cost-share and rental payment program of the [United States Department of Agriculture \(USDA\)](#). Under the program, the government pays farmers to take certain agriculturally used croplands out of production and convert them to vegetative cover, such as cultivated or [native bunchgrasses](#) and [grasslands](#), wildlife and [pollinators](#) food and shelter plantings, [windbreak](#) and [shade trees](#), filter and [buffer strips](#), [grassed waterways](#), and [riparian buffers](#).<sup>14</sup> The purpose of the program is to reduce land erosion, improve water quality and effect wildlife benefits.)
- i. One Water One Plan (1W1P). BWSR’s vision for One Watershed, One Plan is to align local water planning on major watershed boundaries with state strategies towards prioritized, targeted and measurable implementation plans. <http://www.bwsr.state.mn.us/planning/1W1P/index.html>
- j. Discovery Farms, MAWRC Minnesota Agriculture Resource Center. [Discovery Farms Minnesota](#) is a farmer-led program combining water quality information and farming system information to help characterize the relationship between agricultural management and water quality. <http://mawrc.org/>
- k. Side Inlets can be installed during required ditch maintenance. [http://www.agrnews.com/news/minnesota\\_news/alternative-side-inlets-designed-to-keep-soil-in-field/article\\_479c22e0-667a-59e2-ba7a-481dc63e98c0.html](http://www.agrnews.com/news/minnesota_news/alternative-side-inlets-designed-to-keep-soil-in-field/article_479c22e0-667a-59e2-ba7a-481dc63e98c0.html)  
[http://www.bwsr.state.mn.us/drainage/cons\\_drainage\\_MAWD\\_2009.pdf](http://www.bwsr.state.mn.us/drainage/cons_drainage_MAWD_2009.pdf)

### 2. Basic Watershed Board Management Workshop: This session is primarily for new watershed managers with the purpose of ensuring they know their responsibility and accountability.

- a. Watershed Districts, BWSR (Board of water and soil resources) and the World (Kevin)
  - i. 80% of their budget goes directly to local government; their goal is to “get money into the hands of those who can do projects”; money is often given out via grants
  - ii. BWSR is responsible for approving the 10-year plan and any amendments
  - iii. Watershed districts were created based on a need, requests for citizens and a tax base to support them; usually they are created when there is a large local water problem
  - iv. No watershed districts in the NE part of the state; water issues are managed through local government and local conservation groups; also, the boundary waters don’t have too many issue and there is a relatively small tax base
- b. Watershed Districts’ Legal Powers and Purposes - Louis Smith – He has approximately 30 years of involvement with water- VERY respected!!!
  - i. Because of disputes in the metro area on projects and the density in the metro with overlapping projects, it is required for all areas of the metro to have watersheds
  - ii. A written 10-year plan is critical especially when working closely with others.
  - iii. List of Watershed District purposes:
    1. Protection

- 2. Improvement
- 3. Provision
- iv. Watersheds do not have general policing powers, they have a very special purpose. They can put rules in place about how the work gets done.
- v. In the metro area, watersheds have unlimited taxing authority; outstate has limits
- vi. Watershed Management Tools are like a 3-legged stool – Capital Projects, Regulation, Educational Programs; partner, partner, partner!
- c. Your Role as Leader - Steve (Fresh Water Society)
  - i. Basic duties of a manager
    - 1. All about working with people!
    - 2. Help create a forum for involving local people
    - 3. Awareness of practices to protect water resources
    - 4. Set and change direction
    - 5. Sometimes being responsible means you have to piss people off
    - 6. “Signal your turns” – don’t catch leaders off guard
    - 7. There are different ways to plan – short and long term to get funding
    - 8. Not all watersheds have their lawyer and engineer at the meetings primarily due to cost; recommend tabling an issue if you need council and they are not present
    - 9. Ask staff for alternatives to proposals
    - 10. It’s OK to have 3-2 or 4-1 votes; it is not ideal to have 5-0 votes all the time; you want diverse perspectives represented
    - 11. The board sets the parameters for what the CAC should do; be clear
- d. Government Basics – the Open meeting law, Data Practices Act - Louis
  - i. Applies to Board of Managers, any committees the managers are on, CAC (to be safe); fine for violating is \$300; the newspaper is often the entity that indicates there has been a violation of the open meeting law
  - ii. Meeting is defined as: Gathering of a quorum or more of members of a governing body or committee or sub-committee where members discuss, decide, or receive information as a group about the official business of that body
  - iii. There are ways to appropriately structure communication to stay within compliance i.e. someone, like the administrator, can send communication to the board, and collect their responses. The problem ensues when managers email back and forth to each other.
  - iv. Meetings must be noticed and open to the public; must be reasonably accessible and should be held within the jurisdiction of the area
  - v. Notice
    - 1. Date, Time, Place and subject/purpose
    - 2. Publish and post annual schedule of regular meetings
    - 3. Meeting materials must be made available to the public
  - vi. Special meetings
    - 1. Post to website or bulletin board
    - 2. People who have requested notice – need 3 days
    - 3. Publish 3 days prior
  - vii. Emergency meetings: Notice not always feasible; act in good faith
  - viii. Continued meetings: No further notice is required but no additional topics can be added
  - ix. Only state government can conduct meetings by phone; can use interactive TV; can us Skype (advisory opinion)
  - x. Data Access Policy

1. Data requests can sometimes be used as a weapon by people; at worst it boards on harassment; if you think it might be harassment, document everything
  2. Someone would have to have an “intent to disrupt” to be charged; watersheds need to be blind to this intent; people do not even have to identify themselves with the request, it can be anonymous
  3. There are specifics around what you can charge per page of research and requestors are entitled to 100 free pages
- e. Value of Watershed Management Plan: Civic Engagement - Tera
- i. Diversity of topics MN watersheds are working on: AIS, fixing impaired lakes, flooding and drainage, phosphorous, reuse, rain gardens, farm field drain tiles, drainage, urbanity, ag – ditches, buffers, upstream treatment, lakes, stormwater, bank stabilization, education
  - ii. One Watershed/One Plan (Steve – Freshwater Society)
    1. Voluntary; over next 10 years
    2. Reduces competition for funding; more predictable funding stream; funds will be committed to each year so better planning; 65% of Clean Water funds go to projects
    3. May not be the best for metro watersheds; CAC should have more information about this initiative

### 3. Advanced Administration Workshop

#### 4. Preventing the Spread of Aquatic Invasive Species (AIS) with a Collaborative Watercraft Inspection Program – Mike Sorensen

- a. A review of the Comfort Lake and Forest Lake WD AIS program
- b. Best inspectors are law enforcement (easier to enforce rules); teachers (reinforce training); retirees (they come back year after year)
- c. BP - Continue training inspectors onsite pairing new ones with returning ones
- d. Weekends are busiest and all volunteers need to sign up for the majority of shifts around the weekend hours; 11-2 busiest time of day on weekends and after 4 during the week
- e. 4 out of 100 people come with their drain plug in; 5 out of 100 boats have water or AIS on their boat
- f. Inspectors inspect and educate but should not enforce; engage local law enforcement
- g. DNR has a real-time app on where the decontamination units are

#### 5. Sustainable Storm Water Analysis for the Ford Site Redevelopment in St. Paul

- a. The demolition of the St. Paul Ford plant is almost complete.
- b. The Capitol Region Watershed District (CRWD) spent time and money, up front, to develop and promote a plan for the 135 acer Ford site, which is still owned by Ford. <http://www.capitolregionwd.org/>
- c. The CRWD took their plan directly to the public to influence public opinion, new site zoning, and the City <http://www.startribune.com/st-paul-plan-for-stormwater-stream-at-ford-site-could-boost-flow-over-hidden-falls/417793213/>
- d. CRWD used Autocase Triple-Bottom-Line to show the financial and environmental benefits of their plan.
- e. CRWD has gained support from local residents and St. Paul City planners for their plan which includes a centralized green corridor.

#### 6. Climate Adaptation and Mitigation

- a. Similar to RPBCWD Climate Change Workshop
- b. Minimize climate change (emissions reduction, conservation, sequester carbon, education)
- c. Adaptation (preparing for climate change, assess vulnerabilities, develop a plan for a resilient sustainable tomorrow)
- d. Hazards (extreme precipitation, flooding, heat wave, increasing number of forest fires, power outages, extreme wind, increasing frequency of natural disasters)

- e. In 1970, the average of natural disasters that were reported was 78; in 2004, this number jumped to 348. According to AccuWeather, since 1990, natural disasters have affected 217 million people every single year. From 1980 to 2009 there was an 80 percent increase in the growth of climate-related disasters.
  - f. Our aging storm water infrastructure needs to be repaired or replaced. We should be updating infrastructure, planning for 10-inch 100-year rainfall events by 2050.
  - g. Minnesota's warming is well underway, with annual temperatures increasing at an average rate of nearly a quarter degree Fahrenheit (F) per decade since 1895. Much of the total warming, however, has been concentrated in the most recent several decades, with warming rates averaging nearly a half a degree per decade since 1970. The three most recent 10-year periods (through 2015) have been by far the warmest on record. Both the long-term and recent rates of warming in Minnesota are faster than national and global trends. Average winter low temperatures in Minnesota have increased by 7.5 (F) in the last 10 years.
  - h. What is my role? Water, connections, information, planning, education, community
  - i. Minneapolis and St. Paul's sewer infrastructure are over 50 years old where EP and Mtka is less than 30 years
  - j. MNDOT Slope failure prediction model. <http://www.dot.state.mn.us/consult/documents/notices/1027821-rfp.pdf>
7. **Cost Analysis of Water Quality Standards in Minnesota** (cost to meet standards for sanitary sewer water treatment standards at discharge)
- a. Study shows upgrades are needed to meet standards. Report from Barr Engineering
  - b. The estimated cost increase per residential unit (home) is \$200 to \$800 per year.
  - c. To meet current standards cost is 1.1% to 4.9% of median household income.
  - d. The cost to meet the future standards is estimated to be 1.1% to 5.2% of median household income.
  - e. Chloride is a big issue due to water softeners.
  - f. Smaller cities have a bigger gap.
  - g. Some funding is available from BWSR
  - h. Pushing for a way to trade water quality credits
8. **Developing an Education and Outreach Plan Through Community Engagement and Need Identification – Michelle Jordan**
- a. Michelle reviewed all of the steps in collecting stakeholder input as foundation for building and education and outreach program; VERY thorough
  - b. Be mindful of what time the audience might have to respond and then think of options i.e. online survey for teachers
  - c. Who and how you invite people is important
  - d. BP – To increase engagement and participation when you send a marketing piece, add a yellow sticky note with something like, Hi John, this seems like something you'd be interested in, Michelle
  - e. Ebb and flow topics and presentations pushed out to the community based on community feedback and hot topics. For example, shallow lakes were a very popular topic for several years. Those forums have been sunset and now chlorides are raising up; reconnect with your audience frequently
9. **DNR Watershed District of the year winner**, Cedar River Watershed District
- a. State water trail, removed 1000 tires from river
10. **BWSR Watershed Employee of the Year** Phil Belfiori from the Rice Creek Watershed District
- a. Increased levies, lowered legal cost, carp management, water reuse system
11. **Director University of Minnesota Water Resource Center (WRC)**
- a. Advancing the science of clean water. The University of Minnesota Water Resources Center combines scholarly methodology with innovative field work on water-related projects driven by leading scholars of biology, chemistry, economics, engineering, environmental science, public health and public policy. <https://www.wrc.umn.edu/projects>
12. **Measuring the Success of Shallow Lake Management in Anderson Lakes**
- a. Three shallow lakes at 494 and 169. South East lake feeds South West lake which feeds North West lake

- b. Curly leaf pond weed (CLPW) grows under the ice in the winter, then dies back in the late spring creating a major source of phosphorus in the lakes.
- c. A decision was made to drawdown (drain) the lakes to kill the CLPW.
- d. SE lake residents opposed the plan so the plan was revised to use chemical herbicide treatment in SE Anderson Lake.
- e. Pumped down SW and NW lakes as far as they could and used herbicide on remaining water.
- f. Currently NW Lake has almost no CLPW, SW lake has a small amount of CLPW, SE has CLPW but it is not as dense as it was before treatment. Considered a success.
- g. Nine Mile Watershed District will continue to monitor the lakes for water quality and overall healthiness.
- h. The will supply cost information.

**13. Flood Prediction to Improve Planning in Southwestern Minnesota** – Jason from RESPEC

- a. They developed a hydrological – hydraulic model with extensive support from the DNR, based on floods that straddled MN and Iowa borders via the Missouri River, in 2014. The “next big event” didn’t materialize when expected but caused them to fully develop the models for the future.
- b. These models are two versus one dimensional
- c. They needed to double the number of data collection gauges
- d. Pretty cool model that shows how far flooding could go based on numerous factors
- e. Expect the county emergency coordinator in flood areas to use them
- f. The Lieutenant Governor funded the model

**14. Longevity and effectiveness of alum to restore lake water quality**

- a. There are 646 lakes in Minnesota impaired for excess nutrients. Ninety five percent of these lakes indicate internal phosphorous is a significant source of the pollution.
- b. Alum (Aluminum Sulfate) treatment can be a cost-effective way to reduce internal phosphorus.
- c. Reasons for reduced effectiveness of phosphorus (low dose, excess external load, wind mixing, carp mixing)
- d. Treatment was a success, cost was \$986,000 for 4,200 lbs. of phosphorous removal (\$25/pound). More cost effective than most other BMPs [gwilson@barr.com](mailto:gwilson@barr.com)

**15. Staff Development: What Does Lake Restoration Look Like? Balancing Water Clarity Goals and Aquatic Plants**

- a. Bald Eagle (1050 acres in White Bear) and Silver Lake (70 acres in St. Anthony)
- b. Lakes were impaired for algae, phosphorous, and clarity; they have been cleaned up and now meet state standards in these areas
- c. Residents are not happy; too many plants (although they are now native); some folks even asked for the carp to come back!
- d. Lessons for future projects
  - i. Be straightforward and blunt about goals and expectations
  - ii. No jargon!
  - iii. Clearly communicate the available tools, financing options, and regulations for managing invasive and nuisance plants
  - iv. Don’t assume that year 1 or 2 after a major ecological shift is the “new normal”
  - v. Communicate before/during/after
  - vi. Make sure people understand the difference between natives and non-natives
- e. The audience “voted” and even though a balance of an unimpaired impaired water with water that can be used for recreation is where most people wanted to be, we landed on the idea that our job is to bring the lakes to state standards not to balance recreation needs and clear water

**16. Iron-Enhanced Sand Filter Performance for Removing Phosphorous from Regional Storm Water Pound**

- a. Added inlet baffle and dredged pond to remove sediment.

- b. Installed filter along the side of the pond with bottom drain.
- c. Bounce (water depth changes during storm events) allows water to flow through the filter.
- d. Worked with St. Anthony Falls Lab on project.
- e. Tests showed 58% reduction in total phosphorous over 4 years.
- f. The effectiveness is dropping due to the need for maintenance for the IESF filter.
- g. Total cost \$173,400. <http://www.capitolregionwd.org/>

**17. Permit Enforcement Techniques & Troubleshooting** (Excellent practical session with lots of tips!)

- a. State-wide permit summary
  - i. 38 out of 46 WD's issue permits
  - ii. Average WD has 4 staff and issues 59 permits per year
  - iii. # of permits per year ranges from 3-150 per WD
  - iv. Fees range from \$10 - \$5,000
  - v. 76% of WD require permit sureties
- b. Reasons for permit requests from most to least
  - i. Drainage and flood control
  - ii. Shoreline and surface water
  - iii. Stormwater management
  - iv. Erosion and sediment control
  - v. Wetlands
  - vi. Flood plains
  - vii. Agriculture tiling
- c. Go out to active sites once a week; it's effective but it's a matter of money and time
- d. If the site gets a C, D, or F grade, and they continue being in non-compliance, a small amount of their surety is taken to cover the cost of staff time.
- e. Check with Terry to see if we have our enforcement methods outlined in our District rules?
- f. Michelle, will we have Report a Problem on our website?
- g. Common violations
  - i. Rain Garden sedimentation
  - ii. Sediment in street
  - iii. Turbid water at pond outlet
  - iv. Concrete illicit discharge
  - v. Roots deter use of silt fence
  - vi. Overwatering activity

**18. Buffer Law Enforcement Update Field Progress**

- a. Minnesota's buffer law establishes new perennial vegetation buffers of up to 50 feet along lakes, rivers, and streams and buffers of 16.5 feet along ditches. These buffers will help filter out phosphorus, nitrogen and sediment. The deadline for implementation for buffers on public waters is November 1, 2017. The deadline for public ditches is November 1, 2018. The law provides flexibility for landowners to install alternative practices with equivalent water quality benefits that are based on the Natural Resources Conservation Service Field Office Technical Guide.
- b. They estimate 97% compliance overall. Many ditches were in compliance before the law was passed.
- c. <https://mn.gov/portal/natural-resources/buffer-law/>

**19. Flo-Water.net** Cory Phone: 515-577-6763

- a. We stopped at the Flo-water.net booth.
- b. They make and sell filters for storm drains.
- c. Some of the filters they sell fit on top of storm drains and are held in place by magnets. So, the storm drain covers do not need to be removed.

d. **EZ-Flo** w/ Curb Protection: Easy to install, replace, and service. Reusable. Catches sediment & trash. <http://www.flo-water.net/>

e.



f.

20. **CAC Coffee Talk** – Diane (Administrator – Prior Lake/Spring Lake)