

## WWOA – Southern District Meeting

2/28/17

Hosted by: Fond du Lac Regional Wastewater Treatment and Resource Recovery Facility

The meeting was held at a pavilion in Lakeside Park near the treatment facility and had 81 people in attendance. There were a variety of talks focused on nutrient recovery both at the plant and out in the watershed. These types of talks are especially important now when more stringent phosphorus limits are at our doorsteps.

The first speaker was Leon Downing a Process Engineer for CH2M who spoke about Nitrogen Removal. He discussed the history of Nitrogen Removal dating back to the late 1800s and how it is still evolving today with processes such as Deammonification. A couple other technologies he discussed were the MABR (Membrane Aerated Biofilm Reactor) and the PAD (Post Aerobic Digestion) System both of which are different ways to achieve nitrogen removal with some additional benefits. Leon mentioned the importance of wastewater plants looking into the different technologies now because there will be a nitrogen limit someday.

The next speaker was Patrick McNamara from Marquette University who spoke about the benefits of making Biochar from Biosolids. The process of making Biochar is achieved through a process known as Pyrolysis: Heating without Oxygen. His talk revolved around using Pyrolysis to convert the out-of-spec Milorganite to Biochar produced at the Jones Island Plant for the Milwaukee Municipal Sewerage District. Other than Biochar by-products of Pyrolysis include Bio-oil and Pygas. Biochar is a desired product for Artichoke Farms. The Pygas and Bio-oil are captured for energy recovery. Other benefits include some nutrient recovery in the form of Ammonia and removal of micro pollutants in the biosolids. There is ongoing research into this process and how to recover these resources.

The third speaker was Greg Olson from the Sand County Foundation. He spoke about his work with the land application of gypsum. Due to increases in air emission control for coal plants Sulfur deposition has occurred in the soil over the years. The application of Gypsum helps to fill that void and improve soil structure and increase the infiltration rate to minimize runoff. Greg has worked on projects including the Milwaukee River as well as up in Kaukauna. Automated monitoring equipment is installed to monitor the runoff to help see the affects the gypsum is having on the land. They have implemented continuous weather monitoring as well to keep track of potential rain events.

Elizabeth Lillard from the National Wildlife Federation spoke about nutrient removal through source water protection using cover crops and other practices. She stressed how Healthy Soils are the key to clean water. Healthy Soils filter pollutants, regulate water, and cycle nutrients. This can be attempted through no till practices, using cover crops, and utilizing a more diverse crop selection. Another important aspect of source water protection is communication with the farmers. Knowing the type of audience you are dealing with is crucial in getting these points across. Don't focus on the outcomes, talk about different projects to educate the farmers on those better practices. Engage the correct stakeholders that can help you accomplish goals and get through to the farming community.

Doris Theile from the DNR was present and made a few comments. She discussed staffing changes and position hiring that will be occurring soon to fill those vacancies. She mentioned the MDV webinar that had taken place recently and how there is a link to it on the DNR website including a lot more information about the different options to help meet future phosphorus limits.

The Southern District was called to order. The plaque for hosting the Southern District meeting was presented to Fond du Lac's Superintendent Autumn Fisher. An award was presented to Jim Kleinschmidt for leading the Southern District as President in 2016. The Southern District is looking for a new Secretary for 2018. If anyone you know would be interested in getting involved please reach out. The Southern District is also looking for the Operator of the Year award for 2017 which needs to be in by the end of June. If you would like to recommend someone for this award please let us know. The Southern District is also looking for a competition team for the Annual WWOA conference in the fall. Please let us know if you or anyone you know would be interested. The Scholarship/Tuition Aid for 2017 was discussed for the Southern District. We will look to vote on it in May at our Jefferson meeting.

The final speaker was Jeff Smudde from NEW Water in Green Bay who is heading their watershed efforts in the form of Adaptive Management. He discussed using a drone in the wastewater industry and specifically out in the watershed. Jeff went through the ins and outs of a drone and its capabilities. It gives a great bird's eye view of a landscape, access to many areas without having to physically move, and it has 3-D imaging capabilities. Their drone is used for checking erosion and monitoring the adaptive management sites where they have implemented grass waterways and critical area planting.

The day ended with a short video discussing the wastewater treatment plant in Fond du Lac. There was a brief discussion about a few projects Fond du Lac is doing and looking to do all tied to phosphorus. The meeting was adjourned with a tour.