The Rice Creek Story Takes a New Twist

By Jessica Bromelkamp

The Rice Creek Watershed District’s (RCWD) mission is to prevent flooding and enhance water quality in harmony with development for the common good.

The Middle Rice Creek restoration project is underway. Construction of the new channel began in December of 2015 and was completed in March of 2016. The new channel mimics the historic meanders of Rice Creek and will remain without water while vegetation becomes established. The Rice Creek Watershed District anticipates bringing the new section of Rice Creek online as early as fall of 2017. Material removed during excavation of the new channel will be used to fill in the old channel. Any material beyond what is needed for this use has been moved off site. The completed restoration project will reduce stream erosion, improve stream habitat, and decrease sediment and nutrient delivery to downstream Long Lake.

Stream restoration mixes elements of hydrology, ecology, and landscape design. Designers have been working hard to restore some of Rice Creek’s lost features, including more diverse habitats such as shallow riffles, runs or stretches of water, and deep pools. By diversifying habitat, Rice Creek will be able to support a greater variety of aquatic life. Middle Rice Creek is currently impaired for aquatic life (or biota) and the District expects this project to improve conditions. Rice Creek’s new twists and turns will slow down water and prevent 107 tons of sediment from flowing into Long Lake. Sediment binds with phosphorous, often causing severe algae blooms downstream. Nearly 500,000 residents visit Long Lake Regional Park annually; we expect the project benefits to be far-reaching.

The RCWD will complete extensive pre- and post-project monitoring, in cooperation with agency partners, to demonstrate improvement.
Partnering to Protect Golden Lake

The Rice Creek Watershed District partnered with the Anoka Conservation District (ACD) and the City of Blaine to retrofit a stormwater pond in Centennial Green Park with an iron-enhanced sand filter (IESF). This project was identified as one of the most cost-effective options for removing dissolved phosphorous, a nutrient that fuels algae growth, before it flows into Golden Lake. The ACD was awarded a $88,590 Clean Water Fund grant from the Clean Water, Land, and Legacy Amendment, with additional $40,614 in local matching funds provided by the RCWD and $24,440 from the City of Blaine.

Golden Lake was added to Minnesota’s Impaired Waters List in 2002 because severe algae blooms were having a negative effect on recreation. Completed in September of 2015, this project is expected to remove 11% of the phosphorous required to meet state standards. This multifaceted project also included replacing the damaged outlet, which restored the pond’s ability to capture sediment and phosphorous more effectively.

The IESF technology was developed by the University of Minnesota. Sand is mixed with iron filings. As water passes through the IESF, the dissolved phosphorous binds with the iron, preventing it from flowing downstream. IESFs are being used more frequently by the RCWD and others because they can be incorporated into existing projects to improve their effectiveness.

The collaboration between the ACD, the City of Blaine, and the RCWD reflects the regional significance of Golden Lake and the importance of working together to protect it. The City of Blaine has agreed to maintain the project to ensure its long-term effectiveness. This project would not have been possible without their partnership or the leadership of the ACD.

How the project works: When it rains, the pond level rises and flows over the IESF. Water soaks into the iron-enhanced sand mixture and is funneled into a drain tile at the bottom of the filter, which flows into the pond’s emergency overflow and eventually through the outlet to Anoka County Ditch 53-62. The ditch transports the water downstream into Golden Lake.

Above: The IESF project in dry conditions. Below: The IESF in action after a rainstorm.
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The Rice Creek Watershed District completed the second and final aluminum sulfate (alum) treatment on Bald Eagle Lake in May 2016, to reduce phosphorus levels in the lake. Phosphorous fuels algae growth, giving many Minnesota lakes a green, soupy appearance during warmer months. Once applied to a lake, alum binds with phosphorous, making it unavailable for algae to consume. Less algae means clearer water.

Regular water quality testing has occurred on Bald Eagle since 1980. In 2002, the lake was placed on the state’s Impaired Waters List for excess phosphorous and algae. Severe algae blooms were common. In 2014, the RCWD worked with HAB Aquatic Solutions to apply the first alum treatment to Bald Eagle Lake. The project resulted in immediate gains in water clarity. Residents have reported seeing the bottom of the lake from the end of their docks for the first time in decades. Following the first alum treatment, Bald Eagle Lake has met state standards for phosphorous and algae for first time since 1980. The second treatment was completed to ensure the long-term effectiveness of the project.

The Bald Eagle Area Association (BEAA) has been an integral part of this success story. The group established a water management district to help pay for projects like the alum treatment. The RCWD secured a Clean Water Partnership Loan for half of the total project cost at $890,000. The BEAA will repay the loan and the RCWD is paying for the other half of the project.

The RCWD will continue to work with Ramsey County to monitor water quality in Bald Eagle Lake, with the goal of consistently meeting state standards and having the lake removed from the Impaired Waters List. The District’s work with residents remains critical to achieving this important goal because the alum treatment only addresses phosphorous that’s in the lake today. Good housekeeping measures – such as keeping leaves and grass clippings, grease and oil, and fertilizers out of the lake – will ensure long-lasting benefits from the alum treatment.
RCWD Launches Master Water Stewards Program

The Master Water Stewards program provides training and support for community leaders to help build projects that collect and filter stormwater runoff before it reaches nearby lakes and streams. The program was started by Freshwater Society and piloted in the western suburbs with great success. In 2016, the program expanded to include most watershed districts and management organizations in the Twin Cities metropolitan area. The RCWD stewards participate in the program alongside residents from Capitol Region Watershed District and Ramsey Washington Metro Watershed District.

This is not your average volunteer program. By the end of 2016, stewards will have participated in more than a dozen classes as well as developed and implemented an education campaign and hands-on project to reduce water pollution in their communities. The goal of the program is simple. Projects are designed to help water soak into the ground instead of allowing it to run off, carrying pollutants from city streets and other hard surfaces to nearby waterbodies. The RCWD staff sees this program as an opportunity to build capacity in communities that will continue to improve water quality in the future.

The District is sponsoring four stewards in 2016, including Paul Westby of Fridley, Mike Hermann of Mahtomedi, Marsha Soucheray of Shoreview, and Gary Krejcarek of White Bear Township. The energy, knowledge, and passion for clean water stewards bring to this work is invaluable as we work to protect some of the District’s most beloved water resources.

Visit masterwaterstewards.org to learn more about the program and recent projects.