



Waterford Waterway Management District History, Accomplishments and Future Plans

2003 through 2013

The petition to form the Waterford Waterway Management District (WWMD) was approved by the Racine County Board of Supervisors in January 2003. The entire process of approval took a scant four months to accomplish and the District has been on a fast track from the very beginning. Representing over 1,000 riparian owners residing along 24 miles of shoreline on 1,132 acres of waterway, the WWMD remains one of the largest Districts in the State of Wisconsin. Over the past 10 years the WWMD has established a record of many accomplishments:

- **Lake Management Plan**

At its very first meeting the WWMD applied to the Wisconsin Department of Natural Resources (WDNR) for, and ultimately received, two \$10,000.00 grants for the preparation of a Lake Management Plan. The Southeastern Wisconsin Regional Planning Commission (SEWRPC) was contracted to develop this comprehensive plan to guide in the restoration of our beautiful waterway, and to update the plan in 2013. During their initial survey of existing conditions SEWRPC personnel described our Waterway as a “desert of muck”, stating that the huge amount of muck build up inhibits the growth of desirable aquatic plants and destroys habitats for desirable fish species to thrive. In developing the plan, every effort was made to be proactive in correcting drainage and erosion problems in order to expedite the process of restoration of the Waterway. The ultimate goal of removing the huge volumes of muck was always in sight. Contact was made with the U.S. Army Corps of Engineers to encourage their participation in the restoration operation. An application for a Section 206, Aquatic Ecosystem Restoration Project Feasibility Study 75%-25% split on \$100,000.00 grant, was filed in 2003 and the project remains on their active project list pending the appropriation of funds.

- **Riparian Survey**

Shortly after the formation of the WWMD the Board of Commissioners commissioned a Riparian Survey. The intent was to gather as much information regarding riparian thoughts and concerns about the condition of the impoundment at that time. What had started as a fairly modest endeavor turned into a gargantuan project. The riparian owners returned more than 55% of the mailed surveys. The number of returns in itself told the Board that there was, indeed, a keen interest in bettering and preserving the impoundment making it better for all to use and enjoy.

- **Storm Water Run-Off**

WWMD recommended the pre & post construction run-off ordinances that the town of Waterford Wisconsin implemented.

- **Phosphorus Fertilizer Ordinance**

The District approached the Town and Village of Waterford in the early spring of 2004 to enact a ban on the use of fertilizers containing phosphorus for residential lawns and landscaping. The natural content of phosphorus within the soils found in our District is extremely high, in a range of 6 or 8 times the requirement for healthy plant growth. The importance of this ban can be summarized in the statement: “One pound of phosphorus generates five hundred pounds of green algae in the water.” As a result, the Town of Waterford adopted an anti-phosphorus ordinance which was the first in Racine County and even preceded the newly adopted Wisconsin State statute.

- **Controlling Purple Loosestrife**

The onslaught of these invasive plants along the shorelines of the Fox River and Tichigan Lake prompted the District to take action to curb its spread throughout the Waterway. A \$12,500.00 grant from the WDNR funded this effort. Volunteers removed plants, cut off seedpods, and sprayed the plant

remains with Rodeo®. Additionally, colonies of beetles were purchased to feed on the plants and help limit their spread. In addition to controlling purple loosestrife, also reported and controlled what is likely to be the first case of golden loosestrife on the lake shores.

- **Storm Water Abatement and Erosion Control**

Shortly after the formation of the District, twelve prominent sites of storm water inflow were identified. A primary contributor of unwanted pollutants and soils deposited into the Waterway, these ravines and gullies drain into the water from the high ground surrounding the Waterway. Plumes of brown water and debris flood the lake and river after every large rainfall, contributing to the rich beds of muck that promote excessive growths of (especially) non-native aquatic plants. Thanks to cooperative funding from the Southeastern Wisconsin Fox River Commission (SEWFRC), private grants from Runzheimer International, and budgeted WWMD funding, major projects have been undertaken to curb this run off:

- **State Highway 164 Storm Water Abatement Project 2007**

The project provided control of drainage from 50 acres of upland through the use of a filtration basin, filter strip plantings, ditch dams, culvert-rip rapping, a settling basin in the ravine, and outflow channel improvements. In addition, approximately 150 feet of shoreline filtration plantings were installed in the drainage area.

- **Island View Bay Drainage Improvement Project 2008**

The project is similar to the STH 164 project with the work involving multiple ditch dams, major ravine rip rapping, and the installation of stilling basins. Shoreline filtration plantings were accomplished through the District's Rain Garden Grant Program.

- **Idlewood Drive Storm Water Abatement Project 2009**

This was bid and was completed in late 2009. The work remediated upland flooding in a drainage easement and reduced the velocity of out flow through a steeply-sloping ravine. Five natural rock check dams and stilling basins were installed in a wooded conservation area.

- **Grand Avenue Erosion Control Project 2011**

This was bid and was completed in 2011. Plans were made up by Dick Kosut and presented to SEWFRC, and a 90% grant was received for the rip rapping at the road and shoreline. This project eliminated 85% of the run-off from E. Peninsula Road to the Fox River.

- **Bend in the River Cleanup Project 2012**

This project was done while the water level was low during the dam repairs. Boulders, rocks and logs were relocated to the shore line, expanding the navigation channel while maintaining fish habitat.

- **Eco-System Restoration Project**

Early in 2009, on completion of several major runoff projects within the Districts' control, Chairman Dick Kosut authorized a committee to research requirements to obtain approvals to remove sediment from the waterway. The Eco-System Restoration committee, comprised of six volunteer riparian owners, sought the assistance of Dr. Jeffrey Thornton with SEWRPC to assemble a plan outline and goals to begin discussions with the WDNR staff and management. A scope of work was chartered and Graef, an experienced hydrology engineering firm was chosen to begin Phase 1 of the ESR Project. Graef had previously restored the Waterford dam after 2008 floods.

Phase 2 of the project completed in 2013, as WWMD funding was supported with a grant from SEWFRC in the amount of \$59,000. A second grant from SEWRFC for \$5,000 was obtained for 2013 public outreach meetings with riparian owners. Phase 2 provided hydrology reports confirming sediment content is clean and organic and will provide valuable carbon and fertilizer averages for general use. Phase 3 supported with a \$20,000 Racine County grant began in July, 2013 with scope of work to complete the dredge application work and gain WDNR approvals for an NR30 dredge permit.

In addition to these milestones, the WWMD maintains numerous ongoing events and programs to fulfill our mission of undertaking a program of lake protection and rehabilitation of a lake or parts thereof within the district:

- **Pontoon Classroom**

Beginning in the fall of 2009, the WWMD has conducted pontoon classroom programs to educate the youth of our community about their waterway. The program provides a flotilla of pontoon boats along with host drivers and educators that enable students to tour the river and lake and learn about its history, its existing condition, and its possible future. The students, some of whom have never been on the Waterway previously, visit a number of sites where they are instructed by experts on water biology, fish and wild life, aquatic plant growth, erosion control, and the environmental health of this community asset.

- **Aquatic Plant Control**

Riparian Owners and all users of the Waterway are plagued by the excessive growths of aquatic plants, dominated by nonnative species. Initial actions targeted the spread of Eurasian water milfoil as well as curly-leaf pondweed. 2013 saw our largest areas surveyed and treated. Coontail, elodea and Lily Pads have prospered in the rich layers of muck that exist on our lake and river bottoms and the clearer water resulting from the increased Zebra Mussel populations in 2008-2010. High levels of Aquatic Plant Growth continue to limit navigation by all types of watercraft. With much of the river/lake not easily navigable, boat traffic is concentrated into much smaller areas, resulting in "rush hour" traffic conditions that create risks to boats and property, and limit the enjoyment of recreational users. It remains as one of the key issues facing the District and, annually, requires more funds than any other single budget item. For several years the WWMD has operated a program of Aquatic Plant Control in an effort to alleviate this environmental hazard.

- **Clean Boats, Clean Waters Program**

In 2013 the WWMD began its first year of a CBCW program. We partnered with Town and Country Research Conservation and Development to hire an intern and supplemented this with volunteer hours. Over 200 boat inspections at the Library and DNR Launch have been completed, reducing the transportation possibly invasive species aquatic plants into and out of our waters.

- **Rain Garden Program**

The WWMD Education Committee, in cooperation with the Fox River Committee Against Underwater Silt and Erosion (CAUSE), sponsored a seminar promoting the planting and development of rain gardens throughout the District. Melinda Myers, host of PBS's Great Lakes Gardener, was the featured speaker. Plants and brochures were available to those in attendance, along with a sign up for WWMD grant funds for purchasing plants and installing rain gardens in qualified locations. Riparian owners participated, selecting a variety of native plants appropriate garden shapes. Down spout drainage from the residence was piped into each garden. Starting in 2008 the WWMD has budgeted every year a single rain garden grant of \$500.

- **Water Safety**

The District, working with the Town of Waterford budget committee, reviewed budget allocations for the Town's Water Patrol in an effort to insure that boating safety and control ordinances were enforced at all times. Based on that review, and subsequent committee recommendations, the Town increased its budget in this area of concern. The WWMD sponsored and funded the installation of solar powered, lighted buoys throughout the waterway.

- **Ongoing Community Outreach**

The District continues to be active on many fronts within the greater Waterford community. Since its inception, the WWMD has:

- Maintained interaction with SEWFRC, SEWRPC, the Town and Village of Waterford, and the Racine County Planning Commission
- Conducted Open Houses at local schools to keep the public informed of activities, progress, and plans for the Eco-System Restoration Project.
- Interacted with the Waterford Chamber of Commerce by conducting tours of the waterway and also operating a booth at a major Chamber public event.
- Issuance of a newsletter on a regular, quarterly basis.

- Publication and dissemination of a comprehensive Waterway map showing depths, obstacles, and buoy locations.
- Maintenance of a comprehensive website (www.waterfordwwmd.com)
- Participation and sponsorship of seminars on environmental issues.
- Conducting monthly public meetings.

The WWMD has sought to expand its knowledge of the issues and the solutions facing waterways throughout the State of Wisconsin, State of Illinois Fox Waterway Agency and in the immediate Waterford area by maintaining associations and partnerships with the following:

- **Regular meetings with the WDNR.**
- **Membership of the Wisconsin Association of Lakes, and participation in meetings and seminars.**
- **Partnership with the SEWFRC and CAUSE on projects to improve the Waterway.**
- **Partnership with Town and Country Research Conservation and Development**
- **Membership of the Fox River Basin Partnership.**
- **Membership of the Racine County Lakes Association.**
- **Attendance at Town and Village of Waterford meetings.**
- **Participation in and sponsorship of community events.**
- **Cooperation with the Kenosha/Racine Land Trust.**
- **Cooperation with Ron Barker, Executive Director of IL Fox River Agency**
- **Southeast Fox River Partnership**

Future Plans – 2014 and Beyond

The WWMD is entering a time of increased activity. Additions of new board members and a number of new volunteers have expanded our ability to take on new projects and continue the work done in the past to improve, maintain and restore our waterway.

- **Eco-System Restoration Project**

The Graef hydrology teams scope of work for Phase 3 is to complete the dredge application requirements and gain the WDNR approvals to have an NR30 dredge permit issued to the Waterford Waterway District. Graef's prior work on ESR Phases 1 and 2 has laid a solid foundation. All agree, pre-dredge application details are met and exceed the WDNR regulatory requirements.

The ESR Project Team goal is submission of dredge application to the WDNR by mid-2014. Next steps to complete this are; final approvals for dewatering site, sediment storage locations and return water routes.

Identification of funding sources is eminent to any improvement project and we will seek out sources from bonding, community and foundations as well as the State of Wisconsin.

We will seek support to improve our waterway, an impoundment approved by the State, which has received uncontrolled sediment runoff from hundreds of square miles of watershed north of Waterford since 1846. This sediment is now clogging our impoundment to now an almost unusable state. The economic values of over 1000 properties see a more rapid decline in value – this is a community concern. We cannot support the runoff from the entire region with our district alone.

Our outreach with our fellow riparian owners of the District and our communication to the entire community on our progress expands with a more interactive web site as well as public meetings.

- **Aquatic Plant Management**

We will continue to expand our surveyed areas for AIS, following the trend of the last 2-3 seasons. Control of AIS will follow a more comprehensive and pro-active approach including manual weed pulling and herbicidal treatments. Preventative measures include the Clean Boats, Clean Waters program, scheduled for its 2nd year, and the Citizens Lake Monitoring Network (CLMN).

We are planning restorative measures in some areas. The programs we are currently exploring are, 'Fish Sticks' to restore fish habitat, Duck Nest Boxes to increase the diversity of water fowl and Osprey poles.

We are hopeful to receive assistance from the WDNR and have applied for an AIS Control grant to help support these programs.

To relieve some of the navigation issues we are also planning a small harvesting program in one area. The permit for this has been approved and the harvesting is scheduled for June 2014.

- **Erosion and Runoff**

Projects planned for 2014 include restoration along the west shore of Buena Lake, where the shoreline has receded 2-3 feet in the last few years. The design for this work is complete and we hope to complete permitting this winter, so the project can be completed in the spring.

Rain gardens are being explored in 12-15 locations along the river to ease storm water runoff.

The re-construction of State Highway 164 has compromised much of the work done in 2007. We are currently working with the DOT to ensure there is adequate protection against storm water runoff.

- **Information and Education**

2014 will see greatly improved communication to our members. Recent improvements in our Website, Social Media presence, and electronic mailings have shown immediate improvement in attendance at our monthly meetings. We plan to be back on a regular schedule with our Newsletter and move to electronic delivery to reduce printing and mailing costs.