

FLOW board discusses legal remedies for nitrate pollution and beavers

By GILLIAN POMPLUN
 The Friends of the Lower Wisconsin Riverway (FLOW) held a bi-monthly board meeting at the Tripp Heritage Museum in Prairie du Sac on Thursday, April 20.

Highlights of the meeting included a report on recent testimony by Vice President Dave Marshall to the Wisconsin Natural Resources Board (NRB), plans for a FLOW Science Symposium, and a presentation on the value of beavers in the Riverway.

Dave Marshall travelled to Madison on April 12 to present information to the NRB about nitrate contamination of the oxbow lakes along the Riverway, and to request that the NRB take various actions to protect the Ramsar Wetland of International Importance. Those requests include:

- restore the original Lower Wisconsin State Riverway (LWSR) Knowles-Nelson Stewardship funding that was established under Act 31 in 1989. The annual funding was discontinued in 1994
- LWSR boundaries reassessment is long overdue
- increase scenic easement purchases which have not kept up with the Act 31 commitments

"I only had three minutes to present my testimony, though I distributed a copy of our report to all NRB members," Marshall told the FLOW board. "I received no questions from NRB members."

In his handout to the NRB, Marshall reported that the DNR's 2016 Master Plan for the LWSR called for 78,855 acres of acquisitions, but that the actual amount acquired was 50,220 acres. The total acres within the project boundary are 95,893 acres.

He further noted that public ownership in the LWSR totals only three percent of total land use. Further, he explained that the 1988 LWSR Environmental Impact Statement put a high value on developing the area for recreation given its close proximity to large population centers in the state. He pointed out the in March of 2023, the Wisconsin Policy Forum had echoed this, identifying expansion of public lands and associated recreational opportunities close to population centers as something of great benefit to Wisconsin.

Nitrate pollution
 As a member of the FLOW Science Committee, composed of nine retired DNR employees, Marshall's greatest concern is nitrate contamination of the sloughs and oxbow lakes in the Riverway. He attributes this contamination and the resultant degradation of water quality and habitat to agricultural practices on the sand terraces above the river.

Marshall has a long history of monitoring the Wisconsin River, since the mid-1970s when the entire river was severely polluted. By 1990, and after the Clean Water Act implementation, Marshall provided DNR the documentation required to classify the Lower Wisconsin River as an Exceptional Resource Water (ERW) under the Clean Water Act.

Prior to Clean Water Act implementation, aquifer discharges to the river protected river biodiversity during the periods of severe pollution in the main channel of the river. The numerous spring-fed oxbow lakes provided important refuges and habitat when the main river conditions were highly degraded.

He explained that spring-fed oxbow lakes are vulnerable to excess nutrient applications across the river terraces and where conservation buffers are limited or lacking entirely. The FLOW Science Committee recently concluded a study about nitrate contamination in the oxbow lakes along the river. The results of that study can be found on the Friends of the Lower Wisconsin Riverway, under the 'science' tab.

In the handout provided to the NRB, the FLOW board stated it believes two critical management efforts are needed to restore the Ramsar Wetland of International Importance:

1. Expand the LWSR boundaries beyond the floodplain which are needed establish effective conservation buffers and provide incentives to reduce nitrogen applications across the sand terraces, including perhaps more sustainable agriculture.

2. Apply the Wisconsin Pollutant Discharge Elimination System (WPDES) to protect groundwater and ensure nitrate concentrations do not exceed the Drinking Water Standard of 10 mg/l. Based on the recent U.S. Supreme Court decision in *City of Maui v Hawaii Wildlife Fund*, contaminated groundwater that significantly pollutes surface waters can now be regulated under the Clean Water Act. The same aquifers that exceed the Drinking Water Standard for nitrate are also polluting Lower Wisconsin River oxbows and river main channel.

The next steps to protect water quality and biological diversity in the Riverway could potentially include legal action," Marshall told the group. "Polluted ground water affecting surface water could potentially be legally challenged due to a recent U.S. Supreme Court decision in *City of Maui v Hawaii Wildlife Fund*."



FLOW VICE PRESIDENT Dave Marshall is seen presenting testimony to the Wisconsin Natural Resources Board at their April 12 meeting in Madison.

flood mitigation, supporting biodiversity, and maintaining these wetlands to support high water quality.

Other aquatic mammals, such as mink, muskrat, and river otters, along with waterfowl, amphibians, reptiles, insects, mammals, and plants thrive in beaver wetlands. Recent science also supports changes to policy that restore river systems to their natural (original pre-settlement) characteristics with beaver wetlands for the higher water quality and habitat value they provide. These wetlands can have a strategic society value for flood reduction as a climate resilience solution. Through canals and damming of beaver ponds, beavers reconnect river complexes while providing green infrastructure of storm water storage systems.

With the increasing intensity of storms experienced across Wisconsin due to climate change, beaver wetland complexes will be essential

intensity storms. Not only do beavers support storm water storage, but also beaver wetland complexes naturally recharge aquifers and support natural water filtration for clean, safe water.

Boucher told the group that beaver management in Wisconsin runs contrary to scientific means. He explained that this threatens the ecosystems beaver create, endangering threatened species, and increasing flooding risks to communities.

According to Boucher, Superior Bio-Conservancy strongly recommends that the WDNR and U.S. Fish & Wildlife Services make the following changes:

- WDNR and U.S. Fish & Wildlife Services should turn the Wisconsin Beaver Management Plan (2015-2025) into a living document and update it using the best wildlife population management available, including technology, record keeping (tagging), and baseline data. The same should be done with the U.S. Wildlife Services' 2013 environmental assessment of its beaver damage management program. These documents must be updated with the assistance of a committee of qualified professionals, including wildlife biologists, hydrologists, and others who have expertise in beaver management and science.

- WDNR and U.S. Fish & Wildlife Services must primarily use proven, non-lethal beaver management, such as tree fencing, beaver deceivers, pond levelers, and culvert-protective fencing, which are more cost-effective than lethal control, while allowing beavers to provide essential ecological services while also reducing risk to other protected species such as river otters. These systems need to be installed by professionals who are trained in non-lethal installation.

- WDNR should establish a recovery zone for aquatic mammals for the Milwaukee River Watershed, which comprises 900 square miles and encompasses 1.2 percent of the state, to allow for the reintroduction and repopulation of beavers who are functionally extinct in that area. This would potentially lower peak flood levels by over 37 percent on average, provide over \$3.346 billion in storm-water storage services, and remove over 500 homes from the floodplain in the Milwaukee area.

- as there is currently no population tracking system in place for beaver trapping, the WDNR must implement tracking based on up-to-date GIS and recordkeeping technology that would require trappers to record the number and locations of beavers

killed, rather than allowing unrecorded, unregulated killing.

- WDNR and U.S. Fish & Wildlife Services must acknowledge the Voigt decision (1983) by upholding the usufructuary rights of the Tribal community to maintain ecological resources on ceded territories. They must recognize Tribal rights to protect water quality standards and protect Tribal aquatic resources.

- WDNR must support the goals of the U.S. Clean Water Act by managing beavers within each watershed and sub-basin to restore the biological integrity of our nation's waters.

- WDNR must uphold its role as a public trustee of Wisconsin's wildlife and navigable waters, by allowing beavers to support the hydrological functions and restore biological integrity to our watersheds.

As custodian of our shared natural resources, the State has the responsibility to engage with up-to-date science as a guide for ecological management and the promotion of ecological services for the betterment of Wisconsin's future. With an increased threat of climate change, increased flooding, and lost biodiversity across the globe, this is a critical issue that deserves immediate attention.



FLOW BOARD members are seen taking in a talk about the benefits of beavers from a hydrology, flooding and bioersivity stand point. 'Beaver Believer' Bob Boucher made the presentation. FLOW board members present, from left, include Sherry Holly, Bob Krueger, Allison Scoien, Jean Unmuth and Dave Marshall.

to building Wisconsin's resilience against these high-

FLOW board members also suggested that it might be necessary to have one-on-one conversations with NRB members about the urgency of addressing nitrate contamination in the Riverway, about the need for additional Knowles-Nelson funding for easements and acquisitions, and revisiting the LWSR boundaries to create conservation buffers that can help to protect the oxbow lakes.

Science Symposium
 FLOW Science Committee member Jean Unmuth reported that they have applied for a grant from Wisconsin DNR to help pay for a virtual option for a Riverway Science Symposium this year. The annual event had not been held in recent years due to pandemic precautions.

Unmuth reported that the event is planned for September 23, at the Sauk Prairie River Arts Center's main theater at the high school. Doors will open to the public at 9 a.m. and close at 4 p.m. Non-profits are welcome to set up a table or booth display.

Beaver Believers
 Bob Boucher, founding President of the Superior Bio-Conservancy, made a presentation to the FLOW board about his research on beaver recovery efforts. Boucher reported that bringing back beavers would reduce flooding in Wisconsin by 40 percent.

Boucher's interests include protecting and restoring keystone species in ecosystems, and bioregional landscape linkages for protection on a global scale. He became a 'Beaver Believer' when he realized the role this keystone species plays in the health of river hydrology and their significance to biodiversity.

The FLOW board invited Boucher to present at their upcoming Science Symposium. Boucher requested that FLOW consider advocating for a part of the Lower Wisconsin State Riverway to be used as a beaver sanctuary for tourism.

Beavers are aquatic mammals essential to the natural hydrology and landscape of Wisconsin. Unique as a keystone species and ecosystem engineer, they create wetland ponds that become complex habitats for biodiversity, and therefore play a key role in





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