

# Lower Green Bay and Fox River Area of Concern

Reaching our targets will lead us to our goal of delisting the AOC, which means the ecological benefits of Lower Green Bay and Fox River have been restored to an acceptable level. We will achieve this when public uses are no longer impaired by pollution, and native plants and wildlife are sustainably restored. Now that toxic sediment has been removed and habitat restoration continues, the river and bay are becoming ever more valuable resources for recreation and the local economy.



The Cat Island chain framework was completed in 2013. Clean dredged material will be beneficially re-used as fill for the next 20-30 years.



Restoration and protection of Northern Pike spawning habitat is a priority along the west shore of southern Green Bay.

To learn more about Lower Green Bay and Fox River AOC projects and progress visit <https://dnr.wi.gov>, search "Green Bay AOC." For more details, refer to the Area of Concern Remedial Action Plan Updates.

# Lower Green Bay and Fox River Area of Concern

## BENEFICIAL USE IMPAIRMENT RESTORATION REPORT

Fall 2022

### Lower Green Bay and the Fox River

below the De Pere Dam were designated an Area of Concern (AOC) in the 1980s because contaminated river sediment impaired public benefits such as fish consumption, healthy fisheries, shipping channels and wildlife habitat.



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The Wisconsin Department of Natural Resources and citizen groups identified 13 Beneficial Use Impairments (BUIs) to target here for improving the river and bay.

See the progress report inside



The Bolt Company



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Lower Green Bay & Fox River — part of the largest fresh surface water resource in the world — the Great Lakes ecosystem



### Wisconsin Department of Natural Resources, Office of Great Waters

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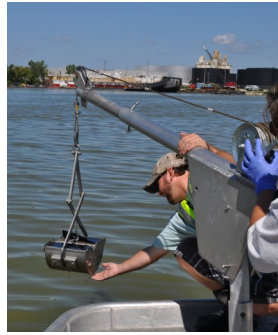
# Lower Green Bay and Fox River AOC – Restoration Status Update

## Tackling AOC

problems, known as Beneficial Use Impairments, requires several steps. We first must understand the causes and define the extent of the problems through monitoring, assessment and data analysis. We then determine necessary actions to fix the problems and implement them.

State and federal agency managers aim to complete actions that address AOC problems by 2030. Funding support from the federal Great Lakes Restoration Initiative, Bipartisan Infrastructure Law and many partners is essential to achieving this goal. Although projects are large and complex, coordinated efforts by many partners will ensure success.

After projects are completed, we then monitor to verify if we've achieved our goals. Once all impairments are removed, the Lower Green Bay and Fox River can be removed from the list of most polluted sites on the Great Lakes. This report shows the status of 13 impairments in the AOC.



Sampling for aquatic life in the riverbed.

### Impairment Removal Phases:

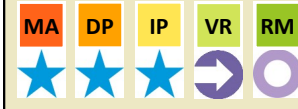
- MA** **MONITOR & ASSESS:** define problems, gather data, consult with experts and engage stakeholders.
- DP** **DEVELOP AOC PROJECTS:** engage stakeholders to develop the set of projects that are necessary for reaching AOC goals.
- IP** **IMPLEMENT PROJECTS:** take action to improve conditions within the AOC if monitoring data shows goals are not being met.
- VR** **VERIFY RESULTS:** after actions have been taken, monitor to determine if target has been met.
- RM** **FORMAL BUI REMOVAL:** targets have been met. BUI removal documentation is being prepared or reviewed, or has been submitted.



There are health concerns with eating fish and wildlife

### NEXT STEPS:

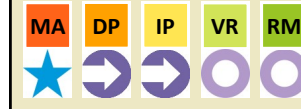
- Begin a one to three year study of polychlorinated biphenyls (PCBs) and heavy metals in dabbling ducks (2022).
- Evaluate sample results from the dabbling duck study and from the ongoing responsible party led fish monitoring, and assess BUI status in 2025.



Fish and wildlife populations are degraded

### NEXT STEPS:

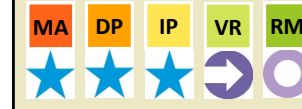
- Complete feasibility studies of three complex projects on the draft management action list (2022).
- Finalize the management action list, which includes 12 projects arrived at in collaboration with stakeholders (2023).
- Continue implementing projects on the management action list.



There are increased rates of fish tumors and deformities

### NEXT STEPS:

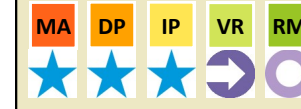
- Primary source of tumor-causing toxins were removed by completing cleanup of PCBs and manufactured gas plant site in 2020.
- Complete baseline fish tumor assessment in partnership with West Virginia University and the US Geological Survey (USGS) (2023).



There is increased potential for bird and animal deformities and reproductive problems

### NEXT STEPS:

- Carry out a three-year assessment of contaminant levels in bald eagles, cormorants, and herring gulls (2022 and through 2025).



Communities of sediment-dwelling organisms are degraded

### NEXT STEPS:

- In coordination with the Benthos and Plankton Technical Advisory Committee, review the benthic community, habitat suitability and energy transfer project results and 2021 sediment toxicity analyses to evaluate the status of the BUI (2023).
- Complete habitat BUI management actions (2030).



Fish do not taste good



All the steps to address this Beneficial Use Impairment were completed and it was officially removed in April 2020.



Waterbody not recommended as a drinking water source

### NEXT STEPS:

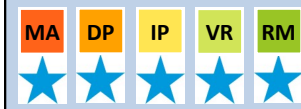
- Provide a BUI removal recommendation to stakeholders and U.S. Environmental Protection Agency (2023).



Dredging activities for commerce or navigation are restricted



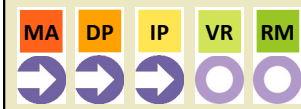
All the steps to address this Beneficial Use Impairment were completed and it was officially removed in Sept. 2021.



Excessive nutrients cause undesirable algae

### NEXT STEPS:

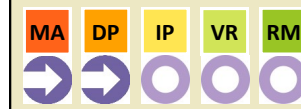
- Continue to work with technical groups and stakeholders to identify necessary management actions (2022).
- Finalize the BUI removal target, implementation and communications strategies that were drafted in 2021 (2022).
- Complete Apple Creek watershed pilot management action project (2026).



Water contact through beach use or other recreation is limited

### NEXT STEPS:

- Continue to assess recreational use risk in the AOC.
- Review results of the study that assessed harmful blue-green algae blooms to determine next steps (2023).
- Develop a strategy for continuous monitoring of harmful algal blooms in the lower Bay.



Appearance of river and waterfront needs improvement

### NEXT STEPS:

All the steps to address this Beneficial Use Impairment were completed and it was officially removed in April 2022.



Communities of small organisms living in the water are degraded

### NEXT STEPS:

- Assess water column toxicity (2022).
- In coordination with the Benthos and Plankton Technical Advisory Committee, evaluate results of water column toxicity sampling and additional data from Beach Closings BUI (2023).



Loss of fish and wildlife habitat

### NEXT STEPS:

- Complete feasibility studies of three complex projects on the draft management action list (2022).
- Finalize management action list, which includes 12 projects arrived at in collaboration with stakeholders (2023).
- Continue implementing projects on the management action list.

