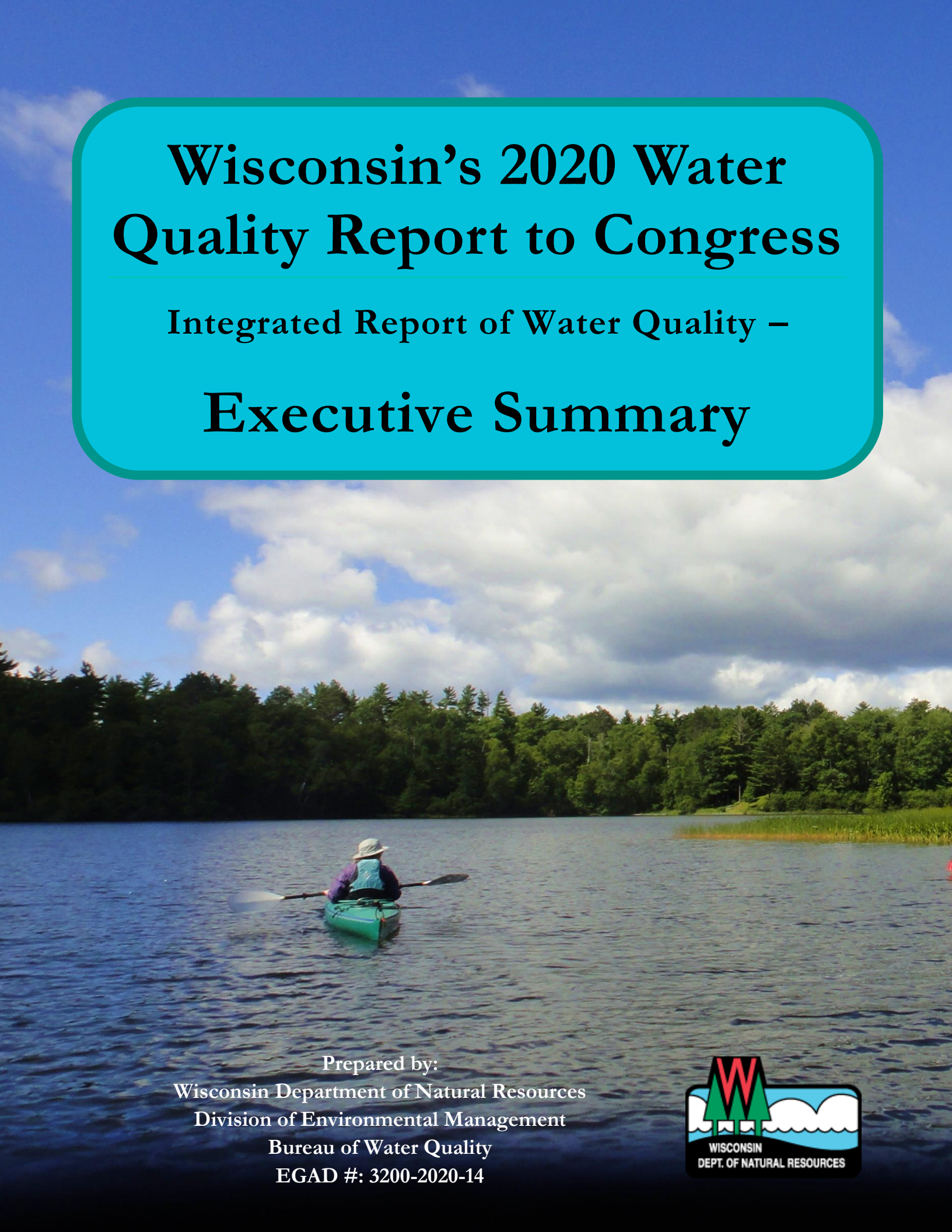
Wisconsin's 2020 Water Quality Report to Congress

Integrated Report of Water Quality –

Executive Summary



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Division of Environmental Management
Bureau of Water Quality
EGAD #: 3200-2020-14

WISCONSIN
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Cover photo: Kayakers on the Manitowish River. Taken by Katie Hein.

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Previous reports were published in 2018, 2016, 2014, 2012, 2010, 2008 (data submittal only), 2006, 2004, 2002, 2000, 1996, 1994, 1992, 1990, 1988, 1987, and earlier. WDNR's earlier documents are available for review at the GEF II building, 101 S. Webster Street, Madison. Later versions are available electronically.

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INTRODUCTION

Wisconsin hosts bountiful natural resources, including a variety of Great Lakes, inland lakes, rivers, streams, wetlands, aquifers, and springs. Every other year the Wisconsin Department of Natural Resources (WDNR) assembles water quality information and reports status and trends to the United States Environmental Protection Agency (EPA), which in turn shares this information with the United States Congress.

This executive summary report highlights the process and results of this 2020 Biennial Water Quality Report to Congress, which was last published April 2018. The Water Quality Report to Congress fulfills reporting requirements under Sections 303(d), 305(b), and 314 of the Clean Water Act.

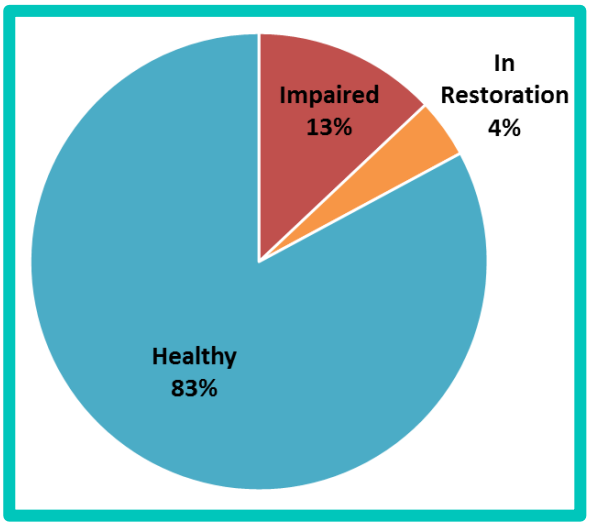


Figure 1. Percentage of evaluated waters on each Water Condition List, calculated by count.

KEY POINTS

- **83% of evaluated waters are healthy** (Figure 1).
- With the approval of the Wisconsin River Basin TMDLs (April 2019) and the Upper Fox & Wolf River Basin TMDLs (February 2020), the **number of pollutant listings covered by a TMDL increased by 92%.**
- The **number of waters and listings on the Impaired Waters List decreased by about 14%,** even accounting for changes in list definition.
- A total of **139 new pollutant listings were identified** in the 2020 update. Of the new listings, **19% are covered by a TMDL** restoration plan.
- A total of **115 listings were removed from the Impaired and Restoration waters lists** in the 2020 updates. The majority of removals were for mercury as a result of updated methods of listing.

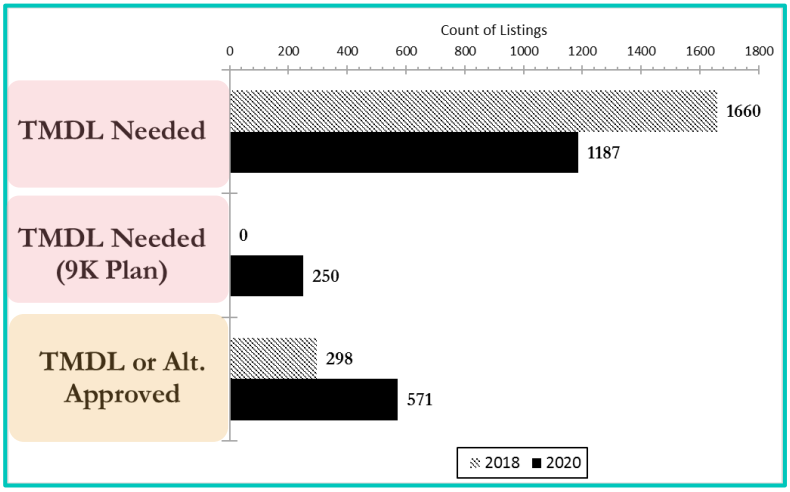


Figure 2. Changes between listing cycles 2018 and 2020 in number of listings with either a TMDL or Nine Key Plan identified. Red highlight indicates the Impaired Waters List and orange indicates the Restoration Waters List.

- The Water Condition Lists and subcategories better reflect water quality plans in place (Figure 2).
  - Listings covered by Total Maximum Daily Load (TMDL) plans or an EPA approved alternative are placed on the newly created Restoration Waters List, also referred to as the "In-Restoration" list.
  - Nine Key Element Plans are recognized as watershed plans and listings addressed are placed in subcategory 5W.

WISCONSIN'S WATER QUALITY

ASSESSMENT METHODOLOGY

WDNR's water quality assessment goal is to use clearly defined and publicly accessible methods for collection and analysis of data to ensure scientifically defensible assessment decisions. Wisconsin's Consolidated Assessment and Listing Methodology (WisCALM) was updated in 2020. A full version of the 2020 WisCALM guidance document is provided on WDNR's webpage.

WisCALM – Year 2020 Changes to Assessment Methodology

Restoration Waters List: These are impaired waters listings that have an EPA approved restoration plan like a Total Maximum Daily Load (TMDL) or Adaptive Management Plan (AMP). This list could also be considered an "In-Restoration" list. In past state summaries these waters were counted as part of the Impaired Waters List even though this is not how the list is defined by the Clean Water Act (CWA). To align with the CWA the Restoration Waters List was created to house these specific impairment listings.

Healthy Waters List: These are waters that show no impairment based on the parameters evaluated. Placement on the Healthy Waters List is determined by general and in-depth water quality evaluations. Waters with only a general assessment may have unknown issues with water quality.

A full description of all assessment methodology changes can be found in the 2020 WisCALM public comment period update supplemental document.

DATA USED FOR ASSESSMENTS

Data submitted by the public and data collected through WDNR's monitoring program are used for assessments. The monitoring data used to make assessment decisions are stored in the Surface Water Integrated Monitoring System (SWIMS) and the Fisheries Database. Assessment data for the State's Integrated Report are stored in the State's Water Assessment, Tracking and Electronic Reporting System (WATERS). The public can view spatial (or GIS) data and written information about each waterbody using the WDNR's interactive mapping tool, the Surface Water Data Viewer (SWDV), and the searchable water detail pages (http://dnr.wi.gov/water/watersearch.aspx).

Agencies and individuals submitting data for assessments must: meet minimum data requirements, demonstrate that sample collection occurred at appropriate sites during appropriate periods, and use certified laboratories for sample analysis. If the quality assurance procedures are not adequate, staff may use this data to initiate further investigations by Department staff. If quality assurance procedures are adequate, WDNR may use this data to assess the water for possible impairment listing.

WDNR may assist outside groups in the design and implementation of data quality procedures necessary for data to be used for assessments. WDNR staff will consult with EPA water quality criteria guidance, state Water Quality Standards (WQS), and use professional judgment to interpret the results of field sampling to determine whether or not WQS are achieved. Groups outside of WDNR who regularly collect and submit data to WDNR may work with staff at Central Office to upload data into the SWIMS database to be considered as part of our evaluation and assessment process.

WDNR also supports a Citizen Based Monitoring Program for rivers, streams and lakes. As stated in the WDNR's Water Resources Monitoring Strategy for Wisconsin, "If citizens follow defined methodology and quality assurance procedures, their data will be stored in a Department database and used in the same manner as any Department-collected data for status and trends monitoring defined in the Strategy." Citizen data are currently used for water quality assessments, including broad-scale statewide assessments.

2020 Water Condition Lists

These Water Condition Lists serve as a record of water quality across the state and are a starting point for water resource management. Changes in the Water Condition Lists are the result of restoration planning work, advances in monitoring and assessment technology, additional monitoring data, water quality restorations, and error correction. The number of waters and listings on the Impaired Waters List decreased by about 14%, accounting for prior differences in list definitions. With the approval of the Wisconsin River Basin

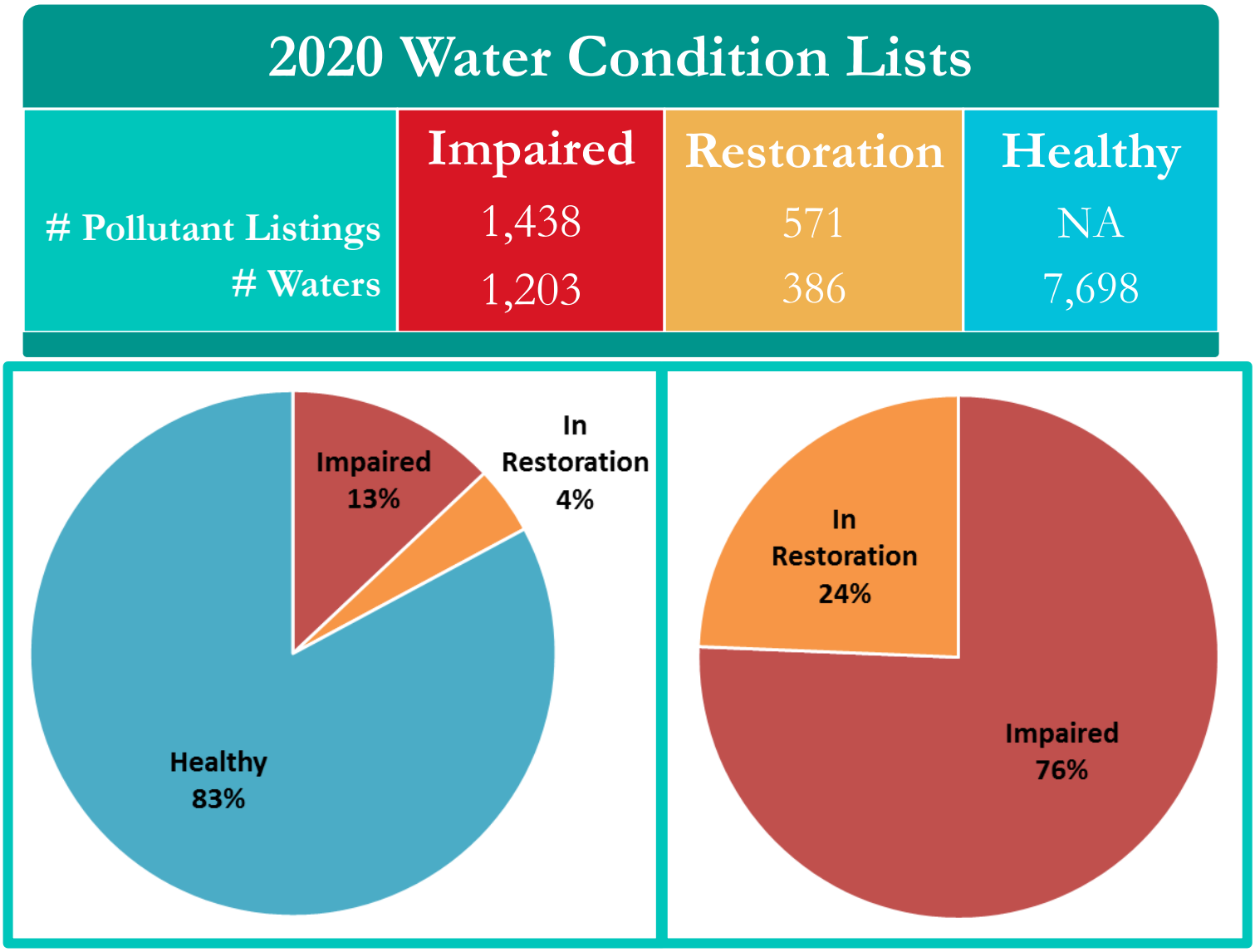


Figure 3. 2020 status of Wisconsin's Water Condition Lists in both the number of listings and number of waters. Pie charts are based on the number of waters and do not include waters not assessed.

TMDLs (April 2019) and the Upper Fox & Wolf River Basin TMDLs (February 2020), the number of pollutant listings covered by a TMDL increased by 92%. The Healthy Waters List increased by about 10%.

Of evaluated waters over 80% show no water quality impairment (Figure 3). In 2018 only 10% of listed waters were fully covered by a TMDL, while now it is 24%.

Impaired Waters List

The majority of pollutant listings, nearly 50%, are for phosphorus (Figure 5). This corresponds with the state's focus on nutrient reduction in our waterways (see Wisconsin's Nutrient Reduction Strategy). With the completion of two large TMDL basin projects the number of phosphorus listings on the Impaired Waters List decreased by 14%.

After phosphorus the most numerous listings are for mercury, PCBs, and sediment/Total Suspended Solids (Figure 6). Even with a large number of delistings for mercury and TMDL approvals for sediment and phosphorus the top 4 pollutants in the state remain the same as in 2018.

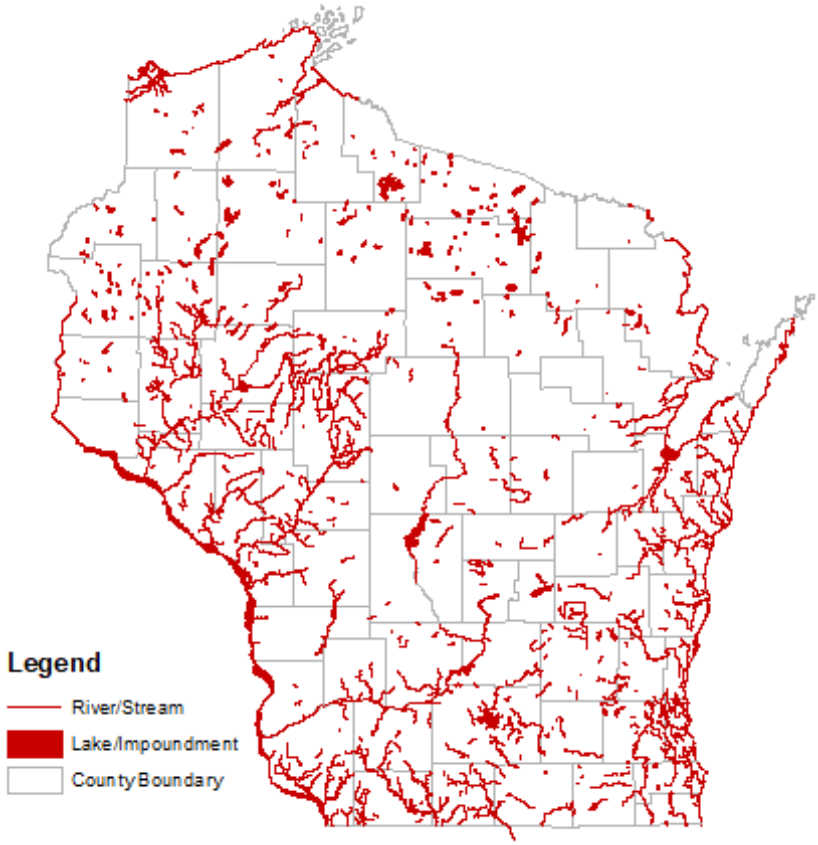


Figure 4. Location of 2020 impaired water listings across the state.

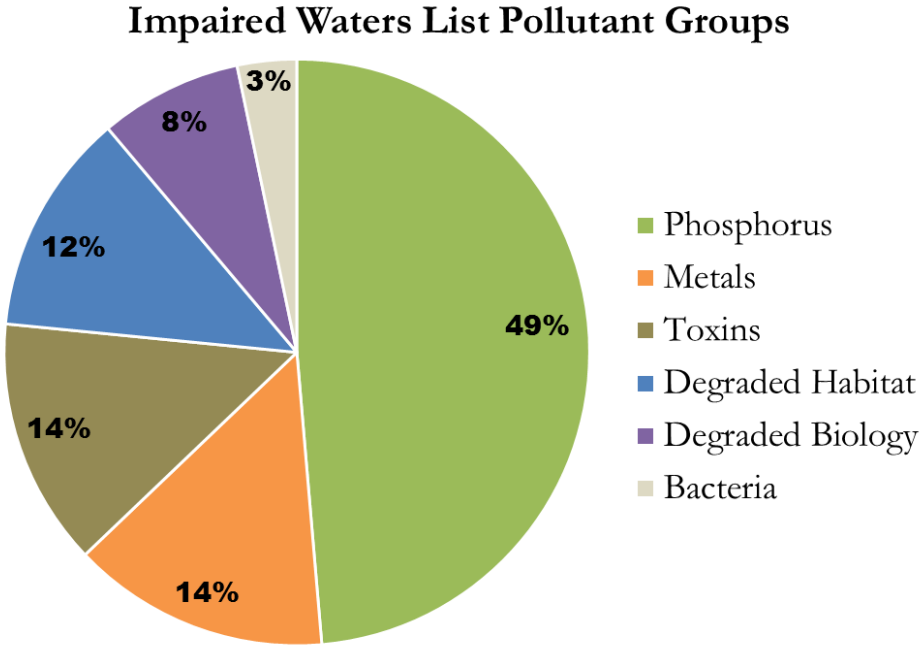


Figure 5. Breakdown of pollutant groups on the 2020 Impaired Waters List.

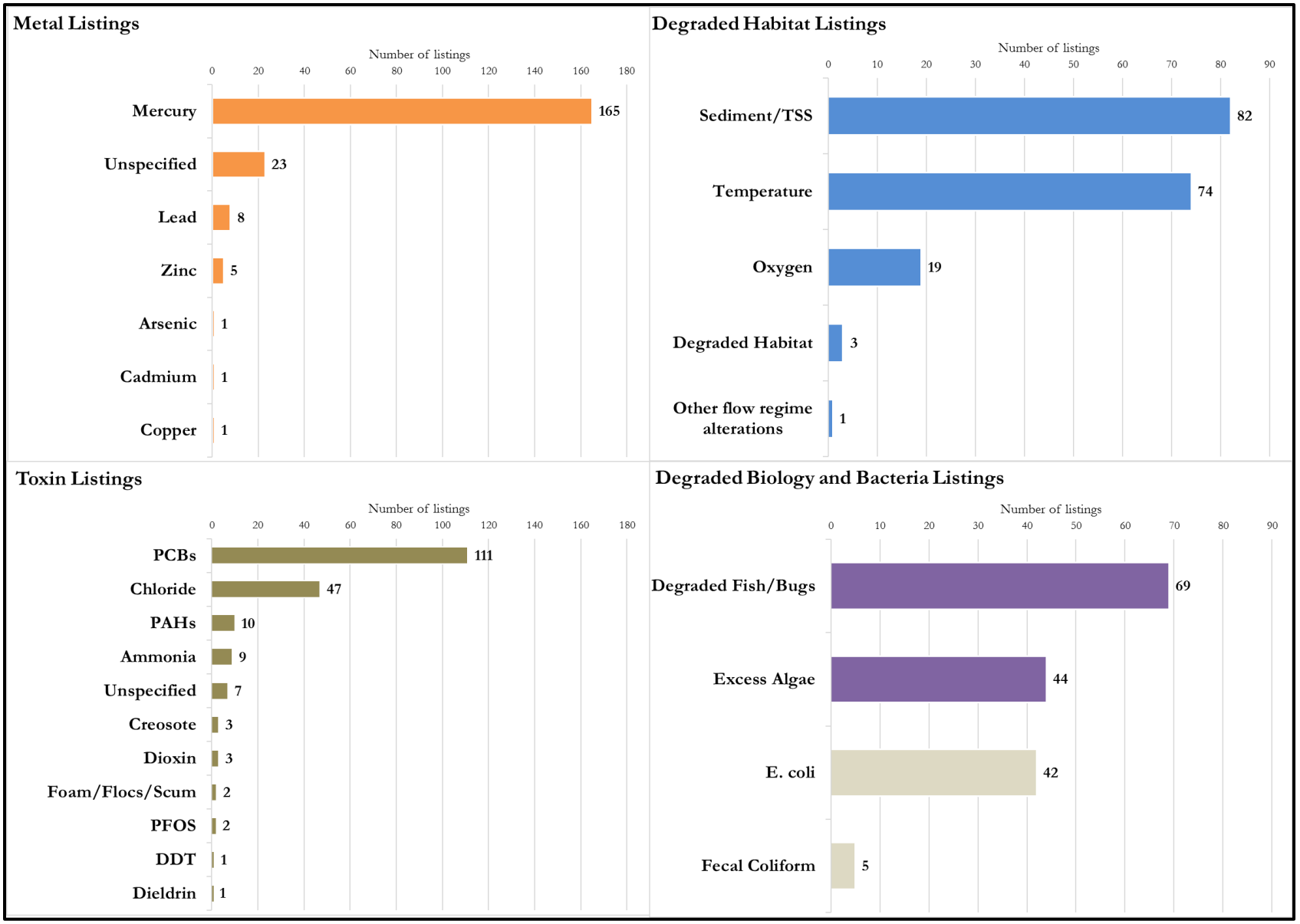


Figure 6. Breakdown of pollutants in each group on the 2020 Impaired Waters List. Degraded Biology listings are those with an Unknown Pollutant.

RESTORATION WATERS LIST

The majority of the listings covered by TMDLs are for phosphorus (61%) with sediment coming in second highest (33%) (Figure *8*). The Restoration Waters List grew by 160% with the approval of the Wisconsin River Basin TMDLs (April 2019) and the Upper Fox & Wolf River Basins TMDLs (February 2020).

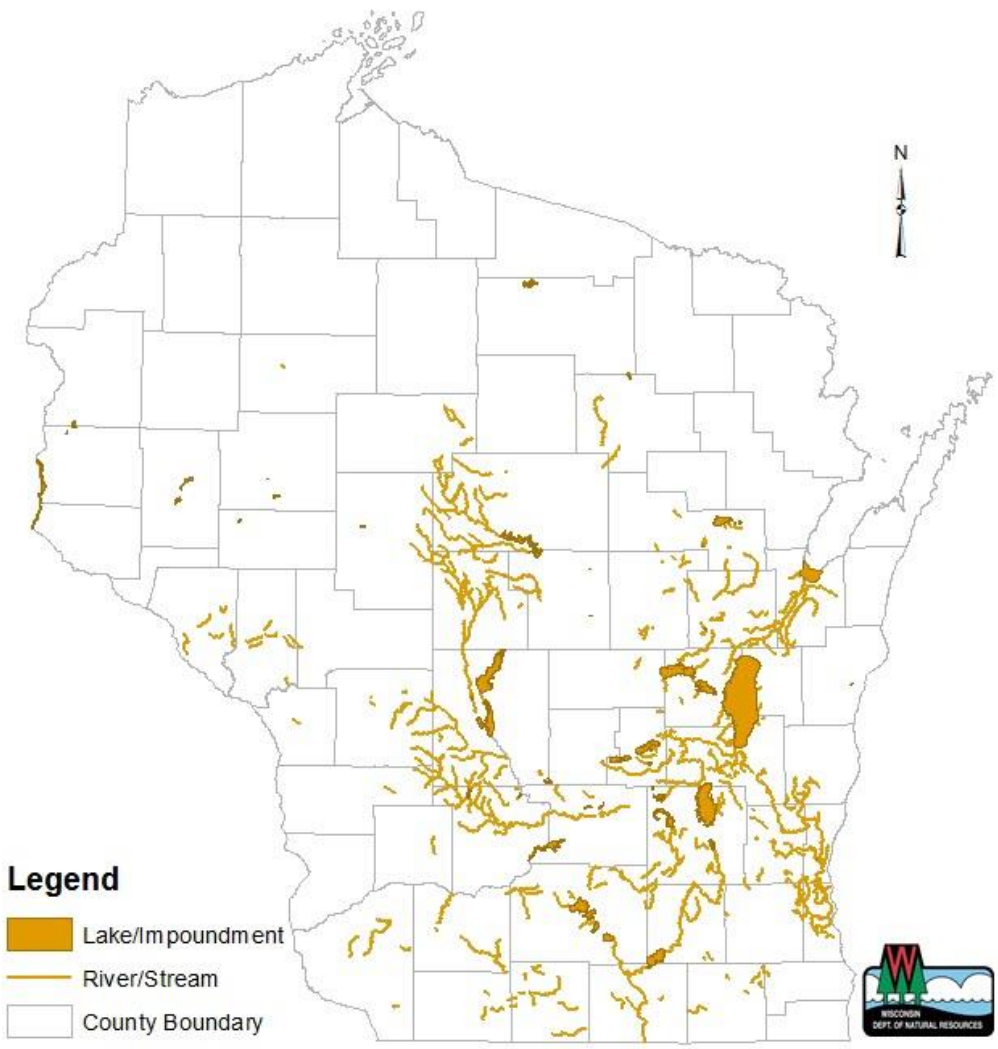


Figure 7. Location of 2020 in-restoration water listings across the state.

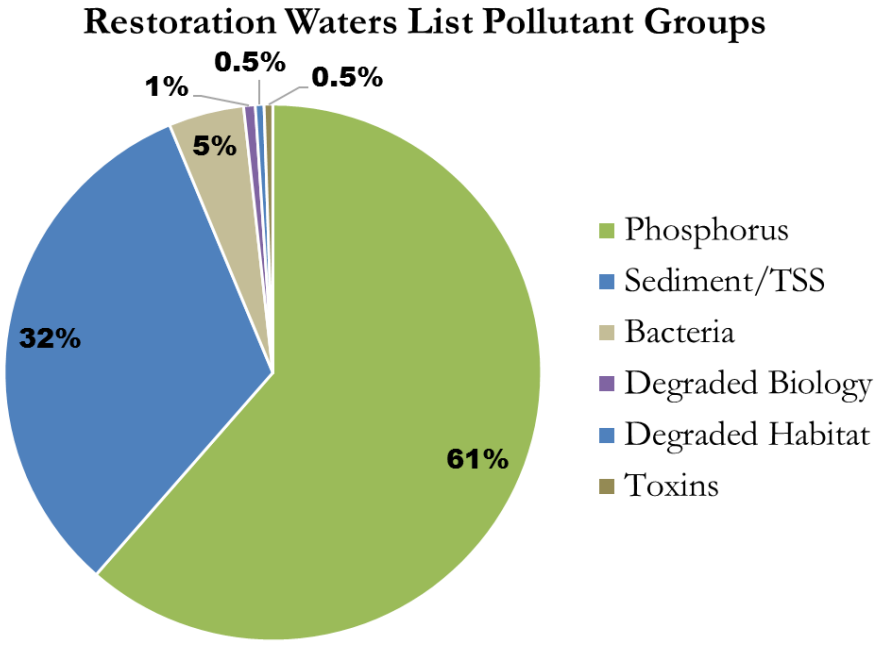


Figure 8. Breakdown of pollutant groups on the 2020 Restoration Waters List.

HEALTHY WATERS LIST

The Healthy Waters List increased by about 10% between the 2018 and 2020 assessment cycles. This increase was due to monitoring on new waterbodies and some delistings (see Pollutant Listing Removals section of this report). Placement on the healthy waters list is determined by general and in-depth water quality evaluations. General water quality evaluations include review of satellite photos, single bug or fish samples, and chemistry samples. Waters with only a general assessment may have unknown issues with water quality.

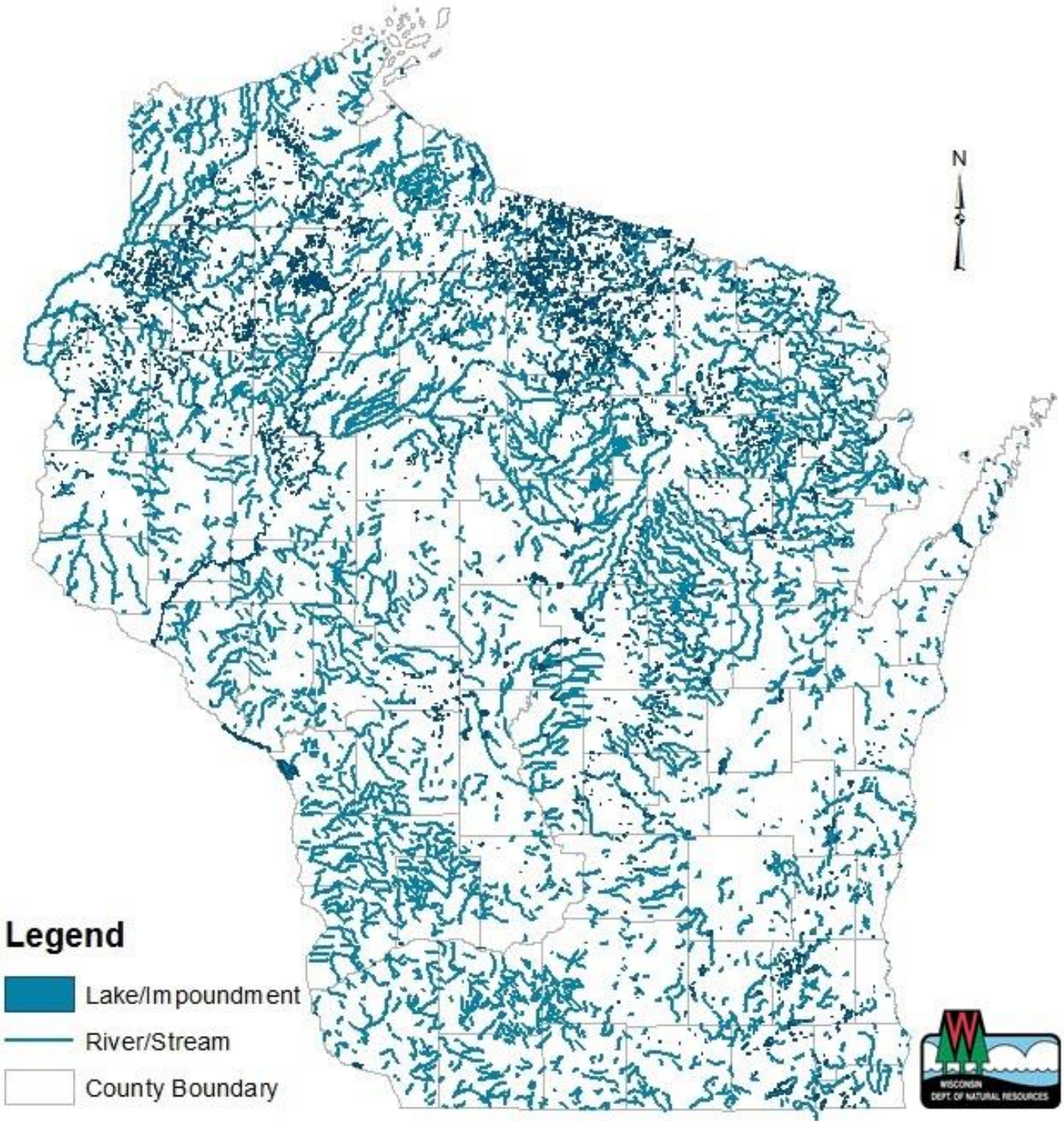


Figure 9. Location of 2020 healthy waters across the state.

New Pollutant Listings

A total of 139 new pollutant listings were identified in the 2020 update (Table *1*). Of the new listings, 21% are covered by a TMDL restoration plan.

Table 1. Count of new listings and listed waters in the 2020 cycle.

	Impaired	Restoration
# New Pollutant Listings	113	26
# New Waters	93	25

The majority of new listings are for phosphorus, a reflection of the state's focus on nutrient reduction across the state; the first step of remediation is determining where there are water quality issues. A portion of the new phosphorus listings and all of the new sediment listings are covered by a current TMDL (Figure *10*). The majority of the new pollutants require a TMDL.

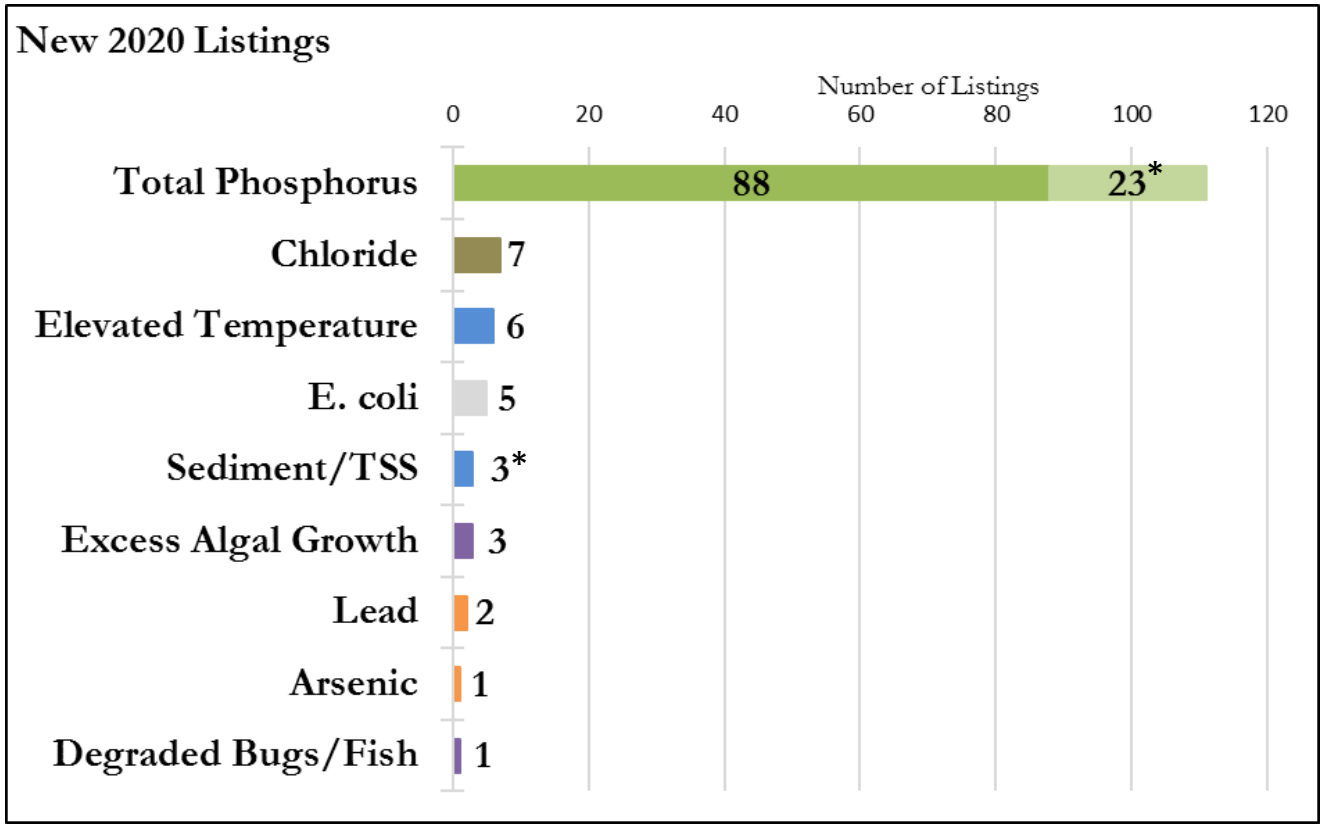


Figure 10. Pollutant breakdown of new listings on both the Impaired and Restoration Waters Lists. An asterisk (*) indicates inclusion on the Restoration Waters List.

New phosphorus listings are located all across the state and a majority of them (79%) require a TMDL (Figure *11*). A subset of the listings requiring a TMDL currently have an active Nine Key Element Plan that addresses phosphorus. Although 58% of new listings currently have no plan, several TMDLs and Nine Key Element Plans are in development.

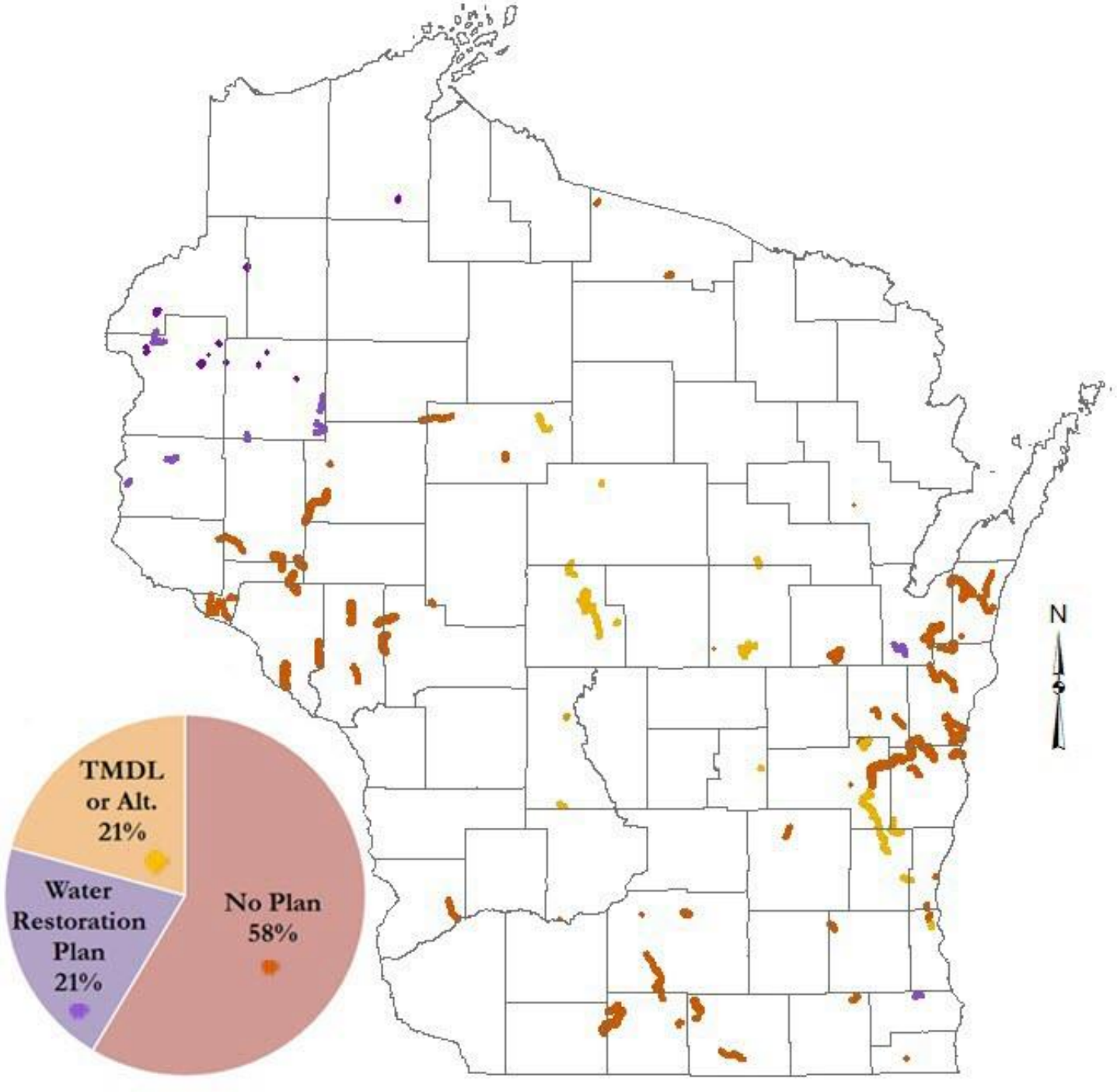


Figure 11. Map of new phosphorus listings across the state and a breakdown of plan availability for those new listings. Watershed Restoration Plan refers to active Nine Key Element Plans.

Protection TMDLs

Starting with the Milwaukee River Basin TMDL, approved in 2018, the TMDL program builds plans that outline pollutant loads for all waters in the watershed, regardless of whether or not it is on the impaired waters list. These plans are considered protection TMDLs because any newly listed water in the watershed will be covered by the TMDL. New listings within the following TMDLs resulted in placement on the Restoration Waters List:

- Milwaukee River Basin – 7 new listings;
- Wisconsin River Basin – 9 new listings;
- Upper Fox and Wolf River Basins – 14 new listings.

Only pollutants addressed by the TMDL are placed on the Restoration Waters List.

Northeast Lakeshore TMDL Development

Monitoring was done across the Northeast Lakeshore TMDL area to add more water quality data to the analysis. This monitoring resulted in 20 additional phosphorus-listed waters, with 15 of those being newly listed waters. Currently there is no restoration plan in place for these new listings (part of the 58% in Figure *11*). There are 60 phosphorus and/or sediment impaired waters within the TMDL boundaries (Figure 12).

Holly Stegmann, DNR, samples a river in the NE Lakeshore TMDL area, 2018.

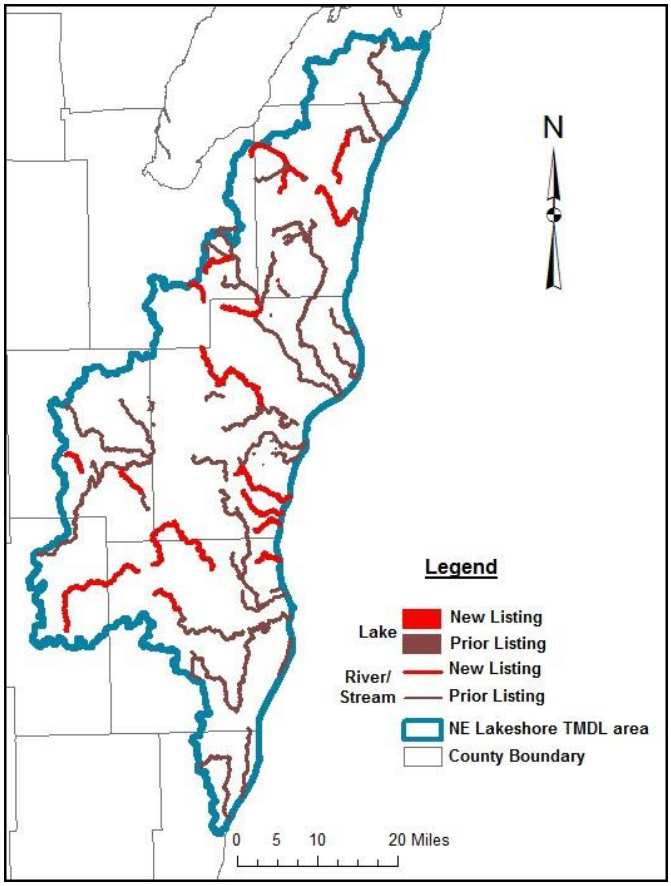


Figure 12. Map of phosphorus listings, new and old, to be covered by the NE Lakeshore TMDL once developed.

Pollutant Identification

Four listings with either "Pollutant Unknown" or "Unspecified Metals" were removed and replaced by specific pollutants based on current monitoring data (Table *2*).

Table 2. Listed waters with a specific pollutant identified during the 2020 assessment process.

County	WBIC	AU ID	Waterbody Name	Impairment	Impairment Listing Year	Identified Pollutant
Kewaunee	90700	10169	Kewaunee River and Marsh	Chronic Aquatic Toxicity	1998	Arsenic
Milwaukee	20000	10008	Beaver Creek	Chronic Aquatic Toxicity	1998	Chloride
Burnett	2649800	16715	Wood Lake	Excess Algal Growth	2014	Total Phosphorus
Buffalo, Pepin	1819300	5514178	Harvey Creek	Degraded Biological Community	2016	Total Phosphorus
Rock	883700	13625	Allen Creek	Degraded Biological Community	2016	Total Phosphorus

Watershed Restoration Plans

The state's Nine Key Element Plans are considered watershed restoration plans, a distinction newly made for the 2020 assessments. Nine Key Element Plans do not reach the level of detail needed to place a water on the Restoration Waters List, however they are noted with a new category (Category 5W) to recognize the work being done on the ground. Of the new phosphorus listings, 21% have a Nine Key Element Plan (Figure *11*). Of all the phosphorus listings in the state that do not have a TMDL or alternative, 27% are covered by a Nine Key Element Plan.

Nine Key Element Plans occur in TMDL areas (Figure 13). A listing covered by an approved TMDL and a Nine Key Element Plan is counted under the TMDL.

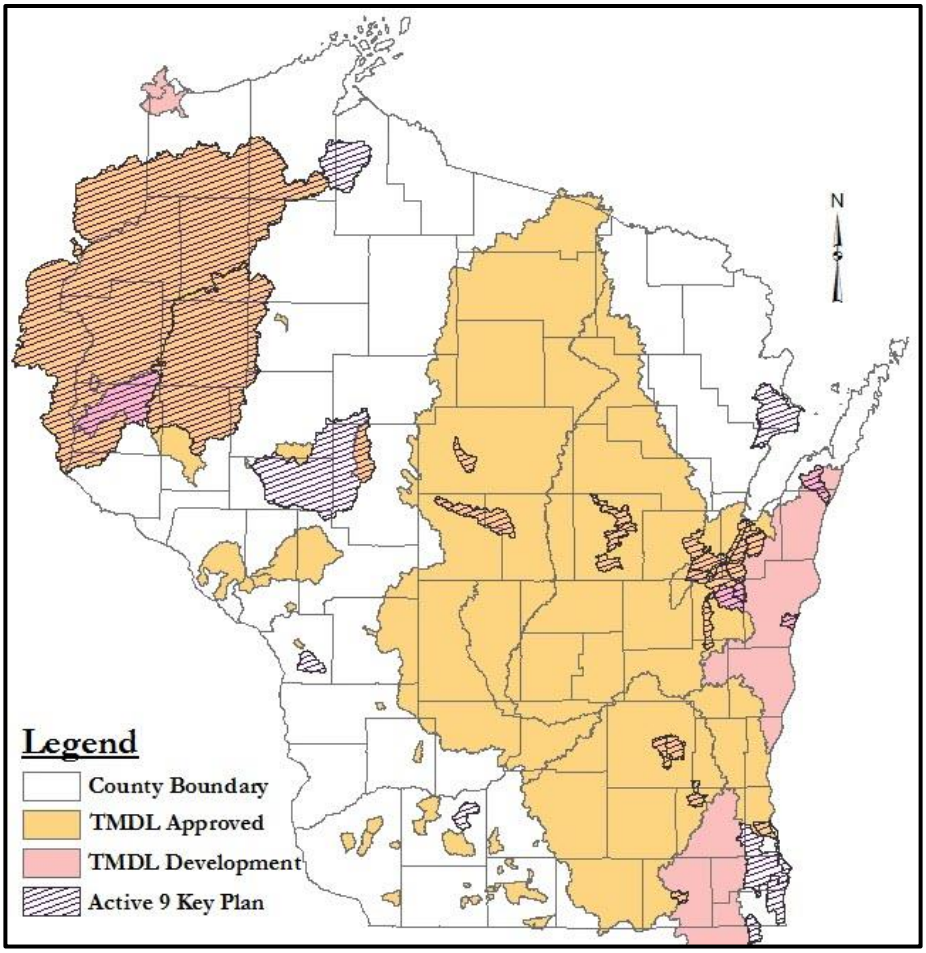


Figure 13. Active Nine Key Element Plans and TMDL areas.

Chloride

The seven new chloride listings are concentrated in and around Milwaukee County (*Figure 14*). Chloride is routinely collected as part of the state's Long-Term Trend monitoring and through a Water Action Volunteer road salt study. Increased use of road salt during the winter has correlated with an increase in waters with chloride-related aquatic toxicity. Chloride pollution can also come from sidewalk salt and water softeners.

Excess sidewalk salt.

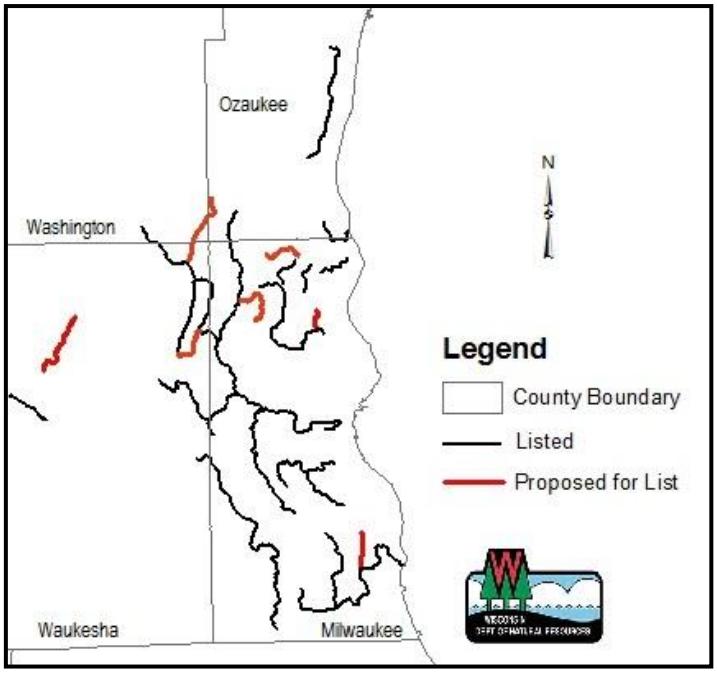


Figure 14. Current and proposed chloride listings in the Milwaukee County area.

Contaminated Sediment Sites

There were two sediment sites in the state that, after water quality and sediment sampling, were added to the Impaired Waters List.

La Crosse River Marsh: The La Crosse River Marsh, home to the former La Crosse Gun Club from 1929 to 1963, was added to the impaired waters list due to high lead (Pb) levels in wetland sediment. Investigations in the 1990s found lead shot density as high as 41,600 pellets/m^2. Further studies by the University of Wisconsin and DNR found just over 21% of sample sites exceeded EPA's soil contamination threshold of 400 mg/kg. The East and West sites (Figure 15) had the highest levels of lead and well exceeded the probable effect concentration of 130 mg/kg outlined in DNR's Consensus-Based Sediment Quality Guidelines. For more information on this site please refer to the 2014 report: Monitoring and Assessment of Legacy Lead Contamination in the La Crosse River Marsh.

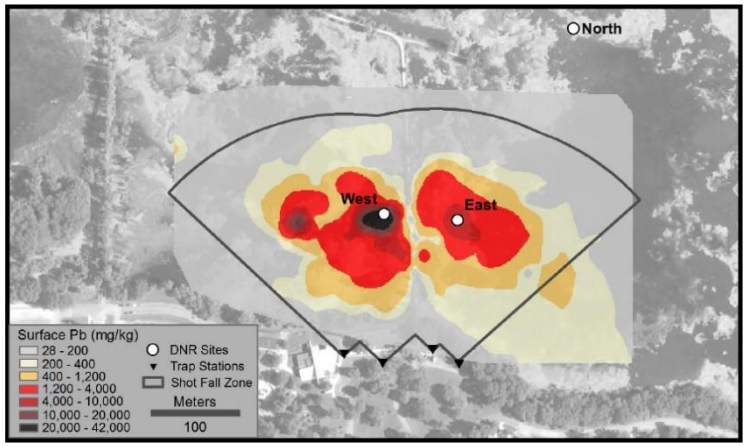


Figure 15. Lead concentrations within the La Crosse River Marsh at the former La Crosse Gun Club. Figure from the 2014 DNR and UW-La Crosse monitoring report.

Kewaunee River and Marsh: The Kewaunee River and Marsh are part of the Kewaunee River Wetland Complex, a state Area of Special Natural Resource Importance (ASNRI). The river and marsh were originally listed in 1998 for Chronic Aquatic Toxicity due to an unspecified metal. Monitoring on the marsh has shown high levels of arsenic in the sediment, determined to be from historical rail car spillage at the site (Figure 16). This site is currently owned by the DNR and has been undergoing remediation through the Remediation and Redevelopment program. In 2019 site specific remedial action performance standards were evaluated and developed following a process that considers spatial distribution and mass of arsenic within the site.

Figure 16. Site map of the Kewaunee River and Marsh listing and historical arsenic spill site. Map modified from the 2018 Site Investigation Summary and Data Package.

POLLUTANT LISTING REMOVALS

There was a total of 115 listings removed from the impaired and restoration waters lists in the 2020 updates (Figure *17*). The majority of removals were for mercury as a result of updated methods of listing.

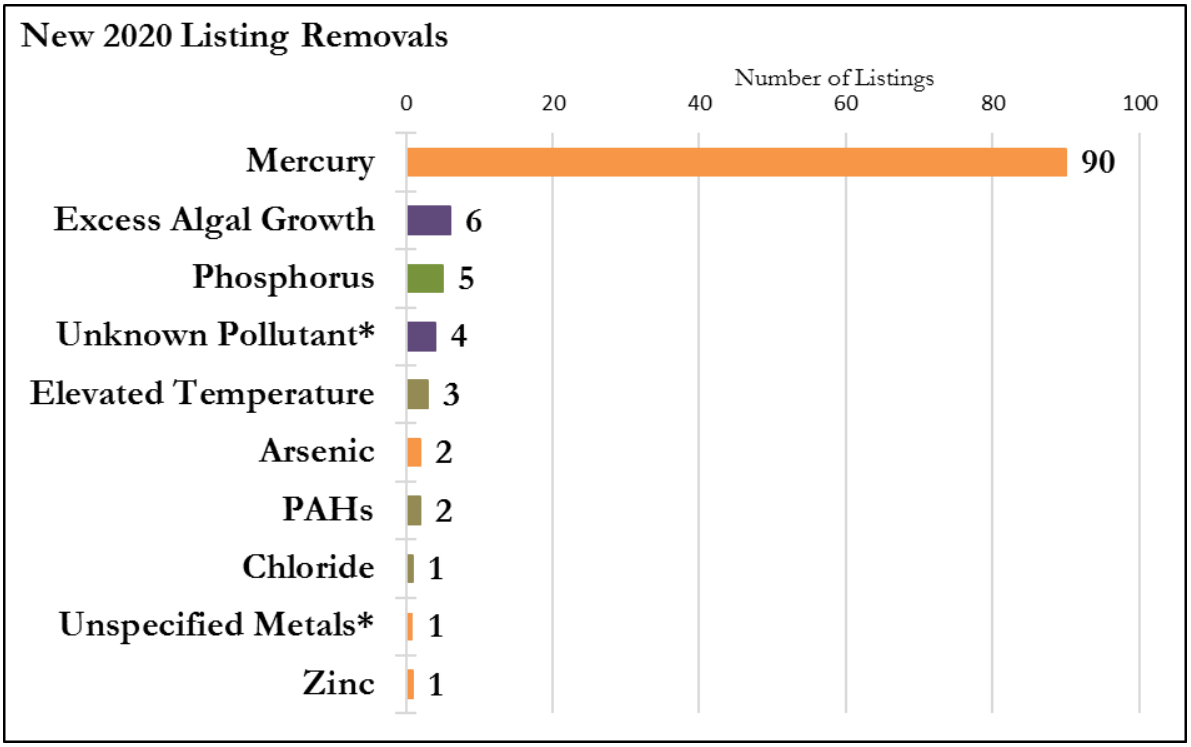


Figure 17. Listings removed from the Impaired and Restoration Waters Lists during the 2020 updates. Pollutants marked with * indicate listing replacement with an identified pollutant.

List Cleanup: Mercury

Impairment listings indicate that there is a pollutant in a waterbody that needs to be addressed, however sometimes listing methodology changes as programs better integrate to address certain pollutants. The way the impaired waters list addresses mercury from atmospheric deposition shifted in 2001. In 2001 the DNR issued a statewide mercury fish consumption advisory for all waterbodies to better protect developing fetuses and young children. While the general statewide mercury advisory covers the all of waters in the state, specific waters with higher mercury levels receive an additional specific fish consumption advisory that is more restrictive. Waters with a specific fish consumption advisory are placed on the impaired waters list.

History of Wisconsin's fish consumption advisory program: Wisconsin's Fish Contaminant Monitoring and Advisory Program: 1970 – 2010.

Before the general statewide mercury advisory any water with mercury consumption restrictions was placed on the impaired waters list. After 2001 there were over 100 lakes on the impaired waters list that no longer had a specific fish consumption advisory for mercury because people could follow the statewide advisory. These listings caused undue concern on behalf of residents and visitors because it appeared that those 100 or so lakes had poorer water quality than neighboring lakes, even though neither had mercury levels higher than the state advisory level.

As of the 2018 impaired waters list there were 90 remaining waters with no specific mercury fish consumption advisories. Cleanup of these listings resulted in the removal of 71 waters from the impaired waters list and 19 listing removals from otherwise listed waters (Figure 18).

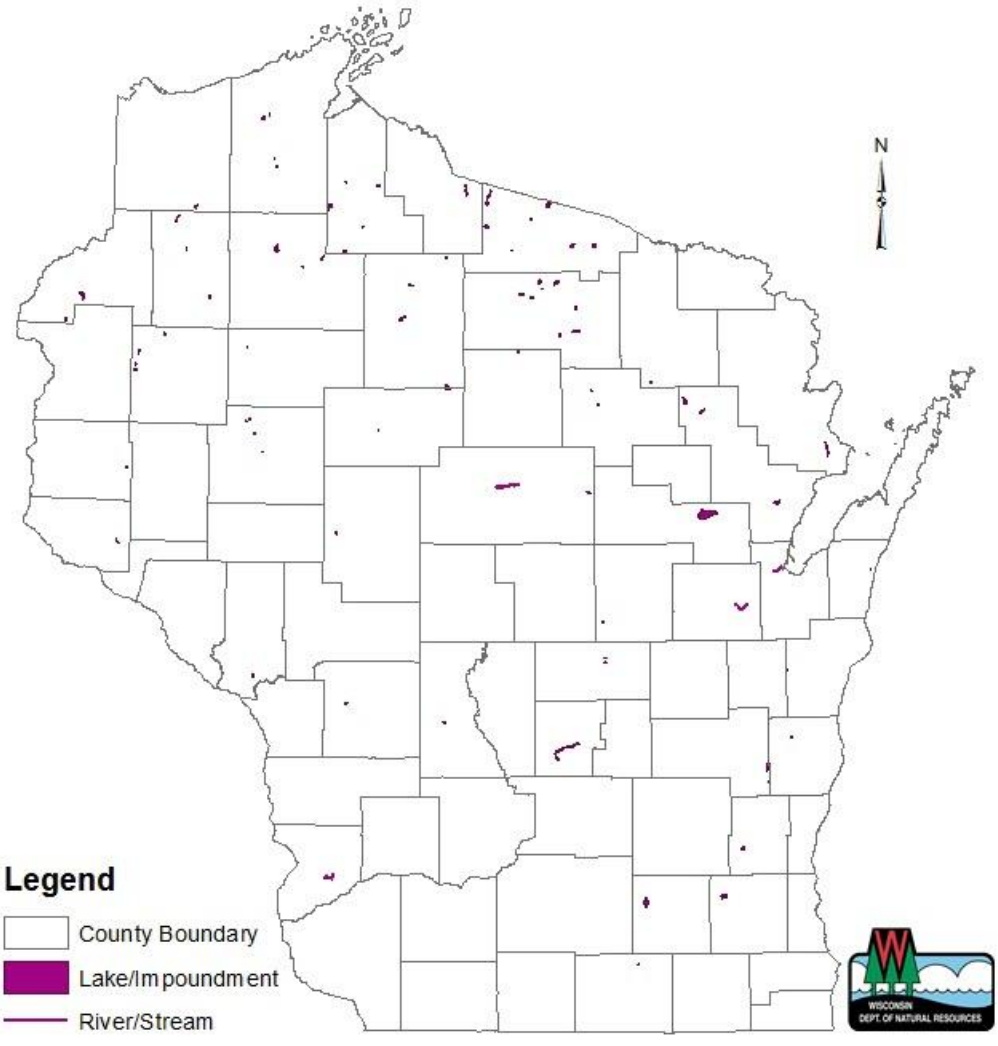


Figure 18. Map of waters with a mercury listing removed for the 2020 list updates.

Sediment Remediation Progress

Menominee River Area of Concern (AOC): Four listings, two each for Arsenic and PAHs, were removed based on the sediment remediation work done in the Menominee River Area of Concern (AOC). Removal of contaminated sediment started in 2012 and was completed in 2014. Post-remediation sampling began in late 2014; results of those samples can be found in the *Sampling Summary Report Great Lakes Legacy Act Lower Menominee River Tyco Site Adjacent to the Tyco Fire Products LP Facility, Marinette, Wisconsin*. Multiple sites in the AOC were addressed including the Ansul/Tyco Site, Menekaunee Harbor, and the Wisconsin Public Service Corporation Marinette – Coal Tar and PAHs Site (Figure 19).

Figure 19. Restoration site along the Menominee River in the Menominee River Area of Concern. Sediment Cleanup sites:

1) Green Bay Paint Sludge Site, City of Menominee in Michigan.
2) Wisconsin Public Service Corporation (WPSC) Marinette Manufactured Gas Plant Site.
3) Ansul/Tyco Arsenic Site.
4) Menekaunee Harbor

Map from 2015 RAP Update.

Sheboygan River Area of Concern (AOC): The PCB contaminated sediment impairment was removed from the Sheboygan River between the harbor and the Sheboygan Falls dam (Figure 20). This segment is still listed for PCBs in fish tissue, but the sediment PCB load was removed through sediment remediation work. The Beneficial Use Impairment (BUI) of the AOC for dredging restrictions was removed in July 2015. Follow up monitoring has shown no aquatic toxicity.

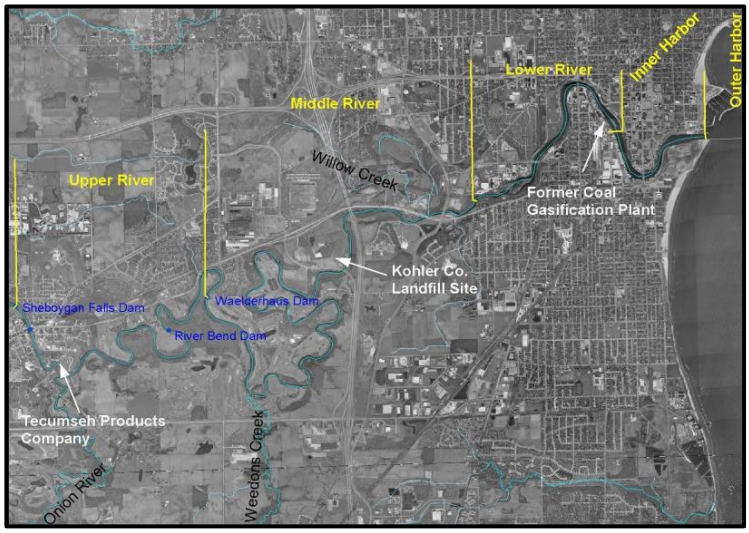


Figure 20. Map of the Sheboygan River Area of Concern. Sediment Cleanup sites:

- Tecumseh Products Company.
- Kohler Co. Landfill Site.
- Camp Marina (a former coal gasification plant).

Map from 2008 Delisting Targets.

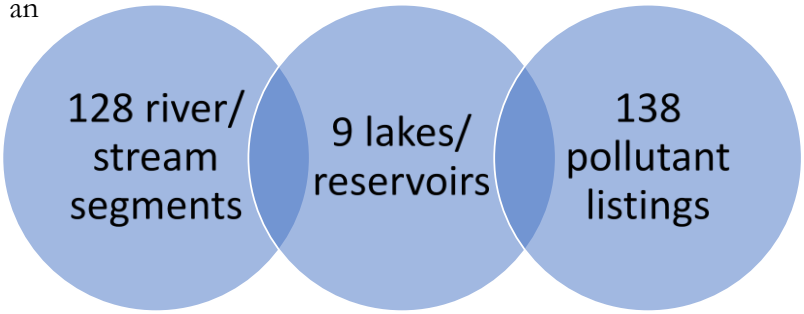
Restoration of Wisconsin's Waters

One of the underlying goals of the CWA is to restore all impaired waters so they meet applicable water quality standards. One of the key tools to meet this goal is the development of a TMDL. A TMDL assesses all the sources of a pollutant that is causing or contributing to the impairment of a waterbody and determines the amount of pollutant that the waterbody can assimilate and still meet water quality standards. TMDL pollutant loads are determined in consideration of in-water targets that must be met for the waterbody to respond favorably.

Newly Approved TMDLs

Wisconsin River Basin

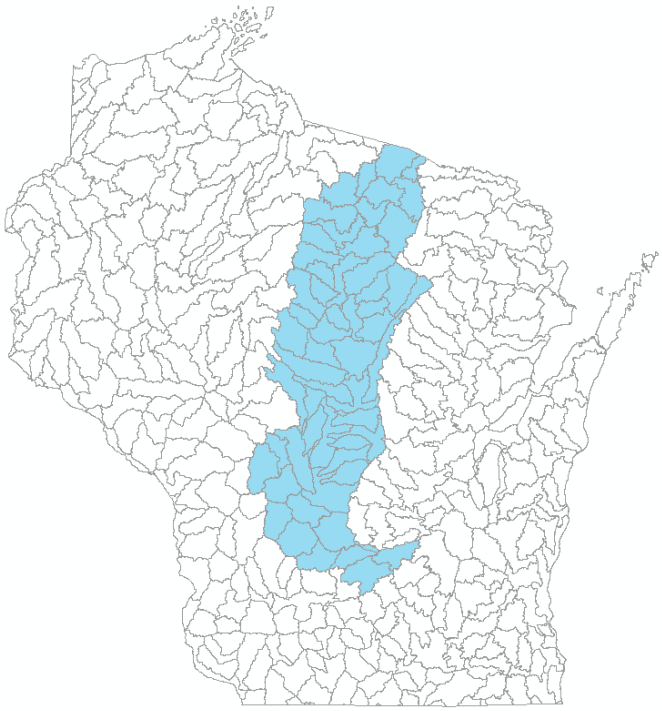
Wisconsin's namesake river, the Wisconsin River, is an important recreational, industrial, and natural resource to the State of Wisconsin. In April 2019, the USEPA approved a TMDL addressing phosphorus impairments for 120 river segments and eight lakes due to excess phosphorus. With the 2020 listing updates the TMDL now includes 128 river segments and 9 lakes and impoundments.



Number of listed waters and pollutant listings addressed by the Wisconsin River Basin TMDL for phosphorus in 2018 – 2020.

TMDL analysis found that the applicable statewide phosphorus criteria of 40 µg/L for Petenwell and Castle Rock Lakes were more stringent than necessary to achieve their recreational and aquatic life designated uses. Based on this analysis, the Department has proposed a phosphorus site-specific criteria (SSC) of 55 µg/L for Castle Rock Lake and an SSC of 53 µg/L for Petenwell Lake.

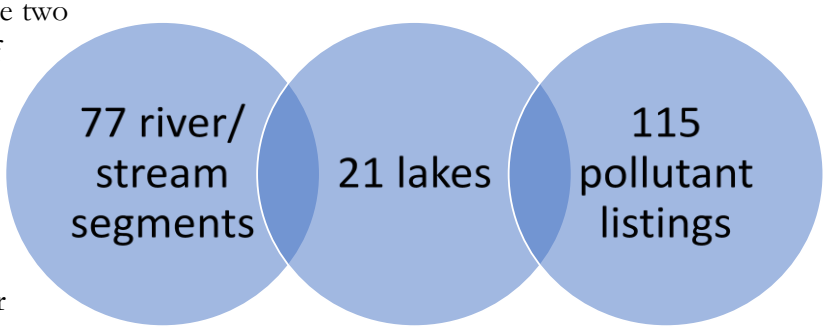
Lake Wisconsin is classified as an impounded, flowing water due to its summer water residence time of less than 14 days, therefore the TP criterion that applies to the lake is equal to the criterion of the inflowing river (100 µg/L). The TMDL analysis found that this criterion allows frequent nuisance algal blooms and is not protective of recreational uses. The Department is recommending a phosphorus SSC for Lake Wisconsin of 47 µg/L. The Department is currently pursuing adoption of these SSC into rule. Because the TMDL was developed prior to adoption of these SSC, the TMDL contains two sets of allocations, one set based on the current criteria, the other based on the proposed SSC.



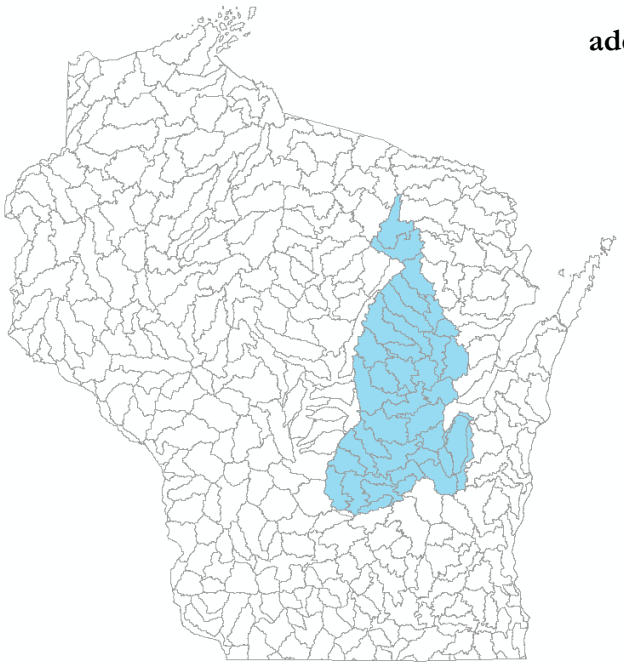
Location of Wisconsin River Basin TMDLs.

Upper Fox/Wolf River Basins

The Upper Fox and Wolf River Basins (UFW) are two separate basins that converge within a series of pool lakes in Winnebago County (Lake Poygan, Lake Winneconne, and Lake Butte des Morts) before finally flowing collectively into Lake Winnebago. All the surface water drainage to Lake Winnebago is contained within these two basins. Lake Winnebago outlets into the Lower Fox River Basin, where it eventually flows into Green Bay. All four lakes are currently impaired due to excess phosphorus and are experiencing severe algae problems that interfere with recreation.



Number of listed waters and pollutant listings addressed by the Upper Fox/Wolf River Basin TMDLs in 2018 – 2020.



Location of Upper Fox/Wolf River Basin TMDLs.

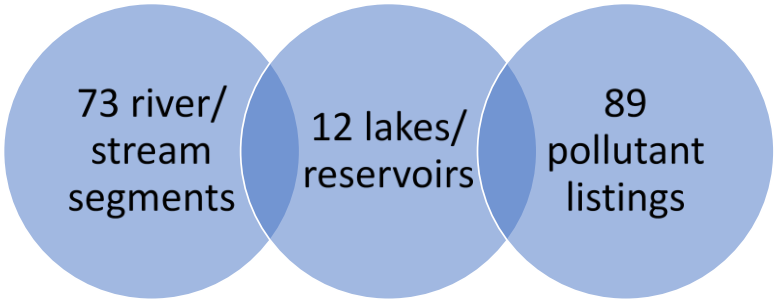
Lake Winnebago is the source of drinking water for 250,000 people. The presence of reoccurring harmful algal blooms puts this drinking water source at risk of cyanotoxins breaking through the water treatment process.

The DNR, together with many partners throughout the basins, are working to improve water quality within the Upper Fox and Wolf Rivers, which includes many lakes and tributaries. The Total Maximum Daily Load (TMDL) study and implementation plan will provide a strategic framework and prioritize resources for water quality improvement in the UFW. This TMDL was submitted to EPA for approval in January 2020 and approved February 2020.

TMDLs in Development

Northeast Lakeshore Basin

The Northeast Lakeshore TMDL is currently in the development phase. Initial stream monitoring for the Northeast Lakeshore TMDL began in 2016 and expanded to 43 locations in 2017 when the Wisconsin legislature appropriated funding for developing the Northeast Lakeshore TMDL. The resulting TMDL will address 73 streams and 12 inland lakes impaired from



Number of listed waters and pollutant listings addressed by the Northeast Lakeshore TMDLs when completed as of 2020 lists.

phosphorus or sediment in the basins that make up Wisconsin's northeast lakeshore. Completion and EPA approval of the Northeast Lakeshore TMDL is expected in 2022.

Josh Benes, DNR, samples a river in the NE Lakeshore TMDL area, 2018.

Location of Northeast Lakeshore TMDLs.

Fox River-Illinois TMDL

The development of a TMDL for phosphorus and TSS for the Fox River-Illinois has been initiated. Monitoring plans have been developed and monitoring for water quality and flow was initiated at the beginning of 2020. EPA contractor support will assist in the collection and analysis of samples. WDNR modeling staff have begun data collection for the modeling process and have reached out to Illinois and their contractor, CDM, to discuss Illinois' soon to be submitted TMDL covering phosphorus impairments for the series of lakes located immediately south of the Wisconsin – Illinois border. The TMDL for Illinois' lakes will inform allocations in the Fox River Basin for Wisconsin. Allocations must be set so that the phosphorus water quality criteria are attained both for local waters and the downstream lakes.

Complete TMDL updates for the 2018 – 2020 assessment cycle are available in the full report to Congress.

TMDL Alternatives

Wisconsin's Adaptive Management Plans are the only TMDL-alternative plans approved by the EPA for the state. Each new plan is not automatically approved as a TMDL-alternative, instead they go through an EPA review like TMDLs. Plans that meet EPA requirements have acceptable pollution control

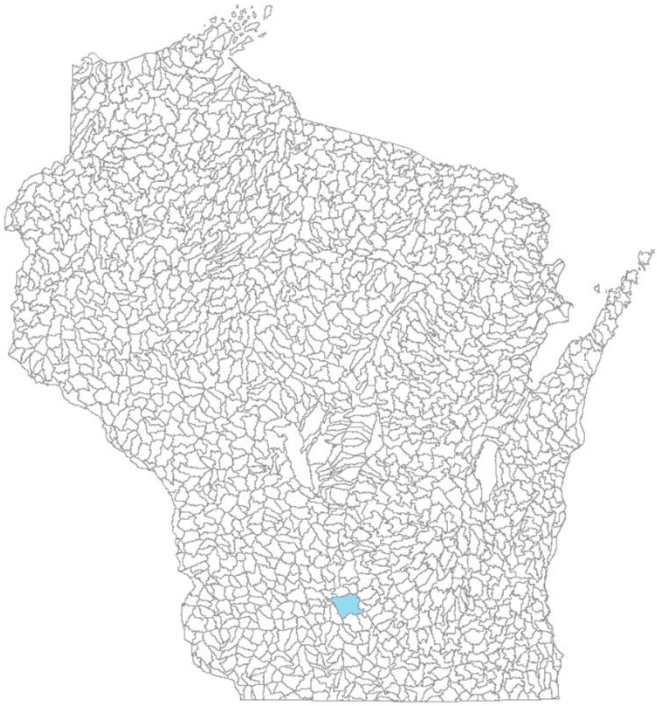
requirements and available funding for implementation.

Adaptive management is a phosphorus compliance option that allows point and nonpoint sources (e.g. agricultural producers, storm water utilities, developers) to work together to improve water quality in those waters not meeting phosphorus water quality standards. This option recognizes that the excess phosphorus accumulating in our lakes and rivers comes from a variety of sources, and that reductions in both point and nonpoint sources are frequently needed to achieve water quality goals. By working in their watershed with landowners, municipalities, and counties to target sources of phosphorus runoff, point sources can minimize their overall investment while helping achieve compliance with water quality-based criteria and improve water quality.

Dane-Iowa Wastewater Treatment Plant (WWTP) Adaptive Management Plan

The Dane-Iowa WWTP adaptive management plan is the only plan currently approved as a TMDL-alternative because it models the phosphorus loading in the watershed, identifies point and non-point sources, outlines management practices and their potential load reduction, identifies partners, and demonstrates financial support.

Vermont Creek, a stream covered by the Dane-Iowa AMP, being sampled for fish.



Location of Dane-Iowa Adaptive Management Plan. (HUC-12s)

CONCLUSIONS

With bountiful water resources, over 5 million residents, and up to 112 million annual visitors, the state of Wisconsin works diligently to protect water quality, biological integrity, and recreation opportunities. The Water Condition Lists are a first step in managing Wisconsin's waters, determining if protection or restoration is required. In the past two years, 2018 – 2019, monitoring was done across the state, resulting in new pollutant listings and delistings. The majority of new listings were for phosphorus and the majority of delistings were for mercury fish consumption advisories due to a cleanup of the Impaired Waters List. Two large-scale TMDLs were approved and one AMP was approved as a TMDL-alternative, which, in addition to the list cleanup, reduced the Impaired Waters List by 14%. The number of waters identified as not impaired and placed on the Healthy Waters List increased by about 10%. Many DNR programs and partners continue to work together to manage the state's water resources; a significant amount of work was done during the 2020 reporting cycle.

Great Lakes Optimism! **by Titus Seilheimer. Taken at Baileys Harbor and submitted to DNR as part of the 2019 Wisconsin's Great Waters Photo Contest.**