

# Update for New Impaired Water Listings:

## “Total Maximum Daily Loads for Total Phosphorus in the Wisconsin River Basin”

Submittal to U.S. Environmental Protection Agency



01/19/2022

Including Adams, Clark, Columbia, Dane, Forest, Jackson, Juneau, Langlade, Lincoln, Marathon, Monroe, Oneida, Portage, Price, Richland, Sauk, Shawano, Taylor, Vernon, Vilas, Waushara, and Wood Counties, Wisconsin

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**APPENDIX S.**

**TMDL Status for Impaired Waters on the 2020 and 2022 Listing Cycles**

**Appended November 2021 to the EPA approved “Total Maximum Daily Loads for Total Phosphorus in the Wisconsin River Basin**

The “Total Maximum Daily Loads for Total Phosphorus in the Wisconsin River Basin” (Wisconsin River Basin TMDL) was approved by the U.S. Environmental Protection Agency (EPA) in April 2019 with subsequent approval in July 2020 of the site-specific criteria derived allocations contained in Appendix K. A full copy of the Wisconsin River Basin TMDL and its appendices can be found at:

<https://dnr.wisconsin.gov/topic/TMDLs/WisconsinRiver/index.html>

Since EPA’s approval of the Wisconsin River Basin TMDL, additional waterbodies have been assessed and Appendix S, which is being appended to the Wisconsin River Basin TMDL report, provides a summary of waterbodies listed during the 2020 and 2022 listing cycles, as well as a waterbody that was inadvertently missed from the 2014 listing cycle. These waterbodies are located within the study area of the Wisconsin River Basin TMDL. Table S-1 summarizes the listing status of these waterbodies. Details on Wisconsin’s assessment and listing process as well as definitions for the listing categories can be found at: <https://dnr.wisconsin.gov/topic/SurfaceWater/WisCALM.html>

**Table S-1. Waterbodies and Listing Status**

Waterbody Name	WATERS ID (AU ID)	WBIC	EPA ID	Year Listed	Listing Status <sup>(1)</sup>	TMDL Status	Listing Category <sup>(2)</sup>
E. Fk. Hemlock Creek	12227	1367800	WI10001884	2020	TMDL Approved	Covered	Category 4A
Hemlock Creek	18327	1366300	WI8154784	2020	TMDL Approved	Covered	Category 4A
Moccasin Creek	12268	1388000	WI10026140	2020	TMDL Approved	Covered	Category 4A
Necedah Lake	424120	1354300	WI10008636	2020	303(d) Listed	Not Covered	Category 5A
Silvernagle Creek	18369	1467400	WI10006332	2020	TMDL Approved	Covered	Category 4A
South Squaw Creek	12362	1420500	WI10001975	2020	TMDL Approved	Covered	Category 4A
Unnamed Creek (T23n,R6e, S26,Sesw,7 2)	12272	1397200	WI8154892	2020	TMDL Approved	Covered	Category 4A
Unnamed Stream	6921935	1281500	WI10042164	2020	TMDL Approved	Covered	Category 4A
Unnamed Trib to W Fk Little Rib River	5513762	1453200	WI10033020	2020	TMDL Approved	Covered	Category 4A

Waterbody Name	WATERS ID (AU ID)	WBIC	EPA ID	Year Listed	Listing Status <sup>(1)</sup>	TMDL Status	Listing Category <sup>(2)</sup>
Unnamed Tributary	8110237	5009741	WI10044421	2022	Proposed for List	Covered	Category 4A
West Branch Eau Claire River	7155592	1445700	WI10044120	2014	TMDL Approved	Covered	Category 4A

- (1) Listing Status: “TMDL Approved” indicates that the impaired water, listed either prior to or during the 2020 listing cycle is covered by the EPA approved TMDL. “Proposed for List” indicates that the waterbody is proposed for the 2022 listing cycle and is covered by the EPA approved TMDL. “303(d) Listed” indicates that the waterbody is not covered by the EPA approved TMDL.
- (2) Proposed Listing Category indicates waterbodies listed either prior to or during the 2020 listing cycle that will be moved from category 5 to category 4A due to their change in status of being covered by the EPA approved TMDL. Waterbodies proposed for the 2022 listing cycle that are covered by the EPA approved TMDL are listed as category 4A. Waterbodies determined not to be covered by the EPA approved TMDL remain under category 5.

Table S-2 provides an update to Table 1 (pages 4 through 9) contained in the Wisconsin River Basin TMDL report and lists waterbodies covered by the loading capacity and allocations contained within the Wisconsin River Basin TMDL meaning that attainment of the applicable allocations will allow attainment of water quality criteria. This determination was made based for each listed segment by comparing the river or stream criteria for the listed segment against the subbasin or downstream water quality target for the subbasin(s) that contains the listed segment. Table S-2 provides a summary of the water quality criteria, the TMDL subbasin target, and the downstream target for each waterbody and applicable subbasin(s).

The subbasin target is the water quality criteria used in setting the TMDL loading capacity and allocations for that subbasin. The downstream target is the simulated resulting water quality concentration in that subbasin that is needed to attain water quality criteria for downstream waterbodies that have more restrictive water quality criteria. For example, Lake Wisconsin which is located at the bottom of the Wisconsin River Basin study area, has a total phosphorus water quality criterion of 47 ug/L and requires upstream subbasins to have lower total phosphorus concentrations than may otherwise be needed to meet local water quality criteria. In all cases, the downstream target is lower than the applicable water quality criterion for the subbasin listed.

During TMDL development process, subbasins were delineated to account for the location of point sources, significant changes in flow, changes in land use, changes in water quality criteria, and other significant factors that could impact the loading capacity for waterbodies located in that subbasin. This approach helps ensure that subbasin load allocations are protective of waterbodies contained in the subbasin. Additional information can be found in the EPA approved TMDL at <https://dnr.wisconsin.gov/topic/TMDLs/WisconsinRiver/index.html> and on the Watershed Restoration Viewer at <https://dnr.wisconsin.gov/topic/SurfaceWater/RestorationViewer/index.html>

As in Appendix B of the Wisconsin River Basin TMDL, details concerning waterbodies that need further evaluation and may not be adequately addressed by the allocations contained in the Wisconsin River Basin TMDL, in this case Necedah Lake, is included in Table S-3. While the downstream target maybe less than Necedah Lake's total phosphorus water quality criterion, it is important to note that the downstream criteria is expressed as a median of monthly samples and the lake criteria is expressed as the mean on monthly samples so the two concentrations are not directly comparable. While it is possible that the existing allocations could allow attainment of the water quality criteria, a combination of additional lake monitoring and assessment coupled with potential modeling and loading capacity analysis needed to ensure both the water quality criteria and water quality standards are attained. In cases where the pollutant is listed as unknown, the phosphorus criteria is being attained but the lake is still impaired likely necessitating the adoption of site-specific criteria or evaluating other potential pollutants or stressors that maybe contributing to the impairment.

For Necedah Lake, implementation of the existing TMDL allocations will likely result in improvements in water quality. As such, an adaptive approach maybe warranted in which once a certain level of implementation and adoption of pollutant reduction measures is attained, an assessment is conducted to see if the existing TMDL allocations will be adequate for Necedah Lake to meet water quality standards or if additional reductions, targeted measures, or site-specific criteria are needed. Additional information including maps and allocations can be found at: <https://dnr.wisconsin.gov/topic/SurfaceWater/RestorationViewer/index.html>

**Public Comment Period:**

A public comment period was held from November 29, 2021 to January 7, 2022. No comments were received.

**Table S-2. Additional Waterbodies and impairment listings addressed by the 2019 TMDL report.**

Waterbody Name	WATERS ID (AU ID)	WBIC	EPA ID	County	Start Mile	End Mile	Pollutant Source	Impairment(s)	Pollutant	TMDL Subbasin(s)	Waterbody Criteria (ug/L)	Subbasin Target (ug/L)	Downstream Target (ug/L)
E. Fk. Hemlock Creek	12227	1367800	WI10001884	Wood	0	11.02	NPS	Impairment Unknown	TP	201 and 314	75	75	75 and 75
Hemlock Creek	18327	1366300	WI8154784	Wood	27	32.9	PS/NPS	High Phosphorus Levels	TP	201	75	75	75
Moccasin Creek	12268	1388000	WI10026140	Wood	5.04	19.09	NPS	Impairment Unknown	TP	256	75	75	69
Silvernagle Creek	18369	1467400	WI10006332	Taylor	0	9.16	PS/NPS	High Phosphorus Levels	TP	276	75	75	26
South Squaw Creek	12362	1420500	WI10001975	Marathon, Wood	0	8	NPS	High Phosphorus Levels	TP	150	75	75	75
Unnamed Creek (T23n,R6e,S26,Sesw,72)	12272	1397200	WI8154892	Wood	0	1.42	PS/NPS	High Phosphorus Levels	TP	144 and 259	75	100 and 75	54 and 47
Unnamed Stream	6921935	1281500	WI10042164	Juneau	0	2.39	NPS	Impairment Unknown	TP	16	75	75	56
Unnamed Trib to W Fk Little Rib River	5513762	1453200	WI10033020	Marathon	1.31	2.38	NPS	Impairment Unknown	TP	292	75	75	33
Unnamed Tributary	8110237	5009741	WI10044421	Taylor	0	1.45	NPS	High Phosphorus Levels	TP	100	75	75	31
West Branch Eau Claire River	7155592	1445700	WI10044120	Langlade	31.94	32.79	NPS	Degraded Biological Community	TP	108	75	75	46

**Table S-3. Additional Waterbodies and impairment listings NOT addressed by the 2019 TMDL report.**

Waterbody Name	WATERS ID (AU ID)	WBIC	EPA ID	County	Start Mile	End Mile	Pollutant Source	Impairment(s)	Pollutant	TMDL Subbasin(s)	Waterbody Criteria (ug/L)	Subbasin Target (ug/L)	Downstream Target (ug/L)
Necedah Lake	424120	1354300	WI10008636	Juneau	0	0	NPS	Impairment Unknown	TP	199	75	75	38