



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY  
REGION 5  
77 WEST JACKSON BOULEVARD  
CHICAGO, IL 60604-3590

AUG 17 2018

REPLY TO THE ATTENTION OF:

WW-16J

Sharon Gayan, Director  
Water Quality Bureau  
Wisconsin Department of Natural Resources  
101 S. Webster Street  
Box 7921  
Madison, Wisconsin 53707-7921


Dear Ms. Gayan:

The U.S. Environmental Protection Agency has conducted a complete review of the final revised Total Maximum Daily Loads (TMDLs) for the Rock River watershed, including supporting documentation and follow up information. The revised TMDLs were calculated for total phosphorus and total suspended solids for Reach 34 (Beaver Dam River from Calamus Creek to Mile 30) and for total phosphorus for Beaver Dam Lake. The revised TMDLs address the impairment of aquatic recreational and aquatic life uses.

EPA has determined that these revised TMDLs meet the requirements of Section 303(d) of the Clean Water Act and EPA's implementing regulations at 40 C.F.R. Part 130. Therefore, EPA hereby approves Wisconsin's revised TMDLs in the Rock River watershed. EPA's review of Wisconsin's modification of the TMDLs is described in the addendum to the enclosed decision document.

We wish to acknowledge Wisconsin's effort in submitting these revised TMDLs, addressing aquatic recreational and aquatic life uses, and look forward to future submissions by the State of Wisconsin. If you have any questions, please contact Mr. Peter Swenson, Chief of the Watersheds and Wetlands Branch, at 312-886-0236.

Sincerely,

  
Linda Holst  
Acting Director  
Water Division

Enclosure

cc: Kevin Kirsch, WDNR



## TMDL Revision to the Rock River, WI TMDL

Date: 8/17/2018

On June 20, 2018, WDNR submitted a revision to the Rock River TMDL. After the original Rock River TMDL was developed and approved in 2011, the city of Beaver Dam raised concerns over the Waste Load Allocations (WLAs) for TP and TSS calculated for their wastewater treatment plant (WWTP). The NPDES permit was appealed, and an Order was approved by WDNR addressing the WLA. WDNR subsequently reviewed the TMDL and modeling effort, and has revised the TMDL. The vast majority of the TMDL remains unchanged, only two TMDL segments are the subject of this revision.

The first change focuses on Beaver Dam Lake, in the northern portion of the Rock River watershed. At the time the 2011 TMDL was developed, Beaver Dam Lake was not listed as impaired. TMDLs were calculated for various reaches in the Rock River watershed, including reaches 32, 33, and 82, which are tributaries to Beaver Dam Lake (Section 1.0 of the TMDL Revision). In 2012, the lake was listed as impaired due to excess phosphorus. As part of the TMDL revision, the original TMDLs calculated for reaches 32, 33, and 82 were reviewed, and the SWAT model rerun. Based upon the model review, WDNR determined that the current allocations for reaches 32, 33, and 82 are sufficient to protect Beaver Dam Lake. The applicable criteria for the lake is 40 ug/L TP as the lake is classified by WDNR as a shallow lowland lake. Therefore, the original TMDL allocations are confirmed, and no changes are needed for these reaches (Section 6.0 of the TMDL revision). As part of this TMDL revision, Beaver Dam Lake is now included in the waterbodies addressed by the TMDL (Table 1 of the original TMDL).

| Water body      | Description | County | Waters ID | Pollutants | Impairments                            | Current Use         | Designated Use | Supporting Designated Use |
|-----------------|-------------|--------|-----------|------------|--|---------------------|----------------|---------------------------|
| Beaver Dam Lake | Lake        | Dodge  | 11411     | TP         | Eutrophication and Excess Algal Growth | WWSF-Not Supporting | Default FAL    | NR102 Classification      |

The second change to the TMDL focuses on the allocations for reach 34, which is the Beaver Dam River (Calamus Creek to Mile 30, the outlet of Beaver Dam Lake) (Table 3 of the TMDL revision). The original TMDL was modeled assuming that reach 34 was meeting the stream criteria of 75 ug/L TP. The revised model is based upon the lake attaining the lake criteria of 40 ug/L, and therefore the outflow will be at a lower concentration (40 ug/L rather than 75 ug/L that was originally modeled). The revised modeling effort also updated the flows used for reach 34, to more accurately represent the actual conditions and updated the plant discharge volume (Section 6.0 of the TMDL revision). As a result, the loading capacity for reach 34 increases significantly. WDNR assigned the additional loading capacity to the Beaver Dam WWTP, including a corresponding WLA increase (permit number 0023345).

The TMDL revision increased the loading capacity for reach 34 as noted in Tables 1 and 2 below. Table 1 is the original table from Appendix J for TP for reach 34. Table 2 is the revised table containing the new loading capacity for reach 34. Table 2 also notes the increased WLA for the Beaver Dam WWTP.

The loading capacity for TSS for reach 34 also increased due to the revised flows in reach 34. Tables 3 below contains the original TSS allocations for reach 34, and Table 4 contains the revised allocations for reach 34. As was done with TP, WDNR assigned the increased load to the WLA for the Beaver Dam WWTP. Table 4 also notes the increased WLA for the Beaver Dam WWTP.

No other changes to the TMDL were made.

The TMDL revision was public noticed from April 9<sup>th</sup> to May 9<sup>th</sup>, 2018. A public meeting was held on April 9<sup>th</sup>, 2018 at the WDNR Fitchburg office. Copies of the draft TMDL revision were made available upon request and on the Internet web site:

<http://dnr.wi.gov/topic/tmdls/RockRiverTMDL> . No comments were received.

**After a full and complete review, EPA finds that the revised TP and TSS TMDLs for Beaver Dam Lake and reach 34, satisfy all of the elements of an approvable TMDL document revision. This submittal is for three TMDLs, one for Beaver Dam Lake for TP and two revised TMDLs for reach 34 for TP and TSS.**

EPA's approval of this TMDL does not extend to those waters that are within Indian Country, as defined in 18 U.S.C. Section 1151. EPA is taking no action to approve or disapprove TMDLs for those waters at this time. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under the CWA Section 303(d) for those waters.

**Table 1: Original daily total phosphorus allocations for reach 34 (from Appendix J of the original TMDL)**

| Reach<br>Waterbody Name and Extents                | Allocation Component   | Daily TP Load (lbs/day) |      |      |      |      |      |      |      |      |      |      |        | Annual Load<br>Allocation<br>(lbs/year) |
|--|------------------------|-------------------------|------|------|------|------|------|------|------|------|------|------|--------|---|
|  |                        | Jan                     | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec    |   |
| 34<br>Beaver Dam River<br>Calamus Creek to Mile 30 | Total Loading Capacity | 5.42                    | 6.27 | 5.83 | 6.22 | 6.03 | 6.33 | 6.08 | 5.94 | 5.93 | 5.60 | 5.66 | 5.42   | 927.18                                  |
|  | Load Allocation        | 0.01                    | 0.10 | 0.17 | 0.23 | 0.23 | 0.19 | 0.14 | 0.05 | 0.05 | 0.04 | 0.03 | 0.01   | 37.95                                   |
|  | Background             | 0.00                    | 0.04 | 0.03 | 0.04 | 0.01 | 0.02 | 0.02 | 0.01 | 0.01 | 0.01 | 0.00 | 0.00   | 5.70                                    |
|  | Ag/Non-Permitted Urban | 0.01                    | 0.06 | 0.14 | 0.19 | 0.22 | 0.17 | 0.12 | 0.04 | 0.04 | 0.03 | 0.03 | 0.03   | 32.25                                   |
|  | Wasteload Allocation   | 5.41                    | 6.17 | 5.66 | 5.99 | 5.80 | 6.14 | 5.94 | 5.89 | 5.88 | 5.56 | 5.63 | 5.41   | 889.23                                  |
|  | General Permit Sources | 0.00                    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00   | 0.00                                    |
| MS4  | 0.01                   | 0.02                    | 0.02 | 0.03 | 0.03 | 0.04 | 0.05 | 0.04 | 0.03 | 0.02 | 0.02 | 0.01 | 9.74   |   |
| MS4  | 0.00                   | 0.00                    | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00   |   |
| MS4  | 5.40                   | 6.15                    | 5.64 | 5.96 | 5.77 | 6.10 | 5.89 | 5.85 | 5.85 | 5.54 | 5.61 | 5.40 | 879.45 |   |

**Table 2: Revised daily total phosphorus allocations for reach 34 (replaces values in Appendix J of the original TMDL)**

| Reach<br>Waterbody Name<br>and Extents                | Allocation Component   | Daily TP Load (lbs/day) |       |       |       |       |       |       |       |       |       |       |       |
|---|------------------------|-------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
|   |                        | Jan                     | Feb   | Mar   | Apr   | May   | Jun   | Jul   | Aug   | Sep   | Oct   | Nov   | Dec   |
| 34<br>Beaver Dam River<br>Calamus Creek<br>to Mile 30 | Total Loading Capacity | 48.98                   | 72.99 | 68.51 | 71.82 | 62.25 | 42.77 | 25.93 | 17.96 | 18.86 | 20.79 | 28.01 | 37.06 |
|   | Load Allocation        | 0.01                    | 0.1   | 0.17  | 0.23  | 0.23  | 0.19  | 0.14  | 0.05  | 0.05  | 0.04  | 0.03  | 0.01  |
|   | Background             | 0                       | 0.04  | 0.03  | 0.04  | 0.01  | 0.02  | 0.02  | 0.01  | 0.01  | 0.01  | 0     | 0     |
|   | Ag/Non-Permitted Urban | 0.01                    | 0.06  | 0.14  | 0.19  | 0.22  | 0.17  | 0.12  | 0.04  | 0.04  | 0.03  | 0.03  | 0.01  |
|   | Wasteload Allocation   | 48.97                   | 72.89 | 68.34 | 71.59 | 62.02 | 42.58 | 25.79 | 17.91 | 18.81 | 20.75 | 27.98 | 37.05 |
|   | General Permit Sources | 0                       | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     | 0     |
| MS4   | 0.01                   | 0.02                    | 0.02  | 0.03  | 0.03  | 0.04  | 0.05  | 0.04  | 0.03  | 0.02  | 0.02  | 0.01  |       |
| Point Source  | 48.96                  | 72.87                   | 68.32 | 71.56 | 61.99 | 42.54 | 25.74 | 17.87 | 18.78 | 20.73 | 27.96 | 37.04 |       |

**Table 3: Original daily total suspended solids allocations for reach 34 (from Appendix K of the original TMDL)**

| Reach | Waterbody Name and Extents                   | Allocation Component   | Daily TSS Load (tons/day) |      |      |      |      |      |      |      |      |      |      |        | Annual Load Allocation (tons/year) |        |        |
|-------|--|------------------------|---------------------------|------|------|------|------|------|------|------|------|------|------|--------|------------------------------------|--------|--------|
|       |  |                        | Jan                       | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec    |                                    |        |        |
| 34    | Beaver Dam River<br>Calamus Creek to Mile 30 | Total Loading Capacity | 1.08                      | 1.26 | 0.77 | 0.71 | 0.66 | 0.65 | 0.51 | 0.52 | 0.58 | 0.56 | 0.75 | 1.07   | 1.07                               | 130.75 |        |
|       |  | Load Allocation        | 0.02                      | 0.09 | 0.05 | 0.08 | 0.09 | 0.07 | 0.04 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02   | 0.02                               | 0.02   | 15.67  |
|       |  | Background             | 0.00                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00   | 0.00                               | 0.00   | 0.00   |
|       |  | Ag/Non-Permitted Urban | 0.02                      | 0.09 | 0.06 | 0.08 | 0.09 | 0.07 | 0.04 | 0.01 | 0.01 | 0.01 | 0.01 | 0.02   | 0.02                               | 0.02   | 15.67  |
|       |  | Wasteload Allocation   | 1.05                      | 1.17 | 0.71 | 0.63 | 0.57 | 0.58 | 0.47 | 0.51 | 0.57 | 0.57 | 0.65 | 0.73   | 1.05                               | 1.05   | 115.08 |
|       |  | General Permit Sources | 0.00                      | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00   | 0.00                               | 0.00   | 0.00   |
|       |  | MS4                    | 0.04                      | 0.04 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02   | 0.01                               | 0.03   | 8.18   |
| WWTSE | 1.02   | 1.13                   | 0.70                      | 0.61 | 0.55 | 0.56 | 0.45 | 0.49 | 0.55 | 0.63 | 0.72 | 1.02 | 1.02 | 106.30 |                                    |        |        |

**Table 4: Revised daily total suspended solids allocations for reach 34 (replaces values in Appendix K of the original TMDL).**

| Reach        | Waterbody Name and Extents                      | Allocation Component   | Daily TSS Load (tons/day) |      |      |      |      |      |      |      |      |      |      |      |
|--------------|---|------------------------|---------------------------|------|------|------|------|------|------|------|------|------|------|------|
|              |   |                        | Jan                       | Feb  | Mar  | Apr  | May  | Jun  | Jul  | Aug  | Sep  | Oct  | Nov  | Dec  |
| 34           | Beaver Dam River<br>Calamus Creek<br>to Mile 30 | Total Loading Capacity | 1.67                      | 1.91 | 1.68 | 1.76 | 1.72 | 1.75 | 1.67 | 1.62 | 1.58 | 1.64 | 1.69 | 1.66 |
|              |   | Load Allocation        | 0.02                      | 0.09 | 0.06 | 0.08 | 0.09 | 0.07 | 0.04 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 |
|              |   | Background             | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
|              |   | Ag/Non-Permitted Urban | 0.02                      | 0.09 | 0.06 | 0.08 | 0.09 | 0.07 | 0.04 | 0.01 | 0.01 | 0.01 | 0.02 | 0.02 |
|              |   | Wasteload Allocation   | 1.65                      | 1.82 | 1.62 | 1.68 | 1.63 | 1.68 | 1.63 | 1.61 | 1.57 | 1.63 | 1.67 | 1.64 |
|              |   | General Permit Sources | 0                         | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    | 0    |
|              |   | MS4                    | 0.04                      | 0.04 | 0.01 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.02 | 0.01 |
| Point Source | 1.61  | 1.78                   | 1.61                      | 1.66 | 1.61 | 1.66 | 1.61 | 1.59 | 1.61 | 1.55 | 1.61 | 1.66 | 1.61 |      |