TMDL: Trump Coulee Creek, Wisconsin
Effective Date:

DECISION DOCUMENT FOR THE APPROVAL OF TRUMP COULEE CREEK TMDL

Section 303(d) of the Clean Water Act (CWA) and EPA's implementing regulations at 40 C.F.R. Part 130 describe the statutory and regulatory requirements for approvable TMDLs. Additional information is generally necessary for EPA to determine if a submitted TMDL fulfills the legal requirements for approval under Section 303(d) and EPA regulations, and should be included in the submittal package. Use of the verb "must" below denotes information that is required to be submitted because it relates to elements of the TMDL required by the CWA and by regulation. Use of the term "should" below denotes information that is generally necessary for EPA to determine if a submitted TMDL is approvable. These TMDL review guidelines are not themselves regulations. They are an attempt to summarize and provide guidance regarding currently effective statutory and regulatory requirements relating to TMDLs. Any differences between these guidelines and EPA's TMDL regulations should be resolved in favor of the regulations themselves.

1. Identification of Waterbody, Pollutant of Concern, Pollutant Sources, and Priority Ranking

The TMDL submittal should identify the waterbody as it appears on the State's/Tribe's 303(d) list. The waterbody should be identified/georeferenced using the National Hydrography Dataset (NHD), and the TMDL should clearly identify the pollutant for which the TMDL is being established. In addition, the TMDL should identify the priority ranking of the waterbody and specify the link between the pollutant of concern and the water quality standard (see section 2 below).

The TMDL submittal should include an identification of the point and nonpoint sources of the pollutant of concern, including location of the source(s) and the quantity of the loading, e.g., lbs/per day. The TMDL should provide the identification numbers of the NPDES permits within the waterbody. Where it is possible to separate natural background from nonpoint sources, the TMDL should include a description of the natural background. This information is necessary for EPA's review of the load and wasteload allocations, which are required by regulation.

The TMDL submittal should also contain a description of any important assumptions made in developing the TMDL, such as:

(1) the spatial extent of the watershed in which the impaired waterbody is located;
(2) the assumed distribution of land use in the watershed (e.g., urban, forested, agricultural);
(3) population characteristics, wildlife resources, and other relevant information affecting

the characterization of the pollutant of concern and its allocation to sources;
(4) present and future growth trends, if taken into consideration in preparing the TMDL (e.g., the TMDL could include the design capacity of a wastewater treatment facility); and
(5) an explanation and analytical basis for expressing the TMDL through *surrogate measures*, if applicable. *Surrogate measures* are parameters such as percent fines and turbidity for sediment impairments; chlorophyl *a* and phosphorus loadings for excess algae; length of riparian buffer; or number of acres of best management practices.

Comments:
The Wisconsin Department of Natural Resources (WDNR) developed one sediment TMDL for one segment in the Upper Trempealeau River watershed, Trump Coulee Creek (from mile 0-8). The TMDL addresses the sediment impacts and impairments which were identified on the Wisconsin 1998 303(d) list. This segment was ranked as high priority on the Wisconsin 1998 303(d) list.

Trump Coulee head waters are located in Jackson County, Wisconsin, with the downstream ending in Trempealeau County, Wisconsin. The impaired waters drain about 15.7 square miles. About 59% of the land use in the Trump Coulee Creek subwatershed is agricultural.

There are no point sources in the Trump watershed that discharge sediments. Non-point sources are identified in the Nonpoint Source Control Plan for the Upper Trempealeau River Priority Watershed Project (Watershed Plan), Chapter 3, pages 86 and 87. The Watershed Plan is an attachment to the TMDL. Nonpoint sources identified in the Watershed Plan as contributing to the impairments include agricultural (croplands, pasture, grassland and other upland), streambank erosion and gullies. The TMDL identifies the existing annual sediment load of 367[1] tons to Trump Coulee Creek from the following sources:

• Cropland	206 tons
• Other uplands	7 tons
• Stream Banks	145 tons
• Gullies	9 tons

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this first element.

[1]Table 3-3 and 3-4 from the watershed plan indicated that the total tons of sediment is 377 tons/yr. There was a math error in the development of this table in the watershed plan. The correction was made in this TMDL. The State reviewed the original data used to develop the watershed plan for this TMDL load allocation. See e-mail from Jim Baumann, WDNR March 16, 2004.

2. Description of the Applicable Water Quality Standards and Numeric Water Quality Target

The TMDL submittal must include a description of the applicable State/Tribal water quality standard, including the designated use(s) of the waterbody, the applicable numeric or narrative water quality criterion, and the anti-degradation policy. (40 C.F.R. §130.7(c)(1)). EPA needs this information to review the loading capacity determination, and load and wasteload allocations, which are required by regulation.

The TMDL submittal must identify a numeric water quality target(s) – a quantitative value used to measure whether or not the applicable water quality standard is attained. Generally, the pollutant of concern and the numeric water quality target are, respectively, the chemical causing the impairment and the numeric criteria for that chemical (e.g., chromium) contained in the water quality standard. The TMDL expresses the relationship between any necessary reduction of the pollutant of concern and the attainment of the numeric water quality target. Occasionally, the pollutant of concern is different from the pollutant that is the subject of the numeric water quality target (e.g., when the pollutant of concern is phosphorus and the numeric water quality target is expressed as Dissolved Oxygen (DO) criteria). In such cases, the TMDL submittal should explain the linkage between the pollutant of concern and the chosen numeric water quality target.

Comments:
The State identified the narrative standard set forth at Section NR 102.04 (1) intro and (a) of the Wisconsin Administrative Code (WAC) as the applicable standard. This standard states in part, "Substances that will cause objectionable deposits on the shore or in the bed of a body of water, shall not be present in such amounts as to interfere with public rights in waters of the state." The designated uses applicable to each segment are set forth at Section NR 102.04(3) intro, (a) and (b) of the WAC. Trump Coulee Creek is currently supporting a warmwater forage fishery but with the potential to support a Cold Water Class II sport fishery in the upper 2.0 miles and a Cold Water Class III fishery in the lower 6.0 miles.

The state established a water quality target for Trump Coulee Creek as meeting a potential use of a Cold Water Class II community in the upper 2.0 miles and a Cold Water Class III community for the lower 6.0 miles, as described in NR 1.02(7)(b) of the WAC. The codified use of this stream is a warm water sport fishery. Although sediment has been determined to be the pollutant of concern, WDNR will be monitoring the fish community to determine the effectiveness of TMDL implementation, as the fish community is the designated use being impaired.

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this second element.

3. Loading Capacity - Linking Water Quality and Pollutant Sources

A TMDL must identify the loading capacity of a waterbody for the applicable pollutant. EPA regulations define loading capacity as the greatest amount of a pollutant that a water can receive without violating water quality standards (40 C.F.R. §130.2(f)).

The pollutant loadings may be expressed as either mass-per-time, toxicity or other appropriate measure (40 C.F.R. §130.2(i)). If the TMDL is expressed in terms other than a daily load, e.g., an annual load, the submittal should explain why it is appropriate to express the TMDL in the unit of measurement chosen. The TMDL submittal should describe the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources. In many instances, this method will be a water quality model.

The TMDL submittal should contain documentation supporting the TMDL analysis, including the basis for any assumptions; a discussion of strengths and weaknesses in the analytical process; and results from any water quality modeling. EPA needs this information to review the loading capacity determination and load and wasteload allocations, which are required by regulation.

TMDLs must take into account *critical conditions* for stream flow, loading, and water quality parameters as part of the analysis of loading capacity. (40 C.F.R. §130.7(c)(1)). TMDLs should define applicable *critical conditions* and describe their approach to estimating both point and nonpoint source loadings under such *critical conditions*. In particular, the TMDL should discuss the approach used to compute and allocate nonpoint source loadings, e.g., meteorological conditions and land use distribution.

Comments:
WDNR will consider that the Trump Coulee Creek is meeting the narrative water quality standard when the appropriate cold water community is established. To achieve a cold water community, WDNR has determined a total load capacity of sediment to be no greater than 243 tons/year (TMDL and Watershed Plan)[2].

The total load capacity of 243 tons/year represents an ~33 %[3] reduction of sediment. WDNR has determined that these reductions of sediment will achieve the water quality target of establishing the appropriate cold water community in both portions of the waterbody. Establishment of a cold water community has been determined by WDNR to be an adequate surrogate for the narrative water quality standard. The TMDL includes a monitoring plan which is appropriate for demonstrating whether progress has been made towards establishment of the cold water

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[2] See footnote 1

[3]This approximation stems from the math error in the watershed plan. Table 4-11 in the watershed plan called for a 33% reduction. Correcting this error there is a 33.8% reduction for total sediment in the TMDL. See e-mail from Jim Baumann to Donna Keclik. dated 4/9/04.

community. Since sediments impact the fish community in several ways (reproduction, food supply, raising water temperature), which effect the fish community year round, no specific critical condition exists.

WDNR used the WINHUSLE model for determining soil erosion and loading of sediments in the watershed. The WINHUSLE model calculates the amount of soil erosion based on a number of parameters, and routes the sediment to the waterbody in question. The amount of sediment reduction needed can then be estimated for the stream.

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this third element.

4. Load Allocations (LAs)

EPA regulations require that a TMDL include LAs, which identify the portion of the loading capacity attributed to existing and future nonpoint sources and to natural background. Load allocations may range from reasonably accurate estimates to gross allotments (40 C.F.R. §130.2(g)). Where possible, load allocations should be described separately for natural background and nonpoint sources.

Comments:
WDNR allocated 243 tons/year to nonpoint sources. Specific allocations were determined for the various land uses within the Trump Coulee subwatershed. The category specific load allocations are as follows.

category	Current load	Reduction	Load Allocation
Croplands Pasture, grasslands and other uplands	213	~30[4]	147
Stream Banks	145	40	87
Gullies	9	0	9

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this fourth element.

5. Wasteload Allocations (WLAs)

EPA regulations require that a TMDL include WLAs, which identify the portion of the loading capacity allocated to individual existing and future point source(s) (40 C.F.R. §130.2(h), 40 C.F.R. §130.2(i)). In some cases, WLAs may cover more than one discharger, e.g., if the source is contained within a general permit.

[4] See footnote 3

The individual WLAs may take the form of uniform percentage reductions or individual mass based limitations for dischargers where it can be shown that this solution meets WQSs and does not result in localized impairments. These individual WLAs may be adjusted during the NPDES permitting process. If the WLAs are adjusted, the individual effluent limits for each permit issued to a discharger on the impaired water must be consistent with the assumptions and requirements of the adjusted WLAs in the TMDL. If the WLAs are not adjusted, effluent limits contained in the permit must be consistent with the individual WLAs specified in the TMDL. If a draft permit provides for a higher load for a discharger than the corresponding individual WLA in the TMDL, the State/Tribe must demonstrate that the total WLA in the TMDL will be achieved through reductions in the remaining individual WLAs and that localized impairments will not result. All permitees should be notified of any deviations from the initial individual WLAs contained in the TMDL. EPA does not require the establishment of a new TMDL to reflect these revised allocations as long as the total WLA, as expressed in the TMDL, remains the same or decreases, and there is no reallocation between the total WLA and the total LA.

Comments:
There are no point sources in the Trump Coulee Watershed; therefore, the waste load allocation is zero. The TMDL does include three options if a point source were proposed in the Trump Coulee Creek. The first option is an effluent limit of zero for sediment would need to be included in the NPDES permit. The second option is, an offset would need to be created through some means such as pollutant trading. The third option is to develop a new allocation for sediment subject to EPA review and approval.

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this fifth element.

6. Margin of Safety (MOS)

The statute and regulations require that a TMDL include a margin of safety (MOS) to account for any lack of knowledge concerning the relationship between load and wasteload allocations and water quality (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)). EPA's 1991 TMDL Guidance explains that the MOS may be implicit, i.e., incorporated into the TMDL through conservative assumptions in the analysis, or explicit, i.e., expressed in the TMDL as loadings set aside for the MOS. If the MOS is implicit, the conservative assumptions in the analysis that account for the MOS must be described. If the MOS is explicit, the loading set aside for the MOS must be identified.

Comments:
WDNR included an implicit MOS by not accounting for additional reductions in sediment loads under the Conservation Reserve Enhancement Plan (CREP) program. Vegetative buffers along the stream were not included in estimating the load reduction. A portion of the watershed in Jackson County is within a CREP-eligible area. The CREP Continuous Sign-up Program is being implemented in Trempealeau County. Additional practices will be installed beyond what was included in the analysis.

The use of the Alternative Conservation System, implemented in about 30% of cropland in the subwatershed, represents a conservative value for effectiveness of Best Management Pratices (BMPs). State enacted performance standards require a greater level of control than what would be achieved through this program.

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this sixth element.

7. Seasonal Variation

The statute and regulations require that a TMDL be established with consideration of seasonal variations. The TMDL must describe the method chosen for including seasonal variations. (CWA §303(d)(1)(C), 40 C.F.R. §130.7(c)(1)).

Comments:
Sediment enters Trump Coulee Creek through rainfall and snowmelt runoff events throughout the year. Most of the sediment enters during spring runoff and intense summer rainstorms, but to some extent year-round as well. The sediment enters the creeks due to episodic events (storms) rather than "seasonal" events. The BMPs to achieve the load allocation are selected and designed to function for the 10-year or 25-year, 24-hour design storms, in order to address these episodic events.

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this seventh element.

8. Reasonable Assurances

When a TMDL is developed for waters impaired by point sources only, the issuance of a National Pollutant Discharge Elimination System (NPDES) permit provides the reasonable assurance that the wasteload allocations contained in the TMDL will be achieved. This is because 40 C.F.R. 122.44(d)(1)(vii)(B) requires that effluent limits in permits be consistent with "the assumptions and requirements of any available wasteload allocation" in an approved TMDL.

When a TMDL is developed for waters impaired by both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur, EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that nonpoint source control measures will achieve expected load reductions in order for the TMDL to be approvable. This information is necessary for EPA to determine that the TMDL, including the load and wasteload allocations, has been established at a level necessary to implement water quality standards.

EPA's August 1997 TMDL Guidance also directs Regions to work with States to achieve TMDL load allocations in waters impaired only by nonpoint sources. However, EPA cannot

disapprove a TMDL for nonpoint source-only impaired waters, which do not have a demonstration of reasonable assurance that LAs will be achieved, because such a showing is not required by current regulations.

Comments:
WDNR has demonstrated adequate reasonable assurance that the necessary nonpoint source reductions will occur by having various programs in place that will address the sediment movement at the Trump Coulee Creek. First, Trump Coulee Creek is part of a larger priority watershed project: the Non-point Source Control Plan for the Upper Trempealeau River Priority Watershed Project. A copy of the approved Watershed Plan is included as an attachment to the TMDL. The project has already been underway for several years. The concepts of long-term state cost sharing and local staff funding were discussed in the project plan. The approval of the Watershed Plan by WDNR allows for the availability of grants through Wisconsin's nonpoint source program. Chapter 5 of the approved Watershed Plan includes an implementation plan for rural and urban nonpoint sources, anticipated project costs, cost-share budgets, and staffing needs.

WDNR has an approved 319 Management Plan (approved by EPA in 2000). This 319 Management Plan describes a variety of financial, technical and educational programs in the state which support nonpoint source programs. Wisconsin's Nonpoint Source Water Pollution Abatement Program set forth in Section 281.65 of the Wisconsin Statutes and Chapter NR 120 of the WAC is described in the 319 Management Plan.

No new or additional enforcement authorities are proposed under this TMDL. However, future enforcement of nonpoint source performance standards and prohibitions will likely take place in the watershed. It is anticipated that regulatory agricultural and non-agricultural performance standards called for in Wisconsin Statutes will be implemented in the Upper Trempealeau River watershed. Administrative rules passed by the Natural Resources Board indicate that watersheds with impaired waters will have the highest priority for enforcement.

Farmers may also enroll in the CREP or similar programs to establish vegetated buffers on cropland and marginal pastures as well as the Conservation Reserve Program, which takes highly erodible lands out of agricultural use, as discussed in the MOS section of this document.

Another option available to landowners in the watershed is the Targeted Runoff Management (TRM) grant program through the WDNR. The TRM program is a competitive grant program that provides financial assistance to control polluted runoff from both rural and urban sites. The grant period is two years, and the maximum cost-share rate is 70% of eligible costs.

EPA finds that this eight element has been adequately addressed.

9. Monitoring Plan to Track TMDL Effectiveness

EPA's 1991 document, *Guidance for Water Quality-Based Decisions: The TMDL Process* (EPA 440/4-91-001), recommends a monitoring plan to track the effectiveness of a TMDL, particularly when a TMDL involves both point and nonpoint sources, and the WLA is based on an assumption that nonpoint source load reductions will occur. Such a TMDL should provide assurances that nonpoint source controls will achieve expected load reductions and, such TMDL should include a monitoring plan that describes the additional data to be collected to determine if the load reductions provided for in the TMDL are occurring and leading to attainment of water quality standards.

Comments:
The WDNR intends to monitor Trump Coulee Creek in the summer of 2005, after implementation of the Upper Trempealeau River Priority Watershed Project is complete. The monitoring will consist of metrics contained in the WDNR's baseline protocol for wadeable streams, such as the Index of Biological Integrity (IBI) and the current habitat assessment tool. Based on the 2005 monitoring, the need for further monitoring will be determined.

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this ninth element.

10. Implementation

EPA policy encourages Regions to work in partnership with States/Tribes to achieve nonpoint source load allocations established for 303(d)-listed waters impaired by nonpoint sources. Regions may assist States/Tribes in developing implementation plans that include reasonable assurances that nonpoint source LAs established in TMDLs for waters impaired solely or primarily by nonpoint sources will in fact be achieved. In addition, EPA policy recognizes that other relevant watershed management processes may be used in the TMDL process. EPA is not required to and does not approve TMDL implementation plans.

Comments:
Trump Coulee Creek is part of the Non-point Source Control Plan for the Upper Trempealeau River Priority Watershed Project. The Watershed Plan, at chapter 4, discusses the recommended management actions. Chapter 5 discusses the local government's implementation programs. Implementation includes the following:

- agencies involved
- BMPs necessary to control nonpoint source run-off
- funding sources
- information and education activities
- schedule for completion
- staffing needs and costs involved

While this information was reviewed, it did not form a basis for the decision.

11. Public Participation

EPA policy is that there should be full and meaningful public participation in the TMDL development process. The TMDL regulations require that each State/Tribe must subject calculations to establish TMDLs to public review consistent with its own continuing planning process (40 C.F.R. §130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs submitted to EPA for review and approval should describe the State's/Tribe's public participation process, including a summary of significant comments and the State's/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. §130.7(d)(2)).

Provision of inadequate public participation may be a basis for disapproving a TMDL. If EPA determines that a State/Tribe has not provided adequate public participation, EPA may defer its approval action until adequate public participation has been provided for, either by the State/Tribe or by EPA.

Comments:
WDNR stated that there was public participation in the development of the elements of the Trump Coulee Creek TMDL consistent with Wisconsin's continuing planning process in Sections NR 120.08 and NR 121.07(1) of the WAC. The load allocations set out in the Trump Coulee TMDL were calculated and established during the development of the objectives of the Watershed Plan for reducing the overall amount of sediment in the Upper Trempealeau River watershed. Public meetings were held during the development of the Watershed Plan and a public hearing on the Watershed Plan was held on August 29, 1994. The State indicated that there were no public comments received on the Watershed Plan. WDNR approved the final Watershed Plan on October 6, 1994.

The EPA has decided to pursue additional public participation in the Trump Coulee Creek TMDL, by opening a 30 day public comment period on the EPA approval of the TMDL. This will allow the public additional opportunity to provide comments or data regarding this TMDL.

EPA finds that (with the successful completion of the above mentioned public participation period) the TMDL document submitted by WDNR satisfies all requirements of this eleventh element.

12. Submittal Letter

A submittal letter should be included with the TMDL submittal, and should specify whether the TMDL is being submitted for a *technical review* or *final review and approval*. Each final TMDL submitted to EPA should be accompanied by a submittal letter that explicitly states that the submittal is a final TMDL submitted under Section 303(d) of the Clean Water Act for EPA review and approval. This clearly establishes the State's/Tribe's intent to submit, and EPA's duty to review, the TMDL under the statute. The submittal letter, whether for technical review or final review and approval, should contain such identifying information as the name

and location of the waterbody, and the pollutant(s) of concern.

Comments:
U.S. EPA received the Trump Coulee Creek TMDL on April 6, 2004, accompanied by a submittal letter dated March 24, 2004 The submittal letter states that this is the final TMDL submittal for Trump Coulee Creek.

EPA finds that the TMDL document submitted by WDNR satisfies all requirements of this twelfth element.

13. Conclusion

After a full and complete review, EPA finds that the TMDL for Trump Coulee Creek watershed satisfies all of the elements of an approvable TMDL[5]. This document addresses a total of one TMDL for one waterbody with a total of one pollutant and one impairment from the 2002 Wisconsin 303d list.

Waterbody	WBIC No.	Pollutant	Impairments
Trump Coulee Creek	1801400	sediment	loss of in stream habitat (habitat degradation)

EPA's approval of this TMDL extends to the waterbody which is identified in this document and the TMDL with the exception of any portions of the waterbody that is within Indian Country, as defined in 18 U.S.C. Section 1151. EPA is taking no action to approve or disapprove the State's TMDL with respect to those portions of the water at this time. EPA, or eligible Indian Tribes, as appropriate, will retain responsibilities under Section 303(d) for those waters.

[5]Subject to successful completion of element 11, the public participation period. See, section 11 page 10