



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

AUG 22 2008

REPLY TO THE ATTENTION OF:

WW-16J

Russell Rasmussen, Director
Bureau of Watershed Management
Wisconsin Department of Natural Resources
101 S. Webster Street
Box 7921
Madison, Wisconsin 53707-7921

RECEIVED

SEP - 2 2008

BUREAU OF WATERSHED MGMT

Dear Mr. Rasmussen:

The U.S. Environmental Protection Agency has conducted a complete review of the final Total Maximum Daily Load (TMDL) submittal, including supporting documentation and information, for Dougherty Creek located in Green County, Wisconsin. Based on this review, U.S. EPA has determined that Wisconsin's TMDLs for total phosphorus and BOD meet the requirements of Section 303(d) of the Clean Water Act (CWA) and U.S. EPA's implementing regulations at 40 C.F.R. Part 130. Therefore, by this letter, U.S. EPA hereby approves 2 TMDLs (total phosphorus and BOD) for this waterbody, which address 1 impairment (dissolved oxygen). The statutory and regulatory requirements, and U.S. EPA's review of Wisconsin's compliance with each requirement, are described in the enclosed decision document.

We appreciate your hard work in this area and the submittal of the TMDL as required. If you have any questions, please contact Mr. Kevin Pierard, Chief of the Watersheds and Wetlands Branch at 312-886-4448.

Sincerely,

Timothy C. Henry
Acting Director, Water Division

Enclosure

cc: Nicole Richmond, WDNR

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TMDL: Phosphorus and BOD TMDL for Dougherty Creek, Wisconsin

Date:

DECISION DOCUMENT FOR THE APPROVAL OF THE DOUGHERTY CREEK, WISCONSIN, 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, agriculture);
 - (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; chlorophyll *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 TMDLs for phosphorus and biological oxygen demand (BOD) for Dougherty Creek in Green County, Wisconsin. By implementing measures to reduce the phosphorus and BOD loading, the TMDL will address the dissolved oxygen (DO) impairment in the watersheds. Dougherty Creek (WBIC 901000), as it appears on Wisconsin's 2006 303(d) list of impaired waters, has a high priority ranking.

Dougherty Creek is a sixteen-mile long stream that originates from springs north of Postville, Wisconsin, and flows southwest from Green County into LaFayette County, where it joins the East Branch Pecatonica River. The impaired segment of Dougherty Creek (mile 13.96 to 16.59) includes the headwaters down to Dougherty Creek Road. The watershed in the headwaters region is approximately 2.2 square miles, and land use is predominately agricultural. According to WDNR, the impaired section of Dougherty Creek is characteristic of a small headwater stream because relatively low flow exists; it is narrow, fairly straight, and lacking depth.

WDNR states that no point sources are located on or discharging to the impaired segment of Dougherty Creek, and believes the source of phosphorus to the stream is agricultural runoff, resulting in BOD, low DO, and degradation of the stream habitat (Page 5 of the TMDL Report). It should be noted the Sugar-Pecatonica sediment TMDL approved by EPA in 2006 addressed the degraded habitat impairment for Dougherty Creek. Although the current TMDLs developed for phosphorus and BOD are aimed towards addressing low DO, this should also provide environmental benefits for mitigating the degraded habitat.

To address the DO impairment, WDNR determined that phosphorus and BOD are the surrogate pollutants that must be addressed to achieve the DO water quality standard (WQS) for attainment of the aquatic life designated use. Phosphorus loading (from agricultural runoff) can cause excessive plant growth, dense algal growth, and result in diurnal fluctuations in DO levels due to algal oxygen consumption during growth periods and bacterial consumption of oxygen during the decaying process (of dead algae and plant material). The increase in consumption of DO from microorganisms during the decomposition of organic material elevate levels of BOD and lower the concentration of DO, causing additional stress to aquatic life. Eventually species sensitive to low DO levels (i.e. trout) are eventually replaced by those that are tolerant (i.e. omnivorous non-game species), resulting in designated use violations (Pages 5-6 of the TMDL Report).

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

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 antidegradation 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:

Designated Uses

The codified designated use applicable to Dougherty Creek is a “warm water sport fish community.” The impaired water body is currently considered a “limited forage fishery” by WDNR. The phosphorus and BOD TMDL developed by WDNR for Dougherty Creek is protective of the codified “warm water sport fishery” use. Waters designated as having a “warm water sport fish community” include surface waters capable of supporting a community of warm water sport fish or serving as a spawning area for warm water sport fish (i.e. Dougherty Creek).

Nutrients

WDNR identified the narrative standard set forth at Section NR 102.04 (1) of the Wisconsin Administrative Code (WAC) as the applicable standard for excessive nutrients (i.e. phosphorus). This standard states, in part:

“To preserve and enhance the quality of waters, standards are established to govern water management decisions. Practices attributable to municipal, industrial, commercial, domestic, agricultural, land development, or other activities shall be controlled so that all waters including mixing zone and effluent channels meet the following conditions at all times and under all flow conditions:

(c) Materials producing color, odor, taste, or unsightliness shall not be present in such amounts as to interfere with public rights in waters of the state.”

WDNR has determined that high nutrient levels (i.e. phosphorus) in Dougherty Creek cause algal and plant growth that produces color, odor, taste and/or unsightliness, thus violating the WQS.

Dissolved Oxygen

Furthermore, the numeric WQS for DO is found at Section NR 102.04 (4) of the WAC and states:

“STANDARDS FOR FISH AND AQUATIC LIFE. Except for natural conditions, all waters classified for fish and aquatic life shall meet the following criteria:

“(a) Dissolved Oxygen. Except as provided in par. (e) and S. NR 104.02 (3), the dissolved oxygen content in surface waters may not be lowered to less than 5 mg/L at any time.”

Based on monitoring data collected by WDNR, DO levels have, on occasion, fallen below the 5 mg/L WQS (particularly during runoff events). WDNR has determined that by reducing total phosphorus and BOD loads, an instream concentration of at least 5 mg/L for DO would result. Such results would meet the narrative criteria requiring the limiting of materials that produce color, odor, taste and/or unsightliness in the waterbody, and also bring the stream to a status that is supportive of its warm water sports fishery codified use.

BOD

Although the codified use for Dougherty Creek is a warm water sport fishery, the BOD target has been set to be protective of trout waters (a slightly more stringent use than the warm water sport fishery use). WDNR believes Dougherty Creek has the potential to be a trout stream, as trout are occasionally stocked in the stream. Therefore, for this TMDL, BOD targets are set to achieve a water quality criterion consistent with a DO target of 6 mg/L, which is associated with Trout Waters in NR 102. Development of the target loadings for BOD is further explained in the Loading Capacity section below (Page 4 of the TMDL Report).

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:

Technical Approach

The range of analyses used for developing TMDLs varies from simple to complex. Examples of a simple approach include mass-balance, load-duration, and simple watershed and receiving water models. Detailed approaches incorporate the use of complex watershed and receiving water models. Simple approaches, such as the load duration curve (LDC), typically require less data than detailed approaches; therefore WDNR chose the LDC analysis for Dougherty Creek (Page 6 of the TMDL Report).

The LDC approach was used to calculate the total phosphorus and BOD TMDLs. The LDC approach uses stream flows for the period of record to gain insight into the flow conditions under which exceedances of the water quality target occur. This approach identifies broad categories of sources over the entire range of flows and the extent of controls required from these source categories to attain water quality standards.

The LDC is developed by: 1) ranking the daily flow data from lowest to highest, calculating the percent of days these flows were exceeded, and graphing the results; 2) translating the flow duration curve (produced in step 1) into a LDC by multiplying the flows by the respective water quality target; and 3) plotting observed pollutant loads (measured concentrations times stream flow) on the same graph. Observed loads that fall above the LDC exceed the maximum allowable load, while those that fall on or below the line do not exceed the maximum allowable load. A more complete description of the LDC approach is provided on Page 6 and Appendix A of the TMDL Report.

This cost-effective approach is an alternative to the need for modeling on the watershed, while still addressing the reductions necessary to meet WQS for the pollutants. In addition, the TMDL approach allowed the incorporation of recent data (2006-2007) to be used during the development of these TMDLs, giving a better account of current pollutant exceedances in the watershed to determine where load reductions are most appropriate now, based upon the information available (See conversation record dated 8/19/08).

Weaknesses of the TMDL analysis are that NPS load allocations were not assigned to specific types of sources within the watershed, and the identified sources of pollutants were assumed based on likely sources, rather than more precisely determined based upon a detailed monitoring and sampling effort. However, the U.S.EPA believes the weaknesses discussed in this TMDL are outweighed by the strengths of the TMDL approach and that this approach is appropriate based upon the information available. WDNR believes it is more efficient to use the more general data now available to begin immediate implementation efforts, rather than expending significant resources in refining the loads necessary to develop a modeling analysis which would further delay implementation efforts. In the event that phosphorus and BOD levels do not meet WQS in response to implementation efforts described in the TMDL submittal, the TMDL strategy may be amended as new information on the watershed is developed, to better account for contributing sources of the impairment and to determine where reductions in the Dougherty Creek watershed are most appropriate.

Loading Capacity

The loading capacities of phosphorus and BOD for Dougherty Creek as determined by the LDC are found in the tables below:

Table 1. TMDL Summary for Total Phosphorus in Dougherty Creek

Total Phosphorus	High	Moist	Mid	Dry	Low
Current Load (lbs/day)	20.25	11.28	2.47	0.96	0.69
TMDL = LA + WLA + MOS	2.83	1.38	0.57	0.40	0.24
LA (lbs/day)	1.94	0.73	0.49	0.28	0.21
WLA (lbs/day)	0	0	0	0	0
MOS (lbs/day)	0.89	0.65	0.08	0.12	0.03

Table 2. TMDL Summary for Summer BOD Loading in Dougherty Creek

BOD (Summer)	High	Moist	Mid	Dry	Low
Current Load (lbs/day)	254.26	397.74	15.11	9.87	6.15
TMDL = LA + WLA + MOS	98.80	44.20	20.80	10.79	7.41
LA (lbs/day)	65.00	24.70	16.90	7.93	6.76
WLA (lbs/day)	0	0	0	0	0
MOS (lbs/day)	33.80	19.50	3.90	2.86	0.65

Table 3. TMDL Summary for Winter BOD Loading in Dougherty Creek

BOD (Winter)	High	Moist	Mid	Dry	Low
Current Load (lbs/day)	254.26	397.74	15.11	9.87	6.15
TMDL = LA + WLA + MOS	135.20	91.00	33.80	28.60	19.5
LA (lbs/day)	122.20	39.00	31.20	24.96	17.68
WLA (lbs/day)	0	0	0	0	0
MOS (lbs/day)	13.00	52.00	2.60	3.64	1.82

Phosphorus

The total phosphorus target used in the LDC is 0.075 mg/L. This target value was chosen by WDNR based on a recent USGS/WDNR study of Wadeable Streams in Wisconsin that evaluated biological responses to in-stream total phosphorus concentrations. WDNR determined that a total phosphorus target of 0.07 mg/L is protective of the warm water sport fishery use. According to the LDC, the total phosphorus values exceeded the target during all flow conditions (Page 7 of the TMDL Report).

BOD

WDNR calculated two BOD targets for use in the LDC. One target was calculated for the summer, and the other target was calculated for the winter. WDNR explains that two targets are needed due to the change in water temperature and dissolved oxygen carrying capacity between the seasons necessary to meet the warm water sport fishery use. The summer BOD target used in the LDC is 13 lbs/cfs. The winter BOD target used in the LDC is 26 lbs/cfs. Both targets were

chosen using a similar approach in the way water quality based effluent limits for BOD would be calculated (for point sources), which calculates the dilution needed from dischargers for BOD to meet an in-stream decrease in DO (to meet the in-stream WQS for DO). WDNR believes this approach can be adequately applied to non-point sources when determining BOD target numbers for TMDL development, and has been applied for this TMDL. EPA believes this approach is acceptable for determining the BOD target.

Critical Condition

Phosphorus: The critical condition for phosphorus is high flow, as Dougherty Creek is most susceptible to total phosphorus loadings in late winter and early spring due to snow melts and heavy rain events. During these time periods the soils are exposed because it's early in the growing season and plants haven't established cover to protect the soil. Increased phosphorus loading also occur as a result of heavy rainfall events during the summer. Run-off of manure adds significant phosphorus to the stream during rain fall events. The TMDL loading for phosphorus is protective of this critical condition, as the LDC analysis accounts for high flow conditions when determining the phosphorus loadings needed to meet WQS.

BOD: The critical condition for BOD is high flow, as runoff of manure accumulated in and nearby barnyards adds significant BOD to Dougherty Creek during rainfall events. The BOD loading calculated for Dougherty Creek is protective of this critical condition, , as the LDC analysis accounts for high flow conditions when determining the BOD loadings needed to meet WQS.

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:

The load allocations (LAs) for the Dougherty Creek for phosphorus and BOD loadings are found in Table 1 above and Page 9 of the TMDL Report. Since WDNR developed the TMDLs using the LDC method, the LAs are based upon flow regimes. For phosphorus, exceedances occur over all 5 flow regimes; for BOD, exceedances occur during "high flows" and "moist conditions." Nonpoint sources (NPS) identified in the TMDL report as contributing to phosphorus and BOD include agricultural runoff, more specifically runoff of manure from nearby barnyards.

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.

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 permittees 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:

WDNR did not identify point sources discharging phosphorus or BOD to Dougherty Creek, therefore the waste load allocation is 0.

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 provided an explicit MOS for phosphorus and BOD for Dougherty Creek (see Tables 1, 2, and 3 above). This MOS is the difference between the loading capacity calculated at the mid-point of each flow regime and the loading capacity calculated at the minimum of each flow regime (Page 8 of the TMDL). This results in a value for each flow regime that is proportional to the flow variability in each flow regime.

The margin of safety is also appropriate because the use of the LDC provides an accurate account of existing stream conditions (calculated by multiplying daily flows by existing pollutant levels), and an accurate account of the stream's loading capacity (calculated by multiplying daily flows by the appropriate water quality target). In other words, there is a good fit between observed (existing) data and predicted data using the LDC approach, thus providing a relatively accurate determination of the TMDL reductions needed. WDNR accounts for any uncertainty in this method, by incorporating the MOS.

Furthermore, the codified use for Dougherty Creek is a warm water sport fishery. The BOD targets have been set to be protective of trout waters (a slightly more stringent use than the warm water sport fishery use). Essentially, WDNR is targeting a slightly more stringent target for BOD than what is needed to meet the warm water sport fishery water quality standard. This implicit MOS for BOD will also ensure that water quality standards are achieved.

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:

WDNR accounted for seasonal variations by using 2 years of daily flow data in developing the TMDLs (Page 9 of the TMDL Report), capturing a wide variety of seasonal conditions. Furthermore, the LDC analysis identifies TMDL loadings based on 5 different flow regimes, ranging from low flows to high flows. The flow regimes collectively represent the variability in seasonality. Thus, seasonal variations in hydrologic conditions were inherently taken into account when the TMDLs were developed.

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(s) 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:

To reduce the pollutant loads to Dougherty Creek, WDNR discussed several options for reasonable assurance and implementation activities (Pages 9-10 of the TMDL Report). These include:

- Working with the Green County Land Conservation Department (LCD) to determine the best way to address problems in the operation of the farms at the headwaters of the stream.
- Purchasing easements along the stream to improve water quality.
- Implementation of state agriculture performance standards and manure management prohibitions (Chapter NR 151, WAC) to address nutrients.
- Best Management Practices to address Chapter NR 151, WAC agriculture performance standard violations including direct runoff from feedlots and overgrazing of the riparian corridor and streambank areas.
- State grants and federal cost-share programs to support practices aimed at reducing non-point source pollution.

Pages 9-10 of the TMDL Report provide a more detailed description of the reasonable assurance and implementation activities.

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

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:

WDNR intends to periodically monitor Dougherty Creek to determine the attainment status of the warm water sport fishery use. WDNR will especially look for the presence of trout, as

WDNR believes Dogherty Creek has the potential to be a trout stream (Page 4 of the TMDL Report). To determine the effectiveness of management measures as discussed under the Reasonable Assurance section above, WDNR will employ the Tier 3 monitoring strategy (adapted from the *Water Resources Monitoring Strategy for Wisconsin* document) for Dougherty Creek:

Tier 3 monitoring provides follow-up analysis of management plans that have been implemented for problem waterbodies. Monitoring under this tier evaluates the responses of core indicators from Tier 1 (i.e. statewide baseline monitoring) and Tier 2 (i.e. targeted evaluation monitoring) to management actions. Effectiveness of waterbody-specific management actions is determined using core indicators from the more intensive sampling designs under Tier 2 that are specific to the problem being addressed. The chosen indicators are compared before and after management actions are implemented.

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:

The submitted TMDL report does not contain a formal implementation plan, as it is not required as a condition for TMDL approval under the current U.S. EPA regulations. However, WDNR has identified ongoing activities which have been identified under the Reasonable Assurance section.

EPA finds that WDNR's approach is acceptable.

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:

The public comment period for the Dougherty Creek TMDL Report was from June 11, 2008 through July 14, 2008. On June 11, 2008, a news release for the public notice of the TMDL Report was sent to various entities including: local newspapers, television stations, radio stations, interest groups, and interested individuals. The news release indicated the public comment period and how to obtain copies of the public notice and draft TMDL Report. In addition, copies of the TMDL Report were available upon request and on WDNR's website: http://www.dnr.wi.gov/org/water/wm/wqs/303d/Draft_TMDLs.html. WDNR did not receive comments from the public during the comment period.

EPA finds that 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 Dougherty Creek phosphorus and BOD TMDL report on August 5, 2008, accompanied by a submittal letter dated July 28, 2008. In the submittal letter, WDNR stated: "Enclosed for your approval is the final TMDL for Dougherty Creek located in Green County, Wisconsin." The submittal letter included the waterbody name and the pollutants of concern. TMDLs have been calculated for total phosphorus and BOD.

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 TMDLs for Dougherty Creek satisfy all of the elements of approvable TMDLs. This document addresses 2 TMDLs (total phosphorus and BOD) for 1 waterbody segment (Dougherty Creek, WBIC 901000) and 1 impairment (DO) from the 2006 Wisconsin 303(d) list.

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.

