



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

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CHICAGO, IL 60604-3590

IDEM
OFFICE OF
WATER QUALITY
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REPLY TO THE ATTENTION OF:
WW-16J

Ms. Martha Clark Mettler
Office of Water Quality
Indiana Department of Environmental Management
100 N. Senate Ave.
Mail Code IGCN 1315
Indianapolis, IN 46204-2251

Dear Ms. Clark Mettler:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the final Total Maximum Daily Loads (TMDLs) for *E. coli* in the St. Marys River and Maumee River watersheds in Indiana. The segments are listed in Table 1 of the enclosed decision document. The Indiana Department of Environmental Management's (IDEM's) TMDLs address the *E. coli* impairment of recreational use in the St. Marys River and Maumee River watershed in Adams and Allen Counties. Based on this review, U.S. EPA has determined that Indiana's 41 TMDLs for *E. coli* meet the requirements of Section 303(d) of the Clean Water Act and U.S. EPA's implementing regulations at 40 C.F.R. Part 130. Therefore, U.S. EPA hereby approves 41 TMDLs for the St. Marys River and Maumee River watersheds in Indiana. The statutory and regulatory requirements, and U.S. EPA's review of Indiana's compliance with each requirement, are described in the enclosed decision document.

We wish to acknowledge Indiana's effort in submitting these TMDLs, addressing 41 *E. coli* impairments, and look forward to future TMDL submissions by the State of Indiana. If you have any questions, please contact Mr. Kevin Pierard, Chief of the Watersheds and Wetlands Branch at 312-886-4448.

Sincerely yours,

Jo Lynn Traub
Director, Water Division

Enclosure

cc: Andrew Pelloso, IDEM

THE UNIVERSITY OF CHICAGO

DEPARTMENT OF CHEMISTRY

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Date: AUG 21 2006

DECISION DOCUMENT FOR APPROVAL OF THE ST. MARYS/MAUMEE RIVERS, INDIANA, PATHOGEN TMDLS

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.

Comment:

Location Description:

St. Marys River: The St. Marys River in Indiana is located in Adams and Allen Counties. The river originates in Ohio, flows northwestward into Indiana, and joins with the St. Joseph River in Fort Wayne, Indiana, where it creates the Maumee River, which flows northeastward back into Ohio. The St. Marys TMDL report also addresses numerous tributaries of the St. Marys (Table 1 below). The watershed is approximately 850 miles in area, and the TMDL addresses approximately 290 stream miles. The St. Marys River and related waters were listed on the Indiana 2004 and 2006 303d lists as impaired due to excessive *E. coli*, with some segments additionally listed as impaired due to impaired biotic community (IBC), ammonia, nutrients, and fish consumption advisories for mercury and PCBs (Table 1 of the TMDL). This TMDL decision document will focus on the impairments due to excessive *E. coli*. A separate decision document will focus on the IBC/nutrient impairments.

Maumee River: The Maumee River in Indiana flows from the junction of the St. Marys River and St. Joseph River in Fort Wayne, Indiana, into Ohio and eventually into Lake Erie. The Indiana section is approximately 30 miles long (Table 2 below). The watershed is over 1900 square miles, but only a small portion of the watershed is addressed in this TMDL, as the watershed also includes the St. Joseph River watershed, which is not addressed in this TMDL. The Maumee River was listed on the Indiana 2004 and 2006 303d lists as impaired due to excessive *E. coli*, and several of the tributaries were listed as impaired for IBC, nutrients, and algae (Table 2 of the TMDL). One segment of the Maumee was not listed as impaired due to excessive *E. coli* on the 2004 303d list, but further data indicates that the segment is impaired due to *E. coli*, and the segment has been listed as impaired on the 2006 303d list. The Maumee River was also listed as impaired due to fish consumption advisories due to mercury and PCBs, but these impairments will be addressed at a future date. This TMDL decision document will focus on the impairments due to excessive *E. coli*. A separate decision document will focus on the IBC/nutrient impairments.

Topography and Land Use:

St. Marys River: The land use in the watershed is mainly agricultural. The Indiana Department of Environmental Management (IDEM) divided the St. Marys River watershed into 6 subwatersheds (Blue Creek, Yellow Creek, Borum Run, Holthouse Ditch, and Nickelson Creek, in addition to the mainstem of the St. Marys), to better evaluate the sources and impacts. Each subwatershed's land use was calculated and all were at least 93% agricultural (excluding the mainstem of the St. Marys River). The overall land use for the St. Marys watershed was 78% agricultural, 12% urban, and 8% forest. IDEM compared the land use data from 1992 to air photos taken in 2003, and determined that there was little change in the land use in any of the watershed units (page 21 of the TMDL).

Maumee River: The land use in this watershed is mainly agricultural, with 82% agricultural, 9% developed, and 7% forested (page 44 of the TMDL).

Pollutant of concern:

St. Marys River: IDEM has identified thirty four waterbody segments of the St. Marys River watershed as impaired on Indiana's 2004 and 2006 303(d) lists for violations of *E. coli* water

quality standards. Impairments not addressed in this TMDL report are fish consumption advisories for PCBs and mercury.

Elevated levels of *E. coli* have been documented since at least 1991 in this watershed. A detailed survey was performed by IDEM in 2000, in which 4 sites were sampled 5 times in a 30 day period. Each site violated both parts of the *E. coli* standard (Page 7 of the TMDL). An intensive survey was performed by IDEM in 2004, with 14 sites sampled once every other week, between March and October, 2004 (Attachment A of the TMDL). The City of Fort Wayne sampled 7 of the sites on opposite weeks from July to October, 2004. The results showed the sites were violating both parts of the *E. coli* water quality standard numerous times (Page 7 of the TMDL). (See Section 2, below, for description of water quality standard).

The City of Fort Wayne also performed sampling at two sites on the St. Marys River on a weekly basis during the recreations season from 2001 to 2004. Numerous violations were noted. The Allen County Health Department performed sampling to determine the impacts of septic systems on the St. Marys River and tributaries, and the Adams County Soil and Water Conservation District sampled 12 sites in the St. Marys River watershed from 2001 to 2004. Both of these studies showed numerous, significant violations of the water quality standard (Attachment A of the TMDL).

During the development of the TMDL, IDEM determined that additional segments were impaired due to excessive *E. coli*, but were not on the 2004 303(d) list. These segments have been added to the 2006 303(d) list, and included in this TMDL submittal, as well as one segment which will be added to the 2008 303(d) list (Table 1 below).

Maumee River: IDEM has identified seven segments of the Maumee River as impaired on Indiana's 2004 and 2006 303d lists for violations of *E. coli* water quality standards. Impairments not addressed in this TMDL are fish consumption advisories for PCBs and mercury.

IDEM reviewed data from two fixed stations from 1991 to 2000 to determine the initial status of the river. Further sampling was done by IDEM at two sites in 2000. The sampling results showed violations of both parts of the *E. coli* water quality standard (page 43 of the TMDL). The City of Fort Wayne sampled two sites weekly on the Maumee River from 2001 to 2003, and the Allen County Health Department sampled six sites on the Maumee River from 2001 to 2004 as part of their investigation on failing septics. All studies showed multiple violations of the *E. coli* water quality standard (page 42 and Attachment D of the TMDL).

During the development of the TMDL, IDEM determined that an additional segment (INA0516_M1005) was impaired due to excessive *E. coli*, but was not on the 2004 303(d) list. This segment has been added to the 2006 draft 303(d) list and included in this TMDL submittal (Table 1 below).

Pollutant point sources:

St. Marys River: IDEM has identified numerous point sources, including the corresponding NPDES permit numbers, that are or could be contributing to the *E. coli* impairment. IDEM has identified 19 permitted dischargers to the St. Marys watershed, 7 of which contain sanitary waste and therefore are considered potential sources. There are three combined sewer overflows (CSO) in the watershed, as well as 3 municipal separate storm sewer (MS4) communities in the

watershed. All are considered to be potential sources of *E. coli*. IDEM has also identified numerous areas in the watershed where direct septic discharge is known or suspected to be occurring. There are 4 concentrated animal feeding operations (CAFOs) as defined under the NPDES regulations in the St. Marys watershed (Appendix 3 of the TMDL). All these sources are discussed in more detail in Section #5 below.

Maumee River: IDEM has identified numerous point sources, including the corresponding NPDES permit numbers, that are or could be contributing to the *E. coli* impairment in the Maumee River. IDEM has identified 6 permitted point sources in the watershed, of which 2 contain sanitary waste and therefore are considered potential sources. There are two cities with CSO discharges to the river or its tributaries, as well as 3 MS4 communities in the watershed. All are considered to be potential sources of *E. coli*. IDEM has also identified numerous areas in the watershed where direct septic discharge is known or suspected to be occurring. There are two CAFOs as defined under the NPDES regulations in the Maumee River watershed. All these sources are discussed in more detail in #5 below.

Pollutant nonpoint sources: The Source Assessment Sections of the TMDL submittal states that the nonpoint sources for both the St. Marys and Maumee Rivers are:

- Wildlife – deer, geese, ducks, raccoons, turkey, and other animals
- Septic systems – those septic systems that are not directly discharging to a waterbody, but still effluent can still reach the water (i.e., ponding, etc).
- Small livestock operations not regulated by CAFO regulations may be a source of *E. coli*. This would include both the facilities and the related operations such as manure spreading on fields, etc.

Population and growth trends: IDEM noted that the land use changed little between the 1992 land survey and 2003 revaluation. The State does not anticipate dramatic changes in the near future.

Priority ranking: This TMDL was prioritized by IDEM to be completed at this time due to the water quality monitoring schedule. As stated in IDEM's current listing methodology, the TMDL development schedule corresponds with IDEM's basin-rotation water quality monitoring schedule in order to take advantage of all available resources for TMDL development. The basin-rotation schedule will be used unless there is a significant reason to deviate from it. Priority may be upgraded or downgraded depending on designated uses, magnitude of impairment, implementation practices by other interested parties, or availability of new guidance.

EPA finds that the TMDL submittal from IDEM satisfies all requirements concerning 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.

Comment:

The Numeric Target Sections of the TMDL submittal describes designated uses, numeric criteria, and antidegradation policy of the Clean Water Act. These are the same for both the St. Marys and Maumee Rivers.

Use Designation: The designated use for the waterbodies in the St. Marys and Maumee Rivers watersheds is for total body contact recreational use during the recreational season, April 1st through October 31st (327 IAC 2-1.5-5(a)(1)).

Numeric Standards: 327 IAC 2-1.5-8(e)(2) established the total body contact recreational use *E. coli* Water Quality Standard (WQS) for all waters in the Great Lakes system as follows: “*E. coli* bacteria, using membrane filter (MF) count, shall not exceed one hundred twenty-five (125) per one hundred (100) milliliters as a geometric mean based on not less than five (5) samples equally spaced over a thirty (30) day period nor exceed two hundred thirty-five (235) per one hundred (100) milliliters in any one (1) sample in a thirty (30) day period.”

Targets: The target is the standard as stated in the previous paragraph, for both the single sample standard and geometric mean standard, which is applicable from April 1st through October 31st. If the numeric standards are met, the river should meet the assigned designated use (327 IAC 2-1.5-5(a)(1)).

EPA finds that the TMDL submittal from IDEM satisfies all requirements concerning 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.

Comment:

Loading capacity: IDEM has determined that the loading capacity for the impaired waterbodies (for both the St. Marys and Maumee Rivers) is the *E. coli* water quality standard; that is, 125 cfu/100 ml (geometric mean of 5 samples equally spaced over a 30 day period) and a sample maximum of 235 cfu/100 ml (page 49 of the TMDL). IDEM believes the geometric mean portion of the WQS provides the best overall characterization of the status of the watershed. The U.S. EPA agrees with this, as stated in the preamble of “The Water Quality Standards for Coastal and Great Lakes Recreation Waters Final Rule” (69 FR 67218-67243, November 16, 2004) on page 67224 “...the geometric mean is the more relevant value for ensuring that appropriate actions are taken to protect and improve water quality because it is a more reliable measure, being less subject to random variation, and more directly linked to the underlying studies on which the 1986 bacteria criteria were based.” IDEM will be relying on the geometric mean portion of the WQS to track implementation activity and results.

Typically, loading capacities are expressed as a mass per time (e.g. pounds per day). For *E. coli*, however, states often use concentration to measure loading capacity rather than mass per time, with concentration being the amount of matter in a given volume. This approach is consistent with EPA’s regulations which define “load” as “an amount of matter . . . that is introduced into a receiving water. . . .” (40 CFR §130.2). To establish the loading capacities for the St. Marys River/Maumee River Watershed, IDEM used Indiana’s WQS for pathogens which has a geometric mean for a 30 day period and a single sample maximum of an amount of bacteria colonies per 100 milliliters of receiving water. Thus, the loading capacity is expressed as a concentration, i.e. the amount of bacteria colonies per volume of water. A loading capacity is “the greatest amount of loading that a water can receive without violating water quality standards.” (40 CFR §130.2). So, a loading capacity set at the WQS will assure that the water does not violate WQS.

Method for cause and effect relationship: The load duration curve (LDC) approach was used for developing this TMDL, with an explanation found in the Linkage Analysis and Allocations Sections. A very simplified explanation is provided below.

1. Flow data - First, continuous flow data are required. The gages are provided by U.S. Geological Survey (USGS) and a combination of retired gages and active gages on and near the St. Marys River were used for the St. Marys River watershed (page 36 of the

TMDL). For the Maumee River, gage 04183000 located near New Haven, Indiana and on the Maumee River in Allen County (page 50 of the TMDL) was used. The data reflect a range of natural occurrences from extremely high flows to extremely low flows.

2. Water Quality data - This dataset is the monitored *E. coli* data. A summary is provided in Section #1 above, and in Attachments A and D of the TMDL.
3. Water Quality Duration Curves (Attachments B and E of the TMDL submittal) – These plots are derived from the flow data and water quality data described above. Existing monitored water pollutant concentrations, represented by the diamond-shaped points on the plot, are compared to target concentrations, the water quality standard line. If the target line is below (less than) the existing concentrations, no reduction needs to occur. Conversely, if the existing concentrations are greater than the target load, a reduction is necessary to reach the target.
4. Load Duration Curves (Attachments C and F of the TMDL submittal) - The final step is to link the geographic locations of load reductions needed to the flow conditions under which the exceedences occur. Specific locations contributing to *E. coli*, represented by the graphs, are identified to determine under what flow conditions the *E. coli* exceedences are occurring. Most of the LDCs show that the greatest exceedences occur under high to moist flow, although significant exceedences do occur at mid-range and dry conditions. By knowing the flow conditions under which exceedences are occurring, IDEM can focus implementation activities on those sources most likely to contribute loads.

IDEM's pathogen TMDL approach is based upon the premise that all discharges (point and non-point) must meet the WQS when entering the waterbody. If all sources are meeting the WQS at discharge, then the waterbody should meet the WQS and the designated use. The plots (Attachment B and E of the TMDL Submittal) show under what flow conditions the water quality exceedences occur. Those exceedences at the right side of the graph occur during low flow conditions, which IDEM suspects to be septic systems malfunctions and illicit sewer connections. The exceedences on the left side of the graphs occur during higher flow events, such as storm runoff. IDEM has reviewed these load duration curves, and believes that *E. coli* sources are attributed to both wet-weather and dry-weather events.

EPA agrees with this review. Using the load duration curve approach allows IDEM to determine which implementation practices are most effective for reducing *E. coli* loads based on flow magnitude. For example, if loads are significant during storm events, implementation efforts can target those best management practices (BMPs) that will most effectively reduce storm water runoff. This allows for a more efficient implementation effort. This TMDL is concentration-based, and ties directly into Indiana's numeric water quality standard for *E. coli*. The target for this TMDL is the water quality standard, and therefore meeting this loading capacity should result in attainment of water quality standards.

The load duration curve is a cost-effective TMDL approach, to address the reductions necessary to meet WQS for *E. coli* bacteria. The approach also aids in sharing the responsibility for *E. coli* reductions among various municipalities in the TMDL watershed, which encourages collective implementation efforts. IDEM has incorporated recent data (2004) providing a more focused assessment of *E. coli* exceedences in the watershed, determining where load reductions are most appropriate in the St. Marys and Maumee Rivers watersheds.

Weaknesses of the TMDL analysis are that non-point source (NPS) load allocations were not assigned to specific sources within the watershed, and the identified sources of *E. coli* were assumed based on the data collected in the watershed, rather than determined by detailed monitoring and sampling efforts. Moreover, specific source reductions were not quantified. However, EPA believes the strengths of the State's proposed TMDL approach outweigh the weaknesses and that this methodology is appropriate based upon the information available. In the event that *E. coli* levels do not meet WQSs in response to implementation efforts described in the TMDL submittal (pages 38 and 52 of the TMDL), 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 St. Marys and Maumee Rivers watersheds are most appropriate.

Critical conditions: IDEM has determined that there is no one critical condition for this TMDL that will assure attainment of WQSs (pages 35 and 49 of the TMDL). The critical condition for pollutant loadings is under moist to wet conditions, which would generally be in the late spring, or during storm events. These sources would correlate to run-off events, such as from farm fields and tile drainage. However, during dry conditions, the impairments are due to septic discharge, wildlife, and domestic animals in the streams, all of which are not related to run-off.

By using the LDC method, all these "critical conditions" are accounted for in the loading allocations. IDEM will be able to determine which flow regime (dry, moist, wet, etc.) is best targeted for implementation activities.

EPA finds that the TMDL submittal from IDEM satisfies all requirements concerning 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.

Comment:

Load Allocation: The Load Allocation Sections of the TMDL submittal states that the load allocation for both watersheds is equal to the Water Quality Standard: *E. coli* may not exceed 125/100 ml (geometric mean of 5 samples equally spaced over a 30 day period), nor exceed 235/100ml (1 sample in a 30 day period), from April 1st through October 31st. IDEM did not determine LAs and related reductions for land use types or source categories; rather, the reductions are based upon sub-basins and flow regimes. IDEM did not determine a natural background load; however, impacts from wildlife were considered as a source.

St. Marys River: IDEM calculated the overall geometric means and reductions needed for each sampling site in each of subwatersheds (Appendix 4 of the TMDL). In addition, the daily geometric means were determined for each of the flow regime categories (high, moist, mid-range, dry, and low). This will allow IDEM to target those critical flow regimes for implementation

(pages 35 and 49 of the TMDL).

Maumee River: IDEM calculated the overall geometric means and reductions needed for each of the 4 sampling sites on the mainstem of the Maumee River (Appendix 8 of the TMDL). In addition, the daily geometric means were determined for each of the flow regime categories (high, moist, mid-range, dry, and low). This will allow IDEM to target those critical flow regimes for implementation (pages 35 and 49 of the TMDL).

As previously discussed, IDEM developed load duration curves (LDCs) for the St. Marys and Maumee Rivers watersheds. These LDCs can be used to determine a daily mass loading, if needed. The daily mass loading will vary depending on stream flow. These curves will be used by IDEM to target those critical flow regimes for implementation (page 35 and 49 of the TMDL), and to determine the reduction needed for each sampling site in the watershed (Appendices 4 and 8 of the TMDL). Thus, rather than determine reductions based upon land use types or source categories, the reductions are based upon geographical location .

EPA finds that the TMDL submittal from IDEM satisfies all requirements concerning 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 WQs 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.

Comment:

Wasteload Allocation: Wasteload allocations are discussed in the Wasteload Allocation Sections and the Reasonable Assurance Activities Sections of the TMDL submittal. The wasteload allocation for all facilities subject to NPDES regulation is equal to the Water Quality Standard for *E. coli*: 125/100ml (geometric mean of 5 samples equally spaced over a 30 day period), nor exceed 235/100ml (1 sample in a 30 day period), from April 1st through October 31st. The TMDL also allows for potential future point sources by setting a WLA of 125 cfu/100 ml (geometric

mean of 5 samples in 30 days) and a single sample maximum of 235 cfu/100 ml for any new discharger. Thus, any future point source will have a permit limiting the pathogen discharge to the WQS and the source should not cause or contribute to a pathogen impairment.

St. Marys River: There are a total of 19 individual NPDES permitted dischargers in the watershed (page 23 and Appendix 1 of the TMDL, Table 3 below). Of these 19, 11 do not have a sanitary component or are connected to another discharger for treatment. Of the remaining 7 dischargers, 4 have *E. coli* limits in their permits already, and therefore the TMDL will have no impact on current operations. The remaining 3 facilities have total chlorine limits in the permits rather than *E. coli* limits. This was based upon the assumption that adequate levels of chlorine would ensure that fecal coliform bacteria were deactivated (page 23 of the TMDL). IDEM has determined that this assumption may not be valid for fecal coliform, and is even less likely for *E. coli*. Therefore, IDEM will be pursuing *E. coli* limits for these permits when they are up for renewal (Page 52 of the TMDL). For the 7 facilities with sanitary wastes, the WLA is 125/100ml (geometric mean of 5 samples equally spaced over a 30 day period), nor exceed 235/100ml (1 sample in a 30 day period), from April 1st through October 31st.

There are three MS4 communities in the St. Marys River watershed, the cities of Decatur and Fort Wayne, and Allen County. These entities do not have finalized stormwater permits, but are in the process of being permitted. Three communities in the St. Marys watershed have combined sewer overflow (CSO) discharges: the cities of Berne, Fort Wayne, and Decatur (Figure 19 and Appendix 2 of the TMDL). The TMDL submittal states that the WLA for permitted activities is the WQS of 125/100 ml (geometric mean of 5 samples equally spaced over a 30 day period), nor exceed 235/100ml (1 sample in a 30 day period), from April 1st through October 31st.

IDEM noted that there have been isolated sanitary sewer overflows (SSOs) in the watershed. The WLA for these prohibited discharges is set at 0. IDEM also noted that there are numerous septic systems in the watershed that have direct discharge to streams. IDEM, Adams County, Allen County, and other governmental entities are working to locate and address these sites. IDEM has determined a WLA of 0 for these facilities. Numerous CFO and CAFO facilities have been identified in the St. Marys watershed (Appendix 3 of the TMDL). IDEM assigned a WLA of 0 as these facilities are required to manage manure, litter, and process wastewater pollutants in a manner that does not cause or contribute to the impairment of *E. coli* WQS.

Maumee River: There are a total of 6 individual NPDES permitted dischargers in the watershed (Appendix 5 of the TMDL, Table 4 below). Of these 6, 4 do not have a sanitary component or are connected to another discharger for treatment. Of the remaining 2 dischargers, 1 has *E. coli* limits in their permit already, and therefore the TMDL will have no impact on current operations. The remaining 1 facility is a lagoon system, and therefore does not have an *E. coli* or total chlorine limit. It was believed that holding of effluent in a lagoon would result in natural attenuation of *E. coli*, and therefore no disinfection was needed. However, IDEM is questioning this assumption, and will therefore be pursuing *E. coli* monitoring as a permit condition when the NPDES permit is up for renewal (Page 52 of the TMDL). For the 2 facilities with sanitary wastes, the WLA is 125/100ml (geometric mean of 5 samples equally spaced over a 30 day period), nor exceed 235/100ml (1 sample in a 30 day period), from April 1st through October 31st.

There are two MS4 communities in the Maumee River watershed, the cities of Fort Wayne and New Haven. These entities do not have finalized stormwater permits, but are in the process of being permitted. These two communities also have combined sewer overflow (CSO) discharges:

(Figure 22 and Appendix 6 of the TMDL). The TMDL submittal states that the WLA for permitted activities is the WQS of 125/100 ml (geometric mean of 5 samples equally spaced over a 30 day period), nor exceed 235/100ml (1 sample in a 30 day period), from April 1st through October 31st.

IDEM also noted that there are numerous septic systems in the watershed that have direct discharge to streams. IDEM, Allen County, and other governmental entities are working to locate and address these sites. IDEM has determined a WLA of 0 for these facilities. 19 CFO and 2 CAFO facilities have been identified in the Maumee River watershed (Appendix 7 of the TMDL). IDEM assigned a WLA of 0, as these facilities are required to manage manure, litter, and process wastewater pollutants in a manner that does not cause or contribute to the impairment of *E. coli* WQS.

EPA finds that the TMDL submittal from IDEM satisfies all requirements concerning 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.

Comment:

The Margin of Safety Section of the submittal states that there is an implicit margin of safety because no rate of decay was used in calculations or in load duration curves for the pathogens. Since pathogenic organisms have a limited capability of surviving outside their hosts, a rate of decay would normally be used. However, it was determined by IDEM that it is more conservative to use the water quality standard of 125 cfu/100ml *E. coli* and single sample maximum of 235 cfu/100ml, and not to apply a rate of decay which could result in a discharge limit greater than the water quality standard.

As stated in EPA's *Protocol for Developing Pathogen TMDLs* (EPA 841-R-00-002), many different factors affect the survival of pathogens in water. These factors include, but are not limited to, sunlight, temperature, salinity, and nutrient deficiencies. These factors vary depending on the environmental condition/circumstances of the water, and therefore it would be difficult to assert that the rate of decay caused by any given combination and degree of these environmental variables were sufficient enough to meet the WQS of 125 cfu/100 ml and a single sample maximum of 235 cfu/100ml. This is why it is more conservative to apply the State's water quality standard as the margin of safety, because this standard must be met at all times under all environmental conditions.

EPA finds that the TMDL submittal from IDEM contains an appropriate MOS satisfying all requirements concerning 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))

Comment:

The Seasonality Section of the TMDL addresses seasonality by using WQS for total body contact during the recreational season (April 1st through October 31st) defined previously. Any high or low flows are addressed within the TMDL because this is a concentration-based TMDL, and IDEM has analyzed impacts based upon the LDC method, which accounts for seasonal variations in flows and thus in loads. Therefore all the standards will be met regardless of the season or flow events.

EPA finds that the TMDL submittal from IDEM satisfies all requirements concerning 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.

Comment:

There are several reasonable assurance actions that will be taken in both watersheds to help implement the TMDL. They are in the Reasonable Assurance Activities Sections of the TMDL submittal and include, briefly:

- For those facilities with only total residual chlorine monitoring in their current permits, IDEM will propose future NPDES permit renewals will have *E. coli* limits and monitoring;

- The CSO communities in the watershed are currently in the Long-Term Control Plan permitting process;
- Storm Water General Permit Rule 13 – there are several MS4 communities in the watershed. Permits for storm water will improve water quality. Guidelines are found in Indiana Rule 13 (327 IAC 15-13-10 and 327 IAC 15-13-11);
- CFO and CAFO management of manure, litter, and process wastewater; and
- Watershed projects – 319 grants, and the hiring of a Watershed Specialist as a liaison between planning and activities.
 - Allen and Adams Counties along with the City of Fort Wayne are working to form a watershed group in the St. Marys River watershed to address the impairments in the watershed.
 - The Maumee River Basin Commission is an active group working to improve the Maumee River watershed.
 - IDEM identified a number of non-point source best management practices (BMPs) that could be used to reduce *E. coli* loads; including riparian area management, manure collection and storage, contour row cropping, and septic tank management/education.

EPA finds that this criterion 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.

Comment:

The Monitoring Section of the TMDL submittal states that monitoring in both watersheds will occur on the 5-year rotating basin schedule and/or when some of the TMDL implementation is in place. IDEM will also be working with the City of Fort Wayne, the Adams County Soil and Water Conservation District, and the Allen County Health Department to coordinate monitoring efforts both currently underway and planned by those entities. Monitoring will be adjusted as needed for continued source identification and determination whether standards are being met.

EPA finds that this criterion has been adequately addressed.

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.

Comment:

Implementation is discussed in the Potential Future Activities sections of the TMDL submittal. As discussed in Section 8 of this document, IDEM is working with the Maumee River Basin Commission to address *E. coli* loading in the Maumee River watershed, and is working to form a watershed group to address the *E. coli* loads in the St. Marys River watershed.

The Potential Future Activities sections of the TMDL submittal also focuses on various BMPs that could be implemented to reduce loadings in the watersheds. These include riparian area management, manure collection and storage, contour row crops, manure nutrient-testing, drift fences, pet clean-up and education, and septic management /public education.

EPA reviews, but does not approve, implementation plans. EPA finds that this criterion has been adequately addressed.

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.

Comment:

IDEM public noticed this TMDL from August 3, 2005 to September 5, 2005, to provide an overview of the draft TMDL and provide an opportunity for public comments. There were two stakeholder meetings previous to that date in December 2004 and April 2005. The first was a kick off meeting to introduce the stakeholders to the project and the second meeting discussed data collection. The most recent stakeholder meeting took place on August 3 and 4, 2005, at the Decatur Public Library in Decatur, Indiana, and at the Hessen Cassel Library in Fort Wayne, Indiana, respectively. The presentations for all the public meetings were included in the final TMDL submittal. The draft TMDL documents were posted at: <http://www.in.gov/idem/water/planbr/wqs/tmdl/documents.html>, the IDEM TMDL Web site. U.S. EPA sent IDEM comments on the draft and final TMDL, and the comments were adequately addressed in the final TMDL. Comments on this TMDL project were received from one commentator, and the comment was addressed appropriately by IDEM.

EPA finds that the TMDL submittal from Indiana satisfies all requirements concerning 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.

Comment:

EPA received the St. Marys River and Maumee River TMDL submittal on June 19, 2006, accompanied by a submittal letter dated June 14, 2006. In the submittal letter, IDEM stated this TMDL is "the Final TMDL submission from the State of Indiana." 41 segments are addressed in the TMDL, as listed in Tables 1 and 2 below. The St. Marys River and Maumee River are impaired for Recreational Use on Indiana's 303(d) list due to *E. coli*.

The U.S. EPA is approving a TMDL for the same pollutant (*E. coli*) in the one segment that is not on IDEM's 2006 303(d) list. While developing the St. Marys/Maumee Rivers TMDL project, IDEM determined that Nickelsen Creek (INA0455_00) was impaired by *E. coli*. The segment was identified in the draft TMDL (dated August 8, 2005). The public had the opportunity to comment on this additional impaired segment in the TMDL during the IDEM public comment period. This segment was included in the final TMDL submitted to U.S. EPA. The TMDL report discusses the impairments for all the segments in the watershed, and IDEM determined TMDL allocations and calculations addressing all segments including the additional segment, as IDEM developed the TMDL on a watershed basis.

U.S. EPA believes it was reasonable for IDEM to develop TMDLs for the previously unlisted segment in the subwatersheds at the same time it was developing TMDLs for the listed segments. Because the public has had the opportunity to comment on the decision to include this additional segment within the TMDL, as well as the calculations used to establish the TMDL, and because the transmittal letter of the final TMDL states that the TMDL report is for the St. Marys/Maumee Rivers watershed, U.S. EPA believes it is appropriate to approve the additional TMDL at this time.

13. Conclusion

After a full and complete review, EPA finds that the IDEM TMDL submittal for the St. Marys River and Maumee River satisfy all of the elements of approvable TMDLs. This approval concerns the waterbody segments, pollutants, and impairments set forth in Tables 1 and 2 below. This approval is for a total of 41 TMDLs addressing 41 impairments. Impairments addressed in this TMDL are from the pollutant *E. coli*.

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 St. Marys River Watershed

Waterbody Name	Segment ID Number(s)*	Length (miles)	Impairment
Blue Creek	INA0442_T1007, INA0445_T1006	24.22	<i>E. coli</i>
Duer Ditch (Adams) and Other Tribs	INA0445_00	9.69	<i>E. coli</i>
Blue Creek Headwaters (Adams)	INA0442_00	8.46	<i>E. coli</i>
Habegger Ditch	INA0443_T1008	5.8	<i>E. coli</i>
Wittmer Ditch, No. 1	INA0443_T1020	2.98	<i>E. coli</i>
Farlow Ditch and Tribs	INA0443_T1019	11.01	<i>E. coli</i>
Gates Ditch	INA0443_T1014	1.17	<i>E. coli</i>
Little Blue Creek	INA0444_00	22.12	<i>E. coli</i>
Borum Run and Tribs	INA0448_00	21.65	<i>E. coli</i>
St. Marys River	INA0448_T1016	1.44	<i>E. coli</i>
Holthouse Ditch-Kohne Ditch	INA0452_00	10.16	<i>E. coli</i>
St. Marys River	INA0449_T1017, INA0453_T1018, INA0454_T1005, INA0454_T1021, INA0461_T1004, INA0463_T1003, INA0465_T1002	37.7	<i>E. coli</i>
St. Marys River	INA0446_T1015	4.79	<i>E. coli</i>
Yellow Creek	INA0447_00	32.79	<i>E. coli</i>
Martz Creek-Ruppert Ditch and Unnamed Tributaries	INA0447_T1002	9.82	<i>E. coli</i>
St. Marys River Trib	INA0454_T1012	2.84	<i>E. coli</i>
Gerke/Weber Ditch and Tribs	INA0453_00	17.53	<i>E. coli</i>
Snyder Ditch and Other Tribs	INA0463_00	10.61	<i>E. coli</i>
Junk Ditch and Other Tribs	INA0465_00	6.55	<i>E. coli</i>
Spy Run Creek	INA0466_T1011	8.75	<i>E. coli</i>
Pleasant Mills and Tribs	INA0446_00	15.3	<i>E. coli</i>
Decatur Tribs	INA0449_00	7.12	<i>E. coli</i>
Unnamed Tributaries to Spy Run Creek	INA0466_T1012	5.08	<i>E. coli</i>
Lowther Neuhaus Ditch	INA0466_T1013	3.03	<i>E. coli</i>
Unnamed Tributary to Lowther Neuhaus Ditch	INA0466_T1014	3.00	<i>E. coli</i>
St. Marys River	INA0466_T1022	0.5	<i>E. coli</i>

Nickelsen Creek**	INA0455_00		<i>E. coli</i>
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*The segments in **bold** are newly listed on the 2006 IDEM 303d list

The segment in **bold italic will be listed on the 2008 IDEM 303d list

Table 2 Maumee River Watershed

Waterbody Name	Segment ID Number*	Length (Miles)	Impairment
Maumee River	INA0511_M107 INA0514_M1006 INA051A_M1003	15.58	<i>E. coli</i>
Maumee River	INA0516_M1005	4.34	<i>E. coli</i>
Maumee River	INA0518_M1004 INA051C_M1002 INA051D_M1003	9.57	<i>E. coli</i>

*The segments in **bold** are listed on the 2006 IDEM 303d list

Table 3: NPDES Permits in the St. Marys River Watershed

Facilities with *E. coli* Limits

Permit No.	Facility Name	Receiving Waters	St. Marys River Watershed
IN0039314	Decatur Municipal STP	St. Marys River	
IN0044199	White Horse Mobile Home Park	Borum Run via Miller	
IN0045292	Hessen Utilities	Marion Ditch	
IN0048119	Hoagland WWTP / Allen Co Regional Sewer District	Houk Ditch	
IN0021369	Berne STP	Wabash River	Blue Creek

Facilities with Total Residual Chlorine Limits

Permit No.	Facility Name	Receiving Waters	St. Marys River Watershed
IN0036901	Oak Ridge Estates	St. Marys River via Bulham Ditch	
IN0055417	Country Acres Association WWTP	Kohne Ditch	
IN0109835	Mill Road Estates	St. Marys River	

Facilities with no Total Residual Chlorine or *E. coli* Limits

Permit No.	Facility Name	Receiving Waters	St. Marys River Watershed
IN0048151	Monroe Water Department	Yellow Creek	
IN0052302	B and B Custom Plating	St. Marys River via Tributary	
IN0058980	Bing-Lear Manufacturing Group, Berne	Habegger Ditch	Blue Creek
ING250026	Fort Wayne Metals	Bradbury Ditch	
ING490084	Meshberger Bros Stone Plt #2	Blue Creek	Blue Creek
INP000069	Bing-Lear Manufacturing Group, Berne	Berne STP	Blue Creek
INP000194	Ruan Transport Corporation	Decatur STP	
INP000197	Driggs Farms of Indiana, Inc	Decatur STP	

Table 4: NPDES Permits in the Maumee River Watershed

Facilities with *E. coli* Limits and Total Residual Chlorine

Permit No.	Facility Name	Receiving Waters
IN0032191	Fort Wayne Municipal STP	Maumee River

Facilities with no Total Residual Chlorine or *E. coli* Limits with Sanitary Component

Permit No.	Facility Name	Receiving Waters
IN0021407	Woodburn Municipal STP	Maumee River

Facilities with no Total Residual Chlorine or *E. coli* Limits with No Sanitary Component

Permit No.	Facility Name	Receiving Waters
IN0000485	Norfolk and Western Railway Co	Trier Ditch
IN0000507	BF Goodrich Tire Manufacturing	Maumee River
ING490049	Hanson Aggregates, Midwest W	Carson Drain
INM020346	New Haven CSS	N/A

**St. Marys/Maumee Rivers, IN TMDLs
Administrative Record Index**

	Date	Document Title	From	To	Type of Document	Pages
1	11/16/04	Federal Register notice November 16, 2004 Part II			Federal Register notice	14
2	12/15/04	Meeting invitation	Andrew Pelloso, IDEM	stakeholders	letter	2
3	12/15/04 12/16/04	St Marys River and Maumee River TMDL Stakeholder Meeting	IDEM	public	IDEM calendar notice	1
4	03/15/05	Meeting invitation	Andrew Pelloso, IDEM	public	letter	1
5	04/13/05	Data collection Meeting notice	IDEM	public	IDEM calendar notice	1
6	07/25/05	Stakeholder meeting notice	Andrew Pelloso, IDEM	public	letter	1
7	08/03/05 08/04/05	Draft St Marys River and Maumee River TMDL public notice	IDEM	public	IDEM calendar	
8	08/8/05	Draft St Marys River and Maumee River TMDL	IDEM	public	Draft TMDL	160

9	09/07/05	Comments on the Draft St Marys TMDL	David Werbach, USEPA	Staci Goodwin, IDEM	e-mail + attached files	4
10	02/20/06	Final draft of the St Marys River TMDL	Staci Goodwin, IDEM	David Werbach, USEPA	e-mail + attached file	70
11	03/10/06	Comments on the St Marys TMDL	David Werbach, USEPA	Staci Goodwin, IDEM	e-mail	1
12	03/23/06	St Marys MOS	Staci Goodwin, IDEM	David Werbach, USEPA	e-mail	1
13	06/19/06 (rec'd)	Final TMDL for the St. Marys River and Maumee River, Indiana	Martha Clark Mettler, IDEM	Kevin Pierard, USEPA	Letter with Final TMDL and responses to comments	150
14	07/07/06	St Marys comments #2	David Werbach, USEPA	Staci Goodwin, IDEM	e-mail	1
15	07/10/04	Comments and responses on the St Marys River TMDL - <i>E. coli</i>	Staci Goodwin, IDEM	David Werbach, USEPA	e-mail and attached files	3
16	07/12/06	St Marys comments	David Werbach, USEPA	Staci Goodwin, IDEM	e-mail	1
17	07/19/06	LDCs for St Marys TMDL	Selena Medrano, IDEM	David Werbach, USEPA	e-mail + file	6
18	07/21/06	St Marys River TMDL segments	Staci Goodwin, IDEM	David Werbach, USEPA	e-mail + attached files	3
19	07/25/06	St Marys TMDL figures	Staci Goodwin, IDEM	David Werbach, USEPA	e-mail + attached files	4

20	07/25/06	St Marys citizen complaint	Staci Goodwin, IDEM	David Werbach, USEPA	e-mail	1
21	07/26/06	St Marys figures	Selena Medrano, IDEM	David Werbach, USEPA	e-mail + attached file	4
22	07/26/06	Status of St Marys	Staci Goodwin, IDEM	David Werbach, USEPA	e-mail + attached file	1
23	07/26/06	Response to St Marys and Maumee comments	Selena Medrano, IDEM	David Werbach, USEPA	e-mail + attached file	5
24	07/26/06	St Marys TMIDL	Staci Goodwin, IDEM	David Werbach, USEPA	e-mail + attached file	2
25	07/26/06	St Marys TMIDL conversation record	David Werbach, USEPA	Staci Goodwin, IDEM	conversation record	1
26	07/21/04	Approval of Final TMIDL for E. coli for the St Marys and Maumee Rivers, IN	Jo Lynn Traub, USEPA	Martha Clark Mettler, IDEM	Letter with decision document	

General TMDL/List Administrative Record

Tab 1: Statutes and Regulations

Document number	Date	Document Title	Number of pages
1	March 1988	Clean Water Act	
2	July 24, 1992	Federal Register, 40 CFR Parts 122, 123, and 130	
3	July 1, 1996	Part 130 of Title 40 of the Code of Federal Regulations, Section 130.7 (40 CFR 130.7)	
4	November 16, 2004	Water Quality Standards for Coastal and Great Lakes Recreation Waters; Final Rule (FR Vol. 69, No. 220, Part II, 67218-67243)	

Tab 2: U.S. EPA National Guidance

Document Number	Date	Document Title	From	Number of Pages
1	April 1999	Guidance for Water Quality-based Decisions: The TMDL Process EPA 440/4-91-001		
2	November 26, 1993	Guidance for 1994 Section 303(d) Lists	Geoffrey H. Grubbs	11
3	August 8, 1997	New Policies for Establishing and Implementing Total Maximum Daily Loads (TMDLs)	Bob Perciasepe	8
4	August 17, 1997	National Clarifying Guidance for 1998 State and Territory Section 303(d) Listing Decisions	Robert H. Wayland III	10
5	August 27, 1997	National Clarifying Guidance for 1998 State and Territory Section 303(d) Listing Decisions	Robert H. Wayland III	11
6	April 28, 2000	EPA Review of 2000 Section 303(d) Lists	Robert H. Wayland III	2
7	October 24, 2000	Correspondence from Office of Water WQSP-00-03	Geoffrey H. Grubbs and Robert H. Wayland III	7
8	October 30, 2000	Use of Fish and Shellfish Advisories and Classifications in 303(d) and 305(b) Listing Decisions WQSP-00-03	Frederick D. Leutner	15
9	November 19, 2001	2002 Integrated Water Quality Monitoring and Assessment Report Guidance	Robert H. Wayland III	28
10	March 26, 2002	Clarification of the use of Biological Data and Information in the 2002 Integrated Water Quality Monitoring and Assessment Report Guidance	Robert H. Wayland III	1
11	May 20, 2002	EPA Review of 2002 Section 303(d) Lists and Guidelines for Reviewing TMDLs under Existing Regulations issued in 1992	Charles H. Sutfin	19
12	November 22, 2002	Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit	Robert H. Wayland III and James A. Hanlon	6

General TMDL/List Administrative Record

		Requirements Based on Those WLAs	
13	July 21, 2003	Guidance for 2004 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d) and 305(b) of the Clean Water Act TMDL-01-03	Diane Regas
14	July 29, 2005	Guidance for 2006 Assessment, Listing and Reporting Requirements Pursuant to Sections 303(d), 305(b) and 314 of the Clean Water Act	Diane Regas
			91

Tab 3: Technical Support Documents

Document Number	Date	Document Title	Number of Pages
1	October 1999	Protocol for Developing Sediment TMDLs EPA 841-B-99-004	
2	November 1999	Protocol for Developing Nutrient TMDLs EPA 841-B-99-007	
3	January 2001	Protocol for Developing Pathogen TMDLs EPA 841-R-00-0002	

Tab 4: Administrative Record Indices for Approved 303(d) Lists for Region 5 States

Document Number	Date	Document Title	Number of Pages
1	September 21, 1998	Administrative Record Index for Michigan 1998 303(d) list	
2	December 21, 1998	Administrative Record Index for Ohio 1998 303(d) list	
3	February 15, 1999	Administrative Record Index for Indiana 1998 303(d) list	
4	August 19, 1999	Administrative Record Index for Illinois 1998 303(d) list	
5	September 3, 1999	Administrative Record Index for Minnesota 1998 303(d) list	
6	November 19, 1999	Administrative Record Index for Wisconsin 1998 303(d) list	
7	October 18, 2000	Administrative Record Index for Michigan 2000 303(d) list	
8	May 3, 2002	Administrative Record Index for Michigan 2002 303(d) list	
9	January 22, 2003	Administrative Record Index for Minnesota 2002 303(d) list	
10	May 19, 2003	Administrative Record Index for Wisconsin 2002 303(d) list	
11	July 17, 2003	Administrative Record Index for Ohio 2002 303(d) list	
12	August 15, 2003	Administrative Record Index for Illinois 2002 303(d) list	
13	September 30, 2003	Administrative Record Index for Indiana 2002 303(d) list	
14	May 5, 2004	Administrative Record Index for Ohio 2004 303(d) list	

General TMDL/List Administrative Record

15	May 13, 2004	Administrative Record Index for Minnesota 2004 303(d) list	
16	May 14, 2004	Administrative Record Index for Michigan 2004 303(d) list	
17	May 18, 2004	Administrative Record Index for Indiana 2004 303(d) list	
18	September 3, 2004	Administrative Record Index for Wisconsin 2004 303(d) list	
19	November 4, 2004	Administrative Record Index for Illinois 2004 303(d) list	
20	May 1, 2006	Administrative Record Index for Ohio 2006 303(d) list	
21	May 23, 2006	Administrative Record Index for Indiana 2006 303(d) list	
22	June 1, 2006	Administrative Record Index for Minnesota 2006 303(d) list	
23	June 5, 2006	Administrative Record Index for Michigan 2006 303(d) list	
24	June 27, 2006	Administrative Record Index for Illinois 2006 303(d) list	