



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
REGION 5
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IDEM
OFFICE OF
WATER QUALITY
APR 6 11 49 AM '05

REPLY TO THE ATTENTION OF:

WW-16J

MAR 28 2005

Martha Clark Mettler, Chief
Watershed Planning Branch
Office of Water Quality
Indiana Department of Environmental Management
100 North Senate Ave.
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Dear Mrs. Clark Mettler:

The United States Environmental Protection Agency (U.S. EPA) has conducted a complete review of the final Total Maximum Daily Load (TMDL) submittal for *E. coli* in the waterbody segments in the Lower Eel River watershed (Segment ID's: INW0396_00, INW0395_T1019, INW0396_T1020, INW0398_T1015, INW0397_T1018, INW039C_T1024, INW039D_T1025, INW0399_00, INW039C_T1023, INW039C_00, INW0384_00, INW0388_00, INW0386_00, INW0387_00, INW0385_00, INW0393_T1014, INW0394_T1016, INW0392_00, INW039A_T1021, INW039B_T1022, and INW0398_T1017), located in Clay, Owen, Greene, and Vigo counties, Indiana, including supporting documentation and information. Based on this review, U.S. EPA has determined that Indiana's TMDLs for one pollutant (*E. coli*) for these twenty one waterbody segments 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 21 TMDLs for the Lower Eel River watershed. 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 appreciate your hard work in this area and the submittal of the TMDLs as required. 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
Alan Walts, ORC, EPA

TMDL: Lower Eel River Watershed (Clay, Owen, Greene, Vigo and Sullivan Counties), Indiana
Effective Date: MAR 28 2005

DECISION DOCUMENT LOWER EEL RIVER WATERSHED 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 non-point 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 non-point 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:

The TMDL report for the Lower Eel River watershed covers the lower 256 square miles of drainage area of the Eel River watershed. The Eel River watershed is located in Clay, Owen, Greene, Vigo, and Sullivan Counties, Indiana. This TMDL report addresses the *E. coli* impairments in the following waterbody segments:

Waterbody Name	303(d) #	Segment ID	Length (miles)
Clay City Trib.	105	INW0396_00	4.45
Connelly Ditch-Headwaters	105	INW0395_T1019	7.52
Connelly Ditch	105	INW0396_T1020	5.24
Eel River	112	INW0398_T1015	3.88
Eel River	112	INW0397_T1018	3.07
Eel River	112	INW039C_T1024	2.71
Eel River	112	INW039D_T1025	3.12
Lagoon Creek – Howesville Ditch	112	INW0399_00	17.94
Lick Creek	112	INW039C_T1023	2.13
Need/Brush Creek And Other Tributaries	112	INW039C_00	12.81
Birch Creek – Little Birch Creek	113	INW0384_00	9.90
Birch Creek – Outlet (Zion Church)	113	INW0388_00	3.93
Birch Creek – Prairie Creek	113	INW0386_00	11.09
Brush Creek – Crooked Creek	113	INW0387_00	8.33
East Fork Birch Creek	113	INW0385_00	7.86
Eel River	113	INW0393_T1014	6.31
Eel River	113	INW0394_T1016	2.79
Splunge Creek – Cutoff / Little Slough	113	INW0392_00	25.79
Lick Creek	128	INW039A_T1021	5.15
Lick Creek	128	INW039B_T1022	5.51
Wabash & Erie Canal	147	INW0398_T1017	4.93

The waterbody segments identified in the table above were listed as impaired by *E. coli* on the 2004 Indiana Department of Environmental Management (IDEM) 303(d) list. Eel River Segments INW0393_T1014 and INW0394_T1016 are also listed as impaired for fish consumption advisories due to mercury and PCBs. TMDLs for these impairments will be done later. This TMDL report only addresses *E. coli* impairments in the watershed.

The Lower Eel River watershed is impacted by both point and non-point sources. There are twenty-one NPDES permitted dischargers in the Lower Eel River watershed (Table 1 of the final TMDL submittal report). These point sources include combined sewer overflows (CSOs), wastewater treatment plants (WWTP), and landfills. Non-point sources include illicit septic connections, failing septic tanks, confined feeding operations (CFOs), and contaminated run-off from cropland, and animal habitats such as urban park areas and forest. For further information on sources, refer to pages 4 – 6 of the final TMDL submittal report.

Landuse information obtained in 1992 from the Gap Analysis Program (GAP) indicated that approximately 73% of the landuse in the Lower Eel River watershed was agriculture, and the

remaining landuse consisted of approximately 23.6% forested, 1.4% developed, 1% deciduous shrubland, and 0.8% water (Table 3B and Figure 3 of the final TMDL submittal report). A comparison of the mid-1970s land use with the 1992 land use information shows that no substantial changes to the Lower Eel River watershed have occurred.

Most of Indiana's TMDLs are prioritized and scheduled for development based on the State's basin-rotation water quality monitoring schedule. There are some exceptions that deviate from this schedule. These reasons may include the following: whether the designated uses are being met; the magnitude of the impairment; water quality violations relating to pollutant parameters where no EPA guidance is available; and waters where other interested parties (e.g. local watershed groups) are working on alleviating the water quality problem. These TMDLs were scheduled based on the data available from the basin-rotation schedule.

USEPA finds that the TMDL document submitted by IDEM 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.

Comment:

Based upon the data collected, IDEM has determined that the Lower Eel River watershed is impaired for full body contact recreational use by *E. coli*. The applicable IDEM water quality standard (WQS) that is in use during the recreational season, April 1st through October 31st, is found under rule 327 IAC 2-1-6 (d). This rule requires that "*E. coli* bacteria, using membrane filter (MF) count, shall not exceed one hundred twenty-five (125) colony forming units (cfu) 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) cfu per one hundred (100) milliliters in any one (1) sample in a thirty (30) day period." The *E. coli* WQS for Indiana's recreational season is the target for which the TMDLs in the Lower Eel River watershed were developed.

USEPA finds that the TMDL document submitted by IDEM 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 non-point source loadings under such *critical conditions*. In particular, the TMDL should discuss the approach used to compute and allocate non-point source loadings, e.g., meteorological conditions and land use distribution.

Comment:

For most pollutants, TMDLs are expressed on a mass loading basis (e.g. pounds per day). For *E. coli* indicators, however, IDEM determined that mass is not an appropriate measure because *E. coli* is expressed in terms of organism counts (or resulting concentration). Therefore, the loading capacities (TMDLs) for each impaired segment in the Lower Eel River watershed are concentration-based and are equal to the geometric mean *E. coli* WQS of 125 cfu per 100ml as a 30-day geometric mean and 235 cfu per 100ml as a single-sample maximum. The geometric mean *E. coli* WQS allows for the best characterization of the Lower Eel River watershed, and is consistent with rule 327 IAC 2-1-6 (d) and rule 327 IAC 5-2-11.1(b) which describes how the water quality criteria will be applied in determining appropriate water quality-based effluent limitations to NPDES permits.

Water quality *E. coli* load duration curves were created by using IDEM's data from 24 sampling sites in the Lower Eel River watershed in conjunction with continuous flow data obtained from 3 U.S. Geological Survey (USGS) gages (03360000, 03357000, 03360500) to show the *E. coli* violations of the single-sample maximum standard and geometric mean standard during both the recreational and non-recreational seasons (Figure 2, and Attachments B and C of the final TMDL submittal report). The load duration curves analysis indicated that the largest exceedances of the *E. coli* WQS are prevalent during wet weather conditions but that dry weather contributions are also a source of *E. coli* to the Lower Eel River watershed.

The load duration curve analysis method considers how stream flow conditions relate to a variety of pollutant loadings and their sources (point and non-point). In order to create load duration curves, flow data is first used to create flow duration curves. These curves display the cumulative frequency of distribution of the daily flow for the period of record and reflect a range of natural occurrences from extremely high flows to extremely low flows. The flow duration curves are then transformed to load duration curves by applying water quality criteria values for *E. coli* and appropriate conversion factors. Then the existing monitored water pollutant loads from various types of locations (wet weather/non-point sources, or dry weather/point sources) are added to the curve and other conversion factors are applied. In this way it can be determined which locations contribute loads above or below the water quality standard, or target, line. Then the next step is to determine where reductions need to occur. For further explanation, refer to Page 6 – 7 of the final TMDL submittal report.

IDEM has determined that the primary *E. coli* loading sources to the Eel River watershed arise from a mixture of dry and wet weather-driven conditions. Dry weather sources were considered to be those sources that are not run-off dependant, such as failing septs, wildlife, and illicit storm drain connections (sewage/septics illicitly hooked up to storm water pipes). Wet weather sources were considered to be CSO overflow discharges and contaminated run-off from cropland, non-regulated small livestock operations, and animal habitats such as urban park areas and forest. Therefore, there is no single critical condition that would achieve the *E. coli* WQS. The load duration curves represent pollutants during both dry periods and the washoff during storm events. Both of these conditions are critical for the conceptual model in describing how the pollutants behave in a natural environment and were addressed in developing the curves.

USEPA finds that the TMDL document submitted by IDEM 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 non-point 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 non-point sources.

Comments:

Because these TMDLs are concentration-based, the LAs for each segment are equal to the WQS of 125 *E. coli* per 100ml as a 30-day geometric mean based on not less than 5 samples, and 235 *E. coli* per 100ml as a single-sample maximum. The assumption used by the State in this load allocation strategy is that there are equal bacterial loads per unit area for all lands within the watershed. Therefore, IDEM has established that the relative responsibility for achieving the necessary reductions of bacteria and maintaining acceptable conditions will be determined by the amount of land under the jurisdiction of the various local units of government within the watershed.

The relative responsibility for achieving the necessary reductions of bacteria and maintaining acceptable conditions within the county governments and their corresponding portions of the land area in the Lower Eel River watershed has been determine by IDEM as follows: Clay County (63.06%), Owen County (20.10%), Greene County (14.18%), Vigo County (2.64%), and

Sullivan County (0.03%). For further information on the breakdown of responsibility within the townships in each county, refer to Table 3A and Figure 6 of the final TMDL submittal report.

Potential non-point sources contributing to the LAs include failing septic, wildlife, illicit storm drain connections (sewage/septics illicitly hooked up to storm water pipes) from residential areas, and contaminated run-off from cropland and animal habitats such as urban park areas, and forest. There are also ten active CFOs and one inactive CFO in the Lower Eel River watershed (Table 2 and Figure 5 of the final TMDL submittal document) and other small livestock operations contributing to the LAs.

USEPA finds that the TMDL document submitted by IDEM 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:

There are twenty-one NPDES permitted point source dischargers located in the Lower Eel River watershed (Table 1 of the final TMDL submittal report). There are only five known NPDES permitted dischargers that have a sanitary component to their discharge (Figure 4 of the final TMDL submittal report). Of these five, only Brazil Municipal STP has a limit for *E. coli*. The other four (Clay City Municipal Publicly Owned Treatment Works (POTW) (IN0039861), Jasonville Municipal Sewage Treatment Plant (STP) (IN0021008), Wabash Park Campground (IN0050695), and Jackson Township Elementary School (IN0030783)) are required to monitor for and have limits for total residual chlorine.

There are also two permitted combined sewer overflows (CSOs) in the Lower Eel River watershed. Both are in the city of Brazil, in Clay County. One CSO discharges to Harms Run (Wabash River) and one discharges to Birch Creek (White River).

There are eleven CFOs in the watershed but none are classified as concentrated animal feeding operations (CAFOs), which have general NPDES permits. These are not considered as point sources under the Clean Water Act, although there is state-level regulation on CFO's.

The sanitary wastewater *E. coli* effluent limits from point sources in the non-Great Lakes system during the recreational season, April 1st through October 31st, are also covered under rule 327 IAC 2-1-6(d). Therefore, the WLAs for all permitted facilities on all segments will be equal to the WQS of 125 *E. coli* per 100 ml as a 30-day geometric mean and not exceed the 235 *E. coli* per 100ml as a single-sample maximum. Since the WLAs are concentration based and must be met under all flows, this is also consistent with the conditions for the control of point sources given under Indiana's rule 327 IAC 5-2-11.1(b) which describes how the water quality criteria will be applied in determining appropriate water quality-based effluent limitations to NPDES permitted dischargers.

USEPA finds that the TMDL document submitted by IDEM 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:

The Lower Eel River watershed TMDLs for pathogens contains an implicit margin of safety because no rate of decay was used and no adjustments were made for flow conditions. Since pathogenic organisms have a more 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 apply the water quality standard of 125 *E. coli* per 100 ml to all flow conditions, and not to apply a rate of decay which could result in a discharge limit greater than the water quality standard.

USEPA finds that the TMDL document submitted by IDEM 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:

Seasonality in the TMDLs is addressed by establishing load allocations applicable to the months

of April 1st through October 31st to protect for full body contact as defined in Indiana's *E. coli* WQS for the recreational season under rule 327 IAC 2-1-6 (d). Since the TMDLs are concentration based, this *E. coli* WQS must be met under all flow conditions during the applicable season.

USEPA finds that the TMDL document submitted by IDEM 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 non-point sources, and the WLA is based on an assumption that non-point source load reductions will occur, EPA's 1991 TMDL Guidance states that the TMDL should provide reasonable assurances that non-point 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 non-point sources. However, EPA cannot disapprove a TMDL for non-point 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:

For point sources, Indiana's rule 327 IAC 5-2-11.1(h) requires effluent limits to be included in NPDES permits for pollutants discharged at levels that have the reasonable potential to cause an exceedance of WQS. For the permitted dischargers that have only chlorine limits in their current permits such as Clay City Municipal POTW (IN0039861), Jasonville Municipal STP (IN0021008), Wabash Park Campground (IN0050695), and Jackson Township Elementary School (IN0030783), IDEM proposes that *E. coli* limits and monitoring be included when the next permit renewal is issued for each facility.

Also, a new NPDES permit will be issued for the City of Brazil WWTP collection system in which the WWTP will be classified as 100% sanitary sewer system instead of a combined sewer system. In this new permit, the City of Brazil WWTP will no longer be a CSO community because the two CSO outfalls will be eliminated. The new permit will still allow for one active overflow point in the system (003). The City of Brazil WWTP plans to eliminate this overflow but until the active overflow is removed it will be identified as a sanitary sewer overflow (SSO) in the permit and prohibited from discharging.

Other activities for point source control include Brazil Municipal STP's installation of a new interceptor sewer to reduce sewer system bypassing, and Jasonville Municipal STP's approval

for funding through the State Revolving Fund (SRF) to improve their wastewater infrastructure to reduce sources of *E. coli*. Currently, Clay City Municipal POTW lacks the necessary funds to eliminate the hydraulic overload at the wastewater plant and excessive sewer system bypassing, but could be a candidate for a SRF loan.

Nonpoint source pollution, which is the primary cause of *E. coli* impairment in this watershed, can be reduced by the implementation of best management practices (BMPs) such as Riparian Area Management, Manure Collection and Storage, Contour Row Crops, No-Till Farming, Manure Nutrient Testing, Drift Fences, Pet Clean-up/Education, and Septic Management/Public Education. For further information on these BMPs, refer to pages 11-12 of the final TMDL submittal report.

Other nonpoint sources such as CFOs are required under Indiana's regulations (327 IAC 16 and 327 IAC 15) to manage manure, litter, and processed wastewater pollutants in a manner that does not cause or contribute to the impairment of *E. coli* WQS.

In addition, Owen County has formed a countywide Regional Sewer District (RSD). Currently, activity is being focused in Clay City, Cunot, and unincorporated portions of the county. As more homes on septic connect to the RSD, reductions in *E. coli* loading from leaking or failed septic systems will occur, which will help the watershed meet the Water Quality Standard (WQS).

There is also a 319 watershed project that has been proposed for this watershed. It is anticipated that, if approved, this watershed project will help to reduce the non-point source contribution to the *E. coli* loading in the Lower Eel River watershed.

In addition, IDEM has recently hired a Watershed Specialist for this area of the state. The Watershed Specialist will be available to assist stakeholders with starting a watershed group, facilitating planning activities, and serving as a liaison between watershed planning and TMDL activities in the Lower Eel River watershed.

USEPA finds that this section 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 non-point sources, and the WLA is based on an assumption that non-point source load reductions will occur. Such a TMDL should provide assurances that non-point 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:

Future monitoring of the Lower Eel River watershed will take place during IDEM's 5-year rotating basin schedule and/or once TMDL implementation methods are in place. During the 5-year rotating basin schedule, IDEM will monitor the Lower Eel River watershed for *E. coli*. Monitoring will be adjusted as needed to assist in continued source identification and elimination. When these results indicate that the waterbody is meeting the *E. coli* WQS, IDEM will monitor at an appropriate frequency to determine if Indiana's 30-day geometric mean value

of 125 *E. coli* per 100 ml is being met.

USEPA finds that this section has been adequately addressed.

10. Implementation

EPA policy encourages Regions to work in partnership with States/Tribes to achieve non-point source load allocations established for 303(d)-listed waters impaired by non-point sources. Regions may assist States/Tribes in developing implementation plans that include reasonable assurances that non-point source LAS established in TMDLs for waters impaired solely or primarily by non-point 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:

This TMDL report does not contain a formal implementation plan, since it is not required under the current EPA regulations. However, the Indiana Department of Environmental Management has identified ongoing activities. These activities have been identified under the reasonable assurance section of this decision document.

USEPA finds that this section 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.

Comments:

The public comment period for Lower Eel River watershed TMDLs was from January 13 to February 14, 2005. Notice of this public comment period was published in IDEM's State Calendar, and copies of the TMDL report were available on IDEM's website: <http://www.in.gov/idem/water/planbr/wqs/tmdl/tmdldocs.html>. Several stakeholder/public notification meetings were held by IDEM to discuss the Lower Eel River watershed TMDLs effort. These meetings were held at the First Financial Bank Community Room in Clay City, Indiana on August 2, 2004, and on January 25, 2005. During the kickoff meeting on August 2, 2004, a questionnaire was distributed to all attendees to let stakeholders determine how involved they wanted to be in the TMDLs. During the public comment period for the Lower Eel

River watershed TMDLs, one comment was received, and IDEM adequately responded to the comment.

USEPA finds that the TMDL document submitted by IDEM 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.

Comment:

The U.S. EPA received the formal submission of the final *E. coli* TMDLs for the Lower Eel River watershed on March 1, 2005 along with a cover letter from Martha Clark Mettler, Chief of the Watershed Planning Branch, IDEM, dated February 25, 2005. The letter stated that this was a final TMDL submittal under Section 303(d) of the CWA, and identified the impaired waterbody segments, location, and the causes/pollutants of concern. IDEM's submittal letter stated that the Lower Eel River watershed TMDLs address the impairment of *E. coli*.

USEPA finds that the TMDL document submitted by IDEM satisfies all requirements of this twelfth element.

13. Conclusion

After a full and complete review, USEPA finds that the TMDLs for the Lower Eel River watershed satisfy all of the elements of approvable TMDLs. This approval is for 21 waterbody segments impaired by *E. coli* for a total of 21 TMDLs addressing 21 impairments.

Waterbody Name	Segment ID	Pollutant	Impairment
Clay City Trib.	INW0396_00	<i>E. coli</i>	<i>E. coli</i>
Connelly Ditch-Headwaters	INW0395_T1019	<i>E. coli</i>	<i>E. coli</i>
Connelly Ditch	INW0396_T1020	<i>E. coli</i>	<i>E. coli</i>
Eel River	INW0398_T1015	<i>E. coli</i>	<i>E. coli</i>
Eel River	INW0397_T1018	<i>E. coli</i>	<i>E. coli</i>
Eel River	INW039C_T1024	<i>E. coli</i>	<i>E. coli</i>
Eel River	INW039D_T1025	<i>E. coli</i>	<i>E. coli</i>
Lagoon Creek – Howesville Ditch	INW0399_00	<i>E. coli</i>	<i>E. coli</i>
Lick Creek	INW039C_T1023	<i>E. coli</i>	<i>E. coli</i>
Need/Brush Creek And Other Tributaries	INW039C_00	<i>E. coli</i>	<i>E. coli</i>
Birch Creek – Little Birch Creek	INW0384_00	<i>E. coli</i>	<i>E. coli</i>
Birch Creek – Outlet (Zion Church)	INW0388_00	<i>E. coli</i>	<i>E. coli</i>

Waterbody Name	Segment ID	Pollutant	Impairment
Birch Creek – Prairie Creek	INW0386_00	<i>E. coli</i>	<i>E. coli</i>
Brush Creek – Crooked Creek	INW0387_00	<i>E. coli</i>	<i>E. coli</i>
East Fork Birch Creek	INW0385_00	<i>E. coli</i>	<i>E. coli</i>
Eel River	INW0393_T1014	<i>E. coli</i>	<i>E. coli</i>
Eel River	INW0394_T1016	<i>E. coli</i>	<i>E. coli</i>
Splunge Creek – Cutoff / Little Slough	INW0392_00	<i>E. coli</i>	<i>E. coli</i>
Lick Creek	INW039A_T1021	<i>E. coli</i>	<i>E. coli</i>
Lick Creek	INW039B_T1022	<i>E. coli</i>	<i>E. coli</i>
Wabash & Erie Canal	INW0398_T1017	<i>E. coli</i>	<i>E. coli</i>