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

REPLY TO THE ATTENTION OF:

WW-16J

JAN 2 5 2005

Martha Clark Mettler, Chief
Watershed Branch
IDEM
100 North Senate Ave.
P.O. Box 6015
Indianapolis, Indiana 46206-6015

Dear Ms. 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 13 segments of the Little Calumet River/Burns Ditch watershed, which is located in Lake and Porter Counties, Indiana, including supporting documentation and information. Based on this review, U.S. EPA has determined that Indiana's TMDL for one pollutant (E. coli) for these 13 waterbody segments meets 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. Four segments do not need TMDLs for cyanide and will be proposed for delisting (Table 1). Therefore, by this letter, U.S. EPA hereby approves 13 TMDLs, for the Little Calumet River/Burns Ditch. 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

TMDL: Little Calumet River/Burns Ditch, Indiana
Date: 1/25/05

Decision Document for the Little Calumet River/Burns Ditch, Indiana E. coli 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; chlorophyl *a* and phosphorus loadings for excess algae; length of riparian buffer; or number of acres of best management practices.

Comment:
The Little Calumet River and Burns Ditch are located in Lake and Porter Counties, Indiana. The waterbodies are listed on Indiana's 2002 303(d) lists for pathogens, cyanide, and Fish Consumption Advisory (FCA) for PCBs, and FCA-mercury (Table 1 below). These TMDLs for 13 segments will address pathogens, while FCA-PCBs and FCA-mercury will be addressed at a later date by a different TMDL. Four segments will be delisted for cyanide on the 2006 303(d) list. The impaired segments were placed on the Indiana Department of Environmental Management (IDEM) 303(d) list due to impairments of recreational uses as indicated by the elevated levels of E. coli bacteria. IDEM partitioned the watershed into 15 junctions for modeling purposes, and determined the loading capacity and all allocations based upon these junctions. Further details are given in Section 3 below and in Section 3 of the TMDL.

Historical data collected by IDEM showed elevated levels of E. coli throughout the Little Calumet River/Burns Ditch (Section 1.5 and 1.6 of the TMDL). Water quality data from 2000 was determined by IDEM to be the best for use in developing the TMDL. The water quality violations were found in various flow regimes and at various times of the year, signifying that it is unlikely that one source type is the predominant cause of the impairments (Section 1.6 of the TMDL). IDEM has determined that there are several different sources of E. coli impacting the waterbodies - NPDES discharges, combined sewer overflow (CSO) discharges, urban storm water (non-regulated), non-point source run-off, and loads from tributaries. These tributaries are Coffee Creek, Salt Creek, Deep River, and Hart Ditch. The loads from the tributaries are accounted for in the Little Calumet River TMDL development, but separate TMDLs will be developed (TMDLs have been developed for Salt Creek) to address the reductions needed for the tributaries. The implementation and monitoring activities planned and ongoing in the watershed will also address E. coli loads from the tributaries (Section 6 of the TMDL).

IDEM has identified 10 permitted point sources to the Little Calumet River/Burns Ditch waterbodies in Indiana (See Section #5 below). However, of these 10, only 4 were determined by IDEM to potentially contain E. coli (Section 3.3 of the TMDL). The TMDL was prioritized for development between the years 2000-2004, based upon the IDEM rotating basin schedule for water monitoring and assessment.

The watershed is approximately 134 square miles. The Little Calumet River can be split into two parts, the West Branch (18 miles in length) and the East Branch (24 miles in length). The two portions of the Little Calumet River merge and form Burns Ditch (8 miles in length), which flows into Lake Michigan (Little Calumet River Data Report, December, 2002). The land use is varied in the watershed, although it is generally dominated by urban and agricultural uses

(Appendix E of the TMDL). Loads in the watershed are a mixture of both point and non-point dischargers, and from rural and urban land uses. The TMDLs may be amended as new information on the watershed is developed.

EPA finds the State's approach acceptable and it meets the requirements of this section.

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 TMDLs for the Little Calumet River/Burns Ditch protect the designated use for total body contact recreation from April 1st to October 31st. As defined in the IDEM water quality standards 327 IAC 2-1.5-8(e)(2), Microorganisms: "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."

In setting the final TMDL targets, IDEM used a geometric mean target of 107 cfu/day, which accounts for the maximum sample result of 235 cfu/day. IDEM calculated that if one sample was at the maximum value of 235 cfu/day, the other 4 samples would have to average 107 cfu/day to ensure the WQS of 125 cfu/day geometric mean was met (Section 5.4 of the TMDL).

EPA finds the State's approach acceptable and it meets the requirements of this section.

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 steam 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:
IDEM used computer models to determine the loads and loading capacity of the waterbodies. To calculate the loading capacity of the Little Calumet River/Burns Ditch, IDEM used two models, the DYNHYD5 model and the WASP6 model. DYNHYD5 is a hydrodynamics model used to determine the physical parameters needed by the WASP6 model, such as water velocity, flows, and volumes (Section 3.1 of the TMDL). The watershed was broken into 15 junctions to better define the hydrologic information (page 3-2 of the TMDL). An additional 4 junctions (#17-#20) were used to define the inputs of inflows from four tributaries to the waterbodies, and a final junction (#16) was used to represent the input into Lake Michigan. Appendix B of the TMDL provides detailed information on the setup, assumptions, and calibration of the DYNHYD5 model. The calibration and verification results show the model was well-calibrated (Appendix B.3 of the TMDL).

The results from the DYNHYD5 model were then used in the WASP6 model. WASP6 is a water quality model used to model contaminant fate and transport in surface waters. Appendix C of the TMDL describes in detail the setup, assumptions, and calibration of the WASP6 model. The junctions used in the DYNHYD5 model were directly used by the WASP6 model. The additional junctions (#16 - #20) were not used in the WASP6 model, as they applied only to the hydrologic model (Appendix C.1 of the TMDL). The calibration and validation of the WASP6 model show an acceptable correlation.

The WASP6 model was used to determine the loads for both wet and dry conditions, based upon 2000 data (Section 3.1 of the TMDL). Loads were estimated for each junction, starting with the most upstream junction and working downstream until the predicted loads matched the observed data. The model accounted for die-off of E. coli in the waterbodies.

Point source loads were calculated from the municipal and industrial point sources, and estimated for the CSOs. For those facilities that are required to sample for fecal coliform rather than E. coli (based upon the NPDES permit), IDEM estimated that E. coli was approximately 80% of the fecal coliform value (Section 3.4 of the TMDL submittal).

To determine the stormwater nonpoint source load, IDEM divided the watershed into 6 drainage basins (Section 3.6 and Figure 3-2 of the TMDL), then estimated the impervious area in each drainage basin, and calculated the geometric mean for E coli that would result from run-off. IDEM also calculated the load from failing septic tanks (Section 3.6.2 of the TMDL), as well as from livestock, wildlife, and sediment in the watershed.

All these sources were added together to determine the current load entering the waterbodies (Table 2 below and Table 4.5 of the TMDL). The loads were then reduced until the modeling endpoint (the WQS of 125 cfu/100ml) was reached (Section 4.5 of the TMDL). Table 2 below (Table 4-5 of the TMDL) shows the current load and loading capacity (TMDL) needed to meet the loading capacity for the various junctions. An additional loading capacity under wet discharge conditions (i.e., CSOs) was determined by IDEM for the four junctions that contain CSO discharges. IDEM explained that this accounts for the potential increase in assimilative capacity that would be available under the wet conditions due to the rain events that are large enough to cause CSO events (Section 4.6 of the TMDL submittal) IDEM also determined the reduction needed for wet discharge (run-off conditions) and dry discharge (baseflow conditions), to account for the variety of sources contributing to the impairment (Table 4-5 of the TMDL submittal).

The results of the modeling show that point source discharge from industrial or municipal sources are a very small portion of the load, generally 2-3 orders of magnitude less than the overall load to the waterbodies. The results indicate that CSOs and the nonpoint sources (such as stormwater run-off, failing septic systems, wildlife, and in localized areas, livestock) appear to be the sources of E. coli in the watershed that are causing the impairments.

For these TMDLs, the critical period for total body contact recreation in the Little Calumet River/ Burns Ditch is April 1st -October 31st. E. coli sources to the Little Calumet River/ Burns Ditch arise from a mixture of wet and dry weather-driven conditions, and there is no single critical condition that is protective for all other conditions. Loadings occur from both dry weather sources (such as failing septics, conventional point sources) and wet weather sources (such as CSOs, agricultural run-off, storm water), and therefore the TMDLs were not developed for any particular loading condition.

EPA finds the State's approach acceptable and it meets the requirements of this section.

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:
IDEM used the water quality data and models to determine the current loads of pathogens due to non-point sources (Table 4-1 of the TMDL) for the junctions used in the modeling. Since the point sources (non-CSO) contribute very little to the impairment, the load allocations are essentially the loading capacity. In Table 2 below, the loading capacity is also the load allocation for each junction. IDEM investigated the loads from several nonpoint source types, including failing septic systems, livestock, wildlife, and sediment. The estimated loads from these sources are found in Section 3.6 of the TMDL submittal.

IDEM then determined the reductions needed based upon wet (stormwater-type loads) and dry (non-run-off related) weather events (Table 4-5 of the TMDL submittal). These allocations are appropriate given the amount of data for the watershed.

EPA finds the State's approach acceptable and it meets the requirements of this section.

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.

Comment:
IDEM has determined that there are two categories of point sources in the watershed, conventional point sources (waste water treatment plants or WWTPs) and combined sewer overflows (CSOs) (Chapter 4 of the TMDL). IDEM has determined that the WWTPs are not contributing to the impairments, and therefore no reductions in their currently permitted discharge are needed (Section 4.1 of the TMDL). Table 3 below lists the current permittees and their allocated loads. IDEM also determined the allocations for the CSOs in the watershed. The City of Gary has several CSO discharge pipes in the watershed. Table 4 below lists the WLAs for the junctions affected by CSOs. These WLAs are based upon a wet-weather loading capacity (see Table 2 below) that accounts for the larger assimilative capacity the rivers will have during the storm events that cause the CSO discharges (Section 4.6 of the TMDL submittal).

EPA finds the State's approach acceptable and it meets the requirements of this section.

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:
IDEM reduced the uncertainty in the TMDLs by calibrating and verifying the models used in TMDL development (Section 5.4 of the TMDL). The results of the modeling effort showed that the models appropriately characterized the watershed, and therefore a large MOS was not justified.

IDEM calculated an explicit MOS for the Little Calumet River/Burns Ditch TMDLs. The MOS was defined as an additional load reduction to address the uncertainty in the current source loadings (Section 5.4 of the TMDL submittal). IDEM determined that the sources and loads of pollutants into the East Branch of the Little Calumet River/Burns Ditch watershed were more non-point source in nature and more wet-weather related and hence more uncertain, and therefore a MOS of an additional reduction of 6% in the loading target was appropriate (Table 5-1 of the TMDL). This is born out by the relatively large difference between the reductions needed for wet weather vs. dry weather for the eastern portion of the watershed, thus indicating that a significant portion of the loads are wet-weather related.

The sources and loads for the western portion of the watershed were more urbanized and more likely to be regulated (illicit septic discharges, CSOs), and therefore a MOS of 1% reduction in the loading target (Table 5-1 of the TMDL) was appropriate. Based upon the uncertainty analysis, model calibration, and model verification (Appendix C of the TMDL submittal), the

MOS is adequate.

EPA finds the State's approach acceptable and it meets the requirements of this section.

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 TMDLs address seasonal variation by using data gathered from March to November, and the WASP6 model used six historical flow and water quality conditions at different times of the year (Section 3.1 of the TMDL submittal). These efforts accounted for the seasonal variations in flow and water quality. In addition, the TMDLs determined separate reductions for dry weather and wet weather, to account for the different types of sources that would be contributing to the impairments (Table 4-5 of the TMDL).

EPA finds the State's approach acceptable and it meets the requirements of this section.

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:
The TMDL identifies CSO discharges, point sources discharges, unregulated storm water discharges, agricultural inputs, illicit connections, and tributaries as sources of E. coli in the Little Calumet/Burns Ditch watershed. Reasonable assurance for the point source dischargers is

demonstrated by the WWTP controls for meeting their current NPDES limits for pathogens. Several NPDES permits currently require monitoring for fecal coliform; IDEM will be requiring the permittees to monitor for E. coli when the permits are next reissued (Section 3.3.1 of the TMDL submittal).

Reasonable assurance is demonstrated for the CSO discharges by Long Term Control Plans (LTCPs) required for the three municipalities that have CSOs in the Little Calumet/Burns Ditch watershed. These plans will be considered final once approved by IDEM and USEPA. IDEM has identified the LTCPs as the primary mechanism to control the CSO discharges, and if after the LTCPs are in place and IDEM determines that CSOs are still causing or contributing to the E. coli impairment, then the TMDL will be modified as needed (Section 3.5 of the TMDL submittal).

For non-point load reductions, the Northwest Indiana Regional Planning Commission (NIRPC) is developing a watershed management plan for the watershed (Section 6.1 of the TMDL submittal). This plan will continue the on-going efforts in the watershed to develop and prioritize water quality goals, identify sources, and then develop specific reductions for specific pollutants and identify the timeframes for accomplishments (IDEM 205(j) website, 12/01/04).

IDEM is also developing E. coli TMDLs for several of the tributaries to the Little Calumet River, including the Deep River and Coffee Creek, and TMDLs have already been developed for Salt Creek. E. coli TMDLs were also developed for Lake Michigan, where the Little Calumet/Burns Ditch discharge. The development and implementation of these TMDLs will allow further identification and reduction of E. coli within these tributaries, which will subsequently improve the water quality of the Little Calumet/Burns Ditch watershed (Section 3.6 of the TMDL submittal).

EPA finds that the state's approach acceptable.

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 TMDL submittal proposes several changes to the current monitoring in the watershed. IDEM plans to use the adaptive management approach, where implementation activities are undertaken, the results assessed, and either continued or modified based upon the results. This iterative process requires monitoring to continue, so that assessment decision can be made

(Section 7 of the TMDL submittal). Several agencies and facilities have conducted sampling in the watershed, including IDEM, USGS, Gary Sanitary District, and the Interagency Task Force (Section 1.5 of the TMDL submittal; Little Calumet Data Report dated December, 2002). Much of this monitoring is ongoing, and IDEM is proposing to develop a plan to integrate the various monitoring activities to reduce overlap and data gaps (Section 7 of the TMDL submittal).

The process IDEM used to develop these TMDLs is explained in Section 1 of the TMDL. IDEM decided to use an iterative approach for the TMDLs, where the initial TMDL is developed based upon the existing data, using computer models to simulate the system. As new data is gathered, the results will be reviewed and compared to the TMDLs and the TMDLs can be modified as needed (the "adaptive management" approach). This approach allows IDEM to begin the TMDL implementation efforts while new data is developed, rather than waiting for further monitoring. USEPA believes the benefits of this approach outweigh any concerns about source characterization. Given that the implementation efforts will take several years to implement and produce results, the monitoring efforts are reasonable.

EPA finds that the state's approach is acceptable.

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:
This TMDL does not contain a formal implementation plan. EPA is not required to and does not approve TMDL implementation plans. However, as discussed in Section #8 above, IDEM did identify some implementation activities that will work toward meeting the water quality standard for pathogens. The loads from the CSOs in the watershed will be addressed through the LTCP process, and the NPDES permits in the watershed will be modified during the next permit cycle to include E. coli monitoring for those facilities that could reasonably be expected to discharge E. coli. A Phase II watershed plan is being developed by Northwest Indiana Regional Planning Commission (NIRPC) to address NPS loads in the watershed.

EPA finds that the state's approach is acceptable.

11. Public Participation

EPA policy is that there should be full and meaningful public participation in the TMDL development process. The TMDL regulations require that each State/Tribe must subject calculations to establish TMDLs to public review consistent with its own continuing planning process (40 C.F.R. §130.7(c)(1)(ii)). In guidance, EPA has explained that final TMDLs

submitted to EPA for review and approval should describe the State's/Tribe's public participation process, including a summary of significant comments and the State's/Tribe's responses to those comments. When EPA establishes a TMDL, EPA regulations require EPA to publish a notice seeking public comment (40 C.F.R. §130.7(d)(2)).

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

Comment:
The IDEM public participation effort for the Little Calumet/Burns Ditch TMDL project began on July 18, 2002, in a mass mailing to over 150 potential stakeholders, inviting them to attend a public meeting on July 25, 2002. Over 50 people were in attendance. A second invitation was sent out on November 18, 2002, inviting stakeholders to a public meeting on December 11, 2002, to discuss data collection efforts. Approximately 40 people attended this meeting. A third invitation was sent out and posted on the IDEM website on October 7, 2003, inviting stakeholders to a public meeting on October 28, 2003, to discuss the modeling effort. Approximately 40 people attended this meeting. A fourth meeting was held on December 15, 2003, to discuss the models being used, and over 35 people attended the meeting. All meetings were held in the Northwest Indiana Regional Planning Commission office in Portage, Indiana.

The TMDLs were public noticed from August 6, 2004 to September 8, 2004. A copy of the public notice and availability of the draft TMDLs for review was sent out to stakeholders on July 23, 2004. Copies of the draft TMDLs were distributed at the meeting, and IDEM posted the draft TMDLs on their TMDL website and State Calendar.

One set of comments on the draft TMDLs were received from a commentor, and a copy of the letter was included in the TMDL submittal. IDEM responded to the comments and provided a copy of its response to these comments to EPA. EPA has determined that the comments were adequately addressed by the State.

EPA finds the State's approach acceptable and it meets the requirements of this section.

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 USEPA received the formal Submittal of the final pathogen TMDLs for the Little Calumet River/Burns Ditch on September 27, 2004, along with a submittal letter from Martha Clark Mettler, Chief of the Watershed Branch, Office of Water Quality, dated September 23, 2004. In the submittal letter, IDEM stated that "The TMDL accompanying this letter is the final TMDL submission for the State of Indiana for the Little Calumet River and Burns Ditch", and listed the segment ID numbers. The letter further stated that "This TMDL is being submitted per the requirement under Section 303(d) of the Clean Water Act and 40 CFR 130." The submittal letter included the name and location of the waterbody and the pollutant of concern. The letter states that the Little Calumet River/Burns Ditch was identified as impaired waterbodies due to E. coli exceedences of Indiana Water Quality Standards and were listed on Indiana's 303(d) list. Indiana does not include a separate priority ranking, however, it prioritizes and schedules waters based on its five-year rotating watershed assessment approach.

IDEM also noted in the submittal letter that 4 segments that were listed as impaired due to cyanide have been determined to be meeting standards, and therefore no TMDL is needed. IDEM will be formally proposing these segments for delisting the cyanide impairments in the 2006 303(d) list.

EPA finds the State's approach acceptable and it meets the requirements of this section.

13. Conclusion:
After a full and complete review, EPA finds that the TMDLs for the Little Calumet River/Burns Ditch, Indiana satisfy all of the elements of approvable TMDLs. This approval is for 13 waterbody segments impaired by E. coli for a total of 13 TMDLs addressing 13 impairments. In addition, four segments will be delisted for cyanide.

Table 1 Waters listed on the IDEM 2002 303(d) list

Waterbody	303(d) list #	segment #	impairments addressed
Little Calumet River	22	INC0161_T1023 INC0162_T1060 INC0163_T1061 INC0162_T1082	E. coli
Little Calumet River	21	INC0164_T1018 INC0164_T1086	E. coli
Portage Burns Waterway	2	INC0164_T1108	E. coli
Portage Burns Waterway	24	INC0143_T1010 INC0143_T1090	E. coli
Little Calumet River	24	INC0142_T1009	E. coli, cyanide*
Little Calumet River	23	INK0335_T1004 INK0335_T1005 INK0336_T1002	E. coli, cyanide*

* now meeting standards, no TMDL will be developed

Table 2 Loading capacity/Load allocations

Junction	Current load (cfu/d)	loading capacity (cfu/d) - baseflow	loading capacity (wet)
11	5.90E11	1.89E10	NA
10	5.90E11	3.70E10	NA
9	5.90E11	2.11E10	NA
8	4.30E10	4.71E9	NA
7	3.83E10	3.94E9	1.72E10
6	2.75E10	2.66E9	NA
5	3.15E10	3.50E9	8.05E10
4	2.08E10	5.03E9	9.37E10
3	2.20E12	9.52E10	1.79E10

2	9.97E12	2.44E10	NA
1	5.83E10	2.27E10	NA
12	1.45E12	6.23E10	NA
13	9.14E10	5.24E9	NA
14	5.79E10	5.28E9	NA
15	1.99E10	2.02E10	NA

Table 3 Individual WLAs

Permittee	permit number	WLA (cfu/day)	Junction
ISG Burns Harbor	IN0000175	9.68E8	1
Burns Harbor	INU060801	1.26E7	12
Chesterton WWTP	IN0022578	2.53E9	14
Portage WWTP	IN0024368	9.38E7	2

Table 4 Waste Load Allocations for CSOs

Junction	Waste Load Allocation (cfu/d)
7	1.33E10
5	4.55E9
4	4.32E9
3	8.35E10