



UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5
77 WEST JACKSON BOULEVARD
CHICAGO, IL 60604-3590

REPLY TO THE ATTENTION OF:

WW-16J

19 APR 2004

Ms. Martha Clark Mettler
IDEM
100 N. Senate Ave.
P.O. Box 6015
Indianapolis, IN 46206

Dear Ms. Clark Mettler:

The United States Environmental Protection Agency (U.S. EPA) has reviewed the final Total Maximum Daily Load (TMDLs) for the West Fork of the White River (Muncie to Hamilton-Marion County Line), including supporting documentation and follow up information. The Indiana Department of Environmental Management's (IDEM's) TMDLs address the E. coli impairment of recreational use in Delaware, Madison, and Hamilton Counties. Based on this review, U.S. EPA has determined that Indiana's TMDLs for E. coli 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, U.S. EPA hereby approves seven TMDLs for the West Fork White River (Muncie to Hamilton-Marion County Line). 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 this submitted TMDL, 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,

A handwritten signature in black ink, which appears to read "Jo Lynn Traub", is written over the typed name and title.

Jo Lynn Traub
Director, Water Division

Enclosure

APR 14 11 20 AM '04

OFFICE
OF
WATER
RESOURCES
IDEM

TMDL: West Fork White River (Muncie to Hamilton-Marion County Line), Indiana
Date: April 6, 2004

DECISION DOCUMENT FOR APPROVAL OF THE WEST FORK WHITE RIVER (MUNCIE TO HAMILTON-MARION COUNTY LINE) TMDL

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

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

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

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

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

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

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

Comment:

The final West Fork White River (Muncie to Hamilton-Marion County) TMDL submittal (TMDL submittal) was submitted by the Indiana Department of Environmental Management (IDEM) on February 25, 2004 and provides the following information:

Location Description: Sections 1.1 and 2.0 of the TMDL submittal describe the location of this TMDL. The portion of the West Fork White River (WFWR) Watershed covered by the TMDL submittal is located in central Indiana from Muncie to the Hamilton-Marion county line. The watershed drains approximately 1,160 square miles, and encompasses portion of Tipton, Hamilton, Madison, Delaware, Henry and Randolph Counties. The TMDL was developed on a watershed scale and the resultant TMDL allocations are located at four water quality stations which are the TMDL assessment points (Table 16 of the TMDL submittal), addressing seven segments (Table 1 of the TMDL submittal). A single assessment point may sometimes address multiple segments.

The seven impaired segments included in this TMDL submittal and listed in IDEM's Section 303(d) report are: West Fork White River IN05120201030 (Muncie to Madison County), West Fork White River IN05120201050 including the tributaries Killbuck Creek IN05120201040 and Pipe Creek IN05120201060 (Madison County), and West Fork White River IN05120201050 including the tributaries Stony Creek (no water body ID number) and Duck Creek IN05120201070 (Hamilton County). The 303(d) list includes the designated use as recreation, and E. coli impairment (list ID #153, 157, and 158) from violation of E. coli standards. Table 1 below is a compilation of Table 1 in the TMDL submittal of 1) impaired waterbodies, and 2) assessment points found in Tables 14, 15 and 16 of the TMDL submittal. The four assessment points address allocations for all seven segments.

Topography and Land Use: Section 2.2 of the TMDL submittal states that the West Fork White River watershed lies in the Tipton Till Plain, a physiographic region characterized by flat to gently rolling terrain due to continental glaciation. The land use is described in section 2.3 as row crop agriculture with areas of low density residential lands concentrated around Muncie, Anderson, and Indianapolis. IDEM believes that allocating loads on the subwatershed basis is appropriate based on the similarity of land use within the subwatersheds, and that point sources are not a significant cause of impairment for pathogens. EPA agrees with these reasons and notes that the TMDL can be modified in the future as new data are gathered.

Pollutant of concern: IDEM has identified three segments of the West Fork White River and four tributaries as impaired on Indiana's 2002 section 303(d) list for violations of E.coli water quality standards.

Table 1.

1) Stream segment	2) Assessment points
West Fork White River (Muncie to Madison Co.) IN05120201030	WWU010-0001 Memorial Drive, E. Edge, Muncie
West Fork White River (Madison Co.) IN05120201050	WWU030-0003 Anderson City Park WWU040-0004 Perkinsville
West Fork White River (Hamilton Co.) IN05120201050	Hamilton Marion County Line
Killbuck Creek IN05120201040	WWU030-0003 Anderson City Park WWU040-0004 Perkinsville
Pipe Creek IN05120201060	Hamilton Marion County Line
Stony Creek (NA)	Hamilton Marion County Line
Duck Creek IN05120201070	Hamilton Marion County Line

Pollutant point sources: The impairments due to E. coli from point sources are discussed in Section 4.1 of the TMDL submittal.

- Table 7 of the TMDL, shown below, lists the National Pollutant Discharge Elimination System (NPDES) permits in the watershed and provides the permit ID numbers; 21 facilities discharge to the WFWR or one of its tributaries.
- The communities of Alexandria, Anderson, Elwood, Muncie, Noblesville, and Tipton have CSOs that contribute to the E. coli problems, permitted under the National Pollutant discharge Elimination System (NPDES) program. The permits and communities are shown in Tables 7 and 8 of the TMDL submittal and are all written to the same standard. The standard will be discussed in the next section of this decision document. (E. coli bacteria 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.)

Table 7. Permitted facilities in the WFWR that discharge *E. coli*.

NPDES Permit Number	Description	County
IN0020044	Alexandria Municipal Sewage Treatment Plant	Alexandria
IN0032476	Anderson Municipal Sewage Treatment Plant	Anderson
IN0032719	Elwood Municipal Sewage Treatment Plant	Elwood
IN0059943	Gasamerica, Hinkle Creek Wastewater Treatment Plant	Bakers Corner
IN0051951	Hamilton Western Utilities Inc	Carmel
IN0038857	I-69 Auto Truck Plaza Inc.	Muncie
IN0037133	Interventions, Inc.	Gaston
IN0038407	Jackson Mobile Home Park	Muncie
IN0061301	Mount Pleasant Utilities	Yorktown
IN0025631	Muncie Sanitary District	Muncie
IN0031640	Perry Elementary School	Selma
IN0039471	Quiet Acres Mobile Home Park	Selma
IN0053627	Resting Wheels Mobile Home Park	Anderson
IN0025364	Royerton Elementary School	Muncie
IN0038598	Suburban Estates Mobile Home Park	Noblesville
IN0025526	Tall Timber Mobile Home Park	Noblesville
IN0021474	Tipton Municipal Sewage Treatment Plant	Tipton
IN0031135	Union Elementary and High School	Modoc
IN0025151	Wesdel Jr-Sr High School	Gaston
IN0021024	Winchester Municipal Sewage Treatment Plant	Winchester
IN0020150	Yorktown Municipal Sewage Treatment Plant	Yorktown

- There are also many stormwater Phase II communities of under 100,000 that are in the watershed.
- The Confined Animal Feeding Operations (CAFOs) are primarily discussed in the nonpoint source section. CAFOs in the State of Indiana are regulated, but not permitted, under Indiana Administrative Code (IAC) 327 Article 16 Confined Feeding Operations IC 13-18-10 Indiana Statutes on Confined Feeding Operation.

Section 4.1.2 of the TMDL submittal states that there are some communities with CSO discharges into the West Fork White River watershed that contribute to the *E. coli* based on information from communities and discharge monitoring reports (DMRs). Some *E. coli* data were entered into the modeling process using best professional judgement where monitoring data were not available.

Impairments from nonpoint sources are discussed in Section 4.2 of the TMDL study. The included sources are:

- Septic systems
- Agricultural runoff (including runoff from manure application)
- Wildlife
- Pets

Population and growth trends: The population of the watershed is approximately 200,000 above the Hamilton-Marion county line. Hamilton County is one of the fastest growing counties in the country, with a 68 percent increase in population from 1990 to 2000. This results in considerable land use change in the watershed, as well as an increase in the need for centralized and decentralized wastewater treatment.

Priority ranking: 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. This TMDL was prioritized to be completed at this time due to the water quality monitoring schedule.

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:

Section 3.1 of the TMDL submittal describes designated uses, numeric criteria, and antidegradation policy of the Clean Water Act.

Use Designation: All waters in Indiana, including the segments addressed in the TMDL submittal, are designated for recreational use. The WFWR has a designated use of full-body contact recreation (327 IAC 2-1-3). Based upon the data collected, IDEM has determined that the WFWR is impaired for this use by E. coli.

Narrative Standards: The narrative criteria are the general water quality criteria that apply to all surface waters. These criteria state that all waters must be free from sludge; floating debris; oil and scum; color- and odor-producing materials; substances that are harmful to human, animal or aquatic life; and nutrients in concentrations that may cause algal blooms.

Numeric Standards (and Targets) : The applicable IDEM water quality standard requires that "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.**" 327 IAC 2-1-6(d)

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. The loading capacity is shown in Table 15 of the TMDL:

Table 15. Cumulative allocated loadings from each source at the impaired water quality stations.

TMDL Assessment Point	Loading from In-stream Cattle (Counts/rec Season)	Loading from WWTPs (Counts/rec season)	Loadings from Septic Systems (Counts/rec season)	Loading from other nonpoint sources (Counts/rec season)
WWU010-0001 Memorial Drive, E. Edge, Muncie (Sub 51)	1.28E+12	1.34E+12	4.74E+12	2.45E+13
WWU030-0003 Anderson City Park	1.86E+12	2.65E+13	1.05E+13	2.11E+13
WWU040-0004 Perkinsville	2.22E+12	4.80E+13	1.25E+13	2.63E+13
Hamilton-Marion County Line (46)	1.17E+13	5.95E+13	9.79E+13	2.58E+12

Includes loading from all remaining land uses (barren, urban, cropland, pasture, forest, and wetlands).

This table represents the amount the waterbody could receive and still maintain standards. Column 1, loading from in-stream cattle, is one of the nonpoint source *allocated* loadings. The third and fourth columns are two other categories of nonpoint source allocated loads: septic systems and "other". Column 2 is allocated point source loading from the only *point source* in this TMDL, the waste water treatment plants.

The TMDL uses the Hydrological Simulation Program Fortran (HSPF) to determine loading capacity in this watershed. The technical criteria used by IDEM for choosing this model included its capability to simulate the physical system's characteristics and processes. Loading Simulation Program in C++ (LSPC++) is a new version that integrated geographical information systems, data storage and management, HSPF algorithms, and data analysis/post-processing that were best matches for the nature of this project. Section 5.0 ("Technical Approach") addresses the variety of land uses and different potential sources of E. coli for each of the land uses in the WFWR watershed. Section 5.2 describes the meteorological data used in developing the model, including: precipitation (hourly), wind speed, potential evapotranspiration, cloud cover, temperature and dew point. The modules developed in the model reflect pervious and impervious land use, pollutant loadings, hydraulic behavior simulation, and advective and generalized pollutant transport.

Section 6.2 of the TMDL describes the top-down methodology that was followed by IDEM to develop the TMDLs and allocate loads to their sources. Impaired headwaters were analyzed first,

because their impact had an effect on downstream water quality. Loads were reduced from applicable sources for these upstream waterbodies, and allocations were developed with loads that met water quality data. Model results from the selected successful upstream scenarios, with new reduced allocations, were then input into the model for downstream results. In this manner, the sources were weighted more equitably.

Critical conditions: Section 5.2 states that the model simulates the accumulation of pollutants during 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 the model.

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: Table 16 of the TMDL submittal shows reduction needed to meet water quality standards. (Wasteload allocations remain the same, so that no reductions in allocations between columns 1 and 2 are shown. This is discussed in the next section.)

Table 16. Allocations for the WFWR *E. coli* TMDL.

TMDL Assessment Point	Baseline Point Source Loads (Counts/rec season)	WLAs (counts/rec season)	Baseline Non-Point Source Loads (Counts/rec season)	LAs (Counts/rec season)	TMDL = WLA + LA + MOS (Counts/rec season)	Percent Reduction
WWU010-0001 Memorial Drive, E. Edge, Muncie	1.34E+12	1.34E+12	3.53E+14	3.05E+13	3.19E+13	91%
WWU030-0003 Anderson City Park	2.65E+13	2.65E+13	6.43E+14	3.35E+13	6.00E+13	91%
WWU040-0004 Perkinsville	4.80E+13	4.80E+13	6.88E+14	4.10E+13	8.90E+13	88%
Hamilton-Marion County Line	5.95E+13	5.95E+13	7.51E+15	1.12E+14	1.72E+14	98%

Column 3 shows “baseline” or current nonpoint source loads; which are the sum of loading from in-stream cattle, septic systems, and other nonpoint sources of current measured loading into the waterbody. The values in Column 4 are the modeled load allocations from these nonpoint sources that would meet the water quality standard of 235 counts/mL. Column 5 is the TMDL, WLA + LA + MOS. Note that the MOS is not present in any column but is represented within the modeled LA because the allocation target is not to exceed 223 counts/100mL (rather than the 235 counts/mL set out in the water quality standard). This represents a 5% MOS. The percent reduction in the last column is the ratio of the allocations compared to the baselines (Column 5/ Columns 1 + 3). The percent reduction for the nonpoint source load allocation is applied to all of the nonpoint source categories. Where reductions will be sought within these categories of load allocations is to be determined in the course of implementation.

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 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:

The first column of Table 16 is “baseline” or current point source loads from WWTPs found in the previous Table 15. The second column for WLA is the same as the first column, i.e. there is no reduction for the WLA because the current baseline permitted load would meet standards. This TMDL reduces load allocations only from nonpoint sources.

WLAs are presented in Table 16 in Column 3 in the section above, and Section 4.0 of the TMDL submittal reviews the various point sources for the WLAs. The baseline WLAs were calculated for all permitted facilities on a recreation-season basis and were developed to meet TMDL targets

under a range of conditions observed throughout the recreation season of April - October.

- No reductions were calculated for the WLA for the NPDES permits because within the NPDES program all permits are written to meet water quality standards set at the design flows for WWTPs or other facilities. Therefore, the WLA is the current loading. The allocations for CSOs were also set at zero, because no CSO overflows are permitted.
- The other point source category, Phase II (population over 7000) stormwater communities are also required to apply for NPDES permits and follow rules that regulate stormwater discharge to Municipal Separate Storm Sewer Systems (MS4s).

Any wet weather flows that exceeded NPDES permits were based on discharge monitoring reports (DMRs), and CSO discharges were estimated based on bypass data from DMRs.

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 MOS is an explicit 5% for the load allocation and Table 16 of the TMDL submittal includes this MOS in the TMDL column calculation. The 5% MOS applies only to the load allocations because the WLAs are not reduced in this TMDL as they are all permitted loads designed to meet standards. IDEM uses a relatively low MOS because of the low error associated with the modeling. However, this method was used appropriately because there are adequate observed data used in developing this TMDL, as shown in Appendix A of the TMDL submittal (E. coli water quality data). These data are both recent enough and of sufficient quantity to allow for a 5% margin of safety. There was also an implicit margin of safety because no rate of decay was used for the pathogens. 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 use the water quality standard of 125 counts/100ml E. coli, and not to apply a rate of decay which could result in a discharge limit greater than the water quality standard.

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:

Section 2.6 of the TMDL states that flow data were used in developing the model that covered several years so there was a good range of both hydrological and meteorological conditions. There was also a range of watershed sizes. Large flows due to spring rains and snow melt, and diminished flows in the late summer and early fall were all taken into account. Section 8.0 further concludes that by using a wide range of data, the seasonal hydrologic and source loading variability was inherently taken into account.

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:

Nothing was submitted in the initial TMDL submittal with regard to reasonable assurances. In response to USEPA comments on the draft submittal, IDEM stated that it "anticipates implementation activities to be funded through 319 and 205j grants. There are two active

watershed groups in this area who are already working on watershed management plans on a few of the major tributaries to the West Fork of the White River. IDEM anticipates further coordination with these two watershed groups for implementation activities." Subsequent to the submittal, IDEM provided information via e-mail dated March 15, 2004, stating that there are many stakeholders and watershed districts that IDEM will work with on water quality issues. They include the White River Watcher, City of Anderson, City of Muncie, Muncie Sanitary District, City of Nobleville, Delaware County Soil and Water Conservation District, Madison County Soil and Water Conservation District, and Hamilton County Soil and Water Conservation District.

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:

No monitoring was submitted with the TMDL. Since that submittal, IDEM has responded in an e-mail dated March 15, 2004, that the basin is scheduled to be monitored in 2006 as part of the State rotating basin assessments.

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 Section 10.0 of the TMDL submittal and is focused on septic systems, livestock exclusion, and structural urban BMPs. The septic systems actions planned are

outreach, providing consultation and inspection regarding maintenance, cost advantages and disadvantages. The livestock exclusion from riparian areas will be achieved via fencing and alternative watering locations such as pipelines, ponds, wells, troughs, and tanks. The urban area implementation would include infiltration basins or trenches, dry or wet ponds, porous pavement, and constructed wetlands.

EPA finds that the TMDL submittal from IDEM would satisfy all requirements concerning this tenth element. 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:

There was a Public Notice through a press release to several newspapers, 400 letters were sent, and communities and WWTPs were informed of the opportunity to comment from December 2, 2003, to January 2, 2004. There was a public meeting on December 4, 2003, in addition to past public meetings on October 1, 2002, and May 20, 2003, before the TMDL was completed. Copies of the draft TMDL were made available upon request and on the Internet web site. Comments were submitted and responses were attached to the final TMDL submittal on February 23, 2004. EPA finds that IDEM adequately responded to the comments.

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 West Fork White River TMDL on February 25, 2004, accompanied by a submittal letter dated February 23, 2004. In the submittal letter, IDEM stated "the submission includes the Final TMDL, the model for the Final TMDL, and the response to the comment received during the public comment period". The letter states that the West Fork White River is impaired for Recreational Use on Indiana's 303(d) list due to E. coli.

13. Conclusion

After a full and complete review, EPA finds that the IDEM submittal allocates loads for a total of 7 TMDLs for the West Fork White River, 303(d) list ID #153, 157, and 158. The allocations satisfy all of the elements of an approvable TMDL. This approval concerns the waterbody segments, pollutants, and impairments set forth in Table 1 in Section 1 of this document and below. Impairments addressed are pathogens from the pollutant E. coli.

Table 1.

1) Stream segment	2) Assessment points
West Fork White River (Muncie to Madison Co.) IN05120201030	WWU010-0001 Memorial Drive, E. Edge, Muncie
West Fork White River (Madison Co.) IN05120201050	WWU030-0003 Anderson City Park WWU040-0004 Perkinsville
West Fork White River (Hamilton Co.) IN05120201050	Hamilton Marion County Line
Killbuck Creek IN05120201040	WWU030-0003 Anderson City Park WWU040-0004 Perkinsville
Pipe Creek IN05120201060	Hamilton Marion County Line
Stony Creek (NA)	Hamilton Marion County Line
Duck Creek IN05120201070	Hamilton Marion County Line