



## EPA Region 7 TMDL Review

**TMDL ID:** IA 02-CED-00485-L\_O  
**Document Name:** GEORGE WYTH LAKE

**State:** IA

**Basin(s):** CEDAR RIVER  
**HUC(s):** 07080205  
**Water body(ies):** GEORGE WYTH LAKE  
**Tributary(ies):** NONE  
**Pollutant(s):** E. COLI

**Submittal Date:** 9/11/2008

**Approved:** Yes

### Submittal Letter

*State submittal letter indicates final Total Maximum Daily Load(s) (TMDL) for specific pollutant(s)/water(s) were adopted by the state, and submitted to EPA for approval under section 303(d) of the Clean Water Act [40 CFR § 130.7(c)(1)]. Include date submitted letter was received by EPA, date of receipt of any revisions, and the date of original approval if submittal is a phase II TMDL.*

The TMDL for George Wyth Lake was formally submitted by a letter dated September 5, 2008, from the Iowa Department of Natural Resources (IDNR) and received by the Region 7, United States Environmental Protection Agency (EPA) on September 11, 2008. A revision was sent by email September 25, 2008.

### Water Quality Standards Attainment

*The water body's loading capacity (LC) for the applicable pollutant is identified and the rationale for the method used to establish the cause-and-effect relationship between the numeric target and the identified pollutant sources is described. TMDL and associated allocations are set at levels adequate to result in attainment of applicable water quality standards (WQS) [40 CFR § 130.7(c)(1)]. A statement that WQS will be attained is made.*

The LC was determined by use of a near shore beach value (NSBV) calculation. Using the daily maximum criterion of 235 *E. coli* colonies per 100 milliliters (ml) results in a LC of 1.50E+11 colonies per day. Using the geometric mean criterion of 126 *E. coli* colonies per 100 ml the resulting LC is 8.03E+10 colonies per day. The LC should result in the attainment of WQS.

### Numeric Target(s)

*Submittal describes applicable WQS, including beneficial uses, applicable numeric and/or narrative criteria. If the TMDL is based on a target other than a numeric water quality criterion, then a numeric expression, site specific if possible, was developed from a narrative criterion and a description of the process used to derive the target is included in the submittal.*

The designated uses for George Wyth Lake are primary contact recreation (Class A1), fish consumption (HH) and aquatic life support (Class B(LW)). The TMDL is submitted to address the primary contact recreation use impairment. The WQS that apply are the geometric mean and single sample maximum *E. coli* colonies per 100 ml. These criteria are 126 and 235 colonies per 100 ml respectively and apply during the recreation season from March 15 through November 15. EPA agrees that the appropriate WQS are addressed.

### Pollutant(s) of concern

*An explanation and analytical basis for expressing the TMDL through surrogate measures (e.g., parameters such as percent fines and turbidity for sediment impairments, or chlorophyll-a and phosphorus loadings for excess*

algae) is provided, if applicable. For each identified pollutant, the submittal describes analytical basis for conclusions, allocations and margin of safety (MOS) that do not exceed the LC. If submittal is a phase II TMDL there are refined relationships linking the load to WQS attainment. If there is an increase in the TMDL there is a refined relationship specified to validate the increase in TMDL (either load allocation (LA) or waste load allocation (WLA)). This section will compare and validate the change in targeted load between the versions.

The linkage between the pollutant of concern and the impairment is direct. The use of the NSBV volume as a measurement area addresses a critical condition in that the LC is calculated in proximity to the main pollutant source.

### **Source Analysis**

*Important assumptions made in developing the TMDL, such as assumed distribution of land use in the watershed, population characteristics, wildlife resources, and other relevant information affecting the characterization of the pollutant of concern and its allocation to sources, are described. Point, nonpoint and background sources of pollutants of concern are described, including magnitude and location of the sources. Submittal demonstrates all significant sources have been considered. If this is a phase II TMDL any new sources or removed sources will be specified and explained.*

There are no permitted point sources in the lake watershed. The restroom located at the beach is connected to the municipal treatment facility. The restroom has been tested for leaks and none have been found.

Nonpoint sources of *E. coli* to the lake are identified as pet and wildlife waste. There are no cattle or other livestock in the watershed. Pets are allowed on the hiking trails around the lake but not on the beach. Approximately 80 deer and 100 geese live in the watershed. The geese are known to roost on the swimming beach. Bacterial loads from geese are estimated at  $4.9E+10$  fecal coliform organisms per goose per day. This results in a maximum possible load of *E. coli* at the beach of  $4.51E+12$  colonies per day.

It seems all significant sources have been identified.

### **Allocation - Loading Capacity**

*Submittal identifies appropriate WLA for point, and load allocations for nonpoint sources. If no point sources are present the WLA is stated as zero. If no nonpoint sources are present, the LA is stated as zero [40 CFR § 130.2 (i)]. If this is a phase II TMDL the change in LC will be documented in this section.*

The *E. coli* LC is set for both a single sample maximum ( $1.50E+11$  colonies per day) and a geometric mean ( $8.03E+09$  colonies per day). The WLA is zero and the MOS is implicit. As such, the LC is the same as the LA.

### **WLA Comment**

*Submittal lists individual WLAs for each identified point source [40 CFR § 130.2(h)]. If a WLA is not assigned it must be shown that the discharge does not cause or contribute to WQS excursions, the source is contained in a general permit addressed by the TMDL, or extenuating circumstances exist which prevent assignment of individual WLAs. Any such exceptions must be explained to a satisfactory degree. If a WLA of zero is assigned to any facility it must be stated as such [40 CFR § 130.2(i)]. If this is a phase II TMDL any differences in phase I and phase II WLAs will be documented in this section.*

There are no point sources in the watershed. The WLA is set at zero.

### **LA Comment**

*Includes all nonpoint sources loads, natural background, and potential for future growth. If no nonpoint sources are identified the LA must be given as zero [40 CFR § 130.2(g)]. If this is a phase II TMDL any differences in phase I and phase II LAs will be documented in this section.*

The LA for George Wyth lake is set at  $1.50E+11$  *E. coli* colonies per day for a single daily maximum and  $8.03E+10$  *E. coli* colonies per day for a geometric mean load.

## **Margin of Safety**

*Submittal describes explicit and/or implicit MOS for each pollutant [40 CFR § 130.7(c)(1)]. If the MOS is implicit, the conservative assumptions in the analysis for the MOS are described. If the MOS is explicit, the loadings set aside for the MOS are identified and a rationale for selecting the value for the MOS is provided. If this is a phase II TMDL any differences in MOS will be documented in this section.*

The MOS is implicit. The TMDL uses the NSBV to address critical conditions rather than the whole lake volume. Conservative assumptions were also built into the loading model and mass balance model used to generate the LC for the NSBV.

## **Seasonal Variation and Critical Conditions**

*Submittal describes the method for accounting for seasonal variation and critical conditions in the TMDL(s) [40 CFR § 130.7(c)(1)]. Critical conditions are factors such as flow or temperature which may lead to the excursion of WQS. If this is a phase II TMDL any differences in conditions will be documented in this section.*

The TMDL addresses the recreation season for the LC. The submittal also addresses critical conditions by calculating the LC based on the NSBV rather than the entire lake volume. EPA agrees that seasonality and critical conditions have been accounted for in the TMDL.

## **Public Participation**

*Submittal describes required public notice and public comment opportunity, and explains how the public comments were considered in the final TMDL(s) [40 CFR § 130.7(c)(1)(ii)].*

Public comment period was from July 17 through August 19, 2008. No public comments were received during the comment period. A public meeting was held in Cedar Falls, Iowa, on July 29, 2008, to inform stakeholders.

The draft TMDL was available on the IDNR web site during the period of public notice as was notice of the time and location of the public meeting.

## **Monitoring Plan for TMDL(s) Under Phased Approach**

*The TMDL identifies a monitoring plan that describes the additional data to be collected to determine if the load reductions required by the TMDL lead to attainment of WQS, and a schedule for considering revisions to the TMDL(s) (where phased approach is used) [40 CFR § 130.7].*

Weekly beach monitoring will be conducted by IDNR under their Beach Monitoring Program. This monitoring occurs from late May through October 31 each year.

## **Reasonable Assurance**

*Reasonable assurance only applies when less stringent WLAs are assigned based on the assumption of nonpoint source reductions in the LA will be met [40 CFR § 130.2(i)]. This section can also contain statements made by the state concerning the state's authority to control pollutant loads.*

Reasonable assurances are not required as there are no point sources in the watershed.

