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

AUG 22 2008

REPLY TO THE ATTENTION OF:

WQ-16J

Bruno Pigott, Assistant Commissioner
Office of Water Quality
Indiana Department of Environmental Management
Mail Code IGCN 1315
100 North Senate Avenue
Indianapolis, Indiana 46204-2251

Dear Mr. Pigott:

Thank you for your June 9, 2008, letter transmitting amendments to 327 IAC 2-1-6, 2-1.5-8 and 5-10-6 pertaining to *E coli*. I am pleased to inform you that we have completed our review of portions of those revisions, specifically the revisions to 327 IAC 2-1-6(d)(1)-(3) and 327 IAC 2-1.5-8(e)(1)-(3), which we are approving by this letter under Section 303(c) of the Clean Water Act, 33 U.S.C. § 1313(c). We hope to complete our review of the remainder of the amendments in September.

The enclosed Record of Decision explains the basis for EPA's decision to approve the revisions to 327 IAC 2-1-6(d)(1)-(3) and 327 IAC 2-1.5-8(e)(1)-(3).

If you have any questions regarding this matter, please contact Andy Tschampa, Acting Chief, Water Quality Branch, at (312) 886-6136.

Sincerely,

Timothy C. Henry
Acting Director, Water Division

Enclosure

cc: Thomas W. Easterly, Commissioner, IDEM
Shivi Selvaratnam, IDEM
Scott Pruitt, USFWS

Printed on Recycled Paper

Record of Decision for EPA Approval of Revised Water Quality Standards for the State of Indiana at 327 IAC 2-1-6(d)(1)-(3) and 327 IAC 2-1.5-8(e)(1)-(3).

Date: AUG 2 2 2008

Under Section 303(c) of the Clean Water Act (CWA), 33 U.S.C. §1313(c), the Administrator of the U.S. Environmental Protection Agency is charged with reviewing and approving or disapproving state-adopted new and revised water quality standards. The authority to approve new and revised water quality standards under Section 303(c) of the CWA has been delegated to the ten EPA Regional Administrators, and that authority has been re-delegated in Region 5 to the Region 5 Water Division Director. For the reasons described below, EPA approves, under §303(c) of the CWA, 33 U.S.C. §1313(c), revisions to Indiana's *Escherichia coli* (*E. coli*) bacteria criteria to protect full body contact recreational uses at 327 IAC 2-1-6(d)(1)-(3) and 327 IAC 2-1.5-8(e)(1)-(3).

Basis for EPA's Action

EPA's federal water quality standards regulations at 40 CFR 131.11, in part, state that States must adopt water quality criteria that protect the designated use. Further, such criteria must be based on sound scientific rationale. In establishing criteria, States should establish numerical criteria values based on (1) EPA's 304(a) Guidance, (2) 304(a) Guidance modified to reflect site-specific conditions, or (3) other scientifically defensible methods.

EPA's current recommended criteria published under Section 304(a) of the Clean Water Act for protecting primary contact or similar full body contact recreational uses are set forth in a document entitled *Ambient Water Quality Criteria for Bacteria – 1986* (EPA 440/5-84-002). That document recommends the use of *E. coli* or enterococci indicators in fresh waters.

EPA considers the following in order to make an approval determination for coastal recreation waters: 1) Are the standards based on EPA's recommended indicators of *E. coli* and enterococci as pathogen indicators for freshwaters and enterococci for marine waters? 2) Are the standards for *E. coli* and enterococci derived from a scientifically-defensible methodology that links them quantitatively to an acceptable risk level under CWA section 303(i)? 3) Do the standards include appropriate single sample maximums for all coastal recreation waters? 67 Fed. Reg. 67217, 67230-33 (November 16, 2004).

The BEACH Act rule requires that state water quality standards be based on EPA's recommended indicators of *E. coli* or enterococci as pathogen indicators for freshwaters. Indiana's water quality standards for bacteria, which are consistent with EPA's recommended criteria, are based on the use of *E. coli* as a pathogen indicator. EPA recommends a criterion of 126 counts per 100 milliliters (mL) as a geometric mean for fresh water. The 1986 document also includes a table of four single sample maximum values for different levels of beach usage, ranging from 235 counts per 100 mL up to 576 counts per 100 mL. EPA has interpreted the 1986 bacteria criteria document as recommending that the single sample maximum be used for making beach notification and closure decisions, and that states have discretion in using the single sample maximum in other CWA contexts. 69 Fed. Reg. 67223 (November 16, 2004). For example, a state that specifies a minimum sample size before a geometric mean would be applicable may choose to include the single sample maximum as part of its criteria to ensure that there is an applicable value to be used where there are less than a minimum number of samples. *Id.* at 67226. EPA has also recognized that "the single sample maximum can play a role in identifying potential pollution episodes, especially in waters that are prone to short-term

spikes in bacteria concentrations, e.g., waters that may be affected by a combined sewer overflow outfall." *Id.* at 67223.

The BEACH Act rule requires that the standards for *E. coli* and enterococci be derived from a scientifically-defensible methodology that links them quantitatively to an acceptable risk level under CWA Section 303(i). Indiana has adopted geometric mean and single sample maximum *E. coli* criteria in 327 IAC 2-1-6(d)(1)-(3) (applicable statewide) and 327 IAC 2-1.5-8(e)(1)-(3) (applicable only in the Great Lakes System) to protect full body contact recreational uses that are consistent with the values specified in the 1986 bacteria criteria document. Specifically, Indiana has adopted a geometric mean criteria of 125 counts per 100 mL per month, based upon a minimum of five samples (the 1986 bacteria criteria document recommends a geometric mean of 126 counts per 100 mL); and a single sample maximum criteria of 235 counts per 100 mL (the 1986 bacteria criteria document contains a range of single sample maxima from 235 for designated beach areas, to 576 counts per 100 mL for infrequently used full body contact recreation waters).

Indiana's revised water quality standards further provide that, in cases where there are at least ten samples at a given site in a specific month, up to ten percent (10%) of the samples may exceed the single sample maximum of 235, but only where the *E. coli* exceedances are incidental and attributable solely to *E. coli* resulting from the discharge of treated wastewater from a wastewater treatment plant. Indiana's revised water quality standards further provide that, notwithstanding the "ten-percent" exceedance provision, the single sample maximum shall be used for making beach notification and closure decisions. Indiana's criteria are protective of primary contact recreation use during Indiana's specified recreational season (April – October).

EPA recognizes that Indiana plans to exercise its allowed flexibility under the BEACH Act Rule to utilize the single sample maxima for beach monitoring and notification, and the geometric mean for all other purposes. As provided for in the BEACH Act Rule:

> EPA intends that States and Territories should retain the discretion to use single sample maximum values as they deem appropriate in the context of CWA implementation programs other than beach notification and closure, consistent with the CWA and its implementing regulations.
>
> The final rule does not constrain States and Territories flexibility in how they use the single sample maximum values in the context of the CWA implementation programs such as Total Maximum Daily Loads and National Pollutant Discharge Elimination System permit requirements as long as the geometric mean criteria for *E. coli* and enterococci are met (67 Fed. Reg. 67225-26 (November 16, 2004)).

The BEACH Act rule states that EPA expects single sample maximum values to be used for making beach notification and closure decisions. Indiana's revised regulations require that, in any event, the single sample maximum shall be used for making beach notification and closure decisions. As noted above, under the BEACH Act regulations at 40 CFR 131.41, and EPA's interpretation of the 1986 bacteria criteria document, States have some discretion in how they choose to use the single sample maximum, provided that—for waters subject to the BEACH Act regulations--they use the single sample maximum to make beach notification and closure decisions. Indiana has appropriately exercised that discretion by establishing water quality standards that ensure that, for full body contact

recreation waters, numeric criteria consistent with the geometric mean and single sample maxima specified in the 1986 bacteria criteria document apply at all times during the recreational season.

Specifically, for full body contact recreation waters, Indiana's regulations:

(a) make the single sample maximum applicable in all circumstances, regardless of the number of samples that are taken at any particular site,

(b) make the geometric mean applicable in all circumstances where there are five or more equally spaced samples at a specific site, and

(c) only allow for exceedances of the single sample maximum when

(i) there are ten or more samples at a specific site,

(ii) the exeedances are incidental and attributable solely to *E. coli* resulting from the discharge of treated wastewater from a wastewater treatment plant, and

(iii) the geometric mean criteria are met.

Indiana's regulations, therefore, do not allow for short-term spikes in bacteria concentrations attributable to untreated combined sewer overflows or other untreated sources of bacteria in full body contact recreation waters.

The BEACH Act rule requires that water quality standards include appropriate single sample maxima for all coastal recreation waters. Indiana's rules are clear in requiring that, when the geometric mean cannot be calculated because five equally spaced samples are not available, then the single sample maximum will apply. Indiana's water quality criterion for *E. coli* is a geometric mean of 125 per 100 mL. That level is as protective as EPA's BEACH Act rule. The 2006 Fact Sheet entitled, "Water Quality Standards for Coastal Recreation Waters: Using Single Sample Maximum Values in State Water Quality Standards" (August 2006, EPA-823-F-06-013) indicates that states may elect to include a minimum sample set size as part of its geometric mean criterion. *Id.* at 6. In such cases, however, the Fact Sheet indicates that a state would need to have another component of its criteria that would apply when there are fewer samples than the minimum sample set size. *Id.* Indiana's water quality standards provide for applicability of the single sample maximum value in the absence of the requisite number of samples relative to the geometric mean.

EPA's Action

Therefore, Indiana's revised water quality standards at 327 IAC 2-1-6(d)(1)-(3) and 327 IAC 2-1.5-8(e)(1)-(3) for protection of full body contact recreation waters are consistent with the BEACH Act rule (40 CFR 131.41(d)) and EPA's interpretation of the 1986 bacteria criteria document, and U.S. EPA approves these revisions under Section 303(c) of the CWA.

Endangered Species Act Consultation

Indiana's revisions will not impact the continued applicability of Indiana's aquatic life, drinking water, agricultural and industrial use designations (or any related water quality criteria) to any water bodies. These revisions relate solely to issues regarding the protection of human health and are not material to the level of protection needed to ensure protection of other, non-human-health-related designated uses (*e.g.*, aquatic life protection).

These revisions being approved by EPA under Section 303 of the CWA are not subject to consultation under the Endangered Species Act (ESA). The CWA requires human health water quality standards to be protective of human health endpoints and based upon a human response to stressors, and limits EPA to consideration of human-health-related impacts in acting on such standards. EPA does not have control or discretion under the CWA to modify its action on a human health standard based on other endpoints such as federally-listed threatened or endangered species, nor can EPA's action on a human health standard be modified to protect such species or the habitat on which they depend. Rather, states, including Indiana, protect listed species and the habitat on which they depend through adoption of appropriate non-human-health-related designated uses (*e.g.*, aquatic life protection) and related water quality criteria. Under ESA implementing regulations (50 CFR. 402.03), Section 7 requirements are thus inapplicable to EPA's action on these human health provisions.

Consistent with the public participation provisions in 40 CFR Part 131, Indiana provided two opportunities for public comment on the proposed revisions and two public hearings before final adoption of the revisions. Indiana provided a summary of the public comments that it received during the course of adopting the new and revised regulations and IDEM's responses to those comments, which EPA reviewed in the course of reviewing Indiana's rule amendments.

Indiana also provided a certification by the Indiana Attorney General's Office that the new and revised regulations were duly adopted pursuant to State law, as required by 40 CFR 131.6(e). The rule amendments were certified by the Attorney General of the State of Indiana on May 15, 2008.