

Attachment 1

Full Text of Public Comments Received on Indiana's Draft 2014 303(d) List of Impaired Waters and IDEM's Consolidated Assessment and Listing Methodology



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LSA #14-XXX
2014 Draft 303(d) List of Impaired Waters
Betsy Rouse, Administrative Assistant
Rules Development Branch
Office of Legal Counsel
Indiana Department of Environmental Management
via email: brouse@idem.in.gov

July 25, 2014

Dear Ms. Rouse:

The Sierra Club Hoosier Chapter welcomes this opportunity to comment on the draft 2014 303(d) List of Impaired Waters and the Consolidated Assessment and Listing Methodology (CALM) used to compile it. The Sierra Club is the country's oldest and largest grassroots environmental advocacy organization with 2.4 million members and supporters. The Sierra Club Hoosier Chapter has about 7,900 members in Indiana. We have the following concerns about the draft list and the listing methodology.

I. Failure to commence Total Maximum Daily Loads (TMDL) for waters listed as impaired due to PCB fish tissue contamination

In Appendix H (the Notice of Public Comment Period), 303(d) Attachment 1, IDEM provides its TMDL development schedule for 2014-2016 (Tables 1 and 2) and its long-term development schedule (Table 3). On pages 2-8 and 2-9 of the attachment, IDEM explains its rationale for its prioritization of TMDL development. IDEM ranks all "pathogen" impairments as high priority because "IDEM's process for developing E. coli TMDLs has been refined to the point that TMDLs for pathogen impairments can be completed in a relatively short timeframe". Contrarily, IDEM ranks fish tissue impairments as low priority "because IDEM maintains that a TMDL is not the appropriate approach for addressing these impairments and to date, EPA has not provided adequate guidance to states regarding how to develop a TMDL to restore a waterbody with fish tissue impairments. Until better guidance is available, IDEM considers it more prudent to focus limited resources on developing TMDLs for which appropriate methods have been established." IDEM lists all other impairments as medium priority.

IDEM's priorities and its rationale for them raise a number of concerns. First, it appears that IDEM hasn't reviewed its priorities in a number of years. The exact same language used to explain its priorities that appears in the 2014 draft may be found in IDEM's 2010 and 2012 303(d) lists (2010 303(d) Attachment 7, p. 7-1; 2012 303(d) Attachment 2, p. 2-10). These repetitive statements are particularly troubling in regard to PCB fish tissue impairments because the U.S. Environmental Protection Agency published a *PCB TMDL Handbook* on December 20, 2011¹. For IDEM to continue to maintain that "EPA has not provided adequate guidance to states regarding how to develop a TMDL to restore a waterbody with fish tissue impairments" in the

¹ http://water.epa.gov/lawsregs/lawsguidance/cwa/tmdl/upload/pcb_tmdl_handbook.pdf

2012 and now the draft 2014 303(d) lists suggests that the department is either woefully ill-informed about TMDL developments nationally or it is intentionally misleading the public. At a minimum, IDEM should mention the existence of the handbook. If it feels that the handbook does not provide “adequate guidance” it should explain why it thinks this. If it continues to insist that “a TMDL is not the appropriate approach for addressing these impairments”, it should discuss what approach it does consider appropriate.

IDEM places waters with PCB and/or mercury fish-tissue impairments in category 5B. It describes this category on page 65 of Attachment 1 of the Notice for the 2014 draft 303(d) list. Again, it says “the state believes that a conventional TMDL is not the appropriate approach.” It adds that “the state will continue to work with the general public and the U.S. EPA on actual steps needed ultimately to address these impairments.” We repeat the question we raised in our comments on this language in the 2012 303(d) list: What has IDEM done in the past two years to work with the general public or the E.P.A to take “actual steps” to address fish tissue impairments? PCB fish tissue contamination is the third largest cause of impairment for Indiana’s flowing waters as measured in impaired stream miles (after *E. coli* and impaired biotic communities) and by far the largest cause of impairment for the state’s lakes (38,290 acres, compared to 16,385 acres for the next two largest causes, chlorophyll-a and taste and odor). See tables 11 and 20 in Appendix A of the *Integrated Water Monitoring and Assessment Report* (“Integrated Report”). On page 49 of the Integrated Report, IDEM reports that PCB levels in fish tissue have declined over a 25-year period, which it depicts in Appendix C, Figures 8, 9 and 10. However, the apparent declines may be a construct of the year used as the first measurement, which are different in each figure. In any case, the most recently reported levels remain well above recommended health guidelines. People should not have to wait several more decades of inaction on IDEM’s part in hopes that the levels diminish to a point that it becomes once again safe to eat fish.

Ironically, the first waterbody where IDEM removed an impairment was Pigeon Creek in southwest Indiana, which the department had placed on the 303(d) list in 1996 due to high levels of the organochlorine pesticide chlordane found in fish tissue. (See Table 5 in Appendix A of the Integrated Report.) Through the cooperative efforts of residents and government agencies at the local, state and federal level, and with the support of Section 319 funding, the impacted community created a watershed plan and installed more than 50 agricultural best management practices (BMP) between 1997 and 2001 to reduce soil erosion, which was the vehicle that carried the banned pesticide into the water. By 2005 IDEM determined that chlordane levels in fish tissue had dropped sufficiently that the impairment could be removed from the 303(d) list. While in this case IDEM did not prepare a TMDL, the actions taken were consistent with TMDL development and implementation.²

Given this history of success in addressing fish tissue contamination, we believe IDEM has delayed long enough on PCB fish tissue impairments. The department is working on TMDLs for three waterbodies at present: the upper Mississinewa, White Lick Creek and southern Whitewater River. IDEM lists numerous PCB fish tissue impairments for both the Mississinewa and Whitewater rivers. The department has information about at least one source of PCB contamination for the Mississinewa since one of its tributaries, the Little Mississinewa, is the site of a Superfund cleanup for PCBs in Union City.³ IDEM was a partner in the cleanup, which was

² http://water.epa.gov/polwaste/nps/success319/in_pigeon.cfm

³ http://www.epa.gov/region5/cleanup/mississinewa/pdf/lmr_fs_200108.pdf

completed in 2009. It shares responsibility with the E.P.A for post-remediation monitoring, which includes sampling sediments and fish downstream.⁴ Since it has already worked on PCB contamination in this watershed, it should add the Mississinewa PCB impairments to the TMDL.

Furthermore, while we support continuing to address *E. coli* pollution with TMDLs, particularly because implementation of these TMDLs will frequently also reduce other pollutants such as nutrients, we question the wisdom of prioritizing *E. coli* impairments over PCB fish tissue impairments. Since *E. coli* is only an indicator of the possible presence of human pathogens and is meant to provide protection for full-body contact with the water, it makes no sense to prioritize them in some sections of a waterbody where human pathogens are less likely to be found in abundance or where few people have full-body contact with the water. In waterbodies like the Mississinewa, where fishing is known to occur and where sources of PCB contamination of fish have been identified, the highest priority for TMDL development should be addressing this known human health hazard.

As for mercury fish tissue impairments, we have little reason to hope that IDEM will seek to remedy this problem. We disagree with the use of a “trophic level, consumption rate-weighted arithmetic mean result” (Attachment 1, p. 53) to determine mercury fish tissue impairments. We think that this new method (allowed by guidance that the E.P.A issued in 2010) of listing mercury-impaired waters significantly under-represents the number of waters with fish exposed to methylmercury. However, individual TMDLs are probably not the best way of dealing with this problem. Since the major source of mercury contamination of our waters is through air deposition that results from the burning of coal for electric power generation, it would be better to remedy the situation through a statewide TMDL that would require retirement of coal-burning power plants. We realize that IDEM is not about to pursue such a remedy, so we rely on new rules under the Clean Air Act to reduce mercury and carbon emissions, along with the changing economics of power generation that makes burning coal increasingly unprofitable, to gradually reduce mercury fish tissue impairments despite IDEM’s opposition to those rules.

II. Failure to list metal-impaired waters

In May 2014 the E.P.A issued its final decision adding approximately 140 metal-impaired stream segments to IDEM’s 2010 303(d) list. Most of these waters are impaired for aluminum and/or iron. Some are also impaired for copper, lead and/or zinc. IDEM identified these impairments through the use of derived criteria for dissolved metals or with the use of criteria for total metals. However, at the request of self-interested stakeholders, namely Alcoa, the Indiana Coal Council and the Indiana Energy Association⁵, IDEM decided to remove these impaired waters from the 2010 303(d) list. Although the E.P.A signaled its disagreement with IDEM’s decision, the department refused to add these waters to its 2012 list and obstinately continues that refusal with the 2014 list. We discussed this issue in some detail in our comments on the 2012 list⁶. The agency has clearly stated the reasons that it added these waters back to the 2010 list. We assume that it will continue to do so on the 2012 and 2014 lists, and only regret that it takes so long to do so. IDEM makes much of this dilatory process with an extended discussion of it on page 2 of the Notice, which includes the following paragraph.

⁴ http://www.epa.gov/region5/cleanup/mississinewa/pdf/lmr_5yr_201010.pdf

⁵ Their comment letters may be accessed on the IDEM 2010 303(d) web page: <http://www.in.gov/idem/nps/3889.htm>

⁶ Available at http://www.in.gov/idem/nps/files/303d_2012_list_revised_apndx_i_attach_2.pdf

These issues illustrate that any concerns the U.S. EPA may have regarding revisions to a state's assessment methodologies and corresponding changes to its 303(d) list can impose significant delays in approval. For this reason, IDEM has determined that reviewing all public comments together with those provided by the U.S. EPA will allow IDEM to more effectively evaluate all the available information and will allow IDEM to work through any issues and receive timely approval from the U.S. EPA.

Rather than acting like the aggrieved party in this standoff, IDEM should face reality and add these impaired waters to its 2014 303(d) list. Its continued refusal to do so is clear evidence that the department favors the interests of the coal industry and coal-burning electric utilities over the public good.

III. Problems with listing methodology

a. Inaccurate descriptions of listing categories

On pages 64 and 65 of Attachment 1 of the Notice, IDEM lists five categories for the status of waterbody impairments that IDEM uses in its 305(b) list of all identified water segments in the state, with a description of what each category means. These categories, which are derived from E.P.A. guidance, do not provide meaningful information for differentiating the quality of the state's waterbodies and for determining IDEM's ability to assess that quality.

For example, Category 1 is for waters "that meet the requirements of the state's assessment and listing methodology and support a determination that all WQS are attained and no designated use is threatened." In other words, a waterbody that meets all of its designated uses should be listed in Category 1. Category 2 is for waters that meet some but not all of their designated uses. However, since IDEM assigns a category number for each of the three or four uses that a waterbody might have—safe for full-body contact (recreational use, *i.e.*, swimming), safe for fishing and consuming the fish caught (fishable use), safe for aquatic organisms (aquatic life use), and safe as a source of public drinking water (public water supply)—it never assigns a water to Category 1. For example, Flat Creek in the Patoka River watershed (entry number 8783 in Appendix F of the Integrated Report, which is the 305(b) spreadsheet list categorizing all of Indiana's waters) is listed as Category 2 for all of its designated uses (recreation, fishing, aquatic life). So IDEM would seem never have a reason to use Category 1. (However, the spreadsheet indicates that Flat Creek has an impaired biotic community, so it probably should not be listed as Category 2 for aquatic life use. We have found several of these inconsistencies in the spreadsheet.)

Category 3 is for waters for which IDEM has "[i]nsufficient data and information to determine if any designated use is attained." The description goes on to say that "[s]tates should schedule monitoring on a priority basis to obtain data and information necessary to classify these waters as Category 1, Category 2, Category 4, or Category 5." Yet the vast majority of water segments listed in the 305(b) spreadsheet are assigned to Category 3 for three uses—swimming, fishing and aquatic life. Frighteningly, most waters that have a designated public water supply use are also listed in Category 3 for that use. Given the vast number of water segments in this category and IDEM's increasingly limited resources for assessing water quality, the admonishment to prioritize these waters for assessment and assignment to other categories is fatuous.

b. Inaccuracies in Category 4 data

Category 4 has three subdivisions. 4A is for impaired waters for which IDEM has completed a TMDL. 4B is for impairments that IDEM believes will be corrected by other control measures, such as a permit, so that a TMDL is not necessary. 4C is for waters where the impairment is not caused by a pollutant.

Category 4A is for impaired waters for which the E.P.A has approved a TMDL. Table 1 of Attachment 2 of Appendix H lists 45 of these approved TMDLs and Table 2 lists the impairments that these TMDLs have addressed. The preponderance of these is *E. coli* impairments. The next most frequent impairments in the list are impaired biotic communities and nutrients. A few TMDLs also addressed ammonia, dissolved oxygen or pH.

The 303(d) list does not identify the waters that have had impairments removed due to successful implementation of a TMDL. For that information we need to refer to the Integrated Report, which has a section on "Successes in Water Quality Management" beginning on page 25. That section states that since 2007 IDEM has reported water quality improvements in nine twelve-digit watersheds and one eight-digit watershed impacting nearly 160 stream miles. The next section describes one particular "success story," that of Jenkins Ditch, a 2.13-mile headwater tributary in the South Fork Wildcat Creek subwatershed. The section describes the development and implementation of a TMDL for *E. coli*, total suspended solids, nitrate-nitrite and impaired biotic community. It concludes that subsequent IDEM monitoring indicated that the implementation of non-point source BMPs had corrected the impairment and "IDEM removed the Jenkins Ditch segment from its list of impaired waters in 2012, the first time that it has moved a water with an Impaired Biotic Communities impairment from Category 4a to Category 2 due to an improvement in water quality." However, on line 2511 of the 2014 Consolidated List (Appendix F of the Integrated Report), Jenkins Ditch is still listed as 4A for impaired biotic communities and Category 3 for its recreational and fishable uses. We have to assume that this is the same Jenkins Ditch although its assessment unit identification number in the list is INB0738_T1001 while the Integrated Report gives its ID number as INB0742_T1001. We find no other entries for a Jenkins Ditch among the Wildcat Creek South Fork tributaries and no listing of a waterbody with the identification number given in the report.

Nor is this an isolated instance of inconsistency between the Consolidated List data and reports of TMDL "success stories." Table 5 of the Integrated Report lists 10 waterbodies that IDEM says it removed from the 303(d) list when the impairments were corrected, including Jenkins Ditch. The E.P.A has descriptions of several of these on its Section 319 Nonpoint Source Success Stories.⁷ The summary for one such waterbody, Big Walnut Creek, says IDEM removed it from the 2010 303(d) list after the implementation of agricultural BMPs corrected its *E. coli* impairments. Yet the 2014 Consolidated Report lists several *E. coli* impairments for Big Walnut Creek. (See entries at 10445, 10452, 10527, 10530, 10535 and 10538.) Similarly the E.P.A website describes the correction of impaired biotic communities in Bull Run and West Creek in Lake County, but the Consolidated List puts Bull Run in Category 5A for aquatic life use, showing a nutrient impairment (entry 7346), and has a listing for West Creek showing no aquatic life use impairment but a 5A listing for impaired biotic communities (7351).

The frequency of errors or confusing entries in the Consolidated List leads us to suspect that the list has become unmanageable. With 12,420 waterbody entries, each of which is placed in a

⁷ <http://water.epa.gov/polwaste/nps/success319/>

category for at least three and sometimes four uses with 20 possible types of impairments, the list has become a repository of so much data that it may no longer serve a useful purpose. The listing of so many water segments, and the arcane identification numbering system with which IDEM identifies them, are much too complicated to be helpful for the general public. Much of the confusion may be the result of the revision in stream segment identification (the "Reach Index") that IDEM has worked on since 2008 to accommodate higher resolution maps in the National Hydrography Dataset. The amount of work this has entailed can be judged by the lengthy tables listing changes in stream segmentation, e.g., Attachment 2: Assessment Unit IDs Retired as a Result of Segmentation (31 pages); Attachment 4: Waterbody Impairments Removed from Category 5 Based on Changes in Segmentation (31 pages); and Attachment 7: Waterbodies Impairments Added Back to Category 5 Based on Resegmentation (46 pages). The Notice of Comment Period states that this work is now almost complete (Attachment 1, p. 20). With this chore behind it, we urge IDEM to find a way to simplify the process of reporting waterbody assessments so that both IDEM and the public can determine the condition of our waters and, hopefully, to track their gradual improvement with greater ease.

In the listings of Category 4B impairments (Appendix H, 303(d) Attachment 2: Status of Category 4 Waters, pp. 2-73 to 2-75), the discussion of the impairments caused by the Picnic Wood Wastewater Treatment Plant (Attachment 2-75) appears to need to be updated. It says the impairments will remain in Category 4B "through the 2012 303(d) listing cycle to allow time for biological communities to recover and for IDEM to conduct the monitoring necessary to verify that their impairment no longer exists." The 305(b) spreadsheet lists these sections as Category 3 for all uses. If IDEM is conducting the necessary monitoring, it should know whether the impairments continue to exist or not.

The explanatory paragraph for Category 4C (Attachment 2-76) should also be updated to reference the 2014 listing cycle rather than 2012.

c. Inaccurate identification of counties and waterbodies

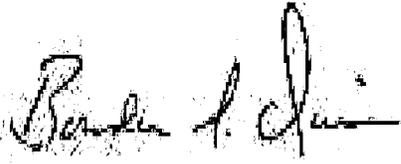
Beginning on page 2-17 of the TMDL Development Schedules (Appendix H, 303(d) Attachment 1) at line 8 and continuing to page 2-19, line 8, waters listed as being in the Great Lakes basin are identified as being located in Crawford, Clark, Dearborn, Jefferson, Pike, Ripley and Washington counties. These counties in the southern area of the state are not in the Great Lakes basin. At line 14 on page 2-19, the final entry of the Great Lakes basin waters is identified as being in Brown County, which also is not in that basin. We suspect that these obvious errors are the result of faulty manipulation of a spreadsheet that contained this information, which may be another indication that the amount of data IDEM is manipulating to compile the 305(b) and 303(d) lists has become unmanageable.

Thank you for your consideration of these comments. The following people and organization endorse them (organizational affiliation of individuals is for identification purposes only):

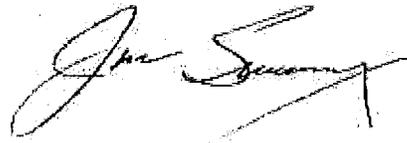
Barbara Sha Cox, a leader of Indiana CAFO Watch;

John Ulmer, chairman, Eagle Creek Watershed Alliance, who particularly is concerned about the growing disparity between IDEM's perceived data demands and its resources to meet those demands, and supports making the 305(b)/303(d) lists and accompanying reports more accessible to the general public;

Porter County Chapter, Indiana Division of the Izaak Walton League of America, Jim Sweeny,
president;



Bowden Quinn
Conservation Director
Sierra Club Hoosier Chapter



Jim Sweeney
President
Porter County Division
Indiana Division of IWLA


ALLIANCE FOR THE GREAT LAKES
ENSURING A LIVING RESOURCE FOR ALL GENERATIONS

July 29, 2014

VIA EMAIL to browse@idem.in.gov

LSA Document #14-XXX 2014 Draft 303(d) List of Impaired Waters
Betsy Rouse, Administrative Assistant
Rules Development Branch
Office of Legal Counsel
Indiana Department of Environmental Management
100 North Senate Avenue
MC 65-41
Indianapolis, IN 46204-2251

RE: 2014 Draft 303(d) List of Impaired Waters and Consolidated Assessment and Listing Methodology

Dear Ms. Rouse:

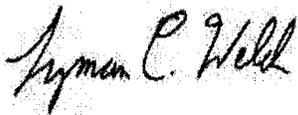
With 95 percent of America's fresh surface water, the Great Lakes are a national and international treasure, providing drinking water, jobs and recreation to tens of millions of people. As an organization dedicated to protecting the health of the Great Lakes, The Alliance for the Great Lakes (Alliance) has an interest in any pollutants entering into and degrading Lake Michigan's health.

With the enclosed comments, the Alliance urges the Indiana Department of Environmental Management address the following issues in the draft 2014 Impaired Waters List and Consolidated Assessment and Listing Methodology:

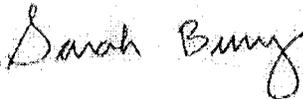
- Bridge the gap between Indiana's water quality standards for nutrients and the standards set in the Great Lakes Water Quality Protocol of 2012 and evaluate soluble phosphorus
- Provide a more detailed evaluation of floating debris and list Lake Michigan as impaired by litter pollution.
- Categorize Jeorse Park beach as algae-impaired based on excessive algae present in the water.

Our comments are described in greater detail in the attached comment letter. Thank you for the opportunity to comment. Should you have any questions about the Alliance's comments, please do not hesitate to contact Lyman Welch at 312-445-9739 or lwelch@greatlakes.org.

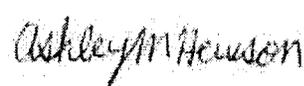
Sincerely,



Lyman C. Welch
Water Quality Program Director



Sarah Bury
Dale Bryson Affiliates



Ashley M. Hewson

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Buffalo • Chicago • Cleveland • Detroit • Grand Haven • Milwaukee

Protecting Lake Michigan

**Comments to the Indiana Department of Environmental Management on the
2014 Draft 303(d) List of Impaired Waters and Consolidated Assessment and
Listing Methodology**

July 29, 2014

Alliance for the Great Lakes
150 N. Michigan Ave., Suite 700
Chicago, IL 60601
(312) 939-0838

These comments are submitted by the Alliance for the Great Lakes (Alliance), a nonprofit organization that has advocated for decades on behalf of the Great Lakes and the people who enjoy them. The Alliance's mission is to conserve and restore the world's largest freshwater resource using policy, education, and local efforts, ensuring a healthy Great Lakes and clean water for generations of people and wildlife.

I. BACKGROUND

The Clean Water Act requires states to assess their waters for compliance with the state's water quality standards. Under Section 303(d) of the Act, each state must make a publicly available list of waters that do not meet the standards. This "303(d) list" identifies the portion of the water body that is impaired, the pollutant(s) causing the impairment, and a schedule for the development of Total Maximum Daily Loads (TMDLs) to restore the impaired waters to health. As such, the 303(d) list is an important part of ensuring that states comply with their water quality standards and work towards the Clean Water Act's goal of fishable and swimmable waters. To improve water quality and human health, it is essential that the list accurately reflect the impairment status of the state's waters.

Indiana has water quality standards for debris and algae. Indiana's Administrative Code states that "All surface waters within the Great Lakes system at all times and at all places...shall meet the minimum conditions of being free from substances, materials, *floating debris*, oil or scum attributable to municipal, industrial, agricultural, and other land use practices."¹ Waters should also be free of discharges that "[a]re in amounts sufficient to be unsightly or deleterious."² They should also be free of discharges that "[a]re in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to (i) create a nuisance; (ii) be unsightly; or (iii) otherwise impair the designated uses."³

Indiana Department of Environmental Management (IDEM) also recognizes the special value of the Great Lakes in its 2014 Draft 303(d) List of Impaired Waters and Consolidated Assessment and Listing Methodology by including a section devoted solely to Lake Michigan and its shoreline "[d]ue to its large size and unique characteristics as compared to other freshwater lakes in Indiana."⁴

II. Indiana's Phosphorus Standard should be consistent with the Great Lakes Water Quality Protocol's 7 ug/L level, and dissolved or soluble phosphorus should be studied separately.

a. Total Phosphorus Standard

The Alliance is disappointed that IDEM still maintains 54 ug/L as the phosphorus standard to assess recreational use (aesthetics) in natural lakes and reservoirs. In its responses to the Alliance's comments regarding the 2012 Integrated Report, IDEM acknowledged that a 54 ug/L benchmark was not as strict as the Great Lakes Water Quality Protocol's phosphorus target for Lake Michigan of 7 ug/L but assured the public in 2012 that IDEM's draft criterion of 25 ug/L "is far more stringent" than the 54 ug/L

¹ 327 IAC 2-1.5-8(b)(1) (emphasis added).

² 327 IAC 2-1.5-8(b)(1)

³ 327 IAC 2-1.5-8(b)(1)

⁴ Indiana Department of Environmental Management, *Indiana Integrated Water Monitoring and Assessment Report* [hereinafter *2014 Integrated Report*], 38 (2014).

benchmark⁵ However, Indiana has not yet implemented this lower benchmark and is still using the 54 ug/L level that is more than seven times the amount the U.S. has committed for Lake Michigan in the Protocol. Additionally, since Lake Michigan and its shoreline will not be the focus of an Integrated Report for nine more years due to Indiana's nine-year basin rotation method for assessments, adopting a more conservative phosphorus limit would be more beneficial to the ecosystem and communities along Lake Michigan. We recommend that Indiana apply the Great Lakes Water Quality Protocol's phosphorus target for Lake Michigan of 7 ug/L to evaluate recreational use (aesthetics) in Lake Michigan.

b. Dissolved/Soluble Phosphorus

The evaluation of phosphorus and Chl_a values as explained in the proposed 2014 CALM⁶ ignore the particular importance of dissolved or soluble phosphorus. Given that dissolved reactive phosphorus is bioavailable to stimulate the growth of algae and that different courses of action impact total phosphorus and dissolved phosphorus disproportionately, levels of dissolved phosphorus should be measured alongside total phosphorus and used for impairment decisions.⁷ Soluble phosphorus is used as a measurement in the Indiana Trophic State Index for lakes, so the data is already being collected.⁸ The IDEM website recognizes Wawasee Area Conservancy Foundation's recommendation for soluble reactive phosphorus: a max of 0.005 mg/L.⁹ That recommendation could serve as a starting point for setting an appropriate level for soluble reactive phosphorus.

III. IDEM must provide a more detailed evaluation of floating debris and Lake Michigan should be categorized as impaired for litter pollution.

IDEM must provide a more detailed evaluation of floating debris, including onshore litter, in order to improve the health of Lake Michigan beaches and waters. Nearshore waters and beaches strewn with dirty cigarette butts, plastic bags, bottles, cans, and the like, are not an inviting foreground for the natural beauty of the lakes.

Indiana's Administrative Code calls for the water to "meet the minimum conditions of being free from ... floating debris,"¹⁰ yet the stated assessment methodology for recreational use of lake waters does not include an evaluation of floating debris. To properly assess compliance with Indiana standards as required by the CWA, IDEM must assess impairment of Great Lakes' shoreline by floating debris. IDEM must evaluate debris data using clear criteria for deciding whether the standard has been attained.

Indiana regularly stresses in its 2014 Integrated Report that it is following EPA guidelines, but IDEM ignores EPA's Great Lakes Beach Sanitary Survey (BSS) and recommendations. EPA's BSS, used to assess primary and secondary contact use at Great Lakes' beaches, provides a standardized format and method

⁵ Indiana Department of Environmental Management, Addendum to Indiana Department of Environmental Management, *Office of Water Quality, 2012 303(d) List of Impaired Waters Submitted to U.S. Environmental Protection Agency on April 1* [hereinafter 2012 Appendix I], 2012, I-16.

⁶ Indiana Department of Environmental Management, *Indiana Department of Environmental Management's 2014 Consolidated Assessment and Listing Methodology* [hereinafter 2014 CALM], 45 (2014).

⁷ International Joint Commission (IJC), *A Balanced Diet for Lake Erie: Reducing Phosphorus Loading and Harmful Algal Blooms (A Report of the Lake Erie Ecosystem Priority* [hereinafter 2014 LEEP Report], 5 (February 2014), available at <http://www.ijc.org/files/publications/2014%20IJC%20LEEP%20REPORT.pdf>.

⁸ 2014 CALM at 47.

⁹ Indiana Department of Environment Management, Water Quality Targets, <http://www.in.gov/idem/nps/3484.htm>.

¹⁰ 327 IAC 2-1.5-8(b)(1).

for the collection of data on beach conditions, including litter/debris. This standardized evaluation tool ensures all beaches are assessed accurately and uniformly. In their evaluation of litter/debris, the BSS measures the amount of litter/debris, both floating and onshore. Additionally, while Indiana evaluated only E. coli levels for recreational use purposes, the EPA recommends that “[b]acteria data should be examined alongside other data collected including weather, rainfall, algae, debris, wildlife, flow, and water quality.”¹¹

The Alliance demonstrates how the Beach Sanitary Surveys can be used to collect debris data. Data collection and quality assurance methods used by the Alliance’s Adopt-a-Beach™ volunteer survey are modeled on EPA’s BSS methodology. In the 2013 beach season, the Alliance’s Adopt-a-Beach™ surveys recorded considerable amounts of litter on a number of Indiana’s Lake Michigan beaches. At beaches surveyed, such as Indiana Dunes State Park and Washington Park Beach, top collected items included food-related items (17,917) and cigarettes and filters (11,547), which contributed to a grand total of 38,027 items and 2458.80 pounds of trash collected over the season. 2013 Adopt-a-Beach™ data for Indiana’s Lake Michigan beaches is included with these comments for your review. Based on the Adopt-A-Beach™ data, Indiana should list the Lake Michigan shoreline as impaired due to floating debris.

Beyond the BSS, IDEM could evaluate available data of the volume of floating debris collected in catch basins and in stormwater systems. Data on trash collected from stormwater runoff is readily available from smaller agencies in the area. For example, Indiana University Northwest collects information on both inorganic and organic debris.

IV. IDEM should list Jeorse Park Beach’s nearshore waters as impaired due to excessive algae levels.

The Alliance requests that IDEM identify and list Jeorse Park Beach as impaired due to excessive algae levels. According to the Indiana Administrative Code, “All surface waters within the Great Lakes system at all times and at all places...shall meet the minimum conditions of being free from ... scum attributable to municipal, industrial, agricultural, and other land use practices.”¹² The Code also prohibits discharges that are “in concentrations or combinations that will cause or contribute to the growth of aquatic plants or algae to such degree as to (i) create a nuisance; (ii) be unsightly; or (iii) otherwise impair the designated uses.”¹³

It is commonly known that algae is a problem at Jeorse Park beach.¹⁴ Scientific studies of Jeorse Park have also identified algae as a problem at Jeorse Park beach.¹⁵ The Alliance’s Adopt-A-Beach™ volunteers continue to survey Indiana’s Lake Michigan shoreline and have found high levels of algae

¹¹ U.S. Environmental Protection Agency, Great Lakes Beach Sanitary Survey User Manual, 6-11 (2008) (Emphasis added), available at http://water.epa.gov/type/oceb/beaches/upload/2008_05_29_beaches_sanitarysurvey_user-manual.pdf.

¹² 327 IAC 2-1.5-8(b)(1) (emphasis added).

¹³ 327 IAC 2-1.5-8(b)(1)

¹⁴ See “Students pitch in to clean up Jeorse Park Beach,” NWI Times (May 5, 2013)(“ Often covered with trash and algae, many gulls are drawn to the beach, further impacting water quality.”) online at: http://www.nwitimes.com/news/local/lake/east-chicago/students-pitch-in-to-clean-up-jeorse-park-beach/article_70dc2ad7-37a9-59b9-8f16-db282b0107ce.html

¹⁵ See Richard Whitman, “What Can Empirical Observations and Numerical Modeling Tell us About Beach Contamination?” (“Algae is an Issue at Jeorse Park”) online at: <http://www.glin.net/glba/pdf/2012conf/Whitman-USGS.pdf>

along the nearshore waters of Jeorse Park Beach that are not reflected on Indiana's impaired waters list. 2013 Adopt-a-Beach™ data for Indiana's Lake Michigan shoreline is included with these comments for your review.

Conclusion

The Alliance for the Great Lakes urges IDEM to improve Indiana's draft 2014 Impaired Waters List and Consolidated Assessment and Listing Methodology by addressing our recommendations in order to protect Lake Michigan against excess phosphorus, nearshore and beach debris, and excessive algae.

Thank you for your time and the opportunity to comment on this draft report.

EventDate	Beach Name
20-Apr-13	Indiana Dunes State Park - West
20-Apr-13	Jeorse Park Beach I
04-May-13	Washington Park Beach
11-May-13	Kemil Beach
08-Jun-13	Washington Park Beach
21-Jun-13	Sheridan Beach Stop 7
28-Jun-13	Washington Park Beach
17-Sep-13	Sheridan Beach Stop 2
19-Sep-13	Marquette Park Beach
21-Sep-13	Central Beach
21-Sep-13	Hammond Marina Beach
21-Sep-13	Indiana Dunes State Park - East
21-Sep-13	Jeorse Park Beach
21-Sep-13	Kemil Beach
21-Sep-13	Ogden Dunes Beach
21-Sep-13	Washington Park Beach
21-Sep-13	West Beach
21-Sep-13	Whihala Beach County Park - East
25-Sep-13	Lake Street Beach
27-Sep-13	Haven Hollow Park

SurveyBoundaries	County	CityName
	Porter	Chesterton
From the rocks along the Northwest side/fishing pier to the Southeast side of Gary	Lake	East Chicago
lighthouse pier, east to Dunescape Beach Club	LaPorte	Michigan City
West Lakefront Drive from East State Park Road to Dunbar parking lot	Porter	Michigan City
lighthouse pier to Dunescape Beach Club	LaPorte	Michigan City
	LaPorte	Michigan City
lighthouse, east to Dunescape Beach Club	LaPorte	Michigan City
We started at Beach Walk/Sheridan beach (stop 7) We went west 3 stops and East 3 stops	LaPorte	Michigan City
	Lake	Gary
Rocks to the west- 50 yards part the entrance to the east	LaPorte	Michigan City
	Lake	Hammond
	Porter	Chesterton
Break wall to the north/to end of beach south/ from the beach-house west to the lake east	Lake	East Chicago
North of Lake Front Drive from Dunbar Beach parking lot west as far as Kemil Road in Beverly Shores, Indiana.	Porter	Michigan City
The Borders of Ogden Dunes- end of shore Dr. east to west	Porter	Ogden Dunes
Lighthouse pier east 1 mile to Dunescape Beach Club	LaPorte	Michigan City
Approximately 1/2 mile of beach centered at bathhouse, West Beach, Indiana Dunes National Lakeshore	Porter	Portage
	Lake	Whiting
	Lake	Gary
Haven Hollow Park, 700 N Next to Our Lady of Sorrows Church	Porter	Portage

AlgaeShoreAmountLevel	AlgaeBeachAmountLevelLevel	AlgaeType1	AlgaeType2
None (0%)	Very Low (1-10%)	Matted	
None (0%)	None (0%)		
None (0%)	None (0%)	No Algae	
None (0%)	None (0%)		
None (0%)	Very Low (1-10%)	Matted	
None (0%)	None (0%)		
Very Low (1-10%)	Very Low (1-10%)	Attached to rocks, string	
Very Low (1-10%)	None (0%)	No Obvious mass of mat	
None (0%)	None (0%)		
None (0%)	None (0%)		
Low (11-20%)	Very Low (1-10%)		
High (51% and up)	Low (11-20%)		
Very Low (1-10%)	None (0%)	Blobs of floating materia	
None (0%)			
None (0%)	None (0%)		
None (0%)	None (0%)		
None (0%)	None (0%)		

EventDate	EventID	SanitarySurveyID	StateName	CountyName
21-Sep-13	6928	3448	Indiana	LaPorte
21-Sep-13	6208	3428	Indiana	Lake
27-Sep-13	6215	3719	Indiana	Porter
17-Aug-13	6292		Indiana	Porter
21-Sep-13	6535	3390	Indiana	Porter
20-Apr-13	5665	3342	Indiana	Porter
21-Sep-13	6809	3407	Indiana	Lake
20-Apr-13	5947	2856	Indiana	Lake
11-May-13	5724	2902	Indiana	Porter
21-Sep-13	6577	3411	Indiana	Porter
25-Sep-13	6511	3552	Indiana	Lake
19-Sep-13	6512	3551	Indiana	Lake
21-Sep-13	6747	3454	Indiana	Porter
17-Sep-13	6775	3607	Indiana	LaPorte
21-Jun-13	6232	3034	Indiana	LaPorte
04-May-13	5718	2884	Indiana	LaPorte
08-Jun-13	5691	3008	Indiana	LaPorte
28-Jun-13	6262	3052	Indiana	LaPorte
21-Sep-13	6573	3412	Indiana	LaPorte
21-Sep-13	6812	3456	Indiana	Porter
21-Sep-13	6314	3547	Indiana	Lake

CityName	LongitudeCenter	LatitudeCenter	SiteName
Michigan City	-86.56918	41.42086	Central Beach
Hammond	-87.51126	41.69698	Hammond Marina Beach
Portage	-87.13222	41.53417	Haven Hollow Park
Chesterton	-87.065	41.6592	Indiana Dunes State Park
Chesterton	-87.06012	41.66382	Indiana Dunes State Park - E
Chesterton	-87.06455	41.66232	Indiana Dunes State Park - V
East Chicago	-87.43334	41.64987	Jeorse Park Beach
East Chicago	-87.43324	41.64936	Jeorse Park Beach I
Michigan City	-87.00314	41.68184	Kemil Beach
Michigan City	-87.00314	41.68184	Kemil Beach
Gary	-87.26257	41.62004	Lake Street Beach
Gary	-87.25156	41.62085	Marquette Park Beach
Ogden Dunes	-87.19083	41.62907	Ogden Dunes Beach
Michigan City	-86.8924	41.73218	Sheridan Beach Stop 2
Michigan City	-86.88592	41.73421	Sheridan Beach Stop 7
Michigan City	-86.90445	41.72867	Washington Park Beach
Michigan City	-86.90445	41.72867	Washington Park Beach
Michigan City	-86.90445	41.72867	Washington Park Beach
Michigan City	-86.90445	41.72867	Washington Park Beach
Portage	-87.20774	41.62669	West Beach
Whiting	-87.50005	41.68921	Whihala Beach County Park

WaterbodyName	TeamName	FirstName	LastName
Lake Michigan	The Green Herons	Kerri	Schlichting
Lake Michigan	OLPH Green Team	Jerry	Torres
	NIRPC	Amanda	Pollard
Lake Michigan	Coca-Cola CRS Team	Sheila	Wells
Lake Michigan	Stewardship Through Education	Julie	Peller
Lake Michigan	Pack 929	Rob	Goveia
Lake Michigan	Indiana Harbor-East Chicago Lions	Patrick	Rodriguez
Lake Michigan	East Chicago Central High Community Care	Elizabeth	Rivera
Lake Michigan	Northwest Indiana Parrothead Club	Terri	Dale
Lake Michigan	Northwest Indiana Parrothead Club	Terri	Dale
Lake Michigan	Charter School of the Dunes	Kelly	Bennett
Lake Michigan	Charter School of the Dunes	Kelly	Bennett
Lake Michigan	Odgen Dunes Government Advisory Board	Susan	MiHalo
Lake Michigan	Krueger Environmental Science	Amanda	Maycroft
Lake Michigan	Earth Partnership for Schools - NWI	Heidi	Krouse
Lake Michigan	Michigan City Parks and Recreation Department	Shannon	Eason
Lake Michigan	Michigan City Parks and Recreation Department	Shannon	Eason
Lake Michigan	Michigan City Parks and Recreation Department	Shannon	Eason
Lake Michigan	Michigan City Parks and Recreation Department	Shannon	Eason
Lake Michigan	Discovery Charter School	Sarah	Pavlovic
Lake Michigan	Izaak Walton League of America	Kimberly	Russell

Tier1CompletedDate	Tier2CompletedDate	CampaignID	DistanceCleanedValue
26-Jul-11		29	0.5
01-Jan-11		29	0.5
		29	
			1
01-Jan-11		29	0.6
20-Apr-13			4000
01-Jan-11		29	1.5
		28	0.5
01-Jan-11		28	1
01-Jan-11		29	1
11-Sep-10		29	1.25
11-Sep-10		29	0.5
01-Jan-11		29	1
		29	1
			100
01-Jan-11		28	1
01-Jan-11			1
01-Jan-11			1
01-Jan-11		29	1
		29	0.5
15-Sep-12		29	1

DistanceClearedUnit	ActualParticipantCount	ActualCleanupHours	TrashWeight Value
Mi	8	3	10.6
Mi	17	3	93
	5	2	
Mi	46	2	50
Mi	40	2	58
Ft	54	2	35
Mi	55	4	276.2
Mi	58	2.5	635
Mi	26	1.5	52
Mi	8	1.5	20
Mi	157	1.5	
Mi	214	2	500
Mi	24	2	61
Mi	76	3	
Ft	15	1	0.5
Mi	27	3	198.5
Mi	75	1.25	96
Mi	33	2.25	79
Mi	119	3	201
Mi	16	3	18
Mi	10	3	75

TrashWeightUnit	LitterFormID	MostPeculiarItem	ActionTaken
Lbs	5010	inhaler	FALSE
Lbs	5048	Animal spine	FALSE
	5377		FALSE
Lbs	4896	IV Bag	TRUE
Lbs	5005		FALSE
Lbs	4957	Dentures, inhaler, brick, wire, dead fish	TRUE
Lbs	5028		TRUE
Lbs	4402	shot gun shells, a sled	TRUE
Lbs	4456		FALSE
Lbs	5034		FALSE
	5204		FALSE
Lbs	5203	We found 1,305 small plastic pieces scattered all over the beach. Marquette Beach has break walls on both sides a short a distance away. We think this is why this happens.	FALSE
Lbs	5002	clothing hanger	FALSE
	5252	Shot gun shell, clothing, and a shoe	TRUE
Lbs	4599		FALSE
Lbs	4427		FALSE
Lbs	4565		FALSE
Lbs	4620		FALSE
Lbs	5035		FALSE
Lbs	5023	carpet-covered board from a dock? one canvas shoe 3 baby bottle nipples	FALSE
Lbs	5185		TRUE

ActionTakenText	PersonRoleTypeID	Caps, lids	Clothing, shoes
	1	68	0
	1	418	10
	1	2	1
	1	39	5
	1	304	22
	1	112	2
	1	428	47
	1	59	6
	1	155	44
	1	91	4
	1	570	115
	1	896	67
	1	131	4
	1	57	2
	1	4	0
	1	433	29
	1	493	21
	1	205	30
	1	899	26
	1	81	1
	1	189	10

Cups, plates, forks, knives, spoons	Food wrappers/containers	Pull tabs	6-pack holders
5	65	0	0
42	106	8	1
66	20	0	0
21	46	4	0
34	199	19	2
11	30	6	0
88	266	3	6
31	34	10	1
189	225	18	2
5	3	0	0
131	138	19	0
327	562	0	0
23	68	6	1
1	129	78	0
0	7	0	0
54	309	12	5
83	241	20	12
13	676	2	0
113	394	61	3
4	40	3	0
47	199	9	2

Shotgun shells/wadding	Straws/stirrers	Toys	Bait containers	Bleach/cleaner bottles
4	25	2	0	0
7	107	25	0	0
0	7	4	0	0
0	30	3	0	0
10	79	9	1	0
1	23	8	0	0
3	118	24	0	0
20	25	7	2	1
12	104	14	6	6
0	14	5	1	0
18	389	109	7	4
0	391	3	2	1
1	20	14	0	0
1	14	2	0	1
0	3	5	0	0
1	265	32	2	0
21	324	16	3	0
0	86	19	0	0
7	307	27	7	0
0	18	3	0	0
4	31	17	0	0

Bouys/floats	Fish traps	Crates	Fishing line	Fishing lures/light sticks	Fishing nets
0	0	0	0	2	0
0	0	0	2	3	1
0	0	0	1	1	0
0	0	0	1	0	0
2	0	0	2	1	0
0	0	0	0	0	1
0	0	0	0	0	1
1	0	0	2	0	2
1	0	0	4	1	1
0	0	0	0	0	0
1	3	0	9	36	21
0	0	0	5	3	0
1	0	0	0	0	0
2	0	0	3	1	0
0	0	0	0	0	0
5	0	6	9	2	5
2	1	1	3	4	1
0	0	0	8	3	0
0	0	0	7	4	0
0	0	0	0	0	2
0	0	0	0	0	0

Light bulbs/tubes	Oil/lube bottles	Pallets	Plastic sheeting/tarps	Rope
0	0	0	0	1
0	1	0	0	4
0	0	0	8	9
0	0	0	0	4
0	0	0	1	11
1	0	0	3	1
1	1	0	0	9
0	4	0	20	4
0	0	0	5	8
0	0	0	0	0
3	10	0	64	76
0	0	0	0	0
2	1	0	4	2
0	0	0	0	0
0	0	0	0	0
0	6	1	16	11
0	1	0	37	18
0	0	0	10	17
0	0	7	54	8
0	0	0	0	3
0	0	0	5	5

Strapping bands	Cigarettes/cigarette filters	Cigarette lighters	Cigar tips
4	1402	1	33
10	751	7	131
0	408	0	0
0	113	11	32
9	673	0	56
0	40	1	21
4	150	30	169
0	46	9	43
4	240	4	56
2	267	3	37
6	393	24	160
1	0	4	78
6	256	3	37
0	182	3	4
0	13	0	2
7	727	15	76
8	1002	7	197
18	1174	6	24
11	3207	30	187
3	124	0	13
0	379	1	21

Tobacco packaging/wrappers	Appliances (refridgerators, washers, etc.)	Batteries
1	0	0
6	0	0
11	0	0
6	0	3
3	0	1
1	0	2
6	0	0
53	0	4
7	0	0
0	0	0
15	0	5
2	0	0
6	0	0
2	0	0
0	0	0
19	0	0
60	0	1
12	0	1
45	0	0
6	0	0
14	0	0

Building materials	Car/car parts	55-gal. drums	Tires	Condoms	Diapers	Syringes
0	0	0	0	0	0	0
4	3	0	0	0	1	0
14	1	0	0	0	1	0
0	0	0	0	3	0	0
13	0	0	0	1	0	0
36	0	0	0	0	0	0
0	0	0	2	4	13	2
1	4	0	0	7	5	0
9	0	0	0	4	4	0
3	0	0	0	1	0	1
4	6	0	3	21	7	14
0	0	0	0	4	2	1
6	0	0	0	0	0	0
0	0	0	0	4	0	0
0	0	0	0	0	0	0
29	0	0	0	4	4	1
22	0	0	0	3	1	3
15	1	0	0	2	0	1
12	2	0	0	5	6	2
2	0	0	0	0	0	0
2	0	0	0	0	3	0

Tampons/tampon applicators	Discarded food	Fireworks debris
0	0	4
5	0	29
0	0	0
1	11	0
1	0	0
1	0	5
5	0	0
5	6	8
2	9	11
0	0	3
10	0	17
2	0	2
2	0	0
3	0	18
0	0	2
12	5	1
7	54	97
3	19	3
6	49	39
2	0	0
8	0	0

Drug paraphernalia (crack pipes, bags, etc.)	Bags (paper)	Bags (plastic)	Balloons
0	0	2	8
1	6	45	15
0	0	20	0
0	19	18	23
0	16	80	21
1	4	35	17
0	58	279	109
0	33	102	8
0	26	139	44
0	7	3	8
3	247	696	646
1	8	986	7
0	3	73	16
1	0	14	22
0	0	2	3
0	38	97	28
1	81	108	54
0	87	75	21
2	20	220	150
0	0	11	12
0	54	122	32

Beverage bottles (plastic) 2 Liters or less	Beverage bottles (glass)	Beverage cans
0	4	2
78	58	83
10	3	42
12	13	17
24	19	13
9	11	8
126	161	120
44	40	40
35	12	11
5	3	0
369	258	321
294	147	149
31	7	11
12	26	4
0	0	0
100	34	141
45	38	31
38	22	25
121	110	151
27	7	3
89	92	14

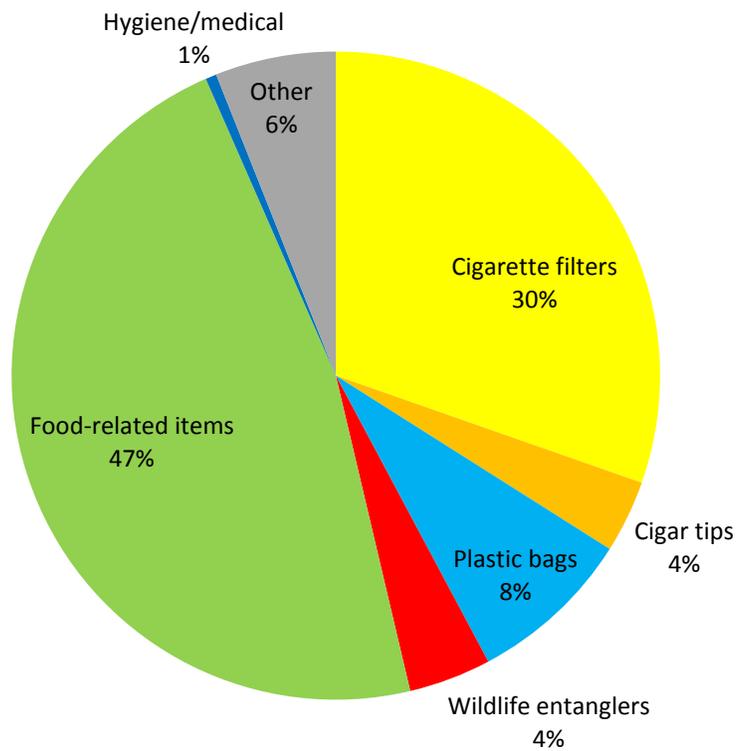
animalTypeText	entangledInText	OtherItem1Text	OtherItem1Count	OtherItem2Text
		BAND AIDS	4	STYROFOAM PIECES
		Misc. plastic parts	563	Styrofoam
		Random Plastic	11	Bandaid
		IV Bag	1	
		charcoal and other	82	styrofoam and others
		dentures	1	dead fish
		skull of dead animal	1	dead rat
		pregnancy test	1	misc. broken glass
		hair ties	6	ear plugs
		Plastic pieces	77	
		bike reflector	2	shovel
		fake flowers	6	highlighter
		Styrofoam	6	Fireworks
		bits of hard plastic	9	
		paper	2	styrofoam
		plastic snow fence	30	propane tank
		hair accessories	20	tent stakes
		Misc small pieces of p	65	Band-aids
		string	3	comb

OtherItem2Count	OtherItem3Text	OtherItem3Count	CreatedDate	Expr1
40	PLASTIC PIECES	74	21-Sep-13	29
15	Ball point pens	5	23-Sep-13	29
3	Construction Flags	9	12-Nov-13	29
	Plastic Mesh, pens, p	87	22-Aug-13	
38	misc	30	21-Sep-13	29
1			04-Sep-13	
1	fish skeleton	8	22-Sep-13	29
32	sled	1	26-Apr-13	28
1	lube	1	14-May-13	28
			23-Sep-13	29
1	ribbons	4	04-Oct-13	29
3			04-Oct-13	29
118	Pieces of plastic	25	21-Sep-13	29
			13-Oct-13	29
5	plastic	4	21-Jun-13	
1			06-May-13	28
			12-Jun-13	
			28-Jun-13	
3	toothpaste	1	23-Sep-13	29
2			22-Sep-13	29
1	cork	2	02-Oct-13	29

Items	Number Collected
Caps, lids	5634
Clothing, shoes	446
Cups, plates, forks, knives, spoons	1288
Food wrappers/containers	3757
Pull tabs	278
6-pack holders	35
Shotgun shells/wadding	110
Straws/stirrers	2380
Toys	348
Bait containers	31
Bleach/cleaner bottles	13
Buoys/floats	15
Fish traps	4
Crates	7
Fishing line	56
Fishing lures/light sticks	61
Fishing nets	35
Light bulbs/tubes	7
Oil/lube bottles	24
Pallets	8
Plastic sheeting/tarps	227
Rope	191
Strapping bands	93
Cigarettes/cigarette filters	11547
Cigarette lighters	159
Cigar tips	1377
Tobacco packaging/wrappers	275
Appliances (refrigerators, washers, etc.)	0
Batteries	17
Building materials	172
Car/car parts	17
55-gal. drums	0
Tires	5
Condoms	63
Diapers	47
Syringes	25
Tampons/tampon applicators	75
Discarded food	153
Fireworks debris	239
Drug paraphernalia (crack pipes, bags, etc.)	10
Bags (paper)	707
Bags (plastic)	3127
Balloons	1244
Beverage bottles (plastic) 2 Liters or less	1469
Beverage bottles (glass)	1065
Beverage cans	1186
Total	38027

Items	Number Collected
Cigarette filters	11547
Cigar tips	1377
Plastic bags	3127
Wildlife entanglers	1561
Food-related items	17917
Hygiene/medical	210
Other	2288
Total	38027

Percentage of Categorized Items - Indiana 2013



IN Total Lbs 2013
2,458.80

EventDate	CampaignID	Expr2	SiteID	EventID	SanitarySurveyID	rvfCreatedDate	SurveyStatusCd	Tier status of adopter	Cleanup Date	Start Time	Time of Visit	State
20-Apr-13		04-Sep-13	2838	5665	3342	04-Sep-13	Complete	1	20-Apr-13	9:00 AM		IN
20-Apr-13	28	26-Apr-13	2808	5947	2856	26-Apr-13	Complete	0	20-Apr-13	10:30 AM	10:30 AM	IN
04-May-13	28	06-May-13	2827	5718	2884	06-May-13	Complete	1	04-May-13	9:00 AM	9:00 AM	IN
11-May-13	28	11-May-13	2837	5724	2902	11-May-13	Complete	1	11-May-13	9:00 AM	9:30 AM	IN
08-Jun-13		12-Jun-13	2827	5691	3008	12-Jun-13	Complete	1	08-Jun-13	9:00 AM	9:00 AM	IN
21-Jun-13		21-Jun-13	2811	6232	3034	21-Jun-13	Complete	0	21-Jun-13	11:00 AM	11:30 AM	IN
28-Jun-13		28-Jun-13	2827	6262	3052	28-Jun-13	Complete	1	28-Jun-13	9:00 AM	10:00 AM	IN
17-Sep-13	29	13-Oct-13	2810	6775	3607	13-Oct-13	Complete	0	17-Sep-13	9:00 AM	10:30 AM	IN
19-Sep-13	29	03-Oct-13	2829	6512	3551	03-Oct-13	Complete	1	19-Sep-13	9:00 AM		IN
21-Sep-13	29	24-Sep-13	2844	6928	3448	24-Sep-13	Complete	1	21-Sep-13	9:00 AM	9:00 AM	IN
21-Sep-13	29	24-Sep-13	2822	6208	3428	24-Sep-13	Complete	1	21-Sep-13	9:00 AM		IN
21-Sep-13	29	21-Sep-13	2839	6535	3390	21-Sep-13	Complete	1	21-Sep-13	9:00 AM	9:30 AM	IN
21-Sep-13	29	22-Sep-13	2816	6809	3407	22-Sep-13	Complete	1	21-Sep-13	9:00 AM	8:30 AM	IN
21-Sep-13	29	23-Sep-13	2837	6577	3411	23-Sep-13	Complete	1	21-Sep-13	9:00 AM		IN
21-Sep-13	29	24-Sep-13	2834	6747	3454	24-Sep-13	Complete	1	21-Sep-13	9:00 AM	9:00 AM	IN
21-Sep-13	29	23-Sep-13	2827	6573	3412	23-Sep-13	Complete	1	21-Sep-13	9:00 AM	8:00 AM	IN
21-Sep-13	29	24-Sep-13	2803	6812	3456	24-Sep-13	Complete	0	21-Sep-13	9:00 AM	10:00 AM	IN
21-Sep-13	29	03-Oct-13	2831	6314	3547	03-Oct-13	Draft	1	21-Sep-13	9:00 AM		IN
25-Sep-13	29	03-Oct-13	2824	6511	3552	03-Oct-13	Complete	1	25-Sep-13	9:00 AM	10:00 AM	IN
27-Sep-13	29	12-Nov-13	2836	6215	3719	12-Nov-13	Complete	0	27-Sep-13	9:00 AM	10:00 AM	IN

Beach Name	SurveyBoundaries	County	CityName	Team Leader First Name
Indiana Dunes State Park - West		Porter	Chesterton	Rob
Jeorse Park Beach I	From the rocks along the Northwest side/fishing pier to the Southeast side of Gary	Lake	East Chicago	Elizabeth
Washington Park Beach	lighthouse pier, east to Dunescape Beach Club	LaPorte	Michigan City	Shannon
Kemil Beach	West Lakefront Drive from East State Park Road to Dunbar parking lot	Porter	Michigan City	Terri
Washington Park Beach	lighthouse pier to Dunescape Beach Club	LaPorte	Michigan City	Shannon
Sheridan Beach Stop 7		LaPorte	Michigan City	Heidi
Washington Park Beach	lighthouse, east to Dunescape Beach Club	LaPorte	Michigan City	Shannon
Sheridan Beach Stop 2	We started at Beach Walk/Sheridan beach (stop 7) We went west 3 stops and East 3 stops	LaPorte	Michigan City	Amanda
Marquette Park Beach		Lake	Gary	Kelly
Central Beach	Rocks to the west- 50 yards part the entrance to the east	LaPorte	Michigan City	Kerri
Hammond Marina Beach		Lake	Hammond	Jerry
Indiana Dunes State Park - East		Porter	Chesterton	Julie
Jeorse Park Beach	Break wall to the north/to end of beach south/ from the beach-house west to the lake east	Lake	East Chicago	Patrick
Kemil Beach	North of Lake Front Drive from Dunbar Beach parking lot west as far as Kemil Road in Beverly Shores, Indiana.	Porter	Michigan City	Terri
Ogden Dunes Beach	The Borders of Ogden Dunes- end of shore Dr. east to west	Porter	Ogden Dunes	Susan
Washington Park Beach	Lighthouse pier east 1 mile to Dunescape Beach Club	LaPorte	Michigan City	Shannon
West Beach	Approximately 1/2 mile of beach centered at bathhouse, West Beach, Indiana Dunes National Lakeshore	Porter	Portage	Sarah
Whihala Beach County Park - East		Lake	Whiting	Kimberly
Lake Street Beach		Lake	Gary	Kelly
Haven Hollow Park	Haven Hollow Park, 700 N Next to Our Lady of Sorrows Church	Porter	Portage	Amanda

Team Leader Last Name	Team Name	EPA Beach ID	Begin Latitude	Begin Longitude	Middle Latitude	Middle Longitude	End atitude	End Longitude
Goveia	Pack 929	IN700064			41.66232	-87.06455		
Rivera	East Chicago Central High Community Care	IN319633			41.64936	-87.43324		
Eason	Michigan City Parks and Recreation Department	IN945823			41.72867	-86.90445		
Dale	Northwest Indiana Parrothead Club	IN471672			41.68184	-87.00314		
Eason	Michigan City Parks and Recreation Department	IN945823			41.72867	-86.90445		
Krouse	Earth Partnership for Schools - NWI	IN991831			41.73421	-86.88592		
Eason	Michigan City Parks and Recreation Department	IN945823			41.72867	-86.90445		
Maycroft	Krueger Environmental Science	IN350941			41.73218	-86.8924		
Bennett	Charter School of the Dunes	IN924097			41.62085	-87.25156		
Schlichting	The Green Herons	IN409479			41.42086	-86.56918		
Torres	OLPH Green Team	IN050219			41.69698	-87.51126		
Peller	Stewardship Through Education	IN768689			41.66382	-87.06012		
Rodriguez	Indiana Harbor-East Chicago Lions	IN971200			41.64987	-87.43334		
Dale	Northwest Indiana Parrothead Club	IN471672			41.68184	-87.00314		
MiHalo	Odgen Dunes Government Advisory Board	IN523148			41.62907	-87.19083		
Eason	Michigan City Parks and Recreation Department	IN945823			41.72867	-86.90445		
Pavlovic	Discovery Charter School	IN504180			41.62669	-87.20774		
Russell	Izaak Walton League of America	IN701183			41.68921	-87.50005		
Bennett	Charter School of the Dunes	IN941586			41.62004	-87.26257		
Pollard	NIRPC				41.53417	-87.13222		

AirTemp	AirTempUomCd	WindDirection	WindSpeedCd	When was rain event	RainRecentType	RainRecentType - other text description	RainMeasurement
34	F	NE	4-6 Knots	Less than 24 hours ago	Heavy Rain		
42	F		11-16 Knots	Less than 48 hours ago	I don't know		
61	F	SE	17-21 Knots	More than 72 hours ago	No rain event in the past 72 hours		
47	F	SW	7-10 Knots	Less than 24 hours ago	Light Rain		
63	F	SE	4-6 Knots	Less than 48 hours ago	Steady Rain		
37	C	SE	7-10 Knots	More than 72 hours ago	No rain event in the past 72 hours		0
72	F	W	7-10 Knots	Less than 24 hours ago	Heavy Rain		4.5
64	F	NE	Under 1 knot	I don't know			
83	F	SW	7-10 Knots	Less than 24 hours ago	Heavy Rain		
68	F		22-27 Knots	Less than 48 hours ago			
62	F	NE	17-21 Knots	Less than 24 hours ago	Steady Rain		
64	F	NW	22-27 Knots	Less than 48 hours ago	Heavy Rain		
54	F	NW	11-16 Knots	Less than 72 hours ago	Heavy Rain		
63	F	NW	11-16 Knots	Less than 24 hours ago	Heavy Rain		
63	F	NW	11-16 Knots	Less than 48 hours ago	Heavy Rain		2
61	F	NW	11-16 Knots	Less than 24 hours ago	Steady Rain		
64	F	NE	17-21 Knots	Less than 48 hours ago	Heavy Rain		
73	F	NW	1-3 Knots	More than 72 hours ago			
78	F		4-6 Knots	More than 72 hours ago	No rain event in the past 72 hours		

RainMeasurementUomCd	NoRainGaugeIndicator	SkyConditionsText	WaveHeightCd	WaveIntensityCd	LongshoreTime	LongshoreSpeed	LongshoreDirection
	Yes	Mostly sunny (1/8 to 1/4)	3-4 Feet	Rough	10	1	W
	Yes	Partly sunny (3/8 to 1/2)	Less than 1 foot	Calm			NONE
	No	Mostly cloudy (5/8 to 7/8)	1-2 Feet	Calm	0	0	NONE
	Yes	Mostly cloudy (5/8 to 7/8)	3-4 Feet	Medium			
	Yes	Sunny (no clouds)	1-2 Feet	Medium	1000	0.01	SW
in	No	Mostly sunny (1/8 to 1/4)	Less than 1 foot	Calm	94	0.106383	NE
in	No	Mostly sunny (1/8 to 1/4)	Less than 1 foot	Calm	23	0.4347826	E
	Yes	Mostly sunny (1/8 to 1/4)	Less than 1 foot	Calm	120	0.08333334	SW
	Yes	Mostly cloudy (5/8 to 7/8)	1-2 Feet	Medium			
	No	Mostly sunny (1/8 to 1/4)	5-6 Feet	Rough			
	Yes	Sunny (no clouds)	1-2 Feet	Medium	40.2	0.2487562	NE
	No	Mostly sunny (1/8 to 1/4)	5-6 Feet	Rough			
	Yes	Sunny (no clouds)	1-2 Feet	Medium	434	0.02304148	N
	Yes	Mostly cloudy (5/8 to 7/8)	6-8 Feet	Rough			
in	No	Mostly sunny (1/8 to 1/4)	1-2 Feet	Rough			SW
	Yes	Partly sunny (3/8 to 1/2)	3-4 Feet	Rough	16	0.625	E
	Yes	Mostly sunny (1/8 to 1/4)	3-4 Feet	Rough	25	0.4	E
	No						
	No	Sunny (no clouds)	Less than 1 foot	Calm	62	0.1612903	SE
	No	Mostly sunny (1/8 to 1/4)	No Waves				

LongshoreCurrentMeasuredIndicator	LongshoreCurrentNotMeasuredDescription
Yes	
Yes	There is no long shore current at Jeorse Park Beach
Yes	
No	Too much wave activity
Yes	
Yes	
Yes	
Yes	It was difficult to measure because it was so calm. Had to be calculated more than once,
No	It was storming on and off. The storms were violent when they came through. I felt it wasn't safe.
No	
Yes	
No	Waves were too rough.
Yes	we did 12 attempts to get a longshore current
No	The water was too rough
No	The Port of Indiana blocks the nearshore current and places it too far offshore.
Yes	
Yes	
Yes	
No	No Waves

GeneralConditionsComments	pH	pHMeasurementMethodCd
no current, object stayed where I tossed it.		
a lot of natural debris washed up on shore from storm. Very calm, very little wind		
No garbage cans on beach. The strong wind allowed the sand to cover up light garbage. The weather was erratic and stormy this day. The storms were strong.		
Small glass, plastic debris; a few dead animals (gulls), plastic bags, beer cans, no large objects		
The beach was littered; trash can open and full; the lake water on north-end of beach was very cloudy to the point I could not see my feet. This is always a clean beach within The Indiana Dunes National Lakeshore Park.		
	7	
The park is pretty clean. The stream was dry.		

Coliform_#/100ml_3	Latitude3	Longitude3
3		
17		
17	41.6286	87.1953

BacteriaSamplesNotCollectedDescription	WaterTemp
Too cold/no kit for pH	38
too windy	49
	43
	15
Petrifilm was altered during collection and did not allow for usable data.	25
	71
We did not use the E. Coli test used by adopt a beach because our kit was not sent to us in time. We used an E. Coli test from our water quality testing kits. We had a positive result from just East of stop 7.	
Storms	66
Not needed. There were no discharges, rivers, ponds, wetlands near this beach	58
E. coli Sample #1 had 12 blue dots; sample #2 had 9 blue dots. Total: 21 red dots Coliform Sample: #1 had 259 red dots; sample #3 had 150 blue dots. Total:409 blue dots	
The waves made it too dangerous to enter the water.	46
	67
water condition was dangerous	67
	65
	63
Stream was dry	

WaterTempUomCd	ChangeInWaterColor	water color other description	Water odor 1	Water odor 2	Water odor 3	Water odor 4	TurbidityType
F	No		No smell				Cloudy
F	No		No smell				Cloudy
F	No		Fishy				Slightly Cloudy
C	No						Clear
C	FirstVisit		No smell				Clear
F	FirstVisit		Musty (wet soil)				Slightly Cloudy
	FirstVisit		No smell				Slightly Cloudy
F	No						Cloudy
	No		No smell				Slightly Cloudy
F	No		No smell				Slightly Cloudy
F	Yes	From our last visit in May, the water on the north end of the beach was clear.					Opaque (solid)
F	No						Slightly Cloudy
F	Yes	brown, likely from the proximity of Burns Waterway upcurrent from beach					Slightly Cloudy
F	No		No smell				Cloudy
F	No		No smell				Clear
F	No		No smell				Clear
	No		No smell				

WaterComments	Sailing/power boating	Canoeing/kayaking	Jet skiing	Fishing	Surfing	Windsurfing/kiteboarding
	3			1		
Waves have stirred up much debris						
	2	1				
	1					
The water was mixed with a lot of sand due to the high winds during the storm.						
	8					
The north end of the lake water was black and as you walked south the water started to clear up						
	0	0	0	0	0	8

Swimming/wading	Other activities	Activity Type - Other description	PeopleOutOfWater	BatherLoadComments	Pollution Source 1 Type
					River/Stream/Channel
			5	There was an additional man walking a dog along the beach	
			4	coho fishing tournament taking place	
			0	too cold and windy for any water activities	
			25		
5	11	family photo	30	kite flying on beach	
			31	12 in water	
	4	walkers	4	Only 4 people walking on the beach besides our beach cleaners	
			0		
2			14		
	2	walking dogs	2		
			2	Walking Dogs Taking pictures	
	2	Dog walkers	12		
	4	walking on beach	4		
0			6	The water was extremely rough, high winds.	
			10		
			0		

WaterTestComments	FloatablesPresent	Floatable Description 1	Floatable Description 2	Floatable Description 3	Floatable Description 4	Amount of Debris
	No	Household waste				Very Low
	No					Medium
						Very Low
	No					Very Low
						Very Low
	No					Very Low
	No					Very Low
	Yes	Food-related litter	Other - 2 buoys			Medium
						Very Low
	No					Very Low
No discharge sources	No					Low
Water was very murky; could not see my feet	No					Low
						Very Low
	No					Very Low
	No					Very Low
	No					Low
						Low

AlgaeColor1	AlgaeColor2	AlgaeColor3	Geese	Gulls	Dogs	Other wildlife	Wildlife type - other description	Common loons	Herring gulls	Ring-billed gulls
Brown				2						
			1	60	1					9
				12						
Light green				3	1					
Light green				30						
Dark green						5 shore birds (not gulls)				
				44						
			9	3	2				5	
Other				85						2
Light green				40	2					
				15						
				20		3 hawks				
				12						
				51						

RecyclingContainerCount	CarryOutPolicyIndicator	CansWithLidsIndicator	CansWithoutLidsIndicator	CansWellMaintainedIndicator	CansOverflowKnockedOver
2	No	Yes	No	Yes	No
0	No	Yes	No	Yes	No
0	No	No	No	No	No
0	No	No	Yes	Yes	No
	No	Yes	No	Yes	No
0	No	No	Yes	No	No
0	No	Yes	No	Yes	No
	No	Yes	No	Yes	No
0	No	No	No	No	No
1	No	Yes	Yes	Yes	No
0	No	No	Yes	No	No
	No	No	No	No	No
0	No	Yes	Yes	No	Yes
2	No	No	Yes	Yes	No
6	No	No	No	Yes	No
0	No	Yes	No	Yes	No
3	No	No	Yes	No	No
	No	No	No	No	No
0	No	No	Yes	No	No
	No	No	No	No	No

Additional Comments	TakeActionIndicator	TakeActionText	PersonRoleTypeID	PersonID	StateID
	No		1	17218	3
	Yes	Yes, onsite discussion/teaching to students	1	17873	3
	No		1	9996	3
	No		1	9587	3
	No		1	9996	3
	No		1	18107	3
	No		1	9996	3
	No		1	18340	3
There were garbage cans off the beach. Two were overflowing and 1 was knocked down.	No		1	8594	3
	No		1	14518	3
	No		1	15407	3
	No		2	18542	3
N/A	No		1	14223	3
	No		1	9587	3
	No		1	12940	3
	No		2	18357	3
	No		1	17141	3
	No		2	12611	3
	No		1	8594	3
	No		1	13811	3