

**To:** Nancy Stoner, Acting Assistant Administrator for Water, USEPA

**From:** Environmental Law & Policy Center, Natural Resources Defense Council, Iowa Environmental Council, Prairie Rivers Network, Gulf Restoration Network, Minnesota Center for Environmental Advocacy, Missouri Coalition for the Environment, Kentucky Waterways Alliance, Public Employees for Environmental Responsibility, Tennessee Clean Water Network, Midwest Environmental Advocates, Arkansas Public Policy Panel and Hoosier Environmental Council

**Date:** February 13, 2014

**Re: Lack of State Progress in Developing Numeric Nutrient Criteria to Control Nitrogen and Phosphorus Pollution Under the Clean Water Act.**

Dear Ms. Stoner:

As you are aware, the Mississippi River Collaborative (MRC) has been working for many years to reduce nitrogen and phosphorus pollution that is causing impairment of aquatic life, loss of recreational uses, toxic algae outbreaks, and the “dead zone” in the Mississippi Basin and the Gulf of Mexico. We have worked through cooperative efforts in our states, targeted advocacy at EPA, and litigation in state and federal courts. As an important part of this work, we have emphasized the need for states to develop numeric nutrient criteria to serve as concrete benchmarks for nitrogen and phosphorus pollution reductions in the Mississippi River Basin states.<sup>1</sup> We have also lobbied for effective state controls on nonpoint-source pollution that go beyond the business-as-usual voluntary efforts that have been largely ineffective at reducing pollution.

As you also know, in 2011, EPA denied the Petition for Rulemaking filed by several of the undersigned groups (“Petition Denial”); and shortly prior to the denial issued a “Framework Memo” calling on all stakeholders to “work in partnership” to reduce nutrient pollution.<sup>2</sup> In the Petition Denial Letter, EPA stated its preference to “work cooperatively with states” to reduce nutrient pollution instead of exercising EPA’s rulemaking authority under Section 303(c)(4)(B) of the Clean Water Act. At the time EPA denied the Petition, it was apparent that EPA’s “cooperative” approach would only work if states are willing to cooperate. Unfortunately, it is now increasingly clear that in several states this “partnership” approach in lieu of federal criteria is not working, either to spur states’ development of numeric criteria or to reduce nutrient loading through other means. EPA’s continued insistence on asking states for voluntary

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<sup>1</sup> Petition for Rulemaking Under the Clean Water Act for Numeric Water Quality Standards for Nitrogen and Phosphorus and Total Maximum Daily Loads for the Mississippi River and the Gulf of Mexico (July 30, 2008), (hereinafter “Rulemaking Petition”).

<sup>2</sup> U.S. EPA, *Working in Partnership with States to Address Phosphorus and Nitrogen Pollution through Use of a Framework for State Nutrient Reductions* (March 16, 2011) (available at [http://www.epa.gov/region7/water/pdf/comment\\_letter\\_iowa\\_nutrient\\_reduction\\_strategy.pdf](http://www.epa.gov/region7/water/pdf/comment_letter_iowa_nutrient_reduction_strategy.pdf)) (hereinafter “Framework Memo”). (Attachment 1)

cooperation is thwarting prompt implementation of numeric nutrient standards that EPA has acknowledged are ultimately necessary for effective state programs.<sup>3</sup>

The 2011 Framework Memo required states to establish a “work plan and phased schedule” for numeric nitrogen and phosphorus criteria development, stating that “[a] reasonable timetable would include developing numeric N and P criteria for at least one class of waters within the state (e.g., lakes and reservoirs, or rivers and streams) **within 3-5 years.**” EPA’s 2011 Petition Denial letter promised that the Agency would “periodically assess progress” on the states’ adoption of effective nutrient controls to determine whether federal standards are necessary.

States are not meeting the deadlines and expectations outlined in these 2011 documents. Nearly three years have now passed since EPA established the latest “reasonable timetable” for state action, and several of the states that are most responsible for Gulf Hypoxia now appear to be *further away* from the development of numeric nutrient criteria than they were in 2011. Some examples of such negligible or backward progress include the following:

- Illinois is the #1 contributor of nitrogen and phosphorus pollution to the Gulf of Mexico, but it has not developed a work plan or schedule for the development of numeric nutrient criteria for streams.<sup>4</sup> Although the state historically identified phosphorus as a potential cause of impairment for aquatic life use impairment, IEPA recently reversed course and is no longer identifying phosphorus as a cause of impairment in the state’s 305(b) report.
- Iowa ranks #2 for nitrogen and #3 for phosphorus pollution to the Gulf, yet Iowa lacks any work plan or schedule for the development of numeric nutrient criteria for any class of waters. The Iowa Environmental Protection Commission recently determined that numeric criteria are “not necessary at this time” even for protection of swimming uses in Iowa’s significant public lakes.
- Indiana is the #3 contributor of nitrogen to the Gulf, but it appears to have abandoned efforts to develop numeric nutrient criteria. The state’s lake criteria website has not been updated since August 2012, and the first milestone in Indiana’s Nutrient Reduction Strategy (“Propose P criteria for lakes”) is now eight months overdue with no indication that a proposal is imminent.
- Despite ranking #2 for phosphorus and #4 for nitrogen deliveries to the Gulf, Missouri has apparently abandoned any effort to establish numeric criteria for

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<sup>3</sup> The Framework Memo states at 2,

It has long been EPA’s position that numeric nutrient criteria targeted at different categories of water bodies and informed by scientific understanding of the relationship between nutrient loadings and water quality impairment are ultimately necessary for effective state programs. Our support for numeric standards has been expressed on several occasions ...”

“[N]umeric standards will facilitate more effective program implementation and are more efficient than site-specific application of narrative water quality standards. We believe that a substantial body of scientific data, augmented by state-specific water quality information, can be brought to bear to develop such criteria in a technically sound and cost-effective manner.

<sup>4</sup> Although the state has had a phosphorus water quality standard for lakes since 1979 (P= .05 mg/L), IEPA has never implemented the standard in permits.

any of its waters. The Missouri Department of Natural Resources (MDNR) cancelled its nutrient criteria work groups in late 2011, and they have not met since. MDNR did not include nutrient criteria in the state's 2013 Triennial Review of water quality standards and there is no indication that the issue will be taken up any time soon.

- Kentucky Division of Water (KDOW) submitted a nutrient criteria development plan to EPA back in 2003 with a goal to propose numeric nutrient criteria for the 2008 Triennial Review. Now, in 2014, after years of delays, KDOW has *still* failed to propose numeric criteria and has publicly stated that numeric criteria “may not be the most effective approach to addressing nutrient challenges.”

Making matters worse, states rarely use their existing narrative standards to set nutrient limits in NPDES permits, and State “Nutrient Reduction Strategies” often lack concrete and effective controls for reducing nonpoint source pollution. Iowa’s Nutrient Reduction Strategy, for example, was developed with heavy influence from the agricultural industry – in many places adopting the Farm Bureau’s comments verbatim – and emphasizes “voluntary” efforts to reduce agricultural pollution instead of a regulatory approach. While the states dabble with “voluntary” approaches, the nation’s algae problem – particularly in the Mississippi River basin – is getting worse. For example:

- Seventy four (74) % of Illinois’ lakes are impaired by phosphorus and 72% by excess algae.<sup>5</sup> Thirty eight of these impaired lakes are a source of drinking water for nearly one million people.<sup>6</sup>
- In 2013, the Des Moines Water Works announced “historic nitrate levels” and was forced to take emergency actions to protect residents from “dangerous levels” of nitrates.<sup>7</sup> Six rivers and one lake in Iowa that are used as public sources of drinking water are impaired because of high nitrate that exceeds the safe drinking water standard of 10 mg/l.<sup>8</sup>
- In the summer of 2013, the Indiana State Department of Health reported high levels of blue-green algae at many of Indiana’s reservoirs and lakes.<sup>9</sup> ISDH advised swimmers and boaters to avoid all contact with visible algae and to contact a doctor if they experienced rashes, skin, eye irritation, nausea, stomach aches, and tingling in fingers and toes. The Department also advised that livestock, pets and wild animals can be poisoned by cyanobacteria, which can result in vomiting, diarrhea, decreased appetite, weakness, seizures and sudden death.

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<sup>5</sup> See Illinois Integrated Water Quality Report and 303 (d) list 2012 (**Attachment 2**)

(available at: <http://www.epa.state.il.us/water/tmdl/303-appendix/2012/iwq-report-surface-water.pdf>)

<sup>6</sup> Hecht JS, Knapp HV. 2008. Data for Assessing Drought Vulnerability of Illinois’ Community Surface Water Systems. Illinois State Water Survey, Center for Watershed Science, Contract Report 2008-02. (**Attachment 3**) (available at: <http://www.isws.illinois.edu/pubdoc/CR/ISWSCR2008-02.pdf>)

<sup>7</sup> Des Moines Water Works Press Release, *Historic Nitrate Levels in Des Moines Water Works’ Source Water* (May 28, 2013) (**Attachment 4**) (available at <http://www.dmww.com/about-us/announcements/historic-nitrate-levels-in-des-moines-water-works-source-water.aspx>).

<sup>8</sup> See Iowa’s 2012 List of Impaired Waters, p. 5, Fig. 1 and p. 7, Fig. 3 (April 2013) (**Attachment 5**) (available at <http://www.iowadnr.gov/Portals/idnr/uploads/watermonitoring/impairedwaters/2012/Fact%20Sheet%20for%20final%202012%20list-final.pdf>).

<sup>9</sup> See <http://www.in.gov/idem/algae/> (**Attachment 6**)

- The number of Kentucky stream miles listed as impaired for nutrients/eutrophication has risen from 787.4 in in 2006 to 1,457.8 (2008), then 1,629.0 (2010), and 1,673.26 on the recent 2012 report, still under review by EPA.<sup>10</sup>

In addition to the local impacts described above, the dead zone in the Gulf of Mexico is not improving. The average size of the dead zone over the past five years has been 5,176 square miles, more than twice the 1,900 square mile goal set by the Gulf of Mexico / Mississippi River Watershed Nutrient Task Force in 2001 and reaffirmed in 2008.<sup>11</sup> This threatens ecosystems that support valuable commercial and recreational Gulf fisheries that, according to NOAA, have a commercial dockside value exceeding \$800 million and an estimated 23 million annual recreational fishing trips.

In Gulf Restoration Network v. Jackson, a federal district court judge ordered EPA to take action in response to our Rulemaking Petition by no later than March 30, 2014.<sup>12</sup> The judge noted that EPA could not simply refuse to make a decision about whether federal standards are “necessary” under the CWA. We are very disappointed that EPA has chosen to appeal this Order. However, EPA’s appeal does not justify further delay of a straightforward, up-or-down decision regarding the need for EPA to develop federal nutrient criteria for states that refuse to do so themselves.

When making this “necessity determination,” it is very important that EPA consider the situation that exists in the states *today* – nearly three years since EPA denied our petition and issued the 2011 Framework Memo. The States’ continuing lack of progress on numeric nutrient criteria since 2011 contrasts with the optimistic predictions in EPA’s Petition Denial and undermines EPA’s decision to work exclusively on state-based voluntary and non-regulatory programs instead of using the tools Congress provided in the Clean Water Act. EPA may have tried in good faith to “work cooperatively with states,” but cooperation requires two willing partners.

It is now more certain than ever that achievement of the Clean Water Act’s goals will continue to be delayed until EPA takes concrete actions to move recalcitrant states forward. EPA must take action now to end the cycle of missed deadlines and broken promises on nutrient pollution that have characterized the past fifteen years. EPA should at least *begin* with the states that are not making sufficient progress on their own and are contributing significantly to localized impairments or Gulf hypoxia.<sup>13</sup> It is not reasonable for EPA to decline to initiate a federal rulemaking process for *any* states simply because EPA may not have the resources to complete a rulemaking process for *all* states at this time.

To aid in your determination on remand, or any future determination you may make concerning numeric nutrient standards, we are enclosing information concerning select Mississippi River basin states in exhibits to this letter.<sup>14</sup> EPA should also use this information and the information

<sup>10</sup> [http://ofmpub.epa.gov/waters10/attains\\_state.control?p\\_state=KY](http://ofmpub.epa.gov/waters10/attains_state.control?p_state=KY) (Attachment 7)

<sup>11</sup> See [http://www.noaanews.noaa.gov/stories2013/2013029\\_deadzone.html](http://www.noaanews.noaa.gov/stories2013/2013029_deadzone.html). (Attachment 8)

<sup>12</sup> Gulf Restoration et al. v. Jackson, No. 12-677, 2013 U.S. Dist. LEXIS 134811 (E.D. La. Sept. 20, 2013).

<sup>13</sup> In other words, it is not necessary for EPA to initiate a federal rulemaking for “50, 31 or 10” states all at the same time, a possible scenario suggested in the Petition denial letter.

<sup>14</sup> See Exhibit A – Illinois, Exhibit B – Indiana, Exhibit C – Iowa, Exhibit D – Kentucky, Exhibit E – Louisiana, Exhibit F – Missouri. The summaries include a brief description of the states’ respective failures to move on the development of numeric nutrient criteria, the failures to adequately control nutrient pollution using existing tools in

it has gathered through the Agency's "tracking, accountability and transparency tools" to determine whether states are making reasonable progress.<sup>15</sup> We respectfully request that EPA include a summary of current state progress in its response to our Petition and explain, for each state individually, the basis for its determination whether federal numeric criteria are necessary to meet the requirements of the CWA.

Sincerely,

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NPDES permits, and the associated environmental damage that is occurring as a result of the states' failure to adequately address nutrient pollution. A CD with electronic copies of all attachments has been included and provided to all recipients of this letter.

<sup>15</sup> According to the Petition Denial Letter (p. 3) EPA tracks "state progress from year to year," including "whether a state is providing current and specific milestone information regarding N and P criteria adoption." The link provided in the Petition Denial letter, however, no longer appears to be working. However, it does appear that EPA is tracking state progress at the following link: <http://cfpub.epa.gov/wqsits/nnc-development/>.

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## **Exhibit A -- Illinois**

### *Failure to Promulgate Numeric Nutrient Criteria*

Despite being the number one contributor of nitrogen and phosphorus pollution to the Gulf of Mexico,<sup>16</sup> Illinois has not developed a work plan or schedule for the development of numeric nutrient criteria for streams. Numerous stakeholder groups for the development of numeric criteria have been organized at various times over the last decade, only to be abandoned.

### *Failure to Control Nutrient Discharges*

Although the state has had a phosphorus water quality standard for lakes of 0.05 mg/L<sup>17</sup> since 1979, the Illinois Environmental Protection Agency (IEPA) has never implemented the standard in permits, opting instead to impose an effluent limit of 1.0 mg/L.

Illinois continues to fail to implement its narrative water quality standards in NPDES permits despite repeated instructions from EPA to do so. For example, in 2011, Region 5 wrote that Illinois “must” perform a reasonable potential analysis and set nutrient effluent limit limitations that are derived from and comply with Illinois’ narrative water quality standards and dissolved oxygen criteria.<sup>18</sup> IEPA is not doing so. Instead, IEPA has apparently established a policy to include a 1 mg/L P limit for certain facilities discharging to impaired waters without investigating whether more stringent limits are necessary to prevent nutrient-related impairments and without regard to the Illinois narrative standards.<sup>19</sup>

Although the state historically identified phosphorus as a potential cause of impairment for aquatic life use, IEPA recently reversed course and is no longer identifying phosphorus as a cause of impairment in streams. In addition, despite objections by EPA Region 5, IEPA is refusing to list any waters as impaired by total nitrogen and lists only ammonia violations and violations of the 10 mg/L nitrate standard for drinking water sources.

### *Environmental Problems Attributable to the Lack of Nutrient Control*

Not only is Illinois the top contributor to the Dead Zone in the Gulf, the state’s waters are suffering from severe nutrient pollution:

- Seventy four (74) % of Illinois’ lakes are impaired by phosphorus and 72% by excess algae.<sup>20</sup>

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<sup>16</sup> [https://water.usgs.gov/nawqa/sparrow/gulf\\_findings/ES&T\\_states.pdf](https://water.usgs.gov/nawqa/sparrow/gulf_findings/ES&T_states.pdf) (**Attachment 9**)

<sup>17</sup> See 35 Ill. Admin. Code 302.205; 304.123.

<sup>18</sup> See Letter from Tinka Hyde, EPA Region 5, to Marcia Wilhite, IEPA (Jan. 21, 2011). (**Attachment 10**)

<sup>19</sup> See Responsive Summary for MWRDGC Calumet, O’Brien and Stickney WWTP NPDES permits. (**Attachment 11**)

<sup>20</sup> Attach. 2

- Thirty eight of these impaired lakes are a source of drinking water for nearly one million people.<sup>21</sup>
- A recent study by the United States Geological Survey of Illinois lakes indicated that concentrations of both total cyanobacterial cells and microcystin in Illinois lakes were commonly at levels likely to result in adverse human health effects, according to World Health Organization guidance values.<sup>22</sup>
- Data collected by the Metropolitan Water Reclamation District of Greater Chicago has found very high levels of chlorophyll a levels (> 40ug/L) in numerous segments of the Illinois River and the Des Plaines River and the Chicago Area Waterways.<sup>23</sup>
- Scientists who have studied Illinois waters have found very few sites with total P levels that would be protective of Illinois rivers and streams.<sup>24</sup>

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<sup>21</sup> Hecht JS, Knapp HV. 2008. Data for Assessing Drought Vulnerability of Illinois' Community Surface Water Systems. Illinois State Water Survey, Center for Watershed Science, Contract Report 2008-02. (Attach. 3) (also available at: <http://www.isws.illinois.edu/pubdoc/CR/ISWSCR2008-02.pdf>)

<sup>22</sup> Paul J. Terrio, Lenna M. Ostrodka,, Keith A. Loftin,, Gregg Good, Teri Holland. "Initial Results from a Reconnaissance of Cyanobacteria and Associated Toxins in Illinois," August–October 2012, USGS. (**Attachment 12**)

<sup>23</sup> MWRDGC, Report No. 13-34. "Ambient Water Quality Monitoring in the Chicago, Calumet, and Des Plaines River Systems," pp. 28-29 (August 2013). (**Attachment 13**)

<sup>24</sup> Todd V. Royer, *et al.* "Assessment of Chlorophyll-*a* as a Criterion for Establishing Nutrient Standards in the Streams and Rivers of Illinois," p. 442, *J. Environ. Qual.* 37:437–447 (2008). (**Attachment 14**)

## **Exhibit B - Indiana**

### *Failure to Promulgate Numeric Nutrient Criteria*

Indiana's numeric criteria development process has stalled and there is no indication that it will resume in the near future. IDEM issued a first notice of comment for a rule limiting phosphorus in lakes and reservoirs in June 2010. It convened an external stakeholder workgroup to discuss the rule and convened seven workgroup meetings in 2011 and 2012. However, there have been no additional meetings and IDEM has not updated its lake criteria website since August 2012.<sup>25</sup> There has been no movement towards the development of phosphorus criteria for rivers and streams or nitrogen criteria for any class of waters.

Indiana's Nutrient Reduction Strategy acknowledges that numeric nutrient criteria are required by the Clean Water Act.<sup>26</sup> However, the first milestone in the Strategy's "tentative timeline" ("Proposal of phosphorus criteria for lakes") is now eight months overdue with no indication that a proposal is imminent. From all indications, the rulemaking process in Indiana is dormant.

### *Failure to Control Nutrients*

According to U.S. EPA's own materials, IDEM has only "committed" to set water-quality based effluent limits in permits if either the receiving water is impaired by nutrients or if a TMDL is completed. (It is not clear if this is actually occurring.) Other than limits based on TMDLs, "IDEM has not developed WQBEL-based phosphorus limits."<sup>27</sup> Total nitrogen is only included in permits if the water is listed on the 303(d), or if a TMDL has been approved with reductions for this parameter.<sup>28</sup>

### *Environmental Problems Attributable to the Lack of Nutrient Control*

Excess nutrients in Indiana's waterways continue to harm the environment and public health. In summer 2013, for example, the Indiana State Department of Health reported high levels of blue-green algae at many of Indiana's reservoirs and lakes.<sup>29</sup> ISDH advised swimmers and boaters to avoid all contact with visible algae and to contact a doctor if they experienced rashes, skin, eye irritation, nausea, stomach aches, and tingling in fingers and toes. IDEM issued high-cell count recreational alerts for seven lakes around the state. The three reservoirs in the Indianapolis area also had high cell counts. Indiana is the #3 contributor of nitrogen to the Gulf of Mexico.<sup>30</sup>

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<sup>25</sup> See <http://www.in.gov/idem/6752.htm> (**Attachment 15**)

<sup>26</sup> Indiana Nutrient Reduction Strategy: *A framework to reduce nutrients entering Indiana's waters*, page 16-17 (**Attachment 16**) (also available at: [http://www.in.gov/isda/files/Indiana\\_Nutrient\\_Reduction\\_Strategy\\_\(2\).pdf](http://www.in.gov/isda/files/Indiana_Nutrient_Reduction_Strategy_(2).pdf))

<sup>27</sup> U.S. EPA, Indiana Nutrient Profile, p. 5 (**Attachment 17**)

<sup>28</sup> *Id.*

<sup>29</sup> Attach. 6

<sup>30</sup> Attach. 9

## **Exhibit C - Iowa**

### *Failure to Promulgate Numeric Nutrient Criteria*

Iowa has not developed any work plan or schedule for the development of numeric nutrient criteria for any class of waters. According to U.S. EPA's tracking website, Iowa has made no progress towards the development of numeric criteria and has failed to provide any milestones for future state progress.<sup>31</sup>

The Iowa Department of Natural Resources' official 2012-2014 Work Plan, produced as part of its triennial review process, does not make any reference to the development of numeric nutrient criteria as either an existing or planned effort.<sup>32</sup> The State's Nutrient Reduction Strategy states that "numeric criteria may not be the best approach for achieving reductions in nutrient loads."<sup>33</sup> The Strategy includes a "conceptual flow chart" of "potential steps" but no timelines or milestones for next steps.<sup>34</sup>

The Iowa Environmental Protection Commission recently denied a rulemaking petition which sought to reinstate the nutrient criteria development process at least for Iowa's significant public recreational lakes.<sup>35</sup> The denial makes clear that Iowa has abandoned any efforts to adopt numeric nutrient criteria in the foreseeable future. The EPC denial declares that Iowa's Nutrient Reduction Strategy represents the State's "primary effort" to reduce statewide nutrient-related impacts and that numeric criteria are "not necessary at this time."<sup>36</sup> The Denial does not mention any milestones or plan for developing numeric criteria in the future.

### *Failure to Control Nutrients*

Iowa's point source approach to nutrient control ignores existing law and uses a patchwork that focuses on the economic circumstances of the point source rather than water quality goals. Iowa DNR has rejected the idea of using narrative water quality standards in its NPDES permits. Iowa has also ignored TMDL nitrate wasteload allocations in NPDES permits. Instead, the Iowa Nutrient Reduction Strategy only focuses on the largest 130 municipal and industrial dischargers. The strategy has point sources collect data on nutrient pollution, evaluate alternatives for controlling nutrient pollution, and then uses those results to establish a case-by-case determination on technology-based effluent limits.

### *Environmental Problems Attributable to the Lack of Nutrient Control*

At approximately the same time that the Iowa Environmental Protection Commission determined that nutrient criteria were "not necessary," the State of Iowa experienced near record levels of

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<sup>31</sup> See <http://cfpub.epa.gov/wqsits/nnc-development/>. (**Attachment 18**)

<sup>32</sup> DNR, Triennial Review Work Plan, 2012. (**Attachment 19**) (Also available at [http://www.iowadnr.gov/Portals/idnr/uploads/water/standards/files/triennial\\_workplan.pdf](http://www.iowadnr.gov/Portals/idnr/uploads/water/standards/files/triennial_workplan.pdf).)

<sup>33</sup> Iowa Nutrient Reduction Strategy, Section 1.2. (**Attachment 20**)

<sup>34</sup> *Id.* p. 26.

<sup>35</sup> Iowa Environmental Protection Commission, *Denial of Petition for Rulemaking* (Oct. 14, 2013) (**Attachment 21**)

<sup>36</sup> *Id.* p. 4.

nitrate readings in rivers across the states.<sup>37</sup> The Des Moines Water Works announced “historic nitrate levels” and took emergency actions to protect residents from “dangerous levels” of nitrates.<sup>38</sup> News outlets have decried the “algae scourge” that continues to impair Iowa waters, threatening human health and the environment.<sup>39</sup> Instead of making reasonable progress, all trends in Iowa point to an increasing nutrient problem with no milestones or plans for numeric criteria in the future.

- 75 lakes in Iowa are listed as impaired for aquatic life and/or recreational uses due excess nitrogen and phosphorus pollution causing low oxygen levels and frequent algae blooms that harm fish and other aquatic life and cause nuisance conditions that make the water unsuitable for swimming and other recreational uses.<sup>40</sup>
- The number of beach advisories in Iowa due to dangerous levels of microcystin has been increasing over time.<sup>41</sup>
- 6 rivers and 1 lake in Iowa that are used as public sources of drinking water are impaired because of high nitrate that exceeds the safe drinking water standard of 10 mg/l.<sup>42</sup>
- In May 2013, nitrate levels reached record highs in the Raccoon River (24.39 mg/L) and Des Moines River (18.62 mg/L) which provide water for 500,000 people in Des Moines and central Iowa. The Des Moines Water Works was forced to temporarily stop using water from the rivers to avoid illness and violations of the federal safe drinking water standard.<sup>43</sup>
- In addition to the local health and environmental impacts, Iowa’s nutrient pollution is also a major contributor to Gulf Hypoxia. According to USGS, Iowa contributes 11.3% of Total Nitrogen and 9.8% of Total Phosphorus flux to the Gulf of Mexico, making it the second and third leading state, respectively.<sup>44</sup>

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<sup>37</sup> See, e.g., *Farm Fertilizer Runoff Wreaking Havoc*, Cedar Rapids Gazette (Aug. 4, 2013) (**Attachment 22**) (also available at: <http://thegazette.com/2013/08/04/farm-fertilizer-runoff-wreaking-havoc/>).

<sup>38</sup> Des Moines Water Works Press Release, *Historic Nitrate Levels in Des Moines Water Works’ Source Water* (May 28, 2013) (**Attachment 23**) (also available at <http://www.dmww.com/about-us/announcements/historic-nitrate-levels-in-des-moines-water-works-source-water.aspx>).

<sup>39</sup> Cedar Rapids Gazette, *Algae Scourge Impairs Iowa Waters* (Oct. 15, 2013) (**Attachment 24**) (also available at <http://thegazette.com/2013/10/15/algae-scourge-impairs-iowa-waters/>).

<sup>40</sup> Figure 3 on page 7 of Iowa’s 2012 List of Impaired Waters, April 2013 (**Attachment 25**) (also available at: <http://www.iowadnr.gov/Portals/idnr/uploads/watermonitoring/impairedwaters/2012/Fact%20Sheet%20for%20final%202012%20list-final.pdf>).

<sup>41</sup> DNR monitors microcystin at 39 beaches. Since 2006, there have been 92 recorded instances of microcystin reaching dangerous levels (20 micrograms/L) at 16 of these 39 beaches. The number of beach advisories in Iowa due to dangerous levels of microcystin has increased from 14 in 2012 to 24 in 2013. The 24 beach advisories for 2013 are posted on the IEC website at <http://www.iaenvironment.org/waterQuality/lakealgae.php>.

<sup>42</sup> Attach. 25

<sup>43</sup> Des Moines Water Works Press Release (July 24, 2013) (**Attachment 26**) (also available at <http://www.dmww.com/about-us/news-releases/nitrate-concentrations-in-rivers-have-decreased-des-moines-water-works-lifts-request-to-reduce-irrig.aspx>).

<sup>44</sup> Attach. 9

## **Exhibit D - Kentucky**

### *Failure to Promulgate Numeric Nutrient Criteria*

Kentucky Division of Water (KDOW) has made very little progress on numeric nutrient criteria since the first nutrient criteria development plan was submitted to EPA in 2003. That plan included a goal to propose numeric nutrient criteria for the 2008 Triennial Review of Water Quality Standards. In 2007, KDOW delayed the proposed adoption of numeric criteria to the 2011 Triennial Review. KDOW modified the timeline again in 2008, moving the criteria to the 2014 Triennial Review. As of early 2014, DOW has not put forth draft criteria, and it is unclear whether it will do so for the 2014 Triennial Review.

In the 2011 Triennial Review, KDOW also modified and weakened Kentucky's narrative nutrient criteria and the definition to eutrophication used to identify impaired waters. While ostensibly intended to clarify protection of designated uses, the change further diluted and weakened the narrative standard and KDOW's role under the Clean Water Act. The change makes the narrative standard reactive to "adverse effects" of eutrophication, rather than anticipatory and preventative of allowing eutrophic conditions to occur.

Unfortunately, EPA approved the weakening of the narrative standard – prior to consultation with U.S. Fish and Wildlife Service. USFWS stated its concerns in recent comments to EPA and KDOW:

*"It is evident from the information presented that these criteria alone are insufficient to avoid adverse effects to federally-listed species.....the Service is concerned that adverse effects to federally-listed species could occur prior to the occurrence of a situation where displacement by tolerant species occurs. The narrative modification is insufficient to avoid adverse effects of nutrient pollution and eutrophication, particularly to sensitive aquatic species."*<sup>45</sup>

EPA's approval however did make clear to KDOW that it still expects the state to develop numeric criteria:

*"EPA states that the amended narrative criterion along with the supporting amended eutrophication definition clarify the protection of the designated use. However USEPA emphasizes the development and incorporation into water quality standards of numeric criteria. Numeric nutrient development plans should be updated."*<sup>46</sup>

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<sup>45</sup> U.S. Fish and Wildlife Service Biological Evaluation, #2014-B-0086, for EPA's approval of new and revised water quality standards for Kentucky (**Attachment 27**)

<sup>46</sup> Statement of Consideration Relating to 401 KAR 10:031, Amended After Comments. (**Attachment 28**)

### *Failure to Control Nutrient Discharges*

Kentucky has yet to finalize a Nutrient Reduction Strategy, as required by the “Framework Memo.” In November 2013, DOW finally brought a draft outline of a nutrient reduction strategy to stakeholders. The draft outline, while quite bare, depends primarily on the Kentucky Agriculture Water Quality Act of 1994 to secure nutrient pollution reductions from farms. The AWQA, carried out through the Division of Conservation, requires development of Ag Water Quality Plans for all farms of greater than 10 acres. These plans require Best Management Practices to effectively manage and reduce water pollution contributions from farms, including nutrient losses. Though there have been upwards of 60,000 Ag Water Quality Plans developed, there has been very little enforcement and implementation of these plans. The track record of this Act, combined with declining state agency budgets, demonstrates that the Act will not be nearly enough to result in substantial reductions of nutrient pollution.

Additionally, KDOW has maintained a very inconsistent approach to nutrient control for Kentucky Pollutant Discharge Elimination System Permits (KPDES). KDOW has often refused to calculate and impose water quality based effluent limits, insisting that nutrient limits are not necessary unless the receiving water body is currently listed as impaired for nutrient/eutrophication biological indicators. Specifically, KDOW has responded to comments on multiple occasions that: *“The Division has determined that this segment of [waterway] is not impaired for nutrients. Limitations for total phosphorus and total nitrogen are therefore not necessary.”*<sup>47</sup>

KDOW is similarly inconsistent in the application of technology based effluent limits, stating in the associated permit fact sheet:

*“...DOW has proposed total phosphorus limitations of 1.0 mg/l as a monthly average and 2.0 mg/l as a weekly average. ...DOW will consider a demonstration by the permittee that these limitations are not practically achievable and alternate limitations shall be developed.”*<sup>48</sup>

KDOW, therefore, has suggested that although technology-based limits on total phosphorus are practically achievable, the permittee is invited to attempt to demonstrate otherwise and seek alternative limits.

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<sup>47</sup> Kentucky Division of Water Response to Public Comments Regarding Beattyville WWTP (**Attachment 29**)

<sup>48</sup> Division of Water Fact Sheet for Mountain Water District WWTP (**Attachment 30**)

## *Environmental Problems Attributable to the Lack of Nutrient Control*

As KDOW's efforts have stalled, progressed, shifted, and stalled again, the state's waterways continued to see the impacts of nutrient pollution rise.

- For the 2006 305(b) report, Kentucky finally began collecting nutrient water quality data. It resulted in the listing of 787.4 stream miles as impaired for nutrients/eutrophication biological indicators. That has since risen from that 2006 report to 1,457.8 (2008), then 1,629.0 (2010), and 1,673.26 on the recent 2012 report, still under review by EPA.<sup>49</sup> With all these impairments, KDOW has just in the past year begun significant work on the first nutrient TMDL in the state, and still inconsistently applies limits to permits.
- Through the recreational season of 2013, DOW began testing lakes on a limited basis for cyanobacteria, and discovered that four Kentucky lakes had levels exceeding 100,000 cells per milliliter, which falls within the World Health Organization's "moderate probability of adverse health effects"<sup>50</sup> to humans and animals, including skin irritations, gastrointestinal illness, and possible long-term illness.<sup>51</sup>
- The Louisville District of the Army Corps of Engineers (COE) also tested for cyanobacteria in several of the reservoirs they manage in the state, and found cyanobacteria levels above the moderate threshold at five Kentucky lakes over the summer.<sup>52</sup> COE monitoring continued at the same five lakes through parts of the winter, with cell counts for certain cyanobacteria species remaining above the 100,000 cells per milliliter threshold at all five as of December 17, 2013, and at three as of January 14, 2014.

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<sup>49</sup> [http://ofmpub.epa.gov/waters10/attains\\_state.control?p\\_state=KY](http://ofmpub.epa.gov/waters10/attains_state.control?p_state=KY) (Attachment 31)

<sup>50</sup> [http://www.who.int/water\\_sanitation\\_health/bathing/srwe1-chap8.pdf](http://www.who.int/water_sanitation_health/bathing/srwe1-chap8.pdf) (Attachment 32)

<sup>51</sup> <http://kydep.wordpress.com/2013/10/21/harmful-algal-blooms-found-at-four-more-kentucky-lakes/> (Attachment 33)

<sup>52</sup> <http://www.lrl.usace.army.mil/Missions/CivilWorks/WaterInformation/HABs.aspx> (Attachment 34)

## **Exhibit E - Louisiana**

### *Failure to Promulgate Numeric Nutrient Criteria*

Louisiana Department of Environmental Quality has made little to no progress towards numeric nutrient criteria. While Louisiana completed a draft document in 2006 entitled “Developing Nutrient Criteria for Louisiana,” none of the final deadlines to propose numeric nutrient criteria have been met.<sup>53</sup> According to this document, draft criteria for rivers and streams and freshwater wetlands were to be proposed by January 2009, draft criteria for freshwater lakes and reservoirs were to be proposed by January 2010, and draft criteria for “big, interstate rivers” were to be proposed by January 2013. Again, none of these deadlines have been met.

There has been no evident progress in developing these criteria, and the draft “Louisiana Nutrient Management Strategy” does not chart a course for their development.<sup>54</sup> LDEQ publicly told attendees of a “stakeholder meeting” held before the release of the draft plan that regulatory measures would not be discussed at the meeting.

Delving into the Louisiana Nutrient Management Strategy, one would expect a numeric nutrient criteria development strategy to at least be mentioned in the section entitled “Regulations, Policies, & Programs.” Numeric criteria are not mentioned once. In fact, no actual regulations are mentioned at all. Similarly, Appendix A of the Strategy lays out timelines for myriad activities, and yet there is no mention of numeric nutrient criteria, or any numeric goals for reducing nutrient pollution.

Louisiana is clearly not abiding by the elements of a strategy outlined by EPA. One just need look at the EPA’s website, “State Development of Numeric Criteria for Nitrogen and Phosphorus Pollution.”<sup>55</sup> According to this website, Louisiana has not provided any milestones, and criteria are not even predicted by 2016.

### *Failure to Control Nutrient Discharges*

To our knowledge, Louisiana has *never* calculated and imposed a water quality based effluent limit (WQBEL) for nitrogen or phosphorus. Even in waters that have dissolved oxygen impairments, LDEQ is not requiring nutrient limits. For example Louisiana issued a draft permit for an alligator farm with nutrient-rich waste to discharge into a waterbody impaired for low dissolved oxygen without a WQBEL, even though there was an obvious violation of narrative standards.<sup>56</sup>

Other examples of Louisiana actively backing away from real nutrient reduction include:

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<sup>53</sup><http://www.deq.louisiana.gov/portal/Portals/0/planning/LA%20Nutrient%20Strategy%20Plan%20Final%20FOR%20WEB.pdf> (Attachment 35)

<sup>54</sup><http://lanutrientmanagement.org/review-draft> (Attachment 36)

<sup>55</sup><http://cfpub.epa.gov/wqsits/nnc-development/> (Attachment 37)

<sup>56</sup> Wall Gator GRN Comments 2013Jan18 (Attachment 38)

- Louisiana attempted to remove the Louisiana near shore Gulf of Mexico waters from the state 303(d) list as impaired for low dissolved oxygen, despite the widespread knowledge of the Gulf Dead Zone. It fell to EPA to add these waters to the 303(d) list to begin with, and to ensure that these waters stay on the list.
- Louisiana has been actively removing nutrient monitoring and nutrient-related limits from existing permits. For example:
  - In 2014, LDEQ has released a draft for a sewage treatment plant in the Lake Pontchartrain Basin that removes ammonia and dissolved oxygen limits and increased BOD limits, without adequate data to justify these changes.<sup>57</sup>
  - LDEQ has removed nitrogen and phosphorus monitoring for one of the state's largest sewage treatment plants, the New Orleans East Bank Sewage Treatment Plant, despite the potential that this plant may be moving some of its discharge into existing wetlands.<sup>58</sup>

*Environmental Problems Attributable to the Lack of Nutrient Control*

It is important to also note that Louisiana consistently says that they are not a major contributor to the Dead Zone. While it is true that the state does not contribute at the level of states like Iowa and Illinois, Louisiana has been charged by EPA with addressing the hypoxic zone through TMDL preparation. It is clear that the state is unwilling to fulfill this role. Neither are local nutrient-related pollution problems being adequately addressed. While LDEQ announces that algae blooms and fishkills are likely in the summer, little has been done to reduce the nutrients that cause them.<sup>59</sup>

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<sup>57</sup> Gulf Restoration Network comments on 2012 Louisiana 303(d) list (**Attachment 39**)

<sup>58</sup> New Orleans East Bank WWTP-GRN Comments-092208 (**Attachment 40**)

<sup>59</sup> 2013 LA Algae Bloom (**Attachment 41**)

## **Exhibit F - Missouri**

### *Failure to Promulgate Numeric Nutrient Criteria*

Missouri has tried to develop numeric nutrient criteria for some of its lakes, but after eight years of workgroups and draft proposals, the only waters within Missouri borders that are subject to numeric nutrient criteria are 25 lakes.<sup>60</sup>

In its 2009 Triennial Review, the Missouri Department of Natural Resources proposed Total Phosphorus, Total Nitrogen and chlorophyll numeric criteria for Missouri's larger lakes.<sup>61</sup> The criteria did not specify which designated uses were to be protected (to the extent that the lakes had been assigned any uses at all) and did not explain how the criteria would allow "year-round maintenance of a warm-water biota," for example.<sup>62</sup> EPA Region 7 had pointed out the flaws in MDNR's approach at the rule-making stage, but MDNR did not correct the criteria or make available the information EPA requested. Accordingly, Region 7 disapproved the criteria.<sup>63</sup> Missouri responded to the disapproval by abandoning any attempt to rein in nutrient pollution in any of its waters. The previously scheduled nutrient criteria work groups were canceled in late 2011. They have not met since. Nutrient criteria were not part of the latest Triennial Review package in 2013. Missouri has no nutrient criteria development work groups scheduled at this time.

Missouri has not completed its Nutrient Reduction Strategy document. An earlier timeline aimed for a completion date of September 30, 2013.<sup>64</sup> However, in October 2013, a new timeline extending that date to June 2014 was presented.<sup>65</sup> Stakeholder committees organized by nutrient sources have developed some first drafts. The drafts rely on nutrient trading for implementation, but, without clear nutrient standards to drive adoption of strategies and create a viable nutrient trading market, the document may remain little more than a list of good ideas with little hope of implementation.

### *Failure to Control Nutrient Discharges*

Missouri has a poor performance in regard to implementation of the Clean Water Act, having failed to assign designated uses to the vast majority of its rivers and streams until November 2013.<sup>66</sup> Because so few waters have been subject to numeric criteria, and because only a few of

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<sup>60</sup> See 10 C.S.R. § 20.7-031(4)(N)(3) and Table M. These 25 lakes have the lowest TP, TN and chlorophyll levels in the state and are in the lowest 25 percent of Missouri lakes for nutrient contamination. Nonetheless, 9 of those 25 lakes are now listed on the 303(d) list for nutrient impairments.

<sup>61</sup> 10 CSR 20.7-031(4)(N)(3)(A)-(C).

<sup>62</sup> Letter from Karl Brooks, Administrator, EPA Region 7, to Sarah Parker Pauley, Director, Missouri Department of Natural Resources, dated August 17, 2011, at pages 27-29. (**Attachment 42**)

<sup>63</sup> *Id.* at 29.

<sup>64</sup> Missouri Department of Natural Resources, Presentation, Nutrient Reduction Strategy (Oct. 2013) (**Attachment 43**) (also available at [http://www.mpua.org/lib/files/NRC\\_5\\_\(2\).pdf](http://www.mpua.org/lib/files/NRC_5_(2).pdf)).

<sup>65</sup> Missouri Department of Natural Resources, Nutrient Reduction Loss Strategy – October 2013 (**Attachment 4**) (also available at <http://www.dnr.mo.gov/env/wpp/mnrsc/nutrient-red-strategy-powerpoint10-15-13.pdf>).

<sup>66</sup> See 39 Mo. Register, No. 2, at 259 (Jan. 15, 2014). Missouri Coalition for the Environment estimates that approximately 80,000 miles of rivers and streams remain without designated uses and are not presumed fishable/swimmable as required by EPA regulation.

Missouri's permitted dischargers have been located on classified streams, it has been virtually impossible to use the NPDES permitting program to control nutrients. Even if the state were willing to incorporate WQBELs into permits (which it currently is not), there are no numeric criteria applicable to the receiving streams.

*Environmental Problems Attributable to the Lack of Nutrient Control*

The 2014 303(d) list contains 123 streams with impairments that suggest nutrient issues, even though no nutrient standards apply to those waters. The types of impairments range from a catch-all of "nutrients" to dissolved oxygen to the specific naming of nitrogen, phosphorus and chlorophyll.

In the meantime, blue-green algae continues to threaten Missouri waterways<sup>67</sup> and Missouri's nutrient pollution remains a major contributor to Gulf Hypoxia. According to USGS, Missouri contributes 9.6% of Total Nitrogen and 12.1% of Total Phosphorus flux to the Gulf of Mexico, making it the fourth and second leading state, respectively.<sup>68</sup>

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<sup>67</sup> CBS St. Louis, "Blue-Green Algae Threat to Humans, Animals." (July 23, 2013) (**Attachment 45**) (also available at <http://stlouis.cbslocal.com/2013/07/23/blue-green-algae-threat-to-humans-animals/>).

<sup>68</sup> Attach. 9

