

IOWA DEPARTMENT OF NATURAL RESOURCES

Petition by the Iowa Environmental Council and the Environmental Law and Policy Center for the adoption of rules relating to numeric water quality standards for significant public recreational lakes.

PETITION FOR RULE MAKING

The Iowa Environmental Council and the Environmental Law and Policy Center present this petition for rule making pursuant to 567 IAC 5.1 and the Uniform Rules on Agency Procedure. The petition requests the adoption of numeric water quality standards for nutrients in significant public recreational lakes. The standards requested in this petition are based on the 2008 recommendations of the Department of Natural Resources' (DNR) committee of Nutrient Science Advisors. The petition requests that DNR promulgate numeric water quality standards for Secchi disc depth, Chlorophyll-a, Total phosphorus and Total nitrogen in Iowa's significant public recreational lakes.

1. Relevant law

The Iowa Legislature has charged the Environmental Protection Commission with adopting appropriate water quality standards for the waters of our state. Iowa Code section 455B.176A(5) states:

The commission shall adopt rules designating water quality standards which shall be specific to each designated use adopted pursuant to subsection 4. The standards shall take into account the different characteristics of each designated use and shall provide for only the appropriate level of protection based upon that particular use. The standards shall not be identical for each designated use unless required for the appropriate level of protection. The appropriate level of protection and standards shall be determined on a scientific basis. In the development process for the water quality standards, input shall be received from a water quality standards advisory committee convened by the department. The water quality standards advisory committee shall be comprised of experts in the scientific fields relating to water quality, such as environmental engineering, aquatic toxicology, fisheries biology, and other life sciences and experts in the development of the appropriate levels of aquatic life protection and standards. The water quality standards shall be reviewed and revised by the department as new scientific data becomes available to support revision.¹

The federal Clean Water Act (CWA) requires states to establish water quality standards that will “protect the public health or welfare, enhance the quality of water and serve the purposes of this chapter.”² The state's duty to establish water quality standards under the CWA includes the mandatory duty to adopt criteria necessary to protect the designated uses of a waterbody:

¹ Iowa Code § 455B.176A(5)

² 33 U.S.C. § 1313(c)(2)

States must adopt those water quality criteria that protect the designated use. Such criteria must be based on sound scientific rationale and must contain sufficient parameters or constituents to protect the designated use. For waters with multiple use designations, the criteria shall support the most sensitive use.³

The U.S. Environmental Protection Agency has stated that, “Adding nutrient criteria to State water quality standards is essential for Federal, State and local agencies, and the public, to better understand, identify, and manage nutrient over-enrichment problems in surface waters.”⁴

2. Summary of argument in support of the proposed rules

The goal of the Clean Water Act (CWA) is to eliminate the discharge of pollutants into our nation’s navigable waters⁵ with the objective of restoring and maintaining their “chemical, physical, and biological integrity.”⁶ In order to achieve this broad national goal, the CWA establishes specific roles for states, articulating their discretionary and mandatory duties under the statute.⁷

States have a mandatory duty under the CWA to establish water quality standards for all of their waterbodies. This includes 1) the mandatory duty to designate uses for all waterbodies⁸ and 2) the mandatory duty to establish criteria to protect those uses.⁹

Despite substantial evidence that nutrient (i.e., nitrogen & phosphorus) pollution in Iowa is threatening both the safe use and enjoyment of Iowa’s recreational lakes, Iowa has failed to establish numeric nutrient criteria to necessary protect these waterbodies.

Failing to establish criteria that are necessary to protect Iowa’s recreational lakes from nutrient pollution not only violates the CWA, but also threatens public health/safety, the health of aquatic/animal life, and the health of our economy. It also renders the state vulnerable to having federal numeric nutrient criteria imposed by the EPA.¹⁰

The establishment of numeric nutrient criteria (NNC) is not only necessary to protect Iowa waters, but also practicable: 1) Numerous states have adopted NNC for lakes;¹¹ 2) EPA has proposed NNC for several states¹² and developed technical guidance for states to use in developing NNC (including NNC guidance for recreational lakes)¹³; and 3) Iowa has already developed NNC for recreational lakes, but simply failed

³ 40 C.F.R. § 131.11(a)(1) (2018)

⁴ U.S. Environmental Protection Agency, *National Strategy for the Development of Regional Nutrient Criteria*, at 6 (noticed in the Federal Register on June 25, 1998 at 63 Fed. Reg. 34648).

⁵ 33 U.S.C. § 1251(a)(1)

⁶ 33 U.S.C. § 1251(a)

⁷ See 40 C.F.R. § 131.4; 40 C.F.R. § 131.5; See also, *PUD NO. 1 of Jefferson Cty. v. Washington Dept. of Ecology*, 511 U.S. 700, 704 (1994)

⁸ 40 C.F.R. § 131.10(a) (2018)

⁹ 40 C.F.R. § 131.11(a)(1) (2018)

¹⁰ See generally U.S. Environmental Protection Agency, *Proposed Water Quality Standards for the State of Missouri’s Lakes and Reservoirs*, 82 FR 61213 at 61216 (December 27, 2017) available at <https://www.gpo.gov/fdsys/pkg/FR-2017-12-27/pdf/2017-27621.pdf>

¹¹ See 33 U.S.C. § 1313(c)(4); See also, U.S. Environmental Protection Agency, *State Progress Toward Developing Numeric Nutrient Water Quality Criteria for Nitrogen and Phosphorus*, <https://www.epa.gov/nutrient-policy-data/state-progress-toward-developing-numeric-nutrient-water-quality-criteria>

¹² See generally U.S. Environmental Protection Agency, *Proposed Water Quality Standards for the State of Missouri’s Lakes and Reservoirs*, 82 FR 61213 at 61216 (December 27, 2017) available at <https://www.gpo.gov/fdsys/pkg/FR-2017-12-27/pdf/2017-27621.pdf>

¹³ See U.S. Environmental Protection Agency, *Ambient Water Quality Criteria Recommendations: Lakes and Reservoirs in Nutrient Ecoregion VI* at ii (December 2000) <https://www.epa.gov/sites/production/files/documents/lakes6.pdf>

to adopt them.¹⁴ In 2008, a team of Nutrient Science Advisors under the direction of DNR developed and formally recommended NNC to protect Iowa lakes designated for recreational use.¹⁵ These recommendations were taken up by DNR, in part, in a 2011 Notice of Intended Action which contained a specified list of 159 lakes that would be protected.¹⁶ Although this rulemaking effort went through public meetings and a formal comment period, it expired due to inaction in September 2011.¹⁷

Petitioners request that the EPC adopt the Nutrient Science Advisors' 2008 recommendations for Secchi disc depth, Chlorophyll-a, Total phosphorus, and Total nitrogen water quality standards. These proposed recreational standards would set numeric criteria for acceptable levels of algae and turbidity in Iowa's lakes and for the phosphorus and nitrogen that causes it. These rules would be easy to implement in discharge permits and would protect Iowa's lakes and lake communities from harmful algae blooms before they occur.

The proposed rules (detailed below) are drafted to closely mirror the rules proposed by the DNR in its 2011 Notice of Intended Action with added criteria for Total phosphorus and Total nitrogen, as recommended in 2008 by the Nutrient Science Advisors. Petitioners have also added a use designation, "Significant Public Recreational Lakes", to which the proposed criteria will apply.

Petitioners further encourage the DNR to ensure that each of the 159 lakes proposed for coverage under this rule also has an A1 designation. Our review found that 20 of these lakes appear to be missing even that basic level of recreational protection. Five of the 20 lakes appear to be designated as general use, lacking even an aquatic life designation.

A brief in support of the proposed rules is attached (see Attachment A).

3. Summary of data in support of the proposed rules

The 2008 report of the Nutrient Science Advisors contains detailed analysis of monitoring data at Iowa lakes relating to nutrients and algae.¹⁸ The report details the observed relationship in Iowa's lakes between the causal variables phosphorus and nitrogen and the response variables Secchi disc depth (water clarity) and Chlorophyll-a concentration (algal biomass).¹⁹ The Nutrient Science Advisors used these data to recommend maximum phosphorus and nitrogen thresholds, above which acceptable levels of water clarity and algal biomass can no longer be assured in Iowa's lakes.²⁰

The recommendations of this 2008 report are the basis for the proposed rules. The report is attached along with the Department's 2011 Notice of Intended Action and Informal Regulatory Analysis.

¹⁴ See Michael Burkart, Michael Birmingham, Edward Bottei, Edward Brown, John Downing, Christopher Jones, Joe Larscheid, John Olson, Michael Quist, Peter Weyer, Tom Wilton, *Nutrient Criteria for Iowa Lakes: Recommended Criteria for Class A Recreational Lakes*, Report of the Nutrient Science Advisors (February 14, 2008) available at https://www.researchgate.net/profile/Joseph_Larscheid/publication/237509482_Nutrient_Criteria_for_Iowa_Lakes_Recommended_Criteria_for_Class_A_Recreational_Uses_Report_of_the_Nutrient_Science_Advisors/links/5579ebf108ae752158717b7d/Nutrient-Criteria-for-Iowa-Lakes-Recommended-Criteria-for-Class-A-Recreational-Uses-Report-of-the-Nutrient-Science-Advisors.pdf?origin=publication_detail

¹⁵ *Id.*

¹⁶ See Department of Natural Resources, Notice of Intended Action (February 23, 2011) on file with the Department of Natural Resources.

¹⁷ See Environmental Protection Commission, *Denial of Petition for Rulemaking* by Iowa Environmental Council and Environmental Law and Policy Center at 2 (October 14, 2013).

¹⁸ See Burkart, *supra*.

¹⁹ *Id.*

²⁰ *Id.*

4. Text of the proposed rule

Adopt the following new subrule 61.3(1) “b” (12):

(12) Significant Public Recreational Lakes (Class “D”). These are lakes which are Significant Publicly Owned Lakes, have a mean depth greater than or equal to three meters, or have a maintained swimming beach. This use does not apply to privately owned lakes, lakes where swimming is prohibited, or reservoirs or on-stream impoundments a large drainage area to surface area ratio.

Adopt the following new subrule 61.3(3) “e”:

61.3(3) “e” Class “D” waters.

(1) The following criteria are applicable to all waters designated as Class D:

- a) Transparency. The transparency of the lake, as measured with a Secchi disc, shall be greater than or equal to one meter at least 75 percent of the time.
- b) Chlorophyll-a. The concentration of chlorophyll-a shall be less than or equal to 25 micrograms per liter ($\mu\text{g/l}$) at least 75% of the time.
- c) Total phosphorus. The concentration of total phosphorus shall be less than or equal to 35 micrograms per liter ($\mu\text{g/l}$) at least 75% of the time.
- d) Total nitrogen. The concentration of total nitrogen shall be less than or equal to 900 micrograms per liter ($\mu\text{g/l}$) at least 75% of the time. This total nitrogen criterion shall only apply to lakes that satisfy the total phosphorus criterion at part (3) of paragraph 61.3(3) “e”.

(2) Water sampling used to determine whether a lake meets the criteria in paragraph 61.3(4) “a” must meet the following requirements:

1. A minimum of nine sample results are required.
2. At least three of the samples must be taken from the deepest part of the lake.
3. All samples must be taken during the months of May through September.
4. At least three sampling events must be conducted in any one summer recreation season.
5. Samples must be taken in at least three summer seasons in a five-consecutive-year period.

(3) Criteria in paragraph 61.3(3) “e” (1) shall apply to all Class D waters, unless an alternative site-specific standard has been calculated and approved based on site-specific monitoring and data analysis. Criteria in paragraph 61.3(3) “e” (1) shall initially apply to the following list of Class E lakes, listed by county in which the lake is located:

Adair: Mormon Trail Lake,
Meadow Lake, Orient Lake

Adams: Lake Icaria, Binder Lake

Appanoose: Rathbun Reservoir

Audubon: Littlefield Lake

Benton: Hannen Lake, Rodgers Park
Lake

Black Hawk: Mitchell Lake, George
Wyth Lake, South Prairie Lake,

Meyers Lake, Green Belt Lake

Boone: Don Williams Lake

Bremer: Avenue of the Saints Pond

Buena Vista: Storm Lake (including
Little Storm Lake), Sturchler Pit
(Newell Pit), Marathon City Park
Pond, Gustafson Lake

Calhoun: North Twin Lake

Carroll: Swan Lake

Cass: Lake Anita, Cold Springs
Lake

Cerro Gordo: Bluebill Lake, Clear
Lake, Blue Pit

Chickasaw: Airport Lake, Split
Rock Lake

Clarke: East Lake

Clay: Scharnberg Pond, Trumbull Lake
Clinton: Malone Park Pond
Crawford: Yellow Smoke Park Lake, Newcom Riggelman Natural Resource Area Pond, Nelson Park Lake
Dallas: Beaver Lake
Davis: Lake Wapello
Decatur: Little River Watershed Lake, Slip Bluff Lake, Nine Eagles Lake
Delaware: Silver Lake
Des Moines: Big Hollow Lake
Dickinson: West Okoboji Lake, Big Spirit Lake, Center Lake, Minnewashta Lake, East Okoboji Lake, Silver Lake, Little Spirit Lake, Lower Gar Lake, Upper Gar Lake
Emmet: Ingham Lake, Tuttle Lake
Fayette: Volga Lake (aka Frog Hollow)
Floyd: Rudd Lake
Franklin: Beeds Lake
Fremont: Percival Lake, McPaul 'B' Pond
Greene: Spring Lake
Guthrie: Springbrook Lake
Hamilton: Briggs Woods Lake, Little Wall Lake
Hancock: Eldred Sherwood Lake, Crystal Lake
Hardin: Upper Pine Lake, Lower Pine Lake
Harrison: Willow Lake
Henry: Lake Geode
Howard: Lake Hendricks
Ida: Moorhead Park Pond, Crawford Creek Impoundment
Iowa: Iowa Lake

Jackson: Lower Sabula Lake
Jasper: Rock Creek Lake, Mariposa Lake
Jefferson: Fairfield Municipal Reservoir #1
Johnson: Lake Macbride, Kent Park Lake
Jones: Central Park Lake
Keokuk: Lake Belva Deer
Kossuth: Lake Smith
Lee: Pollmiller Park Lake, Wilson Lake
Linn: Pleasant Creek Lake
Lucas: Red Haw Lake, Williamson Pond
Lyon: Lake Pahoja
Madison: Badger Creek Lake
Mahaska: Hawthorn Lake (aka Barnes City Lake), Lake Keomah, White Oak Conservation Area Lake
Marion: Roberts Creek Lake
Marshall: Sand Lake, Green Castle Lake
Mills: Mile Hill Lake
Monona: Oldham Lake, Blue Lake
Monroe: Lake Miami
Montgomery: Viking Lake
O'Brien: Dog Creek Lake, Mill Creek Lake, Douma Area Pond
Osceola: Willow Creek, Ocheyedon Pit #1, Ashton Park Pond
Page: Pierce Creek Pond
Palo Alto: Lost Island Lake, Five Island Lake, Silver Lake
Plymouth: Hillview Recreational Area Pond
Pocahontas: Meredith Park Pond
Polk: Big Creek Lake, Grays Lake, Easter Lake, Blue Heron Lake (Raccoon River Park)

Pottawattamie: Carter Lake, Arrowhead Pond, Lake Manawa, Arbor Lake
Sac: Arrowhead Lake, Black Hawk Lake
Scott: Lake of the Hills
Shelby: Prairie Rose Lake, Manteno Park Pond
Sioux: Fairview Area Impoundment, Otter Creek Recreational Area Pond, Winterfield Pond (aka Van Zee Pit), Big Sioux
Story: Hickory Grove Lake, Peterson Pit West
Tama: Otter Creek Lake, Casey Lake (aka Hickory Hills Lake), Union Grove Lake
Taylor: Lake of Three Fires, Windmill Lake, Wilson Park Lake
Union: Three Mile Lake, Twelve Mile Creek Lake, Green Valley Lake, Thayer Lake
Van Buren: Lacey Keosauqua Park Lake, Lake Sugema, Indian Lake
Wapello: Ottumwa Lagoon
Warren: Lake Ahquabi
Washington: Lake Darling
Wayne: Bob White Lake
Webster: Brushy Creek Lake, Badger Lake
Winnebago: Lake Catherine, Rice Lake
Winneshiek: Lake Meyer
Woodbury: Little Sioux Park Lake, Browns Lake
Worth: Silver Lake, Kuennen's Pit Wildlife Area (south), Kuennen's Pit Wildlife Area (north)
Wright: Lake Cornelia

5. Description of Affected class of persons

All Iowans who are interested in or rely on Iowa's water resources will be affected by the proposed rules.

6. Request for a Meeting

Petitioners respectfully request a meeting with DNR regarding this petition as provided at 567 IAC 5.1 and the Uniform Rules on Agency Procedure.

7. Agency Consideration

Per the Uniform Rules on Agency Procedure which provide that the agency must respond, "within 60 days after the filing of the petition or within any longer period agreed to by the petitioner," petitioners agree to a period of consideration for the petition of up to 6 months from the date of filing (with an additional extension of up to 3 months upon agreement by petitioners) to 1) ensure that DNR can adequately solicit public input and provide affected parties with a sufficient opportunity for input, 2) ensure that the state has

enough time to conduct a fiscal/job impact analysis, and 3) provide adequate time for permit derivation discussions.²¹

8. Inquiries

Communication regarding this petition should be directed to Josh Mandelbaum of the Environmental Law and Policy Center, Mailing Address: 505 5th Avenue, Suite 333, Des Moines, Iowa 50309. Phone: 515-244-0253.

9. Enclosures

- Enclosure A: Brief in support of proposed rule making
- Enclosure B: 2008 report of the Nutrient Science Advisors
- Enclosure C: 2011 DNR Notice of Intended Action
- Enclosure D: 2011 DNR Informal Regulatory Analysis
- Enclosure E: Map of lakes protected by the proposed rules

Signed:

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²¹ See Environmental Protection Commission, *Denial of Petition for Rulemaking* by Iowa Environmental Council and Environmental Law and Policy Center at 4-5 (October 14, 2013).