IN THE IOWA SUPREME COURT
No. 19-1644

IOWA CITIZENS FOR COMMUNITY IMPROVEMENT, a nonprofit corporation, and FOOD & WATER WATCH, a nonprofit corporation, Plaintiffs-Appellees,

v.

STATE OF IOWA; DEPARTMENT OF NATURAL RESOURCES; BRUCE TRAUTMAN, in his official capacity as Acting Director of the Department of Natural Resources; ENVIRONMENTAL PROTECTION COMMISSION; MARY BOOTE, NANCY COUSER, LISA GOCHENOUR, REBECCA GUINN, HOWARD HILL, HAROLD HOMMES, RALPH LENTS, BOB SINCLAIR, JOE RIDING, in their official capacities as Commissioners of the Environmental Protection Commission; NATURAL RESOURCE COMMISSION; MARCUS BRANSTAD, RICHARD FRANCISCO, LAURA HOMMEL, TOM PRICKETT, PHYLLIS REIMER, DENNIS SCHEMMEL, and MARGO UNDERWOOD, in their official capacities as Commissioners of the Natural Resource Commission; DEPARTMENT OF AGRICULTURE AND LAND STEWARDSHIP; and MICHAEL NAIG, in his official capacity as Secretary of Agriculture. Defendants-Appellants.

APPEAL FROM THE IOWA DISTRICT COURT FOR POLK COUNTY, HON. ROBERT B. HANSON

BRIEF OF AMICUS CURIAE BOARD OF WATER WORKS TRUSTEES OF THE CITY OF DES MOINES, IOWA

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STATEMENT OF THE IDENTITY AND INTEREST OF AMICUS CURIAE

The Board of Water Works Trustees of the City of Des Moines, Iowa ("Des Moines Water Works" or "DMWW") is an independent municipal utility organized under Iowa Code Ch. 388. DMWW supplies drinking water to approximately 500,000 people in the Des Moines metropolitan area. DMWW has a vital interest in reducing pollution in the Raccoon and Des Moines Rivers, because DMWW relies on these rivers for its raw source water. The increasing levels of nutrient pollution from heavy agricultural activities in the Raccoon and Des Moines River watersheds have created serious public health and water treatment challenges for DMWW. Under the Safe Drinking Water Act ("SDWA"), DMWW has an obligation to keep nitrate concentrations in drinking water below 10 mg/l. 42 U.S.C. § 300f; 40

C.F.R. § 141.62(b)(7); Iowa Code § 455B.176A; Iowa Admin. Code r. 567-41.3(1)(b). DMWW is also regulated on a number of other agricultural-related contaminants that are present in the water, including fecal coliform and E. coli bacteria. 40 C.F.R. § 141.63(a). The presence of high levels of total organic carbon ("TOC") in Iowa waters combines with the high levels of ammonia, another agricultural-related contaminant, to create a problem with disinfectant byproducts, which EPA also regulates. 40 C.F.R. § 141.64. Nutrient pollution also increases the emerging risk from toxins from cyanobacteria.

DMWW therefore has a substantial interest in all efforts to reduce the levels of nutrient pollution in Iowa's water, and a direct interest in this case.

STATEMENT OF AUTHORSHIP OF BRIEF AND FUNDING

This brief was authored by legal counsel for DMWW. Legal counsel have not contributed personal funds to the preparation of this brief. No third parties contributed any funds to the preparation or submission of this brief.

ARGUMENT

Iowa Citizens for Community Improvement and Food and Water Watch (collectively "FWW") allege their members have been harmed by unregulated nutrient pollution of Iowa's lakes, rivers, and streams by agricultural sources. FWW's case is therefore no different than any other case heard by this Court where an aggrieved plaintiff is challenging defendants'

conduct that has caused the plaintiff harm.

FWW's case provides an opportunity to test through the judicial process the adequacy of efforts to reduce the nutrient pollution in Iowa's waters. There is no more appropriate use of Iowa's courts than to rigorously test the State's claim that there is no harm to Iowa's water, or that sufficient efforts have been made to remedy that harm. DMWW respectfully requests the Court allow FWW's case to proceed.

I. IOWA'S WATERWAYS SUFFER FROM CRITICAL LEVELS OF POLLUTION

Excessive nitrate concentration in drinking water harms public health. The EPA and the Environmental Protection Commission ("EPC") regulate the total concentration of nitrate that can be present in potable water. 40 C.F.R. § 141.62(b)(7); Iowa Admin. Code r. 567-41.3(1)(b). High concentrations in Iowa's waters of nutrients like nitrate are due to agricultural discharges. Iowa Nutrient Reduction Strategy, *Section 2.1 Executive Summary-Iowa Science Assessment of Nonpoint Source Practices to Reduce Nitrogen and Phosphorus Transport in the Mississippi River Basin*, pg. 1, May 2013, *available at*: http://www.nutrientstrategy.iastate.edu/sites/default/files/documents/2%202017%20INRS%20Section%202_Science%20Assessment.pdf. According to the Iowa Nutrient Reduction Strategy (the "Strategy"), non-point sources account for 93% of total nitrogen and 79% of total phosphorus discharges. *Id.*

Non-point sources are primarily industrial agriculture. Iowa Nutrient Reduction Strategy, *Executive Summary*, pg. 1, May 2013 *available at* http://www.nutrientstrategy.iastate.edu/sites/default/files/documents/NRS1-130529.pdf ("Iowa leaders representing *nonpoint sources (agriculture)* and point sources (municipalities and industries) are working together . . . .") (emphasis added).

In addition to being dangerous for humans to consume directly, high concentrations of nutrients create a fertile environment for growth of harmful cyanobacteria. Environmental Protection Agency, *EPA Drinking Water Health Advisories for Cyanotoxins*, *available at*: https://www.epa.gov/cyanohabs/epa-drinking-water-health-advisories-cyanotoxins; Environmental Protection Agency, *2015 Drinking Water Health Advisories for Two Cyanobacterial Toxins*, June 2015, *available at* https://www.epa.gov/sites/production/files/2017-06/documents/cyanotoxins-fact_sheet-2015.pdf (high nutrient waters foster cyanobacteria growth, which in turn generate cyanotoxins hazardous to human health). Though not currently subject to EPA regulation, cyanotoxins from cyanobacteria are the subject of an EPA health advisory.

Despite the Strategy, which went into effect in May 2013, the nutrient problem in Iowa's waterways is not improving. According to the Iowa

Department of Natural Resources ("IDNR"), the median nitrate concentration in Iowa's waters increased from 6 mg/l in 2010 to 7.8 mg/l in 2016. IDNR Water Quality Bureau, *Stream Water Quality Summary 2016*, February 2017, *available at* http://publications.iowa.gov/23545/1/WFS-2017-01.pdf. These are the background conditions for DMWW's operation.

II. IOWA'S WATER QUALITY CREATES DIFFICULT CHALLENGES FOR DMWW

Iowa's impaired water quality has direct operational and financial impacts on DMWW. Nutrients, cyanotoxins, and all of the various kinds of bacteria present in Iowa's water require unique, and sometimes competing, treatment. Managing this multi-dimensional problem strains DMWW staff and equipment resources, and makes meeting water quality standards a daily, and sometimes hourly, challenge. DMWW has been able to meet these challenges, so residents of the Des Moines metropolitan area have not had to concern themselves with contaminated drinking water. However, requiring DMWW to create elaborate and expensive treatment processes to treat novel and unprecedented combinations of contaminants is a high-wire act.

For example, nitrate concentrations in DMWW's source waters can change dramatically on a daily or even an hourly basis depending on the season, weather conditions, river levels, and upstream land use activity. These dramatic changes require constant monitoring, careful planning, and timely

response by DMWW staff.

Online monitoring equipment at river gauging stations upstream from DMWW surface water intakes, and daily river intake sampling provides real-time data to DMWW decision makers. DMWW relies on at least five probes to monitor nitrate levels, at a cost of approximately $18,000 each, plus ongoing maintenance and operation costs. Data from these sources allows DMWW to select either the Raccoon or Des Moines rivers from which to draw its source water. DMWW's safest and most cost-effective method of treatment is to avoid source waters with high nitrate concentrations or other contaminants.

Source-water selection requires careful monitoring and timely source changes when water quality conditions change rapidly. However, toggling between source waters upsets water treatment operations and results in many hours of oversight and process adjustment. Avoiding a high nitrate source in the Raccoon River can also result in increased cost for pumping from the Des Moines River of approximately $600 to $1,200 per day. There are other treatment tradeoffs when changing between source waters to avoid nutrient pollution. Often both rivers present treatment challenges, so selection is a matter of identifying the river with the fewest treatment issues.

When all available sources are experiencing high nitrate

concentrations, as is frequently the case, DMWW must rely on its nitrate removal facility, or low nitrate water must be drawn from aquifer storage.[1] The nitrate removal facility's operation consumes significant quantities of power and chemicals, and requires extensive operational oversight to ensure proper system operation and regeneration. The cost of labor, power, chemicals, and waste disposal can add up to a total cost to DMWW customers of up to $10,000 per day to operate the nitrate removal facility. Drawing low nitrate water from aquifer storage can be less expensive, but quantities of stored low nitrate water are limited and additional pumping costs are approximately $1,000 per day. Tapping reserves to cope with high nutrient concentrations also reduces DMWW's resiliency and ability to cope with peak demand.

Elevated TOC and ammonia levels in source waters creates significant challenges, because of the potential to create hazardous levels of disinfection byproducts ("DBP"), which are separately regulated. 40 C.F.R. § 141.64. The presence of elevated TOC levels in source waters taxes the TOC removal limits of conventional surface water treatment plants and creates elevated

[1] DMWW has the ability to pump treated water into underground aquifers that have been approved for storage. During times of peak demand, DMWW can recover that water, and blend it with other treated water headed for distribution.

disinfectant demand. When ammonia levels are high, DMWW must use approximately eight to ten times the typical amount of disinfectant, because ammonia degrades the effectiveness of disinfectant. This creates an environment for creation of DBP. DBPs are difficult to treat and have adverse health consequences. Environmental Protection Agency, *Stage 1 and Stage 2 Disinfectants and Disinfection Byproducts Rules*, Office of Water, *available at* https://www.epa.gov/dwreginfo/stage-1-and-stage-2-disinfectants-and-disinfection-byproducts-rules#rule-history.

DMWW cannot simply reduce the disinfectant it adds to the water. Disinfection of potable water on a continuous basis is a prime requirement of the Surface Water Treatment Rule. 40 C.F.R. §§ 141.70-.75. Failure to comply with the disinfection requirement creates an immediate threat to public health. DMWW has been able to meet the disinfection requirements to date through quick reactions and updates to its systems. Online ammonia and TOC instruments have been integrated into treatment works in the past five years to provide DMWW with triggers, alarms, and notices to prompt more aggressive operation of the disinfectant feed systems. TOC instruments cost DMWW approximately $43,000 per unit, and DMWW had to install two units. In addition, annual operation and maintenance of the units is $7,500 per unit. When alerted, DMWW has been able to quickly ramp up disinfectant

levels to ensure it complies with the Surface Water Treatment Rule.

To monitor for DBP resulting from elevated ammonia and TOC, DMWW purchased two analyzers to test for TTHM, a DBP. Each analyzer cost $83,000, and annual maintenance is $18,000 per unit.

In 2014, DMWW had to integrate an additional disinfectant feed pump into the treatment works at the Fleur Drive Water Treatment Plant, because the existing pumps were not capable of delivering adequate amounts of disinfectant to the treatment stream, an unprecedented event. The additional pump cost DMWW $20,000. DMWW was also forced to prioritize compliance with continuous disinfection above potential violation of DBP regulations. As a consequence, DMWW and a number of metro water systems supplied by DMWW were unable to comply with DBP regulations throughout 2014 and 2015 due to the poor water quality in early 2014. DMWW had to provide notice to customers about the DBP violations. 40 C.F.R. § 141.204. On numerous occasions since then, elevated ammonia and TOC concentrations forced DMWW to dose the water with disinfectant at levels eight to ten times normal to ensure public health is not compromised.

DMWW cannot build a bigger treatment plant or install a new process to deal with the DBP problem, because it is a consequence of Iowa's water chemistry. The presence of agricultural pollutants in the water creates the DBP

problem, because DMWW must ensure that it disinfects the water. DBPs are a natural and inevitable consequence of source water quality.

High source water nutrient concentrations also cause cyanobacteria blooms. Cyanobacteria blooms can release cyanotoxins into the Des Moines and Raccoon Rivers as the organisms die and decompose. These toxins are a serious public health risk. Environmental Protection Agency, *EPA Drinking Water Health Advisories for Cyanotoxins*, *available at* https://www.epa.gov/cyanohabs/epa-drinking-water-health-advisories-cyanotoxins; Environmental Protection Agency, *2015 Drinking Water Health Advisories for Two Cyanobacterial Toxins*, June 2015, available at https://www.epa.gov/sites/production/files/2017-06/documents/cyanotoxins-fact_sheet-2015.pdf.

In 2016, DWMW detected cyanotoxins at levels above the EPA Health Advisory level of 0.3 µg/L in its finished water for one day. Staff immediately changed river sources, but detectable concentrations on the second day required DMWW to provide an early public message about the potential harm from cyanotoxins, as required by EPA and IDNR.

To improve its responsiveness to cyanotoxins, DMWW implemented a tiered sampling and analysis protocol that starts with daily sampling and analysis of source waters. When conditions warrant it, DMWW escalates its

sampling protocol to every eight hours so DMWW can avoid cyanotoxin levels in finished water that would trigger health advisory notices.

In 2017, DMWW needed to sample and analyze both the Raccoon River and Des Moines River sources every eight hours for more than 113 days. This increased sampling had an annual cost of nearly $100,000. In the summer of 2019, monitoring showed the Des Moines River was above the EPA drinking water health advisory level for cyanotoxins of 0.3 µg/L from late July to mid-November, making the Des Moines River essentially unavailable as a source for DMWW for nearly four months. Cyanotoxins levels during that period averaged over 1.5 µg/L, five times the limit, and peaked at 4.8 µg/L, 16 times the limit.

Currently, DMWW is pursuing the development of alternate sources of raw water that will provide multiple benefits to the quality of DMWW's raw source water. DMWW's long-range plans involve the implementation of new treatment technologies at a cost of tens of millions of dollars to its water ratepayers. This investment is not primarily to improve the quality of service to DMWW's customers, but instead is necessary to allow people to drink safe water from their taps. Rather than spend that money to improve service or resiliency, DMWW will instead invest millions to maintain the status quo: providing clean drinking water. DMWW's decision to invest millions of

dollars in treatment infrastructure to contend with nutrient pollution in the Des Moines and Raccoon Rivers should reveal the magnitude of the water quality problem in Iowa.

III. FWW'S CASE MEETS THE CRITERIA FOR JUSTICIABILITY

DMWW has long committed itself to improving water quality in Iowa through advocacy and collaboration. The Court has previously addressed whether DMWW could use the judicial process to address water quality concerns. *See Bd. of Water Works Trustees of the City of Des Moines v. SAC County Bd. of Supervisors*, 890 N.W.2d 50 (Iowa 2017) (addressing certified questions of Iowa law presented by the federal court in an action filed by DMWW in federal court). The Court's decision resulted in dismissal of DMWW's claims, because of certain characteristics of DMWW and the defendants. *Id.*[2] The current case does not present those obstacles to relief.

According to the Court, DMWW's assertion of public health as grounds for tackling water quality was an insufficient basis to allow DMWW's claims to proceed. *Id.* at 68 ("The DMWW does not claim nitrate levels render the

[2] The Court's decision also resulted in the subsequent dismissal of all of DMWW's federal law claims on justiciability grounds. *Bd. of Water Works Trustees of City of Des Moines, Iowa v. Sac Cty. Bd. of Supervisors*, 2017 WL 1042072, at *6 (N.D. Iowa 2017) ("The drainage districts are creations of Iowa law. In light of the Iowa Supreme Court's unambiguous description of the limited duties and powers of those districts, I conclude that Counts I and II fail for lack of Article III standing under the doctrine of redressability.").

Raccoon River unsafe for swimming or fishing."). FWW has alleged its members' ability to utilize Iowa's waters have been limited by the presence of nutrient pollution. (FWW Pet. ¶¶ 1, 4, 85).

The Court also denied DMWW had the ability to bring constitutional claims based on pollution. *Bd. of Water Works Trustees*, 890 N.W.2d at 70. In contrast, FWW is a private organization alleging harm on behalf of its individual members. (FWW Pet. ¶¶ 1, 4, 85).

As the Court considers FWW's case, DMWW suggests the Court recall Chief Justice Cady's observation that "[o]ne of the fundamental principles of law is for remedies to be available when we discover wrongs. Pollution of our streams is a wrong, irrespective of its source or its cause." *Bd. of Water Works Trustees*, 890 N.W.2d at 73 (C.J. Cady, concurring).

IV. THE IOWA CONSTITUTION PROTECTS THE RIGHT TO CLEAN WATER

FWW has alleged the State's actions are a violation of the Unenumerated Rights Clause. DMWW previously raised a claim under the Inalienable Rights Clause, which works in tandem with the Unenumerated Rights Clause. *See Atwood v. Vilsack*, 725 N.W.2d 641, 651 (Iowa 2006). These clauses work together to secure rights not otherwise explicitly state in the Iowa Constitution. *See id.*

A right to clean water is an ancient principle that predates statehood:

> It is a principle of the common law, that the erection of any thing in the upper part of a stream of water, which poisons, corrupts, or renders it offensive and unwholesome, is actionable. And this principle not only stands with reason, but it is supported by unquestionable authority ancient and modern.

Howell v. M'Coy, 1832 WL 2994, at *9, 3 Rawle 256, 269 (Pa. 1832); *see also Ferguson v. Firmenich Mfg. Co.*, 42 N.W. 448, 449 (Iowa 1889).

These clauses are not "a mere glittering generality without substance or meaning." *See Gacke v. Pork Xtra, L.L.C.*, 684 N.W.2d 168, 176 (Iowa 2004) (citation omitted). They serve as a restraint on the arbitrary exercise of government power. *Gibb v. Hansen*, 286 N.W.2d 180, 186 (Iowa 1979). Any government action must be "reasonably necessary" and not "unduly oppressive" to avoid invalidity. *Gacke*, 684 N.W.2d at 178 (citing *Gibb*, 286 N.W.2d at 186); *see also Dalarna Farms v. Access Energy Coop*, 792 N.W.2d 656, 663 (Iowa 2010).

The rights secured by the Inalienable Rights Clause and Unenumerated Rights Clause are subject to reasonable exercise of the police power, which requires balancing of the public benefit against the burden on a particular individual. *Atwood*, 725 N.W.2d at 652. For government action to be valid it must be of benefit to the public at large and not harm the interests of an individual. *Gacke*, 684 N.W.2d at 179; *Gravert v. Nebergall*, 539 N.W.2d 184, 186 (Iowa 1995); *Gibb*, 286 N.W.2d at 186.

The interests at stake here are fundamental and widely held. DMWW suggests that FWW should have the opportunity to prove the existing balance between agriculture and water quality is unsustainable and constitutionally defective. Any legislative action is void if it violates the Iowa Constitution, regardless of how popular or well-reasoned it may be. Iowa Const. art. XII, § 1 ("This constitution shall be the supreme law of the state, and any law inconsistent therewith, shall be void.").

CONCLUSION

FWW should have standing to bring claims, and those claims should be allowed to proceed. DMWW urges the Court not to impose a higher burden on plaintiffs alleging environmental claims than it does for other kinds of civil suits. In that sense, this case is unremarkable because it presents a routine civil case that has met the thresholds for access to Iowa courts.

CERTIFICATE OF COMPLIANCE

This brief complies with the typeface requirements and type-volume limitation of Iowa Rs. App. P. 6.903(1)(d) and 6.903(1)(g)(1) or (2) because:

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/s/ John E. Lande — 1/20/20
Signature — Date

CERTIFICATE OF SERVICE

I hereby certify that on January 20, 2020, I electronically filed the foregoing document with the Clerk of the Supreme Court by using the Iowa Judicial Branch electronic filing system which will send a notice of electronic filing to the following:

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I further certify that I mailed the foregoing document and the notice of electronic filing by first-class mail to the following non-EDMS participants:

None

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