



**MICHIGAN ENVIRONMENTAL LAW JOURNAL**  
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**Message From the Chair**

**By Anna Maiuri, Miller Canfield Paddock & Stone PLC**

I am honored to be writing my first “Message from the Chair” for the *Michigan Environmental Law Journal*. Since assuming office from Charlie Denton (who is a tough act to follow) on September 15, 2011, there has been a whirlwind of activity to start off the year. Our program committee came through with a fine program at our Annual Meeting and our new interim Administrator Ms. Joan O’Sullivan, stepped right in to make sure the event went smoothly.

On September 22, Kurt Brauer, Kelly Martorano, Joan O’Sullivan, and I greeted approximately 25 students at the Cass Café near Wayne State’s campus to share the virtues of environmental law practice and to encourage active participation and possible *Journal* articles. On October 20, we greeted 30 students and new members at Beggar’s Banquet in Lansing. Our 30th Anniversary event was held at the U Club in Lansing on October 6, 2011. The event really showcased how a diverse group of practitioners can come together to put on an impressive program with top speakers. Again, a big thank you to Tom Emery, Meg Coughlin, Beth Gotthelf, and Claudia Rast for their efforts to secure our wonderful speakers. For me, the best part was catching up with my fellow practitioners who came from all ends of the state. The night was topped off by a uniquely tailored performance from A Habeas Chorus Line. For pictures and a summary of the afternoon’s events, go to [www.michbar.org/environmental](http://www.michbar.org/environmental).

I am truly excited to be chairing the Section at this time in our history. We have an energized section and a great deal of credit goes to Christopher Dunsy who is doing a terrific job as chair of Journal/Publications along with the fine cadre of co-editors that continue to turn out informative *Journals* each quarter.

Also, don’t forget to sign up for the ELS/AWMA Joint Conference on November 10 held at Lansing Community College. Till next time . . . .

Anna M. Maiuri, Chair  
[maiuri@millercanfield.com](mailto:maiuri@millercanfield.com)

## **New Officers and Council**

The Environmental Law Section officers and new council members were named at the Annual Meeting on September 15, 2011.

### **Chair**

Anna M Maiuri  
Miller Canfield Paddock & Stone PLC

### **Chair-Elect**

Dustin P. Ordway, Grand Rapids

### **Secretary-Treasurer**

Kurt M. Brauer, Southfield

### **Council Members**

Term Expires 9/30/2014  
Rebecca J. Dukes, Howell  
Rodger A. Kershner, Royal Oak  
Steven C. Kohl, Southfield  
AnnMarie B. Sanford, Southfield  
William R. Schikora, Northville

Presentations from the 2011 Annual Meeting are available on our website [www.michbar.org/environmental](http://www.michbar.org/environmental).

## **2011 Joint Environmental Conference**

The 2011 Joint Environmental Conference sponsored by the Environmental Law Section of the State Bar of Michigan and the East and West Michigan Chapters of the Air and Waste Management Association is Thursday, November 10, at Lansing Community College. Please visit our website for more information and to register [www.michbar.org/environmental](http://www.michbar.org/environmental).

## **Help Promote Section Events and Activity! Connect with the Environmental Law Section on Facebook and LinkedIn**

If you have a Facebook page and/or are using LinkedIn, become a member of the Michigan Environmental Law Section's Facebook page and our LinkedIn group page to keep informed of environmental law seminars, forums, education, and networking.

## New Member/Law School Student Receptions

The Environmental Law Section recently hosted two receptions for law school students, ELS members, and attorneys interested in ELS membership.

Anna Maiuri, Kurt Brauer, Kelly Martorano, and Joan O’Sullivan welcomed students from the University of Detroit Mercy and Wayne State University Law School on Sept 6, at the Cass Café in Detroit. On October 20, Anna Maiuri, Kurt Brauer, Hon. Dennis Mack, State Representative Mark Meadows, Kirk Meadows, Dustin Ordway, and Joan O’Sullivan welcomed attorneys and students from Michigan State University Law School and Cooley Law School at Beggar’s Banquet in E. Lansing.

Students enjoyed the opportunity to meet with attorneys, ask questions, and learn more about working in the environmental law field. Anna Maiuri presented information about the opportunities and advantages of joining the State Bar and the Environmental Law Section.



Kurt Brauer with students at Cass Cafe



State Rep. Mark Meadows, Kirk Meadows, and Prof. Paul Stokstad



Students and new member, Garrett TenHave-Chapman at Beggar’s Banquet

*“I was really impressed with the attorneys I met, and it was refreshing to talk with people who actually practice in the field.”*

**Anders Gillis, vice-president of the ELS at MSU**

## Resolving Great Lakes Shoreline Property Disputes: The Stuart Rule

By Dustin P. Ordway, Ordway Law Firm, and Joseph A. Gallmeyer, Legal Assistant

Michigan has more than 3,000 miles of Great Lakes shoreline. Much of this littoral<sup>1</sup> property is privately owned. As owners have developed the shoreline, competition over use of the beach, placement of docks, rights to fishing and boating (and even controlling the view) has bred litigation.

The Michigan Supreme Court adopted an elegant solution to these disputes over a century ago. In *Blodgett & Davis Lumber Co. v. Peters*, 87 Mich 498 (1891), the Court adjudicated a dispute concerning the placement of docks in Green Bay by adopting and applying common law from other jurisdictions. The *Blodgett* decision's application of what has become known as the Massachusetts Rule was further explained in *Stuart v. Greanyea*, 154 Mich 132 (1908), which concerned the placement of fishing nets in a cove of Saginaw Bay. Because the rule locates the disputed boundary between adjacent littoral property owners from the corners of their lots toward and across the water, it works equally well to resolve disputes regarding beach-front ownership and to resolve disputes regarding rights to use of the lake near shore.

The rule adopted in *Blodgett* and explained in *Stuart* (the “*Stuart Rule*”) is elegant in its fairness, simplicity, and timelessness. It is fair and timeless because it solves the problem of equitable division of interests along the shore in a way that preserves access to the water for every littoral owner regardless of the shape of the shoreline, the location of the upland lot lines or the level of the water. The *Stuart Rule* defines littoral owners' property interests toward the water from their platted lot lines along the water sides of their lots, plat lines which are often located in the tree line or some other protected location upland from the shore, above the ordinary high water mark. Surveyors refer to this protected, platted line, the line that marks the property as littoral, as the “meander line.” From the meander line, the rule provides a calculation to determine the existing boundary across the beach and into the water.

To determine the boundary across the beach between lots on a straight section of shoreline, one simply draws lines perpendicular to the water's edge from the lot corners. Along a concave curved shore<sup>2</sup>, the rule is adapted to protect all owners. The *Stuart* Court put it as follows: The corners of the abutting parcels furnish starting points for each parcel. [W]e should take an imaginary line [from selected end points] . . . as a base line . . . Lines from the shore will run to [the] base line, striking the same at points proportionately the same distance apart as on the shore line . . . [A] line from the center of the shore line to the center of the outer base line can be easily fixed. To ascertain the [disputed] boundary line, it is only necessary to ascertain the

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<sup>1</sup> “Littoral,” like the more commonly used term “riparian,” refers to land along the water, but specifically refers to the shores of the oceans and Great Lakes. The term “riparian” technically applies to water-front ownership along rivers and streams, although it is often used generically to mean any water-front property. Each refers to interests that extend beyond the ownership of dry land to interests in or regarding the water to which is it adjacent.

<sup>2</sup> Along a convex shoreline, there is little dispute because the area owned or controlled expands as one moves away from the meander line toward the water. Hence, there is less need for a third party to resolve disputes between neighbors.

distance from the center of the shore line to the point on the shore where the lands of the parties meet, and a proportionate distance on the base line. A straight line between them will be the boundary.

*Stuart*, 154 Mich at 137-138.

Taken step by step, the *Stuart* Rule provides a simple, verifiable and fair way to assure that every littoral lot owner will have a proportional interest in the beach, at the water (however high or low the lake level may be), and across the water. Here is a brief explanation of how the rule is applied:

Select two end points along the meander line, the platted lot lines facing the shore, with the disputed boundary located between the end points;  
Measure the distance between the two end points (a) along the meander line and (b) straight across the water (the “base line”);  
Compare the meander and base line lengths to calculate the proportion or ratio between them;  
Mark the center of each line and measure the distance on the meander line from its center to the disputed corner;  
On the base line, mark a distance from its center point proportional to the distance along the meander line from its center to the disputed lot corner; and  
Connect the disputed corner to this new location on the base line. This line provides the location of the disputed boundary.

*Stuart* and *Blodgett* have been followed in two recent appellate decisions. In *Mumaugh v. McCarley*, 219 Mich App 641 (1996), the court applied the *Stuart* Rule to the apportionment of the shoreline on Lake Huron, citing *Stuart* for the proposition that “the key consideration should be fairness . . . Thus, each riparian owner should receive a portion of the new lakeshore that is proportionate to the owner’s prior lakefront ownership.” *Mumaugh* at 647. In *Herringa v. Petroelje*, 279 Mich App 444, 453 (2008), the Court of Appeals quoted *Blodgett* in support of preserving each property owner’s access to the water:

[T]he ‘object to be kept in view in cases of this kind is to secure to each proprietor access to navigable water . . . in proportion to his share on the original shore line,’ and if that goal could not be accomplished by drawing right angles to the thread, some other method may be required. *Blodgett & Davis Lumber Co v. Peters*, 87 Mich 498, 506; 49 NW 917 (1891).

In sum, Michigan common law governs boundary disputes along our Great Lakes shoreline. As a common law rule adopted over a century ago and followed by courts today, the *Stuart* Rule is alive and well. Because it is part of a developing body of shared common law, Michigan courts can also look to decisions in sister jurisdictions regarding the Massachusetts Rule to inform how we apply the *Stuart* Rule in new cases in Michigan.

## Commercial Property Assessed Clean Energy Takes Off and Residential is Fighting Back

By Eric M. Jamison, Miller Canfield Paddock & Stone PLC<sup>1</sup>

### A. Program Overview—Round 1

Property Assessed Clean Energy programs are a type of municipal finance tool with roots dating back to 1691 in New York City.<sup>2</sup> Back then, New York created a special assessment district to pay for street and drain construction in the city in which every property that benefited from the improvements was assessed a pro-rata share of their cost. Over time, municipalities have used similar types of special assessment districts to finance public infrastructure projects such as the installation of water lines, street lighting, street paving, parking structures and other improvements.

A more recent trend has emerged with the utilization of special assessment districts to finance energy-related improvements to property within a municipality. The concept is commonly referred to as Property Assessed Clean Energy (PACE), and it originally emerged in California as a way to promote solar installations, reduce energy consumption and reduce dependence on fossil fuels.<sup>3</sup> The City of Berkeley set up a voluntary assessment district that would allow participating property owners to acquire capital from the city and pay back the cost of solar improvements on their tax bill over a period of up to twenty years.<sup>4</sup> This program overcame two major obstacles for energy improvements: the upfront capital and the payback period.

PACE programs allow local units of government to make funds available to property owners for energy improvements to their property.<sup>5</sup> The cost of the energy improvements is paid back over a number of years as a special assessment on the tax bill. PACE assessments operate much like traditional land-secured assessments for sewerage improvements or street lighting projects. PACE assessments run with the land and have senior lien status over the mortgage; if the property goes into default then the portion of the assessment that is in arrears has priority over the mortgage. They are different from other land-secured assessments in that (a) they are voluntary--property owners are not obligated to participate; and (b) only participants see an increase in their property tax bill.

Through 2008 and 2010, more than half of the states passed laws authorizing PACE programs,<sup>6</sup> with Michigan passing its own PACE law in December of 2010.<sup>7</sup> These state programs have varying requirements regarding the types of improvements, the term of the payback period and the eligibility criteria. Many programs are intended, and sometimes required, to be cash positive, such that the improvements save more in energy costs each year than it will cost to

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<sup>1</sup> Mr. Jamison is a recent graduate of Wayne State University Law School and is not yet licensed to practice.

<sup>2</sup> CITY OF ANN ARBOR, [Report on Proposed PACE Program](#), 12 (2011),

<sup>3</sup> [CITY OF BERKELEY, Energy & Sustainable Development](#),

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

<sup>5</sup> [DATABASE OF STATE INCENTIVES FOR RENEWABLES AND EFFICIENCY](#), (last visited October 10, 2011).

<sup>6</sup> [DATABASE OF STATE INCENTIVES FOR RENEWABLES AND EFFICIENCY](#), (last visited October 10, 2011).

<sup>7</sup> MCL §460.931 *et seq.*

pay back the special assessment.<sup>8</sup> By 2009 and 2010, several states had operational residential PACE programs including New York,<sup>9</sup> California,<sup>10</sup> and Colorado,<sup>11</sup> among others, while many other states were actively working to set up programs with funding from the American Recovery and Reinvestment Act, among other sources.

### **B. FHFA Lands Major Blow—Round 2**

As a number of programs were ramping up around the country, the Federal Housing Finance Agency (FHFA) expressed concerns regarding residential PACE programs. The FHFA is an agency charged with overseeing the secondary mortgage markets and was created in 2008 by the Housing and Economic Recovery Act as a result of the mortgage crisis.<sup>12</sup>

Concerned with the effect of PACE assessments on traditional mortgage underwriting criteria, the agency issued a letter on July 6, 2010, stating that PACE programs “present significant safety and soundness concerns that must be addressed.”<sup>13</sup> Following the FHFA letter, Freddie Mac and Fannie Mae issued a bulletin saying that they “will not purchase Mortgages secured by properties subject to PACE obligations.”<sup>14</sup> The majority of residential mortgages are resold to Fannie Mae and Freddie Mac on the secondary market, so if Fannie Mae and Freddie Mac won’t accept mortgages with PACE assessments, then banks won’t issue a mortgage on a property with a PACE assessment. The letter effectively stopped the growth of the nascent residential PACE market across the U.S.

### **C. PACE Repositions to Focus on Commercial Property—Round 3**

While many other states’ PACE laws already allowed commercial programs, in the wake of FHFA’s position statement, many states redirected their efforts towards commercial, rather than residential, PACE programs. For example, after the FHFA’s letter was issued in mid-2010, the PACE legislation pending in Michigan was amended to focus the program exclusively on commercial and industrial properties.

Despite the challenges to the residential programs, commercial PACE programs have continued to move forward. One key distinction between commercial and residential programs is that Fannie Mae and Freddie Mac don’t hold commercial mortgages and generally the mortgage holder on the commercial property must give consent before a PACE assessment can be attached to the property. Because of this difference, commercial PACE programs have not met the same resistance as residential programs.

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<sup>8</sup> MCL §460.939(p)ii (2010).

<sup>9</sup> NEW YORK STATE, [nyserda](#)

<sup>10</sup> SONOMA COUNTY, [Energy Independence Program](#).

<sup>11</sup> BOULDER COUNTY, [Climate Smart Loan Program](#).

<sup>12</sup> 12 U.S.C. §4511 *et seq.* (2010). *See also*, [FED. HOUS. FIN. AGENCY](#)

<sup>13</sup> FED. HOUS. FIN. AGENCY, [FHFA Statement on Certain Energy Retrofit Loan Programs](#) (July 6, 2010).

<sup>14</sup> FREDDIE MAC, [Bulletin to Freddie Mac Sellers and Servicers](#) (August 31, 2010).

Sonoma County, California has the most robust program, having funded over \$51 million in PACE projects for both residential and commercial properties.<sup>15</sup> Miami and Sacramento have also recently launched PACE programs, and have done so with access to private capital of up to \$650 million over the next five years.<sup>16</sup> The source of this private funding is a business consortium assembled by the Carbon War Room that includes Lockheed Martin and Barclays Capital. Several other commercial programs are beginning to materialize around the country.

In Michigan, the Ann Arbor City Council approved the first commercial PACE program in the state on October 3, 2011.<sup>17</sup> Its initial offering will include funds for up to \$4 million in commercial PACE projects.<sup>18</sup> The Ann Arbor City Council also authorized up to \$10 million in PACE funds per year for projects in subsequent years.<sup>19</sup>

#### **D. PACE Gets Support From the Courts—Round 4**

After the FHFA issued its aforementioned letter, the State of California, along with several counties and cities, filed suit against the FHFA challenging its stance on residential PACE programs.<sup>20</sup> At issue in the suit is the characterization of the debt obligations of PACE assessments and the risk for secondary mortgage holders.<sup>21</sup> The FHFA views the debt obligations as imposing risks to the security interests of lenders, while also making alienation of encumbered properties more difficult.<sup>22</sup> The plaintiffs sought declaratory and injunctive relief alleging violations of the Administrative Procedure Act (APA), National Environmental Protection Act (NEPA) and various other federal and state law claims, claiming that the FHFA failed to follow statutory procedure, that its actions were arbitrary and capricious, and that it mischaracterized the legal nature of the obligations of the assessments as loans rather than traditional public assessments.<sup>23</sup>

The court first addressed the issue of Article III standing.<sup>24</sup> Constitutional standing has three requirements: injury in fact, causation and redressability.<sup>25</sup> The plaintiffs claimed procedural and substantive injury. “A showing of procedural injury lessens a plaintiff’s burden on the last two prongs of the Article III standing inquiry, causation and redressability.”<sup>26</sup>

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<sup>15</sup> SONOMA COUNTY, [Energy Independence Program](#). The county has found a work-around to deal with the senior lien issue to allow them run a residential PACE program.

<sup>16</sup> Justin Gillis, [Tax Plan to Turn Old Buildings “Green” Finds Favor](#), N.Y. TIMES, Sept. 19, 2011.

<sup>17</sup> [Ann Arbor Establishes PACE District](#), THE ANN ARBOR CHRONICLE, Oct. 10, 2011.

<sup>18</sup> Sept. 20, 2011 Press Release [Ann Arbor Promotes Energy Efficiency in Commercial Properties with Proposed PACE Program](#), CITY OF ANN ARBOR.

<sup>19</sup> *Id.*

<sup>20</sup> [California v. Federal Housing Finance Agency](#), 10-cv-03084-CW, 2011 WL 3794942 (N.D. Cal. Aug. 26, 2011).

<sup>21</sup> *Id.* at \*5.

<sup>22</sup> *Id.*

<sup>23</sup> *Id.*

<sup>24</sup> *Id.* at \*8.

<sup>25</sup> *Id.* at \*9. (citing *Lujan v. Defenders of Wildlife*, 504 U.S. 555, 560 (1998)).

<sup>26</sup> *Id.* at \*10. (citing *Salmon Spawning & Recovery Alliance v. Guitierrez*, 545 F.3d 1220, 1226 (9th Cir. 2008)).

The FHFA did not challenge the issue of “injury in fact,” and the court found that the plaintiffs established that requirement.<sup>27</sup>

As for the causation requirement, the FHFA argued that Fannie Mae and Freddie Mac had already taken a position against PACE assessments before the FHFA issued its July 6, 2010 letter.<sup>28</sup> The court found that there was a sufficient connection between the FHFA’s actions and the “thwarting of PACE programs and their anticipated benefits” to satisfy the causation requirement.<sup>29</sup> The court noted that although the FHFA’s July 2010 letter came out after Fannie Mae and Freddie Mac had expressed concerns over PACE programs in May of 2010, the FHFA had already announced its concerns in earlier communications.<sup>30</sup> Thus, there was a sufficient causal connection between the FHFA’s actions and the alleged injury.

With respect to the redressability requirement, the FHFA asserted that there was no evidence that if the FHFA changed its stance, people would be able to obtain mortgages for properties with PACE assessments.<sup>31</sup> The FHFA further argued that it was mere speculation that the notice and comment period would have any impact on the FHFA’s position regarding PACE programs. The court found that if the appropriate notice and comment period had been held then the FHFA’s position may have changed regarding PACE programs.<sup>32</sup> It stated, “PACE programs could be renewed as a result of new information gleaned through the notice and comment and environmental review processes and a resulting change in Defendant’s position and related marketplace practices.”<sup>33</sup> Thus, the redressability requirement is satisfied because if the FHFA’s policy “were set aside as arbitrary and capricious, it is likely that financing streams would be renewed.”<sup>34</sup>

Next, the court examined the claim that three statutory provisions (relating to the FHFA’s powers and nature of its actions) precluded judicial review.<sup>35</sup>

First, the court reviewed 12 U.S.C. §4617(f) that authorizes the FHFA to be appointed as conservator or receiver for a regulated entity under certain circumstances.<sup>36</sup> If the FHFA assumes the role of a conservator or receiver, then its actions related to that role are generally protected from judicial review.<sup>37</sup> The FHFA claimed that its actions regarding PACE programs were as conservator of Fannie Mae and Freddie Mac. The plaintiffs claim that the actions of the FHFA were substantive rulemaking and not part of the agency’s role as conservator. The court

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<sup>27</sup> *Id.* at \*9.

<sup>28</sup> *Id.* at \*9.

<sup>29</sup> *Id.* at \*11.

<sup>30</sup> *Id.* at \*11.

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at \*11, 12.

<sup>33</sup> *Id.* at \*12.

<sup>34</sup> *Id.* at \*12.

<sup>35</sup> *Id.* at \*14. (referring to 12 U.S.C. §4617(f), 4635(b), and 4623(d)).

<sup>36</sup> *Id.* at \*14.

<sup>37</sup> *Id.* at \*15.

found that the FHFA's action were substantive rulemaking and was not action under the FHFA's conservatorship authority.<sup>38</sup> Therefore, judicial review of FHFA's action was appropriate.

Second, the court examined 12 U.S.C. §4623(d), which prevents judicial review of action taken under section 4616(b)(4)(allowing the FHFA to require a "significantly undercapitalized" regulated entity to eliminate any programs that create excessive risk).<sup>39</sup> The court found that it was not clear that the FHFA acted under the statute because there was no finding that the regulated entities were "significantly undercapitalized."<sup>40</sup>

Finally, the court reviewed FHFA's claim that its July 2010 statement was issued under its enforcement authority in 12 U.S.C. §4635(b).<sup>41</sup> The statute prevents judicial review of the "issuance or enforcement of any notice or order" under 12 U.S.C. §4624(b) and (c).<sup>42</sup> The court found that the FHFA's action did not fall under §4624(b) and (c), therefore it was not applicable to the agency's action.<sup>43</sup>

In examining the APA issue, the court noted that pursuant to 12 U.S.C. §4526(b) any *regulations* issued by the FHFA Director under the agency's general regulatory authority shall comply with the APA's notice and comment requirement.<sup>44</sup> Next, the court discussed the distinction between rules and/or regulations and interpretive guidance.<sup>45</sup> Regulations, or substantive rules, "create rights, impose obligations, or effect a change in existing law pursuant to authority delegated by Congress."<sup>46</sup> Under the APA, interpretative rules are not subject to the notice and comment requirement.<sup>47</sup> Interpretative rules "advise the public of the agency's construction of the statues and the rules which it administers."<sup>48</sup> In deciding that the FHFA's policy was substantive rulemaking, the court relied on how the FHFA handled another similar issue.<sup>49</sup> The FHFA issued notice and requested comments in regards to private transfer fee covenants because "[s]uch covenants appear adverse to liquidity, affordability and stability in the housing finance market and to financially safe and sound investments."<sup>50</sup> The court reasoned that if the FHFA issued notice and sought comment in considering private transfer covenants, which raise the same concerns as PACE, then it is only proper for the FHFA to issue notice and seek comments regarding PACE programs.<sup>51</sup>

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<sup>38</sup> *Id.* at \*16, 19.

<sup>39</sup> *Id.*

<sup>40</sup> *Id.* at \*20, 21.

<sup>41</sup> *Id.* at \*21.

<sup>42</sup> *Id.*

<sup>43</sup> *Id.* at \*22.

<sup>44</sup> *Id.* at \*27.

<sup>45</sup> *Id.* at \*27.

<sup>46</sup> *Id.* at \*28. (citing *Erringer v. Thompson*, 371 F.3d 625, 630 (9th Cir. 2004)).

<sup>47</sup> *Id.* at \*27.

<sup>48</sup> *Id.* (citing *Erringer*, 371 F.3d at 630).

<sup>49</sup> *Id.* at \*28.

<sup>50</sup> *Id.* at \*28.

<sup>51</sup> *Id.* at \*32.

In its review of the NEPA claim, the court summarized the Act's requirements, stating that for all major federal actions having a significant impact affecting the quality of the human environment, federal agencies are required to prepare an Environmental Impact Statement; if the agency has made a Finding of No Significant Impact, then it may conduct a more limited environmental assessment.<sup>52</sup> The court found plaintiff's argument persuasive that FHFA's policy "decimated PACE programs and significantly impacted the environment by depriving California and its citizens of opportunities to improve water and energy conservation."<sup>53</sup> Therefore, the plaintiffs were allowed to pursue claims for violation of the NEPA.<sup>54</sup>

Finally, the court dismissed the federal constitutional claims and the state law claims. The court ultimately granted the plaintiffs' motion for preliminary injunction requiring the FHFA to proceed with notice and comment regarding its policy on residential PACE programs.<sup>55</sup> The court also found that the plaintiffs could pursue their NEPA claims because the FHFA had not considered the environmental impacts of its actions.<sup>56</sup>

#### **E. Round 5**

In spite of national challenges such as rising budget deficits and a continued lack of focus on any kind of comprehensive national energy policy, PACE programs may be one method by which state and local governments can still manage to foster an increase in the supply of clean energy.

By requiring the FHFA to conduct an official notice and comment process, the United States District Court for the Northern District of California has helped to make progress towards a revival of the residential PACE market. The time required to give proper notice, and to receive and evaluate comments will allow these nascent commercial PACE programs to further develop and take root, thereby supplying additional data that will aid in an evidence-based evaluation of the risk involved with PACE programs.

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<sup>52</sup> *Id.* at \*32, 33.

<sup>53</sup> *Id.* at \*34.

<sup>54</sup> *Id.* at \*37.

<sup>55</sup> *Id.* at \*42, 43.

<sup>56</sup> *Id.*

## Results of 2011 Law Student Writing Competition

*By Christopher J. Dunsky, MELJ Editor*

For the past ten years, the Environmental Law Section has sponsored an annual writing competition in which law students are invited to submit essays on subjects of interest to attorneys who practice environmental law in Michigan. The competition stimulates interest in environmental law and provides articles of high quality for readers of the *Michigan Environmental Law Journal*.

This year's competition attracted a record-high fifteen entries from a record-high twelve law schools across the country. After reviewing the entries, a panel of five editor-judges awarded prizes to the following students:



Chris Dunsky presents the first place award to Stephanie Karisny.

First Place (\$2,000): **Stephanie Karisny**, Wayne State University Law School, *Hydraulic Fracturing in Michigan: Reassessing State Regulations In Light of New Drilling in the Collingwood and Utica Shales*

Second Place (\$1,000): **Margaret C. Stalker**, Wayne State University Law School, *The Asian Carp Invasion: The Supreme Court's Failure to Protect the Great Lakes*

Third Place (\$500): **Benjamin M. Muth**, Vermont Law School, *An Urban Agriculture Permit System For Detroit's Vacant Land*

Ms. Karisny's and Ms. Stalker's essays, with editing assistance by Patricia Paruch of Kemp Klein, appear in this issue of the *Journal*. We plan to publish Mr. Muth's essay in the Winter issue, and to publish a number of the other essays, which were also of excellent quality, in the Winter and Spring issues.

# Hydraulic Fracturing in Michigan: Reassessing State Regulations in Light of New Drilling in the Collingwood and Utica Shales

By Stephanie Karisny, J.D. Candidate Wayne State University Law School 2012

## Introduction

Since the 1970s, natural gas has been a popular energy choice for electric utility generators and a variety of other large industries because of its “clean-burning nature” and “economic availability.”<sup>1</sup> Today, natural gas energy provides about 22% of the United States’ total energy consumption and demand is still rising.<sup>2</sup> Indeed, since 2008, natural gas consumption has consistently surpassed its production.<sup>3</sup> To meet this growing need, the natural gas industry has increasingly turned to hydraulic fracturing,<sup>4</sup> a process which injects a mixture of fluids underground at extremely high pressures in order to force out large quantities of natural gas.<sup>5</sup>

The use of hydraulic fracturing has revolutionized the natural gas recovery process by allowing large quantities of gas to be extracted from “unconventional shale plays,” gas-producing rock formations that otherwise would not have released enough natural gas to be economically viable.<sup>6</sup> However, use of the hydraulic fracturing process also has the potential to cause both environmental and public health harm through surface and groundwater depletion, land subsidence, and drinking water contamination.<sup>7</sup> Federal attempts to minimize these risks through regulation have been ineffective. Without any federal directive, hydraulic fracturing regulation has been left entirely to state governments.

In Michigan, regulation of hydraulic fracturing has recently been debated extensively due to the discovery of substantial natural gas reserves in the Collingwood and Utica shale formations.<sup>8</sup> Because these shale formations are so much farther underground than the average gas producing shale in Michigan, the gas recovery process involves much deeper drilling, and also requires many millions more gallons of water to successfully fracture.<sup>9</sup> This reality has stirred concerns about water depletion and drinking water contamination throughout the state, and has caused many to question the effectiveness of Michigan’s oil and gas regulations in light of this new gas development.<sup>10</sup> This essay will examine this concern taking into account the new hydraulic fracturing rules issued by the Michigan Department of Environmental Quality (DEQ or, department) on May 25, 2011, and where necessary, make suggestions for revision in or addition to the state’s hydraulic fracturing regulations.

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<sup>1</sup> United States Department of Energy, [Modern Shale Gas Development in the United States: A Primer](#), 3-4, (accessed June 26, 2011) [hereinafter *Modern Shale Gas*].

<sup>2</sup> *Id.*

<sup>3</sup> United States Energy Information Administration, [Natural Gas Statistics](#) (accessed June 26, 2011).

<sup>4</sup> *Modern Shale Gas*, *supra* note 1, at 9.

<sup>5</sup> *Id.* at 56.

<sup>6</sup> *Id.* at 9.

<sup>7</sup> See *id.* at 61-70; United States Geological Survey, [Land Subsidence](#) (accessed June 26, 2011).

<sup>8</sup> See Keith Schneider, [Michigan’s New Natural Gas Rush: Energy and Water in Play](#), (accessed June 26, 2011).

<sup>9</sup> See *id.*

<sup>10</sup> See *id.*

Part II provides a brief overview of the hydraulic fracturing process, including an explanation of the controversy surrounding the use of fracturing in natural gas recovery. Part III focuses on hydraulic fracturing in Michigan and examines the May 25, 2011 order issued by the DEQ regarding regulation of the fracturing process in light of the new gas discovery in the Collingwood and Utica shales. Part III also discusses the possibility of direct legislative action in amending Michigan's oil and gas fee statutes. Finally, this essay recommends that Michigan continue to supplement its fracturing regulation in order to better protect the state's environmental integrity and the health of the public at large.

## **Background**

### **A. An Introduction to Natural Gas Geology and the Expansion of Hydraulic Fracturing**

In order to fully understand just how vital the process of hydraulic fracturing has become to natural gas recovery, it is necessary to have some knowledge of natural gas geology and the evolution of the natural gas industry in the United States. Natural gas is a naturally occurring mixture of various hydrocarbon gases, composed predominately of methane, and other gases.<sup>11</sup> This gas mixture is found in porous rock formations, also called "reservoirs," underneath the Earth's surface.<sup>12</sup> Rock formations with a high level of porosity or "permeability," are classified as "conventional reservoirs," and consist of rocks like limestone and dolomite.<sup>13</sup> Conversely, rock formations with a low level of permeability are classified as "unconventional" or "tight" reservoirs, and are usually composed of a type of sedimentary rock called shale.<sup>14</sup> In conventional reservoirs, large amounts of gas can be recovered by drilling a vertical well down to the rock formation; the high permeability of the rock allows gas to easily escape through the well to the surface.<sup>15</sup> However, in an unconventional reservoir, simply drilling a vertical well is not enough.<sup>16</sup> Due to the low permeability of the rock in an unconventional reservoir, only a minimal amount of natural gas is able to travel through the well to the surface - the gas is literally trapped in the tight rock formation, making it much harder to recover than gas in conventional reservoirs.<sup>17</sup>

Until recently, this difficulty confined natural gas recovery to conventional reservoirs, where drilling was technologically feasible and economically practicable.<sup>18</sup> Today, conventional gas resources are becoming increasingly scarce and the gas industry is concentrating more and more on unconventional natural gas sources.<sup>19</sup> In order to obtain economically viable quantities

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<sup>11</sup> *Modern Shale Gas*, *supra* note 1, at 6.

<sup>12</sup> *Id.*

<sup>13</sup> *Id.* at 15.

<sup>14</sup> *Id.*

<sup>15</sup> *Id.* at 13-15.

<sup>16</sup> See *id.* at 13.

<sup>17</sup> See *Modern Shale Gas*, *supra* note 1, at 13-14.

<sup>18</sup> See *id.* at 8-9.

<sup>19</sup> See *id.* at 8.

of gas from these unconventional reservoirs, two new technological advances in natural gas drilling have been made: (1) horizontal drilling, and (2) hydraulic fracturing.<sup>20</sup>

Horizontal drilling is a drilling technique in which the wellbore is turned from a vertical position, to a horizontal position at the depth of the target rock formation.<sup>21</sup> This drilling method enhances the natural gas recovery of an unconventional well by increasing exposure of the well bore to the reservoir.<sup>22</sup> Hydraulic fracturing, a controversial technique and the focus of this essay, is another technological advancement in the drilling for natural gas. During the hydraulic fracturing process, a mixture of water, chemical additives, and a “proppant,” is injected at high pressure into the wellbore.<sup>23</sup> The pressure of this liquid mixture forces natural fractures in the reservoir to become wider and also creates new fractures.<sup>24</sup> The liquid also carries the proppant, usually sand, into the newly widened or created fractures.<sup>25</sup> This proppant literally serves to “prop,” or hold open the fractures produced by the fracturing process which permits a much greater quantity of natural gas to escape from the reservoir rock.<sup>26</sup> Later, when the fracturing process is over, the liquid mixture is pumped back out of the wellbore allowing natural gas to flow back up through the well to the surface where it is collected.<sup>27</sup>

### **B. Fracturing Friction: The Controversy Surrounding Hydraulic Fracturing**

Clearly, hydraulic fracturing offers significant advantages to the natural gas industry and natural gas consumers by allowing drillers to tap into trapped natural gas reserves in unconventional reservoirs. However, opponents of hydraulic fracturing argue that the environmental and public health risks associated with the process far outweigh any of its potential benefits.<sup>28</sup> Of greatest concern is the danger that hydraulic fracturing poses to valuable surface water and groundwater supplies. Hydraulic fracturing could be a danger to these water resources in two ways: (1) contamination, and (2) depletion.<sup>29</sup>

The threat of contamination focuses largely on the effects of hydraulic fracturing on groundwater resources. On average, a shale gas well must be drilled about 3,000 feet into the ground in order to reach the target formation.<sup>30</sup> This means that on its way towards the target formation, the wellbore will pass through the water table or “groundwater zone,” where

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<sup>20</sup> See *id.* at 8-9. Typically, a combination of horizontal drilling and hydraulic fracturing are used in unconventional reservoirs in order to achieve maximum gas production, but each technique can also be used independent of the other. See *id.* at 15.

<sup>21</sup> Tip of the Mitt Watershed Council, [Natural Gas Drilling and Water](#), (accessed June 28, 2011).

<sup>22</sup> *Modern Shale Gas*, *supra* note 1, at 46-47.

<sup>23</sup> Wiseman, *Untested Waters: The Rise of Hydraulic Fracturing in Oil and Gas Production and the Need to Revisit Regulation*, 20 *Fordham Environmental L R* 115, 118 (2009).

<sup>24</sup> See *id.*

<sup>25</sup> *Id.*

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

<sup>27</sup> *Natural Gas Drilling and Water*, *supra* note 21.

<sup>28</sup> See *id.* See also Brian Creek, [What the Frack? Hydraulic Fracturing in Antrim Shale will Impact Water Resources](#), (accessed June 26, 2011).

<sup>29</sup> See *Modern Shale Gas*, *supra* note 1, at 61-70.

<sup>30</sup> See *id.* at 54.

natural and valuable deposits of freshwater are stored in aquifers.<sup>31</sup> The worry here is that either (a) natural gas stimulated in the fracturing process will migrate upwards through the well and come into contact with groundwater, thus fouling the water resource, or, (b) the chemical additives used in the fracturing process will likewise migrate upwards through the well into the groundwater, creating a serious public health risk.<sup>32</sup> The danger posed to the public health by the chemical additives used in the fracturing process is especially alarming because the exact chemical mixture introduced into the fracturing fluid is often considered to be a proprietary trade secret by the drilling companies.<sup>33</sup> Thus, the public knows only a fraction of the potentially dangerous, possibly carcinogenic, constituent chemicals used in the drilling process.<sup>34</sup>

Additionally, there is further risk of groundwater contamination during the disposal of the used fracturing fluid,<sup>35</sup> also called “flowback”<sup>36</sup> or “produced water.”<sup>37</sup> The most common method of disposal for flowback is underground injection.<sup>38</sup> During this process, the flowback, which is usually not tested for human health and safety purposes or treated in any way,<sup>39</sup> is injected directly into “porous rock formations” deep underground.<sup>40</sup> Though the injected flowback is separated from the groundwater zone by many feet of natural rock, there is still the possibility that this potentially hazardous mixture could migrate upwards in the future as the geologic structure of the Earth changes.

Besides the potential for groundwater contamination, the process of hydraulic fracturing also threatens to harm both surface and groundwater resources by depleting them past the point of viability. The fracturing process requires enormous volumes of fresh water.<sup>41</sup> In fact, “the drilling and fracturing of a horizontal shale gas well may typically require 2 to 4 million gallons of water.”<sup>42</sup> This water is either taken from surface water resources, like lakes and rivers, or is pumped from a nearby groundwater aquifer.<sup>43</sup> Such a large withdrawal from one surface water body, or one underground aquifer, has the potential for devastating environmental and other

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<sup>31</sup> See *id.* at 51-52.

<sup>32</sup> See *id.* at 61-70.

<sup>33</sup> Deweese, *Fracturing Misconceptions: A History of Effective State Regulation, Groundwater Protection, and the Ill-Conceived FRAC Act*, 6 *Okla J L & Technology* 49, 4-5 (2010).

<sup>34</sup> See *id.*

<sup>35</sup> Not all used fracturing fluid even makes it to the disposal stage. On average only 30-70% of the liquid mixture used in the hydraulic fracturing is recovered after the process is complete. *Modern Shale Gas*, *supra* note 1, at 66. The leftover fluid waste remains in the target rock formation. *Id.* The environmental consequences of this “stranded fluid are unknown.” See Wiseman, *supra* note 23, at 137.

<sup>36</sup> United States Environmental Protection Agency, [Hydraulic Fracturing Background Information](#), (accessed June 28, 2011).

<sup>37</sup> See *Modern Shale Gas*, *supra* note 1, at 66-70.

<sup>38</sup> See *id.* at 68.

<sup>39</sup> Flowback is tested for naturally occurring radioactive material (NORM) which is often “brought to the surface in the natural gas production process.” See *id.* at 70-71. If NORM levels “exceed state regulatory levels or OSHA exposure dose risks, . . . [then] the material is taken to licensed facilities for proper disposal.” See *id.* at 71.

<sup>40</sup> See *id.* at 68-69.

<sup>41</sup> See *id.* at 64.

<sup>42</sup> *Modern Shale Gas*, *supra* note 1, at 64.

<sup>43</sup> *Id.* at 65.

consequences. In surface waters, such a large withdrawal could lower the overall water level in that water body.<sup>44</sup> Lower water levels in turn “could affect fish and other aquatic life, fishing and other recreational activities, municipal supplies, and other industries such as power plants.”<sup>45</sup> In groundwater aquifers, the repeated withdrawal of millions of gallons of water could quickly drain the resource.<sup>46</sup> As a result, municipal water authorities who pump groundwater to supply their residents and private well-owners may not be able to meet their water needs.<sup>47</sup> There is even the possibility that large water withdrawals for hydraulic fracturing could cause land subsidence.<sup>48</sup> Subsidence occurs when groundwater is pumped out of the ground faster than it is replenished through natural processes.<sup>49</sup> The land above the emptied aquifer subsides, or collapses, because the water that once supported the ground is no longer there.<sup>50</sup>

The natural gas industry and government have done little to investigate these threats to our nation’s water. In fact, the science of hydraulic fracturing lags far behind the technological advances in the field. As of yet, no scientific report “has sufficiently investigated and compared the effects of fracing [i.e., hydraulic fracturing] in the many formations currently being tapped for . . . gas.”<sup>51</sup>

## Analysis

### A. State Regulation of Hydraulic Fracturing: A Focus on Fracturing in Michigan

Due to the lack of federal regulation of hydraulic fracturing, administration of this controversial process has been left almost entirely to the states.<sup>52</sup> In Michigan, natural gas well regulation is controlled jointly by two administrative agencies: the DEQ<sup>53</sup> and the Michigan Public Service Commission (MPSC).<sup>54</sup> These agencies are authorized under Michigan law to promulgate and enforce rules that allow the agencies to effectively regulate natural gas drilling and production. For the DEQ, this authorization is found in Part 615 of the Michigan Natural Resources and Environmental Protection Act (NREPA).<sup>55</sup> The MPSC is similarly authorized under Chapter 460 of the Michigan Compiled Laws.<sup>56</sup>

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<sup>44</sup> *Id.*

<sup>45</sup> *Id.*

<sup>46</sup> See United States Geological Survey, [Groundwater Depletion](#), (accessed June 26, 2011).

<sup>47</sup> See *id.*

<sup>48</sup> See *Land Subsidence*, *supra* note 7.

<sup>49</sup> *Id.*

<sup>50</sup> *Id.*

<sup>51</sup> Wiseman, *supra* note 23, at 141.

<sup>52</sup> Wiseman, *supra* note 23, at 146. In fact, the process of hydraulic fracturing was specifically exempted from federal oversight by the passage of the Energy and Policy Act of 2005 which excluded fracturing from regulation under the Safe Drinking Water Act. *Hydraulic Fracturing Background Information*, *supra* note 36.

<sup>53</sup> MCL 324.61505.

<sup>54</sup> Michigan Public Service Commission, [About Michigan’s Natural Gas Industry: Exploration and Production](#), (accessed June 26, 2011) [hereinafter *About Michigan’s Natural Gas Industry*].

<sup>55</sup> MCL 324.61505-.61506.

<sup>56</sup> MCL 460.6.

Regulatory oversight of the natural gas recovery process begins when a well owner files an application for a permit to drill with the DEQ.<sup>57</sup> Without this permit, no person may drill or operate a gas well in the State of Michigan.<sup>58</sup> If DEQ grants the permit,<sup>59</sup> the well owner may begin construction on the well, subject to department regulations on spacing and location of wells, and drilling and well construction.<sup>60</sup>

After construction of the well is complete, two things must occur before gas production can begin: (1) the DEQ must approve the well for production,<sup>61</sup> and (2) the well owner must obtain a Standard Wellhead Connection Permit and Allowable Withdrawal Order from the MPSC.<sup>62</sup> In order to get production approval from the DEQ, the newly drilled well must undergo extensive testing to establish that it meets all regulatory requirements.<sup>63</sup> If the well passes these production tests the well owner may seek a Standard Wellhead Connection Permit<sup>64</sup> and Allowable Withdrawal Order<sup>65</sup> from the MPSC. In order to get this permit and accompanying order, the well owner must fill out a simple form application and submit this application to the MPSC at least “15 days before the first day of the month during which it is expected that [production of gas shall commence].”<sup>66</sup> Unless the driller has made some mistake on the application form, the MPSC will grant the Standard Wellhead Permit and Allowable Withdrawal Order and the driller may finally begin gas production.<sup>67</sup>

Importantly, Michigan’s regulation of hydraulic fracturing does not end when production begins. The DEQ maintains regulatory control over all gas wells for the production life of the well and beyond.<sup>68</sup> In particular, the DEQ regulates any “deepening, plugging, reworking, and abandonment of [gas] wells.”<sup>69</sup> The department also has the authority to suspend well operations for regulatory violations or even to order a well to be plugged for continued violation.<sup>70</sup> Like the DEQ, the MPSC also retains jurisdictional control over gas wells after the

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<sup>57</sup> See 1999 AC, R 324.201 (describing specific permit application requirements, additional application requirements exist if a well-owner intends to horizontally or directionally drill a proposed well).

<sup>58</sup> *Id.*

<sup>59</sup> The DEQ has 60 days in which to review and either grant or deny the permit application. *Id.* A permit will be denied to any person found to be in violation of: (1) NREPA, (2) the administrative rules governing drilling under Part 615, (3) any “permit conditions” established under Part 615, (4) any instructions promulgated by the supervisor of wells, (5) any order of the supervisor of wells, and (5) any order of the DEQ. 1999 AC, R 324.205.

<sup>60</sup> See 1999 AC, R 324.301-.304; 324.401-.422.

<sup>61</sup> 1999 AC, R 324.601-.613.

<sup>62</sup> 1999 AC, R 460.864.

<sup>63</sup> 1999 AC, R 324.601-.613.

<sup>64</sup> The Standard Wellhead Connection Permit allows the driller to connect the gas well to a pipeline, so that the gas may be transported and sold. See 1999 AC, R 460.864.

<sup>65</sup> The Allowable Withdrawal Order establishes the maximum production limits of the gas well. *About Michigan’s Natural Gas Industry*, *supra* note 54. Allowable production limits are usually set at 17.5% of the “calculated absolute open flow (the amount that could flow or vent from an unrestricted well) as determined by a well flow test [conducted by the MPSC].” *Id.*

<sup>66</sup> 1999 AC, R 460.864.

<sup>67</sup> See *id.*

<sup>68</sup> See *About Michigan’s Natural Gas Industry*, *supra* note 54.

<sup>69</sup> *Id.*

<sup>70</sup> 1999 AC, R 324.1301.

start of production.<sup>71</sup> MPSC maintains regulatory authority over gas wells until production of gas at a particular well is abandoned.<sup>72</sup>

### **B. New Drilling in the Collingwood and Utica Shales and its Effects on the Michigan Natural Gas Landscape**

Though hydraulic fracturing has been a common practice in Michigan since the mid-1980s,<sup>73</sup> not much attention has been paid to the use of the fracturing process or to Michigan fracturing regulation until recently.<sup>74</sup> However, in early 2010, Encana, a Canadian natural gas company, sparked what could be called a “natural gas rush”<sup>75</sup> in the state of Michigan when one of its exploratory wells discovered significant natural gas reserves in the Collingwood Shale, a deep shale formation located about 9,500 feet underground.<sup>76</sup> The well, which has been named “Pioneer,” reportedly yielded about 2.5 million cubic feet of natural gas per day during the first 30 days of production, making it “the most prolific single source of natural gas in Michigan.”<sup>77</sup> Recognizing a sound investment opportunity, the natural gas industry spent over \$178 million dollars at a state mineral rights auction in 2010, purchasing about 118,000 acres of land in 22 northern Michigan counties.<sup>78</sup> A second auction in October 2010 garnered another \$10 million in sales of mineral rights.<sup>79</sup>

This overwhelming interest in recovering gas from the Collingwood and nearby Utica shale play has brought the issue of hydraulic fracturing in Michigan into the spotlight as never before.<sup>80</sup> All across the state, citizens and lawmakers have quickly become aware of the many risks associated with fracturing deep shale formations.<sup>81</sup> Because the Collingwood and Utica shales are so much farther underground than the average shale formation, gas wells must be drilled deeper and much more water must be used in order to successfully fracture these deep wells.<sup>82</sup> In fact, it took 5.5 million gallons of water to fracture Encana’s Pioneer well.<sup>83</sup> The daunting amount of water used in this process has raised worries about the effects that more Collingwood and Utica gas wells could have on the state’s treasured and valuable water resources.<sup>84</sup> Indeed, water depletion is a valid concern in Michigan, whose billion dollar tourism

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<sup>71</sup> See 1999 AC, R 460.855.

<sup>72</sup> *Id.*

<sup>73</sup> Michigan Department of Environmental Quality, [Hydraulic Fracturing of Natural Gas Wells in Michigan](#), 1, (accessed June 26, 2011).

<sup>74</sup> See Schneider, *supra* note 8.

<sup>75</sup> *Id.*

<sup>76</sup> *Id.*

<sup>77</sup> *Id.*

<sup>78</sup> Steve Kellman, [“Typical” Michigan Oil and Gas Lease Auction Casts Doubt on Collingwood Shale Formation](#), (accessed June 26, 2011).

<sup>79</sup> *Id.*

<sup>80</sup> See Schneider, *supra* note 8.

<sup>81</sup> See *id.* See also *supra* pages 4-6 (detailing the potential dangers related to the hydraulic fracturing of deep shales).

<sup>82</sup> See Schneider, *supra* note 8.

<sup>83</sup> *Id.*

<sup>84</sup> See *id.*

industry rests almost entirely on the draw of the state's beautiful water bodies.<sup>85</sup> Even though for some time the Michigan DEQ has claimed that the state's existing oil and gas regulations are adequate to protect the public health and local natural resources from these risks,<sup>86</sup> on May 25, 2011, the department issued an order announcing a series of new hydraulic fracturing regulations.<sup>87</sup> The new regulations, effective June 22, 2011, amend Michigan's current rules for reporting, well completion, and permitting requirements promulgated under Part 615 for "all oil and gas wells that utilize high volume hydraulic fracture completion technology."<sup>88</sup>

### **Michigan's New Hydraulic Fracturing Regulations Reporting Requirements**

Under DEQ's new regulations, well owners that conduct high volume hydraulic fracturing well completion operations must include four additional items with the record of well completion operations:<sup>89</sup> (1) material Safety Data Sheets (MSDSs) for each chemical additive used in the fracturing process and also the volume of each chemical additive used;<sup>90</sup> (2) records and charts showing fracturing volumes, rates and pressures;<sup>91</sup> (3) a record of annulus<sup>92</sup> pressures during fracturing operations;<sup>93</sup> and (4) a record of "the total volume of flowback water (formation and/or treatment water) to date at the time of record submittal."<sup>94</sup>

### **Well Completion Requirements**

The Michigan DEQ imposed three additional well completion requirements in its May 25, 2011 order.<sup>95</sup> First, if there are one or more freshwater wells within 1,320 feet of a proposed large volume withdrawal, then the well owners must install a monitoring well between the water withdrawal well and the nearest fresh water well, record the water levels in the monitoring well on a weekly basis and report the water levels on a weekly basis to the appropriate District Office of the Office of Geological Survey.<sup>96</sup> Second, freshwater pits<sup>97</sup> may not create a site hazard or remain on-site after well completion operations. "Depending upon site conditions," some pits may be subject to further soil erosion protective measures and may require

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<sup>85</sup> See Michigan Economic Development Corporation, [Water Technology](#), (accessed June 26, 2011).

<sup>86</sup> See Schneider, *supra* note 8.

<sup>87</sup> Brad Wurfel, [Michigan Issues New Orders for Fracking](#), (accessed June 26, 2011).

<sup>88</sup> Michigan Department of Environmental Quality, [High Volume Hydraulic Fracturing Well Completions](#), 1, (accessed June 26, 2011) [hereinafter *High Volume*]. "High volume hydraulic fracture completion technology" is defined by the DEQ as "a well completion operation that is intended to use a total of more than 100,000 gallons of hydraulic fracturing fluid." *Id.* A well completion operation is work performed in an oil or gas well, after the well has been drilled and the casing set, including perforating, artificial stimulation, and production testing. 1999 AC, R 324.103(s).

<sup>89</sup> *High Volume*, *supra* note 88, at 3.

<sup>90</sup> *Id.*

<sup>91</sup> *Id.*

<sup>92</sup> The annulus, or annular space, is the space between two concentric objects "such as between the wellbore and casing or between casing and tubing, where fluid can flow." [Annulus Definition](#), (accessed June 26, 2011).

<sup>93</sup> *High Volume*, *supra* note 88, at 3.

<sup>94</sup> *Id.*

<sup>95</sup> *Id.* at 2-3.

<sup>96</sup> *Id.* at 3. The Office of Geological Survey is a unit of the DEQ. Michigan Department of Environmental Quality, [Office of Geological Survey](#), (accessed June 26, 2011).

<sup>97</sup> These pits hold the massive quantities of water withdrawn for fracturing purposes before it is actually injected in to the gas wells. See *Modern Shale Gas*, *supra* note 1, at 55.

fencing;<sup>98</sup> Finally, during hydraulic fracturing operations, well-owners must “monitor and record the injection pressure at the surface and the annulus pressure between the injection string and the next string of casing unless the annulus is cemented to surface.”<sup>99</sup>

### Permitting Requirements

Finally, in order to receive a permit to drill<sup>100</sup> under the DEQ’s new regulations, a well owner looking to make a large volume water withdrawal<sup>101</sup> for well completion operations must evaluate the withdrawal in order to assure that it will not “adversely affect waters or nearby freshwater wells.”<sup>102</sup> Specifically, well owner must: (1) assess the effects of the withdrawal using the Michigan Water Withdrawal Assessment Tool (MIWWAT or, the tool);<sup>103</sup> (2) provide specific data regarding the withdrawal including: proposed total volume of water needed for well completion operations, proposed number of water withdrawal wells, the type of aquifer from which the water will be collected, proposed well depth, and proposed pumping rate and frequency;<sup>104</sup> and (3) provide a supplemental plat of the well site showing the proposed location of withdrawal wells, location of all freshwater wells “within 1,320 feet of water withdrawal location,” and proposed freshwater pit location and dimensions.<sup>105</sup>

### Assessing Michigan’s New Hydraulic Fracturing Regulations Reporting Requirements

The DEQ’s new hydraulic fracturing reporting requirements, particularly the rules requiring submission of MSDSs for each fracturing additive, and recordation and reporting of total volumes of flowback water, are a significant accomplishment for the department in regards to protection of the public health from possible drinking water contamination caused by fracturing activities. Prior to the issuance of these new rules, gas-producers kept the individual chemical constituents of hydraulic fracturing fluid confidential from the public as protected proprietary information.<sup>106</sup> Well owners also only needed to record and report the volumes of all fluids *injected into* their wells.<sup>107</sup> No similar reporting requirement existed for the volume of fluids *recovered from* each well after drilling and fracturing were complete. In combination these two provisions posed a significant risk to the safety of Michigan’s public health because when fracturing fluid is injected into a well, not all of it comes back out.<sup>108</sup> As a matter of fact, in some cases, a majority of the fluid is never recovered, and remains in the target shale formation creating increased potential for groundwater contamination by numerous unknown,

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<sup>98</sup> *High Volume*, *supra* note 88, at 3.

<sup>99</sup> *Id.*

<sup>100</sup> Or, for existing wells, in order to receive permission to make large volume water withdrawal for well completion operations. *Id.* at 2.

<sup>101</sup> A “large volume water withdrawal” means a water withdrawal “intended to produce a cumulative total of over 100,000 gallons of water per day when averaged over a consecutive 30-day period.” *Id.* at 1. See also MCL 324.32701.

<sup>102</sup> *High Volume*, *supra* note 88, at 2.

<sup>103</sup> *Id.*

<sup>104</sup> *Id.*

<sup>105</sup> *Id.*

<sup>106</sup> MCL 324.61506; 1999 AC, R 324.416; 324.426.

<sup>107</sup> 1999 AC, R 324.612; 324.806.

<sup>108</sup> *Modern Shale Gas*, *supra* note 1, at 66.

and possibly carcinogenic, chemicals.<sup>109</sup> The DEQ's new reporting requirements will help to shed light on some of the consequences of the fracturing process, and will also aid the department determining if further action is needed to protect Michigan's drinking water supplies from future contamination.

### **Well Completion Requirements**

Michigan DEQ's new well completion requirements represent a step in the right direction for hydraulic fracturing regulation in the state, but could still be improved. Specifically, the DEQ should consider revising the new regulation to require the installation of a monitoring well between the fracturing withdrawal well and the nearest fresh water well. While the new rule requires that well owners record *water levels* in the monitoring well on a regular basis (presumably to ensure that hydraulic fracturing withdrawals are not draining underground water supplies), the rule makes no mention of monitoring the *water quality* in the well.<sup>110</sup> Considering that drinking water contamination from migrating fracturing fluids is arguably the most serious threat posed by hydraulic fracturing activities, this omission is significant. Ensuring an abundant groundwater supply means nothing to fresh water wells users if that water is too toxic to drink. In the interests of the public health and under the authority granted to the department in Part 615 to prevent waste,<sup>111</sup> the DEQ should go one step further and develop a well completion regulation that protects not only the quantity, but also the quality of Michigan's fresh groundwater.

### **Permitting Requirements**

The DEQ's new permitting requirements, which make unprecedented use of the MIWWAT<sup>112</sup> in evaluating hydraulic fracturing water withdrawals, will be beneficial to the state in two ways: (a) The tool will significantly strengthen Michigan's environmental defenses against the potential harms caused by hydraulic fracturing through the application of its "adverse resource impact" standard, and (b) the tool's instant feedback on the environmental impacts of proposed gas projects will allow well-owners more time to implement mitigation measures.

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<sup>109</sup> See *id.*; Wiseman, *supra* note 23, at 137.

<sup>110</sup> See *High Volume*, *supra* note 88, at 3.

<sup>111</sup> See MCL 324.61505.

<sup>112</sup> The MIWWAT is a scientific, internet-based water withdrawal assessment tool. See MCL 324.32706a. To use the MIWWAT, a water user wishing to make a large quantity withdrawal must access the internet and enter various data about the proposed withdrawal into the tool's designated fields. MCL 324.32706b. After all required data has been entered; the tool will then calculate a particular classification for the withdrawal and assess its impact on the environment. *Id.* If the proposed withdrawal is likely to cause an "adverse resource impact" (impairment of a water body's ability to support its characteristic fish population), then it will probably not be permitted. MCL 324.32701; *High Volume*, *supra* note 88, at 2. The MIWWAT has been used to assess most large volume water withdrawals under the Michigan Water Withdrawal Act (MWWA) for a number of years. See MCL 324.32706a. However, because water withdrawals for oil and gas operations have been specifically exempted from regulation under the MWWA, this tool has never before been used to evaluate hydraulic fracturing withdrawals. MCL 324.32727. Importantly, though this new permitting requirement does subject hydraulic fracturing water withdrawals to review by the MIWWAT, it *does not* remove the exemption for oil and gas withdrawals from the MWWA. *High Volume*, *supra* note 88, at 2.

Use of the MIWWAT in assessing fracturing water withdrawals will bolster protection of Michigan's water resources. Prior to the issuance of the DEQ's new hydraulic fracturing rules, Michigan's gas regulations under Part 615 only protected the state's water resources from "waste" that "unnecessar[ily] damage[d]" the environment.<sup>113</sup> The problem with this standard is that in order for any environmental protection to kick in under Part 615, the harm must first be deemed "unnecessary." The MIWWAT however, protects water resources from any "adverse resource impact," which includes any impairment of the water body's ability to support characteristic fish populations.<sup>114</sup> This is a much higher standard of protection that, unlike Part 615's very subjective "waste" standard, is based on a scientific and site-specific assessment of each affected water body.<sup>115</sup> By following this science based approach, well owners will have to be much more careful to ensure that their water withdrawals do not cause environmental harm.

Another major benefit of the MIWWAT as applied to hydraulic fracturing withdrawals is that it provides well owners with instant feedback as to the environmental impacts of their proposed water withdrawals. As mentioned above, the tool is internet-based,<sup>116</sup> so unlike other environmental assessments required by the DEQ, there is no filling out and submission of paper forms. All a well owner need do is enter some basic information about his proposed withdrawal into the tool, and the tool promptly calculates and displays the projected adverse resource impact of the withdrawal.<sup>117</sup> This immediate environmental assessment maximizes the amount of time a well-owner has to develop and implement measures to mitigate the projected environmental impacts of his withdrawal, or oversee responsible construction of his gas wells.

However, though the MIWWAT will likely have significant environmental protection benefits throughout the state, the standard will do nothing to preserve the public health against the threat of drinking water contamination associated with fracturing. Indeed, the MIWWAT does not include any human health concerns in its calculations.<sup>118</sup> Thus, in this respect, application of the MIWWAT to hydraulic fracturing water withdrawals will be entirely valueless.

In all, the recent DEQ order amending various rules promulgated under Part 615 makes good progress towards a more comprehensive regulatory system for hydraulic fracturing operations within the state. However, more could be done to protect the welfare of the Michigan public and the state's valuable environmental resources from the risks associated with the fracturing process.

### **Suggestion for Further Revision to Part 615**

Instead of relying solely on the rule-making initiative of the DEQ, the Michigan legislature should take action directly to amend the state's oil and gas regulations. Specifically, the

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<sup>113</sup> MCL 324.61501.

<sup>114</sup> See MCL 324.32701.

<sup>115</sup> See MCL 324.32706a.

<sup>116</sup> [Michigan's Water Withdrawal Assessment Tool](#), (accessed June 28, 2011).

<sup>117</sup> *Id.*

<sup>118</sup> See generally MCL 324.32706a.

legislature should pass an amendment raising the mandatory permit, regulatory and monitoring fees associated with natural gas wells under Section 324.61524, Section 324.61525, and Section 324.61525a of Part 615.

As they stand, Michigan's permit, monitoring and regulatory fees for natural gas wells seem almost ludicrously low, considering the size and vitality of the natural gas industry:<sup>119</sup> Section 324.61524 requires the levy of a monitoring fee "not to exceed 1%" of the "gross cash market value" of all gas produced in the state,<sup>120</sup> Section 324.61525 calls for a \$300.00 permit fee per well,<sup>121</sup> and Section 324.61525a imposes a \$20.00 annual regulatory fee per gas well.<sup>122</sup> Upon collection, these fees go into the state's oil and gas regulatory fund, which the DEQ uses for "monitoring, surveillance, enforcement and administration of [Part 615]."<sup>123</sup> If these fees were to be increased, the DEQ would have more money to direct towards activities like inspection of wells and investigation of complaints. This increased DEQ oversight would in turn help to ensure that Michigan is protected from the contamination risks associated with the hydraulic fracturing process.

In amending the state's statutory oil and gas permitting fees, Michigan should look to the fee statutes of other states like Pennsylvania and New York for guidance. In New York, when a permit is granted for the drilling of a natural gas well, the well-owner is assessed a \$100 flat fee and is also charged an additional fee, the amount of which varies depending on the depth of the well.<sup>124</sup> The deeper the well, the higher the fee - for example, the additional fee for a well drilled to a depth of 4,501 – 5,000 feet is \$1,900, while the fee for a well drilled to a depth of 9,001 to 9,500 feet is \$3,610.<sup>125</sup> By charging higher fees to well owners who want to drill deeper wells, the State of New York is clearly demonstrating its recognition of the heightened administrative costs of supervising deep gas wells, which pose much greater environmental and public health risks than wells of average depth. This kind of scaled fee system could be easily incorporated in Michigan's Part 615.

Similar to New York's fee statute, Pennsylvania's gas well permitting statute is also very flexible as to the amount assessed. In fact, the Pennsylvania legislature did not even mandate a baseline or required fee under the state's Oil and Gas Act.<sup>126</sup> Instead, fee setting is left entirely to the discretion of the Department of Environmental Resources which may set any fee that "bears a reasonable relationship to the cost of administering [Pennsylvania's oil and gas laws]."<sup>127</sup> This fee statute, like the fee statute in New York, shows that Pennsylvania

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<sup>119</sup> Plunkett, *Plunkett's Energy Industry Almanac 2008: Energy Industry Market Research, Statistics, Trends & Leading Companies* (Houston: Plunkett Research, Ltd., 2007, page 119).

<sup>120</sup> MCL 324.61524.

<sup>121</sup> MCL 324.61525.

<sup>122</sup> MCL 324.61525a.

<sup>123</sup> MCL 324.61525b.

<sup>124</sup> NY Env'tl Conserv Law 23-1903.

<sup>125</sup> *Id.*

<sup>126</sup> See 58 Pa Stat Ann 601.201.

<sup>127</sup> *Id.*

understands the need for a fee system that is responsive enough to provide for adequate enforcement and supervision of natural gas activities. The adaptive spirit of this statute should be considered in amending Part 615.

In sum, due to the new and more risky natural gas development in the Collingwood and Utica shales, it is crucial that the Michigan legislature revisit and amend the state's oil and gas regulations under Part 615 of the NREPA. An amendment raising the permitting, regulatory, and monitoring fees associated with the construction and operation of natural gas wells is a viable and expedient solution that, if adopted, would help ensure the safety of Michigan's environmental and public health.

### **Conclusion**

Michigan DEQ's May 25, 2011 order revising many of the rules regulating hydraulic fracturing in Michigan makes good progress towards a more comprehensive and responsive fracturing regulatory system in Michigan. However, more changes still need to be made to the state's oil and gas regulations. Specifically, the DEQ should re-examine its newly issued well completion requirements and consider supplementing these rules to provide for water quality testing, in addition to water quantity testing, in hydraulic fracturing monitor wells. The Michigan legislature should also consider amending the provisions of Part 615 that set the permitting and regulatory fees for drillers. By increasing these fees, the DEQ would have more money to spend on enforcing the state's oil and gas regulation.

## **The Asian Carp Invasion: The Supreme Court's Failure to Protect the Great Lakes**

***By Margaret C. Stalker, J.D. candidate Wayne State University Law School 2012***

In Michigan, the Asian carp has become infamous. The invasive species of fish that originated in Asia continues to pose a grave threat the Great Lakes ecosystem, the largest system of fresh surface water on earth.<sup>1</sup> The carp have proliferated and spread throughout the United States; they have taken over many areas of the Mississippi and Illinois rivers, and they are now poised to invade the Great Lakes.<sup>2</sup> The Mississippi River Basin is connected to the Great Lakes Basin by a manmade waterway known as the Chicago Area Waterway System (CAWS). This connection is the pathway through which the Asian carp can, and most likely will, infiltrate the Great Lakes.<sup>3</sup>

Realizing the economic and ecological devastation the spread of the Asian carp would cause, the State of Michigan, supported by numerous other Great Lakes States, filed a lawsuit in the United States Supreme Court in 2010 to force a closure of the CAWS.<sup>4</sup> Michigan made

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<sup>1</sup> Asian Carp Regional Coordinating Committee, [Asian Carp Control: Background and Threat](#), (accessed June 25, 2011).

<sup>2</sup> *Id.*

<sup>3</sup> *Id.*

<sup>4</sup> See Brief and Appendix in Support of Motion to Reopen and for a Supplemental Decree, *Wisconsin v. Illinois*, \_\_\_\_ US \_\_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig.), 2009 WL 6310835 [hereinafter *Brief in Support*].

compelling arguments that this issue warranted the Court's attention, but the Court, without stating the reason for its decision, declined to hear the case.<sup>5</sup> Since then, the case has been winding its way through the lower court system, meeting numerous roadblocks along the way.<sup>6</sup> All the while, the Asian carp move closer to the Great Lakes.

Based on Michigan's arguments before the Supreme Court, the defendants' responses to those arguments, and the gravity of Asian carp threat, the Supreme Court should have heard Michigan's case. The Court had jurisdiction under the reopener provision in *Wisconsin v. Illinois*<sup>7</sup> and as a new, original action, and it should have issued a preliminary injunction to close the areas of the CAWS through which the Asian carp can enter the Great Lakes. By declining to hear Michigan's case, the Supreme Court has given the Asian carp more time to find their way into the Great Lakes, and more time is all they need.

## Background

### The Asian Carp Threat

Both private individuals and the United States government are responsible for introducing the Asian carp to United States waters. As the U.S. Fish and Wildlife Service (FWS) admitted, the Asian carp's importation was "the result of combinations of direct stockings by or authorized by various agencies, unauthorized stockings by private individuals, and unintentional escapes from university research facilities, federal and state agency facilities, and private aquaculture operations."<sup>8</sup> Now the FWS has named both the silver carp and bighead carp injurious wildlife species under the Lacey Act,<sup>9</sup> prohibiting the fish from being imported or shipped to the United States.<sup>10</sup> However, the carp that have already been introduced to the United States have proliferated, steadily making their way north via the Mississippi River and invading connected water bodies along the way.<sup>11</sup>

Asian carp pose a threat to the Great Lakes region for a variety of reasons. The fish can grow to be more than four feet long and weigh over 100 pounds, and they are now the most abundant species in some areas of the Mississippi River.<sup>12</sup> Commercial fishermen in the Illinois River regularly catch up to 25,000 pounds of bighead and silver carp per day.<sup>13</sup> Asian carp consume

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<sup>5</sup> *Wisconsin v. Illinois*; \_\_\_ US \_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010).

<sup>6</sup> See *Michigan v. United States Army Corps of Engineers*, \_\_\_ F Supp 2d \_\_\_ (ND Ill 2010) 2010 WL 5018559.

<sup>7</sup> 278 US 367; 49 S Ct 163; 3 L Ed 426 (1929).

<sup>8</sup> Greg Conover, Rob Simmonds, & Michelle Whalen, eds, Asian Carp Working Group, [Management and Control Plan for Bighead, Black, Grass, and Silver Carps in the United States](#) (2007), at 2.

<sup>9</sup> 18 USC 42.

<sup>10</sup> The Lacey Act gives the Secretary of Interior the authority to designate injurious wildlife species, and makes it unlawful for any person to import, export, transport, sell, receive, acquire, possess, or purchase any fish, wildlife, or plant taken, possessed, transported, or sold in violation of any Federal, State, foreign, or Indian tribal law, treaty, or regulation. 16 USC 3372.

<sup>11</sup> Between 1994 and 1997, the amount of bighead carp commercial fishermen caught in the Mississippi River increased from 5.5 tons to 55 tons, and a half acre stretch of river can produce thousands of pounds of Asian carp. U.S. Environmental Protection Agency, [Asian Carp and the Great Lakes](#), (accessed June 25, 2010).

<sup>12</sup> *Id.*

<sup>13</sup> *Asian Carp Control*, n 1 *supra*.

plankton, a microscopic organism at the base of the food web, directly competing with many native fish species.<sup>14</sup> Because the carp eat 5-20% of their body weight a day and reproduce prolifically, their introduction to the Great Lakes would be devastating to native fish populations, and consequently to Michigan's \$7 billion fishing industry.<sup>15</sup> The silver carp poses additional dangers, as it will often jump up to ten feet out of the water when it hears motorboats, injuring people and damaging property.<sup>16</sup> According to the FWS, "[t]here are no potential ecological benefits for U.S. waters from the introduction of silver carp."<sup>17</sup> The detrimental effect Asian carp would have on the Great Lakes is indisputable. The fish have proliferated in the Illinois River, and are now separated from Lake Michigan and the Great Lakes ecosystem only by navigational locks and electric barriers located in the CAWS.<sup>18</sup> Because the CAWS connects the Illinois River directly to Lake Michigan,<sup>19</sup> the artificial waterway has become very controversial.

### **The Chicago Area Waterway System and the Original *Wisconsin v. Illinois***

The CAWS connects the Mississippi River to the Great Lakes<sup>20</sup> and allows ships—and aquatic invasive species—to travel between them. The Chicago Sanitary and Ship Canal, the dominant feature of the CAWS, was engineered over a hundred years ago. The Canal reversed the natural current of the Chicago River by diverting water from Lake Michigan to flush the city's wastewater into the Mississippi River instead of into Lake Michigan. The U.S. Secretary of War authorized this practice by issuing permits to divert water from Lake Michigan to what is now known as the Metropolitan Water Reclamation District of Greater Chicago (District).<sup>21</sup> However, the District exceeded the permits by withdrawing more water than the permit sanctioned.<sup>22</sup> In the late 1920's, when several of the Great Lakes states realized that the District's operation of the Canal was lowering the water level of Lake Michigan and negatively affecting their navigation and riparian rights, they filed bills of complaint against Illinois and the District.<sup>23</sup>

The Supreme Court heard and decided those cases in *Wisconsin v. Illinois*.<sup>24</sup> The Court determined that the defendants' diversion of water was unlawful and that it violated the

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<sup>14</sup> *Id.*

<sup>15</sup> Sport and commercial fishing in Michigan generate a substantial amount of money, and many local economies are almost entirely based on their sport fisheries. David Clapp, et. al., MDNRE, [Management Plan for Asian Carps](#), (October 2010), at 15.

<sup>16</sup> *Asian Carp Control*, n 1 *supra*.

<sup>17</sup> 72 Fed Reg 37459-01 (July 10, 2007) (codified at 50 CFR 16.13 (2010)), amended by 76 Fed Reg 15857-02 (March 22, 2011).

<sup>18</sup> See Motion for Preliminary Injunction at 2, *Wisconsin v. Illinois*, \_\_\_\_ US \_\_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2009 WL 6310836.

<sup>19</sup> *Asian Carp and the Great Lakes*, n 11 *supra*.

<sup>20</sup> Illinois' Brief in Opposition to Motion to Reopen and for a Supplemental Decree at 2, *Wisconsin v. Illinois*, \_\_\_\_ US \_\_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2010 WL 1362236 [hereinafter *Illinois' Brief in Opposition*].

<sup>21</sup> Petition at 3-4, *Wisconsin v. Illinois*, \_\_\_\_ US \_\_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2009 WL 6310835.

<sup>22</sup> *Id.* at 4.

<sup>23</sup> *Id.*

<sup>24</sup> *Wisconsin v. Illinois*, n 7 *supra*.

plaintiff states' rights.<sup>25</sup> After a special master was appointed to evaluate the situation, the Court entered a decree in 1930 limiting the amount of water Illinois and the District diverted according to a schedule to restore the water level and navigable capacity of Lake Michigan.<sup>26</sup> In paragraph seven of the decree, the Court retained jurisdiction "for the purpose of any order or direction, or modification of this decree, or any supplemental decree, which it may deem at any time to be proper in relation to the subject matter in controversy."<sup>27</sup> The Supreme Court reopened the case and altered the decree in 1967,<sup>28</sup> and again in 1980.<sup>29</sup> However, the Court has maintained in place the jurisdictional provision in paragraph seven of the original decree throughout this entire period.<sup>30</sup>

### **The Lawsuit to Close the Locks**

The fact that the Asian carp have left a trail of devastation in the Illinois and Mississippi Rivers and are now dangerously close to Lake Michigan prompted Michigan to take legal action against Illinois and the District in December of 2009.<sup>31</sup> Michigan was joined by Ohio, Minnesota, Wisconsin, New York, Pennsylvania, Indiana, and the Province of Ontario; the United States intervened on the side of the defendants<sup>32</sup> on behalf of the Army Corps of Engineers, which now operates the three navigational locks in the CAWS.<sup>33</sup> Michigan and the supporting states argued that the defendants' operation of the CAWS created a public nuisance, as it allowed harmful invasive species to enter the Great Lakes basin through the various locks, dams, and sluice gates.<sup>34</sup> Michigan requested that the Supreme Court "exercise its retained authority"<sup>35</sup> to hear the case under paragraph seven of the most recent decree entered in *Wisconsin v. Illinois*.<sup>36</sup> In the alternative, Michigan asked that the Court hear the case between Illinois and Michigan as a new, original action.<sup>37</sup>

Michigan also filed a motion for a preliminary injunction, requesting that the Supreme Court order the defendants to operate the CAWS in a manner that would prevent the Asian carp from getting past the control structures until the Court made a decision on the merits of the case.<sup>38</sup>

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<sup>25</sup> *Id.* at 418, 420.

<sup>26</sup> *Wisconsin v. Illinois*, 281 US 696; 50 S Ct 331; 74 L Ed 1123 (1930), mod 77 S Ct 385 (1957).

<sup>27</sup> *Id.* at 698.

<sup>28</sup> *Wisconsin v. Illinois*, 388 US 426; 87 S Ct 1774; 18 L Ed 2d 1290 (1967).

<sup>29</sup> *Wisconsin v. Illinois*, 449 US 48; 101 S Ct 557; 66 L Ed 2d 253 (1980).

<sup>30</sup> See *Wisconsin v. Illinois*, n 28 *supra* at 430.

<sup>31</sup> *Wisconsin v. Illinois*, n 5 *supra*.

<sup>32</sup> The Obama Administration made the decision to enter the lawsuit in opposition to Michigan and the other Great Lakes' states, even though President Obama pledged to adopt a "zero tolerance policy for invasive species" during his campaign for president. See Obama for America, [Barack Obama and Joe Biden: Committed to Great Lakes Restoration](#), at 2-3.

<sup>33</sup> *Wisconsin v. Illinois*, n 5 *supra*.

<sup>34</sup> Petition, n 21 *supra* at 2 (explaining that the CAWS was a public nuisance because it created "a threat of irreparable injury to natural resources held in trust by the State of Michigan, as well as riparian and other rights of Michigan and its citizens").

<sup>35</sup> *Brief in Support*, n 4 *supra* at 3.

<sup>36</sup> *Wisconsin v. Illinois*, n 28 *supra*.

<sup>37</sup> *Brief in Support*, n 4 *supra* at 9.

<sup>38</sup> Motion for Preliminary Injunction, n 18 *supra* at 6.

The Court denied this request in January, 2010<sup>39</sup> while still considering Michigan's motion to reopen *Wisconsin v. Illinois*. Michigan renewed its motion for a preliminary injunction in February, 2010 after new evidence indicated that the carp were closer to Lake Michigan.<sup>40</sup> The Court again denied Michigan's request in March, 2010.<sup>41</sup>

Finally, in April, 2010, the Supreme Court rendered a decision on Michigan's motion to reopen *Wisconsin v. Illinois* and enter a supplemental decree. Without any explanation, the Court refused to hear Michigan's case, simply stating: "Motion of Michigan to reopen and for a supplemental decree denied. The alternative motion for leave to file a bill of complaint denied."<sup>42</sup> This two-sentence decision closed the door on Michigan's best chance of protecting the Great Lakes from the invasion of the Asian carp.

### **The Supreme Court Should Have Taken the Case and Issued an Injunction**

Although the Supreme Court did not state its reason for declining to hear Michigan's case, the plaintiff states and provinces presented persuasive arguments that the Supreme Court should either hear the case by reopening *Wisconsin v. Illinois*, or accept the case as a new, original action, while granting a preliminary injunction to change the manner in which the CAWS was being operated while the case was being heard. This essay will analyze the arguments of Michigan, the other plaintiff states, and the *amici curiae*<sup>43</sup> as well as the responses of Illinois, the District, and the United States<sup>44</sup> to explain why the Court declined to take a stand on such an important legal dispute and the implications of that decision.

### **Jurisdiction under Wisconsin v. Illinois**

#### **Michigan's Argument: The Subject Matter is the Same**

Michigan argued that the Supreme Court should hear its case because the Court had retained jurisdiction to do so under paragraph seven in the original *Wisconsin v. Illinois*, which allows the Court to enter further supplemental decrees if it determines that such decrees are "proper in relation to the subject matter in controversy."<sup>45</sup> Michigan asserted that the core reason the present case arose was because the defendants connected the Illinois River to the Great Lakes through artificial waterways.<sup>46</sup> Thus, the "subject matter" of the original *Wisconsin v. Illinois* and the present case was the same, as both concerned the CAWS and its negative impact on the other Great Lakes states.<sup>47</sup> Although the original case and decree dealt with the amount of water being diverted, paragraph seven was broad and flexible so the Court could resolve

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<sup>39</sup> *Wisconsin v. Illinois*, \_\_\_ US \_\_\_; 130 S Ct 1166; 175 L Ed 2d 970 (2010).

<sup>40</sup> Renewed Motion for Preliminary Injunction, *Wisconsin v. Illinois*, \_\_\_ US \_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2010 WL 1250413.

<sup>41</sup> *Wisconsin v. Illinois*, \_\_\_ US \_\_\_; 130 S Ct 1934; 176 L Ed 2d 359 (2010).

<sup>42</sup> *Wisconsin v. Illinois*, n 5 *supra*.

<sup>43</sup> Referred to as "Michigan" unless otherwise noted.

<sup>44</sup> Referred to as "defendants" unless otherwise noted.

<sup>45</sup> *Wisconsin v. Illinois*, n 26 *supra* at 698.

<sup>46</sup> *Brief in Support*, n 4 *supra* at i.

<sup>47</sup> *Id.*

disputes between states, even where such disputes involve complex and changing facts.<sup>48</sup> The Asian carp created new and unforeseen problems, and Michigan argued that these “changed circumstances” should induce the Court to reopen *Wisconsin v. Illinois* and enter a supplemental decree to protect the Great Lakes from the invasion of the Asian carp through the CAWS.<sup>49</sup>

### **Defendants’ Response: Carp Was Not the Controversy**

The defendants disagreed with Michigan’s interpretation of paragraph seven of *Wisconsin v. Illinois*, arguing that Michigan’s request for relief from the Supreme Court was not “proper in relation to the subject matter in controversy.”<sup>50</sup> The original dispute and all modifications of the *Wisconsin v. Illinois* decree dealt only with the amount of water being diverted from Lake Michigan.<sup>51</sup> Because Michigan stated that it did not seek to alter the quantity of water the defendants were diverting from Lake Michigan under existing decree,<sup>52</sup> Michigan’s case was not sufficiently related to the subject matter.<sup>53</sup> Paragraph seven’s reopener provision required more than “some relation” between the original *Wisconsin v. Illinois* and a new case; it required that the relation be “proper.”<sup>54</sup> The Court historically will not reopen a decree that is “tangentially” related to a new dispute.<sup>55</sup> The original case that gave rise to the decree concerned the amount of water withdrawn from Lake Michigan; Michigan’s case concerned the existence of the CAWS and the manner of its operation. The only relation between the two cases was that they involve the CAWS, and this was not enough of a connection to warrant reopening *Wisconsin v. Illinois*.<sup>56</sup>

### **The Court Could Have Heard Michigan’s Case By Reopening Wisconsin v. Illinois**

Although the Court failed to explain why it declined to hear Michigan’s case, it is likely that it agreed with the defendants’ argument that an interbasin transfer of Asian carp via the CAWS was not sufficiently related the subject matter of the original controversy, which was the amount of water Illinois could divert from Lake Michigan. However, had the Supreme Court wanted to hear the case, it had a basis for doing so. Such a decision would not have been against the great weight of precedent. Case law explaining how the Court interprets “proper in relation to the subject matter in controversy” is scarce, and the authorities the defendants

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<sup>48</sup> *Id.* at 15-16.

<sup>49</sup> *Id.* at ii.

<sup>50</sup> *Illinois’ Brief in Opposition*, n 20 *supra* at 13.

<sup>51</sup> *Id.* at 14-15.

<sup>52</sup> See Petition, n 21 *supra* at 2.

<sup>53</sup> *Illinois’ Brief in Opposition*, n 20 *supra* at 13.

<sup>54</sup> Brief for the United States in Opposition of Motion to Reopen at 18, *Wisconsin v. Illinois*, \_\_\_ US \_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2010 WL 1389746 [hereinafter *Brief for the United States in Opposition*].

<sup>55</sup> *Illinois’ Brief in Opposition*, n 20 *supra* at 16.

<sup>56</sup> Metropolitan Water Reclamation Dist. of Greater Chicago’s Brief in Opposition to Petition to Reopen and for a Supplemental Decree at 5-6, *Wisconsin v. Illinois*, \_\_\_ US \_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2010 WL 1389743 [hereinafter *The District’s Brief in Opposition*].

relied on were no stronger than the authorities cited by Michigan.<sup>57</sup> Michigan emphasized the Court’s broad interpretation of the term “relation” in the past,<sup>58</sup> while the defendants focused on the term “proper,”<sup>59</sup> arguing that this implied a narrow interpretation. The Court could have accepted Michigan’s view that the subject matter of the original lawsuit and present case were the same, as both concerned the defendants’ infringement on the plaintiff states’ rights through their use of the CAWS. Even if the Court did not find this relation sufficient, it should have taken the case as a new, original action.

## **Jurisdiction as a New, Original Action**

### **Michigan’s Argument: Illinois is Indispensible**

Michigan argued that even if the Court declined to hear the case by reopening *Wisconsin v. Illinois*, it should have heard the case as a new, original action<sup>60</sup> pursuant to Article III, section 2 of the U.S. Constitution<sup>61</sup> and 28 USC 1251(a).<sup>62</sup> In deciding whether to exercise original jurisdiction, the Court considers the complaining state’s interests, specifically the “seriousness and dignity” of its claim, and whether an alternative forum is available to resolve the issues.<sup>63</sup> Michigan argued that because the Asian carp threat was “grave and important,” it warranted the Court’s consideration.<sup>64</sup> Furthermore, there was no alternative forum for Michigan’s claims to be heard. In the original *Wisconsin v. Illinois*, the Supreme Court found that the District was the State of Illinois’ “creature and agent,” and Illinois was responsible for its actions.<sup>65</sup> Illinois was therefore an “indispensible” party, and because the Supreme Court has *exclusive* jurisdiction over all controversies between two or more states, no alternative forum was available.<sup>66</sup>

### **Defendants’ Response: Alternatives are Available**

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<sup>57</sup> For example, Michigan cited *Arizona v. California*, 460 US 605, 622; 103 S Ct 1382; 75 L Ed 2d 318 (1983), for the proposition that reopener provisions are meant to serve as “safety nets” to retain jurisdiction so the Court would not be precluded under res judicata from making changes to the decree “in light of unforeseeable changes in circumstances,” such as those in the present case. *Brief in Support*, n 4 *supra* at 16-17. The defendants cited *New Jersey v. Delaware*, 546 US 1028; 126 S Ct 713; 163 L Ed 2d 566 (2005), claiming that it was very similar to the case at bar, and the Court declined to exercise jurisdiction. *Illinois’ Brief in Opposition*, n 20 *supra* at 18-19. In that case, however, the Court issued no opinion to explain its reasoning.

<sup>58</sup> See Amicus Curiae Brief of Michigan Shoreline Caucus Supporting Motion to Reopen and Renewed Motion for Preliminary Injunction at 18-19, *Wisconsin v. Illinois*, \_\_\_ US \_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2010 WL 1250416 (explaining that the Supreme Court has repeatedly recognized that “the phrase ‘in relation to’ is expansive” (citing *Travelers Indemnity Co. v. Bailey*, \_\_\_ US \_\_\_; 129 S Ct 2195, 2203; 174 L Ed 2d 99 (2009))).

<sup>59</sup> See *Brief for the United States in Opposition*, n 54 *supra* at 18.

<sup>60</sup> *Brief in Support*, n 4 *supra* at 9.

<sup>61</sup> Providing that “[i]n all Cases affecting Ambassadors, other public Ministers and Consuls, and those in which a State shall be Party, the supreme Court shall have original Jurisdiction.”

<sup>62</sup> Providing that “[t]he Supreme Court shall have original and exclusive jurisdiction of all controversies between two or more States.”

<sup>63</sup> *Brief in Support*, n 4 *supra* at 31-32.

<sup>64</sup> *Id.* at 32.

<sup>65</sup> *Id.* (quoting *Wisconsin v. Illinois*, 289 US 395, 399-400; 53 S Ct 671; 77 L Ed 1283 (1933)).

<sup>66</sup> *Id.* at 35-36 (citing 28 USC 1251(a)).

The defendants responded that the Supreme Court exercises its original jurisdiction on a very limited basis.<sup>67</sup> They argued that because Michigan sought relief only from the Army Corps of Engineers and the District, the entities that operated the CAWS, Illinois was not an “indispensible party,” and Michigan could seek its requested relief in federal district court in Illinois.<sup>68</sup> Furthermore, even if Illinois was a proper party, simply because the Court had exclusive jurisdiction over the case did not mean it was necessary for the Court to exercise it.<sup>69</sup> When looking to the “seriousness and dignity” of Michigan’s claim, the defendants asked the Court to recognize that although the threat posed by Asian carp was serious, many agencies were already proactively dealing with the problem.<sup>70</sup>

### **The Court Should Have Heard Michigan’s Case as a New, Original Action**

Even if the Court declined to reopen *Wisconsin v. Illinois*, it should have heard the case as a new, original action. Considering the grave threat the Asian carp poses to the world’s largest freshwater ecosystem, it is unlikely that the Court found Michigan’s interests and the “serious and dignity” of the claim insufficient to warrant consideration. Rather, the Court likely accepted the defendants’ argument that Illinois was not a necessary party because Michigan could secure its requested relief from the District and the Army Corps, and thus there was an alternate forum available to adjudicate the dispute.<sup>71</sup> However, simply because Illinois was not a *necessary* party does not mean it was not an *appropriate* party; in previous controversies concerning the CAWS, the Court rejected Illinois’ argument that it was an improper party because the District was responsible for operation of the CAWS.<sup>72</sup> Because Illinois was a proper party, the Supreme Court should have exercised original jurisdiction to hear Michigan’s case. This issue could have far-reaching and irreversible effects, and time is of the essence. By declining the case and resigning the lawsuit to the federal district court in Illinois, the Supreme Court granted the Asian carp more time to find their way through the CAWS into the Great Lakes.

### **Preliminary Injunction**

#### *Michigan’s Argument: Asian Carp Invasion is Imminent and Irreversible*

Michigan argued that the Court should issue a preliminary injunction to ensure preservation of the status quo—no Asian carp in the Great Lakes—while the Court considered the case.<sup>73</sup> To secure such an injunction, Michigan had to show that it was likely to succeed on the merits of its underlying claim, it was likely to suffer irreparable harm if an injunction was not granted, the

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<sup>67</sup> *Illinois’ Brief in Opposition*, n 20 *supra* at 20.

<sup>68</sup> *Brief for the United States in Opposition*, n 54 *supra* at 20.

<sup>69</sup> *The District’s Brief in Opposition*, n 56 *supra* at 9-10.

<sup>70</sup> *Id.* at 10.

<sup>71</sup> Suit could be brought in federal district court in Illinois, as it was in *Army Corps*, n 6 *supra*.

<sup>72</sup> *Missouri v. Illinois*, 180 US 208, 242; 21 S Ct 331; 45 L Ed 497 (1901) (holding that Illinois was a proper party in Missouri’s attempt to prevent sewage from entering the Mississippi River by way of the CAWS); *Wisconsin v. Illinois*, 289 US 395, 399-400; 53 S Ct 671; 77 L Ed 1283 (1933) (holding that the District was an instrumentality of the State of Illinois, and because it derived its authority from the state, its actions were “directly chargeable to the State”).

<sup>73</sup> Motion for Preliminary Injunction, n 18 *supra* at 6.

balance of equities tipped in its favor, and an injunction was in the public interest.<sup>74</sup> Michigan argued that it was likely to succeed on the merits, outlining the reasons it set forth in its motion to reopen *Wisconsin v. Illinois*, discussed *supra*. In addition, Michigan argued its common law public nuisance claim was likely to be successful because defendants were operating the CAWS in a manner that would allow Asian carp to enter Lake Michigan, thus creating a severe and foreseeable injury to the rights of the public.<sup>75</sup>

This injury was likely to be irreparable if the Court did not grant an injunction. The devastation the Asian carp would cause if they were to enter the Great Lakes was “not in serious dispute.”<sup>76</sup> As a report from the Army Corps of Engineers stated, “[t]he prevention of an interbasin transfer of bighead and silver carp from the Illinois River to Lake Michigan is paramount in avoiding ecological and economic disaster.”<sup>77</sup> The imminence of the Asian carp’s introduction to Lake Michigan through the CAWS provided further support for Michigan’s position that an injunction was necessary. When Michigan renewed its motion for a preliminary injunction, environmental DNA (eDNA)<sup>78</sup> provided evidence that the carp were in the Calumet River lakeward of the O’Brien locks, and in Calumet Harbor, which Michigan described as “essentially *in Lake Michigan*.”<sup>79</sup> Because the fish had potentially already begun to breach the barriers, an injunction was necessary to preserve the status quo. Once Asian carp entered the Great Lakes, it was unlikely that they could be eradicated.<sup>80</sup>

Furthermore, Michigan argued that when balancing the equities between the plaintiff entities and defendants, the scales tipped in its favor.<sup>81</sup> Closing the locks would cause economic injury by preventing freight transportation and recreational traffic, but this impact would be short-term and finite, lasting only until alternative avenues of transportation or more effective methods of blocking the Asian carp were being utilized.<sup>82</sup> The negative economic and environmental effects of the Asian carp entering the Great Lakes, by contrast, would be enduring and irreparable.<sup>83</sup> For similar reasons, a preliminary injunction was in the public interest.<sup>84</sup> Numerous federal statutes embody the public policy of protecting the environment and natural resources, thus federal courts should give this interest significant weight when

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<sup>74</sup> *Id.* at 7.

<sup>75</sup> *Id.* at 25.

<sup>76</sup> *Id.* at 9.

<sup>77</sup> *Id.* at 28-29 (quoting United States Army Corps of Engineers, [Dispersal Barrier Efficacy Study](#), (December 2009), at 7).

<sup>78</sup> All fish release DNA into the environment, and eDNA testing reveals the potential presence of specific species by extracting DNA from water samples that are collected in the field. Asian Carp Regional Coordinating Committee, [Asian Carp Control: Frequently Asked Questions](#), (accessed June 25, 2011).

<sup>79</sup> Renewed Motion for Preliminary Injunction, n 40 *supra* at 1.

<sup>80</sup> *Id.* at 13-14.

<sup>81</sup> Motion for Preliminary Injunction, n 18 *supra* at 17.

<sup>82</sup> *Id.* at 18.

<sup>83</sup> *Id.* at 17-18.

<sup>84</sup> *Id.* at 19.

deciding whether to issue an injunction.<sup>85</sup> Importantly, closing the locks would affect only those who use the locks, whereas an Asian carp infestation of the Great Lakes would affect citizens of seven states and two Canadian provinces.<sup>86</sup>

### **Defendants' Response: We've Got It Under Control**

The defendants argued that Michigan did not meet the factors required for a preliminary injunction, as Michigan was attempting to secure an injunction that would require affirmative action that would alter the status quo, not preserve it.<sup>87</sup> According to the defendants, the status quo was that the CAWS was in operation, not the absence of Asian carp in the Great Lakes.<sup>88</sup> Such injunctions require a heightened showing of necessity, and Michigan was unsuccessful in demonstrating that it met this standard.<sup>89</sup> The defendants reiterated that Michigan was unlikely to succeed on the merits of its underlying claims for the jurisdictional reasons presented in their briefs in opposition to Michigan's motion to reopen and for a supplemental decree.<sup>90</sup> Illinois also argued that Michigan could not support a public nuisance claim against the state,<sup>91</sup> and the United States argued it was unlikely that a court would order the Corps to provide the requested relief, as Michigan had not shown it could sustain a challenge against any of the Corps' actions.<sup>92</sup>

In addition, Michigan had not shown that it would suffer irreparable harm if an injunction was not granted. Michigan's injuries were speculative, and it failed to show that an Asian carp invasion of the Great Lakes was imminent.<sup>93</sup> A massive fish kill in the Canal in 2009 revealed only a single Asian carp, and the fish was south of the electric barrier.<sup>94</sup> The defendants disputed the accuracy and reliability of eDNA testing, stating that it was a "nascent technology" that had not been subject to peer review.<sup>95</sup> Furthermore, the balance of equities did not weigh

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<sup>85</sup> *Id.* at 19-20 (citing the Nonindigenous Aquatic Nuisance Prevention and Control Act, 16 USC 4711-4751; the Clean Water Act, 33 USC 1251-1387; the Endangered Species Act, 16 USC 1531-1599)).

<sup>86</sup> *Id.* at 20.

<sup>87</sup> Response of State of Illinois to Motion for Preliminary Injunction at 36, *Wisconsin v. Illinois*, \_\_\_\_ US \_\_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2010 WL 1250411.

<sup>88</sup> *Id.* at 37 n7.

<sup>89</sup> *Id.* at 36.

<sup>90</sup> See *id.* at 16-35; Memorandum for the United States in Opposition on Motion for Preliminary Injunction at 23-35, *Wisconsin v. Illinois*, \_\_\_\_ US \_\_\_\_; 130 S Ct 2397; 176 L Ed 2d 765 (2010) (Nos 1, 2, 3 Orig), 2010 WL 1231041 [hereinafter *Memorandum for the United States in Opposition*]; *The District's Brief in Opposition*, n 56 *supra* at 27-29.

<sup>91</sup> Michigan could not show that when the CAWS was built it was reasonably foreseeable that it could become a conduit for Asian carp, and Illinois could not provide the relief Michigan requested. Response of State of Illinois to Motion for Preliminary Injunction, n 87 *supra* at 37.

<sup>92</sup> Michigan had not shown any final actions by the Army Corps that were "arbitrary, capricious, or otherwise not in accordance with the law." *Memorandum for the United States in Opposition*, n 90 *supra* at 37 (citing 5 USC 706(2)(A)).

<sup>93</sup> Response of State of Illinois to Motion for Preliminary Injunction, n 87 *supra* at 42-43.

<sup>94</sup> *Id.* at 43.

<sup>95</sup> *Id.* eDNA testing has since been validated in *Conservation Letters*, a prestigious peer-reviewed journal published by the Society for Conservation Biology. See Melissa Soule, Univ of Notre Dame, [Prestigious Journal Validates Asian Carp Research](#), (February 11, 2011).

in Michigan's favor, and an injunction was not in the public interest.<sup>96</sup> The CAWS was used for more than barge and recreational traffic; it was also used by the police and fire department, and closing the locks would pose serious health and safety concerns.<sup>97</sup> Limiting the use of the sluice gates would negatively affect water quality and could cause flooding.<sup>98</sup> Closing the locks would "devastate the commercial navigation industry," and Michigan's claim that injury would only be temporary was not credible, as no adequate alternative to the CAWS for transportation existed.<sup>99</sup>

### **The Court Should Have Issued a Preliminary Injunction**

The Supreme Court should have issued a preliminary injunction to protect the Great Lakes until reliable methods of preventing the Asian carp from invading the Great Lakes are implemented. Closing the CAWS would cause economic injury; however, the cost of attempting to control Asian carp populations in the Great Lakes would be far greater.<sup>100</sup> Furthermore, the measures the defendants are taking to prevent the Asian carp's introduction to the Great Lakes are insufficient. While there are three electric barriers between the fish and Lake Michigan, rotenone poisoning is applied when the barriers are down, the CAWS is consistently monitored for the presence of Asian carp, and studies are being conducted on lock closures and longer-term solutions, these measures do not solve the problem.<sup>101</sup> The electric barriers are not infallible,<sup>102</sup> the studies can take several years,<sup>103</sup> monitoring does not stop the fish, and applying poison that kills all fish to the waters of the CAWS hardly seems like a solution.<sup>104</sup> The defendants' position that the situation is currently under control and that there is no imminent danger to warrant closing the locks and the Court's decision not to issue an injunction has delayed any meaningful action from being taken to prevent what could be an environmental disaster. While an injunction would not have been a perfect resolution, it was far better than the alternative.

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<sup>96</sup> Response of State of Illinois to Motion for Preliminary Injunction, n 87 *supra* at 46.

<sup>97</sup> *Id.* at 46-47. Illinois argued that closing the locks would hamper the Chicago Police and Fire Department in the performance of their duties, prevent Marine Operations Officers from responding to incidents as quickly, and "undercut" the city's ability to "respond to, mitigate, and recover from a large-scale incident" along the inland waterway. *Id.*

<sup>98</sup> *Id.* at 47-48.

<sup>99</sup> *Id.* at 48-50.

<sup>100</sup> The MDNRE stated that if the Asian carp enter the Great Lakes, it would be very expensive to keep their influence to a minimum; controlling the Asian carp in the Great Lakes would be even more difficult than the sea lamprey, which costs the Great Lakes Fishery Commission \$30 million a year. Clapp, et. al., n 15 *supra* at 15. In 2005, the estimated economic affect of aquatic invasive species in the Great Lakes was already approximately \$5.7 billion. *Id.*

<sup>101</sup> *Memorandum for the United States in Opposition*, n 90 *supra* at 6-7, 10-12, 16-17.

<sup>102</sup> See United States Army Corps of Engineers, [Dispersal Barrier Efficacy Study](#), (April 2010), at 28-29, (explaining that the barriers can fail in the event of a flood of the waters of the CAWS, particularly the Des Plaines River, and that they may fail if they lose power).

<sup>103</sup> *Id.* at 17 (explaining that a study of how to prevent invasive species from moving between the Mississippi River basin and the Great Lakes basin through the CAWS could take several years).

<sup>104</sup> The last time rotenone was applied to a 5.7 mile stretch of the Canal, 30-40,000 dead fish floated to the surface. *Memorandum for the United States in Opposition*, n 90 *supra* at 10-11.

## **Conclusion**

The Supreme Court should have heard substantive arguments on this issue and made a decision. The Asian carp poses a grave threat to the Great Lakes ecosystem. Michigan's arguments in support of the Supreme Court settling the dispute concerning the future of the CAWS were compelling and legally sound. The Court had jurisdiction, as the legal basis for reopening *Wisconsin v. Illinois* to hear the case was sufficient, and the arguments for the Court to hear the case as a new, original action between states were even more persuasive. Furthermore, the Court should have ordered a preliminary injunction to compel the defendants to operate the CAWS in a manner that would not allow the Asian carp to enter the Great Lakes until a viable solution to this problem is developed. The Asian carp are not going to wait until this issue works its way through the lower courts and political system. The Supreme Court should not be waiting either.