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**Message From the Chair**

*By Dustin P Ordway*



The Environmental Law Section has long thrived on strong leadership and an active membership. I am pleased to serve and look forward to working with many of you in the coming year. We are particularly lucky to have the fine help of our dedicated Section Administrator, Joan O’Sullivan. Joan joined us on an interim basis last fall, transitioned to regular status since then, and has been a tremendous help to the Council and the Section. She helps to keep us on track, supports committees with planning their activities, and assists all of us in making good use of the services the State Bar office provides.

Our focus this year as a Council will be on finding ways to support our committees better in providing value to Section members. Our committees perform many valuable functions for members of the Section. Our Standing Committees (Deskbook, Journal, Membership, Technology, and Programs) provide written chapters, articles, and presentations that help keep us current on developments in the law, as well as reaching out to law students and other members and potential members to inform them about the benefits of belonging to the Section. These committees are continually looking for ways to improve our service to all of you.

Our subject matter committees also provide value in numerous ways, from offering webinars (used to be brown bags) and conference presentations about developments in the law to providing articles for the *Journal*. Not least in importance is that each committee provides a focused opportunity for our members to connect with one another for discussions about the work each of us does as Michigan environmental attorneys. Contact a committee chair to become involved today.

All of our committees are intent on developing a more diverse Section, not only in terms of ethnic and gender inclusion but also with regard to practice area and client perspective. The Section has long held a positive reputation as a professional organization in which environmental practitioners of all perspectives can come together as colleagues.

About events—we had a webinar training session on November 7 for Council and Committee leaders to learn more about how to use this simple tool, and the joint conference with AWMA was November 14 at the Lansing Community College. Following the joint conference, the

Council met at the same location. Our next scheduled Council meeting after November will be on January 16 in SE Michigan. The ELS Hazardous Substances and Brownfields Committee is planning a webinar in the near future, and our spring conference with the MMA is planned for April.

Throughout the year, the Council will discuss ways to enhance the delivery of services to our members by our committees. Please let me and/or the other officers and Joan know if you have any suggestions. Kurt Brauer, our chair-elect, and Lee Johnson, the secretary-treasurer this year, share my enthusiasm for the Section and would be happy to hear from you.

Dustin P. Ordway, Chair  
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### **New Officers and Council**

The Environmental Law Section officers and new council members were named at the Annual Meeting on September 20, 2012.

#### **Chair**

Dustin P. Ordway, Grand Rapids

#### **Chair-Elect**

Kurt M. Brauer, Southfield

#### **Secretary-Treasurer**

S. Lee Johnson, Detroit

#### **Council Members**

*Term Expires 9/30/2015*

George F. Curran, III, Detroit

James P. Enright, Grand Rapids

Tammy Lyn Helminski, Grand Rapids

Kurt A. Kissling, Southfield

Kelly Marie Martorano, Troy

#### **Commissioner Liaison**

Charles S. Hegarty, Ann Arbor

### **Events**

Michigan's Environment in 2012 and Beyond: Developments and Emerging Issues in the Management and Regulation of Air, Water, Energy, and Waste. The conference was at Lansing Community College West Campus, November 14. [Presentations are available on the website.](#)

The Hazardous Substances and Brownfields Committee is planning a webinar in the near future and information will be available soon.

The spring conference with the MMA is being planning for April, and we will have more information available for that as well soon.

The announcement of the 2012-2013 law school student writing competition is now [available on our ELS website](#).

## 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.

## Results of 2012 Law Student Writing Competition

*By Christopher J. Dunsky, MELJ Editor*

For the past eleven 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*.

We received 8 essays from students at 6 different law schools. Ross Hammersley, Mike Perry, Becky Dukes, and I read and judged the essays. The 3 winners are:

First—(\$2,000 prize): **Katharine Hoeksema**, Vermont Law School, *Fracking the Mitten & The Public Trust*

Second—(\$1,000 prize): **Brian Huttenburg**, University of Wisconsin Law School, *Citizen Enforcement of MS4 Permits as a Tool to Address Inadequate Stormwater Runoff Regulation*

Third—(\$500 prize): **Ryan Schutte**, Wayne State Law School, *The Great Lakes Compact: Assessing Conflict in the Cooperation Age*



**Ryan Schutte receives his award from Anna Maiuri,  
ELS Section chair, 2011-2012**

The first and third place winning essays by Ms. Hoeksema and Mr. Schutte are published in this issue of the Journal. The second place winner by Mr. Huttenburg and other essays will be published in future issues.

## **The Great Lakes Compact: Assessing Conflict in the Cooperation Age**

***By Ryan Schutte, J.D candidate Wayne State University Law School 2013***

### **I. Introduction**

In the grand scheme of United States federalism, any two governments rarely agree on every minutia of an issue. Occasionally, though, policy trumps politics and nations and states accomplish great things. In no area is this more apparent than in the field of environmental law. As a myriad of environmental,<sup>1</sup> political,<sup>2</sup> and human<sup>3</sup> factors threaten the waters of the Great Lakes, the eight states surrounding the lakes (Illinois, Indiana, Michigan, Minnesota, New York, Ohio, Pennsylvania, and Wisconsin) approved the Great Lakes—St. Lawrence River Basin Water Resources Compact (Compact) in 2008.<sup>4</sup> The Compact is a bold agreement combining the mutual interests of the involved states to protect this unique and valuable resource.

The Canadian provinces of Québec and Ontario are also involved in this Compact as bordering provinces through the Great Lakes—St. Lawrence River Basin Sustainable Water Resources Agreement.<sup>5</sup> This international cooperation outside of the regular treaty-making power shows the importance that the people of the region place on the Great Lakes' protection.<sup>6</sup> The Great Lakes are a fragile resource ecologically, having an average of only one percent renewal rate per year.<sup>7</sup> This fragility, along with the ecological,<sup>8</sup> economic,<sup>9</sup> and emotional<sup>10</sup> importance of

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<sup>1</sup> See generally, Climate Change, [U.S. Environmental Protection Agency](#), (accessed Nov 21, 2011).

<sup>2</sup> As state legislatures and executives change with elections, some of the current lawmaking incentive and motivation toward implementing the Compact and protecting the lakes will very likely change. Some States may even adopt the perverse incentive to break the Compact entirely.

<sup>3</sup> See Keith Schneider, [U.S. Faces Era of Water Scarcity](#), CircleOfBlue.org, (accessed Jan 12, 2012).

<sup>4</sup> Great Lakes—St. Lawrence River Basin Compact, PL 110–342, Oct 3, 2008, 122 Stat 3739 [hereinafter Compact].

<sup>5</sup> Council of Great Lakes Governors, [Great Lakes—St. Lawrence River Basin Sustainable Water Resources Agreement](#), Dec 13, 2005, (accessed Jan 12, 2012).

<sup>6</sup> “The Waters of the Basin are a shared public treasure and the States and Provinces as stewards have a shared duty to protect, conserve and manage these renewable but finite Waters.” *Id.* at 1.

<sup>7</sup> International Joint Commission, [Protection of the Waters of the Great Lakes: Final Report to the Governments of Canada and the United States](#) at 6 (accessed Feb 22, 2012).

the lakes to the people of the region, creates the need for inter-governmental cooperation to ensure their protection.

This Note will discuss the creation, analytical underpinnings, and practical realities of the Compact. It will demonstrate that while the States intend that the Compact will solve most disagreements with the built-in alternative dispute resolution mechanism through the Council,<sup>11</sup> court involvement will likely be necessary for many disputes. Ultimately, federal judicial decisions will shape state law for the states which joined the Compact as each of the eight states modifies its own implementation scheme to reflect the courts' interpretation of Compact terms.

## II. Background

### A. Introduction to the Great Lakes Compact

#### 1. Statutory Scheme for Passage

The purpose of the Compact is to reduce or eliminate the diversion of waters of the Great Lakes through cooperative, intergovernmental arrangements with an adaptive, scientifically based approach to conservation.<sup>12</sup> The Great Lakes—St. Lawrence River Basin Water Resources Compact became federal law on December 8, 2008, after President George W. Bush signed the ratifying legislation on October 3, 2008.<sup>13</sup> The ratification was the final authorization step for the interstate Compact. The multistep ratification process began with each of the member states' legislatures approving the Compact and the subsequent signature by each respective State's governor.<sup>14</sup> To satisfy federalism requirements under the Constitution, Congress ratified the Compact and the president signed the ratifying legislation.<sup>15</sup> Congressional ratification of the Compact was, however, only the first step in the implementation process. Each state then began crafting an "implementation scheme" to ensure that each state complies with the express terms of the Compact.<sup>16</sup>

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<sup>8</sup> "The Great Lakes themselves contain an estimated 5,500 cubic miles or six quadrillion gallons of water. This constitutes nearly 90% of the surface freshwater supplies of the United States and 20% of the surface freshwater supplies of the world." Stephen R. Viña & Pervaze Sheikh, [Great Lakes Water Withdrawals: Legal and Policy Issues](#), Congressional Research Service Report for Congress, (Jun 20, 2005) (accessed Nov 22, 2011).

<sup>9</sup> The sport fishing industry on the Great Lakes alone is worth an estimated \$7 billion. The Great Lakes also serve as a hub of industry, tourism, and recreation for the Midwest. Douglas Belkin, [Asian Carp Could Hurt Boating, Fishing Industry in Great Lakes](#), Wall St. J., (Nov 20, 2009) available at, (accessed Feb 22, 2012).

<sup>10</sup> Allison Brookes, [New Instructor Focuses on Great Lakes Water Conservation and Place Attachment](#), Kent State University *eInside*, (Oct 18, 2010) (accessed Jan 15, 2012).

<sup>11</sup> Great Lakes Compact Council, [Great Lakes—St. Lawrence River Water Basin Water Resources Council](#) (accessed Feb 12, 2012).

<sup>12</sup> Compact, *supra* n 4, at §1.3(2).

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

<sup>14</sup> See Council of Great Lakes Governors, [Great Lakes—St. Lawrence River Basin Water Resources Compact Implementation](#) (detailing the dates for ratification of the Compact in each State or province) (accessed Jan 12, 2012).

<sup>15</sup> See US Const, art I, §§8, 10.

<sup>16</sup> "Each of the parties pledges to support implementation of all provisions of this Compact, and covenants that its officers and agencies shall not hinder, impair, or prevent any other party carrying out any provision of this Compact." Compact, *supra* n 4, at §7.1.

## 2. Horizontal Federalism

The theoretical underpinning for the Compact is “cooperative horizontal federalism”.<sup>17</sup> Under cooperative horizontal federalism, states jointly develop common minimum legal standards (substantive and/or procedural) to manage a shared resource. Each individual state maintains the flexibility and autonomy to administer the necessary compliance standards under state law.”<sup>18</sup> The idea of using interstate agreements to regulate interstate relations is not a new one, and indeed has a rich history in the Great Lakes Basin. However, the Compact’s reliance on horizontal federalism potentially increases the level of compliance and adherence by the eight states compared with prior interstate agreements.<sup>19</sup>

The Compact motivates the member states to comply with its policies in a manner that is different than prior Great Lakes conservation arrangements.<sup>20</sup> Former efforts to protect these resources relied upon a traditional, vertically integrated method of environmental regulation, in which a federal decision-making authority determines interstate water policy.<sup>21</sup> With the Compact, the member states drafted an agreement to protect regional states’ interests in the lakes independent of federal water policy.<sup>22</sup> The requirements and expectations of those states impacted most by the quality and magnitude of the Great Lakes are shared by the states that surround them. The whole of the nation, which is the source of the vertically integrated scheme of environmental regulation, likely has differing priorities.<sup>23</sup> By utilizing the horizontally integrated interstate agreement, the Great Lakes states take the future of the lakes into their own hands, presumably limiting political will for federal government regulation under the Commerce Clause.<sup>24</sup>

## 3. Did We Need an Interstate Compact?

As with any new statutory scheme or method of regulation, perhaps the most important question is: why do we need this? What goals, if any, will restrictions on large-scale water

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<sup>17</sup> See generally, Noah D. Hall, [Toward a New Horizontal Federalism: Interstate Water Management in the Great Lakes Region](#), 77 U Colo L Rev. 405 (2006).

<sup>18</sup> *Id.* at 406.

<sup>19</sup> For a chronology of past attempts at interstate regulation of the Great Lakes, see [Council of Great Lakes Governors, Great Lakes Water Management Chronology Key Events](#) (accessed Jan 12, 2011)

<sup>20</sup> See e.g., Boundary Waters Treaty, Jan 11, 1909, [United States-Great Britain \(for Canada\)](#), 36 Stat 2448, (accessed Jan 17, 2012); Pub L No 90-419, 82 Stat 414 (1968); [Great Lakes Charter](#), Feb 11, 1985 (accessed Jan 28, 2012); Water Resources Development Act, Pub. L. No. 99-662, § 1109, 100 Stat. 4082Pub L No 99-662, §1109, 100 Stat 4082, 4230; [Annex to the Great Lakes Charter](#) (accessed Jan 17, 2012).

<sup>21</sup> Vertical integration refers to the traditional process by which national environmental regulations have arisen, as policy or regulatory requirements from federal agencies which are implemented at the state level via a specified mechanism.

<sup>22</sup> Hall, *supra* n 17, at 409.

<sup>23</sup> Differing priorities at the national level raise concern in a number of hypothetical ways, most notably the water needs of the rapidly growing southwestern United States, compared with the slowly growing and even shrinking upper Midwest. Looking at withdrawals from this perspective, requirements for fresh water in the growing Southwest may in the future outweigh the will and political power of the Great Lakes states, potentially disrupting this resource.

<sup>24</sup> See Hall, n 17 *supra*, at 451-53.

withdrawals accomplish? While the ultimate effectiveness of the Compact is yet to be tested, there are several significant reasons for its wide support.<sup>25</sup> The first is the real or perceived conflict of interest for use and protection of the lakes at the national level. For example, as populations continue to grow in the western states scarcity and thus demand for water for community and industrial uses may shift the national rhetoric from protecting the lakes to supporting continued growth. Second, on the world stage, the effects of large scale systematic withdrawals from water bodies have had disastrous effects, such as the near draining of the Aral Sea between Kazakhstan and Uzbekistan.<sup>26</sup> Finally, each individual State had its own complicated network of common law decisions and state statutes concerning water withdrawals prior to enactment of the Compact, so no state could protect the entire Great Lakes water system acting alone.<sup>27</sup>

## **B. Michigan's Implementation of the Compact**

Each state which joined the Compact has flexibility to implement the Compact in a manner that reflects individual state interests, so long as the chosen implementation complies with the Compact.<sup>28</sup> Michigan implemented the water withdrawal requirements of the Compact by amending existing statutory provisions of the state's Safe Drinking Water Act (SDWA) which protects groundwater quality.<sup>29</sup> Michigan has also added a new Part 327 "Great Lakes Preservation" to the Natural Resources and Environmental Protection Act (NREPA).<sup>30</sup> These amendments mandate that the Michigan Department of Environmental Quality (DEQ) oversee a permit system for large water withdrawals from the Great Lakes Basin.<sup>31</sup> The law contains certain exceptions from the withdrawal permit requirements.<sup>32</sup>

Individuals and businesses seeking to withdraw water must utilize an online assessment tool to determine whether any particular withdrawal will create an adverse resource impact.<sup>33</sup> An adverse resource impact includes various reductions in stream or river flow and some limited natural, but not artificial, lake or pond surface water level reductions<sup>34</sup> The assessment tool is a convenient method to determine what, if any, additional steps an interested party may need to take before officially registering for a water withdrawal. Potential steps may include a site-specific review or self-certification that an owner will use "applicable environmentally sound and economically feasible water conservation techniques." But where the assessment

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<sup>25</sup> Library of Congress, Thomas [Bill Summary & Status 110th Congress \(2007-2008\) S.J.RES.45 Major Congressional Actions](#) (accessed Nov 21, 2011).

<sup>26</sup> Great Lakes Compact, [Our Waters](#), (accessed Feb 21, 2012).

<sup>27</sup> See National Conference of State Legislatures, [State Water Withdrawal Regulations](#) (accessed Nov 21, 2011) (articulating the wide variation in state water withdrawal regulations both within the Great Lakes basin and beyond).

<sup>28</sup> See Hall, *supra* n 17, at 406-7.

<sup>29</sup> See MCL 325.1001-1023.

<sup>30</sup> See [MCL 324.32701-14, 21-30](#).

<sup>31</sup> MCL 324.32723.

<sup>32</sup> MCL 324.32705.

<sup>33</sup> MCL 324.32706a, MCL 324.32706b.

<sup>34</sup> MCL 324.32701(a)(ii)(C)(vii)(lakes or ponds must be greater than 5 acres for protection under the Compact).

determines that a withdrawal creates an adverse resource impact, the party may not be able to complete the withdrawal.<sup>35</sup>

The amendments to the Michigan SDWA are twofold, both relating to responsible water withdrawals.<sup>36</sup> The first deals with water supplier permits for municipalities which supply water to their customers, utilizing the online assessment tool to determine permitting based on size and location of the withdrawal.<sup>37</sup> The second change regulates withdrawals for the production of bottled drinking water. Michigan law requires special permits for withdrawals greater than 200,000 gallons per day from state waters or for intra-basin transfer greater than 100,000 gallons per day.<sup>38</sup>

By passing a comprehensive statutory amendment to NREPA, Michigan sought to legislatively satisfy the implementation requirements under the Compact. While imperfect, it is a step in the right direction.<sup>39</sup> The Michigan Legislature also created the Water Resource Conservation Advisory Council charged with oversight of the state's implementation of the Compact.<sup>40</sup> This Advisory Council represents a variety of industry and public interest groups, performs studies, and makes recommendations to modify the statutory protections for state waters.<sup>41</sup> With this strong statutory base, Michigan hopes to adequately prevent over-withdrawal in the state.

### C. What Did Other States Do?

As previously noted, the Compact provides that each State must implement the terms of the Compact using its own methods.<sup>42</sup> This allows each state to tailor its approach to meeting the needs of citizens as well as to the regional interest. Generally, while each state has managed to implement at least portions of the Compact, levels of implementation and the ultimate responses to the level of implementation remain far from satisfactory.<sup>43</sup> Illinois<sup>44</sup> and Minnesota<sup>45</sup> simply ratified the Compact in their respective state legislatures, claiming that each respective state need not take additional measures beyond their already strong water use schemes to ensure compliance.<sup>46</sup> New York<sup>47</sup> and Ohio<sup>48</sup> created advisory boards to

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<sup>35</sup> MCL 324.32706c.

<sup>36</sup> MCL 325.1004, 1017.

<sup>37</sup> [MCL 325.1004](#).

<sup>38</sup> [MCL 325.1017](#) (intra-basin transfer is a water use that does not see the withdrawn water leave the Great Lakes Basin, but does see water transferred from one water body to another).

<sup>39</sup> See Sara R. Gosman, [Water Withdrawals in Michigan: Implementing the Great Lakes Compact](#), 90 Mich B J 20 (May 2011) (arguing that the Michigan implementation could still use considerable work if the State plans to adequately uphold the Compact).

<sup>40</sup> MCL 324.32803.

<sup>41</sup> See Water Resources Conservation Advisory Council, [Findings and Recommendations](#), (Nov 2009), (accessed Nov 22, 2011).

<sup>42</sup> See Compact, *supra* n 4.

<sup>43</sup> See generally, Sara R. Gosman and the National Wildlife Federation, [The Good the Bad and the Ugly: Implementation of the Great Lakes Compact](#) (accessed Feb 22, 2012).

<sup>44</sup> See 615 Ill Comp Stat Ann 50/1-14.

<sup>45</sup> See Minn Stat 103G.001-801.

<sup>46</sup> Gosman, *supra* n 43, at 4.

<sup>47</sup> NY Env'tl Conserv Law 21-1007.



recommend new and modified state legislation.<sup>49</sup> Indiana<sup>50</sup> and Pennsylvania<sup>51</sup> wrote very basic statutes, giving substantial discretion to state administrative agencies to fully flesh out Compact compliance.<sup>52</sup> Michigan<sup>53</sup> and Wisconsin<sup>54</sup> adopted comprehensive statutory schemes to implement the terms of the Compact.<sup>55</sup>

The strength of each implementation scheme remains largely unproven as of this date. In Waukesha County, Wisconsin, for instance, the effectiveness of the state's statutory scheme is currently being tested.<sup>56</sup> Waukesha County lies on the Lake Michigan shoreline and is currently seeking a permit from Wisconsin to divert water from the basin to meet the water needs of its citizens.<sup>57</sup> The Wisconsin statute states that permits for border municipalities may be granted under statutorily specified circumstances,<sup>58</sup> and the Wisconsin Department of Natural Resources is currently reviewing the county's permit request.<sup>59</sup>

Due to the vastly differing implementation techniques and plans for each state, large potential conflicts could arise both between states and among private entities.<sup>60</sup> These conflicts could pertain to enforcement of the Compact or to the acquisition of variances from the Compact's requirements. While the Compact specifically provides for enforcement,<sup>61</sup> the ultimate test of the Compact will be to what extent and in what form actors and courts enforce adherence to the terms of the interstate agreement.

### III. Analysis

The various implementation strategies adopted by the member states will present interesting future conflict resolution issues for the Compact where states differ on their responsibilities to the other member states and to the agreement itself. This Note will discuss the Compact in detail by explaining how it may apply in practice between states.

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<sup>48</sup> HB 416, 127th Gen Assemb, Reg Sess §3 (Ohio 2008) (proposing regulation of non-compliant water withdrawals, subsequently vetoed by the governor after passing the Ohio legislature).

<sup>49</sup> Gosman, *supra* n 43, at 4.

<sup>50</sup> Ind Code 14-25-15-1 to -13.

<sup>51</sup> 32 Pa Stat 817.21-30.

<sup>52</sup> Gosman, *supra* n 43, at 4.

<sup>53</sup> 2008 PA 179-90; *See also* n 16-17 *supra*.

<sup>54</sup> 2007 Wis Legis Serv 227.

<sup>55</sup> Gosman, *supra* n 43, at 4.

<sup>56</sup> Amanda Peterka, ['Jury Is Out' on Implementation of Landmark Great Lakes Compact](#), *N.Y. Times*, Jul 14, 2011 (accessed Oct 7, 2011).

<sup>57</sup> *Id.*

<sup>58</sup> *See* Wisconsin Dep't of Natural Resources, [Great Lakes Compact Review Criteria for a Community within a Straddling County: City of Waukesha Diversion Application](#) (accessed Nov 11, 2011) (explaining the specific statutory criteria required for this sort of straddling line diversion and the corresponding Compact requirements that the statutes were written to implement).

<sup>59</sup> *See* Peterka, *supra* n 56.

<sup>60</sup> These differing implementation schemes allow each state to craft protections for the Great Lakes that both fit its existing regulatory scheme and preserve state power to regulate local industry.

<sup>61</sup> *See generally*, Compact at §§7.1, 7.3.

### A. Background Observations About The Compact

Compact sections 7.2 and 7.3 concern adherence and enforcement of the interstate contract terms. The statute calls for the Compact Council<sup>62</sup> to set rules for prescribed alternative dispute resolution regarding implementation of the Compact. The Compact Council has not yet adopted specific dispute resolution procedures.<sup>63</sup> Any specific dispute resolution mechanisms for intra-council disputes would likely model Chapter 6 of the Great Lakes—St. Lawrence River Basin Sustainable Water Resources Agreement (Agreement).<sup>64</sup> But because a conflict would likely occur as an extra—rather than intra—council dispute, Article 7 of the Compact itself provides enforcement mechanisms.<sup>65</sup> For purposes of the Compact, a state is considered “an aggrieved Person with respect to any Party action pursuant to this Compact.”<sup>66</sup> This seems to indicate that any cause of action which would allow a person to seek enforcement under this section of the Compact would also permit a state to do so.

The Compact allocates jurisdiction for the dispute to “the court of the relevant Party, as well as the United States District Courts for the District of Columbia and the District Court in which the Council maintains offices.”<sup>67</sup> Where the parties are states however, federal court is appropriate because either state could remove to the U.S. Supreme Court as the court of original jurisdiction for conflicts between states.<sup>68</sup>

The Compact grants enforcement power to interested persons as well as to states, so the reasoning behind specific choice of venue and jurisdiction makes more sense.<sup>69</sup> Those who may wish to compel compliance are limited based on geographical location and status. First, any person aggrieved by actions of the Council may bring a hearing before the Council.<sup>70</sup> Second, judicial review over a Council decision may occur in the Northern District of Illinois within 90 days of the decision. Third, a person wishing to bring a court action against a state must first exhaust administrative remedies within the permitting party’s jurisdiction. Finally, if the action at issue arises out of actions of a member state, subsequent review is subject to the local rules

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<sup>62</sup> Great Lakes—St. Lawrence River Basin Water Resources Council, [Members and Alternates](#) (accessed Jan 21, 2012).

<sup>63</sup> See Great Lakes—St. Lawrence River Basin Water Resources Council, [Resolutions, Guidance Statements, and Other Documents](#) (accessed Oct 17, 2011).

<sup>64</sup> Great Lakes—St. Lawrence River Water Resources Regional Body, [Great Lakes—St. Lawrence River Basin Sustainable Water Resources Agreement](#), (Dec 13, 2005) (accessed Nov 22, 2011). (Providing first the appointment of a panel to hear the dispute, consultation with experts, establishment of a working group for the dispute, and finally use of mediation or conciliation. If these means are not sufficient for agreement, the matter, if not settled yet, is referred to the regional body’s chair and non-dispute-members to prepare a resolution recommendation. Finally, if resolution is still not attained, the parties are simply to “exercise their best efforts to settle”).

<sup>65</sup> See Compact at §§7.1-7.3.

<sup>66</sup> *Id.* §7.3(1).

<sup>67</sup> *Id.* §7.3(2).

<sup>68</sup> US Const, art III, §2, cl. 2.

<sup>69</sup> “Person means a human being or a legal person, including a government or a nongovernmental organization, including any scientific, professional, business, non-profit, or public interest organization or association that is neither affiliated with, nor under the direction of a government.” Compact at §1.1.

<sup>70</sup> Compact at §7.3(1).

and in that state's court.<sup>71</sup> Enforcement power is also described for both persons and parties in section 7.3(3).<sup>72</sup> The Compact distinguishes between states and persons for purposes of enforcement, but both groups have the ultimate policing power over the agreement. Either another state or a person may compel a state or person to comply with the Compact, but states must also comply with rules promulgated by the Council itself.<sup>73</sup> Once venue is determined, parties must abide by procedures set by common law or spelled out within the Compact.

### **B. Exemptions from Enforcement?**

The Compact provides two exemptions to compliance actions. The first exemption applies when either the permitting state or the Council approves the withdrawal, use, or diversion, or where the permitting state or the Council finds the withdrawal, use, or diversion to be in compliance with the Compact.<sup>74</sup> The second exemption is a procedural rule. Any potential claimant must give 60 days' notice to the state where the withdrawal is taking place, to the Council, and to the actual entity withdrawing the water.<sup>75</sup> A claimant is forestalled from bringing an enforcement action while the state that allowed the withdrawal or the Council is "diligently prosecuting appropriate enforcement actions".<sup>76</sup>

The state where the withdrawal in breach of the Compact occurred would be the originating state for purposes of the Compact.<sup>77</sup> It would be a question of fact for the chosen court to determine whether that state's permitted withdrawal abrogated the Compact or fell into one of the exemptions under section 4.9 discussed above. If a court found that the state in question or the Council did not approve the withdrawal, the question becomes whether the State is a "person" under the enforcement clause who must abide by notice and exhaustion rules, or whether the state can bring an action outright.<sup>78</sup> If the former, there appears to be a clear intent on the part of the drafters of the Compact to give the permitting states time to correct mistakes made in interpretation of the Compact, favoring non-judicial remedies between Council members rather than litigation between private entities and permit granting states. The latter seems to abhor the virtues of cooperative horizontal federalism and retrenches to an adversarial use of the Compact.<sup>79</sup>

### **C. Which Law Is Applied?**

Congress' consent for their formulation transforms interstate compacts into federal law. Disputes arising under the Compact are thus federal in nature.<sup>80</sup> While the Compact specifically

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<sup>71</sup> *Id.*

<sup>72</sup> *See infra* Part III(D).

<sup>73</sup> *Id.*

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

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

<sup>76</sup> *Id.* The concept of exhaustion in administrative law is a common requirement by courts to ensure that a final decision has been made for the court to review. *See generally, Darby v. Cisneros*, 509 US 137 (1993).

<sup>77</sup> "Originating Party means the Party within whose jurisdiction an Application or registration is made or required; Party means a State party to this Compact." Compact at §1.1.

<sup>78</sup> *Id.* §7.3(3)(b).

<sup>79</sup> *See Hall, supra* n 17.

<sup>80</sup> *See Cuyler v. Adams*, 449 US 433 (1981).

grants jurisdiction to the state court for the party being challenged through litigation, the state court would interpret and apply federal law to determine whether an action falls within the Compact.<sup>81</sup> The Compact’s jurisdictional hook for states requires exhaustion of state administrative remedies prior to judicial review in a federal district court.<sup>82</sup> The Second Circuit held that the appropriate administrative procedures to be employed are those of the state, not the federal government.<sup>83</sup> The Compact states in no uncertain terms that “[a]ny person aggrieved by a Party action shall be entitled to a hearing pursuant to the relevant Party’s administrative procedures and laws.”<sup>84</sup> In Section 7.3(2)(b), the Compact reiterates this language for compelling compliance with a particular state’s implementation rules or laws for the person attempting to compel a party’s compliance with state requirements.<sup>85</sup>

In a hypothetical conflict, Michigan would most likely look to either federal district court or the Supreme Court for venue. If the Council had made a factual or legal finding in a required non-judicial forum such as conciliation or mediation, the reviewing court would not be required to defer to factual or legal determinations from the administrative decision.<sup>86</sup> This raises the question as to whether these conflict resolution provisions have any practical effect on the parties other than demonstrating a good faith political showing to the individual state legislatures that each state will make every effort to comply with the Compact.<sup>87</sup> Not all potential parties will be able to dispute compliance with the Compact, however, as courts have utilized standing doctrine to limit access to judicial remedies.

#### **D. Sovereign Immunity?**

The Supreme Court has yet to directly resolve the question of sovereign immunity and waiver of that immunity through and via interstate Compacts.<sup>88</sup> “Compact clause entities” are intergovernmental entities and councils created by interstate compacts to both add regulatory flesh and solve certain disputes between member states.<sup>89</sup> A reviewing court will either hold that only those entities which are granted specific protections within their operating agreements have immunities, or that they are still somehow creatures of the state and subject to the states’ ultimate control. A party might also successfully argue waiver of immunity if the state voluntarily chose to enter a compact and subject itself both to the terms and the governing interstate organization.<sup>90</sup>

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<sup>81</sup> Interstate compacts by their very nature are federal law. See Part II(A)(1) of this Note.

<sup>82</sup> Compact at §7.3(1).

<sup>83</sup> *New York v. Atl. States Marine Fisheries Comm’n*, 609 F.3d 524, 531 (CA2 2010).

<sup>84</sup> Compact at §7.3.

<sup>85</sup> *Id.* §7.3(2).

<sup>86</sup> See [Alabama v. North Carolina](#), 130 S Ct 2295, 2308 (2010).

<sup>87</sup> See Compact at §7.3(1).

<sup>88</sup> See Matthew S. Tripolitsiotis, *Bridge over Troubled Waters: The Application of State Law to Compact Clause Entities*, 23 *Yale L & Pol’y Rev* 163, 197-99 (2005).

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

<sup>90</sup> See *Emma Garrison, Entergy Arkansas, Inc v. Nebraska: Does A Radioactive Waste Compact Nuke Sovereign Immunity?*, 30 *Ecology L Q* 449, 468 (2003).

By ratifying the Great Lakes Compact, each state consented not only to the power of the Council to review state actions in federal court, but also to individual review. However, the lingering question over a suit by a non-state person or entity against a state to uphold the Compact still exists. Future courts will have to decide whether the “any person” language is clear enough to waive a state’s Eleventh Amendment sovereign immunity.<sup>91</sup>

### **E. Compelling Compliance?**

Where the terms of an interstate compact dictate the available relief for parties in an enforcement action, these remedies become the only judicial relief available under that agreement.<sup>92</sup> In the Great Lakes Compact, the terms clearly state that “[t]he remedies available to any such court shall include, but not be limited to, equitable relief and civil penalties.”<sup>93</sup> The Compact gives a court a high degree of leeway in determining relief for non-compliance.<sup>94</sup> A court could grant an injunction or damages. The specific facts of the situation will dictate the form the damages would take.<sup>95</sup> In *Texas v. New Mexico*, which involved a dispute between two states over water diversion, the Supreme Court entertained the idea of damages in water rather than in money.<sup>96</sup> An injunction to end continuing actions in breach of an interstate compact is possible, but is usually only issued when the offending state might actually comply.<sup>97</sup>

In a conflict between Michigan and another State, damages might be determined either by harm to Michigan industry, loss of state tax revenue, extra regulatory burden, or other costs imposed by the Compact. However, these damages are at best highly speculative. It is more likely that Michigan would request an injunction or mandamus against the breaching state, both to stop the infringing behavior and to correct the prior infringement. If the Court were to grant such an injunction, the parties to future Compact conflicts could expect a similar interpretation of available remedies.

All of these considerations taken together indicate that the Compact is a powerful but flawed tool for increased protection of the Great Lakes. By utilizing an innovative horizontal federalism model, the eight states have effectively taken the fate of the lakes into their own collective hands. Conflict can and will arise between the Compact states. However, if the states first

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<sup>91</sup> US Const, Am XI.

<sup>92</sup> “One consequence of this metamorphosis is that, unless the Compact to which Congress has consented is somehow unconstitutional, no court may order relief inconsistent with its express terms.” [Texas v. New Mexico](#), 462 US 554, 564 (1983).

<sup>93</sup> Compact at §7.3(2).

<sup>94</sup> Compact at §7.3.

<sup>95</sup> See e.g., [Kansas v. Colorado](#), 533 US 1, 16-17 (2001) (determining damages to crops in Kansas due to Colorado’s violation of an interstate water compact to be the difference in value between crops presently and crops as they would have been had Colorado adhered to the Compact).

<sup>96</sup> *Texas v. New Mexico*, 482 US 124, 130 (1987) (explaining that damages would be properly determined in terms of dollars or water, but failing to answer the question of valuation of water, whether in cost on the marketplace or economic worth to the State).

<sup>97</sup> See e.g., [Entergy Arkansas, Inc v. Nebraska](#), 358 F3d 528, 554 (CA8 2004).

utilize the collaborative tools of the Council and alternative dispute resolution prior to reverting to litigation, they may fulfill the cooperative goals of the Compact.

#### **IV. Conclusion**

The Compact is an important tool for cooperation in the fight to protect the fragile Great Lakes from diversion. As the water and energy needs of the nation and the world grow, the need for regional cooperation to protect this vast resource from diversion will only increase. As this Note argues, however, though, the future of the Compact and the basin it protects remains opaque. Because strategic exemptions, broad language, and individual state interests exist, conflicts between states over the reach and veracity of the Compact will undoubtedly occur. Many potential areas of concern will arise over time as businesses and governments increasingly grasp the worth of potential access to Great Lakes waters by those outside the region. If conflicts can be resolved outside a courtroom, the spirit of cooperation will continue. As seen in this Note, however, if a conciliatory arrangement fails, it is likely that a federal court will resolve the states' dispute. While each state ultimately ceded some sovereignty in joining the Compact, it remains to be seen whether the collective parties realize that they were essentially ceding state legislative power to the federal court system in exchange for the health of the Great Lakes basin—a worthy, if indeed unintended, exchange.

### **Fracking the Mitten and the Public Trust**

*Katharine E. Hoeksema, J.D and LL.M, Vermont Law School*

*“The key to harnessing positive economic development is striking the right regulatory balance that allows for job creation, energy innovation, and environmental safety across this country”*

—Rep. Bob Latta (R-OH)<sup>1</sup>

#### **Introduction**

In 2010, the United States consumed 24.1 trillion cubic feet (TCF) of natural gas; this is expected to grow to 26.5 TCF by 2035.<sup>2</sup> Given the abundance of natural gas in the United States and its relatively low carbon content and affordability, natural gas is an attractive resource to bridge the gap in energy demand and reduce U.S. dependence on foreign oil, especially until renewable resources decrease in price and become more reliable.

It may come as a surprise, but hydraulic fracturing (hydrofracking or fracking) is not a new concept. In fact, it has been utilized throughout the United States for over 60 years.<sup>3</sup> Fracking involves pumping large volumes of highly pressurized water underground to create fractures in

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<sup>1</sup> House Energy & Commerce Committee, [Members Discuss Natural Gas Revolution With Leading Energy Experts](#) (Nov 15, 2011).

<sup>2</sup> U.S. Energy Information Admin., [Annual Energy Outlook 2012 Early Release Overview](#). All websites cited in this article were accessed Apr 12, 2012.

<sup>3</sup> Office of Geological Survey, Dep't of Env'tl. Quality (DEQ position paper), [Hydraulic Fracturing of Natural Gas Wells in Michigan](#) (May 31, 2011).

reservoir rock. The fractures allow gas to flow more freely, thereby facilitating the extraction of rich “shale gas.”<sup>4</sup> The relatively new component of fracturing is horizontal drilling. Though used commercially since the 1980s, horizontal drilling has only recently been used to access deep shale gas.<sup>5</sup> Nonetheless, the technique is already unrivaled in its ability to provide natural gas domestically and cheaply.

Despite its many benefits, hydraulic fracturing has raised some red flags. The concern is attributable in part to the facts that shale gas production and development can occur rapidly, and often in regions and communities unfamiliar with oil and gas operations. Additionally, fracturing has been known to cause short and long term community impacts ranging from increases in traffic, noise, and land use, to groundwater contamination and air pollution.<sup>6</sup> Frequently, little time and ineffective mechanisms prevent operators, regulators, and citizens from working collectively to determine the best management of these near term and sometimes cumulative impacts.<sup>7</sup>

The federal government has proposed legislation, and federal administrative agencies are conducting studies and drafting rules to help ameliorate the current concerns looming over hydraulic fracturing. However, this article proposes that the states—not the federal government—are in the best position to regulate hydraulic fracturing, and in fact are already successfully doing so. Part I focuses on hydraulic fracturing regulations in Michigan to demonstrate why states are in the best position to develop regulations in response to identified environmental and public health concerns. Part II looks at how the Michigan legislature and courts have historically applied the public trust doctrine, and explores whether that ancient doctrine is a potential mode of recourse for Michigan citizens worried that current fracturing regulations are not stringent enough to protect against groundwater contamination. Part III concludes by discussing the outlook for hydraulic fracturing.

### **I. Michigan and Other States are Leading the Charge**

As the federal government debates the Fracturing Responsibility and Awareness of Chemicals (FRAC) Act,<sup>8</sup> Michigan and other states are successfully taking the lead in regulating hydraulic fracturing.<sup>9</sup> This is the right path moving forward. It is only logical that state governments, which already have long-established experience regulating the oil and gas industry, continue to do so. First, states are much closer to their local communities than the federal government is. This puts them in a better position to engage with citizens and address their fears. Second,

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

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

<sup>6</sup> U.S. Dep’t of Energy, [Shale Gas Production Subcommittee Second Ninety Day Report](#), 8, (Nov 18, 2011) (DOE Subcommittee Report).

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

<sup>8</sup> See [H.R. 1084, S. 587](#). The Fracturing Responsibility and Awareness of Chemicals (FRAC) Act of 2011 is Congress’ latest attempt to amend the Safe Drinking Water Act to regulate underground injection of fluids used during hydraulic fracturing. Passage of the bill would require EPA to promulgate nationwide minimum requirements for hydraulic fracturing activities conducted at oil and gas wells.

<sup>9</sup> See STRONGER: [State Review of Oil and Natural Gas Environmental Regulations](#) (providing recent hydraulic fracturing reviews on member states).

geological variation across the U.S. means that best practices in Michigan may not necessarily be the same as those required in arid Texas. Consequently, a state’s familiarity with its individualized geology arguably puts it in a better position to structure fracking regulations accordingly. Third, state agencies are joining non-profit corporations like Ground Water Protection Council (GWPC) and the State Review of Oil and Natural Gas Environmental Regulations (STRONGER).<sup>10</sup> These programs provide a collaborative and dynamic framework in which states can engage and learn from each other and disseminate successful models. Keeping control in the hands of the states—which are already emerging as experts in the field and joining collaborative programs that benchmark and improve their fracking programs—will lead to a regulatory balance that allows for nationwide energy innovation, job creation, protection of public health, and environmental safety.<sup>11</sup> Michigan has an extensive, over 50 year history with hydraulic fracturing, evidenced by the roughly 9,900 Antrim Shale wells that produce natural gas at depths of 500 to 2,000 feet.<sup>12</sup> According to the Michigan Department of Environmental Quality (DEQ) there is no indication that traditional hydraulic fracturing techniques have ever caused damage to groundwater or other resources.<sup>13</sup> However, the recent discovery of and interest in the Utica/Collingwood Shale formations—which are relatively deep and will require significantly larger volumes of fracking fluids and water than historically used in Michigan—are putting Michigan’s fracking regulations back in the spotlight.

#### **A. Current Michigan Administrative Regulations**

The Michigan DEQ enforces comprehensive laws and rules that regulate hydraulic fracturing along with every other aspect of oil and gas drilling and production. To date, DEQ has not found any case in which hydraulic fracturing has caused adverse impacts to Michigan’s environment or public health.<sup>14</sup> The DEQ has identified several potential environmental and health impacts that may be caused by hydraulic fracturing, each of which will be addressed below.

##### **1) Migration of Gas or Fracture Fluids**

A primary concern of Michigan citizens—echoed by citizens of other states—is the containment of gas or other fluids that happen to migrate out of the reservoir and into fresh water aquifers.<sup>15</sup> The DEQ reports that when such migration occurs it is not a result of hydraulic fracturing, but rather faulty oil and gas well construction.<sup>16</sup> Thus, the key to preventing migration is installing steel pipe (casing) encased in cement in each oil and gas well. Accordingly, Michigan regulations require that each oil and gas well, whether related to hydraulic fracturing or not, have a casing and cementing plan that will effectively contain gas and other fluids within the wellbore.<sup>17</sup> Before fracturing may begin, an additional string of

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

<sup>11</sup> See Paula Dittrick, [Shale Gas Subcommittee Says States Regulate Effectively](#), (Oct 4, 2011).

<sup>12</sup> Tip of the Mitt Watershed Council, [Natural Gas/Oil Drilling & Water](#).

<sup>13</sup> DEQ position paper, *supra* n 3.

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

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

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*



casing must be set and cemented at specified depths, and even then additional casing may be required.<sup>18</sup>

Protection of Michigan water is further ensured by detailed DEQ permitting requirements, mandatory reporting of volumes, rates, and pressures (including pressure immediately outside the pipe used to inject the fracturing fluid), and thorough DEQ staff inspections for any wells or other features that could serve as potential conduits for unwanted movement of fracturing fluid.<sup>19</sup>

**a.) Management of Produced Water & Surface Spills**

Management of produced water is essential to protect public health and the environment. Consequently, strict rules regulate the process. Fluids are contained in steel tanks and transported to disposal wells—licensed by both the DEQ and U.S. Environmental Protection Agency (EPA)—where they are injected into deep rock layers isolated from fresh water supplies.<sup>20</sup> Wells are tested periodically to ensure their integrity, and the volume of flowback water recovered after a fracking operation must be reported.<sup>21</sup> Additionally, to prevent spills of chemical additives or flowback water, DEQ rules require secondary containment under tanks, wellheads, and other areas prone to spillage.<sup>22</sup> Spills must be reported to the DEQ and cleaned up according to strict requirements.<sup>23</sup>

**b.) Water Use**

Development of the emerging Utica/Collingwood Shale will require approximately five million gallons of water per well.<sup>24</sup> The DEQ has become famous in the hydraulic fracturing community for its comparison of five million gallons of water to that which is typically used by eight to ten acres of corn during a growing season.<sup>25</sup> In other words, while the amount of water required for fracking may sound substantial, it is small when compared to other water uses such as agriculture, manufacturing, or municipal water supply.<sup>26</sup>

Currently, the withdrawal of water for hydraulic fracturing is exempt from the Great Lakes Preservation Act, Michigan’s water withdrawal statute.<sup>27</sup> However, the DEQ has covered hydraulic fracturing by promulgating Supervisor of Wells Instruction 1-2011 which requires operators to follow the same water withdrawal assessment as any other large user to ensure that a proposed withdrawal does not adversely affect surface waters or nearby freshwater

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

<sup>19</sup> [Supervisor of Wells Instruction 1-2011](#) (May 23, 2011) (clarifying the requirements under Part 615, Supervisor of Wells, of the Natural Resources and Environmental Protection Act, 1994 PA 451, as amended (NREPA)).

<sup>20</sup> DEQ position paper, *supra* n 3.

<sup>21</sup> Instruction 1-2011.

<sup>22</sup> DEQ position paper, *supra* n 3.

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

<sup>24</sup> *Id.*

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

<sup>26</sup> FracFocus, [Hydraulic Fracturing Water Usage](#).

<sup>27</sup> MCL 324.32701.

wells. Instruction 1-2011 contains three requirements, all of which must be included with the application permit at least 14 days before a large volume water withdrawal begins.<sup>28</sup>

First, all operators must complete a water withdrawal evaluation using Michigan’s Water Withdrawal Assessment Tool (WWAT).<sup>29</sup> The Tool not only serves to estimate if the withdrawal will cause an Adverse Resource Impact (ARI)<sup>30</sup> on nearby streams and rivers, but also as a registry for water withdrawals. The WWAT categorizes water withdrawal into various zones (A, B, C and D) according to water source and vulnerability to large water extraction.<sup>31</sup> The zone in which a withdrawal falls determines what type of review is warranted. For example, if the withdrawal falls within zone A, it is unlikely to have an ARI and will thus pass the screening process. However, if the withdrawal falls within zones C or D the permittee must request a DEQ site-specific review and may have to modify its plans to minimize impacts. Under no circumstances will a water withdrawal that is determined to create an ARI be approved.<sup>32</sup> Second, operators planning to make large volume water withdrawals must supply with their applications for withdrawal the following data and records: expected total volume of water needed for the fracturing and well operations; proposed number of water withdrawal wells; aquifer type (drift or bedrock); proposed depth of water withdrawal wells (feet below ground surface); and proposed pumping rate and frequency (continuous or intermittent) of the water withdrawal wells.<sup>33</sup> Finally, operators must submit a supplemental plat of the well site that shows both the location of the proposed water wells and identifiable freshwater wells within 1,320 feet (one-quarter of a mile) of the proposed well.<sup>34</sup>

To further protect Michigan’s freshwater, large water withdrawal operators placing a well within one-quarter of a mile of a freshwater source must install an observation and monitoring well. During water withdrawal operators are required to measure and record the water level daily, and weekly thereafter until the water level stabilizes. This data is reported weekly to the Office of Geological Survey (OGS) District Supervisor who determines whether the proposed withdrawal will adversely affect surface waters or nearby freshwater wells.<sup>35</sup> If an operator violates an environmental statute or rule, the OGS may select any type of enforcement action—administrative, civil, or criminal—as the facts and circumstances warrant and in conjunction with the authority provided by the applicable statutes and regulations.<sup>36</sup>

### **c.) Identification of Chemical Additives**

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<sup>28</sup> Instruction 1-2011 (defining “large volume water withdrawal” as 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).

<sup>29</sup> See [Michigan’s Water Withdrawal Assessment Tool](#).

<sup>30</sup> *Id.* (defining an “adverse resource impact” as a stream’s inability to support characteristic fish populations).

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

<sup>32</sup> DEQ–OGS, [Water Withdrawal Analysis for High Volume Hydraulic-Fracturing](#).

<sup>33</sup> Instruction 1-2011.

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

<sup>35</sup> *Id.*

<sup>36</sup> DEQ, [Compliance & Enforcement Unit](#).

Reports of water contamination in Pavillion, Wyoming,<sup>37</sup> and spontaneously combusting faucets purportedly caused by the seepage of methane gas from nearby natural gas wells<sup>38</sup> have given rise to a contentious debate over the degree to which fracking operators should be required to disclose their “secret cocktails” of chemical additives.

Chemical additives are a necessary component of hydraulic fracturing. Among other functions, they limit the growth of bacteria and prevent corrosion of the well-casing to ensure the fracturing job is effective and efficient.<sup>39</sup> Cynics and environmental advocates assert that fracturing requires the use of hundreds of “undisclosed chemicals.”<sup>40</sup> But while it is true that the fracturing industry has dozens to hundreds of chemical additives at its disposal,<sup>41</sup> a typical fracture treatment uses very low concentrations of between 3 and 12 chemical additives.<sup>42</sup> And, while there is no one-size-fits-all formula for the volumes of each additive—due to the varying specific needs of each area—it is relatively small at around 0.5 to 2 percent with water making up 98 to 99.5 percent of the total fluid injected.<sup>43</sup>

Regardless of which statistics and studies one decides to believe, everyone—even the industry—agrees that chemical disclosure is necessary to protect human health and the environment. However, just how much disclosure should be required and how it should be accomplished is not so easily agreed upon. To provide a point of comparison for Michigan’s regulations, a brief review of existing and pending federal regulations will be given first.

#### *i. Federal Laws*

Federal statutes, such as the Emergency Planning and Community Right to Know Act (EPCRA), impose requirements for federal, state, and local governments and industries to publicly disclose hazardous and toxic chemicals held in inventories or released to the environment.<sup>44</sup> Section 313 of EPCRA authorizes EPA’s Toxics Release Inventory (TRI), a publicly available database containing information on toxic chemical releases and waste management activities.<sup>45</sup> However, the EPA has determined that the oil and gas industry is a low priority for TRI

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<sup>37</sup> US EPA, [Draft Report: Investigation of Ground Water Contamination Near Pavillion, Wyoming](#) (Dec 2011). See also EPA, [EPA Releases Draft Findings of Pavillion, Wyoming Ground Water Investigation for Public Comment and Independent Scientific Review](#) (Dec 8, 2011) (EPA found that groundwater samples contain compounds likely associated with gas production practices, including hydraulic fracturing. However, the chemicals were consistent with migration from gas production areas and were generally below health and safety standards. Moreover, the findings are specific to Pavillion, where fracturing is occurring in close proximity to drinking water wells—conditions different from those in many other areas of the country).

<sup>38</sup> TIME Video, [Flaming Faucets—When Fracking Goes Wrong](#).

<sup>39</sup> DEQ position paper, *supra* n 3.

<sup>40</sup> Tip of the Mitt Watershed Council, [Natural Gas/Oil Drilling & Water](#).

<sup>41</sup> See FracFocus, [What Chemicals are Used](#) (providing an alphabetical list of common fracking chemicals and links to the OSHA Occupational Chemical Database and EPA Chemical Fact Sheets).

<sup>42</sup> FracFocus, [Chemical Use in Hydraulic Fracturing](#).

<sup>43</sup> *Id.* (providing a pie chart that shows the volumetric percentages of additives used at a hydraulic fracturing site).

<sup>44</sup> 42 U.S.C. 11001 *et seq.*

<sup>45</sup> US EPA, [What is the Toxics Release Inventory Program?](#)

reporting.<sup>46</sup> Part of the rationale behind this decision is that much of the information required under TRI is already reported by producers to state agencies who make it public.<sup>47</sup> Additionally, a limited number of chemicals used in hydraulic fracturing—like hydrochloric acid—are hazardous substances, releases of which must be reported under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA).<sup>48</sup>

The Federal Bureau of Land Management (BLM) has proposed rules that would require fracturing operators to disclose chemicals used for fracking on federal land. BLM’s jurisdiction over hydraulic fracturing stems from its management of 245 million surface acres and 700 million subsurface acres of land in the United States.<sup>49</sup> BLM must ensure that oil and gas sites within its jurisdiction comply with federal rules and environmental regulations.<sup>50</sup> Prematurely leaked BLM draft regulations reveal mandated disclosures including: both the name and concentrations of individual chemicals used, the total volume of fracking fluid used, and the plan to recover and dispose of fracking fluid.<sup>51</sup> Notably, these requirements would apply only to fracturing on federal lands.<sup>52</sup> Moreover, it appears companies will be able to apply for a “trade secret” exemption.<sup>53</sup> It is unclear if regulators and the public will have access to proprietary information and whether the non-exempted information will become a matter of public record.<sup>54</sup>

## *ii. Michigan’s Regulations*

Potential federal regulation of the entire industry, which could result from passage of a statute like the FRAC Act, and citizen fears, have led several states to develop public disclosure rules for hydraulic fracturing operations. Though the content varies from state-to-state, the intent is the same—to provide the public access to information about the chemicals used in their state to frack. In balancing the need to protect public health and the environment against an operator’s right to keep its proprietary chemical blend secret, states have devised a variety of disclosure rules.

In Michigan, the DEQ has determined that the best approach is to require all oil and gas well operators to provide the DEQ with copies of their Material Safety Data Sheets (MSDSs).<sup>55</sup> MSDSs include: the chemical’s name, physical characteristics, toxicity, and reactivity; health effects, first aid requirements, protective gear requirements, storage and disposal needs, and

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<sup>46</sup> FracFocus, [Chemicals & Public Disclosure](#).

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

<sup>48</sup> 42 U.S.C. 9601 *et seq.*

<sup>49</sup> U.S. Bureau of Land Management, [New Energy for America](#).

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

<sup>51</sup> US BLM, [Draft of Proposed Hydraulic Fracturing Regulations](#).

<sup>52</sup> Lena Groeger, [Do Federal Mandates to Disclose Fracking Chemicals Go Far Enough?](#) (*Alaska Dispatch*, Feb 18, 2012).

<sup>53</sup> *Id.*

<sup>54</sup> *Id.*

<sup>55</sup> Instruction 1-2011.

spill response.<sup>56</sup> All MSDSs are posted on DEQ's website for public review.<sup>57</sup> Unlike the present uncertainty concerning proprietary information under the draft BLM regulations, the DEQ has determined that proprietary information is exempt from disclosure to regulators and the public.<sup>58</sup> Proprietary chemicals are noted as such on the MSDS and only the concentration range is disclosed. Moreover, DEQ currently requires only that MSDS information be disclosed within 60 days after drilling completion.<sup>59</sup> In contrast, the draft BLM regulations require a list of proposed chemicals at least 30 days before fracking begins and an updated list after well completion.<sup>60</sup>

To date, Michigan's regulation of hydraulic fracturing appears successful as evidenced by the absence of any reports of adverse impacts to the environment or public health.<sup>61</sup> Nonetheless, there is growing concern over what chemicals are used in the hydraulic fracturing process and the potential impact on water resources. Thus, as hydraulic fracturing moves forward in the Utica/Collingwood shale formation, Michigan should consider a few measures to strengthen its current regulations, increase transparency, and facilitate public access to chemical additive data. First, Michigan could adopt an earlier release date of MSDS chemical data—something similar to the 30 days *before* fracking as proposed by the BLM—instead of DEQ's current more lenient standard of disclosure within 60 days *after* drilling completion. This would provide citizens living near drilling sites with chemical data in advance of drilling and thereby allow them to conduct their own baseline surface water testing or take other desired precautions. Second, Michigan should consider the U.S. Department of Energy Shale Gas Production Subcommittee's recommendation that disclosures include all chemicals, not just those that appear on MSDSs.<sup>62</sup>

Third, Michigan should join the DOE Subcommittee in acknowledging the need to set a high bar to receive exemption status for the reporting of chemical trade secret data.<sup>63</sup> Finally, Michigan should utilize FracFocus, the online national hydraulic fracturing chemical registry.<sup>64</sup> FracFocus is meant to supplement state agency regulatory websites and is managed by the Ground Water Protection Council (GWPC) and Interstate Oil and Gas Compact Commission (IOGCC), both of which work to promote conservation and environmental protection. Oil and gas companies voluntarily submit their chemical data to FracFocus which then publishes the information for public viewing.<sup>65</sup> FracFocus aids lay citizens' understanding of the chemicals by providing objective information on hydraulic fracturing, the chemicals used, the purposes they serve, and the means by which groundwater is protected.<sup>66</sup> Not only is FracFocus growing in popularity

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<sup>56</sup> DEQ position paper, *supra* n 3.

<sup>57</sup> DEQ, [Hydraulic Fracturing in Michigan](#).

<sup>58</sup> DEQ position paper, *supra* n 3.

<sup>59</sup> ProPublica, [Fracking Chemical Disclosure Rules](#).

<sup>60</sup> *Id.*

<sup>61</sup> DEQ position paper, *supra* n 3.

<sup>62</sup> DOE Subcommittee Report, *supra* n 6.

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

<sup>64</sup> [FracFocus](#)

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

<sup>66</sup> *Id.*

amongst states, but the DOE Subcommittee recommended an increase in funding for improvements that will make the registry even more efficient and “public friendly.”<sup>67</sup>

### **B. Michigan Fracking Legislation Debate**

Hydraulic fracturing remains controversial in Michigan. On one side of the debate are those who feel greater government regulation is needed to prevent negative environmental impacts and protect the public’s health and safety. In Michigan, this group includes Democratic representatives, environmental non-government organizations such as Ban Michigan Fracking, and individual concerned citizens. For example, state Representative Jeff Irwin (D) believes “gas companies shouldn’t be allowed to drain nearby streams, rivers or neighboring wells for their financial benefit” and wants to ensure that companies looking to Michigan “with thirsty, hungry eyes, do everything they need to do, and . . . use best practices from around the country.”<sup>68</sup> The director of Clean Water Action feels “we need to answer the questions we have on fracking and come back at it with a full set of answers in order to protect Michigan’s needs and in order to ensure we aren’t putting the state’s waters at risk.”<sup>69</sup> This sentiment is echoed by the Michigan chapter organizer of the Sierra Club who feels Michigan should take “an opportunity to learn more about [hydraulic fracturing] before making rash decisions.”<sup>70</sup>

Push-back from the opposing side of the debate comes from the energy companies, industry officials, and some state officials. These groups argue new legislation is unnecessary as Michigan’s deep fracturing practices have been totally safe since the 1960s. As one lobbyist for the American Petroleum Institute put it, “the best study we have is the experience of decades of experience.”<sup>71</sup> Additionally, these parties claim that Michigan already has sufficient safeguards in place, such as Instruction 1-2011, which implement many of the same requirements as those found in proposed legislation.<sup>72</sup>

The most recent hydraulic fracturing legislation was introduced on November 3, 2011 by Michigan House Democrats. It was introduced as a “package” of bills that would regulate fracking and protect the state’s natural resources. The most comprehensive bill was HB 5151, introduced by Representative Mark Meadows (D).<sup>73</sup> The bill called for the DEQ and the Department of Natural Resources (DNR) to conduct a comprehensive joint study of the impacts of hydraulic fracturing on public health, the environment, and natural resources, taking into consideration the probability of contamination of ground and surface waters and the long-term availability of water to support fracturing.<sup>74</sup> It also required full public disclosure of all fracking chemicals at least 30 days before commencement of fracking operations, and required the

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<sup>67</sup> DOE Subcommittee Report, *supra* n 6.

<sup>68</sup> Paige Houpt, [State Says Fracking Regulated But Bills Would Add Requirements](#) (*Great Lakes Echo*, Nov 15, 2011).

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

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

<sup>71</sup> *Id.*

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

<sup>73</sup> [2011 Journal of the House 2568–2569](#) (No. 90, Nov 3, 2011).

<sup>74</sup> See [HB 5151](#) House Introduced Bill.

natural gas industry to comply with existing state water withdrawal regulations, thereby closing the current loophole that exempts the industry.<sup>75</sup>

However, HB 5151 never made its way out of committee and a number of factors make its reintroduction improbable any time soon. First, Michigan has immense reserves of natural gas that have great potential to solve the state’s energy needs.<sup>76</sup> Second, in 2010 alone, Michigan netted \$178 million in revenue from the gas companies, and fracking creates the potential to make even more.<sup>77</sup> Third, the Michigan Natural Resources Trust Fund (MNRTF)—worth \$500 million—is funded by income derived from royalties gained through the lease of State-owned land to oil and gas companies.<sup>78</sup> This MNRTF goes toward helping local governments and the DNR acquire public land for resource protection and improving public outdoor recreation for Michigan citizens.<sup>79</sup> Finally, increasing oil prices at the pump and the absence of any adverse impacts caused by fracking in Michigan make the economic and energy benefits of hydraulic fracturing too great to ignore. Thus, it seems more likely that legislators will take measures to facilitate hydraulic fracturing rather than imposing arguably duplicative and burdensome regulations like those proposed in HB 5151.

## **II. The Public Trust Doctrine: Does it Provide Recourse for Citizens Unhappy with Michigan Regulations?**

The absence of federal legislation and the fact that some Michigan residents lack confidence in the DEQ has led to efforts in Detroit, Ferndale, and Wayne County to stop and prevent fracking.<sup>80</sup> Currently, no Michigan community has passed a local law to ban the fracking industry within its borders. Local opposition resolutions have become quite popular in other parts of the country and are being proposed in communities throughout the Midwest and the northeast.<sup>81</sup> The following section explores the possibility of another, less publicized way in which Michigan citizens may choose to express their opposition to fracturing—the ancient public trust doctrine.

### **A. The Michigan Legislature and The Public Trust Doctrine**

The public trust doctrine was codified in Roman law in the Institutes of Justinian during the sixth century A.D. Justinian declared that “By the law of nature these things are common to all mankind—the air, running water, the sea, and consequently the shores of the sea.”<sup>82</sup> The public trust doctrine maintains that certain natural resources, especially the waters and beds of the sea coast and large navigable lakes and rivers, are of such importance to the public that they

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

<sup>76</sup> Jay Greene, Crain’s Detroit Business, [Fracking in Michigan Appears on the Upswing](#) (Jun 1, 2011).

<sup>77</sup> *Id.* (quoting Steve Chester, former director of the DEQ).

<sup>78</sup> Dep’t of Natural Resources, [What is the Michigan Natural Resources Trust Fund \(MNRTF\)?](#)

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

<sup>80</sup> See Food & Water Watch, [Mapping the Movement](#) (providing a U.S. map showing all state and local measures to ban fracking).

<sup>81</sup> *Id.*

<sup>82</sup> J. Inst. 2.1.1.

are held “in trust” by the state for the benefit, use, and enjoyment of the public.<sup>83</sup> Hence, the public trust doctrine recognizes that the government has an obligation to protect the public’s interest in common resources—resources held in a trust by the government for the people.<sup>84</sup>

One of the doctrine’s greatest assets is that it “can sometimes give greater recognition to public interests at times when legislatures are under excessive pressure by special interest lobbyists.”<sup>85</sup> Joseph Sax, former professor at the University of Michigan Law School and now at Berkeley, is one of the most influential writers on the public trust. Sax portrays the doctrine as a tool to fix what many lawmakers see as a gap in environmental decision making—a lack of administrative and legislative response to citizens’ concerns about the quality of their land, air, and water.<sup>86</sup> Professor Sax argues that the public trust doctrine can mitigate these concerns because it gives the public a legal right in their resources, is enforceable against the government, and is “consistent with contemporary concerns for environmental quality.”<sup>87</sup> In fact, Sax’s philosophy was incorporated into Part 17 of the Michigan Natural Resources and Environmental Protection Act, MCL 324.1701 *et seq.* Sax encourages states and judiciaries to view the public trust doctrine as flexible and adaptable to current ideologies and concerns.<sup>88</sup> Thus, the public trust doctrine, together with Part 17 of NREPA, may provide citizens—even up against strong political pressure from the natural gas industry—a vehicle through which to argue that Michigan’s current hydraulic fracturing regulations fail to consider the public’s interest in having abundant and clean groundwater.

This approach has recently gained traction in Vermont. On May 4, 2012 Vermont became the first state in the nation to ban hydraulic fracturing.<sup>89</sup> Part of this decision was based on the public trust doctrine. In 2008, Vermont enacted legislation deeming groundwater a public trust resource that is now commonly owned.<sup>90</sup> Thus, the Vermont legislature felt obligated to ban all hydraulic fracturing until it is clear the procedure can occur without contaminating Vermont’s groundwater resources.<sup>91</sup>

Unlike Vermont, the Michigan legislature has yet to recognize groundwater as a public trust resource. The stage to do so was set in 2008 when Michigan joined the other Great Lakes states

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<sup>83</sup> Chris A. Shafer, [The Public Trust Doctrine and Offshore Energy Facilities: Modern Application of an Ancient Doctrine](#) (Int’l Submerged Lands Mgt Conference) (Oct 27, 2008).

<sup>84</sup> Anna R.C. Caspersen, [The Public Trust Doctrine and the Impossibility of “Takings” by Wildlife](#), 23 B.C. Env’tl. Aff. L. Rev. 357, 358 (1996).

<sup>85</sup> Ralph W. Johnson, Water Pollution and the Public Trust Doctrine, 19 ENVTL. L. 485, 511 (1989) (explaining advantages and disadvantages of the public trust doctrine).

<sup>86</sup> Joseph L. Sax, The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention, 68 MICH. L. Rev. 471, 474 (1970).

<sup>87</sup> *Id.* at 474–76.

<sup>88</sup> Jack Tuholske, Trusting the Public Trust: Application of the Public Trust Doctrine to Groundwater Resources, 9 VT. J. ENVTL. L. 190, 217 (2008).

<sup>89</sup> [2012 Journal of the House 2189](#).

<sup>90</sup> 10 V.S.A. § 1390.

<sup>91</sup> Carl Etnier, [Vermont First State in Nation to Ban Fracking for Oil and Gas](#), VTDigger.org (May 4, 2012).



in ratifying the Great Lakes—St. Lawrence River Basin Water Resources Compact (Compact).<sup>92</sup> The Compact, which gives legal protection to the Great Lakes, was ratified by each state legislature, approved by the U.S. House and Senate, and finally signed on October 3, 2008, by then President George W. Bush.<sup>93</sup> The Compact prohibits taking large water withdrawals from the lakes for use outside the Great Lakes Basin.<sup>94</sup> It also requires monitoring of large withdrawals and the development of water conservation policies.<sup>95</sup> More important from a public trust perspective, it defines “waters of the basin” as including tributary groundwater within the basin.<sup>96</sup> Moreover, waters of the basin are “precious public natural resources shared and held in trust by the states;” and “the waters of the basin are interconnected and part of a single hydrologic system.”<sup>97</sup> Prompted by the Compact’s public trust language, Michigan state Representative Dan Scripps (D) introduced legislation to: (1) include “groundwater” within the definition of “waters of the state,” and (2) require the state to hold and protect the resource in trust for the benefit of present and future generations.<sup>98</sup> Rep. Scripps’s bill would have given the Attorney General, or any other person, standing in court to enforce the public trust in the state’s natural resources.<sup>99</sup> In the words of Rep. Scripps, “Groundwater, surface water, Great Lakes water—these are public resources that should be protected in the future . . . if an individual uses resources to the extent that they’re put in jeopardy, there should be a legal framework to protect them.”<sup>100</sup>

Due to other priorities related to the budget, this legislation was not considered; similar legislation has not been reintroduced. Thus, while states such as Vermont, California, Montana, and Hawaii have taken clear and explicit steps by statute to include groundwater in public trust protections, the law remains unchanged in Michigan.<sup>101</sup> As a result, the courts are the only remaining avenue to include groundwater within the public trust protections.

## **B. Michigan Courts and the Public Trust Doctrine**

In contrast to the often lengthy and deliberative legislative process surrounding the public trust doctrine, Michigan courts could choose to use the doctrine *now* to protect Michigan groundwater during hydraulic fracturing. As common law alone, the court could apply the public trust doctrine to fill gaps where statutory law does not yet reach.<sup>102</sup> And, as a firmly established legal principle, the doctrine would likely prove difficult for the Michigan legislature to eliminate or narrow.<sup>103</sup>

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<sup>92</sup> [The Compact](#).

<sup>93</sup> US Const. art 1, § 10.

<sup>94</sup> Compact, §§ 4.8 to 4.9.

<sup>95</sup> Compact, §§ 4.2, 4.10.

<sup>96</sup> Compact, § 1.2.

<sup>97</sup> Compact, § 1.3.

<sup>98</sup> [HB 5319](#).

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

<sup>100</sup> Steve Kellman, [Congress, Michigan Legislature Asked to Fix Leaks in Great Lakes Compact](#) (Circle of Blue, 2009).

<sup>101</sup> *See generally*, Tuholske, *supra* n 84, at 226–231.

<sup>102</sup> Klass & Huang, [Restoring the Trust: Water Resources and the Public Trust Doctrine, A Manual for Advocates](#) (Center for Progressive Reform, 2009), p 15.

<sup>103</sup> *Collins v. Gerhardt*, 237 Mich 38, 49; 211 NW 115 (1927).

Early American jurisprudence adopted England’s common law public trust doctrine which held navigable waters in trust to protect navigability and promote commerce<sup>104</sup> and recognized a number of public trust doctrine uses during the 1800s.<sup>105</sup> However, it was not until the landmark U.S. Supreme Court case of *Illinois Central R. Co. v. Illinois*, 146 U.S. 387 (1892) that the doctrine sailed into the Great Lakes region.<sup>106</sup> Still good law today, the Court acknowledged the public trust doctrine as a well-known common law rule.<sup>107</sup> Notably, the Court recognized that state governments, as trustees, must act in a fiduciary capacity to protect trust resources.<sup>108</sup> This principle has enduring value in applying the doctrine to resources like groundwater.

The Michigan Supreme Court extended the public trust doctrine to Michigan’s navigable rivers in 1926 in *Collins v. Gerhardt*, 237 Mich 38, 49; 211 NW 115 (1927). The Court recognized that people may fish in any part of a stream, subject only to the restraints and regulations imposed by the State, and that in this right citizens are protected by a high, solemn and perpetual trust, which the State must forever maintain.<sup>109</sup>

Since 1926, Michigan courts have made clear that the “public-trust doctrine applies only to navigable waters and not to all waters of the state.”<sup>110</sup> The Michigan Supreme Court defines navigable waters as waters capable of floating a log.<sup>111</sup> Thus, “the public trust does not apply to lakes that are unconnected to other waterways or to lakes with only one inlet or outlet held . . . not to be navigable.”<sup>112</sup> A recent example of the Michigan judiciary’s application of ‘navigable’ involved Nestlé’s desire to pump Michigan groundwater for use as a bottled water product.<sup>113</sup> Plaintiffs relied on the Michigan Constitution, prior case law, and statutes to support their claim that the state has placed all waters, including groundwater, within the public trust.<sup>114</sup> The Michigan Court of Appeals rejected this argument, stating that while water is a resource common to all Michigan citizens; it is neither owned by the state nor subject to the public trust absent a determination that the body of water in question is navigable.<sup>115</sup>

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<sup>104</sup> *Shively v. Bowlby*, 152 US 1, 13 (1894).

<sup>105</sup> See *Arnold v. Mundy*, 6 NJL (1 Halst) 10 (1821) (public trust doctrine allowed for enlargement of oyster beds); *Martin v. Waddell’s Lessee*, 41 US (16 Pet) 367, 410 (1842) (recognizing citizens’ absolute right to their navigable waters and the soils under them); *Barney v. Keokuk*, 94 US (4 Otto) 324, 336 (1876) (clarifying that the shore between the high water mark and the river bed belongs to the state).

<sup>106</sup> *Illinois Central Railroad v. Illinois*, 146 US 387; 13 S Ct 110; 36 L Ed 1018 (1892).

<sup>107</sup> *Id.* at 436–37.

<sup>108</sup> *Id.* at 453.

<sup>109</sup> *Collins v. Gerhardt*, *supra* n 104.

<sup>110</sup> *Bott v. Natural Resources Comm.* 415 Mich 45, 71; 327 NW2d 846 (1982).

<sup>111</sup> *Id.* at 106.

<sup>112</sup> *Id.* at 71.

<sup>113</sup> [Michigan Citizens for Water Conservation v. Nestlé Waters North](#), 479 Mich 280, 286–287; 737 NW2d 447 (2007).

<sup>114</sup> *Id.* at 301–302.

<sup>115</sup> [Michigan Citizens for Water Conservation v. Nestlé Waters North](#), 269 Mich App 25, 105; 709 NW2d 174 (2005).

Notably, the *Nestlé* decision did not eliminate the possibility that if groundwater withdrawal or pollution—both of which are of concern during hydraulic fracturing—affects a *navigable* connected surface water, it might violate the public trust doctrine if a protected public interest like fishing or navigation is threatened. In *Glass v. Goeckel*, 473 Mich 674, 675; 703 NW2d 58 (2005) the Michigan Supreme Court expanded the protected public interests to include walking along the lakeshore.<sup>116</sup> The Court recognized that “because walking along the lakeshore is inherent in the exercise of traditionally protected public rights of fishing, hunting, and navigation, our public trust doctrine permits pedestrian use of our Great Lakes, up to and including the land below the ordinary high water mark.”<sup>117</sup> The Court’s holding also reaffirmed the public trust doctrine in Michigan and the state’s legal authority and duty to protect public trust resources.

Although the DEQ has taken administrative action to direct gas producers to manage their drilling operations to mitigate the likelihood of any groundwater contamination, hydraulic fracturing is still exempt from Michigan’s existing groundwater withdrawal statute. Ultimately, the best approach to deal with this loophole would be through legislative action. In the meantime, however, concerned citizens can look to the courts. Michigan appellate courts continue to resist extending the public trust doctrine to non-navigable inland lakes, streams, creeks, and groundwater. Nonetheless, the doctrine’s existence in common law empowers the court to extend the doctrine to protect groundwater if a day comes when one can prove that groundwater contamination allegedly caused by hydraulic fracturing is seeping into a navigable waterway.

### III. Looking to the Future

It is unlikely that the natural gas shale boom will fizzle any time soon. According to the U.S. Energy Information Administration (EIA), “*The development of shale gas plays has become a ‘game changer’ for the U.S. natural gas market.*”<sup>118</sup> The EIA expects shale gas production to rise to 13.6 trillion cubic feet (TCF) by 2035, representing nearly half of all U.S. natural gas production.<sup>119</sup> The importance of the resource becomes apparent when one considers that one TCF of natural gas is capable of heating 15 million homes for a year, fueling 12 million natural-gas-fired vehicles for a year, or generating 100 billion kilowatt hours of electricity.<sup>120</sup> Moreover, increased natural gas production is predicted to make the U.S. a net exporter of the fuel by 2021, reduce U.S. reliance on imported energy and thereby enhance U.S. security, create jobs, and help stabilize domestic natural gas prices.<sup>121</sup> Similar benefits are also experienced on a smaller scale in shale gas producing states such as Michigan. Unlocking natural gas reserves through fracking generates royalty payments to property owners, provides tax revenue to the government, creates American jobs, and produces cleaner, cheaper, and more efficient energy.

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<sup>116</sup> [Glass v. Goeckel](#), 473 Mich 674, 675; 703 NW2d 58 (2005).

<sup>117</sup> *Id.* at 674–675.

<sup>118</sup> US DOE, [World Shale Gas Resources: An Initial Assessment of 14 Regions Outside the United States](#) (US EIA, 2011) p 1.

<sup>119</sup> US DOE, [Producing Natural Gas From Shale](#) (2012).

<sup>120</sup> *Id.*

<sup>121</sup> *Id.*

Despite its benefits, hydraulic fracturing remains a controversial issue. And, while the forthcoming release of the EPA's study regarding the potential impacts of hydraulic fracturing on drinking water and groundwater<sup>122</sup> may put some fears to rest, enactment of a federal fracking statute like the FRAC Act could potentially render many of the controversies moot as it would either preempt state programs or, at the very least, give states legislative direction and set mandatory minimum standards. In the meantime, states like Michigan have proven that their expertise has put them and will continue to put them in the best position to formulate comprehensive fracking regulations that protect the environment and public health.

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<sup>122</sup> US EPA, [EPA's Study of Hydraulic Fracturing and its Potential Impact on Drinking Water Resources](#).