Is the Human Right to Water in Pennsylvania Fracked? An Analysis of the Pennsylvanian Right to Water in the Hydraulic Fracturing Context and a Proposal for Reform Based on French and Ontario Environmental Rights Statutes

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IS THE HUMAN RIGHT TO WATER IN PENNSYLVANIA FRACKED? AN ANALYSIS OF THE PENNSYLVANIAN RIGHT TO WATER IN THE HYDRAULIC FRACTURING CONTEXT AND A PROPOSAL FOR REFORM BASED ON FRENCH AND ONTARIO ENVIRONMENTAL RIGHTS STATUTES

Steve Krejci

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I. Introduction

Norma Fiorentino, a resident of Dimock, Pennsylvania, has been unable to draw water from her land since 2009. Her well exploded and for ten months Norma, a 66-year-old widow, carried jugs of water up to...

1. Stephan (Steve) Krejci is a student at the Florida A&M University College of Law, expected to graduate with his J.D. in May 2015. Thanks to Professor Randy Abate for his guidance in writing this paper and his wife Sarah for her suggestions and patience. This article is dedicated to his son Cyrus.

her house. She tells the story of her neighbor who discovered the hard way that his water had been contaminated after it ignited when he was making coffee while smoking a cigarette. These stories of exploding water wells, bubbly drinking water, and flammable tap water are becoming commonplace for people that live near fracking sites. These stories underscore that the environmental impacts felt from fracking operations also have a human impact.

Hydraulic fracturing, or fracking, is the process of injecting large volumes of water, sand, and other chemicals into mineshafts to free deposits of natural gas. Fracking has been around much longer than it has been popular, but the combination of costly foreign oil, the political will to exploit domestic energy, and horizontal drilling technology have made the practice enormously profitable. Previously inaccessible deposits of natural gas have stimulated the gold rush of this century.

Natural gas is a valuable resource in the United States. It burns cleaner than other fossil fuels, can be produced economically, and is easily adapted to a wide variety of applications ranging from residential heating to industrial uses. Consumption of natural gas in the U.S. has increased in recent years, thereby increasing demand to produce this resource cheaply.

There is an estimated 1,744 trillion cubic feet of natural gas beneath U.S. soil, much of it in the Marcellus Shale formation underneath Pennsylvania. This gas reserve is particularly profitable because it is situated near some of the largest energy markets in the U.S. Gas produced in this part of Appalachia need only travel a few miles to reach the consumer.
Energy companies wishing to tap into this virtual bottomless pit have sought mineral leases from landowners in Pennsylvania. To many, these natural gas wells are highly desirable: the landowners selling the mineral leases collect royalties, these wells create jobs, energy is produced cheaply, and reliance on foreign oil and gas is reduced. However, as Norma Fiorentino knows all too well, these gains are not without consequences.12

The concept of implementing the human right to water without laws that explicitly recognize it is a central theme to this paper. Part I of this paper will describe the existing laws from which this right could be synthesized. These laws include applicable federal statutes, Pennsylvania statutes, and common law rules. Part II of this paper will show how France has codified a human right to water through specific constitutional and statutory rights, created with the intent to implement a substantive right to water. Next, a discussion of French and Ontario procedural rules will be examined in the same manner to show how both of these jurisdictions have implemented a procedural right to water. These substantive and procedural models form the basis for the proposal in Part IV. First, synthesizing applicable Pennsylvania laws will show the existing legal framework is insufficient to enforce a right to water. Then this paper will recommend that Pennsylvania adopt a statutory right to the environment, which can be used either directly or in a negligence per se action, to enforce a substantive and procedural right to water, similar to the French and Ontario models.

II. A BRIEF HISTORY OF FRACKING AND ITS APPLICATION IN THE UNITED STATES

Natural gas that is trapped underground is mined in much the same way oil would be. The trapped gas gathers into reservoirs beneath the ground. When these reservoirs are drilled, the gas escapes to the surface. To picture a conventional gas reservoir, imagine a bottle of oil and vinegar salad dressing. Oil and water are mixed in the bottle, and if left alone, the oil sits above the water layer. On top of that oil layer there is a little bit of air trapped in the bottle. Natural gas exists underground in the same way. Water coursing up toward the surface of the earth pushes whatever oil and gas is above it to the soil ahead of it. Eventually, this moving body of liquid and gas comes to a rest in a reservoir, which can be tapped into by drilling. This is the process of extracting conventional natural gas. Unconventional natural gas is captured through fracking.13

12. Id. at 2-3.
Fracking seeks to capture gas from the rocks that form the reservoir that contain this liquid and gas mixture; in other words, the bottle of salad dressing itself, not the contents. This rock layer that makes up the reservoir walls is called gas shale. Natural gas is also trapped in this rock, but is not subject to hydrodynamic pressure, meaning water moving underground will not displace this gas. Modern day fracking aims to drill a mineshaft horizontally through these reservoir walls. Once the mineshaft is in place, water, sand, and drilling chemicals are pumped into the ground to fracture this rock formation. The gas contained in these shale formations is then free to flow through these newly created fissures and be collected at the surface. Until recently, capturing natural gas in this way was not economically feasible; however, advancements in horizontal drilling technology have overcome that obstacle. If fracking wasn’t already profitable enough, mine infrastructure already exists in many places over tapped out conventional reservoirs of natural gas; fracking these reservoir walls involves a comparatively low startup cost.

Now that fracking has become much more common in the United States, the environmental damage it causes is becoming apparent. For starters, fracking uses an enormous amount of water; on average, about 2 million gallons of water for a well. While other energy sources also use a great deal of water, the majority of the water used in fracking is left inaccessible inside the well, below the depths of a typical aquifer. This consumption aggravates the water usage issue.

In Barnhart, Texas, Beverly McGuire has experienced such a water shortage. She woke up one morning to find sand in her toilet bowl. Barnhart relies upon the Edwards-Trinity-Plateau aquifer for water.

15. See id., at “hydraulic fracturing process.”
16. See id., at “hydraulic fracturing process.”
17. See SPELLMAN, supra note 8, at 61.
21. See generally id.
23. Id.
24. Id.
Ranchers use this water for raising cattle, while residents use it to live on and maintain their gardens. Fracking companies also rely on it to capture natural gas. In order to have enough fluids to pump into the ground, gas companies need ample supplies of water, which are drawn up from aquifers used for drinking water. To further aggravate the water usage problem, there are landowners in Texas that make a business of selling fresh water from their aquifers to oil companies. Meanwhile, the town of Barnhart is forced to ration its water use.

Well water contamination is a problem common to those affected by fracking. Well-water is drawn up from underground sources of water called aquifers. So long as these aquifers remain free of contamination from petroleum or gas, wells can provide the land above it with clean drinking water. Fracking can contaminate well water in a couple of different ways. First, the fracking fluids that are pumped into the ground are a source of contamination. While most of the mixture is water and sand, the remainder is made up of drilling chemicals. Many of these chemicals are disclosed on registries, like FracFocus. Nevertheless, some of these chemicals are still protected through trade secret exemptions.

Take the example of hospital employee, Cathy Behr. In 2008, she was called upon to treat a gas company employee who had been exposed to fracking chemicals. Following hospital procedure, the section was locked down and Cathy donned protective equipment. Cathy helped strip the gas field worker and was exposed to the chemicals on his skin. A day later, her skin turned yellow and she became ill. After ruling out several infectious diseases, doctors eventually traced her symptoms to the gas field worker. To gain more information about what they were dealing with, these doctors referenced a Material Safety and Data Sheet (MSDS). The MSDS described the chemical as ZetaFlow. It warned users to wear

25. Id.
26. Id.
27. Id.
28. See Wilber, supra note 7, at 113.
30. See id.
32. See infra Part III.A (discussing disclosure of toxic chemicals through EPRCA and trade secret exemption).
34. Employers keeping hazardous materials on the premises are required to keep this form. It details information about the chemical, such as health and fire risks, as well as measures to be taken in the event of an accident. 29 C.F.R. § 1910.1200(b) (2013).
chemically resistant clothing, but did not identify the composition of the chemical.  

Well-water can also be affected by the very resources fracking seeks to capture. Petroleum or natural gas is freed up and flows to the surface, but some of it can flow into aquifers underground. This is where the stories of foamy brown well-water and bubbling ponds come from, as well as the infamous stories of flaming tap water.

Such is the story of Bill Ely. He lives in Dimock, Pennsylvania, which has become a popular access point into the Marcellus Shale formation. In a video segment detailing the affliction of his town, he displays numerous jugs of yellow water produced from his well. Mr. Ely then puts a lighter near the neck of one of the jugs, igniting the water he would otherwise drink.

The above anecdotes paint a picture of the human impacts of fracking, but the recently enacted Act 13 gives an even starker overview of what the human right to water is up against in Pennsylvania. Enacted in 2012, Act 13 repealed the previous Oil and Gas Act in Pennsylvania, seeking to regulate fracking in a more comprehensive, statewide manner. To its credit, this Act seeks to mitigate the environmental impacts of fracking by creating a common fund into which gas companies must pay an impact fee when fracking a well. It also protects groundwater by requiring a gas company that contaminated a person’s well to replace it, subject to the standards under the Pennsylvania Safe Drinking Water Act. Such pollution of a person’s well constitutes a public nuisance. However, Act 13 preempts all local ordinances that would seek to regulate or ban fracking. If that were not enough, gas companies are given the power of eminent domain. This provision was upheld on appeal; thus, a person or municipality is precluded from objecting to fracking on their land.

36. See WILBER, supra note 7, at 122.
40. Id. at § 3218 (It is unclear how the exception for fracking in the Safe Drinking Water Act will work with this provision). See infra Part III.A.
41. Id. at § 3252.
42. Id. at § 3304. This provision has been held unconstitutional in Robinson. Robinson Twp., Washington Cnty. v. Com., 83 A.3d 901 (Pa. 2013). The Pennsylvania Supreme Court affirmed and also upheld the ability of the environmental associations to assert standing, but more importantly affirmed the unconstitutionality of Section 3304 under the Environmental Rights Provision of the Pennsylvania Constitution, breathing new life into this protection. Id. at 981–82. While outside the statutory argument of this article, the Robinson opinion discusses the alternative protection Pennsylvanians enjoy under the public trust doctrine. Id. at 954-59.
43. Id. at § 3241.
44. See id.
III. U.S. LEGAL BACKGROUND

At the outset, it is important to draw a distinction between water rights and a right to water. Water rights already exist in Pennsylvania. These rights are as ancient as the common law and give a legal entity the right to capture water as a resource. For example, a legal entity that owns land adjacent to a river might have riparian rights to draw water from that river, or if there is water-bearing strata below this land, that legal entity would have the right to pump that water due to land ownership. Property rights are not human rights. Property rights can be sold, other laws may qualify them, and a court may find another's property right is more important. A right to water, grounded in a person's humanity, stands apart from land ownership and flows entirely from that person's right to drink enough clean water sufficient to maintain a healthy life.

A. Federal Statutes

Federal law is largely inapplicable to fracking and its effect on drinking water. At first blush, the Safe Drinking Water Act (SDWA) appears to be a law that should apply to fracking. Enacted in 1974, the purpose of the SDWA is the protection of tap water distributed through public water systems. While the SDWA mainly applies to public water systems, the law has evolved to protect water sources as well. Therefore, the goal of this law is to ensure water that a person gets from his or her tap is clean enough to drink and for household uses. The SDWA contemplates the

46. Id.
47. A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 3:9 (2012), available at Westlaw.
48. Id. at § 4:8.
52. See generally id. at § 300f(4)(A) A public water system is one that distributes water to 25 or more people. This system refers to the actual distribution network, not the source the water is drawn from. Id.
53. Id. at § 300h; see also Water: Safe Drinking Water Act: Basic Information, EPA.gov, http://water.epa.gov/lawsregs/guidance/sdwa/basicinformation.cfm (last visited Mar. 6, 2012).
regulation of underground injections; however, when enacted, this provi-
sion was designed primarily to regulate the underground injection of
waste, not injections for the production of natural gas.

Whether this provision applied to fracking at all arose in Legal Envtl.
Assistance Found., Inc. (LEAF) v. EPA. In 1997, when LEAF was
decided, fracking was not widely practiced. A factually similar technique
used to extract natural gas from coal formations was at issue, coalbed
methane (CBM) extraction. These mines are at much shallower depths
than gas shale formations and closer to aquifers. Therefore, the contami-
nation of aquifers was a primary concern in LEAF. Although the EPA
argued the provision regulating underground injections pertained prima-
tarily to waste water injections and not natural gas production, the Eleventh
Circuit held to the contrary, given the plain language of the statute and its
application to CBM wells. This holding prompted the EPA to determine
whether fracking CBM wells caused impacts to drinking water. The
report ultimately did not find drinking water contamination from CBM
fracking. The other result of this report was to create the basis for the
exemption now found in the definitions of the SDWA. The definition of
underground injections now specifically excludes those done for the pur-
pose of producing natural gas, oil, or geothermal energy. Consequently,
the SDWA does not apply to fracking.

The Clean Water Act (CWA) only applies where waste water is dis-
charged into surface water because this law only applies to navigable
waters, not aquifers. While this is of some relevance in CBM wells, given
that much of that water is pumped back out of the ground and discharged
into streams, shale fracking operations leave about 80% of the water used in
the rock formation; and this still would not apply to situations where natu-

56. Legal Envtl. Assistance Found., Inc. v. EPA, 118 F.3d 1467, 1471 (11th Cir. 1997)
[hereinafter LEAF].
57. Id.
58. CBM extraction is similar to fracking in that it breaks apart rock formations
underground to free natural gas. However, CBM extraction happens in coalbed seams,
which are much closer to the surface than gas shales. See EPA, EVALUATION OF IMPACTS
to UNDERGROUND SOURCES OF DRINKING WATER BY HYDRAULIC FRACTURING OF
COALBED METHANE RESERVOIRS; NATIONAL STUDY FINAL REPORT 1-3 (2004)
[hereinafter CBM REPORT].
59. LEAF, 118 F.3d at 1471.
60. Id. at 1478.
61. CBM REPORT, supra note 58, at 1-2.
62. Id. at 7-5.
64. Id.
65. This loophole is colloquially referred to as the “Halliburton loophole,” named after
the company who lobbied for it. See WILBER, supra note 7, at 119.
eral gas had escaped into aquifers. Even if the CWA could be stretched to cover such a scenario, it has an explicit exception for fracking fluids left in the ground.

A more basic problem with the CWA is its regulation of pollution, not water. For example, in *Northern Plains*, the court was faced with the issue of what constitutes a pollutant under the CWA where the operators of a CBM well had discharged used water into a stream. The issue was not whether the water as it exists in the stream renders a person’s well unusable, but whether the activity of the defendant is one that is actually regulated by the CWA. Thus, even if the defendant’s CBM well rendered the stream radioactive, the court would still have to proceed through the threshold inquiry of whether the CWA can actually regulate this activity.

The National Environmental Policy Act (NEPA) is the main procedural statute geared toward environmental protection. NEPA tasks agencies with articulating a national environmental policy and creates an administrative body, the Council of Environmental Quality (CEQ), to review that policy and other government actions that affect the environment. NEPA is exclusively procedural in nature and does not confer substantive rights. Therefore, all the court can do when enforcing this law is determine whether the procedure specified has been followed. However, the key limitation with fracking is that private actors are not subject to this law. A private party fracking on federal land would need to prepare an environmental impact statement under NEPA, but this land limitation still

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67. See id. at (a)(1).
70. Id. at 1157.
71. See generally id.
72. See generally id.
75. Id. at 225.
76. See generally id.
leaves the majority of unconventional wells outside the scope of this statute.\textsuperscript{79} \textsuperscript{80}

Even if NEPA were applicable, it is of limited use due to its poor accessibility. Timing is a common criticism of NEPA as it is nearly impossible to get a comment in during the planning phase when it could actually be considered as an alternative plan of action.\textsuperscript{81} Since the statute vests with agencies the discretion to determine when agency action is a significant environmental concern, NEPA can be characterized as a mere bump in the road to fracking the Marcellus shale, as opposed to a real barrier.\textsuperscript{82}

The Emergency Planning and Community Right to Know Act (EPCRA) is a procedural statute that appears to be applicable, but is of little help in the fracking context because many chemicals used in fracking do not meet the statutory threshold for reporting.\textsuperscript{83} EPCRA was enacted to notify community residents of what hazardous materials are present in the community and provide for emergency planning in the event there is an accident.\textsuperscript{84} In theory, the procedural protections here could be quite powerful, as there is a list of hazardous substances that must be reported if they are over a certain threshold amount.\textsuperscript{85} EPCRA also allows for citizen suits for failing to meet certain criteria under the statute.\textsuperscript{86} The provision of compensation is governed by the applicable regulations though.\textsuperscript{87}


\textsuperscript{80}. Many states have statutes similar to NEPA, called “SEPA’s.” Pennsylvania does not; Daniel P. Selmi, \textit{Themes in the Evolution of the State Environmental Policy Acts}, 38 UICL. L. 949, 951 (2006), so the rights to information and public participation are ensconced in the permitting process under oil and gas laws as well as groundwater well drilling; see e.g. 58 Pa. Cons. Stat. § 3211 (2012) (notifying water well owners of a fracking permit that might affect them); see e.g. 58 Pa. Cons. Stat. § 3218.1 (requiring the Department of Environmental Protection to notify public water facilities that may be affected by a spill); see e.g. 35 Pa. Cons. Stat. Ann. § 721.11 (West 2013) (requiring public water systems to notify the public when water is out of compliance).


\textsuperscript{84}. \textit{Id.} at § 11044.

\textsuperscript{85}. \textit{Id.} at § 11002 (The default amount is two pounds).

\textsuperscript{86}. \textit{Id.} at § 11046(a)(1).

\textsuperscript{87}. \textit{Id.} at § 11046(c).
Therefore, a right to damages, or any remedy, relies on the regulation promulgated to allow for such relief.\footnote{88. Id.}

EPCRA's applicability is qualified in two other ways. There is a specific exemption for storage incident to transportation of natural gas,\footnote{89. 42 U.S.C. § 11047 (2010).} and there is also a trade secret exemption.\footnote{90. Id. at § 11042.} Under the trade secret exemption, an operator may withhold information if it can demonstrate that it has not already been waived, no other federal law compels disclosure, disclosure would put the operator at a competitive disadvantage, and the chemical composition cannot be easily reverse engineered.\footnote{91. Id. at § 11042(b).} The number of chemicals that require disclosure total just below 400 on the original list and are all acutely toxic.\footnote{92. EPA, NATIONAL SERVICE CENTER FOR ENVIRONMENTAL PUBLICATIONS (NSCEP): CHEMICAL EMERGENCY PREPAREDNESS PROGRAM INTERIM GUIDANCE A-1 (1985) [hereinafter EPCRA List].} Moreover, many of the chemicals used in drilling are not so acutely toxic that they would need to be listed.\footnote{93. What Chemicals are Used?, supra note 31.} For example, saltwater is a commonly used fracking chemical.\footnote{94. Id.} It is not acutely toxic, but it will certainly ruin a freshwater well. EPCRA only applies to hazardous chemicals that are discharged, not those that escape into an aquifer through a fracking operation.\footnote{95. 42 U.S.C. §§ 11001, 1047 (2010).} Therefore, while there is strong legislative intent to protect citizens from hazardous chemicals, the provisions in this statute are not well applied in the fracking context.

B. Pennsylvania Law

1. Constitutional

Pennsylvania’s constitution contains a provision, which guarantees a right to the environment.\footnote{96. PA. CONST. STAT. art. I, § 27.} Although the language of the provision seems to provide a right to a clean environment, the pivotal question in Gettysburg was whether this language was self-executing.\footnote{97. Commonwealth v. Nat’l Gettysburg Battlefield Tower, 311 A.2d 588, 590 (Pa. Commw. Ct. 1973). The term self-executing means that a law can be directly invoked as opposed to requiring implementing legislation to make it legally enforceable. It is more commonly seen with treaty law. BLACK’S LAW DICTIONARY (9th ed. 2009), self-executing.} The murky opinion in Gettysburg has been clarified, where a three-part test now examines actions under this provision.\footnote{98. Borough of Moosic v. Pennsylvania Pub. Util. Comm’n, 429 A.2d 1237, 1239 (Pa. Commw. Ct. 1981).} The highly deferential test, examines whether applicable statutes and regulations have been followed, whether
there was an attempt to mitigate, and whether the harm so substantially outweighs the benefit. This test shows the political will to protect the environment, but the test leaves close questions resolved against the environment. Ironically, this right is enshrined in the Pennsylvania constitution, but this deference has the effect of rendering it rather useless in court. In addition to this deference, the use of aesthetic values in this constitutional provision leaves this right to the environment satisfied as long as the end result is visually pleasing.

2. Statutory

Pennsylvania does not have a statute that directly implements the environmental right in its constitution. Instead, there are statutory laws that tangentially touch on this right; two of which are relevant here because they relate to clean water or a general right to a clean environment. The first is the Hazardous Site Cleanup Act and the second is the Pennsylvania version of the Safe Drinking Water Act. Two other statutes, which do not directly relate to this constitutional provision, are also relevant here: the Clean Streams Act and the Water Resources Planning Act.

99. Id. at 1239.
100. See generally id.
101. Payne v. Kassab, 312 A.2d 86, 95 (Pa. Commw. Ct. 1973) (finding compliance with applicable law, use of aesthetically pleasing construction materials, and other social benefits in favor of street widening). The recent holding in Robinson contrasts strongly with deference the courts have shown this provision in the past. Robinson, 83 A.3d at 981-82. Pennsylvania's interpretation of this constitutional right in the future will be interesting to follow.
102. Payne, 312 A.2d at 95.
103. There are a number of regulations in Pennsylvania that regulate oil and gas wells that contemplate protection of water resources; See e.g. 25 Pa. Code § 78.51 (1989) (ordering well owner to replace water supply if contamination can be traced to well), id. at § 78.55 (requiring an emergency response plan when an unconventional gas well threatens the environment), id. at § 78.56 (requiring maintenance of storage tanks for fracking waste). A few of these laws that bear more directly on the environment will be discussed, but most are outside the scope of this paper. Laws like these regulate fracking directly and require that environmental factors be considered when fracking is undertaken. The statutes discussed in this paper purport to create a right to clean water or a clean environment and can be used to remedy or prevent fracking damage.
106. Id. at §§ 721.1-721.17.
107. Id. at § 691.4.
The Hazardous Site Cleanup Act (HSCA) has been invoked in numerous fracking actions in Pennsylvania. The policy provision of this law provides that the citizens of Pennsylvania have a right to a clean environment. This provision acknowledges that if public water supplies are contaminated, "the replacement of those water supplies is frequently beyond the resources of the people affected." Thus, although regulating polluting activities like the CWA, the statutory policy breathes a bit of environmental justice into its construction. The Department of Environmental Protection (DEP) is responsible for designating sites that discharge or threaten discharge of hazardous substances into the environment. In making this determination, a guiding principle is the potential for contamination of drinking water. When such a threat is determined, DEP has access to all necessary information regarding the nature of the chemicals released. Citizens may bring actions directly under this statute. Such actions specifically allow for numerous types of damages, and the defenses are rather limited.

This statute appears to be a powerful tool against fracking, but it has two limitations. One drawback is the limitation of property damage or personal injury to bring suit. Relating this right to property law confines this right to water to a property law foundation. The other weakness of the HSCA is its regulation of toxic discharges as a threshold issue, as opposed to a right to water. Viewed in this light, Pennsylvanians have a right to clean drinkable water; however, the touchstone for whether the water is drinkable is whether there was a toxic discharge, not whether the water is ultimately potable.

Pennsylvania's HSCA has procedural provisions, but these protections could only be characterized as a quasi-right to information. Under the HSCA, the state has a strong right to information and a right of entry onto property. Information gathered under this authority is then made public.

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110. Id. at (4).
111. See id.
113. Id.
114. Id. at § 6020.503(b).
115. Id. at § 6020.1115(a).
116. Id. at § 6020.702(a)(b).
117. Id. at § 6020.701(b). It is also a defense if release of a substance is specifically and explicitly contemplated by a permit, but fracking permits contemplate well casing that should contain, not release, the contaminants at issue here. Therefore, the permit defense appears weak. Id. at (a).
119. See id.; see also Tarlock, supra note 47.
121. See id.
record, subject to trade secret exceptions.\textsuperscript{123} The main drawback here, though, is the source of the right as there must be a reasonable basis to believe there has been a hazardous discharge for these powers to be invoked.\textsuperscript{124} This passive right to information is one about polluting activities, not about activities that affect the environment.\textsuperscript{125}

The Clean Streams Act actually predates the environmental amendment to the Pennsylvania constitution, so it cannot directly implement that provision.\textsuperscript{126} The main mode of enforcement for this Act is through government enforcement in the event the statute is violated; however, an affected citizen can bring a citizen suit to enforce this statute in equity.\textsuperscript{127} This statute does not explicitly convey a right to clean water, although it is an implicit policy.\textsuperscript{128} The policy section first contemplates clean water in order to attract manufacturing industries.\textsuperscript{129} Therefore, drinking water does not appear to be a strong priority.\textsuperscript{130} This was precisely the issue in Roth, where the plaintiff tried to invoke this statute in a negligence per se action.\textsuperscript{131} In dismissing this claim, the court held the statute does not protect the interests of persons, as they are merely “incidental but unintentional beneficiaries of the legislation.”\textsuperscript{132} The unavailability of damages, regulation of pollution like the CWA, and lack of a right conferred on citizens leaves this statute somewhat wanting in the search for pieces of the human right to water.\textsuperscript{133}

The Water Resources Planning Act does not convey a clearly defined right to the people of Pennsylvania. Originally, the statute was enacted with the purpose of first determining the needs of the state in terms of water allocation and then developing a plan to meet that need.\textsuperscript{134} While a violation of this law is deemed a public nuisance,\textsuperscript{135} it is unclear what

\textsuperscript{123} Id. at (h).
\textsuperscript{124} Id. at (a).
\textsuperscript{125} See id.
\textsuperscript{128} See id.
\textsuperscript{130} See id.
\textsuperscript{132} Id.
would actually constitute a violation. The Clean Streams Act as essentially a policy provision not enforceable in court on the right to water issue.

Like the federal government, Pennsylvania has a Safe Drinking Water Act. The purpose of the law is to regard safe drinking water as essential to public health. Unfortunately, Pennsylvania’s SDWA adopts the federal SDWA as the regulatory framework to implement, so the fracking exception still applies here.

3. Common Law

Negligence is an interesting cause of action in Pennsylvania law because it has begun to bleed into the area of negligence per se. To prevail on a negligence theory, the plaintiff must show he was owed a duty, which defendant breached, causing the actual damages sustained by plaintiff. The duty of due diligence in Roth was created from the various laws in Pennsylvania regulating gas extraction. The regulation imposed through tort liability in negligence stems from the regulation of the gas company itself, not from an affirmative right to a clean environment.

Causation is hard to show in fracking because most of the actual causation alleged is happening underground. Pennsylvania enacted a law that creates a rebuttable presumption of water contamination caused by fracking if the contamination occurs within twelve months of activity or the well bore is within 2,500 feet of the aquifer. However, a gas company can rebut this presumption by showing some other cause of contamination; putting the burden of causation back on the plaintiff if there is any other plausible cause. The more fundamental problem with negligence is similar to the infirmity of the CWA in that the duty owed is one to fracture...

139. Id. at § 721.2(a)(2).
141. Roth, 919 F. Supp. 2d at 486-87.
142. Id. at 487.
143. Id.
145. 58 PA. CONS. STAT. ANN. § 3218(c)(2) (West 2014).
146. See id. at (d)(2).
with prudent care. The plaintiff must spend time showing that the activity that contaminated their water was done negligently. If the court finds the gas company was not negligent, then there is no liability, even if the plaintiff's water is undrinkable.

In an effort to avoid these problems, *Fiorentino* sued alternatively under a negligence per se theory. The plaintiff here alleged Cabot had negligently fracked a well and contaminated her well water. Negligence per se is a negligence theory where the elements of duty and breach are shown through defendant's failure to comply with a statute, as opposed to a common law duty. The statute in question must be in force to protect a group of individuals, apply to the defendant's conduct; defendant then must violate the statute, thereby proximately causing the injury.

Negligence per se is a particularly powerful tool in fracking litigation because the duty can exist outside the need to frack with due care. While the standard specified in the statute must apply to the defendant's conduct, the substantive right infringed does not necessarily have its basis in property. If the statute at issue prevents discharges that affect drinking water, there is now a duty that exists outside of land ownership because the impairment of potable water could be a legally cognizable injury. Under this theory, a private right of action that only allows for an injunction or declaratory relief can form the basis for duty in a negligence action. The court in *Fiorentino* did not appear reluctant to accept this argument either because plaintiff alleged a "laundry list" of statutory violations, none of which the court struck from the pleadings.

Trespass is an intuitively appealing common law action that could be seen as a piece to the human right to water because it theoretically protects a person's water from chemical intrusion. Specifically in *Valley Rod*, the contamination of wetlands on the property was a concern. The court held that the plaintiff could not assert the right to exclude because of the

148. *Id.*
149. *Id.* at 515.
150. This is the same Norma Fiorentino mentioned in the introduction. Of the pending fracking litigants, she has been more willing to talk to the press than most.
152. *Id.* at 515.
153. *See id.*
156. *Id.*; *Roth* brought a negligence per se claim as well, using the Clean Streams Act, the HSCA, the Oil and Gas Act, and a waste management statute. The Clean Streams theory was dismissed because it protected the environment, not people, but the other three were allowed to proceed. *Roth*, 919 F. Supp. 2d at 490.
mineral lease and the trespass claim was dismissed. Trespass is premised on a property owner's right to exclude others from his property. If the landowner has given consent for a gas company to enter onto his land, trespass will no longer lie. Entrenching a person's access to water in property rights does not necessarily bring drinkable water since trespass will not keep that water clean. Property rights may be successful in adjudicating fracking disputes, but not all persons that need water to survive are able to raise a property right in the litigation.

Strict liability is another potentially viable cause of action because a showing of negligence is not required, only that the activity was abnormally dangerous. To prevail under a strict liability theory, the plaintiff must show that the activity is abnormally dangerous and due care could not eliminate the risk. The question of whether fracking is an activity that is abnormally dangerous is a question of law for the court. In Pennsylvania, this involves a factor test, examining inter alia, the balancing of the utility of the activity with the gravity of the harm, the inappropriateness of the conduct in the area, and the ability to mitigate that danger with reasonable care. Courts have yet to decide this issue on fracking, as they are waiting to have a more fully developed record with which to work.

The possibility of strict liability applying to fracking is doubtful, however. The utility of natural gas development is quite high and the political desire to stop fracking does not appear strong, based on the natural

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159. Valley Rod, 2013 WL 2393003 at *3.
160. Id. at *6.
161. See id.
162. See id.; Roth, 919 F. Supp. 2d at 493; Humberston, 75 A.3d at 512.
164. Id. at 705 (quoting Restatement (Second) of Torts § 519 (1977)).
165. These factors are as follows: "(a) existence of a high degree of risk of some harm to the person, land or chattels of others; (b) likelihood that the harm that results from it will be great; (c) inability to eliminate the risk by the exercise of reasonable care; (d) extent to which the activity is not a matter of common usage; (e) inappropriateness of the activity to the place where it is carried on; and (f) extent to which its value to the community is outweighed by its dangerous attributes," see Kamuck v. Shell Energy Holdings GP, LLC, 4:11-CV-1425, 2012 WL 1463594, *12 (M.D. Pa. 2012).
166. Fiorentino, 750 F. Supp. 2d at 512.
167. See Diffenderfer v. Staner, 722 A.2d 1103, 1108-09 (Pa. Super. Ct. 1998) (holding storage of gasoline in a barn is not abnormally dangerous because gasoline is valuable to society and gasoline can be dispensed with due care); Smith v. Weaver, 665 A.2d 1215, 1220 (Pa. Super. Ct. 1995) (holding location of gas tanks at service station is appropriate and thus not abnormally dangerous).
168. See Wilber, supra note 7, at 113.
gas exemptions that exist at the federal level. Even the EPA reports on the subject do not hesitate to address the value of fracking to the economy. Therefore, this factor weighs heavily in favor of the gas companies. Even if fracking were abnormally dangerous, it only protects a person's right to water to the extent that it is abnormally dangerous. This means that if a court finds fracking abnormally dangerous because of natural gas seeping into an aquifer, then a gas company would be liable for that harm because it was caused by the attribute of fracking that makes it abnormally dangerous. However, if a person has no water because a gas company pumped his or her aquifer dry, then there is no liability under this theory because it was not caused by that abnormally dangerous feature of fracking.

Nuisance is an action grounded in property rights, which is a step above trespass, but not much more. First, while based in property ownership, a property owner has not necessarily waived this right by signing a mineral lease because it is the use of the land, not the notion of excluding others, that forms the basis for this cause of action. Nuisance allows a plaintiff to prevail in damages or an injunction against a defendant that interferes with plaintiff's land use in a substantial and unreasonable way. Nuisance targets the activity itself, so release of natural gas and seepage of fracking chemicals into aquifers is potentially governed under this doctrine. Given that consent to use the land does not necessarily waive a nuisance claim, nuisance is potentially more viable than trespass, but the basis is still in property rights. The plaintiff must have a property right to water to show interference or the claim is dismissed.

IV. FOREIGN DOMESTIC LAW ON THE HUMAN RIGHT TO WATER

This part of the article will begin with an overview of France's acceptance of a human right to water. The focus of this part is to show a codification of a human right to water without France doing so explicitly. Adoption of a human right to water from international law sources reflected in constitutional provisions, civil codes, and administrative regulations clarifies the intent of the government to ensure that a person, not a
property owner, has access to drinkable water. That access to water is based in a need to sustain life, not on the value of it as a commodity.

After reviewing substantive provisions in French law, procedural mechanisms in France and Ontario law will be examined. Ontario’s approach to the topic is procedural in nature. Its provisions seek to equip persons with information to safeguard their environment and empower them to act on that information through public participation and access to justice. Grounding these rights in a right to the environment, as opposed to regulating pollution, means the right does not need to change with the times since its underpinnings relate to a person’s right to a clean environment, not to the current technology of the gas industry.

A. Substantive Dimensions: France

France placed a moratorium on fracking in 2011. Gas companies are attacking this ban in an attempt to access the gas reserves beneath French soil, which are estimated to be quite large. Nevertheless, the protection of drinking water and foresight of the potential danger fracking poses to it has persevered. The political desire to preserve the environment, specifically the intent to preserve clean water for the public use, is apparent in France. The French adopted the human right to water at the international level and this desire to protect a person’s right to water because of their humanity trickles down to the French constitution and various civil codes.

179. Pricing is an aspect of the human right to water that has been somewhat codified in France. See Code général des collectivités territoriales [C. gen. coll. terr.] art. L2224-12-4; Code de l’environnement [C. env.] art. L213-14. Pricing is outside the scope of this paper.


183. Upton, supra note 180 (quoting Minister Bathos as saying the price of natural gas from fracking does not account for the resulting environmental damage); Zammit, supra note 181 (citing French Energy Minister Bathos for the proposition that the damage caused by fracking is still unknown).

184. International law is not within the scope of this paper, but the recognition of this right nationally is evidence of France adopting that right domestically, see G.A. Res. 64/292, U.N. Doc. A/RES/64/292 (July 28, 2010).

185. See Marie Tsanga Tabi, Implementing the Human Right to Water in Europe: Lessons from French and British Experiences, 19 WILLAMETE J. INT’L L. & DISP. RESOL. 1, 14 (2011). This article contains an excellent discussion of water pricing and access issues, two issues that are highly relevant to the human right to water; however, they are beyond the scope of this paper. See generally id.
The preamble in the French Constitution was amended in 2005 to explicitly absorb the Environmental Charter. The Environmental Charter articulates environmental rights with broad, sweeping language, codifying them as human rights. Notably at the top of the document is a list of authorities that bears on the legal principles that are to be enunciated, including the fundamental importance that the environment plays in sustaining human life, the common heritage of the environment flowing to humanity, and the desire to balance the needs of the present against the needs of the future in resource exploitation. Three substantive articles in particular appear in the civil law: Article I, which provides the right to live in a stable environment, suitable to ensure human health; Article II, which creates an affirmative duty to preserve and protect the environment; and Article IV, which requires those who damage the environment to contribute to its repair. Water is not specifically mentioned in any of the above provisions, as these broad rights apply to the environment in general.

The right to water appears in statutory law. While the above discussion focused on applicable Pennsylvania law that could approximate the human right to water, many of the French provisions were adopted with a legislative intent targeted at implementing that right. For in France, “the use of water is for all and every physical person has the right of access to drinking water for nutrition and hygiene at [an] affordable price.” The right to water in France has been linked to the right to decent housing. This link is important because it brings with it certain entitlements; for example, pre-deprivation hearings, continued service through winter months despite non-payment, and the possibility of water bill payment.

186. 1958 CONST. PREAMBLE; Grist Staff, French Constitution Get a Dash of Green, GRISt (July 15, 2005), http://grist.org/article/case-france/
187. 1958 CONST. CHARTER FOR THE ENVIRONMENT.
188. Id. (That the future and the very existence of humanity are inseparable from its natural environment; That the environment is the common heritage of humanity; That the preservation of the environment must be sought at the same level as the other fundamental interests of the Nation; That in order to ensure sustainable development, the choices designed to respond to the needs of the present must not compromise the capacity of future generations and other people to satisfy their own needs. . .); David Marrani, Sustainable Development in the Courts: Human Rights and Environmental Protection: The Pressure of the Charter for the Environment on the French Administrative Courts, 10 SUSTAINABLE Dev. L. & Pol'y 52, 57 (2009) (discussing the environmental charter as codifying a right to the environment as a human right).
189. 1958 CONST. CHARTER FOR THE ENVIRONMENT.
190. See 1958 CONST. CHARTER FOR THE ENVIRONMENT.
192. Id.
through public funds. The nuances of pricing are not important here; however, these provisions are evidence of a right to water emanating from a person's humanity.

The French Environmental code governs regulation of the environment generally. The code reiterates the Environmental Charter's purpose of preserving water for the common heritage of the nation, stating "[t]he use of water belongs to all." The agency responsible for the enforcement of these laws is the Conseil d'etat. France regulates water management through a water basin scheme, dividing aquatic ecosystems into discrete units designed around the natural flow of water over a landscape. A water management office oversees each of these sub-units. Working within this framework, the Conseil d'etat creates water quality standards and administers the distribution of drinking water to the population in general. These water management schemes are designed around four factors: public health and provision of drinking water to the public; the needs of the environment; conservation and flooding; and lastly, agriculture, fishing, and energy production. The public is mentioned first and industry last, which is a deliberate sequencing. This is the priority the water management scheme gives to drinking water when balancing water use.

In Ostrott, a logging company sought to set aside a decree from the Conseil d'etat creating a protection zone around two drinking water sources that supply the town of Ostrott. Ostrott has a population of 1500 people and logging is a major industry in the region. The two sources of water at issue enjoyed a protection perimeter of 200 hectares around the water sources, which the logging company challenged as exces-

193. Id.; C. SOC. ACT. art. L115-3 (Fr.).
194. See; C. SOC. ACT. art. L115-3 (Fr.).
195. C. COM. art. L110-2 (Fr.).
196. Smets, supra note 191.
197. Rulemaking is also a responsibility of this agency. C. ENV. art. L211-2 (Fr.).
198. C. ENV. art. L132-1 (Fr.).
199. C. ENV. art. L212-1.
200. C. ENV. art. L211-1 (Fr.).
201. C. ENV. art. L211-1.
203. C. ENV. art. L211-1.
204. This zone of regulation comes from the Code of Public Health, which allows the government to regulate up to the point of prohibition, facilities near sources of drinking water. C. PUB. H. art. L1321-2 (Fr.).
206. Id. (259 Hectares is about 1 square mile; 200 hectares would enclose an area of about three quarters of a square mile).
The court denied this challenge because the logging company failed to show the decree excessively favored the interest of drinking water over logging. The critical theme in this analysis is the burden on the logging company because the public enjoys a stronger right to drinking water.

Ostrott underscores two important principles that flow from the codified right to drinking water: (1) drinking water is the first priority, and (2) the touchstone of the analysis is the portability of the water, not logging.

The Environmental Code contains other provisions particularly relevant in the fracking context. Energy producers are compelled to dispose of elements used in energy production in a way that avoids negatively impacting water quality. Furthermore, if there is a drought that gives rise to a drinking water shortage, measures aimed at curing such a shortage trump the regulations otherwise in place. While not necessarily environmental rights, these provisions are evidence of a right to water because it shows France placing the value of drinking water above these other interests.

Inferences are not necessary to show how these substantive provisions would fare against fracking because the moratorium was enacted under the authority of the Environmental Charter and the Environmental Code. This law had the dual effect of banning extraction of oil and gas through fracking and repealing licenses that any gas company held that previously authorized fracking.

The constitutional council analyzed the legality of this moratorium in Moratorium Upheld. This moratorium was attacked on a number of

207. See Ostrott, supra note 205.
208. Id.
209. See id.
210. Id., see also C. ENV. art. L211-1.
211. C. ENV. art. L541-2 (Fr.).
212. C. ENV. art. L211-8 (Fr.).
213. See C. ENV. art. L541-2; see also C. ENV. L211-8.
214. Loi 2011-835 du 13 juillet 2011 visant à interdire l'exploration et l'exploitation des mines d'hydrocarbures liquides ou gazeux par fracturation hydraulique et à abroger les permis exclusifs de recherches comportant des projets ayant recours à cette technique (1) [Law 2011-835 of July 13, 2011 to ban the exploration and exploitation of oil and gas by hydraulic fracturing mines and to repeal the exclusive licenses with projects using this technique (1)], Journal Officiel de la République Française [J.O.] [Official Gazette of France], July 14, 2011, p. 12217.
215. Id.
grounds, including an equal protection challenge, a deprivation challenge, and a precautionary principle challenge.

The equal protection challenge presented an interesting question because fracking is allowed in France for the purpose of geothermal energy production, but not natural gas. The challenge asserted that banning fracking for natural gas but not geothermal energy denies gas companies equal protection of the laws. This claim was disposed of by showing that natural gas fracking presents a graver risk to the environment than does geothermal. Therefore, the reason the legislature chose to target natural gas fracking, and not geothermal, was the potential danger to the environment.

The challenge under the precautionary principle involved the gas companies’ assertion that sustainable development needed to be reconciled with environmental protection. The court disagreed, finding that no right of sustainable development is conferred to industry under the precautionary principle. It simply codifies the notion of acting before there is scientific certainty when the risk of environmental harm is grave. This is exactly what the legislature has done here in banning natural gas fracking where the environmental implications are too strong to delay action. The economic inducement to frack gas shale formations in France is enticing, but the principle of placing the implications on drinking water first prevailed in upholding the ban on fracking. This is the essence of a substantive human right to water.

B. Procedural Dimensions: France and Ontario

Ontario and French procedural law protections that bear on the human right to water are similar, both embodying the right to information, public participation, and access to justice. Therefore, these two jurisdictions will be discussed jointly. First, though, is a brief overview of fracking and the right to the environment in Ontario.

217. As noted above, the ban on fracking invalidated existing gas leases that would have allowed fracking. This analysis will not be discussed in the paper as it resembles a property analysis more than an environment rights analysis. Id.
218. Id.
219. Id.
220. Id.
221. Moratorium Upheld, supra note 216.
222. Id.
223. Id.
224. Id.
225. See id.
226. See id.
Fracking is widely used in Canada.\(^{227}\) News articles about fracking there have a similar slant as they do in the US. There are politicians in support of it who are enticed by the lift it brings to local and national economies.\(^{228}\) Supporters of fracking downplay the environmental impacts or claim that they have heard overwhelmingly popular support for fracking.\(^{229}\) Other news stories feature protesters who are concerned about the water usage by these operations, contamination of groundwater, and the contents of what is being pumped into Canadian soil.\(^{230}\)

Canada opposed recognizing the human right to water in international law until recently.\(^{231}\) Such a right to water is considered to exist in fact simply because the water quality and quantity delivered to consumers is in line with expectations of this right.\(^{232}\) The human right to water lacks a strong legal foundation in Canada partly because of the abundant water supply in the country.\(^{233}\) However, the focus here is on Ontario law and the strong procedural protections it has, despite the lukewarm protection at the federal level. There is a similar theme of placing drinking water first in water management based on a right to water. The effectiveness of the desire to protect drinking water and the value of a procedural environmen-

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\(^{228}\) Id.


\(^{231}\) Canada still does not support the human right to water in international law, but stopped opposing it. Press Release, General Assembly, General Assembly Adopts Resolution Recognizing Access to Clean Water, Sanitation as Human Right, By Recorded Vote of 122 in Favour, None Against, 41 Abstentions, U.N. Press Release GA/10967 (July 28, 2010).


\(^{233}\) See id.
tal right is underscored in Ontario where there is currently no fracking, amid the fracking boom elsewhere in Canada.

Enacted in 1993, the Ontario Environmental Bill of Rights (OEBR) describes a right to a healthful environment, which runs to all. The purpose of this bill of rights is to protect a right to a healthful environment, accomplished through procedural protections: access to information, public participation, and increased access to courts. These procedural protections make up the core of the bill of rights in Ontario.

1. Right to Information

Both Ontario and France codify a right to information about environmental impacts. A presumption of disseminating information is seen in both statutory provisions. Where in France a person is presumptively entitled to have information about the environment if the government or its agents hold it, the OEGB creates an environmental registry that contains information about virtually any government action that could affect the environment, including actions brought under this bill of rights. The intent of the French right to information appears more passive, but the reasons for rejected requests must be specified in writing. The OEGB imposes on Ontario agencies an affirmative duty to disseminate information when government action will implicate the environment. Types of action that affect the environment specifically contemplated by the OEGB include environmental values statements, proposals for government action, and environmental policies under NEPA. An agency is supposed to articulate an environmental policy and then conform their future conduct to it.

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236. Id.


238. C. ENV. art. L124-3 (Fr.).

239. See Environmental Bill of Rights, S.O. 1993, c. 28, § 6(2)(b) (Can.).

240. See C. ENV. art. L124-5, L124-6 (Fr.) (reasons might include national security or foreign relations implications).

241. See Environmental Bill of Rights, S.O. 1993, c. 28, § 6(1) (Can.).

242. These values statements are similar to the guiding environmental policies under NEPA. An agency is supposed to articulate an environmental policy and then conform their future conduct to it.
action, including permitting, and proposals for instruments, statutes, and regulations.

When an action triggers the OEBR, the minister of the acting agency publishes the action in the registry, making it available for public comment. In both countries, the government is under a duty to inform the public of these procedural mechanisms, furthering the right to information. France also imputes this duty to inform to private actors as well. When damage to drinking water supplies is occurring or imminently occurring, the actor is under a duty to inform the government of this danger and then this information flows to the public. The OEBR, on the other hand, attempts to prevent such problems before they begin, since much of the right to information is centered around proposed government action. While the OEBR would be better equipped to mitigate fracking damage if water contamination were specifically contemplated, the touchstone of what information flows from this right is the important aspect of it. In both jurisdictions, the source of protection stems from an environmental right, not a property right.

Since information runs to the public because it affects the environment, actions triggering this right to inform tend to have a lower threshold than actions affecting a property right. One example involves the Nestlé Company in Ontario. Nestlé is the largest bottled water company in the world, pumping millions of gallons of water out of a water basin in Southwest Ontario. Nestlé’s bottling of water in Ontario draws sharp criticism from residents, particularly from the Council of Canadians. Subject to the Ontario Water Resources Act, Nestlé is required to file for per-

243. See Environmental Bill of Rights, S.O. 1993, c. 28, § 7 (Can.); Castrilli, supra note 237, at 408.
244. Environmental Bill of Rights, S.O. 1993, c. 28, §§ 15, 16 (Can.).
245. Id. at § 15.
246. Id. at § 57(d); C. ENV. art. L124-7, L121-1 (Fr.).
247. See C. ENV. art. L211-5.
248. See C. ENV. art. L211-5.
249. See Environmental Bill of Rights, S.O. 1993, c. 28, §§ 15, 16 (Can.).
250. See id. at § 6(2)b).
251. See id. at preamble; see also 1958 Const. CHARTER FOR THE ENVIRONMENT.
254. Id.
255. The Ontario Water Resources Act is analogous to the American SDWA. See Ontario Water Resources Act, R.S.O. 1990, c. O.40. It is not explicitly a right to the environment, but a law protecting drinking water that could amount to a substantive human right to the environment. See id. at § 0.1. This law is not discussed in depth here.
mits to take water from the aquifers in Ontario, permits lodged in the environmental registry. While this activity does not pump fracking chemicals into the ground or allow natural gas to seep into aquifers, pumping to produce bottled water is similar to fracking's use of water in aquifers for a commercial purpose. That the public received this information in anticipation of the permit renewal, not after the pumping, is important in the right to information because it furthers the right of public participation discussed below.

2. Public Participation

The purpose of the public participation principle is that persons potentially affected by environmental decisions can take part in that decision and mitigate the impact in the process. Both Ontario and France enshrine some type of public participation protections. In France, there is a National Public Debate Commission for this purpose. This commission is under a general duty to inform the public, both in actively ensuring good conditions for keeping the public informed and passively keeping information available upon request so that the public can partake in the process. These debates are triggered by some development that has an impact on the environment, which conditions are specified by the Conseil d'etat.

In Ontario, the idea behind publishing these notifications in the registry is to involve the public in decisions affecting the environment. The purpose of the OEBR explicitly contemplates creating a way by which residents of Ontario can participate in a decision making process to hold government accountable. To promote public participation, notices in the registry are available for comment for thirty days, which can be because it is substantive. The permit-to-take-water provisions are in this statute. Id. at § 34, but the contents of the proposed action are in the Environmental Registry because it will have a significant impact on the environment. See S.O., supra note 235, at § 6(1). It is the triggering of these procedural protections that is at issue in this section.

256. See Nestlé, supra note 252, at 011-9777 (search by keyword “water”).
258. Environmental Bill of Rights, S.O. 1993, c. 28, preamble (Can.); C. ENV. art. L121-1; Castrilli, supra note 237.
259. Environmental Bill of Rights, S.O. 1993, c. 28, preamble (Can.); C. ENV. art. L121-1; Castrilli, supra note 237.
261. C. ENV. art. L121-1.
262. Id.
264. See Environmental Bill of Rights, S.O. 1993, c. 28, § 3(1) (Can.).
extended by an agency minister. The minister then must publish the final agency decision in the registry. A minister is not required to incorporate public comments into a proposal or policy, but he or she must consider them. The general rule allows the public to participate in a decision making process when activities will affect the environment. This approach underscores the theme that information about activities affecting water, because water is part of the environment, is considered by the citizens so they can participate in the regulation of its use.

Last year, Nestlé sought to renew its permit to take water from the aquifers near the town of Erin in Ontario. The notice was posted in the registry for thirty days for public comments. Nearly 800 comments were received. The comments ranged from protesters who simply did not like the Nestlé corporation, to environmental groups, to those that view water as a human right. Nestlé’s permit was renewed, but the decision lists a summary of the public comments received and addresses them in turn. For example, concerns that the aquifer will be depleted are addressed with references to data that there is no evidence of a long-term shortage based on what is being pumped. In addition, a monitoring program addresses concerns that the volume actually pumped is unknown. Ultimately, the requested ten-year permit was changed to five years.

The combination of the right to information and public participation allows for the injury to be prevented or mitigated, like the modifications made to the pumping permit instead of Nestlé pumping the water and then responding in tort. If Nestlé violates the terms of its permit, access to justice is necessary.

3. Access to Justice

Laws in France and Ontario codifying a procedural component of the human right to water include access to justice. While these jurisdictions have markedly different approaches here, the concept of relaxing the requirement of standing is common to both. A novel concept in French law allows the government to approve environmental associations that have

265. See id. at § 9.
266. Id. at § 35.
267. See id.
268. See generally Environmental Bill of Rights, S.O. 1993, c. 28 (Can.); Castrilli supra note 237.
269. Nestlé, supra note 252.
270. Id.
271. Id., (click “View All Comments” button).
272. Nestlé, supra note 252.
273. Id.
274. Id.
275. See id.
276. C. ENv. art. L142-2 (Fr.); Environmental Bill of Rights, S.O. 1993, c. 28, § 84 (Can.).
the ability to bring a lawsuit on behalf of an individual injured through environmental damage.\footnote{277} This provision seeks to grant standing to these associations to protect against various types of pollution, even if uninjured.\footnote{278} Citizens are also authorized statutorily to bring these suits for damages.\footnote{279}

In \textit{Green Algae}, these environmental associations can be seen in operation where multiple environmental associations were successful in suing the state for damages when it had failed to appropriately regulate farms over-enriching nearby waters.\footnote{280} Green algae proliferates in nutrient rich water, created through rainwater draining across heavily fertilized lands, often negatively impacting the quality of the water for ecosystems and drinking alike.\footnote{281} The court in \textit{Green Algae} upheld an award of damages and piled on costs against the state because it had failed to regulate agriculture in an area from which multiple towns draw drinking water.\footnote{282} In other words, France did not balance water use in the bay of Saint-Brieuc, Lannion and Douarnenez so as to prioritize drinking water.\footnote{283} As a result, environmental associations whose standing might not be recognized in American jurisdictions were able to bring suit due to the Environmental Code's relaxation of standing.\footnote{284}

Ontario codified greater access to justice with the OEBR, creating a process whereby citizens can obtain judicial review of statutes, administrative investigation of environmental harms, or sue to force compliance with a regulation, statute, or instrument.\footnote{285} To obtain review of a government rule or policy, two Ontario residents must allege that the rule or policy needs to be changed to protect the environment.\footnote{286} Once this application

\begin{footnotes}
\item[278] See C. ENV. art. L142-2.
\item[279] See C. ENV. art. L142-3 (Fr.).
\item[280] Cour administrative d'appel [ACA][Administrative Court of Appeal] Nantes, 2e ch., Jan. 12, 2009, unpublished, No. 07NT03775, \textit{available at} http://www.legifrance.gouv.fr/affichJuriAdmin.do?oldAction=rechJuriAdmin&idTexte=CETATEXT000021497008&fastReqId=671714708&fastPos=1, [hereinafter \textit{Green Algae}]. While procedure is the focus of this section, it is noteworthy that damages are available as a remedy. Even the associations were awarded costs and fees. See C. ENV. art. L142-3.
\item[281] \textit{Green Algae}, supra note 280.
\item[282] Id.
\item[283] Id.
\item[285] Environmental Bill of Rights, S.O. 1993, c. 28, § 61 (Can.) (where two people can apply for the Environmental Commissioner to review agency action), \textit{id.} at § 74 (two citizens can request investigation of agency action that contravenes the OEBR), \textit{id.} at § 84 (a resident can bring action against \textit{any} person who has or will contravened the OEBR) (emphasis added).
\item[286] Id. at § 64.
\end{footnotes}
is submitted for review, it is forwarded to the minister of the offending agency, who then reviews the request to determine if it is in the public interest.\textsuperscript{287} This process is largely the same for the investigative procedure, only that investigation into an alleged violation is a possible remedy, and is not limited to mere review.\textsuperscript{288}

Getting into the courts is a little different.\textsuperscript{289} Any person can bring an action against someone who has contravened any rule under the OEBR if that contravention will result in “significant harm to . . . public resource[s] of Ontario . . . .”\textsuperscript{290} To bring this action, a person must first apply for investigative action. Two people need to allege the same complaint to get the defendant into court.\textsuperscript{291} This statutory cause of action does not lie for what would be a common law tort action, like nuisance actions.\textsuperscript{292} Lastly, despite contravention of the statute, due diligence in an attempt at compliance is a defense.\textsuperscript{293}

The basic components of the procedural human right to water include a right to information, public participation, and access to justice. In order for the necessary information to come in a timely fashion, it is important that this right find its basis in the environment, not property.\textsuperscript{294} Public participation must seek to involve the public in decisions, allowing the public to have a self-mitigating effect on the process.\textsuperscript{295} Access to justice is critical for when these first two rights are insufficient and relaxed rules for standing are a common component to both jurisdictions.\textsuperscript{296}

V. PROPOSAL FOR REFORM

A human right to water does not exist in Pennsylvania. To begin moving in that direction, Pennsylvania should strive to entitle a person to a minimum amount of clean drinking water and give that person access to procedures to protect that entitlement. Instead, there is currently a patchwork of environmental laws in Pennsylvania that protect the environment and property laws that protect property interests. These water rights are

\begin{footnotes}
\textsuperscript{287} Id. at § 69.
\textsuperscript{288} Id. at §§ 74-81.
\textsuperscript{289} Castrilli, \textit{supra} note 237, at 428-34.
\textsuperscript{290} Environmental Bill of Rights, S.O. 1993, c. 28, § 84 (Can.).
\textsuperscript{291} See id. at § 84(2).
\textsuperscript{292} Id. at § 84(4).
\textsuperscript{293} Id. at § 85.
\textsuperscript{294} See id. at preamble; 1958 Const. Charter for the Environment.
\textsuperscript{295} See C. Env. art. L121-1; Environmental Bill of Rights, S.O. 1993, c. 28, § 35 (Can.); Nestlé, \textit{supra} note 252, at “View All Comments.”
\end{footnotes}
vulnerable to actions immune to environmental law or those with superior property interests. This is the problem the human right to water seeks to cure: when these other legal protections fail, a person can still hold on to a right to water grounded in his or her humanity.

The opinion in *Moratorium Upheld* lays out the gold standard for a substantive environmental right, where the precautionary principle is codified and protects a person’s drinking water from the dangers of fracking, despite possession of mineral leases by gas companies. While this degree of protection of the environment should be the ultimate objective, this paper attempts to work within the existing legal framework in Pennsylvania to propose a more realistic approach to protecting the human right to water. In examining these jurisdictions, the synthesis process applied to the various Pennsylvania laws below is unnecessary under French law. The right to water is already implemented in France and the above deconstruction is used to show what component parts are lacking in Pennsylvania.

This proposal for reform is based on a number of themes discussed above. First, legislation aimed at protecting drinking water must start with the premise that drinking water is the first priority, not the activities that would affect drinking water. Second, legislation codifying a human right to water need not explicitly enshrine such a right, as long as such laws mimic that effect. Third, regulation at the state level with statutory law is an excellent place to start because water and fracking are largely regulated at the state level already.

### A. Substantive Reform

In piecing together the substantive dimension of the human right to water in Pennsylvania, the HSCA, negligence per se, and Pennsylvania’s constitutional right to a clean environment collectively amount a modest substantive right, but there is room to grow. The deference in the constitutional provision is not enough on its own, but as a basis for the source of Pennsylvania’s HSCA, is a strong protection against fracking’s effect on a person’s water because it provides for damages and has a citizen suit provision. Moreover, grounding the right of this statute in a constitutional right to the environment with the purpose of environmental justice would create a right apart from property ownership.

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299. See *UDHR*, supra note 49; *TARLOCK*, supra note 47, at § 11:17.
301. See Payne, 312 A.2d at 95.
303. See id. at § 6020.502.
This link to property ownership is a common infirmity throughout the common law causes of action, which negligence per se is situated to avoid. 304 The desire to avoid a property basis for this right springs from the threshold issue in litigation, which should be whether a person has enough drinkable water, not whether the activity that rendered the water undrinkable can be subject to adjudication. 305 Combined with the HSCA, negligence per se is a good start in moving toward a right to water because the court can proceed with a well-developed cause of action and compensate the plaintiff in damages not necessarily enumerated in the private action provision of the statute. 306 This concept is only a good start because the threshold of what constitutes an infringement on this right 307 is still high and there needs to be a toxic discharge site for this statute to apply. 308

Environmental rights statutes are not hamstrung by any of these limitations. Borrowing from the French Environmental Code, the statutory rights originating at the constitutional level are implemented statutorily by creating water as the overriding priority in a right to a clean environment. 309 In enforcing a provision of the Environmental Code, neither the Green Algae court nor the Ostrott court first determined whether proliferation of green algae or logging can be regulated by the Environmental Code. 310 However, this is the threshold inquiry of what substantive rights exist in Pennsylvania. 311 In adopting an environmental rights statute in Pennsylvania, further extrapolating what already exists at the constitutional level can help Pennsylvania move closer to implementing the human right to water. If such a statute existed, the first question in the litigation would

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304. While the unique issues associated with the various common law causes of action were discussed, the necessity of a legally cognizable property injury is common to all these theories. Roth, 919 F. Supp. 2d at 486-491; Valley Rod, 2013 WL 2393003 at *6.

305. N. Plains Res. Council, 325 F.3d at 1157.

306. The HSCA enumerates specific instances in which a polluter is strictly liable. Negligence per se, however, uses a negligence theory with the statute creating the duty owed. The underlying cause of action is now free from the constraints on damages in the statute. See 35 Pa. Cons. Stat. Ann. § 6020.702(a) (West 2013). The HSCA also requires a property injury to bring a citizen suit under it, so proceeding with negligence per se allows a plaintiff to avoid this hurdle. See 35 Pa. Cons. Stat. Ann. § 6020.1115(a) (West 2013).


308. Id. at § 6020.702.

309. See C. Env. art. L211-1 (Fr.); see generally Ostrott, supra note 205.

310. See 35 Pa. Cons. Stat. Ann. § 6020.701(a) (West 2013). Notably, in Ostrott, the logging company attacked a preventive measure, but this proposition of the proper threshold issue also finds support in Green Algae, where the government was liable in damages for failure to regulate the green algae problem. See Ostrott, supra note 205; Green Algae, supra note 280.

311. See Roth, 919 F. Supp. 2d at 485; see also Fiorentino, 750 F. Supp. 2d at 511.
be whether plaintiff's right to the environment has been infringed, not whether such a law governs fracking.\textsuperscript{312} Availability of damages as a remedy is a key part of a human right to water since such a remedy is better suited to address the human impact of fracking. Pennsylvania is already well along this road as all the common law causes of action, as well as the HSCA, provide for damages.\textsuperscript{313} The crux of the issue then relates back to tying the damages remedy to the substantive right not defined by property law, but by humanity. This is the thrust of the proposed environmental rights statute, either allowing for a citizen suit provision or working in conjunction with negligence per se. Building on the use of the HSCA in negligence per se, which comes from the constitutional right to the environment, Pennsylvania need only adopt an environmental rights statute that goes one step further than the HSCA in giving a right to the environment where the right is one of clean water, not one free of statutorily defined toxic discharges.\textsuperscript{314}

\textbf{B. Procedural Reform}

In addressing the procedural side of the human right to water from existing U.S. and Pennsylvania laws, little foundation exists because only NEPA, the procedural provisions of HSCA, and the various notifications that flow from the permitting process are available.\textsuperscript{315} The right to information in the context of fracking is fundamentally flawed because it is based on a right to know about fracking operations, as opposed to a right to information about the environment.\textsuperscript{316} NEPA is based on such a proposition, but as discussed above, is limited in its application to fracking since most of fracking regulation is happening at the state level.\textsuperscript{317} There is nothing inherently wrong with pushing the responsibility of implementing a human right to water on the states, but there is a very limited right to information then because the information comes from the permitting process when a polluting activity triggers this right.\textsuperscript{318} To obtain information under HSCA, there must already be a reasonable basis to believe there has been a hazardous substance discharged.\textsuperscript{319} Thus, someone seeking infor-

\begin{itemize}
\item \textsuperscript{312} See C. ENV. art. L211-1 (Fr.); C. PUB. H. art. L1321-2 (Fr.); Moratorium Upheld, supra note 216.
\item \textsuperscript{313} See 35 PA. CONS. STAT. ANN. § 6020.701(a) (West 2013); Roth, 919 F. Supp. 2d at 490-91; Fiorentino, 750 F. Supp. 2d at 511.
\item \textsuperscript{314} See Roth, 919 F. Supp. 2d at 485; Fiorentino, 750 F. Supp. 2d at 511.
\item \textsuperscript{316} See 35 PA. CONS. STAT. § 721.11 (2013); 58 PA. CONS. STAT. § 3211 (2012); id. at § 3218.1 (2013); but see C. ENV. art L124-1 (Fr.).
\item \textsuperscript{317} See Part II supra.
\item \textsuperscript{318} See 35 PA. CONS. STAT. § 721.11 (2013); 58 PA. CONS. STAT. § 3211(b)(b.1) (2013); 58 PA. CONS. STAT. § 3218.1 (2013).
\item \textsuperscript{319} See 35 PA. CONS. STAT. § 6020.501(a) (2013).
mation must first suffer the harm and then spend time litigating whether such harm has occurred before any information is forthcoming, much of which can be avoided when the impact on the environment is the focus.

An environmental rights statute based on the constitutional right to the environment should encompass a right to information, similar to the Environmental Code and the OEBR. For a right to information to be useful, it is critical that information come at a time when those affected can mitigate the impending impact. This means Pennsylvania needs to at least make information about activities affecting the environment available when such an impact is foreseeable, not only when the activity in question, like fracking, is encompassed by state procedural law. The OEBR model would greatly simplify this process by putting in one place all of this information for the public to review, as opposed to knowing all the places to check when oil and gas leases are executed.

The only law that could encompass the principle of public participation is NEPA. However, public participation under NEPA is a bit lacking. Assuming NEPA even applied to fracking, the ease of access Ontario residents enjoy to the registry is a stark contrast to the access provided under NEPA. Practically speaking, a Google search for the environmental registry literally leaves an Ontario resident one click away from searching the registry for actions that will impact the environment, whereas NEPA still operates through Federal Register. If NEPA were to

320. See C. ENV. art. L124-3 (Fr.); Environmental Bill of Rights, S.O. 1993, c. 28, § 6(2)(b) (Can.); but see id.
321. Howard, supra note 144, at 142.
322. See C. ENV. art. L124-3 (Fr.); Environmental Bill of Rights, S.O. 1993, c. 28, § 6 (Can.); but see 35 PA. CONS. STAT. § 6020.701(b) (2013).
326. For example, a Google search of “Ontario environmental registry” brings up a link to the registry itself.
327. See National Environmental Policy Act (NEPA), EPA.gov, http://www.epa.gov/compliance/nea/eisdata.html (last visited Nov. 13, 2013); Red Lodge, supra note 81. Notice and comment can also be conducted through regulations.gov, but the format of this website is designed around applicants and agencies, not those who will be impacted by the proposed action. See REGULATIONS.gov, http://www.regulations.gov/#/home (last visited Nov. 13, 2013). Compare Google search for Ontario Environmental Registry, Google, http://www.google.com (search for “Ontario environmental registry”; then follow first result) with Google search for NEPA notice and comment, Google, http://
be a piece of what amounts to the human right to water in the United States, then public access needs to be increased.

For Pennsylvania to enjoy a more concrete right to public participation it would be best to implement this right at the state level because most water regulation and fracking regulation occurs at the state level. Instead of the limited fracking on federal lands triggering a weak notice and comment process, state fracking permits required under an environmental rights statute would trigger a right to information. Under an environmental rights statute, this right to clean water operates at a more local level, where fracking really does its damage and the public has the right to information about the potential impact at a time when public feedback is valuable. The level of access available through the Environmental Registry is laudable and efforts to implement this right in Pennsylvania should model this approach.

With the now wide availability of the internet, there is no reason participation in environmental decisions should be limited. Not only is the input from the public valuable, but it creates an incentive for proposed fracking to be undertaken in a manner that is less harmful because the gas company has to disclose its plans to the public. If something were to go wrong with a fracking operation and a person needed their substantive rights to be addressed, then there is a body of data available to inform legal proceedings. FracFocus has started this procedure, but listing the chemicals used does not equal the right enjoyed by Ontario residents. Proposals of where a company intends to drill and how much gas could be freed, as well as where it could seep, is information that should be available from the beginning at a time when those potentially affected can assist in making decisions to limit their exposure to fracking operations. Protecting water needs to be the first priority with such a procedural right since that would allow for a more complete disclosure and solicitation of public input on what would affect the drinkability of water.

www.google.com (search for “NEPA notice and comment”) (observing no results pointing to regulations.gov on the first page).

328. See 42 U.S.C. § 4332(C) (2012); Stoeco Homes, Inc., 498 F.2d at 607.
329. See C. ENV. art. L121-1 (Fr.); Environmental Bill of Rights, S.O. 1993, c. 28, § 3(1) (Can.); but see 42 U.S.C. § 4332(C) (2012); Houck, supra note 325.
330. See sources cited, supra note 327.
331. See Environmental Bill of Rights, S.O. 1993, c. 28, preamble (Can.).
332. See Nestlé, supra note 253, at “View All Comments” button.
334. See Howard, supra note 144, at 142.
335. See Environmental Bill of Rights, S.O. 1993, c. 28, preamble (Can.); C. ENV. art. L211-5 (Fr.).
Finally, access to justice is necessary to give any of the above rights meaning. Ontario’s two-citizen-complaint provision and the French approval of environmental associations both embrace the concept of relaxed standing, which stands in contrast to the use of public nuisance and property injuries in Pennsylvania. The key here is to relax the legally cognizable injury to hear environmental claims, ideally before the injury has become substantial enough to require a suit for damages. Environmental associations would not be able to bring suit under the HSCA due to lack of standing, but allowing such a party to bring suit ties in with the environmental justice policy found in the HSCA. Many of the injured parties in Pennsylvania fracking are private well owners who do not necessarily have the time and means to bring a private suit against Cabot Oil and Gas. Environmental associations are specially equipped to do what some of these potential plaintiffs cannot. While the French model of allowing these environmental associations to bring suit is ideal, the OEBR is a more realistic starting point for Pennsylvania because administrative remedies can first be explored, followed by equitable remedies in cases where the actual injury sustained by an environmental association is remote. Either the two-person rule in the OEBR, or sanctioned associations in the Environmental Code, would sufficiently ease the standing restriction to provide persons harmed by fracking more effective access to justice. Therefore, such a provision needs to be part of an environmental rights statute in Pennsylvania.

VI. Conclusion

Fracking, a process by which water, sand, and drilling chemicals are injected into the ground to capture natural gas, exposes the failure of Pennsylvania to implement the human right to water. If the human right to water were recognized in Pennsylvania, the large volumes of water consumed, chemicals pumped into the ground, and contamination of aquifers would infringe this right.

Pennsylvania has legal protections that provide some protection to a person’s drinking water, but these laws still need reform to implement a

337. See 35 PA. CONS. STAT. § 6020.1115(a) (2013); but see 35 PA. CONS. STAT. § 6020.102(4) (2013).
338. See Howard, supra note 144, at 143.
341. See C. ENV. art. L142-2 (Fr.); Environmental Bill of Rights, S.O. 1993, c. 28, § 64 (Can.).
right to water. Pennsylvania’s constitutional right to the environment, the Hazardous Site Cleanup Act, and negligence per se taken together only indirectly recognize the human right to water.\(^{343}\) Federal laws, such as the Safe Drinking Water Act and the Clean Water Act, are largely incapable of protecting a person’s drinking water from this activity.\(^{344}\)

The National Environmental Policy Act offers some procedural protections, but is of limited use due its haphazard implementation and reduced applicability in state affairs.\(^{345}\) The Emergency Planning and Community Right to Know Act is of little help because most fracking chemicals do not meet the toxicity threshold for reporting.\(^{346}\) Many statutes that apply to oil and gas regulation are not environmental rights because they regulate a polluting activity, not water drinkability.\(^{347}\) While common law causes of action are of some help because they are well-developed standards and provide damages, many protect only property rights, not human rights.\(^{348}\)

France’s codification of a right to water is not explicitly a human right, but the legal protections that are in place are just as good. Statutory recognition of a constitutional right to the environment leaves courts with a clear legal principle to enforce when drinking water quality is affected.\(^{349}\) Provisions in the Environmental Code, Code of Public Health, and Code of Local Authorities protect a person’s drinking water because these laws stem from a human right to water.\(^{350}\) Actions that impact a person’s drinking water are regulated because the quality of that water may be affected, not because the action affecting that water is contemplated by statute.\(^{351}\)

Ontario and France have implemented procedural rules that protect a person’s right to water as if it were a human right. Through an increased right to information, parties that may be impacted by actions affecting drinking water are aware of such actions at a time when the environmental impact can be mitigated.\(^{352}\) Linking this information right to public participation is an important procedural aspect of the right to water because the public can provide feedback and take part in the decision making pro-

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346. See EPCRA, supra note 92.
347. See e.g. 25 Pa. Code §§ 78.51, 78.55, 78.56 (2014).
348. See Roth, 919 F. Supp. 2d at 483; Fiorentino, 750 F. Supp. 2d at 508.
349. C. env. art L211-1 (Fr.); Moratorium Upheld, supra note 216; Ostrott, supra note 205.
351. See Moratorium Upheld, supra note 216.
352. See C. env. art L124-3 (Fr.); S.O., supra note 235, at § 6.
When these protections fail, it is important that a person have access to justice, especially in the environmental context where standing often poses a hurdle for parties seeking redress.\textsuperscript{354}

Pennsylvania should look to the legal protections implemented in France and Ontario to codify a human right to water within the existing legal framework. In doing so, Pennsylvania need not explicitly codify this right as long as the protections on point function like a human right to water. To do this, an environmental rights statute must be grounded in a person's right to drink water to sustain life, not as a property right. Working at the state level helps to realize this goal since many of the actions that impact water and water rights themselves are regulated at the state level.\textsuperscript{355}

In reforming these legal protections to implement the human right to water, it is critical that the environmental right place drinking water as a priority over actions that would impair it because this potential impairment of drinking water triggers all the rights that flow from an environmental statute, not the nuances of the polluting activity.\textsuperscript{356}

The goal here is a realistic proposal to work within Pennsylvania's existing regulatory framework to protect the human right to water. This human right to water acts as a minimum level of protection, safeguarding a right to drinking water flowing from a person's right to life. When environmental laws, mining regulations, and common law causes of action fail to protect a person's water, this human right still ensures a person has access to clean, drinkable water. A human right to water does not ensure much water, only enough to live on.\textsuperscript{357} However, when the water that comes out of your tap contains natural gas, just enough water to live on is plenty.

\textsuperscript{353} See Environmental Bill of Rights, S.O. 1993, c. 28, preamble (Can.); C. ENV. art L121-1 (Fr).


\textsuperscript{355} See Part II.

\textsuperscript{356} See Roth, 919 F. Supp. 2d at 485; Fiorentino, 750 F. Supp. 2d at 511.

\textsuperscript{357} This number is between 50-100 liters for drinking, sanitation, and household use. \textit{Comment 15}, supra note 50. For comparison, the average American family uses over 300 gallons (~1100 liters) per day. \textit{Water Sense}, EPA.gov (last updated Sept. 13, 2013), http://www.epa.gov/watersense/our_water/water_use_today.html.