Hydraulic Fracturing, Louisiana Water Law, and Act 955: An Irresistible Economic Force Meets an Immovable Legal Object

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I. INTRODUCTION

A. Haynesville Shale Economic Boom

In 2007, a potentially enormous natural gas field was discovered two miles underground in the northwest corner of Louisiana.[1] Known as the Haynesville Shale natural gas play, it is estimated to contain around 250 trillion cubic feet of natural gas, equivalent to a decade's worth of North American consumption.[2] Because it is not only a domestic source of energy, but also one that burns cleaner than coal or oil, the development of natural gas plays in the United States, like the Haynesville Shale, has many supporters.[3] It is the enormous financial prize, however, that has drawn a flood of energy companies to Northwest Louisiana in what has been called a "modern-day gold rush."[4] The energy companies are not the only parties cashing in on the natural gas boom; individual landowners and public bodies in the largely rural area could stand to make millions in mineral rights leases and royalties practically overnight. One study predicted that development of the Haynesville Shale from 2010 to 2014 would inject $61 billion of business sales into the Louisiana economy, with over $15 billion to household earnings and over $1 billion of leasing, royalty, and tax revenue for the state and local governments.[5] The director of the Louisiana Oil and Gas Association, which funded the study, described the potential economic impact for the state as "absolutely monstrous,"[6] and one energy company executive summed up the role the Haynesville Shale has played in a struggling national economy as "a flu shot for northern Louisiana."[7] In the end, while there is ample room for skepticism regarding inherently speculative and perhaps shortsighted industry projections, there remains the inescapable observation that based on excited estimates alone, the Haynesville Shale natural gas play has become a nearly irresistible force in Northern Louisiana.

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1. Vickie Welborn, *Playing the Haynesville Shale*, SHREVEPORT TIMES, Feb. 7, 2001, at A01.

2. Rick Jervis, *Gas Drilling Fuels a Boom*, USA TODAY, Dec. 14, 2010, http://www.usatoday.com/news/nation/2010-12-14-1Alouisiana14_CV_N.htm.

3. Ian Urbina, *Regulation Lax as Gas Wells' Tainted Water Hits Rivers*, N.Y. TIMES, Feb. 28, 2011, at A1.

4. Jervis, *supra* note 2.

5. LOREN C. SCOTT, THE ECONOMIC IMPACT OF THE HAYNESVILLE SHALE ON THE LOUISIANA ECONOMY IN 2008 (2009), *available at* http://dnr.louisiana.gov/assets/docs/mineral/haynesvilleshale/loren-scott-impact2008.pdf.

6. *See* Welborn, *supra* note 1.

7. *See* Jervis, *supra* note 2.

B. Hydraulic Fracturing Water Issues

Despite the obvious economic benefit to Louisiana, the massive natural resource requirements of the Haynesville Shale drilling operations have forced Louisiana to ask the age-old question of what happens when an irresistible force meets an immovable object. A profitable development of the Haynesville Shale play relies entirely on hydraulic fracturing stimulation technology (fracing).[8] In fact, it is the recent advancement of fracing technology that has made the Haynesville Shale and other shale deposits of natural gas across the country so lucrative. The fracing process involves pumping millions of gallons of water into a well at high pressure in order to open up and, with the addition of sand and various chemicals, hold open fractures in the shale from which natural gas escapes.[9] Despite drawing unprecedented amounts of natural gas to the surface, withdrawing millions of gallons of groundwater out of aquifers for each of several hundred, and eventually several thousand, natural gas wells located in a handful of parishes in Northwestern Louisiana has put a worrisome strain on the aquifers in the region.[10] Many of the groundwater aquifers in the Haynesville Shale area, especially those surrounding Shreveport, the largest city in the region and the hub of oil and gas activity, have been facing uncertain or decreasing water levels for years.[11] From the moment the first few wells were drilled, various parties in Louisiana began to anticipate the inevitable clash between the enormous water use requirements of fracing operations and the communities relying on the already fragile aquifers.[12]

Despite the unsustainable present circumstances and the looming conflict, existing Louisiana water law stood in the way of effecting a solution, not only for the parties seeking continued development of the play, but also for those seeking compromises and protection. Four aspects of water law characterized this standoff: (1) the fundamental need for water law to protect a community that relies on groundwater, (2) the inability of existing Louisiana water law to protect these groundwater interests, (3) the uncertainties in Louisiana water law with regard to whether energy companies can utilize surface waters for their fracing operations, and (4) the complexities and inefficiencies of Louisiana water law that limit its adaptability and its potential to protect these groundwater interests.

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8. Brian M. Chustz, *New Surface Water Use Permitting Process*, 58 LA. B.J. 196 (2010).
9. *See* Urbina, *supra* note 3.
10. *Id.*
11. *Water Gets a Friend*, SHREVEPORT TIMES, May 11, 2010, at A06.
12. *Id.*

II. WATER AS A NECESSITY

A. "Simple Fact of Life" Threshold

The United States Supreme Court has recognized as a "simple fact of life that 'water, unlike other natural resources, is essential for human survival.'"[13] Within natural resources law, this universal dependency would suggest, perhaps, that water is a "special case" needing special laws.[14] For instance, international law has recognized access to water as a human right, because, as one commentator explains, without it, an "otherwise free human is deprived of both life and liberty, enslaved by any who would shut off the supply."[15] Recognizing water's special necessity, the Supreme Court held that a state may grant a "limited preference" in groundwater use for its citizens that would stand against conflicting federal regulation.[16] While there is a wide margin between declaring water a human right and a limited preference, these examples are not raised to suggest boundaries for the Haynesville Shale water conflicts. Indeed, the "limited preference" holding only limits the Commerce Clause power of a United States Congress that has traditionally deferred to state water law.[17] Moreover, access as a human right has, in some regards, less traction in the United States than anywhere else in the world.[18] The human right and limited preference arguments are presented to suggest that the pertinent question is not whether a "simple fact of life" threshold should exist within a state's water law, but instead where that threshold should lie and how it should be protected. As one commentator surmised, "[s]ustainability of . . . ground water . . . of quality no worse than nature provided, should be the purpose of every contemporary legal system."[19] Fundamentally, water law must at some level and in some manner protect a "simple fact of life" threshold for human survival. Regardless of where this threshold should lie in Louisiana water law, or whether it is protected as a right, a preference, or something else entirely, there should be little debate that it

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13. Or. Waste Sys., Inc. v. Dep't of Envtl. Quality, 511 U.S. 93, 107 (1994) (quoting Sporhase v. Nebraska *ex rel.* Douglas, 458 U.S. 941, 952 (1982)).

14. Steven J. Levine, *Ground Water: Louisiana's Quasi-Fictional and Truly Fugacious Mineral*, 44 LA. L. REV. 1123, 1127-28 (1984).

15. Montgomery F. Simus & James G. Workman, *The Water Ethic: The Inexorable Birth of a Certain Alienable Right*, 23 TUL. ENVTL. L.J. 439, 449 (2009).

16. *Sporhase*, 458 U.S. at 956-57.

17. *See* California v. United States, 438 U.S. 645 (1978).

18. Simus & Workman, *supra* note 15, at 442.

19. ROBERT E. BECK & AMY K. KELLEY, WATERS AND WATER RIGHTS § 18.08 (3d ed. 2003).

must exist and serve as an impediment to energy company interests in unbridled water access.

B. Negligence and Intentional Misconduct

As Louisiana water law is explored in the following Parts, it should be noted at the onset that Louisiana's protections for water rights that stem from negligence and intentional misconduct will be assumed to fail to provide the "simple fact of life" threshold or necessary protection of threatened groundwater interests in the Haynesville Shale conflict. Here, the primary inquiry is whether Louisiana law can prevent the depletion of an aquifer from legal, prudent, and efficient fracing operations. The availability of actions for negligence, intentional misconduct, waste, or pollution of groundwater, for example, will be entirely ineffective in this regard. Therefore, while these provisions are not omitted from discussion, they will be briefly explained away as providing incomplete protection when they exist as the sole avenues to remedy.

III. LOUISIANA GROUNDWATER LAW

A. Perpetual Availability

Unfortunately, in Louisiana, where annual rainfall is twice the national average[20] and where the area of the state covered by water is the fourth largest in the country,[21] an abundance of water throughout much of the state has tempered, if not entirely eliminated, the manner by which the state's water laws reflect the "simple fact of life" threshold that should be fundamental to any water law system. Regrettably, Louisiana's water law has developed around a fictional premise of perpetual availability,[22] which, in its obliviousness to the scientific facts,[23] is tragically intolerant of any such threshold. The influence of the perpetual availability fiction can be fully appreciated in the adoption of the common law doctrine of absolute ownership, or the "English Rule," in Louisiana groundwater code provisions and case law.[24] Remarkably, because water has been so available and conflicts so infrequent,

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20. Levine, *supra* note 14, at 1127 (citing MARK BORTON & HAROLD ELLIS, SOME LEGAL ASPECTS OF WATER USE IN LOUISIANA 5 (1960)).

21. *Id.* (citing LA. STATE & SOIL & WATER CONSERVATION COMM., LOUISIANA'S NATURAL RESOURCES-A CONSERVATION PLAN FOR THE FUTURE 5 (n.d.)).

22. *Id.* at 1128.

23. One Louisiana hydrologist described that this "assumption is rarely if ever completely true and it may be almost completely false." *Id.* (quoting RAPHAEL KAZMANN, MODERN HYDROLOGY 200 (1965)).

24. *Id.* at 1130.

Louisiana courts and the state legislature have had little impetus to change the laws or modify the system, making Louisiana groundwater law closer to the classic common law version of water rights than any of the neighboring common law states.[25]

B. Absolute Ownership Doctrine

1. *Adams v. Grigsby*

The leading case for the doctrine of absolute ownership in Louisiana is *Adams v. Grigsby*.[26] It is the only case in Louisiana jurisprudence involving a dispute over an aquifer shared by adjoining neighbors.[27] In the 1963 case, several landowners sued a neighboring oil operator for damaging an aquifer on which they all depended.[28] The defendant oil operator was pumping more than 100,000 gallons of water per day out of the aquifer for over a year, and the plaintiffs sought damages for modifications to pumps, wells, and piping as consequences of the defendant's pumping.[29] The court held that as a subterranean liquid, mineral groundwater must be classified by analogy to oil and gas as a fugitive mineral, which by earlier analogy were likened to "ferae naturae."[30] Under this property law concept, a landowner's possession over groundwater, like that over a wild animal, is limited; if it escapes onto other land "or come[s] under another's control, the title of the former owner is gone."[31] In addition to applying the rule of capture, the court again looked to the oil and gas law and jurisprudence to find no merit to the plaintiffs' demands to limit the amount of water withdrawn by the defendant. The court did concede the potential for relief for plaintiff landowners under circumstances involving groundwater pollution or waste.[32] However, as noted previously, waste is largely irrelevant for the purposes of this discussion, and groundwater pollution, as it is related to negligence and intentional misconduct, offers incomplete protection. As to the protection of the "simple fact of life" threshold that the Northern Louisiana communities require, the court declared that as to the limit of the amount of water withdrawn, only the

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25. Joseph W. Dellapenna, *The Law of Water Allocation in the Southeastern States at the Opening of the Twenty-First Century*, 25 U. ARK. LITTLE ROCK L. REV. 9, 73 (2002).

26. 152 So. 2d 619 (La. Ct. App. 1963).

27. Levine, *supra* note 14, at 1128.

28. *Adams*, 152 So. 2d at 621.

29. *Id.*

30. The court found this comparison "too well established by the jurisprudence of our state to require citation or necessitate comment." *Id.* at 622.

31. *Id.* (citing Rives v. Gulf Ref. Co. of La., 62 So. 623, 625 (La. 1913)).

32. *Id.* at 624.

legislature could regulate ownership and, therefore, withdrawals.[33] Absent a statutory limit, the defendant's right to "use an unlimited and unregulated amount of water from a well drilled on his own land cannot be interfered with . . . . His ownership, *acquired upon reducing the water to his possession*, is unrestricted and unregulated."[34]

2. Louisiana Mineral Code

Many of the holdings in *Adams* are substantiated, if not restated, in the Louisiana Mineral Code (Mineral Code). Although Louisiana courts have not considered whether groundwater is within the purview of the Mineral Code, some commentators, relying on *Higgins Oil & Fuel Co. v. Guaranty Oil Co.*[35] and *Adams*, have stated that the principle of "mineral rights" as it appears in the Mineral Code is applicable to water rights.[36] If controlling, the Mineral Code is explicit in supporting an absolute ownership classification of the Louisiana groundwater law. It states:

> A landowner may use and enjoy his property in the most unlimited manner for the purpose of discovering and producing minerals, provided it is not prohibited by law. He may reduce to possession and ownership all of the minerals occurring naturally in a liquid or gaseous state that can be obtained by operations on or beneath his land even though his operations may cause their migration from beneath the land of another.[37]

The qualifying limitation that the use not be "prohibited by law" is coupled with other provisions in the Mineral Code that state that an owner may not "deprive another intentionally or negligently" of his rights or "intentionally or negligently cause damage to him."[38] More significant are the provisions that provide that a relationship of "correlative rights and duties" exists between landowners sharing a common reservoir or deposit of minerals,[39] and that landowners "must exercise their respective rights with reasonable regard for the rights of the other owners."[40] In interpreting these obligations, Louisiana courts have adopted a balancing test "to encourage and promote the production of all natural resources in

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33. *Id.*
34. *Id.*
35. 82 So. 206 (La. 1919).
36. *See* Levine, *supra* note 14, at 1131; John M. McCollam, *A Primer for the Practice of Mineral Law Under the New Louisiana Mineral Code*, 50 TUL. L. REV. 729, 733 n.5 (1976).
37. LA. REV. STAT. ANN. § 31:8 (2010).
38. *Id.* § 31:10.
39. *Id.* § 31:9.
40. *Id.* § 31:11(A).

a manner that will prevent waste and allow a greater ultimate recovery."[41] Although prevention of waste is a concern with all resources regulated under the Mineral Code, the encouragement of resource production and "ultimate recovery" appears alien to modern water law systems largely concerned with the conservation of water.[42] The Mineral Code attaches "correlative rights and duties with respect to one another in the development and production of the common source of minerals," not the conservation of those minerals, and likely reflects rights and duties in the jurisprudence that are distinct to those duties groundwater users must necessarily owe to one another. The Mineral Code codified and perhaps replaced the general obligation of "good neighborliness" that Louisiana courts had previously applied in oil and gas cases;[43] certainly, a "good neighbor" would not deplete his or her neighbor's source of drinking water, whereas a "good neighbor" may, by certain manners, deplete his or her neighbor's source of oil.[44]

Because Louisiana Mineral Code jurisprudence is lacking the necessary limits to the absolute control doctrine, the courts could still recognize the distinctions between water and oil or gas and apply the correlative rights or reasonable use doctrines as established in the water laws of other states. Under either of these doctrines, the rule of absolute ownership must be limited to some extent where a rule of sharing is supported.[45] The correlative rights doctrine generally requires strict proportional sharing, whereas the reasonable use rule requires sharing on the basis of the unreasonableness of competing uses.[46] However, despite the appearance of operable sharing rules in the Mineral Code, the actual provisions in the Louisiana Revised Statutes are nevertheless careful not to contradict the absolute ownership doctrine.[47] The provision establishing correlative rights and duties is explicitly qualified as "not affect[ing] the right of a landowner to extract liquid or gaseous minerals in accordance with the principle" of absolute ownership as established in the Mineral Code.[48] These provisions, if held by a Louisiana court to be relevant in determining groundwater rights, would likely have little

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41. Lisa Diane Conly, *Reasonable Regard: A Solution to the Lignite Problem*, 43 LA. L. REV. 1239, 1243-44 (1983).

42. *See* BECK & KELLEY, *supra* note 19, §§ 19.45-.49.

43. *Id.* § 20.02.

44. *Id.*

45. *Id.*

46. *Id.* § 21:02.

47. LA. REV. STAT. ANN. § 31:10 (2010). The absolute ownership doctrine is codified in LA. REV. STAT. ANN. § 31:8.

48. *Id.* § 31:10.

impact in circumstances where efficient and prudently run fracing operations are depleting an aquifer.

3. Louisiana Civil Code

a. Article 490

The absolute capture doctrine and the holdings in *Adams* are also found in the Louisiana Civil Code, which in turn reflects several ancient maxims. Within civil law systems, much of the law applied to conflicts over the use of property derives from centuries of courts, commentators, and legislators balancing these maxims.[49] Two broad concepts, *cujus est soilum ejus est usque ad coelom et ad infernos*, or "whoever owns the soil owns everything up to the sky and down to the depths,"[50] and *neminem laedit qui suo jure utitur*, which states that the exercise of a right does not give rise to civil responsibility,[51] are particularly important in balancing the law as it relates to groundwater. Article 490 of the Civil Code, which has been a part of Louisiana law since 1808,[52] embodies these maxims, stating that "[u]nless otherwise provided by law, the ownership of a tract of land carries with it the ownership of everything that is directly above or under it."[53] Furthermore, it states that an owner can "draw all the advantages that accrue from" works made on his land "unless he is restrained by law or by rights of others."[54] Article 490 and the maxims behind it go far towards substantiating the absolute ownership doctrine. However, the *Adams* court and others[55] concluded that while an application of the concepts to a mineral like coal was acceptable, these concepts did not wholly suffice for fugacious minerals such as oil and gas. For this reason, yet another concept, the *ferae naturae* analogy, was incorporated and eventually applied to determine Louisiana water rights.[56]

Interestingly, the courts have ignored the stipulations of article 490 in negligence and nuisance cases concerning the pollution of

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49. *See* A.N. Yiannopoulos, *Civil Responsibility in the Framework of Vicinage: Articles 667-669 and 2315 of the Civil Code*, 48 TUL. L. REV. 195 (1974).

50. BLACK'S LAW DICTIONARY 1628 (7th ed. 1999) (providing the translation).

51. *See* Yiannopoulos, *supra* note 49, at 195.

52. Levine, *supra* note 14, at 1130.

53. LA. CIV. CODE ANN. art. 490 (2010).

54. *Id.*

55. *See* Adams v. Grigsby, 152 So. 2d 619, 624 (La. Ct. App. 1963); James M. Klebba, *Water Rights and Water Policy in Louisiana: Laissez Faire Riparianism, Market Based Approaches, or a New Managerialism*, 53 LA. L. REV. 1779, 1819 (1993) (citing Rives v. Gulf Ref. Co., 62 So. 623, 625 (La. 1913)).

56. *See supra* text accompanying notes 30-31.

groundwater.[57] The court in *Adams* was clearly unwilling to do the same in regard to the depletion of an aquifer.[58] One argument that was raised before the court in *Adams* relied on the other side of the balance in the law from article 490 and the maxims previously noted. This position in the law lies with article 667,[59] which was intended to codify[60] the maxim *sic utere tuum ut alienum no laedas*, which requires that property be used in such a manner as not to injure that of another.[61] Although the application of article 667[62] to the circumstances at issue in *Adams* was obviously rejected, the potential for this article to be applied in future cases with a more advanced understanding of hydraulic science and involving perhaps a more drastic factual scenario will be discussed in the subsequent Part.

b. Articles 667 and 2315: Pre-1996 Tort Reforms

While article 490 is in line with the absolute ownership doctrine to a point, the qualifications limiting the rights when "otherwise provided by law" and when "restrained by law or by the rights of others," like the similar provisions in the Mineral Code, may provide significant departures from the absolute ownership doctrine.[63] Article 667 and article 2315,[64] theoretically, could provide these limits. The fact that article 667 was intended to codify the *sic utere* maxim[65] strongly suggests that this is how drafters of the Code long intended for the Civil Code to limit the damages to a neighbor caused by a water user exercising his legitimate *neminem laedit* supported water rights. Appropriately, both article 667 and 2315 were raised in the *Adams* case, and although *Adams* and all other decisions on the issue of the depletion of a common reservoir of fugacious minerals have found no violation of either article,[66] it is possible that this is more a result of a lack of the requisite circumstances and a misunderstanding of the science rather than a fundamental position within the law.[67] Therefore, a survey of legal options and solutions available to protect groundwater rights in the

57. Dellapenna, *supra* note 25, at 76.
58. *Adams*, 152 So. 2d at 624; Yiannopoulos, *supra* note 49, at 195.
59. LA. CIV. CODE ANN. art. 667 (2010).
60. Yiannopoulos, *supra* note 49, at 203.
61. *Id.* at 195.
62. LA. CIV. CODE ANN. art. 667.
63. *See* Klebba, *supra* note 55, at 1825-26.
64. LA. CIV. CODE ANN. art. 2315. This is a general tort provision to which article 667 is almost inextricably tied.
65. Yiannopoulos, *supra* note 49, at 203.
66. *See* McCoy v. Ark. Natural Gas Co., 143 So. 383 (La. 1932).
67. *See, e.g.*, Dellapenna, *supra* note 25, at 77; Levine, *supra* note 14, at 127-30.

Haynesville Shale would benefit from a brief exploration of the potential applicability of articles 667 and 2315. Because, however, the Louisiana legislature's 1996 Tort Reform Act drastically changed both articles and, incidentally, their applicability to water rights, the following Parts will divide analysis of the articles between their applicability before and after the 1996 reforms.

Article 667 has been interpreted in Louisiana courts in a wide variety of ways.[68] The two main lines of jurisprudence, however, have treated it as either a matter of tort law or of property law.[69] Professor Yiannopoulos explains away these various interpretations of article 667 as "[c]ourts embark[ing] on a search for theory only in cases in which theory is essential for the resolution of a particular controversy."[70] As illustrations, Yiannopoulos notes courts applying a tort theory to explain the application of a one-year prescriptive period[71] or a holding of liability for nonlandowners.[72] He further notes that courts apply the property-based interpretation in order to justify an application of strict liability, perhaps not available under tort theory,[73] or to limit this strict liability application to landowners.[74] In fact, many of the tort-based interpretations were the result of efforts by Louisiana courts to incorporate strict liability into the jurisprudence out of a recognition that, as Professor Yiannopoulos explains, "[i]n a modern society . . . certain harms ought to be compensable even in the absence of blameworthiness."[75] Although Louisiana courts eventually supplemented article 2315 with several broad categories of strict liability,[76] article 667 had been consistently held, at least in principle, to impose strict liability[77] and was, therefore, utilized by analogy in circumstances where a negligence standard under article

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68. *See* Yiannopoulos, *supra* note 49, at 206-07 (citing Loesch v. R.P. Farnsworth & Co., 12 So. 2d 222, 225 (La. Ct. App. 1943) (discussing "quasi-contractual")); Codding v. Braswell Supply, Inc., 54 So. 2d 852, 856 (La. Ct. App. 1951) (discussing "hybrid as between tort and nuisance"); Higgins Oil & Fuel Co. v. Guar. Oil Co., 82 So. 206, 244 (La. 1919) (resting on the notion of abuse of right).

69. *See* Devoke v. Yazoo & Miss. Valley R.R., 30 So. 2d 816 (La. 1947).

70. Yiannopoulos, *supra* note 49, at 207.

71. *Id.* (citing Craig v. Montelepre Realty Co., 211 So. 2d 627 (La. 1968)).

72. *Id.* (citing Gulf Ins. Co. v. Emp'r Liab. Assurance Corp., 170 So. 2d 125 (La. Ct. App. 1965)).

73. *Id.* at 208 (citing Fontenot v. Magnolia Petroleum Co., 80 So. 2d 845 (La. 1955)).

74. *Id.* (citing Burke v. Besthoff Realty Co., 196 So. 2d 293 (La. Ct. App. 1967)).

75. *Id.* at 214.

76. *See* Langlois v. Allied Chem. Co., 249 So. 2d 133 (La. 1982) (imposing strict liability for ultrahazardous activities); *see also* Entrevia v. Hood, 427 So. 2d 1146 (La. 1983) (imposing strict liability under article 2317 for unreasonably dangerous things).

77. Yiannopoulos, *supra* note 49, at 213-16 (citing Craig v. Montelepre Reality Co., 211 So. 2d 627 (La. 1968)).

2315 alone was thought insufficient.[78] Notably, in practice the jurisprudence largely limited landowner liabilities without showings of negligence solely to constructions[79] and ultrahazardous activities.[80] However, at least one commentator[81] and one court of appeal[82] found that the Louisiana Supreme Court's decision in *Butler v. Baber*[83] asserted that a violation of article 667, which established liability under article 2315, occurred if one use of land damaged another, regardless of whether the use was a construction or ultrahazardous activity. It should not be surprising that the differences between a landowner's article 2315 delictual obligations and article 667 predial servitudes became hard to differentiate in practice and often overlapped.[84]

In the end, the numerous complications this interrelation spawned grew into nearly insurmountable obstacles to an application of article 667 to protect a "simple fact of life" threshold. There is additional significance, however, in viewing the varying interpretations of article 667 as a general trend in Louisiana jurisprudence. While Professor Yiannopoulos explained this flexibility in interpretation as the result of judicial searches to resolve each particular controversy,[85] perhaps it may also more broadly represent judicial efforts in line with the ageless practice of balancing the fundamental civil law property maxims. In this regard, the shifts in interpreting article 667 between property law, tort law, and other theories[86] may not have necessarily doomed future attempts to limit the absolute ownership under the article. Instead, these efforts at balancing property rights may have incorporated precisely the

78. *See* Chaney v. Travelers Ins. Co., 249 So. 2d 181, 186 (La. 1971) (stating that an activity "which causes damage to a neighbor's property obliges the actor to repair the damage, even though his actions are prudent by usual standards"); *see also* Yiannopoulos, *supra* note 49, at 231.

79. *See, e.g.*, Betz v. Coteau, 261 So. 2d 373 (La. Ct. App. 1972) (discussing a retaining wall); Borenstein v. Joseph Fein Caterers, Inc. 255 So. 2d 800 (La. Ct. App. 1971) (discussing planter and vine over shared wall).

80. *See, e.g.*, Gotreaux v. Gary, 94 So. 2d 293 (La. 1957) (discussing aerial spraying of chemicals); Fontenot v. Magnolia Petroleum Co., 80 So. 2d 845 (La. 1955) (discussing dynamite blasting); Lombard v. Sewerage & Water Bd. of New Orleans, 284 So. 2d 905 (La. 1973) (discussing pile driving).

81. Frank L. Maraist & Thomas C. Galligan, Jr., *Burying Caesar: Civil Justice Reform and the Changing Face of Louisiana Tort Law*, 71 TUL. L. REV. 339, 362 (1996).

82. Street v. Equitable Petroleum Corp., 532 So. 2d 887, 889 (La. Ct. App. 1988).

83. 529 So. 2d 374 (La. 1988).

84. *See* Yiannopoulos, *supra* note 49, at 223; *see also* Gina Palermo, *Waking the Neighbors: Determining a Landowner's Liability for Rowdy Tenants Under Louisiana Law*, 70 LA. L. REV. 1339, 1345-50 (2010).

85. Yiannopoulos, *supra* note 49, at 207.

86. *See id.*

strain of reasoning a court could entertain in applying article 667 to protect a "simple fact of life" threshold.

Despite the uncertainty, articles 667 and 2315 "continue[d] to establish distinct grounds of responsibility."[87] These responsibilities were tort law, under article 2315, and property law, under article 667.[88] Therefore, an action brought under article 667 was "one that [sprang] from an obligation imposed upon property owners by the operation of law so that all may enjoy the maximum of liberty in the use and enjoyment of their respective properties."[89] The Louisiana Supreme Court defined article 667 as "a species of legal servitude in favor of neighboring property, an expression of the principle of *sic utere*."[90] In regard to property use that is neither negligent nor characterized as an ultrahazardous activity, the property law concept of abuse of right of ownership defined what the landowner's obligation under article 667 entailed.[91] The abuse of right of ownership concept drew the line "between what a proprietor may do with impunity and what he cannot do without incurring civil responsibility."[92] Although it must be decided "by a careful weighing of all the circumstances" rather than "any broad or inflexible rule,"[93] essentially, it held a landowner responsible when his intentional acts caused damages in excess of their social and economic purposes recognized under the law.[94] The overlap between articles 667 and 2315 is seen here too. The property law abuse of right of ownership, defining article 667, was a counterpart to the general abuse of right incorporated in article 2315.[95] A use of property to cause intentional damage to a neighbor, for instance, would be an abuse of right of ownership in violation of article 667,[96] whereas a negligent use of property that causes damage to a neighbor would instead invite a negligence action under article 2315.[97]

The application of the abuse of right of ownership doctrine to circumstances involving neither negligence, intentional misconduct, or

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87. *Id.* at 223.
88. *Id.*
89. *Id.* at 207.
90. *Id.*
91. *See* Dep't of Transp. & Dev. v. Chambers Inv. Co., 595 So. 2d 598 (La. 1992) (citing A.N. Yiannopoulos, *Predial Servitudes*, *in* 4 LA. CIVIL LAW TREATISE § 50, at 139-40 (1983)); Yiannopoulos, *supra* note 49, at 219, 238.
92. Yiannopoulos, *supra* note 49, at 238.
93. Higgins Oil & Fuel Co. v. Guar. Oil Co., 82 So. 206, 211 (La. 1919).
94. Yiannopoulos, *supra* note 49, at 219-20.
95. *See id.* at 218-19.
96. *See* Adams v. Grigsby, 152 So. 2d 619, 624 (La. Ct. App. 1963).
97. *Cf.* McCoy v. Ark. Natural Gas Co., 143 So. 383 (La. 1932).

ultrahazardous activities, while still dependent "on a careful weighing of all the circumstances,"[98] had been limited in Louisiana jurisprudence to cases where there was *no* benefit to the defendant landowner by his or her actions,[99] or where there was an "undue interference" with the rights of the plaintiff neighbor.[100] Essentially, a landowner had an obligation under article 667 not to unduly interfere with the rights of any neighbor and an obligation, "even in the absence of any right,"[101] not to injure his neighbor when benefiting him or herself. A natural gas fracing operation in the Haynesville Shale certainly draws some benefit to the energy company. Therefore, for a violation of article 667 to be found as an of abuse of right of ownership, there would have to be an undue interference with the rights of another landowner. Although there is nothing in Louisiana jurisprudence that finds the depletion of an aquifer as causing undue interference, this understanding of the abuse of right doctrine does not appear to preclude such an application of article 667.

Article 2315, which states that "[e]very act whatever of man that causes damage to another obliges him by whose fault it happened to repair it,"[102] premised responsibility on fault, whether it be negligence or intentional misconduct, including an abuse of right.[103] Louisiana courts, however, had come to apply a more technical definition of "fault" deriving from the landmark *Loescher v. Parr* decision.[104] In interpreting article 2317,[105] which was related to article 2315 and set responsibility for persons or things in one's custody, the courts established that the custodian of an unreasonably dangerous thing was liable if the thing presented an unreasonable risk of harm and caused damage.[106] Unlike an action for negligence under article 2317, under this strict liability standard, the plaintiff no longer needed to prove the custodian of the thing knew or should have known of the unreasonably dangerous condition. However, this was arguably the full extent of the divergence from an action for negligence. Because the determination of whether the

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98. *Higgins Oil*, 82 So. at 211.

99. *See, e.g.*, *id.* at 211 (stating that a landowner "must not in an unneighborly spirit do that which while of no benefit to himself causes damage to the neighbor"); Parker v. Harvey, 164 So. 507 (La. Ct. App. 1935).

100. *See* Woods v. Tuberville, 168 So. 2d 915 (La. Ct. App. 1964).

101. *Higgins Oil*, 82 So. at 211.

102. LA. CIV. CODE ANN. art. 2315 (2010).

103. Yiannopoulos, *supra* note 49, at 197-200.

104. 324 So. 2d 441 (La. 1975).

105. LA. CIV. CODE ANN. art. 2317.

106. *See* Entrevia v. Hood, 427 So. 2d 1146, 1148 (La. 1983); Kent v. Gulf States Utils. Co., 418 So. 2d 493, 497 (La. 1982).

thing posed an unreasonable risk was made on a case-by-case basis,[107] the facts involved in a strict liability action were determinative, just as in a negligence action.[108] For example, a diseased tree in a city[109] may pose an unreasonable risk whereas a diseased tree in a forest may not.[110] In bringing this "revolutionary interpretation of fault,"[111] the Louisiana Supreme Court also established a new judicial philosophy favoring the "innocent victim."[112] The court's rationale was, as one court later explained, that the owner "is in a better position than the innocent victim to detect, evaluate and take steps to eliminate an unreasonable risk of harm which arises from the thing."[113] In *Loescher*, the Louisiana Supreme Court looked to French, Belgian, and Canadian sources and interpreted their similar Civil Code articles.[114] Not all on the court were convinced by these arguments; Chief Justice Sanders made known that he thought such "a drastic extension of liability . . . should be made by the Legislature in connection with the revision of the . . . code."[115]

Nevertheless, the fact that the majority of the court could find a new, broad strict liability application within the Civil Code as consistent with existing civil law jurisprudence has relevance to potential Haynesville Shale water litigation. Domestic water users relying on aquifers in the Haynesville Shale area would epitomize the "innocent victim" the Louisiana courts had emphasized protecting. Clearly, these water users are in a poor position "to detect, evaluate and take steps to eliminate an unreasonable risk of harm which arises from" the extraordinary water withdrawals of the natural gas fracing operations.[116] As Louisiana groundwater laws currently stand, water users who feel their rights were damaged by a neighbor are largely limited to actions for negligence and intentional misconduct. In the same manner that the *Loescher* court decided that it would be rational and consistent with civil law traditions that remedies for damage from unreasonably dangerous things not be limited to where negligence is found, a court facing an aquifer depletion action against a nonnegligent fracing operation could find it both rational and consistent with the ancient *sic utere* maxim to

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107. *Entrevia*, 427 So. 2d at 1149.
108. Maraist & Galligan, *supra* note 81, at 360.
109. *Loescher*, 324 So. 2d at 449.
110. Luttrell v. Int'l Paper Co., 532 So. 2d 389, 391 (La. Ct. App. 1988).
111. Joseph S. Piacun, *The Abolition of Strict Liability in Louisiana: A Return to a Fairer Standard or an Impossible Burden for Plaintiffs?*, 43 LOY. L. REV. 215, 219 (1997).
112. *Id.* at 220.
113. Sistler v. Liberty Mut. Ins. Co., 558 So. 2d 1106, 1112 (La. 1990) (citations omitted).
114. 344 So. 2d 441 (La. 1975).
115. Holland v. Buckley, 305 So. 2d 113, 121 (La. 1974) (Sanders, C.J., dissenting).
116. *Sistler*, 558 So. 2d at 1112.

establish a limit to the reach of the absolute ownership doctrine. Like the Louisiana court supplanting a negligence determination with an unreasonably dangerous determination, courts in this situation need only, at an acceptable minimum, to replace a negligence determination with a "simple fact of life" threshold determination. If the facts prove that groundwater withdrawals from the defendant user are threatening the continued existence of an aquifer upon which the plaintiff neighbor necessarily relies, then the defendant's withdrawals may be found unreasonable.

Therefore, while a groundwater withdrawal for fracing operations may not be an unreasonably dangerous activity, it certainly could be considered unreasonable. The reasonable use doctrine for groundwater, as defined in the Restatement of the Law, Second Torts, holds one who withdraws groundwater liable if, among other things, his withdrawal "unreasonably causes harm to a proprietor of neighboring land through lowering the water table or reducing artesian pressure, [or] exceeds the proprietor's reasonable share of the annual supply or total store of ground water."[117] In facing litigation over aquifer depletion in the Haynesville Shale area, a Louisiana court would have civil law maxims, statutory provisions, rational concerns over justice and fairness, and numerous other reasons to apply reasonableness-based limits to groundwater withdrawal rights.

c. Articles 667 and 2315: Post-1996 Tort Reforms

In 1996, the Louisiana legislature passed a tort reform act that brought significant changes to tort law provisions within the Civil Code.[118] The principal purpose of the reform was to replace strict liability in Louisiana tort law with a fault-based system.[119] The legislature sought to overrule the line of Louisiana cases that had opened up the "fault" requirement in article 2315 and article 2317 to include strict liability for ultrahazardous activities[120] and for custodians of things that presented an unreasonable risk of harm.[121] However, because article 667 had long been interpreted under tort theories equivalent to and often in a direct

117. RESTATEMENT (SECOND) OF TORTS § 858 (1979).
118. 1996 LA. ACTS No. 1.
119. Maraist & Galligan, *supra* note 81, at 339.
120. Langlois v. Allied Chem. Co., 249 So. 2d 133, (La. 1971).
121. *See* Entrevia v. Hood, 427 So. 2d 1146, 1148 (La. 1983); Kent v. Gulf States Utils. Co., 418 So. 2d 493, 497 (La. 1982); Loescher v. Parr, 324 So. 2d 441 (La. 1975).

relationship with article 2315,[122] it too, despite being a provision based in property law, attracted the legislature's attention.[123] Article 667 currently reads as follows, with the additions emphasized:

> Although a proprietor may do with his estate whatever he pleases, still he cannot make any work on it, which may deprive his neighbor of the liberty of enjoying his own, or which may be the cause of any damage to him. *However, if the work he makes on his estate deprives his neighbor of enjoyment or causes damage to him, he is answerable for damages only upon a showing that he knew or, in the exercise of reasonable care, should have known that his works would cause damage, that the damage could have been prevented by the exercise of reasonable care, and that he failed to exercise such reasonable care. Nothing in this Article shall preclude the court from the application of the doctrine of* res ipsa loquitur *in an appropriate case. Nonetheless, the proprietor is answerable for damages without regard to his knowledge or his exercise of reasonable care, if the damage is caused by an ultrahazardous activity. An ultrahazardous activity as used in this Article is strictly limited to pile driving or blasting with explosives.*[124]

The first two sentences added clearly establish a fault-based standard for article 667 liability, thus eliminating the absolute[125] or strict liability[126] standards that Louisiana courts had "consistently declared since the end of the last century."[127] By explicitly referencing tort concepts such as "reasonable care" and *res ipsa loquitur*, these sentences also leave little doubt that the legislature was content with the blurring of property and tort law in applying article 667. On the other hand, the final sentence added, which specifically lists the only two ultrahazardous activities where strict liability applied (pile-driving and blasting with explosives), clearly shows the legislature had no tolerance for the case-by-case determinations Louisiana courts had engaged in regarding ultrahazardous and unreasonably dangerous activities in the past. The reforms similarly left article 2315 with a definition of fault strictly based on blameworthiness.[128]

Clearly, the 1996 tort reforms radically changed the prospects for potential litigation over groundwater access threatened in the Haynesville

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122. *See* Gulf Ins. Co. v. Employers Liab. Assurance Corp., 170 So. 2d 125, 129 (La. Ct. App. 1965) ("[T]he violation of the duty set out by Article 667 constitutes 'fault' within the meaning of Article 2315."); *see also* Butler v. Baber, 529 So. 2d 374 (La. 1988).

123. LA. CIV. CODE ANN. art. 667 (2010).

124. *Id.* (emphasis added).

125. Fontenot v. Magnolia Petroleum Co., 80 So. 2d 845, 849 (La. 1955).

126. Craig v. Montelepre Realty Co., 211 So. 2d 627, 631 (La. 1968).

127. Yiannopoulos, *supra* note 49, at 213.

128. Maraist & Galligan, *supra* note 81, at 342.

Shale area. Unfortunately, because it was intended as a solution to a perceived litigation problem, the effect that the tort reform would have on potential actions to protect groundwater rights, an area of Louisiana law virtually devoid of litigation, was likely not intended or anticipated by the legislature. The fault-based requirement that replaced the strict liability standard that had long accompanied article 667 effectively foreclosed any potential utilization of article 667 in its natural civil law role as the *sic utere* balance to the other water user's *neminem laedit* right to withdraw.[129] Each potential avenue to limit the absolute ownership doctrine previously highlighted was eliminated. While the intertwining of tort law and property law and the resulting complications remained,[130] the judicial balancing role this flexibility embodied was expressly rejected. In circumstances not involving negligence, intentional misconduct, or ultrahazardous activities, the obligations of a landowner under the property law concept of abuse of right of ownership not to unduly interfere with the rights of a neighboring landowner[131] were largely purged from the law. Finally, the legislature's emphatic rejection of the evolution in Louisiana jurisprudence to recognize unreasonably dangerous activities as warranting strict liability[132] also eliminates any possibility that a Louisiana court could similarly replace the negligence determination with a reasonableness determination for water use. Evidently, any protection of a "simple fact of life" threshold and limit to the absolute ownership doctrine in Louisiana groundwater law will need to emerge from the legislature and not the courts.

C. Louisiana Administrative Code and Revised Statutes

The court in *Adams* made rather obvious overtures to the Louisiana legislature, lamenting the implications of its holding but noting that it was not a matter of judicial concern.[133] Because article 490 of the Louisiana Civil Code controlled only in the "absence of statutory regulation, apportionment or allocation of the amount of water which may be withdrawn,"[134] the legislature was free to enact substantial legislation. Concerned that the *Adams* ruling might result in waste,[135] the legislature eventually responded by authorizing the Department of Public

129. Yiannopoulos, *supra* note 49, at 203.
130. *See id.*
131. *See supra* text accompanying notes 91-102.
132. *See supra* text accompanying notes 105-115.
133. Adams v. Grigsby, 152 So. 2d 619, 623-24 (La. Ct. App. 1963).
134. *Id.* at 624.
135. JOHN W. JOHNSON, UNITED STATES WATER LAW: AN INTRODUCTION 101 (2009).

Works (Department) to regulate "all water wells, regardless of yield or use."[136] The regulations are generally confined to registration requirements and the purpose is limited to ensuring "that water wells and holes are properly constructed; to collect, catalog and store water well construction and drilling data; and to gather data on water resources of the state."[137] Other than a requirement that control devices be installed on free-flowing water wells producing more than 25,000 gallons per day,[138] the regulations offer few enforceable provisions aimed at "conserv[ing] the ground water resources of the state."[139]

Far more significant are the watershed districts established by the legislature and whose Board of Commissioners (Board) has the authority "[w]ithin affected areas, to limit rates of production of water from any aquifer . . . when the quality or quantity of the supply of water afforded . . . is in danger for any reason."[140] In this affected area, the Board has the authority to set limits based on "detailed research, considering both recharge and withdrawal data,"[141] but cannot deny any person holding a water right from a "reasonable opportunity to produce and beneficially use his just and equitable share of the groundwater supply affected by an order limiting rates of production."[142] While what makes up an "affected area" within a district is left entirely to the discretion of the Board, each "just and equitable" share determination made within an affected area is to be based on "demonstrable geologic and hydrologic data taking into consideration the volume of groundwater in storage, the maximum perennial recharge potential, and any groundwater use priorities established by the [B]oard."[143] While the incorporation of geologic and hydrologic data in the first part of this calculation suggests universal limits for all users of an aquifer similar to the correlative rights doctrine, the inclusion of use priorities developed by the Board reflects instead the reasonable use doctrine. Although it is unknown what priority each Board may attach to hydraulic fracturing operations, the statute does not leave uncertain whether hydraulic fracing operations fall under the Board's regulatory authority.[144] At oil and gas

136. LA. ADMIN. CODE tit. 56, pt. 1, § 105 (2010).
137. *Id.* § 103.
138. *Id.* §§ 703, 705. A free-flowing well is defined as "an artesian well which is allowed to flow, under natural conditions, at or above the ground surface." *Id.* § 113.
139. *Id.* § 703.
140. LA. REV. STAT. ANN. § 38:3076(A)(19) (2010).
141. *Id.*
142. *Id.* § 38:3076(B).
143. *Id.* § 38:3073(11).
144. *Id.* § 38:3076(C).

rigs, the production of salt water for secondary recovery operations such as fracing is specifically exempted, thus impliedly endorsing the regulation of fresh water.[145]

The legislature also established a Ground Water Management Commission (Commission) with statewide authority over new large wells and new wells of all sizes that are in an area determined by the Commissioner of Conservation (Commissioner) to be an area of groundwater concern.[146] The determination of areas of concern is made upon the filing of an application to the Commissioner by any owner of a well that is significantly and adversely affected by water level decline or other listed problems.[147] The Commission must hold a public hearing and issue a written decision "based on good management practices and scientifically sound data gathered from the application."[148] Within thirty days of receiving a new well registration, the Commissioner can then issue an order against any well in the area of groundwater concern and "fix[] allowable production, spacing and metering, necessary to properly manage the state's ground water resources."[149] These regulations are not uniformly assigned and, therefore, do not reflect any recognition of correlative rights, although the criteria typical of reasonable use determinations are also absent from the statute. The regulatory power is curtailed for wells that are not large and are not in areas of groundwater concern, which can only be restricted in terms of well spacing.[150] There are also several types of wells, including oil or gas drilling supply wells used for the immediate needs of rig operations, which are exempt from the registration requirements and, therefore, the broad powers of the Commission to limit the absolute control doctrine.[151] Importantly, fracing water supply wells do not fall under the definition of drilling rig supply wells, and the Commissioner issued a memorandum on August 21, 2008, which explicitly stated this fact and reaffirmed the requirement for the registration of any new well, or well newly used for a nonexempt purpose.[152]

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145. *Id.*
146. *Id.* §§ 38:3097.3, .6.
147. *Id.* § 38:3097.6(A).
148. *Id.* § 38:3097.6(B).
149. *Id.* § 38:3097.3(i)(C)(4)(b)(i).
150. *Id.* § 38:3097(C)(4)(b)(ii).
151. *Id.* § 38:3097.3(C)(4)(a)(i)-(v).
152. Memorandum from James H. Welsh, Comm'r of Conservation, La. Office of Conservation, to Oil & Gas Exploration & Production Well Operators, Ground Water Use Other than Drilling Rig Supply (Aug. 21, 2008), *available at* http://dnr.louisiana.gov/assets/docs/minerals/hayesvilleshale/JHW-hsmemo-20080821.pdf.

In bestowing these regulatory powers on the Department, the Board, and the Commissioner, the extent to which the Louisiana legislature limited the absolute control doctrine is dependent on the characteristics of each well to be regulated. It is likely no coincidence that the more conflicting a regulatory provision is with the absolute control doctrine, the more limiting the provision is to its application. While all agencies have registration and reporting requirements[153] that are unfamiliar to the absolute control doctrine but not wholly inconsistent with it, only the Commissioner has complete control over the amount of water withdrawn,[154] which runs directly against the absolute control doctrine. Even then, the Commissioner is limited to exercising power only over large new wells or new wells in an area of groundwater concern.[155] With regard to protecting the "simple fact of life" threshold for Louisiana communities relying on threatened groundwater aquifers, ideally under the regulatory system set up by the legislature, the board for the appropriate watershed district would identify the affected area and limit the amount of water withdrawn from all existing wells to the "just and equitable" share to which user is entitled.[156] Simultaneously, the Commissioner could control the amount of water withdrawn for any new, large wells. Also, if the Commissioner received an application from a user that was significantly and adversely affected by declining water levels, the Commissioner could identify an area of groundwater concern and could control the amount of water withdrawn for any new well in the area.[157] Therefore, fully implemented, the Louisiana groundwater regulatory system can result in large exceptions to the absolute control doctrine.

Nonetheless, despite the broad and at times overlapping powers of the various administrative agencies, the protection of the "simple fact of life" threshold is not directly guaranteed by the statutes. The effectiveness of the statutory scheme in protecting this threshold may benefit from a brief examination of some of the Commissioner's responses to the Haynesville Shale water issues. Interestingly, despite noting the substantial threats the fracing operations posed to the Carrizo-Wilcox Aquifer, the Commissioner did not appear to frequently or significantly exercise his powers to control the amount of water

153. LA. REV. STAT. ANN. §§ 38:3076(A)(3)-(4), 38:3097.3(C)(4)(a).
154. *Id.* § 38:3097.3(C)(4)(b)(i).
155. *Id.*
156. *Id.* §§ 38.3076(B), 38:3073(11).
157. *Id.* § 38.3097.3(C)(4)(b)(i).

withdrawn.[158] The Commissioner had, however, issued several memoranda and news releases[159] reinforcing the reporting and registration requirements and encouraging, where practical and feasible, surface water sources to be used instead of the Carrizo-Wilcox Aquifer.[160] The Commissioner also issued regulations allowing the recycling of water used in hydraulic fracturing or other industrial operations for future fracing use, reversing the previous regulations.[161] A nonprofit organization named State Review of Oil and Natural Gas Environmental Regulations, Inc. (STRONGER) reviewed the Louisiana administrative management of the Haynesville Shale water issues and concluded, "[a]s a result of [the actions the Commissioner took], water demand for the year from October 1, 2009 to September 30, 2010 was met primarily (seventy-eight percent) by surface water."[162] Compared to initial fracturing operations in which nearly all of the water used was groundwater, this transformation led STRONGER to observe that the agency was "confident that the long-term adverse impacts to the Carrizo-Wilcox aquifer have been prevented."[163]

Despite this apparently successful result, Louisiana groundwater users may have some insecurities as to the manner in which the Carrizo-Wilcox Aquifer was protected, and whether it represented any limit to the absolute control doctrine or protection of the "simple fact of life" threshold. It is unknown to the author how many orders the Commissioner or various watershed district boards issued limiting allowable production at groundwater wells. However, these orders, if any were issued, were not heralded by the agencies,[164] outside organizations,[165] or the public[166] for solving the Haynesville Shale water issues. It was the transfer of fracing water withdrawals to surface water resources that protected the aquifer, and there is no evidence that ordered limits on groundwater withdrawals were what brought on this voluntary shift

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158. At the time of this writing, the author was unable to locate any evidence of orders issued by the commissioner limiting the production of a water well.

159. *See DNR Reinforces Well Notification Rules*, LA. DEP'T OF NATURAL RES. (Aug. 13, 2008), http://dnr.louisiana.gov/index.cfm?md=newsroom&tmp=detail&aid=495; Memorandum from James H. Welsh, *supra* note 152.

160. Memorandum from James H. Welsh, *supra* note 152.

161. LA. ADMIN. CODE tit. 43, pt. 19, § 313 (2010).

162. LA. DEP'T OF NATURAL RES., LOUISIANA HYDRAULIC FRACTURING STATE REVIEW 5 (2011), *available at* http://dnr.louisiana.gov/assets/news_releases/FinalLouisiana-HFReview-2011.pdf.

163. *Id.*

164. Memorandum from James H. Welsh, *supra* note 152.

165. LA. DEP'T OF NATURAL RES., *supra* note 162.

166. *Succession in Shale To Be Shared*, SHREVEPORT TIMES, Sept. 7, 2010.

within the industry. If, in fact, the regulatory agencies did not implement the full force of their allowable amount withdrawn powers, an understanding of their reasoning could help us understand whether the legislature's statutory groundwater management scheme will adequately protect the "simple fact of life" threshold in the future. The most obvious explanation is that the drastic well production control powers were not needed to protect the aquifer. Clearly, to some extent, this must be the case because the aquifer was protected. However, encouraging a shift to surface water resources is only incidentally among the Commissioner's statutory directions, if at all. The Commissioner is instructed to "consider a well owner's efforts to develop alternate water sources" before placing restrictions on a well outside of a critical area of groundwater concern,[167] but there is no statutory instruction for the Commissioner to encourage the development of alternate water resources before placing a restriction on the well. Furthermore, the Commissioner is generally charged with "stress[ing] conservation as the primary mechanism for the protection of the state's groundwater resources,"[168] and while this coincides with the order allowing recycled water to be used for fracing operations,[169] a search for alternate water resources is scarcely mentioned in the statute despite being an essential part of the agency-endorsed solution. Considering that the Commissioner must place the restrictions on the well within thirty days of receiving the application,[170] there is little room, temporally or within the language of the statute, to recognize the encouragement of alternate sources of water as preceding or supplanting the Commissioner's well restriction powers. Therefore, if the statutory scheme did not directly protect Louisiana aquifers, the likelihood that the groundwater regulations will protect the "simple fact of life" threshold in the future, when perhaps surface water resources are not available, may depend on why the Commissioner found the memoranda encouraging the use of surface water resources so effective, but not, apparently, the allowable production controls.

One plausible explanation is that by merely issuing memoranda reasserting the registration requirements, especially the reminder that all new wells and existing wells newly used to supply hydraulic fracturing operations must register,[171] the regulated industry anticipated future well withdrawal restrictions and followed the Commissioner's suggestions to

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167. LA. REV. STAT. ANN. § 38:3097.3(C)(4)(b)(i) (2010).
168. *Id.* § 38:3097.3(C)(7).
169. LA. ADMIN. CODE tit. 43, pt. 19 & 313.3 (2010).
170. LA. REV. STAT. ANN. § 38:3097.3(C)(4)(b).
171. Memorandum from James H. Welsh, *supra* note 152.

utilize surface water resources. If this is indeed what occurred, then the regulatory scheme would be indirectly responsible for protecting the Carrizo-Wilcox Aquifer and would have shown a promising potential to protect other aquifers in the future. However, it is not the only explanation for why well restrictions were not exercised as effectively as alternative source utilization. It is also possible that the Commissioner found that the circumstances surrounding the development of the Haynesville Shale natural gas play foreclosed any significant utilization of allowable production restrictions. For example, the executive director of a Louisiana Surface Water Management Commission acknowledged that if the "bells and whistles" go off, he would "be the guy who says 'stop.'"[172] However, he added that he did not anticipate this happening and further revealed to his audience of oil and gas operators: "Believe me guys, we didn't ask for this . . . . We don't want to get in the way. These guys are doing big business for the state of Louisiana."[173] The irresistible economic force that the Haynesville Shale natural gas play represented could have stayed any agency action that would have threatened development of the play. Speculation as to future water access could doom investment in a field that completely relies on millions of gallons of water to remain profitable. Beyond the economic benefits to the state, Louisiana agencies may have also been apprehensive of the potential financial liabilities the state may face from taking of property challenges brought by well owners who had their allowable production limited. Although similar challenges have been rejected elsewhere,[174] the exceptionally large investment-backed expectations involved in the development of the Haynesville Shale play may have made the state want to avoid a potential outcome for the plaintiffs, however unpredictable or unlikely.

Finally, there could be snags and loopholes within the statutory mechanisms that make the issuance of well restriction orders impracticable. For instance, the designation of areas of groundwater concern is made in total reliance on the application submitted by the owner of a well that is significantly and adversely affected by water level decline.[175] This application, which must be sufficiently constructed for the resulting decision to be "based on good management practices and

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172. *AG: Flowing Water Is Under State's Control*, SHREVEPORT TIMES, Apr. 3, 2010.

173. *Id.*

174. *See, e.g.*, Shields v. Norton, 289 F.3d 832 (5th Cir. 2002) (holding that the application of the Edwards Aquifer Act is not a taking of property); Crookston Cattle Co. v. Minn. Dep't of Natural Res., 300 N.W.2d 769 (1980) (holding that replacing the absolute control rule with regulated riparian statute is not a taking of property).

175. LA. REV. STAT. ANN. § 38:3097.6(A) (2010).

scientifically sound data,"[176] burdens the significantly and adversely affected well owners who seek its protection with large research and development expenses. However, in this regulatory scheme, unlike a judicially enforced water right, there is no hope of damages or injunctions to motivate interested parties to overcome the high transaction costs. Instead, the designation of an area of groundwater concern gives the Commissioner the power to issue restrictions on new wells,[177] not the wells that have adversely affected the well owner that submitted the application. If the high transaction costs did lead to an insufficient recognition of areas of groundwater concern, there would therefore be a significant and possibly growing gap in the statutory scheme. In the end, the important role that an agency-supported shift from groundwater to surface water withdrawals played, and the limited role that withdrawal restrictions may have played in resolving the Haynesville Shale water crisis, raises questions as to whether the statutory scheme represents real and necessary limits to the absolute control doctrine. Interestingly, a self-interested plaintiff well owner seeking protection of a water right, like those that may have potentially been recognized in the Louisiana Civil Code or Mineral Code, would not encounter any of the outside influences or procedural inefficiencies that may have helped hold in check meaningful limits to the absolute control doctrine.

IV. SURFACE WATER—RIPARIAN RIGHTS

Louisiana surface water law, much like the state's groundwater law, very closely resembles a common law system of water rights: American common law riparianism.[178] American riparianism was in fact first drawn from civil law sources including the Code Napoleon.[179] As is also the case with groundwater law, the ample availability of water and infrequency of conflicts over its use have left the riparian system in Louisiana with less variance from the common law doctrine than the common law states that neighbor it.[180] The Civil Code has three provisions that codify riparian rights. Article 657 states, "[t]he owner of an estate bordering on running water may use it as it runs for the purpose

176. *Id.* § 38:3097.6(B).
177. *Id.* §§ 38:3097.3, .6.
178. Klebba, *supra* note 55, at 1791.
179. Thomas S. Currier, *Acquisition of the Right To Use Water*, 29 TUL. L. REV. 554 (1955) (citing C.E. Busby, *American Water Rights Law*, 5 SO. CAR. L.Q. 106, 113-16 (1952)).
180. Dellapenna, *supra* note 25, at 73.

of watering his estate or for other purposes."[181] Article 658 establishes identical rights for estates where water runs over the land, adding only that the owner is bound to return the water to its natural channel before it leaves the estate.[182] The final provision is article 667, which, as already discussed, limits the uses available to a landowner to those that do not interfere with a neighbor's like use or cause damage to a neighbor.[183]

In regard to the amount of water available to each riparian user, common law riparian rights frequently adopt the natural flow theory or the reasonable use theory. Under the natural flow theory, each riparian owner has a right for the stream to flow at its natural quality and quantity, with only small exceptions for the natural uses of upstream riparian property.[184] Natural uses are usually limited to domestic uses.[185] The reasonable use theory evolved to allow more substantial use of the water than mere domestic uses,[186] and instead limits the amount of water available for each user based on the circumstances, evaluating the relative needs of the riparian owners, the natural conditions of the stream, and the types of use proposed.[187] While domestic uses are not exclusively permitted under the reasonable use theory, as they are under the natural flow theory, they are given a preference over other uses.[188] Louisiana, like many other common law riparian states, does not explicitly embrace either theory.[189] The obligation in article 658 to return water to its ordinary channel is in line with the natural flow theory. However, Louisiana courts have applied reasonable use concepts without reference to any code provisions.[190] There is uncertainty, for example, as to whether the Louisiana Supreme Court's allowance of a reasonable amount of pollution in *Long v. Louisiana Creosoting Co.* effectively resolves the question in favor of reasonable use theory, or whether the "as it runs" language in article 661 may still have applicability in establishing natural flow theory rights.[191] As one commentator explained, "'reasonable use' is

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181. LA. CIV. CODE ANN. art. 657 (2010).
182. *Id.* art. 658.
183. *Id.* art. 667.
184. *See, e.g.*, Currier, *supra* note 179, at 555.
185. *Id.*
186. JOHNSON, *supra* note 135 (citing Harris v. Brooks, 283 S.W.2d 129 (Ark. 1955)).
187. *See, e.g.* Currier, *supra* note 179, at 555-56.
188. *Id.*
189. Dellapenna, *supra* note 25, at 75.
190. *Id.* (citing Long v. La. Creosoting Co., 69 So. 281 (La. 1915); Jackson v. Walton, 2 La. App. 53 (La. Ct. App. 1925)).
191. *Compare* Currier, *supra* note 179, at 563 (explaining that *Long* establishes reasonable use theory), *with* Dellapenna, *supra* note 25, at 75 (discussing uncertainty as to whether *Long* establishes reasonable use theory).

nearly universally recognized in American courts today," even though "[t]he natural flow language still exists in some jurisdictions."[192] Given the lack of litigation and legislation, and the importance of statutory provisions in Louisiana law, it is likely too early and too difficult to anticipate the full extent to which Louisiana will adopt the reasonable use theory without specific legislative action.

This is not the end to the uncertainty in Louisiana surface water law. The transferability of a riparian right apart from the transfer of land, while a long established right in many jurisdictions,[193] has never been addressed by a Louisiana court.[194] Some commentators have recognized that article 661 creates a servitude in favor of the downstream estate, and because servitudes in Louisiana cannot be conveyed separate from the land to which they are attached, water rights, therefore, cannot be separated from the land.[195] Ambiguity also shrouds the legality of nonriparian uses and withdrawals not exercised under any transferred riparian right. Although there is no general statutory authority for withdrawals to be used for nonriparian lands, they appear to be accepted by all interested parties.[196] The legislature has shown its approval by passing numerous statutes authorizing nonriparian uses by nonriparians such as waterworks companies,[197] irrigation companies,[198] and municipalities.[199] Riparian water users seldom sue over nonriparian water use, authorized or not, and the courts have faced a dearth of litigation as a result.[200] One of the few applicable cases, *Jackson v. Walton*,[201] is a 1915 decision by the Louisiana Second Circuit Court of Appeal. The court held that a riparian landowner was not entitled to an injunction against the water withdrawals of a nonriparian unless he showed actual or threatened damage to his riparian rights.[202] As a result, while uncertainty plagues surface water law in regard to limiting the amount withdrawn and who can withdraw it, generally, any action brought before actual or

192. JOHNSON, *supra* note 135, at 25.

193. *Id.* at 25-26 ("In most jurisdictions, water rights may be transferred . . . . Ordinarily water rights may be severed from the land.").

194. Dellapenna, *supra* note 25, at 75. A right of access, as opposed to a right to withdraw, has been upheld by a Louisiana court of appeals. Keeley v. Schexnailder, 97-1093 (La. App. 3 Cir. 4/1/98); 708 So. 2d 838.

195. *See* Currier, *supra* note 179, at 563-64; LA. CIV. CODE ANN. art. 650 (2010); *see also* Klebba, *supra* note 55, at 1795.

196. Dellapenna, *supra* note 25, at 75.

197. LA. REV. STAT. ANN. § 19:2(4) (2010).

198. *Id.* § 45:61.

199. *Id.* § 33:3815.

200. Dellapenna, *supra* note 25, at 75.

201. Jackson v. Walton, 2 La. App. 53 (La. Ct. App. 1925).

202. *Id.*

threatened damages would involve a "theoretical conflict" brought "as a matter of principle or perversity [that] probably would not be successful."[203]

Significantly, however, a 1978 revision to the Louisiana Civil Code imparted an important control on the use of surface water. Running and navigable waters were reclassified as "public things" belonging to "the state or its political subdivisions in their capacity as public persons."[204] A prohibition against the donation of public property or things of value in the Louisiana Constitution was a constraint on nonriparian uses of running surface water.[205] Article VII, section 14 of the Louisiana Constitution reads: "Except as otherwise provided by this constitution, the . . . property, or things of value of the state or of any political subdivision shall not be . . . donated to or for any person, association, or corporation, public or private."[206] The Louisiana Supreme Court recently reevaluated the constitutionality of certain transactions involving public and private entities under article VII, section 14, in a case involving the issuance of bonds by a city in Louisiana to facilitate economic development through the construction of two retail centers.[207] In *Cabella's*, the Louisiana Supreme Court held that a violation of article VII, section 14, occurs only where there is a "gratuitous alienation" of state property.[208] In making its determination, the court first assessed the transaction as a whole to see if it was gratuitous on its face.[209] Passing this test, the court then submitted the transaction to two additional requirements: that it be for a public purpose, and that, judging by the intent of the parties, the public entity had an expectation of receiving something of value in return for expending the public property.[210] Regarding the facts at issue in *Cabella's*, the Louisiana Supreme Court found that both of these requirements were satisfied.[211] The goal of facilitating economic growth was a public purpose and there was an expectation on the part of the public entity, when looking at the agreement as a whole, that it would receive more than it gave up. As the court surmised, the city had "not entered into the obligations at issue

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203. Klebba, *supra* note 55, at 1797.
204. LA. CIV. CODE ANN. art. 450 (2010).
205. LA. CONST. art. VII, § 14.
206. *Id.* art. VII, § 14.
207. Bd. of Dirs. of the Indus. Dev. Bd. of Gonzales v. All Taxpayers, Prop. Owners, Citizens of Gonzales (*Cabella's*), 2005-C-2298 (La. 9/6/06); 938 So. 2d 11.
208. *Id.* at 20.
209. *Id.*
210. *Id.* at 22.
211. *Id.*

gratuitously. Clearly, both parties expect to receive something of value in return for the performance of their obligations."[212] There was no indication by the Louisiana Supreme Court that the expectation of the public entity needed to be that it would receive more than it gave up.[213]

As it relates to the availability of running surface water for hydraulic fracturing operations in the Haynesville Shale, which are largely nonriparian interests, the requirements of article VII, section 14 of the Louisiana Constitution may be easily satisfied. The enormous economic benefit to the state in exchange for millions of gallons of running surface water would likely offer both a public benefit and an expectation on the part of the public entity of receiving something of value above giving it away. However, as clear a calculation as this appears to be, there are notable environmental considerations lying deeper below the surface. How the legislature dealt with the environmental issues and constitutional requirements upon implementing a surface water management act in response to the Haynesville Shale water crisis will be discussed in Part VI.

V. COMPLEXITIES AND FAILURES OF LOUISIANA WATER LAW

As the Louisiana legislature first began to evaluate the water issues and interests at stake in the Haynesville Shale area, the complexity and inadequacy of the current legal systems must have been apparent. Virtually from its inception, Louisiana water law was built upon a legal fiction of perpetual availability, which, absent major modifications, would doom the water system to ultimate failure.[214] Amassed upon this scientific ignorance relatively unique to Louisiana water law is the fundamental flaw of water law generally: the scientifically unwarranted division of water law into distinct groundwater and surface water universes.[215] As one commentator describes what modern science fully comprehends, "[t]he terms 'ground water' and 'surface water' both apply to a single, indivisible resource-the fresh water supply[.] These terms simply describe this water at different points in the hydrological cycle."[216]

Louisiana water law also suffers from the ill-effects of decades of hibernation and neglect within the courts and the legislature. Perhaps the most detrimental effects have resulted from the century-long onslaught water law quietly endured from numerous, dissimilar areas of law. Water

212. *Id.* at 24.
213. *Id.*
214. *See supra* text accompanying notes 20-25.
215. Levine, *supra* note 14, at 1125-26.
216. *Id.* at 1125.

law in Louisiana, by judicial analogy, legislative oversight, and overlap within the Civil Code, existed at the intersection of oil and gas law, tort law, and property law. An application of ancient but generalized property law maxims such as *ad coelom* was first supplemented within oil and gas jurisprudence by the "ferae naturae" concept and then analogized to water law.[217] The codification of these maxims became entangled in a long progression of fluctuating court decisions that grasped alternatively between property and tort law interpretations of the Code provisions in order to solve the controversy at issue.[218] Despite affecting potential water rights, these cases rarely involved actual consideration of water law.[219] Furthermore, while this judicial vacillating may have represented efforts to find the long sought after balance between the ancient maxims, a general trend in Louisiana jurisprudence that offered a promising strain of reasoning for the recognition of limits to the absolute ownership doctrine,[220] it was nevertheless halted by the 1996 tort reforms imposed by the Louisiana legislature. Remarkably, the unfavorable effects of the intertwining of tort and property law that culminated in the tort reforms even reached the protections of an abuse of right of ownership resting purely in property law. At various times, therefore, the most fundamental water rights of Louisiana citizens, or more often the legal protections of those rights, were curtailed or virtually eliminated by the courts and the legislature. Furthermore, this often occurred even without the benefits of the due process safeguards of an adversarial dispute or the democratic assurances of a legislative debate.

The effect this had on Louisiana groundwater law is obvious. The analogy to oil and gas applied a system of laws alien to most essential necessities of a water law system. While the goal of a fossil fuel regulatory system such as the Mineral Code may be to "promote the production of all natural resources in a manner that will prevent waste and allow a greater ultimate recovery,"[221] the goals of a system of water laws quite clearly should revolve around protection of an aquifer and not the most efficient depletion of its precious life-giving resource.

What the *Adams* court did appreciate, however, is "the growing value and importance of water as a natural resource," noting that "in

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217. Higgins Oil & Fuel Co. v. Guar. Oil Co., 82 So. 206 (La. 1919); Adams v. Grigsby, 152 So. 2d 619 (La. Ct. App. 1963).

218. *See supra* text accompanying notes 68-75.

219. The *Adams* decision is one of the only instances in Louisiana jurisprudence involving the Code articles that is raised in a water law context.

220. *See supra* text accompanying notes 84-85, 115-117.

221. Conly, *supra* note 41, at 1244.

some instances, it is more valuable and necessary than oil or gas."[222] The court proceeded to rather explicitly call upon the legislature to address "the problem of the regulation and control of water supply and use."[223] Indeed, the absolute ownership doctrine may have been a survivable water law system in Louisiana if the legislature had effectively acted at some point during the decades between conflicts to ensure adequate legal protection of Louisiana citizens' fundamental water rights. Instead, however, water laws languished under an inattentive legislature that not only failed to address the shortcomings of the law, but instituted radical changes to the areas of law that shaped and surrounded water law, effectively eliminating or impairing the few potential protections water users had. In its 1996 tort reforms, the legislature, which was attempting to address problems it saw in tort litigation, fundamentally altered an area of water law that had been utterly devoid of litigation.[224] With inflexible fault-based standards, a Louisiana plaintiff can never enjoin or collect damages from a prudent and efficient hydraulic fracturing operation that is depleting their shared groundwater aquifer. When the legislature did eventually respond, it was with a regulatory scheme that may be procedurally inefficient and susceptible to outside forces that curtail its application.

VI. ACT 955: SURFACE WATER MANAGEMENT

The Louisiana legislature's response to the Haynesville Shale water issues was twofold. First, it passed a resolution that called for the Ground Water Resource Commission to prepare a comprehensive report and recommendations on the state's ground and surface water resources by March 1, 2012.[225] Given the complexities of the science and the existing law, the legislature's action can hardly be questioned. However unwilling to halt the irresistible economic force that the natural gas boom had become, the legislature passed Act 955: Surface Water Management Act[226] to protect surface water resources before the Ground Water Resource Commission's final report.[227] The Act allows the Secretary of the Department of Natural Resources (Secretary) to enter into cooperative agreements with water users by which users can purchase set

222. *Adams*, 152 So. 2d at 623-24.

223. *Id.*

224. *See* Levine, *supra* note 14, at 1128.

225. LA. DEP'T OF NATURAL RES. OFFICE OF CONSERVATION, GROUND WATER RESOURCES COMMISSION 18TH REGULAR MEETING (2010), *available at* http://dnr.louisiana.gov/assets/docs/conservation/groundwater/20101006-transcript.pdf.

226. Act No. 955, H.B. 1486, Reg. Sess. (La. 2010).

227. *Id.* § 2.

amounts of running water from the state.[228] To satisfy the prohibition against the donation of state property in article VII, section 14 of the Louisiana Constitution, the private user must provide fair market value for the water and ensure that it will be put to a use that is in the public interest.[229] Importantly, economic development, employment, and increased tax revenue created by water uses are included in the Act as acceptable means of determining the fair market value.[230]

Additionally, the Secretary must determine that the agreement is based on best management practices and sound science, and that it performs the balancing of environmental and ecological impacts with economic and social benefits as required by article IX, section 1 of the Louisiana Constitution.[231] Act 955 also requires the Secretary to consider other existing and potential users of the running surface water and to prioritize the uses by human consumption, agricultural uses, and commercial or industrial uses.[232] Finally, the Act reserves to the Secretary the power to reduce, condition, or terminate the amount of water withdrawn where it is necessary to maintain a sustainable environmental or ecological balance.[233]

VII. EVALUATING ACT 955

A. Water Law Implications

When the Louisiana legislature reacted to the Haynesville Shale water issues, the decision to shift the fracing withdrawals from groundwater to surface water had already been made by the state administrative agencies and the oil and gas industry.[234] Louisiana groundwater law, along with the groundwater resources themselves, did not appear capable of protecting the Louisiana communities that relied on the aquifers. Even the solution to move to surface water resources was encouraged by Louisiana agencies but not, perhaps, from a statutory origin.[235] Simultaneously, Louisiana surface water laws appeared both legally and physically available, with only the cost to the state unknown.

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228. *Id.* § 1.
229. *Id.*
230. *Id.*
231. LA. CONST. art. IX, § 1 ("The natural resources of the state, including air and water, and the healthful, scenic, historic, and esthetic quality of the environment shall be protected, conserved, and replenished insofar as possible and consistent with the health, safety, and welfare of the people. The legislature shall enact laws to implement this policy.").
232. Act No. 955, H.B. 1486, Reg. Sess. (La. 2010).
233. *Id.*
234. *See supra* text accompanying notes 160-163.
235. *See supra* text accompanying notes 163-179.

With the pressure of enormous economic benefits, the legislature acted both to gain an understanding of the complexities of the Louisiana water system and to facilitate the constitutional transfer of state-owned surface water interests to those of the energy company.[236] Furthermore, Act 955 has numerous environmental protections, a statutorily imposed priority for domestic and agricultural uses, and an agency reserved right to alter or terminate any agreement.[237] Because the Act states that it does not change riparian rights, riparian water users are free to assert their rights in court.[238] Although it is regrettable that Act 955 did not address the numerous groundwater issues, ideally this legislation will come after the 2012 comprehensive report is produced and a comprehensive and scientifically sound water law system put in place. As a temporary solution to a long dormant and exceedingly complex problem, Act 955 is a good addition to Louisiana water law.

B. Constitutional Implications

What lay before the Louisiana legislature, as it contemplated the Haynesville Shale water crisis, was a fundamentally flawed and hopelessly complex amalgamation of laws that contradicted the rights, even the "simple fact of life" rights, that Louisiana citizens needed to have as part of a water system that, in turn, contained its own unappreciated complexity and unknown environmental and ecological effects. To each individual legislator, the uncertainties must have been overwhelming. As a whole, the legislature certainly could not have failed to appreciate the monumental task finally put before it, and its understandable hesitation is evident. It first called for a comprehensive study and only then enacted a temporary act to regulate the surface water being withdrawn.[239] Any evaluation of a legislative action engineered so hastily to address a problem so complex at the behest of economic interests so irresistible arguably garners a presumption of imprudence at the onset.

There are, of course, bounds to the freedom of the Louisiana legislature, the most important of which are enshrined in the constitution. Considering the blatant complexity of the problem before the legislature, the various circumstances of which culminate in a near presumption against the merits of their action, and the legislature's apparent recognition of this weakness, it comes as no surprise that Act 955

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236. *See supra* text accompanying notes 225-233.
237. *See* Act. No. 955, H.B. 1486 § 1, Reg. Sess. (La. 2010).
238. *Id.*
239. *See id.*

contains special procedural and substantive emphasis on the satisfaction of two essential constitutional provisions.[240] To assure the constitutional prohibition against the donation of state property, as found in article VII, section 14, the legislature required fair market value be reached in exchange for any amount of water withdrawn.[241] This fair market value requirement extends beyond the gratuitous alienation standard set by the Louisiana Supreme Court.[242] While the court found that the constitutional prohibition did not extend beyond an expectation on the part of the public entity that it would benefit from the transaction and thus make it nongratuitous,[243] the legislature evidently determined that this gratuitous alienation standard, which was accommodating to its own discretion, was nonetheless inadequate to ensure the constitutionality of the transactions that would result from Act 955. Surely, the guarantee of the law that a prohibition in a constitution will not be violated by public entities, including the state legislature, cannot depend on the legislature itself recognizing each impending risk of a violation and subjecting itself on each occasion to an interpretation and application of the constitutional requirements of the requisite strictness. Instead, the courts must enforce the prohibition by applying the strictest standards in every circumstance to which it is applicable. In passing Act 955, the Louisiana legislature decided, in its most vulnerable moment, that a public entity receiving less than fair market value in a transaction for a state-owned natural resource violated article VII, section 14 of the Louisiana Constitution.[244]

Additionally, the legislature emphasized that each cooperative agreement must involve the balancing of environmental and ecological impacts with the economic and social benefits as required by article IX, section 1 of the Louisiana Constitution.[245] Act 955 did not explicitly tie the calculations involved in this balancing to the calculations involved in assessing the fair market value, but the connection follows logically and by necessity. The Louisiana Supreme Court has held that article IX, section 1 of the constitution is a "rule of reasonableness" that "requires a balancing process in which environmental costs and benefits must be given full and careful consideration along with economic, social and other factors."[246] As applied through Act 955, the environmental costs are

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240. *See supra* text accompanying notes 228-231.
241. *See supra* text accompanying note 229.
242. *See supra* text accompanying notes 207-213.
243. *See supra* text accompanying note 210.
244. *See supra* text accompanying note 228.
245. *See supra* text accompanying note 231.
246. Save Ourselves, Inc. v. La. Envtl. Control Comm'n, 452 So. 2d 1152, 1157 (La. 1984).

certainly not to be considered for the balancing process but forgotten for the fair market value determination. Once the environmental damages and liabilities accompanying any transaction are identified and introduced, a fair market would unquestionably operate to incorporate these costs in any corresponding valuations. An artificial separation of these calculations, through market manipulation or institutional amnesia, cannot not be read into Act 955. This is not to say that the market for water in Louisiana would itself fully account for these harms; indeed, water is largely considered a free good with a price paid only for extraction, treatment, and delivery.[247] However, the well-criticized failure of water law systems in general to include a real cost for the volume of water pumped[248] should not be adopted as a limitation to the inclusiveness of a fair market for water. As one commentator forewarned, "charging to nature all the consequences of an unpriced demand on the basis that []water is a free good will become ever harder to justify,"[249] and certainly, the legislature did not intend to justify it here.

Therefore, the explicit allowance for employment, increased tax revenue, and the especially indirect benefit of economic development in meeting the fair market value must be met by a full and careful consideration of the direct and indirect environmental costs. The direct costs include harm to the fish and wildlife habitats, to groundwater recharge, and to sediment load carrying capacity, among other things.[250] However, the indirect costs extend far beyond these and include the enormous amount of trucking required to get the water to the drilling site, the disposal of the fracing water after it is used and contaminated, the liabilities for potential groundwater contamination, the liabilities for potential blowouts at the drill site, the noise pollution at the drill site, and even the contribution to air pollution that indirectly results from increased natural gas production. The business sales, categorized otherwise as economic development and injected into the Louisiana economy because of hydraulic fracturing, are projected to be over sixty times larger than the tax revenue.[251] The inclusion of these indirect benefits and their enormous weight in the fair market value determination invites the inclusion of the indirect environmental costs.

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247. BECK & KELLEY, *supra* note 19, § 18.07.

248. *See generally id.* at 18.65-.77.

249. *Id.* § 18.08.

250. *See* Ronald A. Kaiser & Shane Binion, *Untying the Gordian Knot: Negotiated Strategies for Protecting Instream Flows in Texas*, 38 NAT. RESOURCES J. 157, 158 (1998).

251. Carolyn Roy, *Haynesville Shale Economic Impact Study Released*, LA. OIL & GAS ASS'N (May 15, 2009), http://loga.la/Haynesville-shale-news/?p=40.

Under these measures, Act 955 must be declared unconstitutional because it fails to give the environmental costs and benefits full and careful consideration. This is apparent from the legislature's own implied admission, because it does not follow that the legislature can call for a comprehensive study to assess environmental effects while simultaneously ordering agencies to give full and careful consideration to these yet-to-be-studied environmental effects.[252] Because the requirements of article IV, section 1, are interwoven in Act 955 with the requirements of article XII, section 14, the fact that the fair market value calculations are in their infancy reveals a clear violation of both constitutional requirements. As a Department of Natural Resources official commented, "right now we don't have the luxury of having all of the assessments of value of water; so we use the best assessment we can get."[253] Satisfying the constitution, of course, is not a luxury, and even a casual factual assessment of the agency's best assessment of fifteen cents per 1000 gallons[254] seems woefully inadequate compared to the five dollars and forty cents per 1000 gallons a homeowner in rural Shreveport is currently paying for municipally supplied water.[255] The fifteen cents best assessment was taken from the "long-standing practice of the Sabine River Authority,"[256] and its adoption blatantly disregards both the effects that billions of gallons of increased water use would have on this figure and the differences in water values in regions of the Haynesville Shale area that may be experiencing shortages or enjoying surpluses. Furthermore, the failure to account for the additional, and perhaps exponential, environmental costs that accompany an exorbitant increase in the amount of water withdrawn makes the fair market value requirement a fantasy. Undervalued assessments of the fair market value of water can have substantial lasting consequences that can doom the regulatory system. As one commentator explained, "[a]ny valuable good . . . available at no or absurdly low cost will generate high, perhaps insatiable, demand, and that is the case with water. . . . Put bluntly, most

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252. *See supra* text accompanying notes 225, 227, 229.

253. LA. DEP'T OF NATURAL RES., OFFICE OF CONSERVATION, GROUND WATER RESOURCES COMMISSION 17TH REGULAR MEETING 84 (Aug. 18, 2010) (statement of Rick Heck, Director, Petroleum Lands Division, Office of Mineral Resources, Department of Natural Resources), *available at* http://dnr.louisiana.gov/assets/docs/conservation/documents/Transcript.pdf.

254. *Oil, Gas Operators Have Questions About New Water Law*, SHREVEPORT TIMES, June 24, 2010.

255. *Meter and Sewer Fees*, DEP'T OF OPERATIONAL SERVICES, CITY OF SHREVEPORT, http://www.shreveportla.gov/service/water11.htm (last visited Apr. 19, 2011).

256. Vickie Welborn, *New Louisiana Law Governs Use of Surface Water*, INVESTORVILLIAGE.COM (June 24, 2010, 12:55:59 PM), www.investorvilliage.com/smbd.ups?mb=41468mn=574068pt=msg&mid=9185990.

farmers, households, and industries will not conserve until prices force them to do so."[257]

VIII. CONCLUSION

The Haynesville Shale play represents an irresistible economic force within the State of Louisiana. However, when enormous water withdrawals supplying this booming development threatened the sustainability of groundwater withdrawals on which Louisiana citizens depended, the irresistible force met an immovable object. This is ultimately what decided the water crisis facing the Haynesville Shale area. Unfortunately, while both causes were politically undeniable, the antiquated Louisiana water laws offered unlimited withdrawal rights to the fracing operations and virtually no protections to the domestic uses of Louisiana citizens. Of its many faults, the entirely one-sided nature of Louisiana water law is perhaps its greatest shortcoming, because, even in the political arena, the citizens of Louisiana are left with little bargaining power. The knee-jerk reaction of the Louisiana legislature to redirect the flood of water withdrawals to the state's ample running water resources was a foregone conclusion. However, in a time when a legislature is at its weakest, constitutional protections must be given special regard. Legislative intent to hold its legislation to a higher constitutional standard must, in this instance, if in any at all, be held to outweigh a judicial standard based in legislative discretion and flexibility. Under article VII, section 14 of the Louisiana Constitution, therefore, the Louisiana Supreme Court should adopt a fair market value standard to assess the constitutionality of any transaction for a state-owned natural resource.

Water laws both in Louisiana and the United States have generally earned characterizations as stagnant, inefficient, and unresponsive to reality. The traditional and near universal failure to charge a fair market value for water resources characterizes these failures. It is, in fact, "the success of failure" that this undervaluing represents that makes it "more difficult . . . politically to eliminate or modify it. . . . The more inefficient the government policy the more it will detract economic decisions away from those that would be made in absence of the policy."[258] Regardless of the fact that Act 955 is only temporary while a comprehensive study is performed, if the cooperative agreements entered into under it, which can

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257. BECK & KELLEY, *supra* note 19, § 18.07 (quoting Kenneth D. Frederick, *The Legacy of Cheap Water*, 83 RESOURCES 3 (1986)).

258. BECK & KELLEY, *supra* note 19, § 18.07 (quoting Dwight R. Lee, *Political Provision of Water: An Economic/Public Choice Perspective*, *in* SPECIAL WATER DISTRICTS: CHALLENGE FOR THE FUTURE 51, 61 (James N. Corbridge, Jr. ed., 1983)).

be renewed until the end of 2020, undervalue the water exchanged, it would add to the mounting outside pressures and uncertainties upsetting the legislative process.