

WATERS FOR FIGHTIN': IS MISSOURI GROUNDWATER ALLOCATION LAW ADEQUATE TO COPE WITH INCREASED DEMAND?

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I. INTRODUCTION

Access to water and the laws governing water allocation have long been sources of contention in Western States where agricultural production is dependent on irrigation from scarce water resources and must compete for those resources with growing populations in urban centers such as Los Angeles, Las Vegas, and Phoenix.¹ However, water shortages, once a problem relegated primarily to portions of the Western United States, are becoming more common in other parts of the country, particularly portions of the Midwest and Southeast.² Traditional causes of drought, such as lack of rainfall, are part of the reason for these recent shortages, but other factors are increasingly being blamed for shortages in

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1. See generally MARC REISNER, *CADILLAC DESERT: THE AMERICAN WEST AND ITS DISAPPEARING WATER* (Penguin Books 1993) (1986); see also George F. Will, *A City That Bets on Water*, WASH. POST, Feb. 27, 2005, at B07.

2. See Coop. State Research, Educ., & Extension Serv., USDA, Proposed Agricultural Water Security Program, http://www.csrees.usda.gov/nea/nre/in_focus/water_if_security.html (last visited Oct. 15, 2008); see N.C. Leaders Seek Long-Term Solutions to Growing Water Problem, U.S. WATER NEWS ONLINE, Dec. 2007, <http://www.uswaternews.com/archives/arconserv/7n.c.lead12.html>; see CAMPAIGN FOR SENSIBLE GROWTH ET AL., *TROUBLED WATERS: MEETING FUTURE WATER NEEDS IN ILLINOIS 2* (Dec. 2005), available at <http://www.openlands.org/reports/Troubled%20Waters%20PDF.pdf>.

what have historically been fairly water abundant areas.³ One new source of water consumption blamed for contributing to water shortages is the recent expansion of America's ethanol industry.⁴ Approximately four gallons of water are required in order to produce one gallon of ethanol.⁵ In addition, ethanol plants are reliant on high quality, clean water, most readily available in groundwater aquifers.⁶ It is also important to note that the effects of ethanol production on groundwater will vary locally and depend on factors such as the specific properties of the aquifer, the rate of recharge, and extraction by other users.⁷ While water consumption for the production of ethanol has already strained water resources in a few locations, the industry is expected to continue to expand and will further threaten water supplies.⁸ It will thus become increasingly necessary for states to examine their water allocation laws, particularly relating to groundwater, and determine the adequacy of these laws regarding their ability to cope with increased demands on water resources in varying circumstances.

Missouri is not exempt from water shortages,⁹ nor is it exempt from expansion of the ethanol industry.¹⁰ While Missouri shares with other Eastern States the concern of existing water shortages being exacerbated by additional uses, such as ethanol production, it does not share the statutory means of water

3. See generally DAVID MISKUS, USDA, U.S. DROUGHT MONITOR: NAT'L DROUGHT SUMMARY (Sept. 25, 2007), available at <http://www.drought.unl.edu/dm/archive/20070925/nar20070925.xml>.

4. See Editorial, *Ethanol's Water Shortage*, WALL ST. J., Oct. 17, 2007, at A18; see also DENNIS KEENEY & MARK MULLER, INST. FOR AGRIC. AND TRADE POL'Y, WATER USE BY ETHANOL PLANTS: POTENTIAL CHALLENGES 3 (2006), available at <http://www.agobservatory.org/library.cfm?refid=89449> (stating that water consumption could be the "Achilles heel" of the ethanol industry); Sea Stachura, *Ethanol vs. Water: Can Both Win?*, MINN. PUB. RADIO, Sept. 18, 2006, available at <http://minnesota.publicradio.org/display/web/2006/09/07/ethanolnow/> (stating that one ethanol plant in Minnesota has drained half of the aquifer it uses and will eventually have to shutdown).

5. KEENEY & MULLER, *supra* note 4, at 4.

6. Mike Mowbray & David Hume, *It's Something in the Water: Ensuring Profitable and Sustainable Operation*, ETHANOL PRODUCER MAG., July 2007, available at http://www.ethanolproducer.com/article-print.jsp?article_id=3099.

7. KEENEY & MULLER, *supra* note 4 at 3.

8. See Ben Lieberman, *The Ethanol Mandate Should Not be Expanded*, THE HERITAGE FOUND., Mar. 28, 2007, available at <http://www.heritage.org/Research/EnergyandEnvironment/bg2020.cfm>.

9. See ERIC LUEBEHUSEN, USDA, U.S. DROUGHT MONITOR: NAT'L DROUGHT SUMMARY (Aug. 21, 2007), available at <http://www.drought.unl.edu/dm/archive/20070821/nar20070821.xml>.

10. See Nat'l Petrochemical & Refiners Ass'n, Renewable Fuels Standard (RFS)/Biofuels Mandates, http://www.npradc.org/issues/fuels/ethanol_mandate.cfm (last visited Oct. 15, 2008).

allocation adopted by many other Eastern States.¹¹ Rather, this state relies on the common law set forth by the Missouri Courts.¹² The case law establishing groundwater allocation rights in Missouri is not extensive, and like many other jurisdictions attempting to interpret water law doctrine, Missouri's cases confuse terminology and mix allocation methods for surface and groundwater resources.¹³ This is not to say that Missouri common law should be any less valid for combining surface water doctrines with those relating to groundwater allocation. This is, of course, within the discretion of the courts, and they in fact have enumerated the reasons for such a combination.¹⁴ However, clarification and examination of adequacy is required. The recent case, *Citizens for Groundwater Protection v. Porter*,¹⁵ presents the opportunity to illustrate the need for clarification, as well as evaluate the adequacy of the current law regarding groundwater allocation.

As Missouri's groundwater law has evolved over time it will first be necessary to discuss the prevalent common law doctrines which have been used throughout the United States. This paper will then discuss the evolution of groundwater law in Missouri and attempt to explain how the Missouri courts have interpreted the common law doctrines and adapted them to best suit the needs for allocation of groundwater in Missouri. There is next a brief introduction to *Citizens for Groundwater Protection v. Porter* followed by an analysis of how Missouri law has been applied to this case. Taken together, these elements will be used to reveal the need for clarification of groundwater law by the courts and possibly new legislation in order to provide predictable and stable groundwater allocation rights.

II. COMMON LAW

There are several common law rules used to allocate groundwater and the terms describing these rules are not always used consistently.¹⁶ From water right's "English source has grown a common-law system of conflicting rules and doctrines, explained by the diversified physical features and characters of the different states, and their peculiarities of climate, soil, density of population, and

11. Peter N. Davis, *Eastern Water Diversion Permit Statutes: Precedents for Missouri?*, 47 MO. L. REV. 429, 445 (1982).

12. *See id.* at 432.

13. *See Higday v. Nickolaus*, 469 S.W.2d 859, 868 (Mo. Ct. App. 1971); *see also Bolinger v. Henry*, 375 S.W.2d 161, 165 (Mo. 1964).

14. *See Higday*, 469 S.W.2d at 869.

15. *Citizens for Groundwater Prot. v. Porter*, No. 06WE-CC00076 (Mo. Cir. Ct. May 4, 2007).

16. *See generally* J. P. M., Annotation, *Subterranean and Percolating Waters; Springs; Wells*, 55 A.L.R. 1385 (1928).

available water supply.¹⁷ Further, rules used for allocating surface water and subterranean streams often use the same terminology as rules for percolating groundwater but apply different standards.¹⁸ Courts have increasingly begun to combine the water allocation rules used to allocate surface water and groundwater.¹⁹ Therefore, it is first necessary to define what the various types of waters are and to then find consistent definitions of the rules used to allocate these waters in order to clearly understand how these rules have evolved in Missouri case law.

Percolating water is generally referred to as subterranean water which does not have a defined course, but rather seeps or filters through the soil.²⁰ Aquifers generally consist of such percolating water.²¹ This is distinguished from subterranean streams which have a defined course and are extremely rare.²² Subterranean streams have almost exclusively been governed by the same principles used to determine the rights that riparian landowners have regarding surface water.²³ Surface waters are any water located on the surface, such as rivers, lakes, and ponds.

The first rule used for percolating groundwater allocation is the rule of absolute ownership.²⁴ This rule provides that a landowner may withdraw percolating water without regard for the impact this withdrawal may have on neighboring landowners.²⁵ This is essentially a rule of capture treating water as *ferae naturae*.²⁶ Under this rule the only remedy for a neighbor who has been damaged is self-help, which would most often consist of drilling a deeper well or transporting water from another location.²⁷

American courts soon found this rule to be inefficient and overly burdensome on neighboring landowners.²⁸ The result of dissatisfaction with absolute ownership was a modification of absolute ownership known as both the reasonable use rule and the American rule.²⁹ Here, we will refer to this as the reasonable

17. Henderson v. Wade Sand & Gravel Co., 388 So. 2d 900, 901 (Ala. 1980) (citing 93 C.J.S. *Waters* § 86 (1955)).

18. J. P. M., *supra* note 16, at 1392.

19. A. DAN TARLOCK, *LAW OF WATER RIGHTS AND RESOURCES* § 4:35 (Mary-Joy Paredes & Lisa A. Fiening eds., 2007).

20. J. P. M., *supra* note 16, at 1388.

21. TARLOCK, *supra* note 19 at § 4.35.

22. *Id.*

23. 78 AM. JUR. 2D *Waters* § 203 (2007).

24. TARLOCK, *supra* note 19, at § 4:6.

25. DAVID H. GETCHES, *WATER LAW IN A NUTSHELL* 232-33 (1984).

26. TARLOCK, *supra* note 19, at § 4.6.

27. *Id.*

28. *Id.* at § 4:7; J. P. M., *supra* note 16, at 1398-99.

29. *See* J. P. M., *supra* note 16, at 1398-1404.

use rule as this is the terminology used by Missouri courts.³⁰ The first case to assert the notion of limitations on absolute ownership based on the reasonableness of the use was *Bassett v. Salisbury Manufacturing Co.*³¹ *Bassett* states, “[t]he maxim, ‘*Sic utere*,’ . . . applies, and, as in many other cases, restricts each to a reasonable exercise of his own right, a reasonable use of his own property, in view of the similar rights of others.”³² *Bassett* also asserts that the reasonableness of the use will be gauged by all of the circumstances of the case.³³ However, more recently, courts have largely recognized that a reasonable use is any use which is for the beneficial enjoyment of the overlying land.³⁴

The “reasonable use” theory does not prevent the proper consumption of such waters in agriculture, manufacturing, irrigation, or otherwise, nor the development of the land for mining and the like, although the underground waters of neighboring properties may be thus interfered with or diverted. . . . [H]owever, the rule of reasonable use prevents the withdrawal of percolating waters for distribution or sale for uses not connected with any beneficial ownership or enjoyment of the land whence they are taken, if it results therefrom that the owner of adjacent or neighboring land is interfered with in his right to the reasonable use of such water upon his land. . . .³⁵

This largely came about with the use of high capacity pumps by municipalities in order to withdraw water from wells for transportation away from the overlying land.³⁶ Thus, despite the assertion in *Bassett*, the rule of reasonable use, as it is used to govern groundwater allocation, does not take into account all of the circumstances of the case, but rather merely whether the water is being extracted for use on the overlying land or being extracted for transportation away from the overlying land.³⁷ Further, it has been held that use for overlying land may include domestic uses, agriculture, irrigation, and manufacturing.³⁸ Therefore, the phrase “for use of the overlying land” is fairly broad and is not necessarily restricted to uses that are location-specific for that land.

It is important to recognize here that “reasonable use” is a term used to describe rules for both groundwater allocation and surface water allocation. While these rules share the same terminology they have different standards for

30. Higday v. Nickolaus, 469 S.W.2d 859, 866-67 (Mo. Ct. App. 1971).

31. J. P. M., *supra* note 16, at 1399.

32. *Bassett v. Salisbury Mfg. Co.*, 43 N.H. 569, 577 (1862).

33. *Id.* at 578.

34. J. P. M., *supra* note 16, at 1400.

35. 89 AM. JUR. 3D *Proof of Facts* § 6 (2008).

36. *Henderson v. Wade Sand & Gravel Co.*, 388 So. 2d 900, 902 (Ala. 1980).

37. *See Bassett*, 43 N.H. at 576-77.

38. *P. Ballantine & Sons v. Pub. Serv. Corp. of N.J.*, 91 A. 95, 96 (N.J. 1914).

determining what a reasonable use is.³⁹ As we have already discussed, a reasonable use for groundwater is dependent on where the extracted water will ultimately be used. Although it is not necessary to examine all rules relating to surface water, it is necessary to examine reasonable use as it relates to surface water in order to distinguish which rule will be applied when the courts merge the law of groundwater allocation with that of surface water.

The modern rule of reasonable use for the allocation of surface water takes all of the circumstances surrounding the dispute into account to determine the reasonableness of a given use.⁴⁰ In addition, the Second Restatement of Torts goes further and sets out specific factors that must be analyzed to determine whether or not a use is reasonable.⁴¹ Thus, reasonable use for surface water is dependent on the uses made by all parties involved and must be determined on a case by case basis. This rule has sometimes been applied to percolating groundwater and is referred to as comparative reasonableness.⁴²

Another common law rule applied to groundwater allocation is referred to as the correlative rights rule. The term correlative rights was first mentioned in *Bassett*, but did not take on its present meaning until the California case of *Katz v. Walkinshaw*.⁴³ California has adopted this rule, which provides that a landowner's allocation of groundwater is correlative to the amount of water under the property.⁴⁴ Therefore, a landowner has the right to extract a given amount of water in proportion to that which is beneath the surface of the landowner's property. This standard has only been applied in whole by California.⁴⁵

The rule of prior appropriation has also been applied to percolating groundwater. Prior appropriation was developed in the arid Western States as a method to allocate surface water based on who first put the water to a beneficial use.⁴⁶ While this method is still used for some groundwater allocation it is limited in scope and primarily augments statutory regulations in a few Western States.⁴⁷

39. Compare *Bollinger v. Henry*, 375 S.W.2d 161, 166 (Mo. 1964) (setting forth the factors that constitute reasonable use for surface waters), with *Higday v. Nickolaus*, 469 S.W.2d 859, 866 (Mo. Ct. App. 1971) (setting forth the factors that constitute reasonable use for subterranean percolating waters).

40. GETCHES, *supra* note 25, at 53.

41. RESTATEMENT (SECOND) OF TORTS § 850A (1979).

42. Julie Jinkens McNitt, Note, *A New Chapter in Missouri Percolating Groundwater Law: The Non-Severability of Water Rights from Land*, 59 MO. L. REV. 235, 246 (1994).

43. J. P. M., *supra* note 16, at 1399.

44. J. P. M., *supra* note 16, at 1400-01 (citing *San Bernardino v. Riverside*, 198 P. 784 (Cal. 1921)).

45. *Higday v. Nickolaus*, 469 S.W.2d 859, 867 (Mo. Ct. App. 1971).

46. See TARLOCK, *supra* note 19, at § 5:3.

47. See 78 AM. JUR. 2D *Waters* § 220 (2008).

With a basic understanding of the more prevalent groundwater doctrines used for percolating groundwater allocation, it is possible to examine how Missouri has interpreted and utilized these doctrines in an attempt to create an adequate system tailored to Missouri's climate, geology, and principle uses for groundwater. It is important to note that while Missouri case law has implemented the use of a few of the doctrines listed above and it has at least hinted at the use of others, the primary doctrines relating to Missouri groundwater law are those of absolute ownership,⁴⁸ reasonable use,⁴⁹ comparative reasonable use,⁵⁰ and the surface water version of reasonable use with its expanded factors from the Second Restatement of Torts.⁵¹

III. GROUNDWATER LAW IN MISSOURI

The law regarding groundwater in Missouri has not been clearly delineated. It is necessary to apply the doctrines discussed above to Missouri case law in order to interpret the present state of Missouri law governing the allocation of percolating groundwater. Further, the cases must be examined with not only the names of the doctrines in mind, but with the standards that those doctrines represent as the case law does not consistently apply the common terminology.

The first case to address groundwater allocation in Missouri was *Springfield Waterworks Co. v. Jenkins*. The plaintiffs relied on a spring, fed by subterranean waters, to supply the City of Springfield with water.⁵² The defendants, neighboring landowners, were able to manipulate and substantially lessen the supply to the spring on which the plaintiffs relied, by releasing water through a dam built on the defendant's property.⁵³ The court asserted that if the spring was fed by an underground stream, the plaintiff's had the same riparian rights of a landowner whose property adjoined surface waters, and another landowner could not interfere with the flow of that stream.⁵⁴ The court also noted, however, that if the spring was supplied by percolating subterranean waters the reverse would be true.⁵⁵ Percolating waters would be considered part of the soil and owned by the landowner as such, and "its diversion or appropriation by him for the improvement or benefit of his estate cannot be made the basis of a complaint against him

48. See *Springfield Waterworks Co. v. Jenkins*, 62 Mo. App. 74 (App. Ct. 1895).

49. See *Bollinger v. Henry*, 375 S.W.2d 161 (Mo. 1964).

50. See *Higday v. Nickolaus*, 469 S.W.2d 859 (Mo. Ct. App. 1971).

51. See *Ripka v. Wansing*, 589 S.W.2d 333 (Mo. Ct. App. 1979).

52. *Springfield Waterworks Co.*, 62 Mo. App. at 78.

53. *Id.*

54. *Id.* at 80.

55. *Id.*

by anyone, however grievous the resulting injury may be.”⁵⁶ The court found that the plaintiffs did not offer conclusive evidence that the spring was fed by an underground stream.⁵⁷ Although, the court did find that the purpose of the defendant in manipulating the water was malicious and that such an interference was not allowed.⁵⁸

This appears to fall in line with the rule of absolute ownership,⁵⁹ with the only exception being for malicious behavior.⁶⁰ There are, however, other statements in the opinion which confuse the matter. For instance, the court stated:

While . . . the defendants must be regarded as the general owner of the surplus water flowing from their spring, such ownership is not without restrictions against the plaintiff, for it, by reason of its appropriation, has acquired a right thereto which cannot be interfered with by a stranger, nor by the defendants, except for some beneficial use of the water or for the betterment of their land.⁶¹

Here the phrases “beneficial use” and “for the betterment of their land” connote at least a partial adherence to the rule of reasonable use.⁶² It may be helpful to reiterate this rule in order to evaluate later decisions on water rights in Missouri. The rule of reasonable use, as it applies to groundwater, is a modification of the rule of absolute ownership.⁶³ Under the rule of reasonable use a landowner is restricted to the water that they may reasonably use on their overlying land.⁶⁴ However, they do not have to take into account the effects, however negative, that this use may have on neighboring landowners.⁶⁵ It should be noted again that this is in contrast to comparative reasonable use and the reasonable use rule applied to surface water, in which the reasonableness of the use is determined by a comparison with the uses of other riparian landowners.⁶⁶

The court in *Springfield Waterworks Co.* also states that a right can be acquired to water “by reason of its appropriation,” which suggests the use of the

56. *Id.*

57. *Id.* at 81.

58. *Id.* at 83-84.

59. TARLOCK, *supra* note 19, at § 4:6; GETCHES, *supra* note 25 at 232.

60. *Springfield Waterworks Co.*, 62 Mo. App. at 82.

61. *Id.*

62. *See* Higday v. Nickolaus, 469 S.W.2d 859, 868 (Mo. Ct. App. 1971) (asserting that the decision in *Springfield Waterworks Co.* could have been reached by applying the rule of reasonable use); *see also* McNitt, *supra* note 42, at 244-45 (recognizing that certain language in *Springfield Waterworks Co.* appears to adhere to the American reasonable use rule).

63. 89 AM. JUR. 3D *Proof of Facts* § 6 (2007).

64. Davis, *supra* note 11, at 440.

65. 89 AM. JUR. 3D *Proof of Facts* § 6 (2007).

66. GETCHES, *supra* note 25, at 52.

rule of prior appropriation.⁶⁷ Again, prior appropriation simply vests water rights in the first person to begin using the water.⁶⁸ This rule is largely irrelevant to the matter at hand, though it does express the tendency of the courts to overlap various doctrines in applying groundwater law. Overall, *Springfield Waterworks Co.* has been interpreted as applying the rule of absolute ownership,⁶⁹ and though this rule would later be abandoned, the confusion over which rule applied to groundwater allocation in Missouri would continue.⁷⁰

The next case to examine the allocation of groundwater resources in Missouri was *Higday v. Nickolaus*. The plaintiffs, a group of farmers, sought to prohibit the defendant, the Municipality of Columbia, from extracting percolating waters for transportation away from the overlying land for the purpose of providing water to the city.⁷¹ This use would have lowered the water table from an average of ten feet to an average of twenty feet and caused harm to the plaintiff's wells and crops.⁷² The court found that the rule of absolute ownership was unpersuasive when confronted with increased water scarcity and unsound in the face of increased knowledge of the interrelated nature of groundwater and surface water.⁷³ In addition, the court asserted that the rule of reasonable use should be adopted for subterranean percolating waters; therefore, the extraction of water for purposes away from the overlying land are unreasonable per se.⁷⁴ However, while the court established that any use away from the overlying land is unreasonable, the opinion appears to assert both the reasonable use rule for groundwater and the reasonable use rule for surface waters,⁷⁵ which, as discussed previously, have different standards.⁷⁶ It is important to note that the court never used the term comparative reasonable use, which is essentially the same as reasonable use for surface waters.

The court first stated that the extraction of the water must be "for purposes incident to the beneficial enjoyment of the land from which the water was taken," and that the "rule does not prevent the consumption of such groundwater for agriculture, manufacturing, irrigation, mining or any purpose by which a

67. *Springfield Waterworks Co. v. Jenkins*, 62 Mo. App. 74, 82 (1895); see TARLOCK, *supra* note 19, at § 5:30.

68. GETCHES, *supra* note 25, at 234.

69. McNitt, *supra* note 42, at 244 (citing *Higday v. Nickolaus*, 469 S.W.2d 859, 868 (Mo. Ct. App. 1971)).

70. See *Higday*, 469 S.W.2d at 865-71.

71. *Id.* at 862.

72. *Id.*

73. *Id.* at 869.

74. *Id.* at 866.

75. *Id.* at 869.

76. 78 AM. JUR. 2D *Waters* § 203 (2007).

landowner might legitimately use and enjoy his land, even though in doing so he may divert or drain the groundwater of his neighbor.⁷⁷ These statements are in line with the reasonable use rule for groundwater allocation.⁷⁸

However, *Higday* also asserts that a reasonable use must comport with the rights of the landowner's neighbors.⁷⁹ The court goes on to list factors, such as: the persons involved, the nature and value of the uses, the climatic conditions, and all other pertinent facts and circumstances.⁸⁰ In addition, the court states "the reasonable use rule offers a more flexible legal standard for the just determination of beneficial uses of ground water, particularly under the climatic condition of Missouri."⁸¹ These statements coincide with the reasonable use rule for surface water rather than groundwater.⁸²

Though it appears the court is attempting to adopt contradicting rules, upon further reading, it becomes clear that the court prefers the surface water rule, or comparative reasonable use, while maintaining the importance attached to using groundwater for the beneficial enjoyment of the overlying land.⁸³ The court linked the rule governing surface waters to subterranean percolating waters as follows:

[I]n *Bollinger v. Henry*, the Supreme Court of Missouri applied the rule of reasonable use to determine the rights of riparian owners. Subterranean streams are governed by the rules applying to natural watercourses on the surface, so the rule of reasonable use in [sic] now applicable to them also.... We believe the same rule should apply to subterranean percolating waters.⁸⁴

In addition, the court relies on *Jones v. Oz-Ark-Val Poultry Co.*, which asserts the same rule should apply to percolating waters as that which applies to subterranean streams.⁸⁵ Thus, the court has applied the surface water reasonable use rule to groundwater allocation and asserted that the factors suggested in *Bollinger v. Henry* should be taken into consideration, while maintaining that "the fundamental measure of the overlying owner's right to use the groundwater is whether it

77. *Higday*, 469 S.W.2d at 866.

78. See GETCHES, *supra* note 25, at 238-39.

79. *Higday*, 469 S.W.2d at 866.

80. *Id.*

81. *Id.* at 867.

82. GETCHES, *supra* note 25, at 52.

83. See *Higday*, 469 S.W.2d at 869-70.

84. *Id.* at 869.

85. *Jones v. Oz-Ark-Val Poultry Co.*, 306 S.W.2d 111, 113 (Ark. 1957) (finding the plaintiffs were entitled to injunctive relief against a chicken processor whose extraction of water caused the plaintiff's wells, used for domestic purposes, to go dry and further stating, "[w]e see no good reason why the same rule should not apply to a true subterranean stream or to subterranean percolating waters.").

is for purposes incident to the beneficial enjoyment of the land from which it was taken.”⁸⁶

It is now apparent that Missouri has adopted the surface water reasonable use standard for groundwater allocation, which is also known as comparative reasonable use.⁸⁷ Although, this is a modified form of comparative reasonable use as the court makes clear their intention of retaining the rule that any use away from the overlying land is per se unreasonable.⁸⁸ In order to examine the adequacy of this rule it is necessary to next determine the factors that are applied when deciding whether a particular use is comparatively reasonable. In *Higday*, the court referred to the factors as set forth in *Bollinger*,⁸⁹ which establishes that reasonable use should be determined by the individual circumstances of the case, including but not limited to, “the volume of water . . . , the seasons and climatic conditions, and the needs of other riparian” landowners.⁹⁰ These factors are expanded upon in *Ripka v. Wansing*⁹¹ to include all the elements listed in the Second Restatement of Torts:

- (a) The purpose of the use,
- (b) the suitability of the use to the watercourse or lake,
- (c) the economic value of the use,
- (d) the social value of the use,
- (e) the extent and amount of the harm it causes,
- (f) the practicality of avoiding the harm by adjusting the use or method of use of one proprietor or the other,
- (g) the practicality of adjusting the quantity of water used by each proprietor,
- (h) the protection of existing values of water uses, land, investments and enterprises and
- (i) the justice of requiring the user causing harm to bear the loss.⁹²

Thus, the approach to reasonable use taken by the Restatement becomes critical in analyzing whether a Missouri landowner’s allocation of groundwater is reasonable.⁹³

86. *Higday*, 469 S.W.2d at 866, 870; *see also* *Bollinger v. Henry*, 375 S.W.2d 161, 166 (Mo. 1964) (“What constitutes a reasonable use is a question of fact depending on the circumstances of each particular case, including, among other things, the volume of water in the stream, the seasons and climatic conditions, and the needs of other riparian proprietors.”).

87. *Davis*, *supra* note 11, at 440.

88. *Higday*, 469 S.W.2d at 866.

89. *Id.*

90. *Bollinger*, 375 S.W.2d at 166 (Mo. 1964).

91. *Ripka v. Wansing*, 589 S.W.2d 333, 335 (Mo. Ct. App. 1979).

92. RESTATEMENT (SECOND) OF TORTS § 850A (1979).

Bollinger also asserts that while uses such as irrigation are reasonable, they are “subject to the priority of riparian owners for the supply of ‘natural wants’ which include drinking water for family and for livestock.”⁹⁴ The purpose of the use is the first factor listed in the Second Restatement of Torts,⁹⁵ and while Missouri case law indicates that water allocations must be examined on a case-by-case basis to determine what constitutes a reasonable use, it also suggests that a hierarchy exists within the uses which are considered reasonable.⁹⁶ Natural uses are often those considered domestic, such as water for drinking and watering livestock, while artificial uses include any significant irrigation, industrial purposes, and mining.⁹⁷ Traditionally, jurisdictions applying the comparative reasonable use rule have shown preference for natural uses for several reasons – they are less likely to cause injury to other landowners, it would be difficult to enforce restrictions on domestic uses, and because such uses are necessary to sustain life they are without question reasonable.⁹⁸ The Illinois Supreme Court summarized the notion:

Natural [wants] are such as are absolutely necessary to be supplied, in order [for] existence. Artificial, such only, as by supplying them, . . . comfort and prosperity are increased. To quench thirst, and for household purposes, water is absolutely indispensable. In civilized life, water for cattle is also necessary. These wants must be supplied, or both man and beast will perish.

The supply of man’s artificial wants is not essential to his existence; it is not indispensable; he could live if water was not employed in irrigating lands, or in propelling his machinery. . . .So of manufactures, they promote the prosperity and comfort of mankind, but cannot be considered absolutely necessary to his existence.⁹⁹

The court in *Jones* stated, “It is unreasonable to permit appellees to use thousands of gallons of water per day for the purpose of processing chickens, not leaving enough water for the domestic needs of the Joneses. . . .”¹⁰⁰

93. *Higday*, 469 S.W.2d at 866 n.8 (“Secs. 852 and 861 of the Restatement of the Law of Torts (1939) state that the problem of determining a reasonable use is the same whether water is in a water course or lake or under the surface of the earth.”); *Ripka*, 589 S.W.2d at 335 (“It is with [the Restatement] guidelines in mind that we consider the questions presented.”).

94. *Bollinger*, 375 S.W.2d at 166.

95. RESTATEMENT (SECOND) OF TORTS § 850A (1979).

96. *Bollinger*, 375 S.W.2d at 166.

97. GETCHES, *supra* note 25, at 30-31.

98. *Id.* at 30.

99. *Bridgman v. Sanitary Dist. of Decatur*, 517 N.E.2d 309, 312-13 (Ill. App. Ct. 1987).

100. *Jones v. Oz-Ark-Val Poultry Co.*, 306 S.W.2d 111, 115 (Ark. 1957).

After examining Missouri case law it becomes apparent that the courts have in large part adopted the rule of comparative reasonable use for the allocation of groundwater. The courts have established that the interests of surrounding neighbors must be taken into account and the factors set forth in the Second Restatement of Torts should be applied.¹⁰¹ It is worth noting again, however, that *Higday*, while asserting that the principles set forth for allocating surface water to riparian owners also applies to percolating groundwater, the court did maintain that the “fundamental measure” for determining the right to use groundwater is whether it is used for the beneficial enjoyment of the overlying land.¹⁰² This indicates that when examining groundwater allocation an additional factor, to be added to those listed under *Bollinger* and *Ripka*, is whether the use is actually for the beneficial use of the land from which the water is withdrawn, and if it is not for such a beneficial use of the land, and causes injury to another landowner, it is unreasonable per se, without regard to the other factors. Thus, though Missouri has adopted the comparative reasonable use rule, it also continues to treat groundwater rights slightly different from surface water riparian rights. Perhaps the only clear and consistent theme throughout Missouri’s case law on water allocation is the need for flexibility.¹⁰³

IV. APPLICATION OF MISSOURI GROUNDWATER LAW TO *CITIZENS FOR GROUNDWATER PROTECTION*

In *Citizens for Groundwater Protection*, a group of approximately 500 persons brought suit against Gulfstream Bioflex Energy, seeking to halt the construction of an 88 million gallon capacity ethanol plant.¹⁰⁴ The plaintiffs allege the plant would reduce the water table in the aquifer, causing landowners to drill

101. See *Bollinger*, 375 S.W.2d at 166; *Higday v. Nickolaus*, 469 S.W.2d 859, 866 (Mo. Ct. App. 1971); *Ripka v. Wansing*, 589 S.W.2d 333, 335 (Mo. Ct. App. 1979).

102. *Higday*, 469 S.W.2d at 870.

103. See *Ripka*, 589 S.W.2d at 335 (“If Missouri has not adopted the reasonable use theory, we believe it should. It appears to be more flexible and promotes the most beneficial use of water resources.”); see also *Higday*, 469 S.W.2d at 867, 869 (“[T]he reasonable use rule offers a more flexible legal standard for the just determination of beneficial uses of ground water, particularly under the climatic conditions of Missouri,” and “[i]t is a competition [for scarce groundwater resources] which is destined to recur between other municipalities and landowners as present sources of municipal water supplies diminish and the need for them increases. . . [A]ppeals to a dogma of absolute ownership of groundwater without consideration of the rights of adjoining landowners seem unpersuasive.”).

104. *Citizens for Groundwater Prot. v. Porter*, No. 06WE-CC00076, slip op. at 6 (Mo. Cir. Ct. May 4, 2007). As this note was being published, the appellate court affirmed the trial court’s judgment in favor of the defendants. See *Citizens for Groundwater Prot. v. Porter*, No. SD28732 (Mo. Ct. App. Dec. 9, 2008).

deeper wells, and the plant would discharge contaminated waste water.¹⁰⁵ On May 4, 2007, a circuit court judge found that the plaintiff's burden in such nuisance suits is to prove that the defendant's actions will "certainly and inevitably" cause harm, and the judge found that the plaintiffs did not meet this burden.¹⁰⁶ The case is now on appeal with the plaintiffs asserting that the "certainly and inevitably" standard is outdated and the burden of proof, in accordance with the Missouri Supreme Court and the Missouri Clean Water Act is "reasonably certain."¹⁰⁷

The determination of this standard is critical for the future of groundwater disputes. Here, while the plaintiffs produced expert witnesses testifying to the harm that will be suffered by neighboring well owners, the burden of proof remains unattainable resulting in a lack of analysis of comparative reasonable uses until some harm actually occurs.¹⁰⁸ Thus, it is likely, if the plaintiff's allegations are accurate, that damages will be accrued at a later time. It is not the intent of this paper to make a judgment as to whether a lower burden of proof would have been met in this particular case, but rather to demonstrate the risk involved in applying a burden that is too high to meet. The primary risk here is that if preventive measures, such as injunctions, are not available, there will be further litigation at later times, increasing costs not only from litigation, but also the cost of remedying the damages that could have been avoided. Further, a lower standard would not automatically disallow the challenged groundwater use, as the comparative reasonable use standard, applying the factors from the Restatement, would take the harm caused by preventing the challenged allocation into account.¹⁰⁹

This will be demonstrated in the application of Missouri's present groundwater allocation law, a modified form of comparative reasonable use, to the *Citizens for Groundwater Protection* case. The primary issue in *Citizens for Groundwater Protection* is whether a landowner may allocate groundwater for the production of ethanol, when such use will cause injury to adjacent landowners by lowering the water table below the depth of their current wells.¹¹⁰ In accordance with the comparative reasonable use rule, several factors must be evaluated, taking into account all of the facts and circumstances regarding the issue, including the uses of and the harm caused to adjoining landowners in order to

105. *Id.*, slip op. at 1.

106. *Id.*, slip op. at 2.

107. Brief of Appellants Citizens for Ground Water Protection, et al. at 95-96, *Citizens for Ground Water Prot. v. Porter*, No. SD28732 (Mo. Ct. App. Apr. 4, 2007).

108. See *Citizens for Groundwater Prot.*, No. 06WE-CC00076, slip op. at 17.

109. RESTATEMENT (SECOND) OF TORTS § 850A (1979).

110. *Citizens for Groundwater Prot.*, No. 06WE-CC00076, slip op. at 1.

determine whether the use of groundwater for ethanol production is reasonable.¹¹¹ However, *Higday*, as previously stated, asserts that while the comparative reasonable use rule requires such an examination, the “fundamental measure” of reasonableness is whether the purpose is incident to the beneficial enjoyment of the overlying land.¹¹² In *Higday*, the court found that pumping water out of the ground for transport to another location was per se unreasonable.¹¹³ The court also specifically stated that the “rule does not prevent the consumption of such groundwater for agriculture, manufacturing, irrigation, mining or any purpose by which a landowner might legitimately use and enjoy his land. . . .”¹¹⁴

In *Citizens for Groundwater Protection* the intended use is for the production of ethanol on the land from which the water is withdrawn.¹¹⁵ While the water is not applied to the land for any benefit, such as in agriculture, the majority of the water is not being transported away from the land or sold. In addition, ethanol production could be easily construed as manufacturing, which is specifically listed as a legitimate use.¹¹⁶ Therefore, the use of groundwater by a landowner for the production of ethanol on the overlying land is most likely not unreasonable per se.

After satisfying the requirement that groundwater be used for the beneficial enjoyment of the land from which it is allocated, the factors established by Missouri case law regarding reasonable use of riparian surface waters, and applied to groundwater allocation in *Higday*, should be examined in order to determine whether the use is reasonable in relation to the rights of adjoining landowners.¹¹⁷ As previously established, Missouri courts have adopted the approach of the Restatement of Torts in regards to reasonable use.¹¹⁸ According to the Restatement, when a dispute arises the uses of both parties must be established as reasonable.¹¹⁹ In *Citizens for Groundwater Protection*, the use by the plaintiffs is largely for domestic purposes, or natural wants.¹²⁰ Such uses are for the benefi-

111. *Higday v. Nickolaus*, 469 S.W.2d 859, 866 (Mo. Ct. App. 1971); RESTATEMENT (SECOND) OF TORTS § 850A (1979).

112. *Higday*, 469 S.W.2d at 870.

113. *Id.*

114. *Id.* at 866.

115. *Citizens for Groundwater Prot.*, No. 06WE-CC00076, slip op. at 11.

116. *Higday*, 469 S.W.2d at 866.

117. *Bollinger v. Henry*, 375 S.W.2d 161, 166 (Mo. 1964); *Higday*, 469 S.W.2d at 866; *Ripka v. Wansing*, 589 S.W.2d 333, 336 (Mo. Ct. App. 1979).

118. *Ripka*, 589 S.W.2d at 335.

119. RESTATEMENT (SECOND) OF TORTS § 850A (1979).

120. *See generally Citizens for Groundwater Protect.*, No. 06WE-CC00076, slip op.

cial use of the land, suited to the water source, and have both economic and social value.¹²¹

It is next necessary to examine the reasonableness of the defendant's use by evaluating the first four factors under the Restatement.¹²² Here it has already been ascertained that the plant's use of groundwater would be incident to the beneficial enjoyment of the overlying land. The next factor to consider is whether the use is suitable for the source of water.¹²³ Groundwater is often considered to be of higher quality than surface water, and this is of significant benefit when using water for the production of ethanol.¹²⁴ Thus, the use is suitable for the water source. The third factor requires that the use be of some economic value.¹²⁵ The groundwater would enable the production of ethanol to be sold, thus producing an economic value. Finally, the use must also be of social value.¹²⁶ While the benefits of ethanol may be debated it is widely accepted, at least amongst elected officials, that ethanol production does have some social value. By meeting these four criteria the use of groundwater for the production of ethanol may be considered a reasonable use, though this does not mean that it is necessarily allowed by law, as the reasonable uses of both parties must now be submitted to a comparison.¹²⁷

The first factor to consider is the extent of the harm caused by the new or adjusted use.¹²⁸ In the case at hand, the harm is a lowering of the water table causing the plaintiffs to dig deeper wells.¹²⁹ This harm was found in *Higday* to be severe enough to present an actionable cause and to hold the City accountable for any injury resulting from diversion.¹³⁰ This situation is the same in *Citizens for Groundwater Protection*, and the harm is therefore substantial and not merely an inconvenience for the plaintiffs. The Restatement also requires an analysis

121. RESTATEMENT (SECOND) OF TORTS § 850A cmt. a (1979) (stating "The plaintiff, in order to show he has a right that has been violated, must establish that his use of the water is reasonable. See § 850, Comment c. This will normally call for the application of the first four factors stated in this Section. Clause (a) requires that the use be made for a beneficial purpose; Clause (b) that it be suited to the water source in question. Clauses (c) and (d) require the use to have both economic and social value.").

122. See RESTATEMENT (SECOND) OF TORTS § 850A (1979).

123. *Id.*

124. Mowbray & Hume, *supra* note 6.

125. RESTATEMENT (SECOND) OF TORTS § 850A (1979).

126. *Id.*

127. *Id.*

128. *Id.*

129. *Citizens for Groundwater Prot. v. Porter*, No. 06WE-CC00076, slip op. at 1 (Mo. Cir. Ct. May 4, 2007).

130. *Higday v. Nickolaus*, 469 S.W.2d 859, 870 (Mo. App. Ct. 1971).

into alternatives for the proposed uses.¹³¹ While methods of minimizing water consumption for ethanol are improving, the water requirements for the proposed plant could not be met effectively by alternative means.¹³² Finally, the justice of requiring the user which is causing the harm to bear the loss should be taken into consideration.¹³³ The property for the proposed plant has not yet been purchased,¹³⁴ which means a minimal cost to the party causing the harm. In light of these factors, while the uses of both parties may be reasonable, the harmful use does not satisfy the final factors applied by the Restatement.

In addition, the notion of a hierarchy of reasonable uses should be examined as it relates to *Citizens for Groundwater Protection*. As set forth in *Bollinger*, some uses, while reasonable, may be “subject to the priority of riparian owners for the supply of ‘natural wants’ which include drinking water for family and for livestock.”¹³⁵ Further, *Jones*, upon which the Missouri courts relied, found that “[w]ithout a supply of water for domestic needs, appellants’ property becomes wholly unsuitable as a place to live. . .” and that when other uses do not leave enough water for domestic needs it is unreasonable to permit these uses.¹³⁶ These cases clearly demonstrate that domestic uses are given a higher priority than manufacturing and even irrigation. In the case at hand, the primary existing use of the groundwater is for domestic purposes, necessary for sustaining life and should therefore receive deference over uses for manufacturing, such as ethanol production.

V. CONCLUSION

The Missouri Supreme Court has not delivered an opinion regarding the allocation of percolating groundwater, and other court decisions regarding this matter have not made the standard for allocating groundwater abundantly clear.¹³⁷ As domestic uses for groundwater continue to rise, and industries requiring large amounts of water from areas with scarce resources increase, the need for guidance in this area will become greater. Though not explicitly stating the standard for allocating groundwater in Missouri as the comparative reasonable use rule, the courts have in essence established this standard by adopting the reasonable use rule for riparian landowners, and then asserting that the same law applies to

131. RESTATEMENT (SECOND) OF TORTS § 850A (1979).

132. See Mowbray & Hume, *supra* note 6.

133. RESTATEMENT (SECOND) OF TORTS § 850A (1979).

134. See Citizens for Groundwater Protection, <http://www.citizensforgroundwaterprotection.org/home.html> (last visited Oct. 15, 2008).

135. *Bollinger v. Henry*, 375 S.W.2d 161, 166 (Mo. 1964).

136. *Jones v. Oz-Ark-Val Poultry Co.*, 306 S.W.2d 111, 115 (Ark. 1957).

137. See *Bollinger*, 375 S.W.2d at 165-66.

subterranean streams and percolating waters.¹³⁸ This rule does not provide clear guidance for every situation in which landowners may wish to use the groundwater below their land.¹³⁹ However, it does meet the consistent desire of the courts to allocate water in a flexible manner “for the just determination of beneficial uses of ground water, particularly under the climatic conditions of Missouri.”¹⁴⁰ Flexibility is a key element in efficient and just water allocation and will continue to grow in importance as “[t]he effects of ethanol production on groundwater withdrawals will vary locally and be affected by a number of factors including volume used, properties of the aquifer, other uses, and rate of aquifer recharge.”¹⁴¹ While it must be admitted that ethanol production facilities are not harmful in all locales, and may be beneficial in some areas, they also typify the sort of concentrated demand that is capable of causing a great deal of harm to vulnerable areas. It is critical that laws governing groundwater allocation be flexible enough to cope with increased competition for limited groundwater resources. In order to further this goal, Missouri should clarify its application of comparative reasonable use and apply it to such situations as *Citizens for Groundwater Protection*.

However, clarification of the comparative reasonable use, while fairly flexible, will not allow for greater efficiency in groundwater allocation and predictability of existing groundwater rights if the burden of proof to preemptively enjoin an unreasonable use is set too high to reach. Such standards as “certainly and inevitably” effectively make obtaining an injunction impossible, allowing for no remedy of the situation until the harm has been done. Thus, in the case of *Citizens for Groundwater Protection*, the plant will be constructed and operating before the matter may be adjudicated. This will increase the costs drastically if harm is done, particularly if the harm is irreparable, and the plant would no longer be able to function. Therefore, in order to further the flexibility of Missouri’s ability to cope with future groundwater disputes the comparative reasonable use rule should not only be clarified, but it should be made available before any harm is done. This can be accomplished by ensuring that the standard that must be met to gain injunctive relief is reasonable.

This, however, is not the only method of increasing the efficiency of settling groundwater disputes. Rather than relying on the court system, the legislature could act much more quickly to remedy the situation. Peter Davis addressed

138. See *id.* at 166; *Higday v. Nickolaus*, 469 S.W.2d 859, 866 (Mo. Ct. App. 1971); *Ripka v. Wansing*, 589 S.W.2d 333, 335 (Mo. Ct. App. 1979).

139. *Davis*, *supra* note 11, at 440.

140. *Higday*, 469 S.W.2d at 867.

141. *KEENEY & MULLER*, *supra* note 4, at 3.

the inadequacy of the common law for groundwater allocation over two decades ago:

None of the common law groundwater allocation doctrines deals with the problem of groundwater mining, which occurs when withdrawals exceed the average annual recharge of the aquifer. The result is a gradual dropping of the water table and eventual extinction of the aquifer by salt water intrusion or exhaustion. Nothing in the groundwater allocation rules prohibits groundwater mining; the rules only allocate the groundwater available at any given time.¹⁴²

Using legislation, such as a permit system, would provide a similar effect as lowering the standards for injunctive relief. It would provide a means to allocate water before a dispute arose. Further, it would have the added benefit of providing for allocation by experts in geology and hydrology rather than relying on biased testimony from opposing sides and having the matter settled through a drawn out process in the courts. Thus, whether the courts clarify the comparative use rule for groundwater allocation, with its modification that any use away from the overlying land is per se unreasonable, and they lower the standard for injunctive relief, or the legislature takes action to provide for a permit system, the law should remain flexible enough to cope with new demands that place an increased burden on dwindling resources in concentrated areas.

142. Davis, *supra* note 11, at 442.