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Texas Groundwater: Reconciling the Rule of Capture with Environmental and Community Demands Comment.

Stephanie E. Hayes Lusk

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**TEXAS GROUNDWATER: RECONCILING THE RULE
OF CAPTURE WITH ENVIRONMENTAL
AND COMMUNITY DEMANDS**

STEPHANIE E. HAYES LUSK

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Cessante razione legis, cessat et ipsa lex.¹

I. INTRODUCTION

Water is a scarce resource in nearly every society today; its inefficient use poses a great danger to humanity.² In order to avert the depletion of water resources in the United States, many states have attempted to enact legislation aimed at promoting water conservation.³ Such legislation has

1. The reason of the law ceasing, the law itself also ceases. BLACK'S LAW DICTIONARY 228 (6th ed. 1990).

2. See NATIONAL WATER COMM'N, WATER POLICIES FOR THE FUTURE ix (1973) (stating that water use is increasing in the United States while, at the same time, the quality of water supplies is deteriorating); Donna Abu-Masr, *Water Crisis Looming As Population Grows; African, Far East Countries Already Face Shortage Stress*, ROCKY MTN. NEWS, Aug. 30, 1998, at 4A (noting that half a billion people worldwide are facing water shortages, and the number is expected to grow to 2.8 billion by 2025), available in 1998 WL 7958270; Seth Borenstein, *World at Crossroads As Global Population Nears 6 Billion Mark*, Hous. CHRON., Sept. 30, 1998, at 26 (referring to interview in which Nafis Sadik, executive director of the United Nations Population Fund, stated that peoples' decisions to have more children will determine if the planet will become a "more crowded place with more water shortages"), available in 1998 WL 16768223; Danielle Knight, *Environment: Worldwide Water Shortage to Worsen*, INTER PRESS SERV., Sept. 8, 1998 (describing a recently released report from Johns Hopkins University School of Public Health, which warns that worldwide supplies of fresh water face further threats from population growth, pollution, and increased demands), available in 1998 WL 5989180.

3. See, e.g., ARIZ. REV. STAT. ANN. § 45-512 (West Supp. 1997) (requiring permits to withdraw water from non-exempt wells); CAL. WATER CODE § 74031 (DEERING 1977) (allowing districts to be organized for the purpose of conserving waters); WASH. REV. CODE ANN. § 90.44.050 (West 1992) (prohibiting the extraction of groundwater without a permit); Act of June 1, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610, 3610 (enacting Senate Bill 1, which "relate[s] to the development and management of the water resources of the state") (codified at TEX. HEALTH & SAFETY CODE ANN. §§ 341.035, 341.0315, 341.0485 and TEX. TAX CODE ANN. § 11.32, as well as amendments to TEX. AGRIC. CODE ANN. § 44.007-.010, amendments to TEX. GOV'T CODE ANN. §§ 791.026, 2155.44, amendments to TEX. HEALTH & SAFETY CODE ANN. §§ 341.047(a)-(b), 341.048, 341.049, 341.0351-.0356, amendment to TEX. LOC. GOV'T CODE ANN. § 401.002, amendment to TEX. TAX CODE ANN. § 151.318, and various amendments to TEX. WATER CODE ANN.); Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.06, 1993 Tex. Gen. Laws 2350 (permitting water withdrawal restrictions on the Edwards Aquifer).

been known to conflict with outdated principles of property ownership, namely the rule of capture.⁴ The rule of capture vests landowners with property rights in water located directly beneath their land.⁵ Recurring application of the rule of capture to groundwater has forced Texas courts

4. *See, e.g.*, *Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618, 623 (Tex. 1996) (noting that “[t]he clash between the property rights of landowners in the water beneath their land and the right of the State to regulate water for the benefit of all is more than a century old”); *Beckendorff v. Harris-Galveston Coastal Subsidence Dist.*, 558 S.W.2d 75, 77 (Tex. Civ. App.—Houston [14th Dist.] 1977) (describing the controversy in the case as a takings challenge to groundwater regulations), *aff’d*, 563 S.W.2d 239 (Tex. 1978) (*per curiam*).

5. *See Houston & T. C. Ry. Co. v. East*, 98 Tex. 146, 149-51, 81 S.W. 279, 280-81 (1904) (describing how authorities generally agree that a landowner may use the water beneath his soil despite any effect the use may have on an adjacent landowner’s wells and springs); *Acton v. Blundell*, 152 Eng. Rep. 1223, 1235 (Ex. Ch. 1843) (providing that if a landowner “intercepts or drains off the water collected from underground springs in his neighbor’s well, this inconvenience to his neighbor . . . cannot become the ground of an action”). Texas is one of the last states to continue to subscribe to the rule of capture doctrine. *See* Karen H. Norris, Comment, *The Stagnation of Texas Ground Water Law: A Political v. Environmental Stalemate*, 22 ST. MARY’S L.J. 493, 506 n.86 (1990) (pointing to only three states which subscribed to the rule of capture as of 1959: Texas, Alaska, and Montana). Due to limited water resources, almost all of the continental states have repealed the rule of capture doctrine and instituted other groundwater doctrines, such as correlative rights, prior appropriation, and reasonable use. *See* ROGER A. CUNNINGHAM ET AL., *THE LAW OF PROPERTY* § 7.5 (2d ed. 1993) (describing various states’ groundwater regimes); Richard Ausness, *Water Rights Legislation in the East: A Program for Reform*, 24 WM. & MARY L. REV. 547, 551 (1983) (discussing the development of water law in the eastern United States). Some states have enacted legislation to overturn the rule of capture doctrine. *See, e.g.*, ARIZ. REV. STAT. ANN. § 45-141(A) (West 1994) (declaring that waters of all sources “belong to the public and are subject to appropriation and beneficial use”); 525 ILL. COMP. STAT. ANN. 45/6 (West 1993) (stating that the rule of “reasonable use” is to apply to groundwater removal in Illinois); WASH. REV. CODE ANN. § 90.44.040 (West 1992) (providing that all groundwaters are declared to be public waters, subject to existing rights). However, other states have judicially extinguished the rule of capture. *See, e.g.*, *Katz v. Wilkinshaw*, 74 P. 766, 772 (Cal. 1903) (adopting the reasonable use doctrine with regard to percolating waters); *Schenk v. City of Ann Arbor*, 163 N.W. 109, 111-14 (Mich. 1917) (discussing reasons for adopting the doctrine of reasonable use with regard to a landowner’s right to withdraw water beneath his land); *Meeker v. City of E. Orange*, 74 A. 379, 385 (N.J. 1909) (stating that “we are convinced, not only that the authority of the English cases [adopting the rule of capture with respect to groundwater] is greatly weakened by the trend of modern decisions in this country, but that the reasoning upon which the doctrine of ‘reasonable user’ rests is better supported upon general principles of law and more in consonance with natural justice and equity”).

Texas’ recent approach to curtailing the effects of the rule of capture has been to place limits on the rule as applied to one groundwater source, the Edwards Aquifer. *See generally* Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.06, 1993 Tex. Gen. Laws 2350 (permitting groundwater control of the Edwards Aquifer, and creating the Edwards Aquifer Authority), *amended by* Act of May 29, 1995, 74th Leg., R.S., ch. 261, 1995 Tex. Gen. Laws 2505. The aquifer, which runs 175 miles in length, is replete with 24 to 48 million acre-feet

to reconcile these property ownership principles with growing water regulations.⁶

of water. See Editorial, *Aquifer Ecosystem Can Make or Break Texas*, DALLAS MORNING NEWS, May 20, 1997, at 12A, available in 1997 WL 2670917.

The creation of the Edwards Aquifer Authority (EAA) has not been the only action by the state to protect natural resources; Texas has also attempted to address the problem of limited water resources through constitutional amendments, legislative acts, and case law. See, e.g., TEX. CONST. art. XVI, § 59 (amended 1964, 1973, 1978) (providing protection for natural resources through the Conservation Amendment); TEX. WATER CODE ANN. §§ 11.301-341 (Vernon 1988) (codifying the 1967 Water Rights Adjudication Act, which addresses drought and water law conflicts); *Barshop*, 925 S.W.2d at 626 (stating unequivocally that Texas has long recognized the necessity of legislation that conserves and preserves the state's limited water resources). But see *City of Corpus Christi v. City of Pleasanton*, 154 Tex. 289, 293, 276 S.W.2d 798, 801 (1955) (adhering to the rule of capture doctrine, which does not conserve or preserve water resources); *East*, 98 Tex. at 151, 81 S.W. at 285 (permitting a business to use all underground water despite the consequent destruction to the adjacent landowner's well).

6. See Nathan Koppel, *Water Rights Case Tops Supreme Court Docket*, TEX. LAW., Sept. 7, 1998, at 1, 4 (referring to an interview with Professor Fran Ortiz, in which she notes that although most states have regulated water use to correct shortages, Texas will find it difficult to abandon the rule of capture because many water users have relied on it); see also *City of Sherman v. Public Util. Comm'n*, 643 S.W.2d 681, 686 (Tex. 1983) (supporting the rule of capture doctrine in groundwater law); *Friendswood Dev. Co. v. Smith-Southwest Indus., Inc.*, 576 S.W.2d 21, 21 (Tex. 1978) (discussing the Texas Supreme Court's adoption of the "absolute ownership doctrine" instead of the "reasonable use" doctrine to control underground water); *Texas Co. v. Burkett*, 117 Tex. 16, 29, 296 S.W. 273, 278 (1927) (stating that groundwater is presumed to be percolating and, as such, is subject to the surface owner's exclusive control); *East*, 98 Tex. at 149, 81 S.W. at 280-81 (recognizing that no correlative rights exist with respect to underground waters).

The rule of capture, as applied to groundwater, has its roots in English common law. See *Acton*, 152 Eng. Rep. at 1235 (holding that the owner of the soil is entitled to everything beneath the surface). This doctrine developed from the theory that surface water required the consent of all of the owners for use, but groundwater did not. See 1 FRANK F. SKILLERN, TEXAS WATER LAW 179 (rev. ed. 1992). At the time the English rule was created, groundwater's origins were unknown; thus, it was categorized in the same manner as minerals and materials. See *id.* Because minerals and materials, like groundwater, are part of the soil beneath the owner's land, no liability resulted from using all the water lying beneath one's land, just as no liability resulted from extracting minerals or materials discovered under one's property. See *East*, 98 Tex. at 151, 81 S.W. at 281-82 (holding that no action lies against a landowner for draining the water beneath another's land so long as there is a reasonable justification for removing the water); see also James N. Castleberry, Jr., *A Proposal for Adoption of a Legal Doctrine of Ground-Stream Water Interrelationship in Texas*, 7 ST. MARY'S L.J. 503, 506 (1975) (identifying the basis of groundwater law as originating from mineral law); Corwin W. Johnson, *Texas Groundwater Law: A Survey and Some Proposals*, 22 NAT. RESOURCES J. 1017, 1017 (1982) (asserting that a lack of real knowledge concerning aquifer characteristics explains the reasoning behind *East*).

Legal scholars and water law experts have pointed to problems that will occur if the economic growth trend and current water law regime continue. See Editorial, *Aquifer Ecosystems Can Make or Break Texas*, DALLAS MORNING NEWS, May 20, 1997, at 12A (discussing future water problems with water law expert Homer Jones in deciding whether the

Like most other states, Texas categorizes water based on whether the water flows above or below the surface, even though this distinction ignores the realities of the hydrological cycle.⁷ This illogical distinction determines how property rights in water are established.⁸ Although Texas has long exercised control over surface waters, it has traditionally placed no such limits on groundwater.⁹ Rather, groundwater has continuously remained subject to the rule of capture.¹⁰ This tradition may be coming to an end, however, as Texas has recently enacted legislation that imposes the first real restrictions on ownership of groundwater in the state's history.¹¹

As a result of threatened federal intervention arising from non-compliance with the Endangered Species Act (ESA),¹² the Texas Legislature

rule of capture remains a viable doctrine within today's economic, community, and environmental issues), *available in* 1997 WL 2670917; Interview with Tim Young, Legal Counsel for the Edwards Underground Water District, Winstead Sechrest & Minick, P.C., in Austin, Tex. (Oct. 15, 1997) (stating that current and future water needs do not support continued application of the rule of capture doctrine); *cf. Wilkinshaw*, 74 P. at 769-70 (stating, in 1903, that the absolute ownership rule was inappropriate due to the scarcity of water in California). However, many legislators are opposed to groundwater changes because they view groundwater regulations as a violation of private property rights. *See* Stefanie Scott, *Bush Approves Aquifer Measure*, SAN ANTONIO EXPRESS-NEWS, June 1, 1995, *available in* 1995 WL 5563328. Texas House Representative Tracy King, a Democrat from Uvalde, led the fight against the EAA bill in the legislature, stating that the bill was "a violation of private property rights in the state of Texas." *Id.*

7. *See* FRANK F. SKILLERN, TEXAS WATER LAW 5 (rev. ed. 1992) (describing the classifications of water by its location in the hydrological cycle). *But see* WELLS A. HUTCHINS, THE TEXAS LAW OF WATER RIGHTS 558-59 (1961) (citing to two groundwater hydrologists who are puzzled by the elaborate classifications of groundwater and have stated that "all water in the part of the earth known as the zone of saturation 'is purely and simply groundwater, moving according to certain well recognized laws of physics'").

8. This distinction is illogical once the water flow is examined outside the legal field. *See* WELLS A. HUTCHINS, THE TEXAS LAW OF WATER RIGHTS 558-60 (1961). Scientists do not analyze water solely by where the water flows at one given point in time; rather, they examine the hydrological cycle and conclude that separation of water into distinct legal properties is a falsehood. *See id. Compare* TEX. WATER CODE ANN. § 11.021 (Vernon 1988) (permitting the State to regulate surface water), *with* TEX. WATER CODE ANN. § 36.002 (Vernon Supp. 1998) (recognizing the landowner's right to own groundwater).

9. *See* TEX. WATER CODE ANN. § 36.002 (Vernon Supp. 1998) (limiting state control of groundwater); *see also* TEX. WATER CODE ANN. § 35.003 (Vernon Supp. 1998) (explaining that surface water laws do not apply to groundwater).

10. *See Barshop*, 925 S.W.2d at 625.

11. *See generally* Act of June 1, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610 (creating a board with the responsibility of adopting a plan for water development, management and conservation); Act of May 30, 1993, 73d Leg., R.S., ch. 626, 1993 Tex. Gen. Laws 2350 (amended 1995) (creating the Edwards Aquifer Authority).

12. *See* Russel S. Johnson, *Water Wise*, SAN ANTONIO BUS. J., Aug. 8, 1997, at 19 (discussing the implementation of SB 1477 as an answer to the violations of the ESA by water users of the Edwards Aquifer). The Endangered Species Act prohibits the taking of

enacted the Edwards Aquifer Act (the Act) and Senate Bill 1 (SB 1).¹³ The Edwards Aquifer Act created the Edwards Aquifer Authority (EAA)¹⁴ and placed limits on the amount of water that landowners may pump from the Edwards Aquifer.¹⁵ SB 1, on the other hand, called for the development of regional water plans throughout the state,¹⁶ the creation of drought response and monitoring committees,¹⁷ and the imple-

any species that is in danger of extinction. See 16 U.S.C. § 1533 (1994). A "taking" of a species is defined as harassing, pursuing, harming, shooting, hunting, wounding, killing, trapping, collecting, capturing, or attempting to engage in such conduct. See *id.* § 1532(19). Environmental issues are currently in the spotlight due to the heightened awareness of Texas blind salamanders and 1,400 other types of species located in the Edwards Aquifer. See R. Tim Hay, Comment, *Blind Salamanders, Minority Representation, and the Edwards Aquifer: Reconciling Use-Based Management of Natural Resources with the Voting Rights Act of 1965*, 25 ST. MARY'S L.J. 1449, 1460-62 (1994) (describing aquifer use); Scott Parks, *Water Plan Nears Reality: Legislator Says Last Year's Troubles Were 'Wake-up Call,'* DALLAS MORNING NEWS, June 1, 1997, at 47A (declaring that environmentalists view SB 1 as getting the "state's foot in the door to alter the rule of capture"), available in 1997 WL 2673878. However, increased water consumption is potentially more threatening than any environmental concern. See R. Tim Hay, Comment, *Blind Salamanders, Minority Representation, and the Edwards Aquifer: Reconciling Use-Based Management of Natural Resources with the Voting Rights Act of 1965*, 25 ST. MARY'S L.J. 1449, 1460-62 (1994) (noting the aquifer is used to supply drinking water for six counties).

13. See generally Act of June 1, 1997, 75th Leg., R.S., ch. 1010, § 1.01, 1997 Tex. Gen. Laws 3610 (empowering a board to adopt a state water plan, the purpose of which is to "provide for the orderly development, management, and conservation of water resources").

14. See Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.06, 1993 Tex. Gen. Laws 2350, 2355 (amended 1995) (finding "that it is necessary, appropriate, and a benefit to the welfare of this state to provide for the management of the aquifer through the application of management mechanisms consistent with our legal system and appropriate to the aquifer system").

15. See *id.* § 1.4, 1993 Tex. Gen. Laws at 2362 (stating that "[t]he authority shall prepare and implement a plan for reducing, by January 1, 2008, the maximum annual volume of water authorized to be withdrawn from the aquifer under regular permits to 400,000 acre-feet a year"); see also Russell S. Johnson, *Water Wise*, SAN ANTONIO BUS. J., Aug. 8, 1997, at 19 (describing the implementation of Senate Bill 1477 as incorporating water regulations on the Edwards Aquifer).

16. See Act of June 1, 1997, 75th Leg., R.S., ch. 1010, § 1.02, 1997 Tex. Gen. Laws 3610, 3611-16 (requiring the development of regional water plans) (codified as an amendment to TEX. WATER CODE ANN. §§ 16.053-16.057).

17. See *id.* (creating a drought response and monitoring committee, which is responsible for assessing water supply conditions, advising the governor of drought conditions, recommending responses to drought-related disasters, advising regional water planning groups of drought-related issues, and ensuring coordination between state, local, and federal agencies in planning for drought response).

mentation of research for groundwater districts in order to provide for long-term management plans.¹⁸

These responses by the Legislature have heightened the concern regarding water rights.¹⁹ Despite the Legislature's contentions that the EAA and SB 1 are valid and reasonable actions in light of growing environmental and community concerns,²⁰ landowners have challenged such legislation as an appropriation of their prior vested water rights.²¹ In particular, landowners have asserted that the legislation amounts to a taking under the state and federal constitutions.²²

18. *See id.* § 7.01 (requiring "studies, investigations, and surveys of the occurrence, quantity, quality and availability of the surface water and groundwater in this state").

19. One conflict involves the competing needs of farmers and the tourist industry. *See* Interview with Tim Young, Legal Counsel for the Edwards Underground Water District, Winstead Sechrest & Minick P.C., in Austin, Tex. (Oct. 15, 1997). Farmers in Medina and Uvalde counties want unlimited groundwater withdrawal rights to satisfy their agricultural and farming needs; however, fulfilling these needs is problematic because the area was never intended to sustain an agricultural industry. *See id.* Conversely, people in the New Braunfels and San Marcos area want to impose water restrictions on the farmers in the Uvalde and Medina counties because their tourism industry is dependent on a raging Guadalupe River, which is supplied by the Edwards Aquifer. *See id.* If the Uvalde and Medina county farmers are permitted to use water without regard for the needs of others, the tourism industry will suffer from a loss of water flow in the Guadalupe River. *See id.*

20. *See* Martin Hubert, *Senate Bill 1: The First Big and Bold Step Toward Meeting Texas' Future Water Needs*, 61 TEX. B.J. 894, 894 (1998) (contending that SB 1 is a sign of a new era of water law, but that it fails to overrule or abolish the rule of capture); *cf.* *Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618, 626 (Tex. 1996) (explaining that the Legislature recognized the rights of the landowner in groundwater by only allowing the Edwards Aquifer Authority to limit groundwater withdrawal). *But see* Editorial, *Aquifer Ecosystems Can Make or Break Texas*, DALLAS MORNING NEWS, May 20, 1997, at 12A (quoting water law expert, Homer Jones, as stating that problems with vested property rights, like water, do not disappear "by the stroke of a legislative pen"), available in 1997 WL 2670917.

21. *See Barshop*, 925 S.W.2d at 626-33 (explaining that the landowners' arguments were based on cases that "adopted the rule of capture for underground water"); *cf.* Editorial, *A Step-By-Step Conservation Process Could Help*, DALLAS MORNING NEWS, Apr. 27, 1997, at 2J (arguing that proponents of property rights abhor any change to the rule of capture doctrine), available in 1997 WL 2665351.

22. *See Barshop*, 925 S.W.2d at 628. The landowner-plaintiffs in *Barshop* claimed that the Edwards Aquifer Authority, created by the Edwards Aquifer Act, violated the Texas Constitution by depriving the landowners of vested property rights to groundwater. *See id.* The Act instituted a permit system for appropriation of water use of the Edwards Aquifer. *See id.* at 623-25.

The concern regarding the unconstitutional taking of property rights was also expressed during the enactment of SB 1. *See* Editorial, *Aquifer Ecosystems Can Make or Break Texas*, DALLAS MORNING NEWS, May 20, 1997, at 12A (noting that ranchers and farmers view the idea of limiting water as a "silver bullet and a wooden stake," or a death-knell for their vested water rights), available in 1997 WL 2670917; Scott Parks, *Water Plan Nears Reality: Legislator Says Last Year's Troubles Were 'Wake-up Call,'* DALLAS MORNING

In addition, although both pieces of legislation ostensibly abrogate strict application of the rule of capture, neither truly goes far enough.²³ Most legislators still remain reluctant to propose the necessary changes to current groundwater law that would eliminate the rule's application.²⁴ Moreover, water experts forecast limited water availability in the future.²⁵ Thus, if the state of groundwater law remains the same, communi-

NEWS, June 1, 1997, at 47A (quoting a Uvalde farmer as stating "[t]hey've taken over the Edwards and now they want to take over the rest of the ground water in Texas"), available in 1997 WL 2673878.

23. See *End Water-Capture Rule*, AUSTIN AM.-STATESMAN, Jan. 24, 1997, at A14 (identifying the missing component from SB 1 as the reformation of the rule of capture), available in 1997 WL 2810514; Nicole Foy, *House Follows Its Own Course in Development of Water Plan*, SAN ANTONIO EXPRESS-NEWS, Apr. 19, 1997, at 16A (stating that "legislators acknowledged the issue [concerning abrogation of the rule of capture] was too contentious to tackle this session"); Molly Ivins, *Water on the Mind in Austin*, SAN ANTONIO EXPRESS-NEWS, Apr. 15, 1997, at 7B (arguing that the "chief problem with [Senator Buster] Brown's bill [SB 1], is that it does nothing about the rule of capture"). But see Editorial, *New Measure Gives Regions a Say-So in Planning Series*, DALLAS MORNING NEWS, June 4, 1997, at 26A (emphasizing that SB 1 represents large progress in meeting Texas' growing water needs), available in 1997 WL 2674912; *Water Overhaul Overdue*, AUSTIN AM.-STATESMAN, June 3, 1997, at A14 (portraying SB 1 as "this Legislature's finest legacy" while briefly noting the bill's silence on the rule of capture), available in 1997 WL 2825921. SB 1 provides for the marketability of water rights, but even that area of water planning is currently undergoing rapid attack within the context of monopolizing water rights. See Rick Casey, *Bass Hook in Aquifer: Good for Everybody?*, SAN ANTONIO EXPRESS-NEWS, Nov. 3, 1997, at 3A (proposing that the Bass family intends to monopolize future water rights within the Edwards Aquifer as evidenced by an agent buying up local water rights for the Bass family); Rick Casey, *Billionaire Bass Clan Stakes Out Area Water*, SAN ANTONIO EXPRESS-NEWS, Nov. 2, 1997, at 2A (describing the activity by the Bass brothers in acquiring water rights in Texas and California over the past three years as creating a "water cartel"). The corporation dealing with the Bass family is U.S. Filter, reported to be the largest private owner of water rights in the nation. See *id.*

24. See *End Water-Capture Rule*, AUSTIN AM.-STATESMAN, Jan. 24, 1997, at A14 (reprimanding the Legislature for refusing to address the rule of capture in current water management acts), available in 1997 WL 2810514; Nicole Foy, *House Follows Its Own Course in Development of Water Plan*, SAN ANTONIO EXPRESS-NEWS, Apr. 19, 1997, at 16A (identifying environmental groups that were outraged that the rule of capture was not addressed in SB 1); Ralph K. M. Haurwitz, *Legislature Takes Stand for Water Planning*, AUSTIN AM.-STATESMAN, June 2, 1997, at A1 (concluding that SB 1 addressed the rule of capture only in an indirect fashion), available in 1997 WL 2825865; Molly Ivins, *Water on the Mind in Austin*, SAN ANTONIO EXPRESS-NEWS, Apr. 15, 1997, at 7B (asserting that the Legislature, in enacting SB 1, once again refused to address the rule of capture problem); *Water Overhaul Overdue*, AUSTIN AM.-STATESMAN, June 3, 1997, at A14 (chastising the Legislature for backing away from the rule of capture issue), available in 1997 WL 2825921.

25. See, e.g., Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 185-88 (1996) (projecting water shortages due to the population doubling); Editorial, *New Measure Gives Region a Say-So in Planning*, DALLAS MORNING NEWS, June 4, 1997, at 26A (predicting future water shortages), available in 1997 WL 2674912.

ties will be injured by individual landowners withdrawing unlimited amounts of groundwater. Essentially, legislative reluctance comes at the expense of many future generations of Texans.²⁶ Further action is, therefore, imperative.

This Comment details how the environmental and community concerns of the general public come into conflict with existing groundwater law and highlights the Texas Legislature's inability to resolve this conflict adequately. Part II traces the history of Texas water law, concentrating on the origins of the rule of capture and Texas' failed attempts to regulate that rule. In order to understand how water regulation may amount to a taking, Part III discusses the history of regulatory takings in light of *Lucas v. South Carolina Coastal Council*.²⁷ Part III also analyzes Texas case law on regulatory takings of water rights, including the latest development, *Barshop v. Medina County Underground Water Conservation District*.²⁸ Mindful of Texas' approach to takings, Part IV examines the rule of capture in light of *Lucas*, specifically addressing the nature of the property right in water, when the right vests, and the scope of the right vested in the property owner. Part IV also explores the *Lucas* test in detail as applied to groundwater, and concludes that a *Lucas* challenge to Texas' water regulations would most likely be unsuccessful. Part V describes how the Conservation Amendment and the public trust doctrine are obstacles to a *Lucas* challenge and the rule of capture. Because attempts at abrogating the rule of capture through the courts and the legislature have failed, Part VI recommends that the Texas Legislature develop an effective means to address groundwater rights by implementing a comprehensive water management program that governs both ground and surface water. Essentially, this Comment argues that the distinction between these two water sources is illogical in light of current recognized hydrological principles, and thus, should be cast aside.

26. See Jerry Needham, *Austin-to-S.A. Development Is Seen As Threatening Watershed*, SAN ANTONIO EXPRESS-NEWS, Oct. 26, 1997, at 2B (stating that current research estimates when economic development exceeds 10% in a watershed, such development rapidly deteriorates the aquifer recharge zone, which results in increased erosion, flooding, and pollution in the ecological system); Editorial, *New Measure Gives Region a Say-So in Planning*, DALLAS MORNING NEWS, June 4, 1997, at 26A (predicting a crisis in water expectations if future economic growth projections hold true), available in 1997 WL 2674912; see also Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 186 & tbl. 1 (1996) (projecting that future water demands for the next fifty years will exceed current water allocations). Professor Kaiser maintains that municipal water use will exceed agricultural water use in the near future, placing increasing demands on the water tables. See *id.* at 186-87.

27. 505 U.S. 1003 (1992).

28. 925 S.W.2d 618 (Tex. 1996).

II. TEXAS GROUNDWATER LAW

A. *General Water Law*

To understand the reasoning behind a landowner's claim that limitations on the right to pump water from his land constitute a taking, a general explanation of water law is necessary. This explanation is also helpful to understand legislative attempts to curtail the rule of capture that historically have played a prominent role in adjudicating water rights.

Texas classifies water according to its location in the hydrological cycle, which is the flow of water from rainfall to collection within the earth.²⁹ The law divides water into three distinct categories: surface water, diffused water, and underground water.³⁰ Underground water, or groundwater, is further bifurcated into subterranean streams and percolating waters.³¹ Subterranean streams are the subsurface portion of a stream, distinguished only by the underground flow of the water source.³² Conversely, percolating waters are underground bodies of water that do not move through the earth in clearly, defined channels.³³ The law presumes that all underground water sources are percolating waters, as opposed to subterranean streams.³⁴ This presumption of percolating water exempli-

29. See 1 FRANK F. SKILLERN, *TEXAS WATER LAW* 5 (rev. ed. 1992) (explaining the process of categorizing Texas water); see also JOHN E. CRIBBET ET AL., *PROPERTY* 696 (7th ed. 1996) (recognizing that rights to water depend on the position of water in the hydrological cycle); WELLS A. HUTCHINS, *THE TEXAS LAW OF WATER RIGHTS* 6-7, 557 (1961) (identifying the origins of water law in Texas).

30. See 1 FRANK F. SKILLERN, *TEXAS WATER LAW* 5 (rev. ed. 1992) (discussing the legal categorization of water). Surface waters include natural watercourses such as rivers, lakes, and streams. See *id.* Groundwater, conversely, is water located beneath the surface and includes aquifers, subterranean streams, or water that percolates from the surface. See *id.* at 6. Diffused surface waters, however, do not flow in a defined water course. See *id.* Typically, this type of water includes rain or storm runoff, but once this runoff reaches a natural stream, lake, or aquifer, the diffused water becomes either ground or surface water. See *id.* In other words, diffused surface water assumes the identity of the water source to which it flows. See *id.*

31. See WELLS A. HUTCHINS, *THE TEXAS LAW OF WATER RIGHTS* 558 (1961).

32. See *id.* at 563-66 (distinguishing subterranean streams from percolating waters).

33. See *id.* (classifying percolating waters based on the characteristics of "percolating, oozing, or filtrating through the earth" (quoting *Houston & T. C. Ry. Co. v. East*, 98 Tex. 146, 149, 81 S.W. 279, 281 (1904))).

34. See 1 FRANK F. SKILLERN, *TEXAS WATER LAW* 5 (rev. ed. 1992). Percolating water collects in permeable strata such as rock, sand, and gravel, or basins and reservoirs, and forms an aquifer. See ROGER A. CUNNINGHAM ET AL., *THE LAW OF PROPERTY* § 7.5, at 429 (2d ed. 1993). An aquifer is defined as a water-bearing formation below ground containing water in its interstices with capabilities of yielding water for wells. See RAPHAEL G. KAZMANN, *MODERN HYDROLOGY* 30-37 (1965). Thus, persons, under whose

fies the legal distinction regarding whether the state or a landowner owns the underground water source.³⁵

In Texas, subterranean streams are controlled by the State,³⁶ whereas percolating waters, such as aquifers, belong to the owner of the property whose land is located above those underground waters.³⁷ The legal designation of water ownership by an individual is referred to as the rule of capture.³⁸ Under the rule of capture, landowners are accorded abso-

land lies an aquifer, actually lower the "water table" when they withdraw from the aquifer. See ROGER A. CUNNINGHAM ET AL., *THE LAW OF PROPERTY* § 7.5, at 429 (2d ed. 1993).

35. See *Texas Co. v. Burkett*, 117 Tex. 16, 28-29, 296 S.W. 273, 278 (1927) (stating that underground waters are presumed to be percolating waters that are owned exclusively by the landowner); *Houston & T. C. Ry. Co. v. East*, 98 Tex. 146, 150, 81 S.W. 279, 281 (1904) (recognizing that the owner of the land is the absolute owner of percolating water); *Pecos County Water Control & Improvement Dist. v. Williams*, 271 S.W.2d 503, 505 (Tex. Civ. App.—El Paso 1954, writ ref'd n.r.e.) (stating that percolating waters belong to the landowner); see also *City of Corpus Christi v. City of Pleasanton*, 154 Tex. 289, 292-94, 276 S.W.2d 798, 801 (1955) (noting the ability of a landowner to use all the percolating water captured from his wells); WELLS A. HUTCHINS, *THE TEXAS LAW OF WATER RIGHTS* 571 (1961) (discussing judicial decisions that held that percolating waters are property of the owner of the soil); 1 FRANK F. SKILLERN, *TEXAS WATER LAW* 5 (rev. ed. 1992) (noting the difference in how classification affects the legal rights of landowners); Karen H. Norris, Comment, *The Stagnation of Texas Ground Water Law: A Political v. Environmental Stalemate*, 22 ST. MARY'S L.J. 493, 498-99 (1990) (pointing to the reliance of absolute ownership in all underlying groundwater and defining groundwater as percolating).

To determine whether the water source is a percolating stream or an underground stream, test borings, surface sounds of water flowing underground, vegetation growth on the surface, and visible evidence of the stream surfacing to or disappearing into the earth are collected. See ROGER A. CUNNINGHAM ET AL., *THE LAW OF PROPERTY* § 7.5, at 429 (2d ed. 1993). If a water source is determined to be an underground stream, then the state surface water principles apply to the stream. See *id.*; cf. *Guadalupe-Blanco River Auth. v. City of Lytle*, 937 F.2d 184, 192 (5th Cir. 1991) (discussing the initial litigation to determine whether the Edwards Aquifer was an underground river governed by surface water law or an aquifer subjugated to the rule of capture). In Texas, classification of a water source as an underground stream results in either appropriation among users of the stream or government by riparian rights. See Wells A. Hutchins, *Trends in the Statutory Law of Ground Water in the Western States*, 34 TEX. L. REV. 157, 158 (1961) (noting that "in some states underground streams are subject to both riparian and appropriative rights" or one or the other).

36. See TEX. WATER CODE ANN. § 11.021(a) (Vernon 1988) (stating that "[t]he water of the ordinary flow, underflow, and tides of every flowing river, natural stream, and lake, and of every bay or arm of the Gulf of Mexico, and the storm water, floodwater, and rainwater of every river, natural stream, canyon, ravine, depression, and watershed in the state is the property of the state").

37. See *id.* § 36.002 (Vernon Supp. 1998) (recognizing landowners' rights in groundwater beneath their land).

38. See *Martin v. Linden*, 667 So. 2d 732, 738 (Ala. 1995) (describing the rule of capture as allowing a landowner to "take as much water as the landowner wanted from the land with no thought of the consequences to others"); *Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618, 625 (Tex. 1996) (referring to the doc-

lute ownership and are permitted to use all the water beneath their land without any liability to another landowner.³⁹

In contrast, Texas does not apply the rule of capture to surface waters, such as lakes and streams; instead, surface waters are governed by the rule of prior appropriation.⁴⁰ The rule of prior appropriation determines the vesting of all water rights and duties according to the doctrine of "first in time . . . first in right."⁴¹ Accordingly, the rights between two conflicting parties are determined by the "priority" of the water claim.⁴² Fur-

trine of absolute ownership of groundwater beneath a landowner's soil as "the rule of capture").

39. See *East*, 98 Tex. at 151, 81 S.W. at 281-82 (applying the common-law doctrine of absolute ownership of water beneath the landowner's property). In 1983, the Texas Supreme Court affirmed the *East* decision and permitted a landowner the absolute right to fulfill his water needs through an underground water source. See *City of Sherman v. Public Util. Comm'n*, 643 S.W.2d 681, 686 (Tex. 1983).

40. See *In re Adjudication of Water Rights of the Upper Guadalupe Segment*, 642 S.W.2d 438, 442-46 (Tex. 1982) (stating that surface water rights are subject to the prior appropriation doctrine). Riparian possessors have certain rights to surface water, but those rights are incident to their rights of possession. See ROGER A. CUNNINGHAM ET AL., *THE LAW OF PROPERTY* § 7.4, at 424 (2d ed. 1993) (describing the nature of riparian rights). These interests include rights to access, limited use and consumption, and the right to have the water remain, more or less, in its natural state. See *id.*; see also *Parker v. El Paso County Water Improvement Dist. No. 1*, 116 Tex. 631, 642-43, 297 S.W. 737, 743 (1927) (holding that the right of a riparian user depends on the number of riparian users for a particular water source). Riparian claims, however, are not exclusive rights to water. See *Watkins Land Co. v. Clements*, 98 Tex. 578, 585, 86 S.W. 733, 735-36 (1905) (holding that riparian ownership is not exclusive); *Rhodes v. Whitehead*, 27 Tex. 304, 315 (1863) (finding that riparian rights are equal rights among users, not exclusive rights); *Greenman v. Fort Worth*, 308 S.W.2d 553, 555 (Tex. Civ. App.—Fort Worth 1957, writ ref'd n.r.e.) (stating that riparian rights are not unlimited rights).

41. TEX. WATER CODE ANN. § 11.027 (Vernon 1988); see Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 241 (1996) (indicating that "[p]riority is the linchpin of the prior appropriation doctrine").

42. See 1 FRANK F. SKILLERN, *TEXAS WATER LAW* 70 (rev. ed. 1992) (stating that "[t]he principle of 'first in time, first in right' determines priority among appropriators to use water"). Priority rights focus on the preferred use of the water. See *id.* at 70-72 (discussing exceptions to the priority rule); ROGER A. CUNNINGHAM ET AL., *THE LAW OF PROPERTY* 424-29 (2d ed. 1993) (defining preferred uses as domestic and agricultural); Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 241 (1996) (noting that in times of water surplus, prior appropriation has limited utility; it becomes crucial, however, during droughts and other shortages to govern which owner will have "senior" use of the water). If an owner is senior to another user, known as the junior appropriator to the water, the senior appropriator may exercise all rights before the junior appropriator can use the water. See Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH. L. REV. 181, 241 (1996) (providing a priority rule in which the date of appropriation determines the rank of appropriators).

thermore, unlike groundwater, surface waters are controlled by the State, which can mandate decreased water use during emergency situations.⁴³

The distinctive bifurcation of surface and groundwater gives rise to the controversy surrounding groundwater regulation and the rule of capture. Groundwater has evaded state control and ownership, and, unlike surface water, its use cannot be limited in emergency situations.⁴⁴ Because groundwater remains subject to the rule of capture, individual landowners can pump an unlimited amount of groundwater as long as the pumping is not willful or malicious.⁴⁵ Unbridled pumping can endanger the water supply available to the people of Texas, particularly as water becomes a scarce resource. The future of Texas, thus, depends upon resolving this conflict between the need for water regulation and private ownership of groundwater.

B. Rule of Capture

1. Origins of the Rule of Capture

The rule of capture is an ancient doctrine used to determine property ownership. Originating within the context of wild animal ownership, this doctrine dictated that a person did not capture an animal until the animal was reduced to actual possession.⁴⁶ Common law thus defined ownership

Before 1967, surface water classification varied according to the year in which the water rights were acquired. *See id.* at 234 tbl. 6 (1996) (outlining the law applicable to the year the water right was acquired). For an in-depth discussion of water analysis regarding the date of acquisition and the existing governmental regime of water rights, see Hans W. Baade, *The Historical Background of Texas Water Law—A Tribute to Jack Pope*, 18 ST. MARY'S L.J. 1 (1986), and Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 237 (1996).

43. *See* TEX. WATER CODE ANN. § 11.021 (Vernon 1988) (designating surface water as State property); *In re Water Rights of Brazos III Segment of Brazos River Basin*, 746 S.W.2d 207, 209 (Tex. 1988) (holding that all surface water rights are owned by the State, thus one must affirmatively show a grant of irrigation rights from the State to claim any riparian right); *In re Water Rights of Upper Guadalupe River Segment*, 625 S.W.2d at 360-61 (allowing reasonable regulations of surface water under the police powers of the State).

44. *Compare* TEX. WATER CODE ANN. §§ 11.021, 11.039 (Vernon 1988) (recognizing state ownership of surface water and distributing surface water pro rata in emergency situations, such that “everyone suffers alike”), *with id.* § 36.002 (acknowledging private ownership rights in groundwater).

45. *Id.* § 36.002 (recognizing that landowners may obtain rights in groundwater); *Friendswood Dev. Co. v. Smith-Southwest Indus., Inc.*, 576 S.W.2d 21, 26 (Tex. 1978) (limiting absolute groundwater use prospectively and creating landowner liability for waste or malicious pumping).

46. *See Pierson v. Post*, 3 Cai. R. 175 (N.Y. Sup. Ct. 1805) (holding that ownership of a hunted fox was established by control, and not merely by chasing or pursuing the wounded animal), *reprinted in* SHELDON F. KURTZ & HERBERT HOVENKAMP, *CASES AND MATERIALS ON AMERICAN PROPERTY LAW* 45 (1987).

as a statement or intent to claim the "property," coupled with actually reducing the property to possession.⁴⁷ This notion of capturing the property and reducing it to possession eventually evolved into the rule of capture.⁴⁸ This rule became the primary means of establishing ownership at common law and was subsequently applied to oil and gas disputes, as well as controversies surrounding other minerals.⁴⁹ Under the rule, a landowner did not "capture" these resources until they were actually reduced to possession.⁵⁰

However, the legal treatment of surface water varies significantly from that of minerals. The ownership of minerals has traditionally been, and still is, controlled by the rule of capture, which vests ownership of minerals in the mineral owner.⁵¹ In contrast, surface waters are typically held as "the property of the state."⁵² Consequently, property owners have no possessory interest in surface water.⁵³ Thus, if a landowner maliciously diverts the surface water, resulting in a loss of water downstream, that landowner is liable to other surface water users for their loss.⁵⁴ Furthermore, surface water users are required to share the water resource among

47. See 2 WILLIAM BLACKSTONE, COMMENTARIES ON THE LAWS OF ENGLAND 258 (1966) (stating that the act or declaration of intent to own characterizes possession); Carol M. Rose, *Possession As the Origin of Property*, 52 U. CHI. L. REV. 73, 77 (1985) (describing the rule of capture as a theory that ownership requires possession).

48. See Carol M. Rose, *Possession As the Origin of Property*, 52 U. CHI. L. REV. 73, 77-79 (1985) (noting that possession establishes ownership).

49. See, e.g., *Brown v. Spilman*, 155 U.S. 665, 670 (1895) (stating that "[i]f an adjoining owner drills his own land, and taps a deposit of oil or gas, extending under his neighbor's field, so that it comes into his well, it becomes his property"); *Westmoreland & Cambria Natural Gas Co. v. DeWitt*, 18 A. 724, 725 (Pa. 1889) (holding that possession of oil and gas occurs when the equipment is implanted to remove the resources).

50. See *Dewitt*, 18 A. at 725.

51. See Robert E. Hardwicke, *The Rule of Capture and Its Implications As Applied to Oil and Gas*, 13 TEX. L. REV. 391, 391-422 (1935) (providing an in-depth discussion of oil and gas law and its origin). The mineral owner and the surface owner are the same unless there has been a severance. See RICHARD W. HEMINGWAY, *THE LAW OF OIL AND GAS* 13-14 (1971) (explaining that "[t]he separation of the oil and gas mineral estate . . . from the rest of the land may be accomplished by a grant to a third party or retention of the mineral estate by the landowner in a conveyance of the rest of the land").

52. TEX. WATER CODE ANN. § 11.021 (Vernon 1988).

53. Compare 1 FRANK F. SKILLERN, *TEXAS WATER LAW* 29-30 (rev. ed. 1992) (noting that title to surface water belongs to the state), with *Houston & T. C. Ry. Co. v. East*, 98 Tex. 146, 151, 81 S.W. 279, 281-82 (1904) (finding that the surface owner has the exclusive right to use groundwater).

54. See WELLS A. HUTCHINS, *THE TEXAS LAW OF WATER RIGHTS* 16-18 (1961) (discussing the rights and duties of riparian users in conjunction with other riparian users). Riparian is derived from the Latin word *ripa*, which refers to the bank of a stream. See BLACK'S LAW DICTIONARY 1327 (6th ed. 1990).

other surface water users.⁵⁵ In contrast, the State does not implement any type of priority use system for either minerals or groundwater.⁵⁶

The “sharing” between surface water users is not found within the context of groundwater law because groundwater law has largely drawn from the legal principles that are applied to minerals.⁵⁷ Mineral law developed at a time when the origins of minerals were unknown; consequently, the landowner was able to use all the minerals beneath his land that he could “capture” and reduce to possession.⁵⁸ Similar to the origins of mineral law, groundwater law initially developed during a period when technology could not account for the location of underground water resources.⁵⁹ Therefore, when groundwater disputes arose, the courts were faced with applying either mineral law or surface water law to determine the ownership of groundwater.⁶⁰ Noting the lack of scientific information available to understand the nature of groundwater deposits, the courts analogized groundwater to minerals on the basis of the shared characteristic of a hidden source.⁶¹ The principles underlying ownership of surface water could not apply to groundwater because, unlike groundwater, surface water has identifiable flows and courses to define its location.⁶² Thus, by analogizing to mineral law, courts determined that all the rights to groundwater belonged to the capturer or landowner.⁶³ Under this princi-

55. See TEX. WATER CODE ANN. § 11.021 (Vernon 1988).

56. See *id.* § 36.002 (Vernon Supp. 1998).

57. See *Acton v. Blundell*, 152 Eng. Rep. 1223, 1235 (Ex. Ch. 1843) (analogizing groundwater to minerals); 1 FRANK F. SKILLERN, TEXAS WATER LAW 179 (rev. ed. 1992) (illustrating how mineral law principles have been applied to groundwater law).

58. See 1 FRANK F. SKILLERN, TEXAS WATER LAW 179 (rev. ed. 1992) (discussing general oil and gas principles).

59. See *id.* (identifying the problem of the lack of technology and scientific information necessary to decipher the movement and location of underground watercourses as leading to the adoption of the rule of capture); Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 666-69 (1991) (asserting that the rule of capture is based on scientific and technological ignorance).

60. See *Acton*, 152 Eng. Rep. at 1235 (analogizing groundwater to minerals, thus adopting the rule of capture doctrine); see also *Pixley v. Clark*, 35 N.Y. 520, 527 (1866) (applying the English doctrine to groundwater law); *Frazier v. Brown*, 12 Ohio St. 294, 311 (1861) (holding the reasoning of the English rule of capture to be satisfactory and consistent for continued application); WELLS A. HUTCHINS, THE TEXAS LAW OF WATER RIGHTS 559-64 (1961) (identifying various states which adopted the English rule in *Acton*).

61. See 1 FRANK F. SKILLERN, TEXAS WATER LAW 179 (rev. ed. 1992) (noting that the first court to apply the rule of capture to groundwater relied on mineral law principles).

62. See GEORGE A. GOULD & DOUGLAS L. GRANT, CASES AND MATERIALS ON WATER LAW 302-03 (5th ed. 1995) (explaining the reasons why groundwater was not originally governed by surface water law).

63. See *Acton*, 152 Eng. Rep. at 1235 (holding that the surface owner has absolute ownership of the water beneath his land); see also 1 FRANK F. SKILLERN, TEXAS WATER

ple, landowners can use as much of the groundwater beneath their land as they choose, even if such use results in injury to another landowner.⁶⁴

2. Application to Texas Groundwater

Texas expressly adopted the rule of capture to resolve groundwater disputes in a landmark 1904 decision, *Houston & T. C. Ry. Co. v. East*.⁶⁵ In *East*, the defendant, Houston & Texas Central Railroad Company, dug a well on its land to supply water to surrounding businesses.⁶⁶ The plaintiff, East, also had a well on his land that he used to fulfill household needs.⁶⁷ The railroad company pumped enough water from the common water source underlying both properties to cause East's well to dry.⁶⁸ Consequently, East brought suit against the railroad company, claiming damages for the drying of his well.⁶⁹

Adopting English groundwater law, the Texas Supreme Court stated that "[n]o action lies against the owner for interfering with or destroying percolating or circulating water under the earth's surface," unless that act was malicious or intentional.⁷⁰ According to the court,

[T]he law recognizes no correlative rights in respect to underground waters percolating, oozing, or filtrating through the earth . . . [b]ecause the existence, origin, movement and course of such waters, and the causes which govern and direct their movements, are *so secret, occult and concealed* that an attempt to administer any set of legal rules in respect to them would be involved in hopeless uncertainty. . . .⁷¹

LAW 179 (rev. ed. 1992) (discussing how the *Acton* court applied rules of mineral law to resolve the issue of groundwater ownership).

64. See *City of Sherman v. Public Util. Comm'n*, 643 S.W.2d 681, 686 (Tex. 1983) (confirming that the theory of absolute ownership of groundwater grants owners the right to capture all the water beneath the property); *City of Corpus Christi v. City of Pleasanton*, 154 Tex. 289, 292, 294, 276 S.W.2d 798, 801 (1955) (concluding that the landowner's right permits the use of all percolating water captured from wells); *Houston & T. C. Ry. Co. v. East*, 98 Tex. 146, 151, 81 S.W. 279, 281-82 (1904) (holding that the owner of land has the exclusive right to use groundwater beneath his land); WELLS A. HUTCHINS, *THE TEXAS LAW OF WATER RIGHTS* 560-62 (1961) (discussing rights incidental to groundwater possession); 1 FRANK F. SKILLERN, *TEXAS WATER LAW* 179 (rev. ed. 1992) (reviewing groundwater law and the rights associated with groundwater).

65. 98 Tex. 146, 81 S.W. 279 (1904).

66. See *East*, 98 Tex. at 148-49, 81 S.W. at 280.

67. See *id.*

68. See *id.*

69. See *id.*

70. *Id.* at 150, 81 S.W. at 281 (quoting *Pixley v. Clark*, 35 N.Y. 520, 527 (1866)).

71. *Id.* at 149, 81 S.W. at 280-81 (quoting *Frazier v. Brown*, 12 Ohio St. 294, 311 (1861)) (emphasis added).

Thus, the *East* court initiated the application of the rule of capture to groundwater sources in Texas, permitting landowners to withdraw unlimited amounts of water from their land.

This right of absolute ownership presented in *East* is a possessory interest that the landowner holds against all other landowners.⁷² However, *absolute* adherence to *East* has been abrogated to lessen landowner liability for water withdrawal that results in land subsidence.⁷³ Thus, despite the detrimental effect that such use may have on other landowners or the community, the rule of capture gives landowners exclusive rights to all the groundwater beneath their property.⁷⁴ Although the Texas Supreme Court has historically upheld the rule of capture doctrine,⁷⁵ the Legislature has taken some steps to conserve water resources.⁷⁶

3. State Action to Curtail the Rule of Capture

Since *East*, the Texas Legislature has responded to the rule of capture by enacting legislation that purports to erode absolute adherence to the rule.⁷⁷ The Legislature's actions indicate that it has acknowledged the

72. *See id.* at 151, 81 S.W. at 281-82.

73. *Friendswood Dev. Co. v. Smith-Southwest Indus., Inc.*, 576 S.W.2d 21, 24-26 (Tex. 1978).

74. *See id.* (granting the defendant "reasonable and legitimate" use of water taken from his land); *see also* Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 256 (1996) (discussing the adverse impact of the rule of capture's continued application upon aquifer management); *cf.* Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 678-81 (1991) (describing the devastating effect of unlimited pumping on the Edwards Aquifer).

75. *See City of Sherman v. Public Util. Comm'n*, 643 S.W.2d 681, 686 (Tex. 1983) (reaffirming the *East* theory that a landowner is permitted absolute use of groundwater, regardless of community needs); *Friendswood*, 576 S.W.2d at 24-26 (abrogating the rule of capture to hold landowners liable for malicious groundwater pumping); *City of Corpus Christi v. City of Pleasanton*, 154 Tex. 289, 292, 276 S.W.2d 798, 801 (1955) (advancing the *East* decision which granted absolute groundwater ownership); Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 681-82 (1991) (criticizing the perpetual adherence by the courts and the Legislature to the rule of capture, despite recent droughts, depletion of aquifers, and species endangerment).

76. *See generally* Act of June 1, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610 (relating to presentation and development of Texas water resources); Act of May 30, 1993, 73d Leg., R.S., ch. 626, 1993 Tex. Gen. Laws 2350 (amended 1995) (creating the Edwards Aquifer Authority to manage the Edwards Aquifer); Act of Apr. 13, 1967, 60th Leg., R.S., ch. 45, 1967 Tex. Gen. Laws 86 (providing mechanisms to ensure preservation of surface water) (codified at TEX. WATER CODE ANN. §§ 11.301-.341 (Vernon 1988)).

77. *See* Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.06, 1993 Tex. Gen. Laws 2350, 2355 (amended 1995) (limiting the water use in the Edwards Aquifer, but refusing to ex-

inherent conflict between the unrestricted application of the rule of capture and the preservation of the state's water resources.⁷⁸ In essence, if the rule of capture is kept as a groundwater principle in Texas, then water resource availability for future Texans becomes questionable.⁷⁹

One initial action by the Legislature that acknowledged the conflict between the rule of capture and effective water management is the addition of the Conservation Amendment to the Texas Constitution in 1917.⁸⁰ This Amendment was intended to provide citizens and lawmakers with a remedy to combat water depletion.⁸¹ Designed to ameliorate the effects of cyclical floods and droughts that landowners had experienced in Texas, the Conservation Amendment promised stable water usage for the future.⁸² Under this Amendment, the people conferred upon the Texas Legislature, for the first time, the power to promulgate laws creating conservation districts and water regulations.⁸³

Although the issue of water conservation was of concern in the early 1900s, it was not until more floods and droughts ravaged the land in the

tend the limits to other underground percolating waters); *see also* TEX. WATER CODE ANN. § 11.302 (Vernon 1988) (stating that "[t]he conservation and best utilization of water resources of [Texas] are a public necessity"). Further evidence of the legislature's movement to abrogate the rule of capture in this direction is illustrated by the Coastal Subsidence Act. *See Beckendorff v. Harris-Galveston Coastal Subsidence Dist.*, 558 S.W.2d 75, 77 (Tex. Civ. App.—Houston [14th Dist.] 1977) (explaining that the legislature passed the Coastal Subsidence Act in response to subsidence problems from water withdrawal in the Gulf Coast region), *aff'd*, 563 S.W.2d 239 (Tex. 1978) (per curiam). *But see* Kevin Smith, Comment, *Texas Municipalities' Thirst for Water: Acquisition Methods for Water Planning*, 45 BAYLOR L. REV. 685, 685-87 (1993) (explaining how Texas surface water legislation changed significantly after the droughts during the 1950s).

78. *See* Act of May 30, 1993, 73d Leg., R.S., ch. 626 § 1.06, 1993 Tex. Gen. Laws 2350, 2355 (amended 1995) (enacting groundwater withdrawal within the Edwards Aquifer).

79. *Cf.* Seth Borenstein, *World at Crossroads As Global Population Nears 6 Billion Mark*, HOUS. CHRON., Sept. 30, 1998, at 26 (noting that population growths result in water shortages), *available in* 1998 WL 16768223.

80. *See* TEX. CONST. art. XVI, § 59 (amended 1964, 1973, 1978) (adopting the Conservation Amendment); TEX. CONST. art. XVI, § 59 interp. commentary (Vernon 1993) (indicating that, as early as 1904, Texas citizens recognized the problems concerning water conservation and utilization of state water).

81. *See* TEX. CONST. art. XVI, § 59 (amended 1964, 1973, 1978) (vesting the people of the state with the power to conserve water by creating conservation and reclamation districts); *see also* WELLS A. HUTCHINS, *THE TEXAS LAW OF WATER RIGHTS* 12-13 (1961) (explaining that the Legislature, and not the courts, is vested with the power to protect natural resources).

82. *See* TEX. CONST. art. XVI, § 59 interp. commentary (Vernon 1993) (discussing the cycle of droughts and floods that compelled the Legislature to require regulation of natural resources).

83. *See* TEX. CONST. art. XVI, § 59 (granting to the Legislature the power to conserve natural resources).

1950s that the Texas Legislature actually began to take steps toward placing ownership of surface water in the State.⁸⁴ An overhaul of water regulation occurred when the Legislature enacted the 1967 Water Rights Adjudication Act.⁸⁵ Under this Act, the State was permitted to regulate and limit surface water use when necessary; groundwater withdrawal rights, however, remained in the landowner's possession.⁸⁶ Thus, because the State was not allowed to control or regulate groundwater use, landowners hardly had an incentive to conserve water.⁸⁷ According to many authorities, landowners engaged in over-pumping to the detriment of entire communities and endangered species.⁸⁸

84. See Act of Apr. 13, 1967, 60th Leg., R.S., ch. 45, 1967 Tex. Gen. Laws 86 (creating a system for ensuring the preservation and best utilization of water resources) (codified at TEX. WATER CODE ANN. §§ 11.301-.341 (Vernon 1988)).

85. See *id.*

86. See TEX. WATER CODE ANN. § 11.339 (Vernon 1988) (stating that underground water is not affected by the subchapter entitled "Water Rights Adjudication Act"); see also Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 237 (1996) (illustrating the effect of the 1967 Water Rights Adjudication Act on surface water rights).

87. See Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 256 (1996) (pointing to the rule of capture as the origin for the lack of landowner incentive to conserve groundwater); Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 669-71 (1991) (arguing that the current state of water rights encourages excessive pumping); cf. *Town of Chino Valley v. City of Prescott*, 638 P.2d 1324, 1329-31 (Ariz. 1981) (acknowledging "that the exhaustion of ground water by excessive withdrawals threatens to destroy one of the principle economic resources of the state to the consequential serious injury of all") (quoting *Southwest Eng'g Co. v. Ernst*, 291 P.2d 764, 768-69 (Ariz. 1955)). But see Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.15, 1993 Tex. Gen. Laws 2350, 2360, 2366 (amended 1995) (requiring a permit for all groundwater users pumping more than 25,000 gallons of water per day).

88. See *Sierra Club v. Babbitt*, 995 F.3d 571, 572-74 (5th Cir. 1993) (discussing the taking of endangered species due to non-regulation of pumping limits within the Edwards Aquifer); Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 669-72 (1991) (contending that the current state of water law will prove to be devastating to future generations of Texans); see also Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 256 (1996) (identifying the lack of owner incentive to conserve water under the rule of capture); cf. *Town of Chino*, 638 P.2d at 1330-31 (stating that almost every legislature has abolished the rule of capture, recognizing that groundwater use must be regulated).

C. *Recent Attempts at Remediating the Texas Water Crisis*

Currently, numerous problems persist in the water needs of Texas.⁸⁹ Scientists project that Texas' population will double over the next fifty years, causing unsustainable water demands.⁹⁰ Furthermore, if scientists are correct in their predictions of global warming, Texas could require more water in the future due to the increase of prolonged droughts.⁹¹

Recently, Texas legislators have attempted to avoid mandatory water restrictions by enacting SB 1 and creating the EAA.⁹² These provisions,

89. See Edward Hiller, *Drought Strategies: Texans Must Learn to Deal with Water Shortages*, DALLAS MORNING NEWS, July 19, 1998, at 6J (warning that Texas "face[s] an uncertain future of water shortages, droughts of our own making"), available in 1998 WL 13089031; Joby Warrick, *Spring's Arrival Earlier Than a Decade Ago May Signal Global Warming*, DALLAS MORNING NEWS, Apr. 18, 1997, at 42A (noting that some people fear increases in pollution will increase the frequency of heatwaves and droughts), available in 1997 WL 2665123.

90. See SENATE COMM. ON NATURAL RESOURCES, BILL ANALYSIS, Tex. S.B. 1, 75th Leg., R.S. (1997) (pointing to an expected doubling of the population over the next fifty years); Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 186-87 (1996) (predicting the expected rapid growth of Texas to increase the water demand more than had been originally projected); Editorial, *New Measure Gives Regions a Say-So in Planning Series*, DALLAS MORNING NEWS, June 4, 1997, at 26A (noting that Texas' population is expected to double to about forty million over the next fifty years), available in 1997 WL 2674912. *But cf.* Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.15-1.21, 1993 Tex. Gen. Laws 2355, 2360, 2366 (amended 1995) (allowing owners who use more than 25,000 gallons of water per day to obtain a permit for extra water consumption).

91. See Annie Peterson, *Stem the Global Warming Trend: The Question for Countries Meeting in Kyoto, Japan Is How*, CHRISTIAN SCI. MONITOR, Sept. 23, 1997, at 19 (explaining that one consequence of global warming will be shortages in drinking water), available in 1997 WL 2804155; William K. Stevens, *If Climate Changes, Who Is Vulnerable? Panels Offer Some Local Projections*, N.Y. TIMES, Sept. 30, 1997, at 1F (noting that a panel of scientists has concluded that global warming will exacerbate water problems in the southern plains), available in 1997 WL 8005378; Anders Wijkman, *Warning: Global Warming; Time to Move Away from Continued Dependence on Fossil Fuels*, CHRISTIAN SCI. MONITOR, Jan. 1, 1997, at 15 (warning that global warming will result in fresh water shortages), available in 1997 WL 280558. *But see* John M. McCaslin, *Don't Worry, Be Warm*, WASH. TIMES, Jan. 2, 1997, at A6 (quoting the National Center for Public Policy Research as saying that global warming may actually alleviate world water problems), available in 1997 WL 3691029.

92. See generally Act of June 1, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610 (establishing a water plant to ensure that sufficient water resources will be available to protect economic development, public health and safety, and the natural and agricultural resources within Texas) (codified at TEX. HEALTH & SAFETY CODE ANN. §§ 341.035, 341.0315, 341.0485 and TEX. TAX CODE ANN. § 11.32, as well as amendments to TEX. AGRIC. CODE ANN. § 44.007-.010, amendments to TEX. GOV'T CODE ANN. §§ 791.026, 2155.44, amendments to TEX. HEALTH & SAFETY CODE ANN. §§ 341.047(a)-(b), 341.048, 341.049, 341.0351-.0356, amendment to TEX. LOC. GOV'T CODE ANN. § 401.002, amendment to TEX. TAX CODE ANN. § 151.318, and various amendments to TEX. WATER CODE

however, do not address the underlying problem. The reality is that existing groundwater laws, including those established by the EAA and SB 1, do not address the overuse of groundwater.

1. The Edwards Aquifer Act and the Edwards Aquifer Authority

In 1993, the Texas Legislature began implementation of new groundwater regulations with the proposal of the Edwards Aquifer Act.⁹³ This Act created an underground water conservation and reclamation district known as the Edwards Aquifer Authority (EAA).⁹⁴ The purpose of the Act is to regulate the withdrawal of well water from the Edwards Aquifer in order to comply with federal environmental regulations protecting the endangered species living in the aquifer.⁹⁵ Accordingly, the EAA im-

ANN.); Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.06, 1993 Tex. Gen. Laws 2350 (amended 1995) (permitting water withdrawal restrictions on the Edwards Aquifer). The Texas Legislature created the Edwards Aquifer Authority to obviate the need for Federal intervention in groundwater regulation; such intervention was driven by the need to protect endangered species that rely on the Edwards Aquifer. *See* Russell S. Johnson, *Water Wise*, SAN ANTONIO BUS. J., Aug. 8, 1997, at 19, available in 1997 WL 11825528; *see also* R. Tim Hay, Comment, *Blind Salamanders, Minority Representation, and the Edwards Aquifer: Reconciling Use-Based Management of Natural Resources with the Voting Rights Act of 1965*, 25 ST. MARY'S L.J. 1449, 1450-52 (1994) (describing the controversy regarding environmental concerns of the aquifer); Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 678-81 (1991) (explaining the incompatibility of the Texas Legislature's objectives for the Edwards Aquifer and the objectives of the Endangered Species Act).

93. *See* Act of May 30, 1993, 73d Leg., R.S., ch. 626, 1993 Tex. Gen. Laws 2350, amended by Act of May 29, 1995, 74th Leg., R.S., ch. 261, 1995 Tex. Gen. Laws 2505.

94. *See id.* § 1.02, 1993 Tex. Gen. Laws at 2351.

95. *See* Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 669-71 (1991) (detailing the events that ultimately led to a change in groundwater law with the creation of the Edwards Aquifer Authority); Stefanie Scott, *Senate Appoints Panel to Settle on Aquifer*, SAN ANTONIO EXPRESS-NEWS, May 27, 1995 (identifying the Edwards Aquifer Authority as legislation resulting from demands by the U.S. Justice Department to comply with federal regulations protecting endangered fish and salamanders living in the Comal and San Marcos springs), available in 1995 WL 5562879. The Fountain Darter, the San Marcos Gambusia, the San Marcos Salamander, and the Texas Blind Salamander are endangered species living within the aquifer ecosystem. *See* Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 680 (1991) (listing endangered species found living in the Edwards Aquifer). The Edwards Aquifer also supplies water for nearly two million people in the San Antonio metropolitan area, the Guadalupe River Basin, and Uvalde and Medina counties. *See* Bill West, Jr., *Edwards Aquifer Authority Tends Region's Most Valuable Resource*, AUSTIN AM.-STATESMAN, Mar. 19, 1996, at A11, available in 1996 WL 3422299. The EAA's jurisdiction encompasses all or parts of Bexar, Caldwell, Hays, Uvalde, Medina, Atascosa, Comal, and

poses an aquifer-wide cap on water withdrawals by non-exempt wells that withdraw more than 25,000 gallons per day or 450,000 acre-feet of water per year through the year 2007 and 400,000 acre-feet per year thereafter.⁹⁶ Permits for water withdrawal from the aquifer are issued to well owners who use more than 25,000 gallons of water per day for livestock or domestic animal purposes.⁹⁷ If an owner does not file for a permit, the owner can not withdraw more than 25,000 gallons of water, and any existing rights for more water withdrawal are terminated.⁹⁸ The EAA may loosen the withdrawal caps if it determines that additional water can safely be allocated from the aquifer to users with permits.⁹⁹ Water permits are issued based on prior water use or "existing users" on or before June 1, 1993.¹⁰⁰

Under the Act, the EAA could only grant regular permits to existing users who filed a proper declaration of historical use on or before March 1, 1994.¹⁰¹ Pursuant to the declaration, the users had to demonstrate that they actually engaged in beneficial water withdrawal from the aquifer between June 1, 1972 and May 31, 1993.¹⁰² These users had to establish, by convincing evidence, that they withdrew the water for beneficial use during the past twenty-one years.¹⁰³ Regular water permits, thus, were granted based upon statutorily encouraged "beneficial uses" of water, such as irrigation, municipal use, and agricultural use.¹⁰⁴ Landowners who were unable to establish a historical use can only obtain a water permit if the 450,000 acre-feet of water cap has not already been exceeded or remains unappropriated.¹⁰⁵ If the water permits for existing users exceed the 450,000 acre-feet, no new users are granted permits to

Guadalupe counties. *See* Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.02, 1993 Tex. Gen. Laws 2350 (amended 1995). The EAA supersedes a previous entity, the Edwards Underground Water District, which had limited power to regulate the aquifer. *See id.* § 1.41, 1993 Tex. Gen. Laws at 2368.

96. Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.29(a), 1993 Tex. Gen. Laws 2350 (amended 1995).

97. *See id.* §§ 1.16(c), 1.33, 1993 Tex. Gen. Laws at 2361, 2366.

98. *See id.* § 1.16, 1993 Tex. Gen. Laws at 2361.

99. *See id.* § 1.14(d), 1993 Tex. Gen. Laws at 2360.

100. *See id.* § 1.03(10), 1993 Tex. Gen. Laws at 2351.

101. *See id.* § 1.16(b), 1993 Tex. Gen. Laws at 2361.

102. *See id.* § 1.16, 1993 Tex. Gen. Laws at 2361.

103. *See id.* § 1.16(d)(2), 1993 Tex. Gen. Laws at 2361.

104. *See id.* The Act defines a "beneficial use" as "the use of the amount of water that is economically necessary for a purpose authorized by law, when reasonable intelligence and reasonable diligence are used in applying the water to that purpose." *Id.* § 1.03(4), 1993 Tex. Gen. Laws at 2351.

105. *See id.* § 1.18(a), 1993 Tex. Gen. Laws at 2362.

withdraw more than 25,000 gallons of water per day for domestic and livestock purposes.¹⁰⁶

However, despite these apparent safeguards, the EAA has over-appropriated the aquifer water by extending more permits for more water than is available in the aquifer.¹⁰⁷ Currently, a landowner's groundwater right is only limited if the landowner willfully injures another landowner.¹⁰⁸ Thus, this over-appropriation could potentially give rise to a takings claim, particularly if landowners are unable to withdraw unlimited quantities of groundwater.

2. Senate Bill 1

In 1997, the Texas legislature entered yet another phase of groundwater regulation with the enactment of Senate Bill 1 (SB 1).¹⁰⁹ Under SB 1, groundwater districts were forced to join with the state government as part of conservation efforts.¹¹⁰ In addition, enacted provisions of SB 1

106. *See id.* § 1.33(a), 1993 Tex. Gen. Laws at 2366.

107. *See* Telephone Interview with Russell S. Johnson, Legal Counsel for San Antonio Water Supply (SAWS), Wells, Pinckney & McHugh, P.C., in San Antonio, Tex. (Nov. 3, 1997); *see also* Jerry Needham, *Aquifer Permit Vote Pits New Users Against Long-Term Users*, SAN ANTONIO EXPRESS-NEWS, Oct. 29, 1997, at 3B (stating that many districts are faced with possible sharp cutbacks as a result of the EAA); John Tackett, *Water Allotments Fall Short of Requests*, SAN ANTONIO EXPRESS-NEWS, Nov. 5, 1997, at 1S (finding that current water permits account for 750,000 acre-feet of water, while the cap is 450,000 acre-feet).

108. *See* *Houston & T. C. Ry. Co. v. East*, 98 Tex. 146, 151, 81 S.W. 279, 281 (1904) (describing the landowner's right to use groundwater as absolute, barring willful injury); *Friendswood Dev. Co. v. Smith-Southwest Indus., Inc.*, 576 S.W.2d 21, 24-26 (Tex. 1978) (extending landowner liability to include prospective waste or malicious pumping).

109. *See* Act of June 1, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610 (codified at TEX. HEALTH & SAFETY CODE ANN. §§ 341.035, 341.0315, 341.0485 and TEX. TAX CODE ANN. § 11.32 as well as amendments to TEX. AGRIC. CODE ANN. § 44.007-.010, amendments to TEX. GOV'T CODE ANN. §§ 791.026, 2155.44, amendments to TEX. HEALTH & SAFETY CODE ANN. §§ 341.047(a)-(b), 341.048, 341.049, 341.0351-.0356, amendment to TEX. LOC. GOV'T CODE ANN. § 401.002, amendment to TEX. TAX CODE ANN. § 151.318, and various amendments to TEX. WATER CODE ANN.); *see also* Editorial, *New Measure Gives Regions Say-So in Planning Series*, DALLAS MORNING NEWS, June 4, 1997, at A26 (claiming that SB 1 represents major progress in water law), available in 1997 WL 2674912; Ralph K.M. Haurwitz, *Legislature Takes Stand for Water Planning: Regulations Covering Drought and Environment Get Final Approval, Await Bush OK*, AUSTIN AM.-STATESMAN, June 2, 1997, at A1 (contending that SB 1 is the most important legacy of the 75th legislative session); Jay Root, *Water Bill Sets Up Plan for Drought Response*, FORT WORTH STAR-TELEGRAM, Jan. 23, 1997, at 1 (contending that the legislation was "named 'Senate Bill 1' as a measure of its importance"), available in 1997 WL 4816452.

110. *See* TEX. WATER CODE ANN. § 36.0015 (Vernon Supp. 1998) (stating that "[g]roundwater conservation districts . . . are the state's preferred method of groundwater management").

gave groundwater districts the power to charge user fees and to prevent the export of groundwater outside of a respective district.¹¹¹

In essence, the focus of SB 1 was water marketability for the future, not modification of the rule of capture.¹¹² Although transferability and marketability are admirable goals, addressing the rule of capture should have been the initial step in implementing realistic groundwater objectives.¹¹³ Although SB 1 purported to protect and preserve natural resources,¹¹⁴ it did not resolve the conflicting goals of conservation and the continuous adherence to the rule of capture.¹¹⁵ Thus, although the Legislature touted SB 1 as the most comprehensive water management program,¹¹⁶

111. *See id.* §§ 36.122, 36.207.

112. *See* Act of June 1, 1997, 75th Leg., R.S., ch. 1010, § 2.01, 1997 Tex. Gen. Laws 3610, 3618 (addressing the marketability of the water supply) (codified as an amendment to TEX. GOV'T CODE ANN. § 791.026 (Vernon Supp. 1998)); *id.* § 4.33, 1997 Tex. Gen. Laws at 3648-49 (denoting changes in the transferability of groundwater) (codified at TEX. WATER CODE ANN. § 36.122 (Vernon Supp. 1998)).

113. *See* Beckendorff v. Harris-Galveston Coastal Subsidence Dist., 558 S.W.2d 75, 77 (Tex. Civ. App.—Houston [14th Dist.] 1977) (concluding that addressing the rule of capture is a task for the legislature), *aff'd*, 563 S.W.2d 239 (Tex. 1978) (per curiam).

114. *See* Act of June 1, 1997, 75th Leg., R.S., ch. 1010, § 1.01, 1997 Tex. Gen. Laws 3610, 3610-11 (charging local boards with the duty of adopting a water plan that “provide[s] for the orderly development, management, and conservation of water resources”) (codified as an amendment to TEX. WATER CODE ANN. § 16.051 (Vernon Supp. 1998)).

115. *See* Scott Parks, *Water Plan Nears Reality: Legislator Says Last Year's Troubles Were 'Wake-Up Call,'* DALLAS MORNING NEWS, June 1, 1997, at A47 (noting that “Senate Bill 1 does not attempt to change the rule of capture”), *available in* 1997 WL 2673878; *Water Overhaul Overdue*, AUSTIN AM.-STATESMAN, June 3, 1997, at A14 (criticizing the Texas Legislature for “back[ing] away from a vital issue that Texas must face eventually: the outdated rule of capture”), *available in* 1997 WL 2825921.

However, in a recent article, Senator J.E. “Buster” Brown argues that Article IV of SB 1 provides “that any modification or limitation on the rule of capture will be made by local groundwater districts.” Senator J.E. “Buster” Brown, *Senate Bill 1: We've Never Changed Texas Water Law This Way Before*, 28 ST. B. TEX. ENVTL. L.J. 152, 157 (1998) (citing TEX. WATER CODE ANN. § 36.0015 (Vernon Supp. 1998)). Senator Brown has proclaimed that SB 1 might be “precisely what is needed to stir action necessary to face the daunting tasks involved in meeting Texas' future water needs.” *Id.* at 161. However, he has forgotten, most importantly, to specifically address the continued application of the rule of capture to groundwater. Furthermore, he states that “any full-scale revision of the rule of capture in Texas will most likely arise from attitudinal changes that evolve with the growth of free-market forces on Texas' precious water resources.” *Id.* at 157. In the preceding sentence, Senator Brown also recognizes that more than ninety-five percent of Texas' land is privately owned. *See id.* What then, will spur this “attitudinal change” to protect water when ninety-five percent of the state's land is legally entitled under *East* to almost unlimited groundwater withdrawal? To be honest, Senator Brown must realize that SB 1 really does “do things the way they have always been done.” *Id.* at 152.

116. *See* Martin Hubert, *Senate Bill 1: The First Big and Bold Step Toward Meeting Texas' Future Water Needs*, 61 TEX. B.J. 894, 895 (1998) (promising a new era of water rights legislation resulting from SB 1).

SB 1 failed to address an important component of the groundwater dilemma. Until that dilemma is directly faced, no legislation will overcome the conflict between the rule of capture, which vests a landowner with the absolute right to withdraw unlimited quantities of groundwater, and the need for water conservation.

In addition to falling short by preserving the rule of capture, SB 1 has other deficiencies. In particular, SB 1 does not establish guidelines for how transfers can occur when certain areas of an aquifer are classified as more sensitive to water removal than other regions. Environmental concerns for aquifers command that a specific quantity of water flow through the springs to protect endangered species living within the aquifer ecosystem.¹¹⁷ The water marketing system under SB 1 does not impart guidance in resolving disputes regarding where transfers of water will occur.¹¹⁸ In sum, the Texas Legislature has refused to address the rule of capture adequately and to implement substantive modifications to groundwater law that comply with federal environmental regulations and the needs of the people of Texas.¹¹⁹

D. *Obstacles to Extinguishing the Rule of Capture*

Certain obstacles may have prevented the Texas Legislature from successfully developing a modern approach to underground water management and conservation. One obstacle to reaching that goal is the conflict between landowners and environmental activists regarding groundwater regulation. Environmentalists view the unregulated use of groundwater as detrimental to water sources and species living within these sources.¹²⁰ Conversely, property-rights advocates argue that groundwater use is an

117. See *Sierra Club v. Babbitt*, 995 F.2d 571, 573 (5th Cir. 1993) (discussing the Sierra Club's contention that the Fish and Wildlife Service was responsible for developing minimum spring flow data for protecting endangered species).

118. See generally Act of June 1, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610 (failing to provide language for determining where water transfers will occur).

119. See *id.* (lacking changes to the rule of capture doctrine); Scott Parks, *Water Plan Nears Reality: Legislator Says Last Year's Troubles Were 'Wake-Up Call,'* DALLAS MORNING NEWS, June 1, 1997, at A47 (stating that SB 1 does not alter the rule of capture), available in 1997 WL 2673878; *Water Overhaul Overdue*, AUSTIN AM.-STATESMAN, June 3, 1997, at A14 (discussing the legislature's failure to address the rule of capture), available in 1997 WL 2825921.

120. See Lana Shannon Shadwick, Note, *Obsolescence, Environmental Endangerment and Possible Federal Intervention Compel Reformation of Texas Groundwater Law*, 32 S. TEX. L. REV. 641, 645-48 (1991) (noting that species endangerment is a major concern of environmentalists); Scott Parks, *Water Plan Nears Reality: Legislator Says Last Year's Troubles Were 'Wake-Up Call,'* DALLAS MORNING NEWS, June 1, 1997, at 47A (describing environmentalist fears regarding the lack of regulation pertaining to the aquifer), available in 1997 WL 2673878.

unlimited, absolute property right.¹²¹ Fearing political consequences from constituents and lobby groups, legislators have been slow to address this conflict directly.¹²²

However, even if the Texas Legislature reacted with more meaningful legislation in this area, landowners would assert that such regulation amounts to a taking of their property rights. Indeed, Texas case law supports the viability of such a claim with respect to water regulation.¹²³ Thus, at first blush, the issue of regulatory takings may be a substantial hurdle to a legislative abrogation of the rule of capture. However, in 1998, in *Fain v. Great Spring Waters of America, Inc.*,¹²⁴ the Texas Supreme Court is going to review another challenge to the rule of capture.¹²⁵ The *Fain* dispute does not involve a regulation that limits groundwater withdrawal; rather, the plaintiffs have asserted that the rule of capture is contrary to public policy.¹²⁶ Whether the Texas Supreme Court abrogates the rule of capture in *Fain*—and subsequently extends such a holding to the realm of groundwater withdrawal limits—remains to be seen.

III. JURISPRUDENTIAL HISTORY OF REGULATORY TAKINGS

In a recent Texas case, *Barshop v. Medina County Underground Water Conservation District*,¹²⁷ several landowners challenged the Edwards

121. See *Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618, 625 (Tex. 1996) (acknowledging the plaintiff's claim that the EAA constituted a taking by depriving landowners of a property right); see also Stefanie Scott, *Bush Approves Aquifer Measure*, SAN ANTONIO EXPRESS-NEWS, June 1, 1995, at A1 (discussing that farmers oppose any change to the rule of capture); Stefanie Scott, *Senate Appoints Panel to Settle Plan on Aquifer*, SAN ANTONIO EXPRESS-NEWS, May 27, 1995, at B1 (explaining conflicting views surrounding the Edwards Aquifer from environmental and property rights advocates).

122. Cf. *Sierra Club*, 995 F.2d at 573 (acknowledging the Sierra Club's contention that governmental entities are not properly protecting endangered species as mandated by the Endangered Species Act).

123. See, e.g., *Barshop*, 925 S.W.2d at 623 (permitting the assumption that an "as applied" taking could occur); *Friendswood Dev. Co. v. Smith-Southwest Indus., Inc.*, 576 S.W.2d 21, 21 (Tex. 1978) (restating the Texas doctrine of absolute ownership of groundwater); *Beckendorff v. Harris-Galveston Coastal Subsidence Dist.*, 558 S.W.2d 75, 77 (Tex. Civ. App.—Houston [14th Dist.] 1977) (noting that takings of water rights can occur), *aff'd*, 563 S.W.2d 239 (Tex. 1978) (per curiam).

124. 973 S.W.2d 327 (Tex. App.—Tyler 1998, pet. granted).

125. See *Fain v. Great Spring Waters of Am., Inc.*, 973 S.W.2d 327 (Tex. App.—Tyler 1998, pet. granted); Mary Flood, *High Court to Hear Case on Water Law*, TEX. J., Sept. 23, 1998, at T1 (speculating that the Texas Supreme Court granted writ to overrule the rule of capture), available in 1998 WL-WSJ 18985433.

126. See *Fain*, 973 S.W.2d. at 328-30.

127. 925 S.W.2d 618 (Tex. 1996).

Aquifer Act as a taking of private property without just compensation under the Texas Constitution.¹²⁸ Although the Texas Supreme Court did not answer whether a taking occurs when an individual's property becomes subject to groundwater regulation, it did state that the Act provided for compensation when a taking of private property occurred.¹²⁹ By permitting compensation, both the Act and, arguably, the Texas Supreme Court, recognize that groundwater is a property right capable of being "taken" by state regulation.¹³⁰ Although the *Barshop* case stands for the proposition that the EAA is constitutional on its face, the Court has left the door open for individual "takings" claims.¹³¹ However, in order to understand *Barshop*, discussed in Section B, an examination of Supreme Court jurisprudence in the area of regulatory takings is necessary. Essentially, the Supreme Court of the United States has only extended protection to *land* regulations that amount to takings of private property.¹³²

A. Lucas v. South Carolina Coastal Council

Regulatory takings arise when a state law imposes property restraints that result in depriving a landowner of property use.¹³³ In *Lucas v. South Carolina Coastal Council*,¹³⁴ the Supreme Court of the United States suggested that only a one hundred percent deprivation of all economically viable use of a landowner's property constitutes a regulatory taking.¹³⁵

128. See *Barshop*, 925 S.W.2d at 623 (explaining the plaintiff's challenge as comprising an assertion that the takings provision of the Texas Constitution was a bar to the Edwards Aquifer Act).

129. See *id.* at 626 (abstaining from addressing the takings claim until actual injury occurred).

130. See *id.* at 630-31 (considering landowner's contentions that the Act unconstitutionally takes private property rights).

131. See *id.* at 630.

132. See *Nollan v. California Coastal Comm'n*, 483 U.S. 825, 828 (1987) (denying a state regulation that took private property to create an easement for beach access); *First English Evangelical Lutheran Church v. Los Angeles*, 482 U.S. 304, 318 (1987) (holding that the statute in question amounted to an over-regulation of land); *Keystone Bituminous Coal Ass'n v. DeBenedictis*, 480 U.S. 470, 473-74 (1987) (protecting surface land); Robert J. Goldstein, *Green Wood in the Bundle of Sticks: Fitting Environmental Ethics and Ecology into Real Property Law*, 25 B.C. ENVTL. AFF. L. REV. 347, 430 n.154 (1988) (discussing past regulatory takings jurisprudence that stemmed from land regulations); cf. *Hudson County Water Co. v. McCarter*, 209 U.S. 349, 356 (1908) (relegating water resource protection to state control, thereby implicitly denying private ownership).

133. See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1014-16 (1992) (discussing the elements necessary to allege a regulatory taking).

134. 505 U.S. 1003 (1992).

135. See *Lucas*, 505 U.S. at 1019. *Lucas* does, however, raise questions as to whether governmental regulations that affect *less* than one hundred percent of an individual's prop-

Although *Lucas* is unclear as to whether a one hundred percent deprivation must occur, it clearly stands for the proposition that a *property* interest must be taken.¹³⁶ Accordingly, before any attempt at abrogating the rule of capture can be challenged as a regulatory taking under *Lucas*, water must be deemed a separate property estate. However, before analyzing that issue, a historical discussion of takings jurisprudence is necessary to understand the rationale behind the *Lucas* decision, and ultimately, how that decision affects groundwater regulation.

1. Regulatory Takings Prior to *Lucas*

The right of an individual to own property is guaranteed under the United States Constitution and is one of the greatest liberties afforded to United States citizens.¹³⁷ Although this right may be subject to rules and regulations as to the *use* of the property, a state must have justifiable reasons for regulating the property in question.¹³⁸ The landmark case recognizing regulatory takings as a deprivation of property is *Rideout v. Knox*.¹³⁹

In *Rideout*, the plaintiff complained of a Massachusetts statute that prohibited the malicious erection of "spite fences," or any fence exceeding six feet in height.¹⁴⁰ Justice Holmes, then sitting on the Massachusetts Supreme Court, noted that "at common law, a man had a right to build a fence on his own land as high as he pleases, however much it may obstruct his neighbor's light and air."¹⁴¹ Identifying the historical importance of vested property rights, Justice Holmes decided that a landowner could not exercise his property rights in order to intentionally or maliciously harm another landowner.¹⁴² In affirming the constitutionality of the Massachusetts statute, Justice Holmes also pointed to the State's right

erty constitute a taking. See Douglas T. Kendall & Charles P. Lord, *The Takings Project: A Critical Analysis and Assessment of the Progress So Far*, 25 B.C. ENVTL. AFF. L. REV. 509, 566-70 (1998) (criticizing the Federal Circuit for abrogating the *Lucas* test of 100% deprivation).

136. See *id.* at 1019 (providing that a taking occurs when a landowner suffers a deprivation of real property).

137. See U.S. CONST. amend. V (proclaiming that private property cannot be taken without compensation).

138. Cf. *In re Adjudication of the Upper Guadalupe Segment of the Guadalupe River Basin*, 642 S.W.2d 438, 445 (Tex. 1982) (permitting state regulation of property rights under the police powers).

139. 19 N.E. 390 (Mass. 1889).

140. See *Rideout v. Knox*, 19 N.E. 390, 391 (Mass. 1889).

141. *Id.*

142. See *id.* (stating that while injuring others is a "necessary incident" of property rights, property ownership does not give the owner the right to use his property for the sole purpose of injuring others).

to impose regulations to prevent manifest evils.¹⁴³ However, he noted that the *Rideout* holding should not be interpreted as standing for the proposition that property regulations could never constitute a taking.¹⁴⁴ According to Holmes, if the regulation altered an existing common-law property right, a balancing test was to be used to determine whether the statute was a small deprivation imposed to prevent a manifest evil or whether it was a greater limitation, which could only legally be imposed through a governmental entity's exercise of the right of eminent domain.¹⁴⁵

Subsequently, in *Pennsylvania Coal Co. v. Mahon*,¹⁴⁶ Justice Holmes, then sitting on the Supreme Court of the United States, reiterated the generally held rule "that while property may be regulated to a certain extent, if regulation goes too far it will be recognized as a [regulatory] taking."¹⁴⁷ In *Mahon*, a dispute arose over the 1921 Kohler Act,¹⁴⁸ which prohibited underground mining due to resulting surface cave-ins.¹⁴⁹ The defendant, Pennsylvania Coal, originally sold the surface rights to the plaintiffs and retained for itself all of the mineral rights to the land.¹⁵⁰ At that time, the defendant also obtained a waiver from the plaintiffs for all claims stemming from land subsidence.¹⁵¹ The plaintiffs later sued, claiming that the Kohler Act prevented the defendant from mining on the land, regardless of the waiver agreement that granted the defendant the right to do such mining.¹⁵² Pennsylvania Coal countered by alleging that the Kohler Act was unconstitutional because it failed to take notice of the plaintiffs' waiver, thereby depriving the company of due process by taking land without just compensation.¹⁵³ In an opinion written by Justice Holmes, seven of the eight justices agreed with the company and held

143. *See id.* at 392 (acknowledging that "there is a public interest to restrain this kind of aggressive annoyance of one neighbor to another, and to mark a definite limit beyond which it is not lawful to go").

144. *See id.* (citing *Sawyer v. Davis*, 136 Mass. 239, 243 (1884)).

145. *See id.* (discussing the notion that a "difference of degree is one of the distinctions by which the right of the legislature to exercise the police power is determined"); *see also* Robert Brauneis, "The Foundation of Our 'Regulatory Takings' Jurisprudence": *The Myth and Meaning of Justice Holmes's Opinion in Pennsylvania Coal Co. v. Mahon*, 106 *YALE L.J.* 613, 648-49 (1996) (discussing Holmes' analysis in *Rideout* as initially questioning the rationale for the underlying rule).

146. 260 U.S. 393 (1922).

147. *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 415 (1922).

148. PA. STAT. ANN. tit. 52, § 661 (West 1998).

149. *See Mahon*, 260 U.S. at 412-13.

150. *See id.* at 412.

151. *See id.*

152. *See id.*

153. *See id.*

that the Kohler Act was an unconstitutional taking of the company's property.¹⁵⁴

In the *Mahon* opinion, Justice Holmes relied upon the existence of property rights at common law to explain how the Kohler Act amounted to an unconstitutional taking of land.¹⁵⁵ Holmes' analysis focused on the idea that a legal change destroying a *property right*, such as the right to mine one's land, was more severe than a change destroying a less distinct interest, such as the right to erect a spite-fence discussed in *Rideout*.¹⁵⁶ Holmes also noted that mining one's land was an economic right that produced profits, unlike erecting a fence.¹⁵⁷

Economic concerns, which motivated the *Mahon* decision, later became known as "investment backed" principles of land regulation.¹⁵⁸ Essentially, these principles dictated that the greater the regulation on profit-making or economic development, the more likely the regulation would be unconstitutional.¹⁵⁹ For example, in *Mahon*, the Kohler Act was held unconstitutional because its prohibition of the right to mine on private property amounted to a deprivation of an economic right, as well as a property right.¹⁶⁰ Accordingly, regulations on property that deprive

154. *See id.* at 414-16. Justice Brandeis dissented on the grounds that the use was not absolute and the Kohler Act was a legitimate exercise of police power. *See id.* at 416-17 (Brandeis, J., dissenting).

155. *See Mahon*, 260 U.S. at 414 (stating that the Kohler Act destroys a very valuable estate in land); *see also* BRUCE A. ACKERMAN, *PRIVATE PROPERTY AND THE CONSTITUTION* 163-65 (1977) (contending that Holmes' decision emphasized the importance of property ownership); Robert Brauneis, "The Foundation of Our 'Regulatory Takings' Jurisprudence": *The Myth and Meaning of Justice Holmes's Opinion in Pennsylvania Coal Co. v. Mahon*, 106 *YALE L.J.* 613, 653-54 (1996) (discussing other commentators' focus on Holmes' property rights discussion). *But see* WILLIAM A. FISCHER, *REGULATORY TAKINGS: LAW, ECONOMICS, AND POLITICS* 17-18, 32-33 (1995) (concluding that Holmes' analysis regarding property rights was "only a matter of rhetorical emphasis").

156. *See Mahon*, 260 U.S. at 414 (noting that the right to mine coal is valuable because "it can be exercised with profit").

157. *See id.* (explaining that making the mining of coal commercially impracticable is essentially to destroy it for constitutional purposes).

158. *See Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1017-19 (1992)

159. *See id.* (discussing the importance of profits and economics when determining the value of land use).

160. *See Mahon*, 260 U.S. at 414-16 (holding that the Kohler Act is unconstitutional because it destroys what Pennsylvania recognizes as a valuable estate in land). Some critics note the right to mine coal was not the true reason for Holmes' decision; rather, the decision was meant to eradicate the way the law took over the property. *See* Jed Rubenfield, *Usings*, 102 *YALE L.J.* 1077, 1112 (1993). The law subscribed the property into state use, not private use. *See id.* Rubenfield argues that when the law takes over private property to fulfill public uses, the law is effecting a regulatory taking. *See id.* at 1112-13.

Applying this principle to the Edwards Aquifer, the Authority appropriates water for public use, the protection of endangered species, and future water needs, thus subrogating

the owner of economic and property rights may be effectively challenged as a taking under the United States Constitution.¹⁶¹

Whereas the *Mahon* Court focused on the regulation's actual physical effect on the property,¹⁶² two later related decisions, *Penn Central Transportation Co. v. New York City*¹⁶³ and *Agins v. City of Tiburon*,¹⁶⁴ focused

private property use to serve the public. The state-ordained use to protect endangered species is also concurrently a federal-ordained use. In this regard, the private property owner loses, which is the very reason, according to Rubenfield, for Justice Holmes' theory that the Kohler Act was unconstitutional. *Compare id.* at 1111-12 (arguing that the Kohler Act's prohibition of mining was, in effect, analogous to a formal seizure of the coal for a state-ordered sale), *with* Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.01, 1993 Tex. Gen. Laws 2350, 2350-51 (amended 1995) (mandating water limits for the protection of terrestrial and aquatic life).

161. *See* U.S. CONST. amend. V (providing that private property is not to be taken without just compensation); *see also* *Lucas*, 505 U.S. at 1016 n.7 (arguing that the expectation and state value placed on the property interest determines whether a taking has occurred); *cf.* Robert Brauneis, "The Foundation of Our 'Regulatory Takings' Jurisprudence": *The Myth and Meaning of Justice Holmes's Opinion in Pennsylvania Coal Co. v. Mahon*, 106 YALE L.J. 613, 689-91 (1996) (suggesting that Holmes' *Mahon* opinion regards "diminution in value" not as an economical value, but a value defined by how people react to certain change).

Applying this "reaction value" to the present issue of groundwater rights, the rule of capture is not a whimsical change, but a heated controversy. *See* Molly Ivins, *Water on the Mind in Austin*, SAN ANTONIO EXPRESS-NEWS, Apr. 15, 1997, at 7B (observing that the property rights crowd will "have a hissy" when the rule of capture is addressed). If the value is measured by the public's reaction, then the rule of capture could never change because the public reacts quite strongly to any variation of the rule of capture. *See id.* (noting strong public sentiment regarding the rule of capture); *see also* Gregory L. Hobbs, Jr., *Ecological Integrity and Water Rights Takings in the Post-Lucas Era* (contending that state creation of property rights in water follows the *Lucas* decision and effects a taking), *in* WATER LAW: TRENDS, POLICIES, AND PRACTICE 74, 74-77 (Kathleen Marion Carr & James D. Crammond eds., 1995). The Legislature's failure to act on the rule of capture reinforces the conclusion that the rule of capture is considered an important concept.

162. *See Mahon*, 260 U.S. at 412-16 (discussing the effect of mining of coal under streets and cities).

163. 438 U.S. 104 (1978). *Penn Central* involved the disputed taking of a parcel of land in New York City designated as a landmark. *See Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 104 (1978). The owners of the property alleged that the landmark preservation law constituted a taking of property due to the inability of the owners to construct an office building on the land. *See id.* Justice Brennan delivered the opinion of the Court, stating that a taking does not exist by merely restricting a right to develop super-adjacent airspace. *See id.* at 130-34. Furthermore, Justice Brennan stated that "'taking' jurisprudence does not divide a single parcel into discrete segments and attempt to determine whether rights in a particular segment have been entirely abrogated." *Id.* at 130. Ultimately, the Court did not permit vertical severance of the property rights when denying a taking for the super-adjacent airspace. *See id.* at 133.

164. 447 U.S. 255 (1980). In *Agins*, the city placed development restrictions on specific areas of property. *See Agins v. City of Tiburon*, 447 U.S. 255, 256 (1980). The owners challenged the restrictions as a taking of private property because they were prevented

on the economic impact imposed on the property by the challenged regulation. In *Penn Central*, the Court formulated the test for determining whether a taking occurs;¹⁶⁵ in *Agins*, the Court refined that analysis. Under the *Agins* test, a taking occurs when “[t]he application of a general zoning law to particular property . . . does not substantially advance legitimate state interests . . . or denies an owner economically viable use of his land.”¹⁶⁶ Subsequently, *Penn Central* and *Agins* were interpreted as dictating that the following issues be considered when assessing whether a taking occurred: “(1) the character of the governmental action, (2) the economic impact of the regulation on the claimant, and (3) the extent to which the regulation interfer[es] with distinct investment-backed expectations.”¹⁶⁷

Penn Central and *Agins* essentially stand for the proposition that the denial of a certain percentage of the property’s economic use constitutes a taking.¹⁶⁸ However, it was not until the decision in *Lucas v. South Carolina Coastal Council*¹⁶⁹ that the Supreme Court specifically identi-

from developing the property as they chose. *See id.* The Court, however, stated that the development restrictions do not deny the use of all of the property, pointing to the other possible uses of the property. *See id.* at 260.

165. The *Penn Central* court, in an opinion authored by Justice Brennan, found that a taking action would lie when a use restriction on real property was “not reasonably necessary to the effectuation of a substantial public purpose . . . or perhaps if it has an unduly harsh impact upon the owner’s use of property.” *Penn Central*, 438 U.S. at 127; *see also* *Loveladies Harbor, Inc. v. United States*, 28 F.3d 1171, 1176 (Fed. Cir. 1994) (identifying a three-prong regulatory takings test consisting of “(1) the character of the governmental action, (2) the economic impact of the regulation on the claimant, and (3) the extent to which the regulation interfered with distinct investment-backed expectations” (quoting *Penn Central*, 438 U.S. at 124)). *But see* Robert Brauneis, “The Foundation of Our ‘Regulatory Takings’ Jurisprudence”: *The Myth and Meaning of Justice Holmes’s Opinion in Pennsylvania Coal Co. v. Mahon*, 106 YALE L.J. 613, 690-92 (1996) (identifying *Penn Central* and *Agins* as the origin of a two-prong takings test, as opposed to the three-prong test). The *Penn Central* test later developed into the two-prong *Agins* test, though one author suggests Justice Brennan may not have intended *Penn Central* to create a two-prong takings test. *See id.* at 691.

166. *Agins*, 447 U.S. at 260 (citations omitted).

167. *Loveladies Harbor*, 28 F.3d at 1176 (quoting *Penn Central*, 438 U.S. at 124).

168. *See Agins*, 447 U.S. at 260 (reasoning that development restrictions do not deny all use of the property); *Penn Central*, 438 U.S. at 124 (holding that preservation laws do not take all economical uses of the property); *see also* Robert Brauneis, “The Foundation of Our ‘Regulatory Takings’ Jurisprudence”: *The Myth and Meaning of Justice Holmes’s Opinion in Pennsylvania Coal Co. v. Mahon*, 106 YALE L.J. 613, 691 (1996) (suggesting that the facts of *Lucas* implied that the Supreme Court had already decided that the Act took *Lucas*’ property).

169. 505 U.S. 1003 (1992).

fied the extent to which the property use must be denied to constitute a regulatory taking of property.¹⁷⁰

2. The Effect of *Lucas* on Regulatory Takings

David Lucas was a landowner whose beachfront property development became restricted under the 1988 South Carolina Beachfront Management Act.¹⁷¹ The Act prohibited a property owner from building a home beyond a specific zone on the beach.¹⁷² When Lucas originally purchased the land, these development restrictions did not exist; it was only after the promulgation of the 1988 Act that Lucas's development plans were restricted.¹⁷³ Consequently, Lucas challenged the Act as a regulatory taking of property.¹⁷⁴ The South Carolina Supreme Court held that no taking existed, but the Supreme Court for the United States reversed.¹⁷⁵

Holding that the Act's limitation on development resulted in a regulatory taking, the Court, in an opinion by Justice Scalia, reasoned that Lucas suffered a loss of "all economically beneficial uses" of his property.¹⁷⁶ According to Scalia, had Lucas been deprived of only ninety or ninety-five percent of his property use, he may not have been entitled to compensation.¹⁷⁷ Thus, in order to be entitled to compensation, Lucas

170. See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1019 (1992) (stating that a taking occurs when a landowner is deprived of all economically beneficial use of his land).

171. See *id.* at 1006-08.

172. See *id.* at 1008-10 (citing S.C. CODE ANN. § 48-39-28(A)(2) (Supp. 1988), which provided restrictions for land development). *Lucas* was only one of the challenges to the South Carolina Beachfront Management Act. In *Esposito v. South Carolina Coastal Council*, the Act was challenged and the Fourth Circuit upheld it as constitutional. See *Esposito v. South Carolina Coastal Council*, 939 F.2d 165, 170 (4th Cir. 1991). The Act prohibited the plaintiffs from repairing or adding onto structures located in the "dead zone" of the South Carolina coastline. See *id.* at 167. Using the *Agins* test, the court first determined that the Act furthered an important state interest in protecting beaches. See *id.* at 169. Next, the court held that the Act did not deprive the owners of all viable use of property; thus, no taking occurred. See *id.* at 170.

173. See *Lucas*, 505 U.S. at 1008-10.

174. See *id.* at 1009.

175. See *id.* at 1009, 1032.

176. *Id.* at 1019-20.

177. See *id.* at 1019 n.8. Scalia's opinion, however, was not without its critics. See *id.* at 1064 (Stevens, J., dissenting) (criticizing Justice Scalia's 100% formula as "wholly arbitrary"); Richard A. Epstein, *Lucas v. South Carolina Coastal Council: A Tangled Web of Expectations*, 45 STAN. L. REV. 1369, 1372 (1993) (arguing that the emphasis by the Court on economic value minimizes the protection given to private property); William W. Fisher III, *The Trouble with Lucas*, 45 STAN. L. REV. 1393, 1410 (1993) (arguing that the *Lucas* decision is very problematic and "not a step in the right direction"); Laurie G. Ballenger, Note, *A House Built on Sand: Lucas v. South Carolina Coastal Council*, 71 N.C. L. REV. 928, 947 (1993) (noting that the Court did not solve the denominator problem in *Lucas*); *cf.*

must have endured a one hundred percent deprivation.¹⁷⁸ Not every Justice agreed, however, with the one hundred percent test. Justice Stevens expressed concern, arguing that “the Court’s new rule is wholly arbitrary. A landowner whose property is diminished in value by 95% recovers nothing, whereas an owner whose property is diminished by one hundred percent recovers the land’s full value.”¹⁷⁹

Subsequently, most takings controversies have focused on the “deprivation of all economically beneficial use” language contained in the *Lucas* opinion.¹⁸⁰ This principle, derived from *Lucas*, is known as the “denominator” factor.¹⁸¹ This factor, however, has created, rather than

Richard C. Ausness, *Wild Dunes and Serbonian Bogs: The Impact of the Lucas Decision on Shoreline Protection Programs*, 70 DENV. U. L. REV. 437, 468-71 (1993) (suggesting that recent property right protections have limited the ability of the government to sufficiently protect the shorelines and beachfronts). For arguments that *Lucas* offered greater protection for private property, see John. J. Delaney, *Advancing Private Property Rights: The Lessons of Lucas*, 22 STETSON L. REV. 395, 395-96 (1993).

178. See *Lucas*, 505 U.S. at 1019 (restating that a landowner has suffered a taking when she is called on to “sacrifice all economically beneficial uses in the name of the common good”); see also *Loveladies Harbor, Inc. v. United States*, 28 F.3d 1171, 1180-81 (Fed. Cir. 1994) (discussing how defining the scope of the property alleged to be taken is the key to the lawsuit); *Florida Rock Indus., Inc. v. United States*, 18 F.3d 1560, 1568 (Fed. Cir. 1994) (concluding that all property use must be deprived by the regulation to effect a taking). See generally Marc. R. Lisker, *Perspectives on Justice John Paul Stevens: Regulatory Takings and the Denominator Problem*, 27 RUTGERS L.J. 663, 706-19 (1996) (analyzing the federal and state court approaches to property area definitions); David Mandelker, *Of Mice and Missiles: A True Account of Lucas v. South Carolina Coastal Council*, 8 J. LAND USE & ENVTL. L. 285, 290 (1993) (describing the various ways to define property).

179. *Lucas*, 505 U.S. at 1064.

180. See *Loveladies Harbor*, 28 F.3d at 1180-81 (discussing contentions made by both parties concerning what is “all economically feasible use”); *Florida Rock*, 18 F.3d at 1568 (noting that the inquiry depends on the definition of economic use); David Mandelker, *Of Mice and Missiles: A True Account of Lucas v. South Carolina Coastal Council*, 8 J. LAND USE & ENVTL. L. 285, 296 (1993) (discussing the various formulas used to determine viable use); Charles R. Wise, *The Changing Doctrine of Regulatory Takings and the Executive Branch*, 44 ADMIN. L. REV. 403, 423-24 (1992) (discussing the policy choices in deciding the relevant denominator). Depending on how the property is defined, the amount of viable land will be large or small. See *Florida Rock*, 18 F.3d at 1568 (stating that the decision of whether a taking occurs focuses on defining the specific property affected by a regulation). If the land is very large, the chances for a taking decrease because it is more likely that a large amount of land will remain viable. See *Loveladies Harbor*, 28 F.3d at 1180-81 (portraying the description of the land as playing a large role in deciding a takings action). Conversely, if the land is defined rather narrowly, the chances of succeeding in the takings action increase. See *id.*

181. This criticism of Justice Scalia’s “all economically viable use” is referred to as the “denominator factor.” See *Florida Rock*, 18 F.3d at 1568-69 (identifying the denominator problem in deciding property value); Marc. R. Lisker, *Perspectives on Justice John Paul Stevens: Regulatory Takings and the Denominator Problem*, 27 RUTGERS L.J. 663, 706-19 (1996) (providing an in-depth analysis of the federal circuit and state court approaches to

resolved, conflicts pertaining to takings regulations because parties attempt to narrow or broaden the amount of the effected property to better serve their needs.¹⁸² In other words, the larger the parcel of land, the more likely that some area of the parcel will not be affected by the regulation.¹⁸³ If, however, the parcel is relatively small, the likelihood decreases that any economical use of the property will remain.¹⁸⁴

Essentially, the denominator factor works as follows: if the amount of Blackacre owned by Landowner is 2 acres, and the amount of Blackacre affected by the government regulation is 1 acre, the denominator is 2 and the numerator is 1; thus, the property's use is diminished by fifty percent. The *Lucas* rationale relied on a one hundred percent deprivation of all economically viable use of the property.¹⁸⁵ If a one hundred percent deprivation is required, then the regulation of property in the above example is not a taking because Landowner may continue to use one-half of Blackacre.

Whether *Lucas* is applicable to Texas' regulations of groundwater remains an issue. Barton H. Thompson, Jr., widely recognized for his opposition to Joseph Sax's proposition to end private ownership of natural resources, has argued that *Lucas* may not be controlling with respect to water controversies in some states because *Lucas* applied to land, not water.¹⁸⁶ However, regardless of whether a court has actually applied

the denominator factor in regulatory takings); cf. Frank I. Michelman, *Property, Utility, and Fairness: Comments on the Ethical Foundations of "Just Compensation" Law*, 80 HARV. L. REV. 1165, 1170 (1967) (noting that the "diminution in value" test from *Pennsylvania Coal v. Mahon* raises a difficult question of how to define the value of the denominator). Justice Brandeis was the first to point out the "denominator" problem in *Mahon*. *Pennsylvania Coal Co. v. Mahon*, 260 U.S. 393, 419 (1922) (Brandeis, J., dissenting).

182. See *Lucas*, 505 U.S. at 1017-18 (identifying the denominator factor as "adjusting the benefits and burdens of economic life" in a way that supports the "average reciprocity of advantage" to all concerned (quoting *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978), and *Mahon*, 260 U.S. at 415)). A difficulty arises when trying to sever the property rights by each property unit. See *Lucas*, 505 U.S. at 1016-17 n.7 (discussing the problems associated with determining horizontal property deprivations); *Deltona Corp. v. United States*, 657 F.2d 1184, 1192-94 (Ct. Cl. 1981) (refusing to analyze horizontal severance, and therefore, finding no taking).

183. See *Loveladies Harbor*, 28 F.3d at 1180-81 (discussing how the size of the land in question affects the takings analysis).

184. See *id.*

185. See *Lucas*, 505 U.S. at 1019-20 n.8 (explaining the analysis used to determine whether a taking has occurred).

186. See Barton H. Thompson, Jr., *Takings and Water Rights* (explaining potential problems when applying *Lucas* to water rights), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 43, 48 (Kathleen Marion Carr & James D. Crammond eds., 1995); see also *Lucas*, 505 U.S. at 1015 (addressing whether a regulatory taking of *real property* occurred); *Loveladies Harbor*, 28 F.3d at 1178 (deciding whether there had been a "denial of economically viable use of the *land*") (emphasis added).

Lucas, Texas has developed its own law with respect to groundwater, which still mandates nearly unlimited use.

B. *Regulatory Takings and Texas Groundwater Law*

Although a robust body of case law exists regarding regulatory takings in general, Texas courts have developed particular case law regarding groundwater regulation.¹⁸⁷ These cases demonstrate that absolute adherence to the rule of capture doctrine has gradually diminished. However, these decisions also represent how deferential the Texas judiciary is to the Texas Legislature, particularly with respect to the challenges posed by the rule's application.

1. Texas Case Law

Texas' approach to regulatory takings of water varies depending upon the classification of the water in the hydrological cycle.¹⁸⁸ Although suits alleging a taking of surface water have been defeated on the grounds that the State is the owner of all surface water, challenges to groundwater regulations are limited to two recent decisions, *Beckendorff v. Harris-Galveston Coastal Subsidence District*¹⁸⁹ and *Friendswood Development Co. v. Smith-Southwest Industries, Inc.*,¹⁹⁰ both of which upheld the rule of capture.¹⁹¹ However, one other case, *Barshop v. Medina County Underground Water Conservation District*,¹⁹² is quite noteworthy because the Texas Supreme Court refused to address the rule of capture, although

187. See, e.g., *Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618, 623 (Tex. 1996) (deciding the constitutionality of the Edwards Aquifer Act); *Friendswood Dev. Co. v. Smith-Southwest Indus., Inc.*, 576 S.W.2d 21, 21 (Tex. 1978) (addressing whether a cause of action could lie against the defendant whose groundwater withdrawal potentially caused severe subsidence on the plaintiff's land); *Beckendorff v. Harris-Galveston Coastal Subsidence Dist.*, 558 S.W.2d 75, 77 (Tex. Civ. App.—Houston [14th Dist.] 1977) (challenging the constitutionality of the Harris-Galveston Coastal Subsidence District, which was designed to reduce groundwater pumping along the coastline), *aff'd*, 563 S.W.2d 239 (Tex. 1978) (per curiam).

188. See 1 FRANK F. SKILLERN, *TEXAS WATER LAW* 5 (rev. ed. 1992) (providing that the classification of water within the hydrological cycle will determine which principles govern its use). Groundwater is governed by the rule of capture, while surface waters are controlled by prior appropriation. See *id.* at 64, 179 (describing the governing principles of different types of water).

189. 558 S.W.2d 75 (Tex. Civ. App.—Houston [14th Dist.] 1977), *aff'd*, 563 S.W.2d 239 (Tex. 1978) (per curiam).

190. 576 S.W.2d 21 (Tex. 1978).

191. See *Friendswood*, 576 S.W.2d at 25-27 (reaffirming a landowner's absolute ownership of groundwater); *Beckendorff*, 558 S.W.2d at 81 (deciding the constitutionality of the Harris-Galveston Coastal Subsidence District and indicating that the Legislature deferred "complete elimination of the evil to future regulations").

192. 925 S.W.2d 618 (Tex. 1996).

the Court, at the same time, was evaluating the constitutionality of the groundwater regulations imposed by the Edwards Aquifer Act.¹⁹³

a. *Beckendorff v. Harris-Galveston Coastal Subsidence District*

In 1975, the Texas legislature created the Harris-Galveston Coastal Subsidence District (HGCSA) to regulate groundwater removal.¹⁹⁴ The goal of this legislation was to reduce groundwater pumping along the coastline due to land subsidence from overpumping.¹⁹⁵ Two years later, landowners challenged the Act as unconstitutional in *Beckendorff v. Harris-Galveston Coastal Subsidence District*.¹⁹⁶

In *Beckendorff*, the landowners alleged that the creation of the District was in violation of the Texas Conservation Amendment, which did not permit the creation of a reclamation and conservation district for the purposes of regulating land subsidence.¹⁹⁷ The court of civil appeals held that the Act was not in violation of the Constitution because the Act not only controlled subsidence, but also mandated control of flooding and inundation in the Harris-Galveston area.¹⁹⁸ Additionally, the court stated that a step-by-step approach to eliminating a perceived evil, such as the rule of capture, is appropriately the Texas Legislature's job.¹⁹⁹ The Texas Supreme Court affirmed the court of appeals decision to uphold the Harris-Galveston Act.²⁰⁰ However, in doing so, the supreme court strayed from strictly adhering to the rule of capture by allowing limits on the amount of groundwater the landowners could remove.²⁰¹ In addition, the supreme court implicitly approved the court of appeals suggestion that Texas should gradually move away from the rule of capture in groundwater law by enacting appropriate legislation.²⁰²

193. See *Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618, 623, 626 (Tex. 1966) (reviewing the constitutionality of the Edwards Aquifer Act but deciding that "it [was] not necessary to the disposition of this case to definitively resolve the clash between property rights in water and regulation of water").

194. See *Beckendorff*, 558 S.W.2d at 77.

195. See *id.*

196. See *id.* at 78.

197. See *id.*

198. See *id.*

199. See *id.* at 78, 81.

200. See *Beckendorff v. Harris-Galveston Coastal Subsidence Dist.*, 563 S.W.2d 239, 240 (Tex. 1978).

201. See *id.*

202. See *id.*

b. Friendswood Development Co. v. Smith-Southwest Industries, Inc.

In the same year that the Texas Supreme Court upheld the lower court's decision in *Beckendorff*, the court also decided *Friendswood Development Co. v. Smith-Southwest Industries, Inc.*,²⁰³ another case involving subsidence in the Houston-Galveston region.²⁰⁴ In *Friendswood*, the plaintiff-landowners, Friendswood Development, suffered severe subsidence due to the defendant's withdrawal of water from underground sources.²⁰⁵ The supreme court did not grant relief to the plaintiffs, concluding that the creation of the HGCSO did not occur until nearly ten years after the injury to the plaintiffs' land took place.²⁰⁶ The applicable law prior to the creation of the HGCSO allowed a landowner to pump unlimited water from beneath his property without liability to other landowners.²⁰⁷

The ultimate effect of the Texas Supreme Court's holding in *Friendswood*, which permitted a *prospective* cause of action to lie for damages caused to another owner's land, was to impose a limit on the rule of capture.²⁰⁸ However, in allowing such an action to lie for damages caused by negligence, willful waste, or malicious injury, the Texas Supreme Court also indicated that it was not the court's duty to redefine the problematic

203. 576 S.W.2d 21 (Tex. 1978).

204. *See* *Friendswood Dev. Co. v. Smith-Southwest Indus., Inc.* 576 S.W.2d 21, 23 (Tex. 1978). This area is the same one that the Legislature, three years earlier, tried to protect from further erosion by creating the Harris-Galveston Coastal Subsidence District. *See id.* at 23-24.

205. *See id.* at 21-22.

206. *See id.* at 22 (noting that the decision results from the duty to apply property law as it existed at the time the action arose).

207. *See id.* at 22, 27-29.

208. *See id.* at 30. The court stated:

Therefore, if the landowner's manner of withdrawing ground water from his land is negligent, willfully wasteful, or for the purpose of malicious injury, and such conduct is a proximate cause of the subsidence of the land of others, he will be liable for the consequences of his conduct. The addition of negligence as a ground of recovery shall apply only to future subsidence proximately caused by future withdrawals of ground water from wells which are either produced or drilled in a negligent manner after the date of this opinion becomes final.

Id.

rule of capture.²⁰⁹ The result of *Friendswood*, therefore, was the mitigation of the “absolute” nature of the rule of capture.²¹⁰

c. *Barshop v. Medina County Underground Water Conservation District*

Nearly fifteen years after the Supreme Court’s directive to the Legislature in *Friendswood* to alter the rule of capture, the Texas Legislature enacted the Edwards Aquifer Act.²¹¹ In *Barshop v. Medina County Underground Water Conservation District*,²¹² the plaintiffs, consisting of the Water Conservation District and landowners affected by the Act, brought suit to restrict enforcement of the Act six days before the EAA took effect under the 1995 amendments.²¹³ The plaintiff-landowners challenged the constitutionality of the Act under the Texas Constitution, alleging that the Act resulted in a taking of vested property rights and an invalid use of the Legislature’s power.²¹⁴

On appeal, the Texas Supreme Court examined only the facial constitutionality of the Act, not the Act’s constitutionality as applied.²¹⁵ In a

209. *See id.* (noting that “[p]roviding policy and regulatory procedures in this field is a legislative function”). Although the court suggested that the Texas Legislature should address the rule of capture, the Legislature has taken no substantial action to change this doctrine since the 1978 directive. *See* TEX. WATER CODE ANN. § 35.002 (Vernon Supp. 1988) (continuing to vest ownership of groundwater in the landowner); Nicole Foy, *House Follows Its Own Course in Development of Water Plan*, SAN ANTONIO EXPRESS-NEWS, Apr. 19, 1997, at 16A (noting that legislators have failed to address the rule of capture); Molly Ivins, *Water on the Mind in Austin*, SAN ANTONIO EXPRESS-NEWS, Apr. 15, 1997, at 7B (arguing that SB 1 still does not address the rule of capture, which is responsible for the water crisis).

210. *See Friendswood*, 576 S.W.2d at 24-26 (limiting the *East* decision of absolute ownership of groundwater by allowing a cause of action for subsidence).

211. Act of May 30, 1993, 73d. Leg., R.S., ch. 626, 1993 Tex. Gen. Laws 2350 (amended 1995).

212. 925 S.W.2d 618 (Tex. 1996).

213. *See Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618, 623 (Tex. 1996). The Edwards Aquifer Authority was going to take effect on September 1, 1993, but the United States Justice Department refused to grant administrative preclearance to the Authority under the Voting Rights Act. *See* R. Tim Hay, Comment, *Blind Salamanders, Minority Representation, and the Edwards Aquifer: Reconciling Use-Based Management of Natural Resources with the Voting Rights of 1965*, 25 ST. MARY’S L.J. 1449 (1994). Section 5 of the Voting Rights Act provides that representation must comply with federal standards of minority representation. *See id.* at 1498. The appointment method of the Authority violated this provision; therefore, the Legislature amended the Act in 1995 to comply with federal voting rights regulations. *See generally* Act of May 29, 1995, 74th Leg., R.S., ch. 261, 1995 Tex. Gen. Laws 2505 (amending the way in which directors are elected).

214. *See Barshop*, 925 S.W.2d at 618, 623, 625.

215. *See id.* at 626.

unanimous decision, the court declined to address the dilemma caused by the rule of capture.²¹⁶ The court did hold, however, that the creation of the EAA was a valid act by the Legislature under the Texas Constitution's Conservation Amendment, but it refused to determine if the Act's limitations unconstitutionally amounted to a taking of groundwater rights.²¹⁷ Essentially, the court refused to entertain an "as applied" challenge until an actual takings claim existed.²¹⁸ Although the court did not consider whether the "water regulation unconstitutionally invades the property rights of landowners,"²¹⁹ the court did state that "our prior decisions recognize both the property ownership rights of landowners in underground water and the need for legislative regulation of water."²²⁰ The court thus recognized the competing interests of private ownership of groundwater and necessary water conservation, without deciding, or even hinting to, which interest will prevail.

2. Significance of Texas Case Law

The *Beckendorff*, *Friendswood*, and *Barshop* opinions ultimately exemplify the argument that the time is ripe for the Legislature to address the rule of capture. Each decision imparts the notion that the judicial branch of the government will not decide or define the exact state of water rights in Texas. Furthermore, judicial enunciation of water rights would not remedy the problem of lack of conjunctive water management.

Although none of these decisions specifically overrules the rule of capture, they do place limitations on absolute adherence to the doctrine. Nevertheless, complete abrogation of the rule of capture must occur in order to protect Texas' natural resources. However, *complete* abrogation of the rule of capture by the courts is unlikely because they have viewed such a bold step as within the province of the Legislature.²²¹ Regardless of which branch of the government abrogates the rule of capture, for any new law to endure, it must withstand challenges under current takings jurisprudence and, at the same time, permit effective regulation and con-

216. *See id.* at 630-31.

217. *See id.* at 638.

218. *See id.* at 631. As of October 1997, one property owner threatened to allege an unconstitutional taking under the Edwards Aquifer Authority. *See Jerry Needham, Aquifer Plan Hits Short-Term Pumpers*, SAN ANTONIO EXPRESS-NEWS, Oct. 15, 1997, at A1 (describing lawsuit threats made by a catfish farmer who has been deprived of water for his catfish farm).

219. *Barshop*, 925 S.W.2d at 626.

220. *Id.*

221. *Cf. Friendswood Dev. Co. v. Smith-Southwest Indus. Co.*, 576 S.W.2d 21, 30 (Tex. 1978) (recognizing that promulgating regulations relating to groundwater is within the province of the Legislature).

servation of groundwater. In this regard, understanding how such regulations would fare in light of *Lucas* is important to charting the future of water management.

IV. RECONCILING *LUCAS* WITH TEXAS' RULE OF CAPTURE

Notwithstanding the clear impact of *Lucas* on real property jurisprudence, Texas is faced with the problem that *Lucas* may not govern water disputes. The problem with applying the *Lucas* test to regulations affecting groundwater is that *Lucas* involved land regulations, not water regulations.²²² Additionally, scholars such as Joseph Sax argue that water rights are not traditional property rights protected by regulatory takings jurisprudence.²²³ Within the State of Texas, water rights have been regarded as property interests; however, they have also been regulated using the State's police powers.²²⁴ Even so, whether water rights are judged on the same level as private property rights is unclear.²²⁵ Nonetheless, before determining if *Lucas* can apply to water rights, the nature of the groundwater right must be explored, specifically addressing when the right of ownership vests and how broad or specific that right is.

A. *Defining a Groundwater Property Right*

1. When Does the Right Vest?

Determining when the groundwater right vests is critical to ascertaining whether a regulatory taking has occurred.²²⁶ Arguably, if the right to use

222. See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1016 (1992) (stating that a regulatory taking occurs when a landowner is denied the "economically viable use of his land" (quoting *Agins v. City of Tiburon*, 447 U.S. 255, 260 (1980) (emphasis added))).

223. See Joseph L. Sax, *Rights That "Inhere in the Title Itself": The Impact of the Lucas Case on Western Water Law* (propounding that water rights are not possessory interests in which one can own water), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 83, 83 (Kathleen Marion Carr & James D. Crammond eds., 1995). But see BRUCE A. ACKERMAN, *PRIVATE PROPERTY AND THE CONSTITUTION* 196 (1997) (explaining "[f]or the legal Scientist, the cardinal sin is to discriminate among property bundles and declare that some contain the essential rights of property while others do not While the Scientist recognizes that some bundles contain more rights than others, all are equally property bundles").

224. See *In re Adjudication of the Upper Guadalupe Segment of the Guadalupe River Basin*, 642 S.W.2d 438, 445 (Tex. 1982) (recognizing that the vested water right, like other rights, is subject to reasonable police power regulations).

225. Cf. *Lucas*, 505 U.S. at 1016 (stating that regulatory takings jurisprudence applies to land); Barton H. Thompson, Jr., *Takings and Water Rights* (comparing water rights with real property in the context of regulatory takings), in *WATER LAW: TRENDS, POLICIES AND PRACTICE* 43, 45-47 (Kathleen Marian Carr & James D. Crammond eds., 1995).

226. Cf. *Barshop*, 925 S.W.2d at 625 (discussing the State's argument that no right to groundwater vests until it is reduced to possession).

groundwater vests *before* the water is actually used or reduced to possession, all legislation prohibiting or limiting the ability to withdraw groundwater would constitute a regulatory taking because the laws would limit the right to withdraw water. Conversely, if the right to use groundwater vests only *after* the water has actually been reduced to possession by extraction from the source, then arguably, regulation limiting the amount of water withdrawn is not a regulatory taking.²²⁷ The rationale for this latter proposition is that the property right did not vest until *after* the water was extracted, while the regulation of water withdrawal occurred *before* any water was extracted. This distinction may seem overly technical, but determining when the actual right vests encompasses much of the disagreement about the nature of the right to withdraw groundwater.

In *Barshop*, the Texas Supreme Court acknowledged the argument propounded by the defendant State of Texas, that "no constitutional taking occurs under the statute for landowners who have not previously captured water" because "until the water is actually reduced to possession, the right is not vested and no taking occurs."²²⁸ Under this argument, the groundwater right is not a right that vests upon possession of the land; rather, some effort must be made to extract the water from the ground for the landowner to have a vested right in the water. Consequently, any law that regulates how much water may be withdrawn does not limit the right to withdraw and does not "take" a landowner's absolute right to withdraw water. To state this proposition another way, the landowner's right is the absolute right of withdrawal, not the right to withdraw absolutely any amount.²²⁹

Nevertheless, the EAA does not limit any landowner's right of withdrawal because any domestic amount of water under 25,000 gallons a day may be withdrawn permit-free.²³⁰ When a landowner wants to pump the aquifer of water in an unbridled fashion, however, the EAA then regulates how much water may be pumped.²³¹ Thus, assuming that the right to withdraw water is absolute, the next hurdle is defining whether the type of right that vests is broad or specific.

227. *Cf. id.*

228. *Id.* The State's argument is that an owner must actually capture the water to own it. *See id.*

229. *Cf. Brown v. Humble Oil & Ref. Co.*, 126 Tex. 296, 300-02, 83 S.W.2d 935, 937-39 (1935) (regulating oil and gas extraction through official regulations).

230. *See* Act of May 30, 1993, 73d Leg., R.S., ch. 626, § 1.33, 1993 Tex. Gen. Laws 2350, 2366 (amended 1995).

231. *See id.* § 1.14 (establishing the default rule for water withdrawals).

2. Is the Water Right a Broad or Specific Use Right?

Property is frequently defined by the various estates that compose the whole property right.²³² Various types of commonly recognized property estates include mineral estates, surface estates, and air or light estates.²³³ Each of these separate estates is sometimes described as being composed of various “sticks,” with “all the sticks in the bundle” comprising the entire estate.²³⁴ By separating the estates, land can be divided and sold with Owner 1 buying the surface estate and Owner 2 owning the mineral estate, even though Owner 1 lives above Owner 2’s estate. Although traditional notions of property law permit property to be divided into different estates, whether a water right is considered a separate estate composed of various “sticks” or whether it is merely one whole estate is unclear.

Adopting a liberal approach to property definitions, a Texas court could define the water right as a separate estate composed of various sticks, meaning that the different water uses comprise the entire bun-

232. The concept of severing property into estates is called “conceptual severance,” a term coined by Margaret Jane Radin. Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 COLUM. L. REV. 1667, 1676 (1988). The theory of conceptual severance is founded on the modern notion of property as a “bundle of rights” made up of many sticks in the bundle. See *Nollan v. California Coastal Comm’n*, 483 U.S. 825, 831 (1987) (describing property rights as “sticks in the bundle”). If you can remove a single stick from the bundle, separating the stick as a distinct property right, then each stick in the bundle is a separate property right, not a part of the whole property use. See Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 COLUM. L. REV. 1667, 1676 (1988); cf. Gregory J. Hobbs, Jr., *Ecological Integrity and Water Rights Takings in the Post-Lucas Era* (stressing that the state approach regarding water rights as a means to exclude other water users determines the weight accorded the water right), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 74-77 (Kathleen Marion Carr & James D. Crammond, eds., 1995). The Court has used this type of phraseology regarding property rights in prior decisions. See *Loretto v. Teleprompter Manhattan CATV Corp.*, 458 U.S. 419, 435 (1982) (analyzing an owner’s bundle of rights); *Andrus v. Allard*, 444 U.S. 51, 65-66 (1979) (identifying property as entailing a bundle of property rights composed of single strands in the bundle).

233. See ROGER A. CUNNINGHAM ET AL., *THE LAW OF PROPERTY* 30-31 (student ed. 1984) (discussing the nature of a landowner’s right to the air above his land); RICHARD W. HEMINGWAY, *THE LAW OF OIL & GAS* 14-15 (1971) (describing the effect of a severance of the surface and mineral estates).

234. Cf. *Nollan v. California Coastal Comm’n*, 483 U.S. 825, 831 (1987) (explaining that the right to exclude other people is an essential stick in the bundle); *In re Application for Water Rights of Midway Ranches Property Owner’s Ass’n, Inc.*, 938 P.2d 515, 523 (Colo. 1997) (providing that the right to make changes is one of the sticks in the bundle of the Colorado water right); *City of Kentwood v. Estate of Sommerdyke*, 581 N.W.2d 670, 679 (Mich. 1998) (stating that the right to exclude others from a person’s property is a crucial stick in the bundle).

dle.²³⁵ Recalling that the Texas Water Code delineates the priority of water rights by certain water uses,²³⁶ a court could permit compensation for water uses that were taken in a manner similar to the statutory definition of preferred or beneficial uses of surface water. For example, if a landowner was restricted in the amount of water she could withdraw for irrigation, the landowner could allege that *all* of the irrigation right had been taken, as opposed to arguing that the water right itself had merely been diminished.

Alleging that all of a property right has been taken becomes crucial to the determination of compensation, as was discussed earlier with respect to *Lucas*. Thus, if the water right consists of various specific uses, then each use is arguably a separate stick. Conversely, if the water right is simply a broad right to withdraw water, regardless of how the water is used, then the landowner is unlikely to endure a taking. By grouping all of the various water "uses" into one broad water right, either the Texas Supreme Court or the Legislature could abolish the rule of capture. Such action would survive a takings claim under *Lucas* because few, if any, landowners will ever be denied *all* water use.

B. *Lucas and Groundwater*

As discussed earlier, in *Lucas*, the Supreme Court of the United States declared that a regulation must deprive a landowner's property of all economically beneficial use in order to rise to the level of a taking.²³⁷ Even so, whether water is a protected property right under *Lucas* remains an important issue. In addition, if water is a protected property right then issues arise as to what amount of water use deprivation will constitute a taking. The preceding section concluded that the groundwater right may not be as protected and vested as some have argued. This section will take another step toward demystifying and clarifying groundwater rights in Texas by analyzing whether groundwater regulations pass muster under the *Lucas* test, while also exploring how other courts have answered similar questions on the issue of the denominator factor.

235. See Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 COLUM. L. REV. 1667, 1676 (1988) (discussing the idea that property consists of separate strands, or rights, in a bundle of rights); Barton H. Thompson, Jr., *Takings and Water Rights* (pointing to the possibility that water rights could be considered separate "sticks in the bundle"), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 43, 48 (Kathleen Marion Carr & James D. Crammond eds., 1995).

236. See TEX. WATER CODE ANN. § 11.023 (Vernon 1988) (listing specific uses in which state water may be appropriated).

237. See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1019 (1992).

1. Is Groundwater "Property" Under *Lucas*?

Real property, such as land, is protected from unconstitutional takings without just compensation by state constitutions and the Fifth Amendment to the United States Constitution.²³⁸ What remains unclear is how influential real property jurisprudence will be in determining whether a takings claim can be successful when it solely involves water rights. In order for water withdrawal limitations to amount to a taking under *Lucas*, property jurisprudence would have to expand beyond all current constitutionally protected limits.²³⁹ This is not to deny that water is a property interest, but rather to acknowledge that many legal scholars view the categorization of a water right as a *less* protected property right than land, or real property.²⁴⁰ Therefore, in determining whether *Lucas* applies to a claim that groundwater regulations constitute a taking, the initial obstacle becomes determining whether the term "property," as defined by takings law, includes groundwater.

Lucas involved a dispute regarding real property, not water rights.²⁴¹ This distinction between land and water estates may prevent landowners from successfully alleging a takings claim under *Lucas*. Although *Lucas* was clearly deprived of his ability to develop his land, rendering it without any economic value,²⁴² some commentators argue that water deprivations may not receive *Lucas* protection because the regulations only affect water rights, not land rights.²⁴³ Moreover, in *Hudson County Water*

238. See U.S. CONST. amend. V (providing that property may not be taken without just compensation); TEX. CONST. art. I, § 17 (protecting the state from unconstitutionally taking land without compensation); see also *Lucas*, 505 U.S. at 1030-32 (prohibiting the taking of beachfront property without just compensation).

239. See *Lucas*, 505 U.S. at 1003, 1015 (applying takings analysis to *land* regulation); *Loveladies Harbor, Inc. v. United States*, 28 F.3d 1171, 1178 (Fed. Cir. 1994) (noting that the first criterion under a regulatory takings analysis is whether there has been a "denial of economically viable use of the *land*") (emphasis added); *Florida Rock Indus., Inc. v. United States*, 18 F.3d 1560, 1564-65 (Fed. Cir. 1994) (providing that a taking occurs when a regulation destroys a piece of land's economic value for private ownership).

240. See Joseph L. Sax, *Rights That "Inhere in the Title Itself": The Impact of the Lucas Case on Western Water Law* (arguing that water rights are merely usufructuary, not possessory), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 83, 83 (Kathleen Marion Carr & James D. Crammond eds., 1995).

241. See *Lucas*, 505 U.S. at 1015 (addressing land regulations).

242. See *id.*

243. See Barton H. Thompson, Jr., *Takings and Water Rights* (analyzing the strength of water rights compared to real property rights when takings are claimed), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 43, 45-47 (Kathleen Marion Carr & James D. Crammond eds., 1995); see also A. Dan Tarlock, *Supplemental Groundwater Irrigation Law: From Capture to Sharing*, 73 KY. L.J. 695, 704-05 (1985) (inferring that the takings doctrine could explain the reluctance to limit groundwater withdrawal).

Co. v. McCarter,²⁴⁴ Justice Holmes stated that water was an interest that the public maintains above personal, private interests.²⁴⁵ The *Hudson* decision, thus, advocates for state-wide water protection,²⁴⁶ and it also comports with commentators who argue against private ownership of water.²⁴⁷

Recent takings decisions, however, have been rather liberal in defining property, permitting takings for non-traditional property.²⁴⁸ Specifically, the United States Court of Appeals for the Federal Circuit, in *Loveladies Harbor, Inc. v. United States*,²⁴⁹ ruled that the denial of a permit to fill a wetland area amounted to a regulatory taking.²⁵⁰ *Loveladies Harbor* involved a dispute about a wetland permit that the plaintiff needed to finish his property development.²⁵¹ The plaintiff alleged that denying him the permit to fill his wetland property was a taking.²⁵² The plaintiff's wetlands were part of a long-term development of wetland area for residential use in New Jersey.²⁵³ The dispute focused on the appropriate denominator to use when determining whether a regulation effected a taking.²⁵⁴ The Government alleged that the correct denominator was the original 250 acre area.²⁵⁵ The landowner, however, argued that the relevant land was the 11.5 acres for which a permit was actually requested.²⁵⁶ The court concluded that a number of denominator possibilities existed, but the relevant factor was 12.5 acres.²⁵⁷ The court reached this number by reasoning that of the 250 acres, 199 had been developed before the

244. 209 U.S. 349 (1908).

245. See *Hudson County Water Co. v. McCarter*, 209 U.S. 349, 356 (1908) (describing the importance of state protection of waters).

246. See *Hudson*, 209 U.S. at 356 (recognizing the community value of water regulation).

247. See Joseph Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 474 (1970) (arguing that the public trust doctrine can be used to solve resource management problems). The public trust doctrine provides that the state is to act as a trustee for the state's resources and is charged with the duty of protecting these resources. See *id.* at 486 (quoting *State v. Cleveland & Pittsburgh R.R. Co.*, 113 N.E. 677, 682 (Ohio 1916)).

248. See *Loveladies Harbor, Inc. v. United States*, 28 F.3d 1171, 1183 (Fed. Cir. 1994) (expanding takings jurisprudence to wetlands); *Florida Rock Indus., Inc. v. United States*, 18 F.3d 1560, 1564-65 (Fed. Cir. 1994) (granting more protection to non-traditional property regulations).

249. 28 F.3d 1171 (Fed. Cir. 1994).

250. See *Loveladies Harbor*, 28 F. 3d at 1183.

251. See *id.* at 1171-72.

252. See *id.* at 1174.

253. See *id.*

254. See *id.* at 1180-82.

255. See *id.* at 1180.

256. See *id.* at 1181.

257. See *id.*

relevant statute required a permit, and the plaintiff agreed to convey 38.5 acres to New Jersey in return for the permit, leaving 12.5 acres for development.²⁵⁸ Thus, the *Loveladies* court deviated from the one hundred percent mandate under *Lucas* and granted compensation for a deprivation that affected almost all of the wetland.²⁵⁹

Notably, the court did not reject the takings claim on the ground that the property affected was wetland, and not actual land.²⁶⁰ Traditionally, the Supreme Court has viewed land as a protected form of private property.²⁶¹ Wetlands, however, do not have all the characteristics of real property. Wetlands are a structural variance of real property with the expectation of becoming real property.²⁶²

In light of *Loveladies Harbor*, a court deciding whether regulation of groundwater in Texas constitutes a taking could follow the trend towards expanding the protection of property.²⁶³ In addition, in loosening the strictures of the property definition, these courts could actually uphold the rule of capture. Arguably, if regulation of wetlands can amount to a regulatory taking, then the deprivation of water rights can also be deemed to constitute a taking because both are property interests.²⁶⁴

258. *See id.* at 1180-82.

259. *See id.*

260. *See id.* at 1179-83 (finding that a *Lucas* distinction between wetland and actual land need not be made).

261. *See Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1028 (1992) (holding that when "permanent physical occupation" of land is at issue, the government may not perform a regulatory taking without just compensation).

262. *See Sam Kalen, Commerce to Conservation: The Call for a National Water Policy and the Evolution of Federal Jurisdiction over Wetlands*, 69 N.D. L. REV. 873, 873-74 (1993) (describing wetlands as areas which provide critical barriers to ease flooding of land and soil erosion).

263. *See TEX. WATER CODE ANN. § 36.002* (Vernon Supp. 1998) (recognizing landowners' rights in groundwater); *cf. Private Property Protection Act of 1995*, H.R. 925, 104th Cong. § 10(5) (advancing further support of property rights protection from the government); Margaret Kriz, *Land Mine* (arguing that property rights should be free from government limits), in *LET THE PEOPLE JUDGE: WISE USE AND THE PRIVATE PROPERTY RIGHTS MOVEMENT 27* (John D. Echeverria & Raymond B. Ely eds., 1995); Nancie G. Marzulla, *The Property Rights Movement: How It Began and Where It Is Headed* (detailing the rise of property rights protection), in *LAND RIGHTS: THE 1990s' PROPERTY RIGHTS REBELLION 1* (Bruce Yandle ed., 1995).

264. *See Loveladies Harbor*, 28 F.3d at 1182-83 (identifying that takings had occurred even though the property in question was wetlands and not real property in the technical sense); Gregory L. Hobbs, Jr., *Ecological Integrity and Water Rights Takings in the Post-Lucas Era* (arguing that if state laws grant individual ownership of water, then a *Lucas* claim for a taking of water rights is tenable), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE 74-79* (Kathleen Marion Carr & James D. Crammond eds., 1995). If the state's law permits a landowner to own the water rights, then the state cannot deny protection of the property right. *See id.* Two obstacles, however, stand in the way of according full

This argument is strengthened by the fact that *Lucas* focused on the deprivation of the property interest itself, not the *type* of property involved.²⁶⁵ If the protections offered by *Lucas* are not limited to specific kinds of property, such as land, a landowner could feasibly allege a regulatory taking of water rights.²⁶⁶ However, in order to assert that depriving a landowner of his water right constitutes a regulatory taking, the landowner may be required to demonstrate that the appropriate amount of water has been taken to sustain a one hundred percent deprivation.²⁶⁷ Providing a one hundred percent deprivation may not be necessary, however, if the court mimics the *Loveladies* decision and sustains a takings challenge for a deprivation that merely affects "almost" all of the water right.²⁶⁸

2. The Denominator Factor and Water Rights

As discussed previously, even if a water right is given the same property protection as land, *Lucas* requires one hundred percent of the economical property use to be taken.²⁶⁹ Although this requirement seems to provide a bright-line distinction as to when a taking occurs, two federal circuits have permitted a taking of property that amounted to less than a one hundred percent loss.²⁷⁰ In *Loveladies Harbor*, the court followed

protection to water rights. See James S. Burling, *Protecting Property Rights in Aquatic Resources after Lucas*, in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 61-64 (Kathleen Marion Carr & James D. Crammond eds., 1995). According to Burling, the public trust doctrine and the theory of reserved water rights counter the private property rights argument. See *id.* at 61. The reservation water rights doctrine is beyond the scope of this Comment because groundwater rights in Texas are "the exclusive property of the owner of the surface of the soil, and [are] subject to barter and sale as any other species of property." *Texas Co. v. Burkett*, 117 Tex. 16, 29, 296 S.W. 273, 278 (1927).

265. See *Lucas*, 505 U.S. at 1020 (holding that an owner suffers a taking when deprived of property).

266. Compare Gregory L. Hobbs, Jr., *Ecological Integrity and Water Rights Takings in the Post-Lucas Era* (arguing that state laws vesting ownership of water in an individual strengthen the *Lucas* claim regarding a taking of water rights), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 74-79 (Kathleen Marion Carr & James D. Crammond eds., 1995), with Joseph L. Sax, *Rights That "Inhere in the Title Itself": The Impact of the Lucas Case on Western Water Law* (contending that only reasonable uses of property inhere in the title to land, not unlimited uses), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 83-85 (Kathleen Marion Carr & James D. Crammond eds., 1995).

267. See *Lucas*, 505 U.S. at 1019 (requiring a 100% deprivation).

268. See *Loveladies Harbor*, 28 F.3d at 1180-82.

269. See *Lucas*, 505 U.S. at 1019.

270. See *Loveladies Harbor*, 28 F.3d at 1181-82 (affirming the trial court's holding that a regulatory taking occurred where the landowner had 12.5 acres of land remaining for development); *Florida Rock Indus., Inc. v. United States*, 18 F.3d 1560, 1572 (Fed. Cir. 1994) (asserting that a regulatory taking can occur even though the owner's entire fee estate was not affected).

the approach of *Florida Rock Industries, Inc. v. United States*²⁷¹ and focused on arriving at the correct “denominator” in order to define the amount of property that could be affected by the regulation.²⁷²

Under the denominator factor analysis, the amount of beneficial property that exists prior to the regulation is the denominator, whereas the amount of beneficial property left after the regulation is the numerator.²⁷³ Thus, for example, if the denominator value was the whole water estate available (3/3), and the regulation deprived use of two-thirds (2/3), then destroying two-thirds of the water right leaves only one-third (1/3) available for use. That result, however, is less than one hundred percent as required by *Lucas*; therefore, the regulation does not amount to a regulatory taking.

On the other hand, consider the outcome if the denominator is one separate water right, such as irrigation, and irrigation represents 30,000 gallons of the total 100,000 gallon water right. If the landowner had no irrigation right after the regulation, then a landowner could argue complete deprivation of the irrigation water right by virtue of the 30,000 gallon loss. Using the denominator factor analysis, the expression 0/30,000 gallons indicates that no beneficial use would remain with respect to irrigation. Thus, such a regulation would amount to a one hundred percent deprivation because no beneficial use of the *particular right* would be available after the taking.

Basically, one could infer that if groundwater law permits unlimited water withdrawal, *Lucas*' strict requirements could very well impede full protection of this water right, particularly because total restriction of this water right is unlikely. However, if the landowner can assert that a narrower portion of his water right is affected by regulation, then the Supreme Court's decision in *Lucas* will be the proper means toward determining whether a regulatory taking has occurred. One hurdle, however, will be whether a court will accept less than a one hundred percent

271. 18 F.3d 1560 (Fed. Cir. 1994).

272. See generally William W. Fischer, III, *The Trouble with Lucas*, 45 STAN. L. REV. 1393, 1402-05 (1993) (articulating difficulties in applying *Lucas* to taking claims); Marc R. Lisker, *Perspectives on Justice John Paul Stevens: Regulatory Takings and the Denominator Problem*, 27 RUTGERS L.J. 663, 709-14 (1996) (determining that the changed criterion in *Lucas* does not affect the denominator issue, which arises only in analyzing the economic impact of regulation); Laurie G. Ballenger, Note, *A House Built on Sand: Lucas v. South Carolina Coastal Council*, 71 N.C. L. REV. 928, 932 (1993) (discussing Justice Blackmun's criticism of *Lucas*'s diminished value determination). Oklahoma has recently addressed a similar issue with their riparian use doctrine. See *Franco-American Charolaise, Ltd. v. Oklahoma Water Resources Bd.*, 855 P.2d 568, 577 (Okla. 1990) (recognizing that the state had totally denied riparian rights rather than regulating this right).

273. *Loveladies Harbor*, 28 F.3d at 1181-82 (describing the process for determining the correct denominator).

adverse effect of a regulatory action in order to define a takings claim. If so, then landowners would be able to show merely that some limitation of the right to withdraw water amounted to a regulatory taking.

3. Economical Use

Although determining the correct denominator with respect to beneficial use is pivotal in the takings analysis, another factor exists that may impede the application of *Lucas*: the *economical* and beneficial use of the land.²⁷⁴ Every withdrawal of water is an economical and beneficial use of the property.²⁷⁵ However, the property itself is not rendered useless if the ability to pump the water is limited, even when the ability to withdraw water may be a benefit to those living above the groundwater source.²⁷⁶ Thus, while the value of the real property may be diminished, amounting to a regulatory taking of property, proving a one hundred percent deprivation will be difficult considering other potential uses of the land.²⁷⁷ In essence, loss of the property's "beneficial use" cannot, by itself, sustain a deprivation-of-property argument.²⁷⁸

274. See *Lucas v. South Carolina Coastal Council*, 505 U.S. 1003, 1015 (1992) (identifying that categorical treatment of property for compensation occurs when a regulation deprives the owner of all economically productive or beneficial use of his "land"); *Penn Cent. Transp. Co. v. New York City*, 438 U.S. 104, 124 (1978) (concluding that "the extent to which the regulation has interfered with distinct investment-backed expectations" is extremely relevant to takings analysis); see also Barton H. Thompson, Jr., *Takings and Water Rights* (arguing that water is generally considered a beneficial use and, thus, may not be identifiable in economic terms), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 43, 45-47 (Kathleen Marion Carr & James D. Crammond eds., 1995).

275. See Barton H. Thompson, Jr., *Takings and Water Rights* (discussing potential conflicts in applying *Lucas* to economical uses of water), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 43, 45-47 (Kathleen Marion Carr & James D. Crammond eds., 1995). The United States Claims Court has addressed this issue of economical and beneficial use, concluding that whether two theoretically separable pieces of land are evaluated as a combination or separately depends on the "degree of contiguity, the dates of acquisition, the extent to which [each] parcel has been treated as a single unit, [and] the extent to which [one parcel] enhance[s] the value of [the other]." *Ciampitti v. United States*, 22 Cl. Ct. 310, 318 (1991).

276. See Barton H. Thompson, Jr., *Takings and Water Rights* (noting that the right to withdraw groundwater has been described as usufructuary as opposed to possessory), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 43, 46-47 (Kathleen Marion Carr & James D. Crammond eds., 1995).

277. See *Loveladies Harbor*, 28 F.3d at 1180 (noting that if a tract of land has some residuary value left over after the regulation, a partial taking or no taking has occurred). In the case of groundwater regulation, the surface estate can be used for agriculture, housing developments, or ranching.

278. See *Penn Cent.*, 438 U.S. at 124 (refusing to allow a taking due to a zoning restriction limiting beneficial development of the land); *Rideout v. Knox*, 19 N.E. 390, 392-93

Correspondingly, the term “economical,” as defined by the courts when considering a taking claim, has only been applied to the development of land and does not encompass the monetary benefits derived from the use of a property interest.²⁷⁹ For example, water is a beneficial use of property for farmers, but normally not the sole beneficial use. Although water is needed to sustain a landowner’s agricultural growth, that need does not necessarily encompass all of the economically viable uses of the property. Yet, water may become an economical need if its presence is *necessary* for the use and development of the land.

For instance, many farmers grow crops in areas that are not agriculturally sustainable due to inadequate rainfall.²⁸⁰ A limit on the amount of available water, therefore, would greatly restrict any farming. In such a scenario, a farmer would be subject to a regulatory taking because he has lost the economic viability of his property without just compensation. Thus, by analogy, if a water regulation deprives an owner of water rights by inhibiting the ability to sustain development, and there is no other use for the land, the landowner will be deprived of all economically viable use of his land.

Ultimately, the numerous hurdles that a landowner must overcome to assert a regulatory taking increases the likelihood that landowners’ water rights may not withstand the *Lucas* test. A generous expansion of takings jurisprudence would only answer the question that water is a protected property interest, but the most difficult challenge under the *Lucas* test is establishing a one hundred percent economical loss. Determining the full economical loss of water would hinge on the ability of a landowner to allege that separate water estates define the whole water right and that

(Mass. 1889) (finding that no taking resulted from a statute preventing the erection of “spite fences”).

279. See *Lucas*, 505 U.S. at 1016 (reasoning that the burden would be too great if the government had to compensate landowners for every incidental diminution in the beneficial uses of property); *Florida Rock Indus., Inc. v. United States*, 18 F.3d 1560, 1565 (Fed. Cir. 1994) (emphasizing that “if . . . a regulation prohibits less than all economically beneficial use of the land and causes at most a partial destruction of its value, the case does not come within the Supreme Court’s ‘categorical’ taking rule”). Furthermore, these cases involved land, not water. Cf. Barton H. Thompson, Jr., *Takings and Water Rights* (stating that water rights may not be given the same accord as real property rights), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 43, 45 (Kathleen Marion Carr & James D. Crammond eds., 1995); Margaret Jane Radin, *The Liberal Conception of Property: Cross Currents in the Jurisprudence of Takings*, 88 *COLUM. L. REV.* 1667, 1676 (1988) (proposing a separate takings action for each strand of property constituting a property right or use within the bundle of property strands).

280. See Interview with Tim Young, Legal Counsel for Medina County Underground Water Conservation District, Winstead Sechrest & Minick P.C., in Austin, Tex. (Oct. 15, 1997) (describing the land uses of farmers as inappropriate to the natural state of the land).

deprivation of a single water use deprives an owner, irrevocably, of profitability.²⁸¹

In that regard, although water rights arguably consist of separate uses as defined by the Texas Water Code, no authority exists to support the argument that each groundwater use constitutes a separate water estate. Defining each water use as a separate estate would permit a landowner to demonstrate actual water reductions that eliminated or enormously restricted water for that specific use. This type of analysis seems to provide the most logical avenue to support a taking of groundwater rights. If the groundwater water right is not separated into "use" estates, then no regulation, unless it restricts *all* groundwater withdrawal, will ever deprive an owner of his water rights, and therefore, constitute a taking under *Lucas*.

V. OBSTACLES TO A *LUCAS* CHALLENGE IN TEXAS

Although a *Lucas* challenge could potentially be alleged to protect a landowner's groundwater right, two obstacles impede receiving compensation for a groundwater taking. The State of Texas could rely on either the Conservation Amendment contained in its Constitution or the public trust doctrine. These obstacles are not defenses to a *Lucas* action; rather, they are separate justifications that trump a *Lucas* claim. As such, they make the abrogation of the rule of capture more likely because, by using these concepts, a state regulation could survive a *Lucas* challenge.

A. *The Conservation Amendment*

Few things are as precious and scarce in the world today as water.²⁸² Notions of land ownership in the United States are not dependent on community use, as evidenced by the fact that each person's survival is not dependent on his neighbor's use of land.²⁸³ However, Texas is rapidly approaching the time when water use by others could affect the commu-

281. Cf. *Hodel v. Irving*, 481 U.S. 704, 715-16 (1987) (categorizing the elimination of one property strand, or stick in the bundle, as a taking).

282. See GEORGE A. GOULD & DOUGLAS L. GRANT, *CASES AND MATERIALS ON WATER LAW* 1-8 (5th ed. 1995) (identifying public policy arguments to protect water due to its scarcity).

283. See *id.* at 3, 4 (citing FRANK L. TREALEASE, *FEDERAL-STATE RELATIONS IN WATER LAW* 2-8 (1971), as stating that water is a scarce commodity, thus requiring law to allocate its use among people); see also Joseph L. Sax, *The Constitution, Property Rights and the Future of Water Law*, 61 U. COLO. L. REV. 257, 260-62 (1990) (contending that water rights are not viewed by the Supreme Court as "a constitutionally favored form of property" unlike private property).

nity's basic water demands.²⁸⁴ This dependence that water creates among users requires a stricter analysis of the right to exercise unlimited water withdrawal; in this regard, water use is unlike the right to own land.²⁸⁵ Landowners might argue that Texas jurisprudence recognizes groundwater withdrawal as a personal property right granted to individual landowners without regard for community and environmental concerns.²⁸⁶ However, regardless of this precedent, the State could protect its natural resources under the Conservation Amendment, similar to the way it protects surface water.²⁸⁷

The Texas Conservation Amendment was enacted in 1917 to promote and protect the welfare of Texas' resources.²⁸⁸ Specifically, it authorizes the Texas Legislature to pass laws which further "[t]he conservation and development of all the natural resources of this State."²⁸⁹ The Amendment also states that "the preservation and conservation of all such natural resources of the State are each and all hereby declared public rights and duties; and the Legislature shall pass all such laws as may be appropriate thereto."²⁹⁰ This language directly nullifies any arguments opposing the state's legal right to implement laws pertaining to the

284. See Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 185-86 (1996) (contending that rapid population growth will exceed the current groundwater supply).

285. See Joseph L. Sax, *The Constitution, Property Rights and the Future of Water Law*, 61 U. COLO. L. REV. 257, 260 (1990) (summarizing the protection of water rights as a hindrance to water regulation); Joseph L. Sax, *The Public Trust Doctrine in Natural Resources Law: Effective Judicial Intervention*, 68 MICH. L. REV. 473, 480 (1970) (contending that because natural resources are governed by community needs, not private interests, takings cannot be alleged).

286. See *Houston & T. C. Ry. Co. v. East*, 98 Tex. 146, 149, 81 S.W. 279, 281 (1904) (permitting absolute withdrawal of groundwater). *But see Hudson County Water Co. v. McCarter*, 209 U.S. 349, 356 (1908) (describing Justice Holmes' opinion regarding water as an interest the public maintains above personal, private interests).

287. See TEX. CONST. art. XVI, § 59 (amended 1964, 1973, 1978) (granting people the power to protect natural resources); *Atlas Chem. Indus., Inc. v. M.P. Anderson*, 514 S.W.2d 309, 316 (Tex. Civ. App.—Texarkana 1974, writ ref'd n.r.e.) (identifying the Conservation Amendment as the source for protecting the purity of Texas waters).

288. See TEX. CONST. art. XVI, § 59 (amended 1964, 1973, 1978). By passing the Conservation Amendment of 1917, the Texas Legislature established the authority to create acts to preserve and protect the conservation and beneficial use of water resources. See *Clark v. Briscoe Irrigation Co.*, 200 S.W.2d 674, 680 (Tex. Civ. App.—Austin 1947, writ dismissed) (claiming that all of the 1917 water conservation laws were either re-enacted in the 1925 codification or were subsequently enacted); WELLS A. HUTCHINS, *THE TEXAS LAW OF WATER RIGHTS* 12-13 (1961) (pointing to the Conservation Amendment language as not self-enacting, but dependent upon a legislature to implement conservation methods to protect natural resources).

289. TEX. CONST. art. XVI, § 59 (a).

290. *Id.*

conservation of natural resources.²⁹¹ Thus, under the Amendment, the state may clearly assert its power to regulate one particular natural resource, groundwater. Accordingly, the Conservation Amendment can be used to justify a groundwater regulation if that regulation is challenged as a taking under *Lucas*. Furthermore, the Conservation Amendment may be used to abrogate the rule of capture.

Today, the Conservation Amendment is perhaps the most powerful obstacle standing in the way of the continued application of the rule of capture. As such, the Legislature should use its full constitutional authority under the Conservation Amendment to override the archaic common-law doctrine of the rule of capture.

B. *The Public Trust Doctrine*

In addition to the Conservation Amendment, the Texas Legislature and judiciary may also rely upon the public trust doctrine to defend heightened regulation of water consumption.²⁹² According to the public trust doctrine, the public retains rights to the preservation of natural resources, and with these rights, courts can protect natural resources for public use.²⁹³ Since the 1970s, numerous courts have expanded the public trust doctrine within natural resources law.²⁹⁴ In particular, this resur-

291. *Cf.* Texas Water Rights Comm'n v. Wright, 464 S.W.2d 642, 648 (Tex. 1971) (upholding the state statute, which cancelled unused surface water rights, as a valid use of the Conservation Amendment).

292. *See* Joseph L. Sax, *Liberating the Public Trust Doctrine*, 14 U.C. DAVIS L. REV. 185, 188 (1980) (advocating use of the public trust doctrine to protect natural resources). In Texas, the public trust doctrine has historical importance only within the context of surface water. *See In re Adjudication of the Water Rights of the Upper Guadalupe Segment of the Guadalupe River Basin*, 642 S.W.2d 438, 444 (Tex. 1982) (relying on the public trust doctrine and the Conservation Amendment to protect and regulate navigable waters).

293. *See* National Audubon Soc'y v. Superior Court, 658 P.2d 709, 732 (Cal. 1983) (holding that the public has an interest in the preservation of water resources, which the state holds in trust).

294. *See, e.g.,* Hitchings v. Del Rio Woods Recreation & Parks Dist., 127 Cal. Rptr. 830, 837 (Cal. Ct. App. 1976) (urging that the State has total control of navigable waters under the public trust subject only to federal government supervision); *People v. Mack*, 97 Cal. Rptr. 448, 454 (Cal. Ct. App. 1971) (arguing that the State controls its navigable waters regardless of whether the federal government reserves such rights through patents for riparian lands).

Prior to this expansion, water was the primary resource protected by the public trust doctrine. *See, e.g.,* *National Audubon Soc'y*, 658 P.2d at 728-29 (arguing that water rights are protected for resource conservation under the public trust doctrine); *United Plainsmen Ass'n v. North Dakota State Water Conservation Comm'n*, 247 N.W.2d 457, 462-63 (N.D. 1976) (contending that the public trust doctrine mandates state intervention in water conservation planning); William D. Araiza, *Democracy, Distrust, and the Public Trust: Process-Based Constitutional Theory, the Public Trust Doctrine, and the Search for a Substantive Environmental Value*, 45 UCLA L. REV. 385, 395-402 (1997) (discussing the

gence has addressed inadequacies in the political process that resulted in discounting environmental and community concerns.²⁹⁵

Commentator Joseph Sax is credited for the rebirth of the public trust doctrine.²⁹⁶ Under Sax's rationale, the reluctance of the Texas Legislature to address water conservation by abolishing the rule of capture would support a judicial decision to invoke the public trust doctrine in support of any such abrogation.²⁹⁷ Hence, under the public trust doctrine, the judiciary has had the opportunity to restrict private ownership of water uses in order to ensure the public's right to ecological preservation, environmental quality, allocation of water, and wildlife protection.²⁹⁸ However, despite this power, neither the judiciary nor the Legislature²⁹⁹ has relied upon the doctrine when reviewing groundwater regulations.

development of the public trust doctrine). *But cf.* *Kootenai Env'tl. Alliance, Inc. v. Panhandle Yacht Club, Inc.*, 671 P.2d 1085, 1095 (Idaho 1983) (reasoning that the public trust doctrine limits a state's authority to regulate public land).

295. See William D. Araiza, *Democracy, Distrust, and the Public Trust: Process-Based Constitutional Theory, the Public Trust Doctrine, and the Search for a Substantive Environmental Value*, 45 UCLA L. REV. 385, 386 (1997) (suggesting that the public trust doctrine has experienced a resurgence over the last twenty-five years).

296. See Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 565 (1970) (proclaiming that courts must play an important role in the public trust doctrine).

297. See Joseph L. Sax, *Liberating the Public Trust Doctrine from Its Historical Shackles*, 14 U.C. DAVIS L. REV. 185, 188 (1980) (contending that the public trust doctrine can be used by courts to protect natural resources when legislatures are not compelled to do so); Joseph L. Sax, *The Constitution, Property Rights and the Future of Water Law*, 61 U. COLO. L. REV. 257, 257-69 (1990) (noting that transitional views of water rights permit regulation under the public trust doctrine); Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 490 (1970) (urging courts to invoke the doctrine to protect natural resources). *But see* William D. Araiza, *Democracy, Distrust, and the Public Trust: Process-Based Constitutional Theory, the Public Trust Doctrine, and the Search for a Substantive Environmental Value*, 45 UCLA L. REV. 385, 402-04 (1997) (arguing that judicial intervention into the public trust doctrine results in overvaluing environmental concerns in relation to private property interests); Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 688 (1986) (explaining that judicial intervention only exacerbates the problem due to the complex nature of environmental issues).

298. See Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resources: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 632 (1986) (denoting the use of the public trust doctrine to protect natural resources).

299. See generally Act of June 1, 1997, 75th Leg., R.S., ch. 1010, 1997 Tex. Gen. Laws 3610 (failing to invoke the public trust doctrine to protect groundwater resources); Act of May 30, 1993, 73d Leg., R.S., ch. 626, 1993 Tex. Gen. Laws 2350 (creating a board to manage the Edwards Aquifer, but not mentioning the public trust doctrine).

Although the public trust doctrine may be limited because of the lack of its previous application to groundwater disputes,³⁰⁰ a court is not completely prevented from invoking the doctrine. Ultimately, the paramount needs of the community must prevail over the rights of an individual to thwart effective water conservation. However, to reach that end and address the community's needs, a court must depart from adherence to the rule of capture.

While other areas of the law have adapted to the advances in society, groundwater law has remained stagnant. This failure to act is illogical; without water, human beings cannot exist.³⁰¹ Despite the need for effective groundwater regulations, the Texas Legislature remains silent, perhaps hoping for a judicial solution. Even if a judicial solution is not forthcoming, and a court actually equates water with a real property right, the State's ultimate right to act under the public trust doctrine and the Conservation Amendment would likely trump all takings claims.³⁰² However, rather than address the water management problem through piecemeal litigation, the Texas Legislature should use its power to institute reform that would affect the entire state.

VI. RECOMMENDATION: ABROGATE THE RULE OF CAPTURE BY ENACTING LEGISLATION THAT VESTS OWNERSHIP OF GROUNDWATER IN THE STATE

Previous sections of this Comment have discussed whether an attempt to abrogate the rule of capture would constitute a regulatory taking of private property. Both state and federal law analysis conclude that abrogating the rule of capture in Texas is likely to pass constitutional scrutiny. Although this Comment has explained what the Texas Legislature may

300. Only four Texas court decisions have specifically cited the public trust doctrine. See *Diversion Lake Club v. Heath*, 126 Tex. 129, 134-35, 86 S.W.2d 441, 443-44 (1935) (contending that if the state owns the soil, then the public has certain rights); *Natland Corp. v. Baker's Part, Inc.*, 865 S.W.2d 52, 58-60 (Tex. App.—Corpus Christi 1993, writ denied) (discussing the public trust doctrine and the title effects of land grants existing from the end of Galveston Island to Menand); *Texas Parks & Wildlife Dep't v. Champion Petroleum Co.*, 616 S.W.2d 668, 670 (Tex. Civ. App.—Corpus Christi 1981, writ ref'd n.r.e.) (noting that the Parks and Wildlife Department did not allege the public trust doctrine in its motion for summary judgment); *Port Acres Sportsman's Club v. Mann*, 541 S.W.2d 847, 849-50 (Tex. Civ. App.—Beaumont 1976, writ ref'd n.r.e.) (establishing the public's right to fish the waters). *But see Barshop v. Medina County Underground Water Conservation Dist.*, 925 S.W.2d 618 (Tex. 1996) (failing to discuss the public trust doctrine).

301. See GEORGE A. GOULD & DOUGLAS L. GRANT, *CASES AND MATERIALS ON WATER LAW* 3-5 (5th ed. 1995) (noting the importance of sustainable water resources).

302. Cf. Joseph L. Sax, *Liberating the Public Trust Doctrine*, 14 U.C. DAVIS L. REV. 185, 188-89 (1980) (arguing that the public trust doctrine corrects governmental reluctance to protect natural resources).

do to avert a takings claim resulting from such legislation, this section will recommend what the Texas Legislature should specifically do to resolve the problems posed by the continued existence of the rule of capture.

To protect our future and the environment, Texas must enact laws that transfer the ownership of groundwater rights to the people of the State of Texas. By giving the people the power to control water conservation, self-interested individuals who realize the future profitability of groundwater rights would be precluded from forming monopolies on groundwater permits and subsequently selling such permits to the highest bidder without concern for environmental dangers or community needs.³⁰³ Ownership of groundwater by the State should, however, only alter groundwater rights in emergency situations.³⁰⁴ In this regard, the State would have the power to immediately restrict groundwater rights free from landowners' threats to file injunctions.

Basically, groundwater rights are no longer "so secret, so occult" as to require outdated principles to determine ownership.³⁰⁵ Accordingly, the rule of capture is no longer necessary to ascertain rights in underground water. Thus, three alternative solutions exist for groundwater: (1) the doctrine of correlative rights, allowing ownership by all with no superior rights,³⁰⁶ (2) the doctrine of prior appropriations, focusing on when the

303. Cf. Rick Casey, *Bass Hook in Aquifer: Good for Everybody?*, SAN ANTONIO EXPRESS-NEWS, Nov. 3, 1997, at 3A (contending that the Bass family could monopolize water rights in the Edwards Aquifer because their agent is buying up local water rights); Rick Casey, *Billionaire Bass Clan Stakes out Area Water*, SAN ANTONIO EXPRESS-NEWS, Nov. 2, 1997, at 2A (identifying the acquisition of water rights by the Bass brothers in Texas and California during the past three years).

304. Cf. TEX. WATER CODE ANN. §§ 11.021, 11.039 (Vernon 1988) (recognizing State ownership of surface water and distributing surface water pro rata in emergency situations).

305. See *Woodsum v. Township of Pemberton*, 912 A.2d 1064, 1067-68 (N.J. Super. Ct. Law Div. 1980) (noting the increase in the understanding of groundwater since the turn of the century); *State v. Michels Pipeline Constr., Inc.*, 217 N.W.2d 339, 345 (Wis. 1974) (describing how technological advances in hydrology have made application of the rule of capture impracticable).

306. See WILLIAM GOLDFARB, *WATER LAW* 25 (1984) (discussing the origins of correlative rights). Correlative rights originated in California by merging riparian use and appropriation surface water doctrines. See *id.* Correlative rights determine ownership during water shortages by mandating that "(1) overlying users are entitled to no more than their 'fair and just proportion' for on-site uses; (2) as between transporters out of the basin, first in time is first in right; and (3) overlying users have priority over transporters." *Id.*; see also *Pasadena v. Alhambra*, 207 P.2d 17, 27-29 (Cal. 1949) (apportioning the water in the aquifer by calculating the preceding five years of use); Wells A. Hutchins, *Trends in the Statutory Law of Ground Water in the Western States*, 34 TEX. L. REV. 157, 164-65 n.30 (1955) (discussing the principles of the correlative rights doctrine and its application in California).

use of the groundwater vested to determine junior and senior rights,³⁰⁷ or (3) a comprehensive management program (CMP) for all water resources.³⁰⁸ Although all three alternatives are viable solutions, a CMP would best serve the needs of Texas by merging groundwater and surface water into one system.³⁰⁹ This program could be enacted under both the public trust doctrine, which allows legislatures to enact regulations protecting the welfare of the public,³¹⁰ and the Conservation Amendment,³¹¹ which provides the avenue for the program's implementation.

Thus, using the Conservation Amendment and the public trust doctrine, the Texas Legislature could justifiably mandate that all private groundwater rights be re-granted with ownership belonging to the

307. See WILLIAM GOLDFARB, WATER LAW 15-23, 25 (1984) (discussing the application of prior appropriation to groundwater). Prior appropriation was first instituted in *Eddy v. Simpson*, 3 Cal. 246 (1853). The focus of prior appropriation is the owner who establishes the first beneficial use of the water. See GEORGE A. GOULD & DOUGLAS L. GRANT, CASES AND MATERIALS ON WATER LAW 15-21 (5th ed. 1995) (outlining the origins of prior appropriation and its applicability in other parts of the world). To establish a water right, an owner must divert the water from the flow with an intention of using the water for a beneficial use. See *id.* at 24 n.1 (defining the elements that courts use to define an appropriation of a water right).

308. See WILLIAM GOLDFARB, WATER LAW 29 (1984) (suggesting a comprehensive management program of water as an alternative). Conjunctive management of groundwater and surface waters is a means to achieve maximum net benefits from both water sources. See GEORGE A. GOULD & DOUGLAS L. GRANT, CASES AND MATERIALS ON WATER LAW 378 (5th ed. 1995) (advancing conjunctive management of groundwater as a specific alternative for groundwater ownership). The decision to institute a conjunctive ground and surface water system will invariably involve creative and innovative thinking, but various jurisdictional approaches could lend guidance to overcoming the obstacles created by merging two conflicting approaches to water law. See *id.* at 379 n.2 (discussing the usefulness of different management tools); NATIONAL WATER COMM'N, WATER POLICIES FOR THE FUTURE 234-36 (1973) (outlining approaches to promote effective water management under different state laws governing water rights).

309. Water law expert Homer Jones recently urged the Legislature to implement conjunctive management of surface and ground water. See Editorial, *Aquifer Ecosystems Can Make or Break Texas*, DALLAS MORNING NEWS, May 20, 1997, at 12A (advocating adoption of conjunctive management of aquifers and rivers), available in 1997 WL 2670917.

310. See Joseph L. Sax, *Liberating the Public Trust Doctrine*, 14 U.C. DAVIS L. REV. 185, 188 (1980) (giving substantive content to the public trust doctrine to allow protection of public expectations against destabilizing changes); Joseph L. Sax, *The Constitution, Property Rights, and Water Law*, 61 U. COLO. L. REV. 257, 257-69 (1990) (contending that all water rights are subject to change and regulation under the public trust doctrine); Joseph L. Sax, *The Public Trust Doctrine in Natural Resource Law: Effective Judicial Intervention*, 68 MICH. L. REV. 471, 490 (1970) (urging judicial intervention into natural resources when legislatures are reluctant to preserve the environment).

311. See TEX. CONST. art. XVI, § 59(a) (amended 1964, 1973, 1978) (declaring the preservation and conservation of the State's natural resources as the public's rights and duties).

State.³¹² Although the Legislature has the power to transform these rights, and water calculations point to an overall lack of sustainable water sources under current groundwater management,³¹³ this power is apparently hindered by politics.³¹⁴ To overcome the political obstacle, a CMP would provide for appropriated rights to groundwater based on the conjunctive needs of the community and the State. Unlike the courts, the Legislature has the appropriate resources to tailor a plan that provides for groundwater management and addresses these future water concerns.³¹⁵ In addition, the Legislature has the time to analyze and propose viable alternatives, unlike a court reviewing the facts of a particular case.³¹⁶

312. See *National Audubon Soc'y v. Superior Court*, 658 P.2d 709, 727-28 (Cal. 1983) (allowing the Legislature to modify water law using the public trust doctrine); Jan S. Stevens, *Current Developments in the Public Trust Doctrine and Other Instream Protection Measures* (advocating the use of the public trust doctrine and the State Constitution to promote legislative action when nothing else will support governmental intrusion into property rights), in *WATER LAW: TRENDS, POLICIES, AND PRACTICE* 141-43, 147-48 (Kathleen Marion Carr & James D. Crammond eds., 1995). For a discussion about the future of water law in light of the public trust doctrine, see James L. Huffman, *Avoiding the Takings Clause Through the Myth of Public Rights: The Public Trust and Reserved Rights Doctrine at Work*, 3 J. LAND USE & ENVTL. L. 171, 178-80 (1987); Richard J. Lazarus, *Changing Conceptions of Property and Sovereignty in Natural Resource Law: Questioning the Public Trust Doctrine*, 71 IOWA L. REV. 631, 674-75 (1986); and Joseph L. Sax, *The Constitution, Property Rights, and the Future of Water Law*, 61 U. COLO. L. REV. 257, 302-04 (1990).

313. See Ronald A. Kaiser, *Texas Water Marketing in the Next Millennium: A Conceptual and Legal Analysis*, 27 TEX. TECH L. REV. 181, 261 (1996) (forecasting an increase in the economic and environmental demands for water).

314. Cf. Stefanie Scott, *Senate Appoints Panel to Settle Plan on Aquifer*, SAN ANTONIO EXPRESS-NEWS, May 27, 1995 (pointing to opposition in the western regions of the state to any state regulation on aquifers), available in 1995 WL 5562879; Bill West, Jr., *Edwards Aquifer Tends Region's Most Valuable Resource*, AUSTIN AM.-STATESMAN, Mar. 19, 1996, at A11 (arguing that Mother Nature does not have political boundaries, unlike legislators and water rights supporters), available in 1996 WL 3422299.

315. See Nathan Koppel, *Water Rights Case Tops Supreme Court Docket*, TEX. LAW., Sept. 7, 1998, at 1, 4 (quoting Greg Ellis, general manager of the Edwards Aquifer Authority, as suggesting that addressing problems with groundwater should be left to the Legislature); see also TEX. CONST. art. XVI, § 59(a) (amended 1964, 1973, 1978) (recognizing the public right and duty to conserve and protect natural resources); *Texas Water Rights Comm'n v. Wright*, 464 S.W.2d 642, 648 (Tex. 1971) (holding that conserving water as a precious resource is the constitutional duty of the state); R. Lambeth Townsend, *Cancellation of Water Rights in Texas: Use It or Lose It*, 17 ST. MARY'S L.J. 1217, 1218 (1986) (identifying the constitutional duty and declared policy to protect and conserve water resources).

316. See Nathan Koppel, *Water Rights Case Tops Supreme Court Docket*, TEX. LAW., Sept. 7, 1998, at 1 (suggesting the Texas Supreme Court should defer to the Legislature for decisions including water rights).

Specifically, a CMP would entail a gradual diminution of absolute compliance with the rule of capture over the next twenty years. The CMP would initially begin with the reevaluation of all water sources located in Texas based on actual beneficial use of the water resource. Once each source has been analyzed for use, ineffective and outdated types of use can be streamlined toward a modern, ecological approach to water use. The program would also provide incentives for the reevaluation of surface and groundwater use in conjunction with conservation efforts.³¹⁷ In this regard, the State would be able to maximize the water resources.

Regardless of whether water is a protected property right compensable under either the United States or the Texas Constitutions, water is becoming scarce. If the rule of capture does not change and water sources are destroyed, the impact on endangered species will be a foreshadowing of potential effects that water shortages will have on the human race in the next century. The human population will double, droughts will continue to occur each year, and there simply will not be enough water to meet human demands.

However, when water is needed by the community, the CMP would allow the State to regulate water usage based on identifiable needs within the community. At other times, when water needs are not critical, landowners would be allowed to use groundwater in unlimited quantities. Thus, groundwater would only revert to state ownership during legislatively declared emergencies, precluding a takings cause of action by allowing uninhibited use during non-emergency type situations.

In essence, the focus of future legislation must break away from the current emphasis on legally outdated principles, such as the rule of capture. The rule of capture was an appropriate guide for water disputes when technology could not account for the location and allocation of water.³¹⁸ However, while technology has changed, the law has remained stagnant. Nonetheless, the future of Texas water depends on the conservation efforts of today.

317. Cf. NATIONAL WATER COMM'N, WATER POLICIES FOR THE FUTURE 234-36 (1973) (contending that water management agencies can provide incentives to promote conservation and best use of an aquifer). Taxing and cost mechanisms are also another avenue for efficiently rationing surface and groundwater. *See id.*

318. *See Texas Co. v. Burkett*, 117 Tex. 16, 28-29, 296 S.W. 273, 278 (1927) (discussing the reason for adopting the rule of capture); *Houston & T. C. Ry. Co. v. East*, 98 Tex. 146, 149-50, 81 S.W. 279, 280-81 (1904) (describing how the inability to locate groundwater supported the adoption of the rule of capture).

VII. CONCLUSION

The dueling interests of private property rights and governmental regulations transcend time. As early as 1917, the State of Texas recognized the need to protect natural resources.³¹⁹ Yet, Texas must take a stance, contrary to past history, to limit private property ownership of groundwater. The antiquated doctrine of the rule of capture, which arose during the early 1900s, is incompatible with current water needs of the twenty-first century; thus, the rule of capture must change if sustainability of water resources is a goal for the future.

Although the environment is deteriorating under today's water laws, the future water needs of Texas are still predicated on a doctrine that cannot sustain current water demands without significant impairment to existing water sources. Within the powers granted to the Legislature, however, exists the ability to control natural resources. Although some landowners will ultimately be deprived of property use, community needs must prevail. The Texas Legislature must, therefore, enact a comprehensive groundwater management program, merging surface water and groundwater law into one doctrine of correlative rights, whereby the State holds the ultimate property right.

Although property rights advocates are appalled that such an action is condoned or suggested by anyone, the reality of the State's water sources dictates that if the current system of water management is allowed to perpetuate, eventually all water resources will be lost, depleted, or significantly impaired by overuse. The truth is: water is limited. More than a century ago, Mark Twain said, "Whiskey's for drinking, water's for fighting."³²⁰ Fighting is all that has occurred for water legislation, and that fighting must end. This Comment advocates a recommendation that is consistent with current and future groundwater needs and is an innovative step toward the unification of water resources. Basically, it identifies the importance of water resources for the community as a whole. Such legislation as that proposed, which integrates surface and groundwater law into a comprehensive management program, could be the most significant step toward ensuring the availability of water for the future generations of Texans.

319. See TEX. CONST. art. XVI, § 59 (amended 1964, 1973, 1978) (implementing in 1917 water resource protection).

320. Patrick Driscoll, *Water Resources, Like Whiskey, Have Their Place*, SAN ANTONIO EXPRESS-NEWS, July 23, 1997, at S4.

