PAGOSA AREA WATER & SANITATION DISTRICT V. TROUT UNLIMITED AND AN ANTI-SPECULATION DOCTRINE FOR A NEW ERA OF WATER SUPPLY PLANNING

DEREK L. TURNER*

The prior appropriation doctrine is partly founded upon a concern with the speculation and monopolization of scarce water resources. This "anti-speculation doctrine" is anchored by the principles of public ownership of water and the beneficial use element of an appropriative water right. It is a progressive doctrine used by Colorado courts to prevent the public's water from being claimed for personal profit rather than actual beneficial uses.

In the modern, high-stakes competition for water supplies needed to serve future population growth, Colorado municipalities and quasi-governmental water agencies have long escaped scrutiny for appropriations to serve undefined future populations. Under the "great and growing cities" doctrine, Colorado courts essentially rubber-stamped applications for water rights for future populations. Until now.

In 2009's Pagosa Area Water & Sanitation District v. Trout Unlimited*, the Colorado Supreme Court restated the standard of proof that municipal water providers must satisfy to conditionally appropriate publicly owned water for future populations. Public water agencies now must prove their future water needs with substantiated evidence and must accurately account for future water savings through water conservation efforts. This case represents the latest evolution of Colorado's anti-speculation doctrine, signaling a new era of water supply planning—an era that will involve greater water supply planning collaboration and a heightened focus on conserving our most valuable resource.*

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* Juris Doctor candidate 2011, University of Colorado Law School; Production Editor, *University of Colorado Law Review*. Thanks to Charles Wilkinson, Drew Peternell, and the editors of the *University of Colorado Law Review* for their helpful comments, suggestions, and assistance with this Note. And thanks to my mother and father for their love and support.

INTRODUCTION

Western settlement and development has long been driven by the availability of water.[1] The scarcity of water, and its importance for virtually every aspect of early western settlement, led to a pervasive fear of concentrated power over water supplies in the territorial west.[2] John Wesley Powell's idealistic dream of a western agrarian society populated by individual homesteaders with small farms was never fully realized.[3] Despite the best efforts of politicians, speculation accompanied, and even facilitated, the rapid development of the West.[4] But speculating with the West's most important resource—acquiring water hoping to eventually profit from future price increases[5]—was, and is, "a mortal sin under western water law."[6] The early populist fear of concentrated power imbued western water law with strong legal protections to prevent the

1. JAMES N. CORBRIDGE, JR. & TERESA A. RICE, VRANESH'S COLORADO WATER LAW 3 (rev. ed. 1999).

2. Janet C. Neumann, *Beneficial Use, Waste, and Forfeiture: The Inefficient Search for Efficiency in Western Water Use*, 28 ENVTL L. 919, 963 (1998); *see also* JOHN WESLEY POWELL, REPORT ON THE LANDS OF THE ARID REGION OF THE UNITED STATES 40 (2d ed. 1879). Before the western states adopted prior appropriation to administer and allocate water, John Wesley Powell noted that "[t]he question for legislators to solve is to devise some practical means by which water rights may be distributed among individual farmers and water monopolies prevented." *Id.* at 41.

3. *See* WALLACE STEGNER, BEYOND THE HUNDREDTH MERIDIAN 362 (Penguin Books 1992) (1954). In the debates over the 1902 Reclamation Act, chief sponsor and Nevada Senator Francis G. Newlands testified: "We all wanted to preserve that domain in small tracts for actual settlers and homebuilders. We all wanted to prevent monopoly and concentration of ownership . . . ." 35 CONG. REC. 6674 (1902).

4. PATRICIA NELSON LIMERICK, THE LEGACY OF CONQUEST 67–70 (1987). Limerick notes:

> Like so many activities in the American West, speculation could shift meaning when viewed from different angles. To the beneficiary, accumulating profit, it was just another legitimate reward for getting there first—for having the nerve, the enterprise, and the instinct to acquire title at the right time. To those who came later and faced the higher prices, speculation was an economic activity bordering on criminality and playing on unfair advantage; speculative profits were an unearned increment by which selfish individuals took advantage of the innocent and hardworking, whose labors constituted the real improvement of the country.

Id. at 67.

5. *See* BLACK'S LAW DICTIONARY 1529 (9th ed. 2009) (defining speculation).

6. Sandra Zellmer, *The Anti-Speculation Doctrine and Its Implications for Collaborative Water Management*, 8 NEV. L.J. 994, 998 (2008).

acquisition of water for speculative purposes, protections that have been evolving to meet modern western water challenges.[7]

Like each of its western counterparts, Colorado prohibits water speculation through a system of legal protections known as Colorado's anti-speculation doctrine.[8] Despite these safeguards, potentially speculative water rights claims and transfers remain significant threats to this scarce and vitally important resource.[9] These threats can take many forms, such as a large multinational corporation seeking to turn a profit but effectively controlling the price and delivery of municipal supplies for cities desperate for water.[10] Or the threat could be a small municipal water agency with a volunteer board claiming much more water than it reasonably requires for the future, thus depriving a stream of water for ecological needs and foreclosing others from claiming water for more urgent beneficial uses.[11]

Today, shrinking water supplies and growing populations are contributing to a high-stakes battle for water supplies.[12] In this struggle, municipal water providers have long enjoyed judicial leeway under the anti-speculation doctrine to claim water for future populations.[13] But in a case involving condi-

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7. Neumann, *supra* note 2, at 963–64; *see also* Zellmer, *supra* note 6, at 997–98.

8. *See* CORBRIDGE, JR. & RICE, *supra* note 1, at 103–06.

9. Zellmer, *supra* note 6, at 999–1000.

10. *Id.* Some argue that Aaron Million's enormous and expensive plan to build an interstate pipeline to take water from the Green River in Wyoming, pipe it four hundred miles, and deliver it to Colorado's Front Range cities is an example of water speculation. Brett Perryman, *Pipeline Controversy: Tapping the Green River*, SALT LAKE TRIB. Sept. 18, 2010, *available at* http://www.sltrib.com/sltrib/outdoors/50260217-75/river-green-gorge-pipeline.html.csp.

11. Such as the two municipal agencies that claimed enormous conditional water rights in *Pagosa Area Water & Sanitation Dist. v. Trout Unlimited* (*Pagosa I*), 170 P.3d 307, 309–10 (Colo. 2007).

12. *See* Chris Woodka, *Billions at Stake in State Water Planning*, PUEBLO CHIEFTAIN (September 9, 2010), *available at* http://www.chieftain.com/news/local/article_f47022e4-bbd3-11df-a5c3-001cc4c002e0.html; *see also* Martyn P. Clark et al., *Use of Weather and Climate Information in Forecasting Water Supply in the Western United States*, *in* WATER AND CLIMATE IN THE WESTERN UNITED STATES 69, 69 (William M. Lewis, Jr. ed., 2003).

13. Zellmer, *supra* note 6, at 1013–15. Janet C. Neumann succinctly describes the driving force behind the traditional deference given to municipal planners:

> [A]s the West began to urbanize, the prohibition against speculation served as a barrier to planning and development of adequate municipal supplies to accommodate future needs. Most states eliminated this barrier by providing special protections for municipalities, allowing them to hold, or at least acquire rights to, water supplies for future use.

tional appropriations by two rural municipal water supply agencies, the Colorado Supreme Court significantly progressed the anti-speculation doctrine and initiated a new era of municipal water supply planning in Colorado.

This Note discusses the development and evolution of Colorado's modern anti-speculation doctrine as it applies to public water agencies, culminating in the 2009 Colorado Supreme Court case *Pagosa Area Water & Sanitation District v. Trout Unlimited* (*Pagosa II*).[14] The Colorado Supreme Court announced, by reviewing de novo the factual findings of a water court's decree for a municipal water supplier and requiring public agencies to include estimates of conservation in projections of future water use, that municipal water agencies will be held to a high standard of proof to demonstrate that claims for future water supplies are non-speculative.[15] *Pagosa II* initiated a new era of municipal water supply planning in Colorado—one that will consist of increased collaboration and a heightened focus on water conservation.

Part I of this Note explores the constitutional and statutory foundation and the judicial enforcement of the anti-speculation doctrine in Colorado water law. Part II discusses *Pagosa Area Water & Sanitation District v. Trout Unlimited* (*Pagosa I*), where the Colorado Supreme Court defined the modern anti-speculation doctrine as applied to municipal water agencies planning for future growth.[16] Part III explains the holding of *Pagosa II*, which affirmed the anti-speculation principles of *Pagosa I* and provided clear guidance to public water supply agencies applying for new conditional rights. The future implications of this modern anti-speculation doctrine for municipal water supply planning are briefly explored in Part IV.

Neumann, *supra* note 2, at 965.

14. 219 P.3d 774 (Colo. 2009).

15. *Id.* at 785, 788.

16. Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa I*), 170 P.3d 307 (Colo. 2007).

I. BACKGROUND

A. Prior Appropriation and the Constitutional Foundations of the Anti-Speculation Doctrine

Colorado's anti-speculation doctrine is rooted in its constitutional provision providing for public ownership of all unappropriated water in the state: "The water of every natural stream, not heretofore appropriated, within the state of Colorado, is hereby declared to be the property of the public, and the same is dedicated to the use of the people of the state . . ."[17] This 1876 declaration of public ownership of water[18] implicitly abolished riparian principles.[19] Settlers could appropriate Colorado's water for use on all lands, including lands that did not border waterways in the state.[20] The rejection of riparianism effectively "replac[ed] the rule of capture of the resource by a limited group of landowners with a rule that gave equal opportunity to all to share in the resource."[21] Unlike riparianism,

17. COLO. CONST. art. XVI, § 5. The declaration that unappropriated water in Colorado is "property of the public" is unique to Colorado. California embraced a similar concept in its constitution. Samuel C. Weir notes that the strong concerns against capital and monopoly led to a provision in California's Constitution which declared "the distribution of water to the public to be a public use, and subject to the regulation and control of the State." 1 SAMUEL C. WIEL, WATER RIGHTS IN THE WESTERN STATES 149 (3d ed. 1911). California's provision was copied by other western constitutions. *Id.*

18. CORBRIDGE, JR. & RICE, *supra* note 1, at 30.

19. David B. Schorr, *Appropriation as Agrarianism: Distributive Justice in the Creation of Property Rights*, 32 ECOLOGY L.Q. 3, 41–42 (2005). The foundation for a riparian water right "is ownership of land abutting a natural water course . . . . The general nature of the riparian right is correlative—all riparians share the right to make a reasonable use of the water, with reasonableness defined in terms of the harm caused other riparians." CORBRIDGE, JR. & RICE, *supra* note 1, at 1. As part of the common law of England and the eastern United States, riparian principles initially were presumed valid in the early western territories and states. David B. Schorr, *The First Water-Privatization Debate: Colorado Water Corporations in the Gilded Age*, 33 ECOLOGY L.Q. 313, 319 (2006).

20. Schorr, *The First Water-Privatization Debate*, *supra* note 19, at 319. Even before Colorado became a state, the Supreme Court of Colorado Territory noted the necessity of a legal rule that would allow settlers to divert water from streams for irrigation: "In a dry and thirsty land it is necessary to divert the waters of streams from their natural channels, in order to obtain the fruits of the soil, and this necessity is so universal and imperious that it claims recognition of the law." Yunker v. Nichols, 1 Colo. 551, 553 (Colo. Terr. 1872).

21. Schorr, *Appropriation as Agrarianism*, *supra* note 19, at 50. An early Supreme Court of the Territory of Utah case is typical in its description of the necessity for the widespread western rejection of riparianism:

> Riparian rights have never been recognized in this territory, or in any state or territory where irrigation is necessary; for the appropriation of

under which settlers could have acquired riparian lands to control the state's most important commodity, prior appropriation allowed the state to act as steward of the resource and impose conditions on water appropriation—conditions designed to prevent speculative use for personal gain.[22]

Colorado water rights are thus property rights to the *use* of water under conditions specified by the state,[23] not rights to the possession of the water molecules themselves.[24] Public ownership of water is one of the foundations for the "Colorado Doctrine" of prior appropriation.[25]

The essential attributes of a Colorado water right are "the priority, location of diversion at the source of supply, and amount of water for application to actual beneficial uses."[26]

> water for the purpose of irrigation is entirely and unavoidably in conflict with the common-law doctrine of riparian proprietorship. If that had been recognized and applied in this territory, it would still be a desert; for a man owning 10 acres of land on a stream of water capable of irrigating a thousand acres of land or more, near its mouth, could prevent the settlement of all the land above him.

Stowell v. Johnson, 26 P. 290, 291 (Utah Terr. 1891).

22. Schorr, *The First Water-Privatization Debate*, *supra* note 19, at 319. A handful of the earliest of the white settlers in Colorado assumed that riparian water law would govern and began gaining control of riparian lands in the state to have control of water. *Id.*

23. *See* City of Denver v. Bayer, 2 P. 6, 7 (Colo. 1883).

24. Santa Fe Trail Ranches Prop. Owners Ass'n v. Simpson, 990 P.2d 46, 54 (Colo. 1999) ("Property rights in water are usufructuary; ownership of the resource itself remains in the public."). According to the U.S. Supreme Court, water is an article of commerce despite its nature as a usufructuary property right. Sporhase v. Nebraska *ex rel.* Douglas, 458 U.S. 941, 953–54 (1982). In dissent, Justice Rehnquist criticized this conclusion based on the nature of an appropriative water right:

> It is difficult, if not impossible, to conclude that "commerce" exists in an item that cannot be reduced to possession under state law and in which the State recognizes only a usufructuary right. "Commerce" cannot exist in a natural resource that cannot be sold, rented, traded, or transferred, but only *used*.

Id. at 963 (Rehnquist, J., dissenting).

25. High Plains A & M, LLC v. Se. Colo. Water Conservancy Dist., 120 P.3d 710, 718 (Colo. 2005) (describing the "Colorado Doctrine" of prior appropriation, which includes the precept that "water is a public resource, dedicated to beneficial use by public agencies and private persons as prescribed by law"). All other western states embraced prior appropriation to govern administration and distribution of water rights. Frank J. Trelease, *Preferences to the Use of Water*, 27 ROCKY MTN. L. REV. 133, 133 (1955). Trelease succinctly describes the heart of prior appropriation: "Under this doctrine priority of use gives priority of right, and in times of scarcity junior users must yield up the water to those who initiated their rights at an earlier date." *Id.*

26. *High Plains*, 120 P.3d at 719. In other words, to acquire a valid water right under Colorado's water administration system, an irrigator must (1) demon-

Satisfaction of these elements establishes a legal right to the use of the water for the named purpose and removes the water from public ownership.[27]

1. The Beneficial Use Element

Along with public ownership of water, the beneficial use element of a water right anchors the anti-speculation doctrine.[28] The Colorado Constitution broadly confers the public right to divert water from natural streams of the state,[29] "but the privilege of diversion is granted only for uses truly beneficial, and not for purposes of speculation."[30] Although described as "the basis, measure, and limit of an appropriation,"[31] the definition of "beneficial use" in the state's constitution and statutes is imprecise.[32] Over time, Colorado courts have determined whether a proposed use is beneficial as "a question of fact and depend[ing] upon the circumstances in each case."[33]

The beneficial use determination allows water courts to scrutinize proposed new uses of the public's water.[34] Water us-

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strate that there is water available and unappropriated by prior claimants, (2) divert the water at a specific point along a stream, and (3) put this specific amount of water to a defined beneficial use. *See* CORBRIDGE, JR. & RICE, *supra* note 1, at 32.

27. Lawrence J. MacDonnell, Commentary, *Public Water—Private Water: Antispeculation, Water Reallocation, and* High Plains A&M, LLC v. Southeastern Colorado Water Conservancy District, 10 U. DENV. WATER L. REV. 1, 3–5 (2006).

28. Thomas v. Guiraud, 6 Colo. 530, 533 (1883) ("The true test of appropriation of water is the successful application thereof to the beneficial use designed . . . ."). The prevention of speculation and monopoly was a primary goal in strict enforcement of the actual, beneficial use element of prior appropriation in the early west. *See* Neumann, *supra* note 2, at 964 ("Because actual, beneficial use was required, no one could acquire all of the water and thereby monopolize a scarce and valuable resource. Nor could anyone speculate by holding water without using it, and then make a steep profit by selling it to those who needed it.").

29. The Colorado Constitution declares that "[t]he right to divert the unappropriated waters of any natural stream to beneficial uses shall never be denied." COLO. CONST. art. XVI, § 6.

30. Combs v. Agric. Ditch Co., 28 P. 966, 968 (Colo. 1892).

31. *High Plains*, 120 P.3d at 719.

32. *See* COLO. REV. STAT. § 37-92-103(4) (2010).

33. City & Cnty. of Denver v. Sheriff, 96 P.2d 836, 842 (Colo. 1939). However, the statute expressly defines certain uses that are per se beneficial. The state legislature recently expanded the beneficial use definition to include the impoundment of water for recreational purposes, in-channel diversions for kayak parks, and in-stream flow rights to protect and preserve the natural environment. COLO. REV. STAT. § 37-92-103(4).

34. MacDonnell, *supra* note 27, at 4; *see also Sheriff*, 96 P.2d at 844 (discussing whether irrigation of trees and shrubs in city parks and on medians is beneficial use as "irrigation" within a municipality).

ers can only appropriate "that amount of water that is reasonable and appropriate under reasonably efficient practices to accomplish without waste the purpose for which the appropriation is lawfully made."[35] Thus, along with the maximum utilization doctrine,[36] judicial scrutiny of the beneficial use element of the water rights application is meant to ensure that the appropriator can and will put the water to a specific use that the court finds to be "beneficial" based on Colorado statutes and case law. This scrutiny aims to prevent appropriators from speculating with publicly owned water.[37]

2. Conditional Water Rights

Large conditional water rights claims for future beneficial uses may carry the highest risk of speculation.[38] A conditional water right[39] reserves an appropriator's priority date throughout the expensive and time-consuming process of constructing water delivery and storage facilities.[40] The priority date is often the most valuable and important element of a water right in Colorado, [41] where virtually all surface water is overappropriated[42] and water availability can vary drastically from year-

35. COLO. REV. STAT. § 37-92-103(4).

36. The statutory maximum utilization principle is that state water rights are to be administered "in such a way as to maximize the beneficial use of all of the waters of this state." COLO. REV. STAT. § 37-92-102(1)(a).

37. Colo. River Water Conservation Dist. v. Vidler Tunnel Water Co., 594 P.2d 566, 568 (Colo. 1979); s*ee also* MacDonnell, *supra* note 27, at 3–7.

38. *See* CORBRIDGE, JR. & RICE, *supra* note 1, at 52. For example, because water may be claimed today for use in thirty years, the subsequent (and perhaps inevitable) rise in the market value of that water over thirty years may tempt some to speculate and sell it to the highest bidder.

39. Defined by statute as "a right to perfect a water right with a certain priority upon the completion with reasonable diligence of the appropriation upon which such water right is to be based." COLO. REV. STAT. § 37-92-103(6).

40. CORBRIDGE, JR. & RICE, *supra* note 1, at 99.

41. Navajo Dev. Co. v. Sanderson, 655 P.2d 1374, 1380 (Colo. 1982) ("The value of a water right is its priority and the expectations which that right provides."); Coffin v. Left Hand Ditch Co., 6 Colo. 443, 447 (1882) (holding that prior appropriation is to govern water rights in Colorado, and "appropriations of water shall be subordinate to the use thereof by prior appropriators"). In other words, when water is short, "junior users must yield up the water to those who initiated their rights at an earlier date." Trelease, *supra* note 25, at 133. *See also* CORBRIDGE, JR. & RICE, *supra* note 1, at 27–28.

42. *See* High Plains A & M, LLC v. Se. Colo. Water Conservancy Dist., 120 P.3d 710, 721–22 (Colo. 2005) (noting that three out of four of Colorado's major rivers are overappropriated); City of Aurora *ex rel.* Util. Enter. v. Colo. State Eng'r, 105 P.3d 595, 607 (Colo. 2005) ("The South Platte River Basin is substantially overappropriated.").

to-year.[43] Because diversion and storage projects require construction, planning, and capital investment, appropriators obtain conditional water rights to preserve their place in line in the priority system and to ensure that water will be available for the project.[44]

The application process for conditional water rights is specifically aimed at curbing the risk of speculation in water.[45] The Colorado Supreme Court stated the modern requirements for conditional applications in *Pagosa I*:

> [A]n applicant must demonstrate that: (1) it has taken a "first step," which includes an intent to appropriate the water and an overt act manifesting such intent; (2) its intent is not based on a speculative sale or transfer of the water to be appropriated; and (3) there is a substantial probability that the applicant can and will complete the appropriation with diligence and within a reasonable time.[46]

Developers must make reasonable progress, enforced through "due diligence proceedings" required by statute,[47] towards perfecting their conditional water rights.[48] Assuming due dili-

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43. The American West is primarily characterized by a dry climate with wide fluctuations in seasonal precipitation and hard-to-predict streamflow conditions. *See* Kelly T. Redmond, *Climate Variability in the West: Complex Spatial Structure Associated with Topography, and Observational Issues* 29, 29–32, *in* WATER AND CLIMATE IN THE WESTERN UNITED STATES, *supra* note 12.

44. CORBRIDGE, JR. & RICE, *supra* note 1, at 99.

45. *See* CORBRIDGE, JR. & RICE, *supra* note 1, at 103. Because these "paper claims" carry an inherent risk of speculation, the anti-speculation doctrine serves "to prevent the accumulation of undeveloped and unproductive conditional water rights to the detriment of those seeking to apply the state's water beneficially." Trans-Cnty. Water, Inc. v. Cent. Colo. Water Conservancy Dist., 727 P.2d 60, 65 (Colo. 1986).

46. Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa I*), 170 P.3d 307, 314 (Colo. 2007). Satisfaction of the "can and will doctrine" is a major component of a conditional water rights application. The can and will doctrine, and its relationship to the anti-speculation doctrine, is thoroughly discussed in Mark E. Hamilton, *The "Can and Will" Doctrine of Colorado Revised Statute Section 37-92-305(9)(b): Changing the Nature of Conditional Water Rights in Colorado*, 65 U. COLO. L. REV. 947 (1994).

47. COLO. REV. STAT. § 37-92-301(4)(a)(I) (2010) (every six years, the holder of a conditional water right decree must "file an application for a finding of reasonable diligence, or said conditional water right shall be considered abandoned."). Further, "[t]he purpose of the diligence proceeding is to gauge whether the conditional appropriator is making steady progress in putting the water to beneficial use with diligence and within a reasonable period of time." *Pagosa I*, 170 P.3d at 316.

48. Sieber v. Frank, 2 P. 901, 903 (Colo. 1884). "The measure of reasonable diligence is the steady application of effort to complete the appropriation in a rea-

gence, applying the water to the specified beneficial use ripens the conditional right into an absolute right with a priority date that relates back to the date the appropriator first demonstrated an intent to divert.[49]

Public ownership of water, the beneficial use element of a water right, and the conditional rights application process function as constitutional and statutory limits to potential water speculators. This tripartite foundation enables water courts and the Colorado Supreme Court to scrutinize conditional appropriations to protect the public's water from speculation.

B. The Judicial Development of the Anti-Speculation Doctrine: Blue River*,* Vidler Tunnel*, and* Sheriff

Over the past century, Colorado water courts and the Colorado Supreme Court have relied on this foundation and the elements of the prior appropriation system to prevent water speculation and to promote the maximum utilization of the state's waters for public benefit.[50] This section will discuss several key cases that led to the new era of the anti-speculation doctrine.

The progression toward a new era began with a case that recognized that municipalities need relaxed scrutiny to appropriate water for unspecific but inevitable future population growth[51]—a principle often called the "great and growing cities" doctrine.[52] In *City & County of Denver v. Sheriff*, the Col-

sonably expedient and efficient manner under all the facts and circumstances." COLO. REV. STAT. § 37-92-301(4)(b).

49. *In re* Vought, 76 P.3d 906, 912 (Colo. 2003).

50. Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa II*), 219 P.3d 774, 785 (Colo. 2009). For more on the state engineer's duty to administer water rights in the state to the "maximum utilization" of the state's water, see *Alamosa-La Jara Water Users Protection Ass'n v. Gould*, 674 P.2d 914, 934–35 (Colo. 1983) (holding that the maximum utilization doctrine may require a senior surface water rights holder to withdraw her water from underground sources if it would prevent the curtailment of junior water rights).

51. *See* City and Cnty. of Denver v. Sheriff, 96 P.2d 836, 841 (Colo. 1939).

52. For a brief overview of Colorado's "great and growing cities" doctrine, see Justice Gregory J. Hobbs, Jr., *Colorado Water Law: An Historical Overview*, 1 U. DEN. WATER L. REV. 1, 15–16 (1997). The recognition that growing western cities would need relaxed scrutiny under the "actual, beneficial use" element of an appropriative water right was inevitable. "Obviously, a water supply for a city must keep a step ahead of the needs of its inhabitants; a city cannot obtain water from day to day as demand increases. A city without some excess water or promise of water cannot grow . . . ." Trelease, *supra* note 25, at 138–39.

orado Supreme Court relaxed the traditional notions of beneficial use to allow the City of Denver to appropriate water for its estimated future population and to lease the excess water until needed by future city residents.[53] Perhaps foreseeing the explosion of Front Range municipal growth, the *Sheriff* court recognized that city populations can increase dramatically in short periods of time, and that "it is not speculation but the highest prudence on the part of the city to obtain appropriations of water that will satisfy the needs resulting from a normal increase in population within a reasonable period of time."[54]

However, municipalities were not completely exempt from scrutiny in appropriating water for future needs—Colorado courts still required an actual initial intent to divert the water and put it to beneficial use. In a 1954 case that involved a Blue River conditional water rights application,[55] the City of Colorado Springs sought a 1907 priority date based on testimony that construction of a ditch to bring water from the Blue River over the continental divide commenced that year.[56] The witness, a citizen who had initiated surveys and ditch construction hoping to sell the conditional claims to Front Range cities that needed water, persuaded Colorado Springs to purchase the rights to the ditch project in 1947.[57] Rejecting the city's claim for a 1907 diversion priority, the Colorado Supreme Court held that the witness could not prove an actual intent in 1907 "to take the water and put it to beneficial use."[58] The court went on to describe the witness and his partner as "promoters and speculators—not appropriators. A claim for mere speculative purposes by parties having no expectation themselves of actually constructing works and applying the waters to some useful pur-

53. *Sheriff*, 96 P.2d at 844–45. Although a city may claim water for these future undefined needs under the great and growing cities doctrine, the water a city claims not immediately needed must still be applied to a beneficial use. Trelease, *supra* note 25, at 147. Cities may lease water on a short-term basis back to agricultural irrigators to satisfy this requirement. *Id.* For example, the City of Pueblo recently purchased water rights it would not reasonably need for thirty years and offered to lease back the water to area farmers until Pueblo citizens need it. Chris Woodka, *Water Board Closes in on Bessemer Goal*, PUEBLO CHIEFTAIN (May 20, 2009), http://www.chieftain.com/news/local/article_bc63bb8e-5995-5608-b154-60571041dd89.html.

54. *Sheriff*, 96 P.2d at 841.

55. City & Cnty. of Denver v. N. Colo. Water Conservancy Dist. (*Blue River*), 276 P.2d 992 (Colo. 1954).

56. *Id.* at 1006.

57. *Id.* at 1007.

58. *Id.* at 1008.

pose gives them no rights against subsequent appropriations made in good faith."[59]

Blue River was cited in the next key Colorado Supreme Court case that further developed the anti-speculation doctrine as it applied to private water developers.[60] In 1979's *Colorado River Water Conservation District v. Vidler Tunnel Water Co.*, the court found that a conditional application for a large reservoir was speculative.[61] The Vidler Tunnel Water Company ("Vidler") had a contract for use of the water with just one city and had discussed sale of the water to other growing Denver-area cities.[62] The court found that these cities eventually would have substantial water needs, and that Vidler probably could sell water to other municipalities or irrigators, but without specifically identified end-users for the water, the decree was speculative.[63] The Colorado Supreme Court held that "the evidence presented regarding future needs and uses of the water by the municipalities contacted by Vidler falls short of what is necessary to indicate an intent to appropriate."[64] This language advised water courts to be wary of conditional appropriators that do not have firm contracts for use of the water, as "[o]ur constitution guarantees a right to appropriate, not a right to speculate."[65]

Later in 1979, the Colorado General Assembly codified the holding of *Vidler Tunnel* by revising the definition of "appropriation" to exclude appropriations made by claimants without a concrete plan to divert and store a defined amount of water for specific beneficial uses.[66] But the new definition also carved out a limited exception for public water supply agencies that need "planning flexibility with respect to future water needs."[67]

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59. *Id.*

60. Colo. River Water Conservation Dist. v. Vidler Tunnel Water Co., 594 P.2d 566, 569 (Colo. 1979).

61. *Id.* at 568.

62. *Id.* at 567.

63. *Id.* at 567–68.

64. *Id.* at 568.

65. *Id.*

66. COLO. REV. STAT. § 37-92-103(3)(a)(II) (2010). The statute further declares that "no appropriation of water, either absolute or conditional, shall be held to occur when the proposed appropriation is based upon the speculative sale or transfer of the appropriative rights to persons not parties to the proposed appropriation." *Id.* § 103(3)(a).

67. City of Thornton v. Bijou Irrigation Co., 926 P.2d 1, 38 (Colo. 1996) (citing and discussing section 37-92-103(3)(a) of the Colorado Revised Statutes). The amended statute contains an exception clause: no appropriation can occur if the appropriator does not have a vested "interest in the lands or facilities to be served

In other words, the state legislature recognized that Colorado's growing cities needed to acquire water supplies for future populations, and that strict application of *Vidler Tunnel* could limit this growth because future populations cannot be concretely identified.[68]

Thus, *Vidler Tunnel* and *Blue River* stand for the proposition that courts will scrutinize a private water developer's application for conditional rights.[69] But, for municipal water providers, the limited statutory exception and *Sheriff* allowed "great and growing cities" to continue to appropriate water for future population growth while escaping close scrutiny of the amounts specifically claimed for those future residents.[70] Effectively, pre-1996, quasi-public water agencies acted in a legislative capacity when making conditional appropriations for future water needs, and courts were not to "intrude their own opinions to override the studied good-faith opinions of governmental agencies as to future needs of the public."[71] This would soon change.

C. Bijou

Sheriff, *Blue River*, and *Vidler Tunnel* set the stage for the Colorado Supreme Court's 1996 pronouncement that municipalities and public water supply agencies are not exempt from the anti-speculation doctrine. In *City of Thornton v. Bijou Irrigation Co.*, the court applied the anti-speculation doctrine to a city's conditional appropriation for future water needs and launched the doctrine into its modern era.[72]

Bijou concerned the City of Thornton's application for conditional water rights for a large and complex trans-basin diver-

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by such appropriation, *unless such appropriator is a governmental agency . . . .*" COLO. REV. STAT. § 37-92-103(3)(a)(I) (2010) (emphasis added).

68. *Bijou*, 926 P.2d at 38.

69. City & Cnty. of Denver v. N. Colo. Water Conservancy Dist. (*Blue River*), 276 P.2d 992, 1008 (Colo. 1954); *Vidler Tunnel*, 594 P.2d at 568.

70. City & Cnty. of Denver v. Sheriff, 96 P.2d 836, 841 (Colo. 1939); *see also* Zellmer, *supra* note 6, at 1013–15.

71. Metro. Suburban Water Users Ass'n v. Colo. River Water Conservation Dist., 365 P.2d 273, 289 (Colo. 1961). For a more extensive discussion of the development of the case law underpinning the great and growing cities doctrine, see Casey S. Funk & Daniel J. Arnold, *Pagosa—The Great and Growing Cities Doctrine Imperiled: An Objective Look From a Biased Perspective*, 13 U. DENV. WATER L. REV. 283, 285–92 (2010).

72. *Bijou*, 926 P.2d at 36–37.

sion and ditch exchange project to deliver water to the city.[73] After the water court decreed the conditional rights, several other Front Range towns and public water agencies objected and appealed to the Colorado Supreme Court.[74] The objectors argued that Thornton's population projections were unreasonably optimistic and thus failed to satisfy Colorado's can and will requirement[75] and the anti-speculation doctrine.[76]

The court disagreed with the objectors and affirmed the water right while strengthening the anti-speculation doctrine's applicability to municipalities planning for future water needs.[77] In summarizing the progression of the doctrine, the court noted that "[t]he *Sheriff* decision clearly counsels against a strict application of the anti-speculation doctrine to municipalities seeking to provide for the future needs of their constituents."[78] But this exception does not provide broad immunity for city water planners:[79]

> [A] municipality may be decreed conditional water rights based solely on its projected future needs, and without firm contractual commitments or agency relationships, but a municipality's entitlement to such a decree *is subject to the water court's determination* that the amount conditionally appropriated is consistent with the municipality's reasonably anticipated requirements based on substantiated projections of future growth.[80]

Despite this strong language, the *Bijou* court affirmed the water court's finding that Thornton's evidence supported its future water demand projections and proved its intent to actually

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73. *Id.* at 20.

74. *Id.* at 23.

75. The "can and will" requirement of conditional water rights applications is closely related to the anti-speculation doctrine:

> No claim for a conditional water right may be . . . granted except to the extent that it is established that the waters can and will be diverted, stored, or otherwise captured, possessed, and controlled and will be beneficially used and that the project can and will be completed with diligence and within a reasonable time.

COLO. REV. STAT. § 37-92-305(9)(b) (2010). This provision forms part of the statutory background that led to the judicial development of Colorado's modern anti-speculation doctrine. *See* Hamilton, *supra* note 46.

76. *Bijou*, 926 P.2d at 41.

77. *Id.* at 41.

78. *Id.* at 37.

79. *Id.* at 38.

80. *Id.* at 39 (emphasis added).

use the water.[81] Although no speculation was found, *Bijou*'s statement of the anti-speculation doctrine is the modern rule for a municipality's conditional water rights claim.[82] *Bijou*'s requirement that municipal water providers introduce reasonable population and water use projections for future residents to conditionally claim publicly owned water "is consistent with the purpose underlying both the anti-speculation doctrine and the diligence requirement, i.e., preserving unappropriated water for users with legitimate, documentable needs."[83]

Although the anti-speculation doctrine was developed to prevent private water companies from gaining monopolistic control and profiting from the sale of the public's water, *Bijou* introduced specific elements that public water agencies must demonstrate in water court to conditionally appropriate water.[84] Until *Pagosa Area Water & Sanitation District v. Trout Unlimited* (*Pagosa I*), however, the Colorado Supreme Court had not held a municipal water agency to *Bijou*'s higher standard of proof to preserve public water from speculation.

II. *PAGOSA I*

Bijou left several questions unresolved. For example, what constitutes reasonable evidence of future population growth and the water demands of those new residents? And how far into the future can a municipality plan while still satisfying the requirement that appropriated water will be needed and used by this future population? The Colorado Supreme Court supplied answers in *Pagosa I*, where the court remanded a conditional rights decree and provided specific elements that a municipal water developer must demonstrate to satisfy the anti-speculation doctrine in a conditional water rights application.[85]

81. *Id.* at 40.
82. *See* Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa I*), 170 P.3d 307, 315–16 (Colo. 2007).
83. *Bijou*, 926 P.2d at 39, 51.
84. *Id.* at 39.
85. *Pagosa I*, 170 P.3d at 315–16.

A. Water Court's Decision

In response to the extreme drought Colorado faced in 2002, and out of concern for future water supply shortages,[86] the Pagosa Area Water and Sanitation District ("PAWSD") and the San Juan Water Conservancy District (together, "the Districts") filed for and were granted conditional water rights to construct and fill the proposed Dry Gulch reservoir.[87] The conditional right was substantial: (1) a 100 cubic feet per second ("cfs") diversion from the San Juan River to fill a 29,000 acre-foot reservoir, (2) the right to continuously fill and refill the reservoir for up to 64,000 acre feet of annual storage, and (3) a direct flow diversion right of 80 cfs separate from the storage right.[88] Trout Unlimited[89] opposed this enormous application, arguing that it violated Colorado's anti-speculation doctrine[90] because it "would give the [D]istricts more water than they could reasonably anticipate using over a reasonable period of

86. PAGOSA AREA WATER & SANITATION DIST., DRY GULCH PROJECT: OUR WATER, OUR FUTURE 1 (2009), *available at* http://www.pawsd.org/DG-brochure.html (last visited Dec. 1, 2010).

87. *Pagosa I*, 170 P.3d at 309. For a primitive map that illustrates the general location of the proposed Dry Gulch Reservoir, see *Dry Gulch Goes to the Supreme Court*, COLO. TROUT UNLIMITED, http://www.cotrout.org/LinkPages/DryGulchGoestotheSupremeCourt/tabid/189/Default.aspx (last visited Oct. 24, 2010).

88. *Pagosa I*, 170 P.3d at 309. As explained by Trout Unlimited, this is a huge amount of water:

> One cfs equals 723.8 acre-feet in a year, and 80 cfs over a year would equal 57,904 acre-feet. Together, the 80 cfs direct flow right, the first fill right of 29,000 acre-feet, the second fill right of 35,000 acre-feet and the existing storage right of 6300 acre-feet could yield as much as 128,204 acre-feet annually.

Opening Brief of Trout Unlimited at 4 n.3, Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa II*), 219 P.3d 774 (Colo. 2009) (No. 08SA354), 2009 WL 926234. For reference, 128,204 acre-feet equates to 41,775,401,604 gallons.

89. Trout Unlimited is a nonprofit fisheries conservation organization funded by members "[t]o conserve, protect and restore North America's coldwater fisheries and their watersheds." *About Us*, TROUT UNLIMITED, http://www.tu.org/about-us (last visited Oct. 24, 2010). Restoring and protecting minimum instream flows is fundamental to the restoration of coldwater fisheries. *See* Lawrence J. MacDonnell, *Environmental Flows in the Rocky Mountain West: A Progress Report*, 9 WYO. L. REV. 335 (2009).

Locally, opposition to the project was, and remains, fierce. *See* Bill Hudson, *PAWSD Gets Called on the Carpet, Part One*, PAGOSA DAILY POST, (Mar. 10, 2010), http://www.pagosadailypost.com/news/14655/PAWSD_Gets_Called_on_the_Carpet,_Part_One/; Bill Hudson, *Three Districts, Two Dilemmas, Part One*, PAGOSA DAILY POST, (Feb. 10, 2010), http://www.pagosadailypost.com/news/14441/Three_Districts,_Two_Dilemmas,_Part_One/.

90. Opening Brief of Trout Unlimited, *supra* note 88, at 6–7.

time."[91] The Districts supported their application with evidence of county population projections and water usage predictions for the next 100 years.[92]

The water court granted the Districts everything they wanted.[93] The court found that "[t]he Districts' intent to beneficially use the [water] is non-speculative and based upon its reasonable needs for a growing population," and that the Districts demonstrated that the water can and will be put to a beneficial use.[94] Trout Unlimited appealed the decree to the Colorado Supreme Court.[95]

B. Elements of the Anti-Speculation Doctrine Defined in Pagosa I

The Colorado Supreme Court reversed the decree because the water court did not specifically find that the Districts satisfied the anti-speculation doctrine and the can and will requirement for conditional water rights.[96] In remanding, the Colorado Supreme Court set forth three specific elements that the Districts must demonstrate to satisfy the *Bijou* anti-speculation doctrine: (1) a "reasonable water supply planning period," (2) "substantiated population projections based on a normal rate of growth for that period," and (3) the "amount of . . . water . . . reasonably necessary to serve the reasonably anticipated needs of the governmental agency for the planning period, above its current water supply."[97]

1. Reasonable Supply Planning Period

To claim conditional water rights for future residents, a municipal water provider first must identify a reasonable wa-

91. *Pagosa I*, 170 P.3d at 311.
92. *Id.* at 312.
93. *Id.* Although the Districts clearly wanted the water, a series of well-researched local Pagosa Springs news articles chronicling the fallout of the *Pagosa I* and *II* litigation suggests that many in the community did not support the Districts' efforts. *See* Bill Hudson, *PAWSD Makes an Apology, of Sorts, Part Three*, PAGOSA DAILY POST, (May 25, 2010), http://www.pagosadailypost.com/news/15297/PAWSD_Makes_an_Apology,_Of_Sorts..._Part_Three; Hudson, *PAWSD Gets Called on the Carpet, Part One*, *supra* note 89.
94. *Pagosa I*, 170 P.3d at 312 (quoting the water court's decree).
95. *Id.* at 309.
96. *Id.* at 312–13.
97. *Id.* at 313.

ter supply planning period.[98] The Districts' decree provided for a 100-year planning period.[99] In finding this unreasonable, the *Pagosa I* court relied on *Bijou*'s holding that Thornton's fifty-year planning period was reasonable.[100]

The proper planning period is a crucial threshold determination for conditional water rights applications.[101] If municipalities were allowed to project population and water needs one century in advance, growing cities could potentially appropriate enormous amounts of the public's water for undefined future uses. Because of the risk of speculation and the uncertainty of a municipality's projected needs over time, the *Pagosa I* court declared that a "water court should closely scrutinize a governmental agency's claim for a planning period that exceeds fifty years."[102]

The court noted that the Districts' initial plans called for enough water storage to meet 2040 water demands, a planning period of less than forty years.[103] The Districts had increased the planning period to 100 years on the recommendation of a hired water engineer because "a year 2100 supply of water, rather than the 2040 supply . . . considers the possibility of other uses being made in the future of San Juan River water."[104] Not

98. *Id.* at 315.

99. *Id.* at 317.

100. *See id.* at 315–16 (citing City of Thornton v. Bijou Irrigation Co., 926 P.2d 1, 42 (Colo. 1996)). Notably, the *Bijou* court did not specifically find that a fifty-year planning period was reasonable as a matter of law. Rather, it found that, based on the evidence in the record, the City of Thornton satisfied the anti-speculation doctrine. *Bijou*, 926 P.2d at 41–42. The *Pagosa I* court failed to state why, specifically, fifty years is the point at which closer scrutiny is required, simply stating that a narrow construction of the governmental agency exception to the anti-speculation doctrine requires close scrutiny of any claim longer than fifty years, although fifty years "is not a fixed upper limit, and each case depends on its own facts." *Pagosa I*, 170 P.3d at 317. Because the *Pagosa II* court approved a fifty-year planning period as reasonable, a fifty-year municipal planning period is now probably per se valid for satisfying the anti-speculation doctrine. *See* Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa II*), 219 P.3d 774, 780–81 (Colo. 2009) (approving fifty-year planning period as reasonable based on statewide 2050 water availability study).

101. *Pagosa I*, 170 P.3d at 317.

102. *Id.*

103. *Id.*

104. *Id.* at 311. According to a footnote in the decision, the Districts were concerned that additional instream flows would be appropriated by the Colorado Water Conservation Board, that the town of Pagosa Springs would appropriate an in-channel diversion for a kayak park, and that the U.S. Forest Service would impose bypass flow conditions to the federal permit for the reservoir. *Id.* at 318 n.11. The court found that these speculative future appropriations cannot be considered by the water court in determining a reasonable supply planning period. *Id.*

helping the Districts' case, the engineer stated at trial that planning for a longer period is "a no-brainer, 'cause you go to the site capacity and you do your darndest to get that amount built.' "[105] Ultimately, the water court's failure to explicitly "make findings of fact with regard to the disputed threshold issue of what planning period is reasonable" was the first of several fatal errors of the decree.[106]

2. Substantiated Population Projections

The second element that a municipal water agency must demonstrate is substantiated population projections based on a normal rate of growth.[107] The two sides projected conflicting population projections for Archuleta County, where both of the Districts' service areas are located.[108] Trout Unlimited based its estimate on the State Demographer's Office's statewide growth projections, while the Districts' engineer based his on the county's historical and recent population growth.[109] The Districts' projections, adopted by the water court, were far more optimistic and based on a much longer forecasting period.[110]

The water court erred when it failed to explicitly find that the Districts' method of projecting population growth was reasonable and substantiated and "based on a normal rate of growth for that [planning] period."[111] Further, according to the Colorado Supreme Court, "[p]opulation forecasts should not be made over longer horizons than thirty years or so, due to the

105. *Id.* at 311. Further, one local journalist wrote that the evidence and testimony suggests that "[t]he data to support the Dry Gulch Reservoir was based not on community water needs but upon the fact that the largest reservoir possible in Dry Gulch was 35,000 acre-feet. So [the Districts' engineer] and [the Pagosa Area Water and Sanitation District] developed data to support that size reservoir." Bill Hudson, Editorial, *Wild Estimates in the Wild West*, PAGOSA DAILY POST (Sept. 1, 2010), http://www.pagosadailypost.com/news/16078/EDITORIAL:_Wild_Estimates_in_the_Wild_West. Others suggest that the reservoir size was justified based on "economies of scale." Funk & Arnold, *supra* note 71, at 307.

106. *Pagosa I*, 170 P.3d at 318.

107. *Id.* at 309–10.

108. *Id.* at 312, 318–19. The Districts' projected population for Archuleta County in 2055 was 62,906, while the statewide study cited by Trout Unlimited projected the county population between 34,517 to 41,532 persons. Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa II*), 219 P.3d 774, 787 (Colo. 2009).

109. *Pagosa I*, 170 P.3d at 318–19.

110. *Id.* at 318. A good visual of the radically different population projections is found in a graph in Hudson, *supra* note 105.

111. *Pagosa I*, 170 P.3d at 310, 318–19.

rapid increase in uncertainty of forecasts beyond this point."[112] The court's implication that the Districts' population projections were unreasonable sends a strong signal to municipal water agencies undertaking growth studies for future water needs.

3. Amount of Water Reasonably Necessary to Serve the Needs of that Population

The third required finding is the amount of water reasonably needed to serve the projected population for the planning period.[113] This calculation is an expert-intensive inquiry involving testimony that relates to

> such pertinent factors as: (1) implementation of reasonable water conservation measures for the planning period; (2) reasonably expected land use mixes during that period; (3) reasonably attainable per capita usage projections for indoor and outdoor use based on the land use mixes for that period; and (4) the amount of consumptive use reasonably necessary for use through the conditional appropriation to serve the increased population.[114]

Although experts for the Districts testified on each of these elements, the water court's failure to make specific findings of fact concerning a reasonable planning period and normal population projections was fatal to the decree.[115]

The *Pagosa I* court directed the water court to make the findings listed above and to make "findings concerning the future land use mixes for the Town of Pagosa Springs and Archuleta County and per capita water usage requirements, taking into account implementation of water conservation measures."[116] This requirement, that municipal agencies must reasonably project future water conservation measures, represented a significant departure from the traditional deference toward an agency's plan for its own future needs and signified the beginning of a new era in municipal water supply

112. *Id.* at 311 (quoting PANEL ON POPULATION PROJECTIONS, COMM. ON POPULATION, NAT'L RESEARCH COUNCIL, BEYOND SIX BILLION: FORECASTING THE WORLD'S POPULATION 189–90 (John Bongaarts & Rodolfo A Bulato eds., 2000)).
113. *Id.* at 309.
114. *Id.* at 317–18, 319.
115. *Id.* at 318.
116. *Id.* at 319.

planning.[117] In stating this requirement, the *Pagosa I* court cited a statute that requires public water suppliers to develop and implement water conservation plans,[118] essentially adopting a conservation element into conditional water rights applications for municipalities. This may be the greatest legacy of the *Pagosa* cases.

C. Remand Order to Water Division Seven

The primary error of the water court was failing to make explicit findings of fact on the three elements that demonstrate a governmental agency's non-speculative intent to conditionally appropriate unclaimed, publicly owned water.[119] Therefore, the Colorado Supreme Court remanded the case and instructed the water court to make new findings on existing and additional evidence offered by the parties and to enter a new decree for the Districts.[120]

Pagosa I thus provided concrete directives to Colorado water court judges and governmental water supply agencies for conditional water rights applications. In addition to the elements of the doctrine, the Colorado Supreme Court introduced a major new consideration: a requirement that public water agencies incorporate estimates of future water conservation measures in projections of water use by future populations.[121]

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117. *See infra* Part IV.B (discussing the implications of post-*Pagosa I* municipal water supply planning, including the implications of requiring municipal water suppliers to incorporate reasonable and accurate projections of future water conservation into water rights applications).

118. Section 37-60-126(2)(a) of the Colorado Revised Statutes requires public water agencies with a customer demand of more than two thousand acre-feet per year to "develop, adopt, make publicly available, and implement a [conservation] plan pursuant to which such covered entity shall encourage its domestic, commercial, industrial, and public facility customers to use water more efficiently."

119. *Pagosa I*, 170 P.3d at 320.

120. *Id.*

121. *Id.* at 319. Local journalist (and staunch critic of Dry Gulch Reservoir) Bill Hudson summed up the lasting legacy of the Districts' initial Dry Gulch application:

> As a result of [the Districts' engineer] and PAWSD using possibly inflated population and water demand numbers in their water rights application, all water districts in Colorado will now be required to jump through additional hoops and make a much stronger case for their water needs, going into the future. Districts will now be required to present evidence in support of their planning period choice, will have to include water conservation data, and will have to fully justify their population projections.

Hudson, *supra* note 105.

III. *PAGOSA II*

Upon remand to the water court, the Districts refused to introduce additional evidence to prove their claims.[122] Instead, the Districts asserted that the existing record was sufficient and resubmitted an application for their alleged water needs over the next seventy years.[123] Trout Unlimited again opposed the Districts' claim in trial and urged the water court to accept new evidence of the three *Pagosa I* elements.[124]

A. The Water Court's Remand Decree

Instead of taking additional evidence, the water court "accepted most, but not all, of the Districts' proposed remand decree provisions."[125] Compared to the original conditional decree rejected in 2007's *Pagosa I*, the 2009 decree (1) reduced the Districts' planning period by fifty years, (2) reduced the total annual storage volume of Dry Gulch Reservoir by 38,700 acre-feet, and (3) reduced the separate direct flow right for general use by thirty cfs.[126] Trout Unlimited appealed to the Colorado Supreme Court, arguing that the Districts again failed to demonstrate that the decreed water amounts were reasonable for their future water supply needs and that the water court failed to make the required *Pagosa I* findings of fact.[127] Once again, the Colorado Supreme Court agreed with Trout Unlimited in 2009's *Pagosa Area Water & Sanitation District v. Trout Unlimited* (*Pagosa II*).[128]

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122. Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa II*), 219 P.3d 774, 777 (Colo. 2009).

123. *Id.* at 777–78. The Districts asked for (1) a 29,000 acre-foot per year storage right for the Dry Gulch Reservoir, (2) a direct flow right of 100 cfs from the San Juan River to fill the reservoir, and (3) a direct flow right of fifty cfs from the San Juan River for general water needs of customers. *Id.*

124. *Id.* at 777.

125. *Id.* at 778. The new decree allowed for a fifty-year planning period, a 19,000 acre-feet per year storage right with a continuous refill right allowing a yearly storage of 25,300 acre-feet in Dry Gulch Reservoir, a direct flow right of 100 cfs to fill the reservoir, and a separate direct flow right of fifty cfs for the District's general water needs. *Id.*

126. Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa I*), 170 P.3d 307, 309 (Colo. 2007); *Pagosa II*, 219 P.3d at 778.

127. *Pagosa II*, 219 P.3d at 778–79.

128. *Id.* at 779.

B. Pagosa II*: We Really Meant It*

In reversing and remanding the water court's decree a second time, the Colorado Supreme Court reinforced the modern, strict anti-speculation doctrine of *Pagosa I*.[129] Notably, Justice Gregory Hobbs,[130] writing for a unanimous court, reinforced that *Pagosa I* held "that the limited governmental agency exception to the anti-speculation doctrine should be *narrowly construed* in order to meet the state's maximum utilization and optimum use goals that work to extend the public's water resource to as many beneficial uses as the available supply will allow."[131] This language provided the clearest signal yet that Colorado's anti-speculation doctrine had entered a new era, one in which the Colorado Supreme Court will closely scrutinize the factual findings of a water court's decree for a conditional appropriation by a public water agency.

This part discusses several key elements of the opinion: the standard of review for conditional appropriations, determination of reasonable water supply planning periods, and scrutiny of conditional claims for future instream uses. This part concludes with the heart of the court's holding: that the Districts again failed to prove that the amounts claimed were reasonably needed for future populations.

1. De Novo Standard of Review

First, the Colorado Supreme Court noted that the legislature "has assigned to the courts the responsibility to conduct the necessary proceedings [to determine whether a public agency has satisfied the anti-speculation doctrine] under a de novo standard of review."[132] No longer are public water suppli-

129. *Id.* at 788.

130. Justice Gregory J. Hobbs, Jr. was appointed to the Colorado Supreme Court in 1996 following a distinguished career practicing law in the environmental and natural resources field. *See Gregory J. Hobbs Bio*, COLO. STATE JUDICIAL BRANCH, http://www.courts.state.co.us/Bio.cfm/Employee_ID/65 (last visited Oct. 25, 2010). While in private practice, Justice Hobbs represented one of the largest public water suppliers in Colorado, Northern Colorado Water Conservancy District.

131. *Pagosa II*, 219 P.3d at 779 (citing *Pagosa I*, 170 P.3d at 316) (emphasis added).

132. *Id.* at 788 (citing COLO. REV. STAT. §§ 37-92-302, -304, -305 (2009)). Somewhat confusingly, however, in another part of the opinion, the Colorado Supreme Court stated that although the standard of review was de novo, the court should "defer to the water court's findings of fact unless the evidence is wholly in-

ers acting in a legislative capacity, free from judicial scrutiny, when they make conditional appropriations for future populations.[133] Here, although the conditional rights granted were based on the water court's factual findings, the Colorado Supreme Court gave those findings virtually no deference.[134] This represents a shift from the anti-speculation doctrine's earlier era in which courts essentially rubber-stamped conditional appropriations by public agencies for future population needs.[135] And municipal water suppliers may be most concerned with this part of *Pagosa II*.[136]

2. Fifty Years Is a Reasonable Water Supply Planning Period

The Colorado Supreme Court approved one finding made by the water court: a fifty-year water supply planning period is reasonable and supported by the evidence and the law.[137] Because of the lead time in designing, constructing, and filling large water storage projects, the court held that the fifty-year planning period approved in *Bijou* is reasonable for the Districts' application.[138] The court mentioned that state agencies are currently engaged in statewide water planning for 2050, and that a fifty-year planning period corresponds to this and other water planning efforts in the state.[139]

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sufficient to support those determinations," which does not sound like true de novo review. *Id.* at 779. This may require clarification in a future (and probably a much closer) case involving a conditional appropriation by a municipal supplier.

133. *Id.*

134. *Id.*

135. *See* Hudson, *supra* note 105; *infra* Part IV.A.

136. Discussed later in this Note, public water suppliers may soon propose legislation that would require Colorado water courts to apply a highly deferential standard of review to the factual findings of public water agencies. *See infra* note 178.

137. *Pagosa II*, 219 P.3d. at 780.

138. *Id.*

139. *Id.* at 781. The court mentioned that the Colorado state legislature's Colorado Water for the 21st Century Act, now codified at COLO. REV. STAT. §§ 37-75-101–107 (2010), formally established nine regional watershed roundtables and the Inter-Basin Compact Committee. *Pagosa II*, 219 P.3d at 780–81. These groups are concerned with the projected 2050 population and water needs of each river basin, including the San Juan River basin of the Districts. *Id.* at 781. See further discussion on the efforts of these planning committees, *infra* note 195.

3. Water Conditionally Decreed for Future Undefined Instream Uses May Be Speculative

The Colorado Supreme Court next scrutinized the water court's approval of conditional amounts that the Districts could use to satisfy potential future instream flow requirements.[140] Although the *Pagosa I* court rejected conditional appropriations for these future uses as too speculative, the water court apparently ignored this on remand and included conditional amounts for these uses in the 2009 decree.[141]

Again, the Colorado Supreme Court ruled that the record contained no evidence supporting conditional rights for these potential future uses.[142] The Colorado Water Conservation Board ("CWCB") had already appropriated an instream flow right in the stretch of the San Juan River that includes the diversion point.[143] Moreover, testimony showed that the federal government had never required a bypass flow greater than the instream flow held by a state.[144] Similarly, no evidence suggested that the U.S. Forest Service would impose a bypass flow condition on any federal permit needed for the Dry Gulch project.[145] And, although the Districts had the authority to ap-

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140. *Pagosa II*, 219 P.3d at 781. In other words, the Districts claimed, and were granted, conditional water that they could use to satisfy a potential recreational in-channel diversion (such as a kayak course), environmental instream flow, and bypass flow requirements that may or may not be imposed on the affected stretch of the San Juan River in the future. *Id.* at 781–84. This would enable the Districts to have extra water on hand to let flow past the reservoir's diversion point in case any of these requirements are imposed.

141. *Id.* at 783.

142. *Id.* at 781.

143. *Id.* Because the CWCB already held this right, it is senior to any potential right for Dry Gulch. *Id*. And the court noted that the record contained no evidence suggesting the CWCB would increase this right. *Id.* at 783. For more on the CWCB's instream flow rights, held by the state agency "to preserve and improve the natural environment to a reasonable degree," see *Instream Flow Program*, COLO. WATER CONSERVATION BD., http://cwcb.state.co.us/environment/instream-flow-program/Pages/main.aspx (last visited Oct. 21, 2010).

144. *Pagosa II*, 219 P.3d at 781. The court went on to note that Colorado and the U.S. Forest Service recently renewed a memorandum of understanding with "measures intended to reconcile the operation of water diversion and storage facilities on federal lands with Colorado prior appropriation water rights." *Id.* at 783.

145. *Id.* at 182. The court discussed at length the dispute over potential federal bypass flow requirements. *Id.* at 781–82. Both the Dry Gulch Reservoir and diversion site are on federal lands managed by the U.S. Forest Service and could potentially be subject to federal bypass flow requirements. Lois Witte, a U.S. Department of Agriculture attorney, provides a brief explanation of federal bypass flows:

propriate water for recreational in-channel uses, the Districts chose not to do so.[146] Thus, because the Districts could not prove that the water included in the decree would actually be used for these instream uses in the future, the court held that the inclusion of these amounts failed the anti-speculation test.[147]

Nonetheless, the court left the door open for the inclusion of conditional rights for nonconsumptive instream uses in other conditional applications.[148] As with conditional claims for consumable water for domestic needs, conditional claims for nonconsumptive instream uses must satisfy the same anti-speculation standard—claimants must prove that they actually can and will use the water for those specific uses in the relevant planning period.[149]

4. Reasonable Water Rights Necessary to Serve Reasonably Anticipated Needs

The Colorado Supreme Court next addressed the two substantial water rights granted to the Districts: a fifty-cfs direct-flow right for the Districts' general water use and the large

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> It has long been Forest Service policy that special use permits authorizing water diversion facilities located on National Forest System lands incorporate stipulations to protect aquatic habitat and/or maintain stream channel stability. Permits issued since the 1950s have incorporated bypass flow stipulations for these purposes. "Bypass flows" are, quite simply, shorthand for a specific type of term and condition imposed by the Forest Service on private parties in exchange for federal permission to place private water diversion, transportation, or storage facilities on federal lands. This term and condition requires the private party requesting the authorization to protect aquatic values on federal lands by allowing a specified quantity of water to bypass the diversion facility or be released from a dam to ensure adequate instream flows on NFS lands. In essence, this quantity of water must "bypass" the diversion point and remain on federal lands.

Lois Witte, Deputy Reg'l Attorney, Office of the Gen. Council, U.S.D.A., Still No Water for the Woods, Presented at ALI-ABA Federal Lands Law Conference 15 (Oct. 19, 2001), *available at* http://www.stream.fs.fed.us/publications/PDFs/Still_no_water_for_the_woods.pdf (citation omitted).

146. *Pagosa II*, 219 P.3d at 783. Further, the court noted that the Districts "have attempted to appropriate water quantities they may not need within their service system in order to obtain a priority over a potential City of Pagosa Springs kayak course." *Id.*

147. *Id.* at 782–84.

148. *Id.* at 783.

149. *Id.*

conditional storage right for Dry Gulch Reservoir.[150] For a variety of reasons, the court found that the decreed amounts of water were not justified by the evidence and thus failed the anti-speculation test.[151]

The water court gave the Districts a fifty-cfs direct-flow right "for use anywhere in the Districts' system in the future, including in unspecified and undecreed future reservoirs."[152] The decree stated that the diversion was necessary to meet peak demand, but, as the Colorado Supreme Court explained, the right "contains no volumetric cap and allows water from this diversion to be used in the open-ended future beyond the 2055 planning period."[153] In short, the Districts failed to prove a reasonable need for this nearly limitless water right and failed to define the specific future beneficial uses for this water.[154]

The water court also granted a conditional storage right and a direct-flow right to fill and refill the Dry Gulch Reservoir for the Districts' reasonable needs through 2055.[155] The Colorado Supreme Court held that this large conditional right was speculative because: (1) the decree failed to address the future land-use mix of the Districts' supply area to project reasonable future consumptive water use amounts, (2) the water court failed to find that the population projections submitted by the Districts were substantiated, and (3) the amounts of water were well beyond the amounts necessary to serve the reasonable future needs of the Districts based on the evidence.[156] Each error will be briefly discussed.

First, the Colorado Supreme Court noted that the water court ignored its directive to address the projected land-use mix of the Districts' service area.[157] Evidence concerning the land-use mix speaks directly to future water usage by the Districts' customers because growth decisions (such as housing densities) dramatically affect future water use.[158] Importantly, during

150. *Id.* at 784–85.
151. *Id.*
152. *Id.* at 784.
153. *Id.*
154. *Id.*
155. *Id.* at 785.
156. *Id.* at 785–88.
157. *Id.* at 785.
158. *Id.* at 786. Land use planning is emerging as a key component of municipal water supply planning. *See* A. Dan Tarlock & Lora A. Lucero, *Connecting Land, Water, and Growth*, 34 URB. LAW. 971, 975 (2002).

the extensive litigation of the case, the Colorado General Assembly enacted legislation that required local governments to use specific methodologies to project future water-use demands of new development.[159] These land-use statutes "complement and parallel, in significant respects, the three elements and four considerations [the court] identified in *Pagosa I*" necessary to find a non-speculative intent to appropriate conditional rights for future municipal water supplies.[160]

Second, the water court again failed to find that the Districts' population projections were substantiated.[161] The *Pagosa II* court found a "wide divergence" between projections submitted by the Districts and those of a statewide 2050 Colorado Water Conservation Board study to project water demand in Colorado counties, introduced into evidence by Trout Unlimited.[162] The Districts projected a 2055 population of 62,906 in Archuleta County, while the state-commissioned study projected a 2050 range of 34,517 to 41,532 persons.[163] Inexplicably, the water court ignored *Pagosa I*'s directive that it find which of these projections were substantiated.[164] And by citing the state-commissioned study and its projections, the Colorado Supreme Court left no doubt about which of the figures it considered reliable.[165]

159. *Pagosa II*, 219 P.3d at 786. The relevant statutes were codified at COLO. REV. STAT. §§ 29-20-301 to -306 (2010). The statutes require local governments to have "reliable information concerning the adequacy of proposed developments' water supply" when local entities review proposed developments. *Id.* § 301. Applicants for development permits must submit to the local authority "estimated water supply requirements for the proposed development in a report prepared by a registered professional engineer or water supply expert." *Id.* § 304(1). Plans are to include water conservation measures and water demand management measures to be implemented in the future. *Id.* § 304(1)(d)–(e).

160. *Pagosa II*, 219 P.3d at 786.

161. *Id.*

162. *Id.* at 787–88.

163. *Id.*

164. *Id.*

165. *See id.* at 787. The court cited a draft report on municipal and industrial water use projections in Colorado. *Id.* The CWCB has since published the final version of the cited report. *See* COLO. WATER CONSERVATION BD., COLORADO'S WATER SUPPLY FUTURE: STATE OF COLORADO 2050 MUNICIPAL & INDUSTRIAL WATER USAGE PROJECTIONS 2–19 (2010), *available at* http://cwcb.state.co.us/water-management/water-supply-planning/Pages/main.aspx (follow "FINAL 2050 M&I Water Use Projections" hyperlink) (table showing population projections for Archuleta County).

Finally, because of these errors of fact and law in the remand decree,[166] the *Pagosa II* court found that the decreed amounts of water were well beyond the amounts needed to serve the reasonable future needs of the Districts.[167] The court noted that the existing water supplies held by the Districts, including a 1967 conditional right of 6,300 acre-feet for a smaller Dry Gulch Reservoir, could meet half of the Districts' own 2055 projected need.[168] Instead of satisfying the other half of the projected need (a modest 7,000 acre-feet), the remand decree approved nearly four times that amount.[169] On remand, the water court was directed to consider evidence concerning each of the errors mentioned to determine a proper amount of water, above the Districts' existing rights, to meet the Districts' reasonable 2055 needs.[170]

But the water court will get no such opportunity to address its errors, as the case was settled late in 2010.[171] Trout Unlimited and the Districts agreed to a conditional storage right of 4,700 acre-feet, to be combined with the already-approved conditional right of 6,300 acre-feet, for an 11,000 acre-foot Dry Gulch Reservoir.[172] The settlement also includes a number of unique terms and conditions for diverting San Juan River water.[173] Although the Dry Gulch litigation saga is over for the

166. As discussed above, these specific errors were: (1) inclusion of speculative amounts of water to serve undetermined future instream water uses, (2) a fifty-cfs direct flow right to serve speculative and undefined future uses, (3) a failure to address statutory factors in determining future local water usage and demand projections, and (4) the lack of substantiated population projections. *Pagosa II*, 219 P.3d at 784–88.

167. *Id.*

168. *Id.* at 787.

169. *Id.*

170. *Id.* at 788.

171. Trout Unlimited and the Districts reached a settlement on the conditional appropriations for an enlarged Dry Gulch Reservoir after negotiations in the fall of 2010. Interview with Drew Peternell, Dir., Trout Unlimited Colo. Water Project, in Boulder, Colo. (Nov. 13, 2010).

172. Randi Pierce, *Settlement Reached in Dry Gulch Water Case*, PAGOSA SUN (Dec. 8, 2010), http://www.pagosasun.com/archives/2010/12December/120910/pg1drygulch.html.

173 A couple of specifics from the settlement: although 11,000 acre-feet can be stored in the reservoir in a single year, no more than 9,300 acre-feet can be stored per year over a ten-year period. Bill Hudson, *Dry Gulch Gets a Little Dryer, Part Three*, PAGOSA DAILY POST (Dec. 7, 2010), http://www.pagosadailypost.com/news/16828/Dry_Gulch_Gets_a_Little_Dryer,_Part_Three/. Further, Trout Unlimited negotiated a provision to boost the protection of the instream flows of the San Juan River: the Districts may not divert any water from the river if doing so would lower the instream flow below 100 cfs in the summer and below sixty cfs in the winter. *Id.* Finally, the settlement decree includes a number of "reality

small Districts serving an isolated valley of the state, the *Pagosa* legacy will be widely felt by all public water districts in Colorado.

Pagosa II puts municipal water developers on notice that the Colorado Supreme Court will scrutinize the factual findings of water courts to determine if the amounts of water conditionally decreed are truly needed to serve reasonably projected municipal needs.[174] The *Pagosa II* decision also functions as a warning shot from the Colorado Supreme Court to state water courts, saying, in effect, "We are concerned with water speculation, and when we ask you to make specific findings concerning the anti-speculation doctrine, we really mean it."

IV. FUTURE POLICY IMPLICATIONS

Pagosa I and *II* represent a new era of judicial scrutiny of conditional water rights applications by municipalities. Water courts have cited *Pagosa II* as the new standard of review for conditional appropriations by municipal suppliers.[175] Public water suppliers are concerned that the new *Pagosa* era of the anti-speculation doctrine will substantially limit their flexibility in planning for future growth.[176] Two in-house counsel of the largest public water agency in Colorado, the Denver Water Board, recently published a scathing critique of *Pagosa II*, alleging that the decision allows the judiciary to "intrude upon governmental decision making" and amounts to "judicial legislation."[177] These concerns are motivating current lobbying ef-

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check" provisions that allow the water court to cancel the conditional rights if evidence shows that the water is not, and will not be, needed to serve the Districts' service area. *Id.*; *see also* Pierce, *supra*.

174. *Pagosa* II, 219 P.3d at 788.

175. Interview with Drew Peternell, *supra* note 170. For example, a water judge in Steamboat Springs recently found that the Upper Yampa Water Conservancy District failed to prove its need for a conditional water right. *See* Answer Brief of Opposers/Appellees, at 1–2, Upper Yampa Water Conservancy District v. Wolfe, No. 09SA352 (Colo. filed May 27, 2010), 2010 WL 3115805, at *1–2.

176. Chris Woodka, *Court Makes Waves in Water*, PUEBLO CHIEFTAIN (Aug. 30, 2010), http://www.chieftain.com/news/local/article_8530ea0a-b3f7-11df-bbf7-001cc4c03286.html. The director of one local water supply agency argues that the additional proof required to conditionally appropriate water "will lead to litigation after litigation." *Id.* (quoting Rod Kuharich, executive director of the South Metro Water Supply Authority).

177. Funk & Arnold, *supra* note 71, at 312. Casey Funk and Daniel Arnold argue that *Pagosa II*'s usurpation of the traditional deference granted to growing cities in Colorado, and the heightened judicial scrutiny of decisions by elected quasi-governmental water boards, may lead to many Mesa Verdes—advanced communities abandoned by their residents because of inadequate water supplies dur-

forts by municipal suppliers for legislation to overturn the decisions.[178] Thus, the *Pagosa* cases are already significantly impacting the way public water agencies plan and apply for water rights for future growth.

More unknown is the extent to which courts may read *Pagosa I* and *II* to impose a heightened anti-speculation doctrine on private water developers. This is particularly relevant given the existing private, conditional water rights granted to develop oil shale or to provide municipal water through contracts.[179] Prior to *Pagosa I* and *II*, courts gave municipal water suppliers wide latitude when planning for future needs and

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ing periods of drought. *Id.* at 318–19. They observe that municipal water supply planning involves a host of complicated issues: maintenance of a reliable water supply to meet peak demands, implementation of reasonably effective conservation and water use plans without causing economic harm, dramatic climatological cycles that affect water use, and the costly and complicated construction and maintenance of reliable water delivery systems to get water from Colorado's mountains to domestic taps. *Id.* at 312–17. They conclude that the state legislature already delegated to local governments the power to determine their own water supply needs through open public processes, and that the role of the courts should be restricted to ensuring that local agencies don't abuse their discretion throughout these processes. *Id.* at 317–18.

178. *See* Woodka, *supra* note 176. According to Drew Peternell, who argued both *Pagosa* cases before the Colorado Supreme Court, public water supply agencies are pursuing legislative action to overturn the cases. Interview with Drew Peternell, *supra* note 171. Language for a bill was drafted in 2010 and provided to Mr. Peternell, but a bill never made it to committee. *Id.* The draft bill, a similar version of which may be proposed in 2011, proposed to add a new subsection to title 37, article 91, section 305 of the Colorado Revised Statutes that would require water judges and water referees to "review [the] factual determinations [of public water supply agencies] under standards of judicial review for legislative or quasi-legislative actions." Draft of a Bill for an Act Requiring That the Standard of Judicial Review for Legislative Actions be Applied to Certain Appropriations of Water Rights by Governmental Water Supply Agencies (Feb. 18, 2010) (on file with *University of Colorado Law Review*). Additionally, the draft provided that public water agencies

> shall be deemed to act in their legislative capacity when making the factual determinations necessary for a determination of a water right or a conditional water right or for a finding of reasonable diligence . . . where such factual determinations involve the entity's plan, intent, *need*, ability, resources, or purpose, or the financial and technical feasibility of a particular project.

Id. (emphasis added). Such a bill would essentially gut the *Pagosa* decisions. Given the political power of the large municipal water supply agencies on the Front Range, it is likely that a very similar bill will soon be introduced. Interview with Drew Peternell, *supra* note 171.

179. *See* discussion of oil shale rights *infra* note 181. For an example of a proposed project to supply water to municipalities through contracts, a project which may test *Pagosa II*'s applicability to private water developers, see the brief discussion of the Million Pipeline *supra* note 10.

viewed private conditional appropriations more skeptically.[180] Although the potential effects of the doctrine on private appropriators is beyond the scope of this Note, it is uncertain whether courts will couch *Pagosa I* and *II* as limited to municipalities or extend even more scrutiny to private appropriators seeking water for future oil shale development or for projects such as Aaron Million's interstate pipeline.[181]

180. *See* Colo. River Water Conservation Dist. v. Vidler Tunnel Water Co., 594 P.2d 566, 569 (Colo. 1979); City & Cnty. of Denver v. Sheriff, 96 P.2d 836, 844–45 (Colo. 1939); City of Thornton v. Bijou Irrigation Co., 926 P.2d 1, 38 (Colo. 1996).

181. *Pagosa II*'s lasting effect on private water developers' conditional rights appropriations will depend on whether its holding is narrowly construed to apply only to municipal water agencies. The Colorado Supreme Court explicitly stated that the foundations for the strict standards of *Pagosa I* apply to both public and private appropriators. *See* Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa II*), 219 P.3d 774, 788 (Colo. 2009) ("[T]he Colorado statutes and case law we have cited in *Pagosa I* and in this opinion provide that both public and private appropriators must carry the burden of proving their claims for a conditional decree.").

A heightened anti-speculation doctrine for private appropriators could be especially significant for oil companies that hold enormous conditional water rights, rights initially decreed in the 1950s and claimed for future development of oil shale in western Colorado. David O. Williams, *Oil Giants Have "Cornered the Market" on Western Slope Water Rights, Study Says*, COLO. INDEP., Mar. 20, 2009, *available at* http://coloradoindependent.com/24667/oil-giants-have-cornered-the-market-on-western-slope-water-rights-study-says; *see generally* W. RES. ADVOCATES, WATER ON THE ROCKS: OIL SHALE WATER RIGHTS IN COLORADO (2009), *available at* http://www.westernresourceadvocates.org/land/wotrreport/index.php.

After nearly sixty years in existence, ten years more than a post-*Pagosa II* municipal water supply planning period, these paper rights remain without defined beneficial uses in specific amounts. *See id.* at ix (noting that estimates of the amount of water needed to develop oil shale vary by 400%); *see also id.* at 17–32 (listing, in various tables, the conditional water rights held by oil shale companies.). Studies show that oil shale development in western Colorado could require at least 378,300 acre-feet of water per year, but no company has managed to develop a profitable process for developing oil shale. David O. Williams, *Report: Water and Oil Shale Don't Mix*, COLO. INDEP., Dec. 2, 2008, *available at* http://coloradoindependent.com/16153/report-water-and-oil-shale-dont-mix.

These rights are subject to legal challenge in due diligence proceedings that are required every six years, but the Colorado Supreme Court has not found speculation. *See* Mun. Subdistrict, N. Colo. Water Conservancy Dist. v. Chevron Shale Oil Co., 986 P.2d 918 (Colo. 1999) (affirming the water court's finding of reasonable diligence in developing conditional water rights for oil shale, despite the oil shale company's announcement that it would not begin processing oil shale until 2020 at the earliest); Mun. Subdistrict, N. Colo. Water Conservancy Dist. v. OXY USA, Inc., 990 P.2d 701, 705 (Colo. 1999) (holding that the oil shale company exercised reasonable diligence under the "can and will" standard because the company's technology made the project feasible and the project would begin when economic conditions improved). Ultimately, the clear statement of a new anti-speculation doctrine in *Pagosa I* and *II,* and the recent legislative attention to the issue, could result in closer judicial scrutiny of diligence applications as well as new applications for water rights to be used for oil shale production.

Regardless, *Pagosa I* and *II* dramatically changed the game in Colorado for public water suppliers and signified a new era in municipal water supply planning.

*A. Pre-*Pagosa *Municipal Supplier Realities*

Before *Pagosa I* and *II*, and during the past century of rapid growth, Colorado municipalities enjoyed preferential treatment in conditional water rights appropriations for future populations.[182] The economic power of growing cities and favorable treatment under the law has led to a situation where, "in major water fights, cities almost always win."[183] Judicial deference to municipal planners probably peaked before 1990, when the Two Forks Project, a major water supply project for Denver Water and other metro cities, was vetoed by the EPA.[184] Back then, according to a frank description by a former Denver Water director, the late Chips Barry, the strategy for water suppliers needing water for future growth was

> 1) File on as many water rights as possible in as many places as possible, and keep all that as secret as possible; 2) design storage projects for those rights but don't let anyone else know what you are doing; 3) be prepared to defend your projects against all attackers in court and to attack in court any projects which might threaten your yield.[185]

182. *City & Cnty. of Denver*, 96 P.2d at 841; *see* Funk & Arnold, *supra* note 71, at 284.

183. A. Dan Tarlock & Sarah B. Van de Wetering, *Western Growth and Sustainable Water Use: If There Are No "Natural Limits," Should We Worry About Water Supplies?*, 27 PUB. LAND & RESOURCES L. REV. 33, 48 (2006).

184. George Sibley, *Colorado's Water for the 21st Century Act: Finally Doing the Right Thing?*, HEADWATERS, Spring 2009, at 4, 5, *available at* http://www.cfwe.org/flip/catalog.php?catalog=hw19. For a discussion of the defeat of Denver Water's proposed Two Forks Dam, which ushered in a new era of water development and represented a victory for the environmental community's role in water supply decision making in Colorado, see Dyan Zaslowsky, *Water Development Turns a Corner*, *in* WATER IN THE WEST: A HIGH COUNTRY NEWS READER 208, 213 (Char Miller ed., 2000)*; see also* Ed Marston, *Ripples Grow When a Dam Dies*, *in* WATER IN THE WEST, *supra*, at 215 (describing the effects of the Two Forks Dam on the major public water agencies in Colorado).

185. Sibley, *supra* note 184, at 5 (paraphrasing the late Chips Barry's presentation at the 2005 Colorado Water Workshop).

Unsurprisingly, this paradigm of water supply planning could not survive the modern challenges of population growth and dwindling supplies.[186]

*B. Post-*Pagosa *Municipal Supplier Realities*

With supplies dwindling, Colorado's population booming, environmental concerns escalating, and western slope residents increasingly angry with out-of-basin water transfers to the rapidly growing Front Range,[187] *Pagosa I* and *II* may have been inevitable given the pre-*Pagosa* paradigm of little collaborative water supply planning and lots of litigation.[188] Eventually, a "renegade" municipal water supplier like the two Districts in *Pagosa*[189] would use such "wildly inflated population projections" that the Colorado Supreme Court would need to redefine the law for all public water suppliers.[190] *Pagosa*'s heightened scrutiny of quasi-governmental water claims for future growth may be direct and logical outgrowths of modern Colorado supply concerns as well as the general realization that western "growth accommodation will be more difficult and more expensive than it has been in the past."[191]

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186. *See* Chris Woodka, *Water Panel Looking for a Leg to Stand On: Developing a New Large Source of Supply Requires Cooperation*, PUEBLO CHIEFTAIN (Oct. 18, 2010), http://www.chieftain.com/article_2e0edbae-da69-11df-a4ac-001cc4c03286.html (describing current discussions between water providers concerning the difficulties in meeting the water demands for a Colorado population that is expected to nearly double by 2050 while existing supplies are already near capacity).

187. The recent debates over the proposed Windy Gap Firming Project and the Moffat Collection System Project—both of which would divert spring runoff from the western slope through a tunnel to east slope communities—are examples of disputes involving environmental concerns and western slope residents angry about trans-basin diversions on one side, and Front Range municipal supply agencies on the other. *See* Pamela Dickman, *Rectifying the River: Reservoir Proponents See Project as a Way to Right Past Damage*, LOVELAND REPORTER-HERALD (Oct. 18, 2010), http://www.reporterherald.com/news_story.asp?ID=29828; Bob Berwyn, *Colorado River Battle Shaping Up*, SUMMIT CNTY. CITIZENS VOICE (Aug. 12, 2010), http://summitcountyvoice.com/2010/08/12/colorado-river-battle-shaping-up/; David O. Williams, *Upper Colorado Lands Sixth Spot on America's Most Endangered Rivers List*, COLO. INDEP. (June 2, 2010), http://coloradoindependent.com/54647/upper-colorado-lands-sixth-spot-on-americas-most-endangered-rivers-list.

188. *See* Sibley, *supra* note 184, at 4–5.

189. Bill Hudson, *The PAWSD Report, Part One*, PAGOSA DAILY POST (Oct. 4, 2010), http://www.pagosadailypost.com/news/16319/The_PAWSD_Report,_Part_One.

190. Hudson, *supra* note 105.

191. Tarlock & Van de Wetering, *supra* note 183, at 35. An expectation that Colorado's population may nearly double by 2050, along with concerns over water

The practical impacts for municipal water providers are fairly clear. As Bill Hudson notes, because of *Pagosa I* and *II*, "[d]istricts will now be required to present evidence in support of their planning period choice, will have to include water conservation data, and will have to fully justify their population projections," which represents a marked change from the past.[192] Moreover, as Trout Unlimited's Colorado Water Project Director Drew Peternell[193] demonstrated throughout the litigation, public interest groups have a role in water supply planning discussions, given their ability to introduce counterevidence in court to show that future growth projections are unreasonably optimistic or do not consider future conservation measures likely to be adopted. Thus, Colorado's strengthened anti-speculation doctrine should increase the importance and effectiveness of collaborative decision making for water supply decisions throughout the state.[194]

Another legacy of *Pagosa I* and *II* is the requirement that Colorado courts consider estimates of future conservation measures in projecting reasonable water demands of future populations.[195] Water conservation is clearly part of any solu-

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shortages and the looming threat of regional climate change, has led to official studies on the outlook for Colorado's water future. For one example, see *Colorado River Water Availability Study*, COLO. WATER CONSERVATION BD., http://cwcb.state.co.us/technical-resources/colorado-river-water-availability-study/Pages/main.aspx (last visited Oct. 23, 2010). *See also* Woodka, *supra* note 12. These studies will continue to play a large role in Colorado water planning, especially under *Pagosa II*'s heightened evidentiary requirements to show that future populations will actually use conditionally claimed water.

192. Hudson, *supra* note 105.

193. *Western Water Project—Staff Directory*, TROUT UNLIMITED, http://www.tu.org/about-us/tu-offices-contact-information/western-water-project-staff-directory (last visited Oct. 24, 2010).

194. In 2005, the Colorado General Assembly passed the Colorado Water for the 21st Century Act (codified at COLO. REV. STAT. §§ 37-75-101 to -107 (2010)) "to facilitate conversations among Colorado's river basins and to address statewide water issues." *The Interbasin Compact Committee and Basin Roundtables*, COLO. WATER CONSERVATION BD., http://cwcb.state.co.us/about-us/about-the-ibcc-brts/Pages/main.aspx/Templates/Home.aspx (last visited Oct. 24, 2010). The bill created two forums for dialogue on water issues: nine roundtables representing the river basins (with members on each from municipalities, counties, and water districts within the basin) and a statewide committee called the Interbasin Compact Committee ("IBCC"). *Id.* The bill also provided for representation on each committee by environmental, recreational, and agricultural interests along with suppliers. *Id.* The Colorado Foundation for Water Education's Spring 2009 issue of HEADWATERS magazine is exclusively devoted to the issues surrounding these planning groups. *See* HEADWATERS, Spring 2009, *available at* http://www.cfwe.org/flip/catalog.php?catalog=hw19.

195. Pagosa Area Water & Sanitation Dist. v. Trout Unlimited (*Pagosa I*), 170 P.3d 307, 319 (Colo. 2007).

tion to projected supply shortages.[196] According to a recent study, construction of a new Front Range water project would cost an agency $16,200 per acre-foot of new water supply, while a conservation program would cost the agency $5,200 per acre-foot of new supply.[197] And the western United States in general, and Colorado in particular, lags well behind other communities and regions in water conservation—suggesting there is room for great improvement.[198] It is therefore reasonable (and consistent with the progressive "beneficial use" determination of western water law) for a court to require a municipality planning for the needs of its future residents—and claiming

196. *See* Woodka, *supra* note 186. For an excellent and thorough discussion of the potentially catastrophic water supply crisis in America, which includes a scathing critique on the way in which we use and waste water, see ROBERT GLENNON, UNQUENCHABLE: AMERICA'S WATER CRISIS AND WHAT TO DO ABOUT IT 77–102 (2009).

197. Douglas S. Kenney, Michael Mazzone & Jacob Bedingfield, *Relative Costs of New Water Supply Options for Front Range Cities*, COLO. WATER, Sept./Oct. 2010, at 2, 5, *available at* http://www.cwi.colostate.edu/newsletters/2010/ColoradoWater_27_5.pdf. The authors conclude:

> Three major themes emerge from the compilation and comparison of cost data. First, cost data are extremely difficult to find. Given the magnitude of the dollars involved, and the fact that the money spent and the obligations incurred belong to the public, we found this to be both odd and troubling. Second, the values we have compiled are deficient in many ways, as they are not produced using standardized assumptions, and in most cases they are confined to upfront capital expenditures. By using the $/AF metric across all categories, we standardized the data to the extent possible; nonetheless, the numbers presented should be considered as generalizations. And third, *despite our concerns about the availability and quality of information, the data are sufficient to indicate that water obtained via conservation is, by far, the cheapest option.* To review, our estimates of representative costs (in $/AF) are as follows: new projects, $16,200; water transfers, $14,000; and conservation, $5,200.

Id. at 5 (emphasis added).

198. For an extreme example, see the water usage of the Australian city of Brisbane, located in South East Queensland. Because of a drought in this arid region, the public water supplier set a residential water use target of 200 liters per person, per day (almost fifty-three gallons per day). *South East Queensland Water Strategy*, QUEENSLAND WATER COMM'N, http://www.qwc.qld.gov.au/SEQWS (last visited Oct. 24, 2010). Customers have far exceeded this goal: at the time of this writing, water consumption was hovering around 150 liters per person per day (almost forty gallons per day). *Securing Our Water, Together,* QUEENSLAND WATER COMM'N, http://www.qwc.qld.gov.au/HomePage (last visited Oct. 24, 2010). In contrast, customers of Denver Water use 168 gallons per day on average. *Key Facts*, DENVER WATER, http://www.denverwater.org/AboutUs/KeyFacts/ (click on "Denver Water's Water Use" arrow) (last visited Oct. 24, 2010). Las Vegas customers of the Southern Nevada Water Authority averaged 240 gallons per day in 2009. *Conservation and Rebates*, S. NEV. WATER AUTH., http://www.snwa.com/html/cons_index.html (last visited Oct. 24, 2010).

large amounts of publicly owned water—to include reasonable water conservation estimates in its water use projections. *Pagosa*-type judicial scrutiny requires a public water agency to estimate future water use based on recent and ongoing trends of increased conservation—not on outdated, pre-drought per capita water usage statistics that are unreasonably based on the continued success of conservation programs.[199] In other words, an agency should accurately project its future needs based on a declining rate of per capita water consumption over time. Perhaps public water agencies will begin to realize that conservation may be the cheapest and most efficient way to increase Colorado's public water supply.[200] This incorporation of water conservation into public water supply planning decisions may be *Pagosa*'s greatest legacy in Colorado, and perhaps the West, if *Pagosa*'s reasoning is adopted in other jurisdictions.

Increasing the focus on collaborative water supply planning and forcing public agencies to reasonably account for future water conservation are good things for a dry state with a high rate of forecasted population growth for this century. And a judiciary that ensures that the public's water resources will actually be needed for future populations preserves the original goals of western water law by reducing the chances of speculation.[201] A stricter anti-speculation doctrine for municipal planners also allows other stakeholders potentially affected by water supply planning decisions—environmental interests such as Trout Unlimited or pro-agricultural interests concerned with

199. *See*, *e.g.*, DENVER WATER, SOLUTIONS: SAVING WATER FOR THE FUTURE 3 (2010) (graph comparing population growth and water use), *available at* http://www.denverwater.org/docs/assets/DCC8BD7A-E2B9-A215-2D2FDDC3D6C736E7/Solutions2010.pdf. The graph clearly shows a steep decline in water use during the 2002 drought but no significant rebound in subsequent years, despite a dramatically increasing population. *Id.* Further, Denver Water's customer base has increased by 40 percent since 1970, but the agency uses the same amount of water to serve its entire population. *Id.* Per capita water consumption in the rapidly growing Front Range cities of Fort Collins and Loveland is similarly experiencing a post-drought decrease. *See Water Consumption—Charts*, COMPASS OF LARIMER CNTY., http://www.co.larimer.co.us/compass/waterconsumption_env_use_charts.htm (last visited Oct. 24, 2010)*; see also* JOAN F. KENNY, ET AL., U.S. GEOLOGICAL SURVEY, ESTIMATED USE OF WATER IN THE UNITED STATES IN 2005, at 1 (2009), *available at* http://pubs.usgs.gov/circ/1344/pdf/c1344.pdf (stating that overall water use in the United States in 2005 was down from 2000). The Pacific Institute analyzed this data and noted that per capita water use in the United States is lower than it has been since the 1950s. *Fact Sheet on Water Use in the United States*, PAC. INST. (Oct. 28, 2009), http://www.pacinst.org/press_center/usgs/US Water Fact Sheet 2005.pdf.

200. *See* Kenney, Mazzone & Bedingfield, *supra* note 197, at 5.

201. *See* Neumann, *supra* note 2, at 963–64; Zellmer, *supra* note 6, at 997–98.

the loss of agricultural water rights to cities[202]—to participate in developing collaborative solutions.[203] Although some water planners argue that the doctrine unduly hampers future growth planning by scrutinizing the decision making of public bodies,[204] encouraging reasonable, informed, and collaborative water supply planning, while requiring realistic estimates of future water conservation, better reflects Colorado's twenty-first century paradigm. In this era, "we are no longer developing a water resource; we are learning how to share a developed resource."[205]

CONCLUSION

Pagosa II's strict standards that public water suppliers must now demonstrate to prove a non-speculative intent to conditionally appropriate water represent a new era for Colorado's anti-speculation doctrine and public water supply planning. By limiting the municipal water supplier anti-speculation exception, the Colorado Supreme Court proclaimed that the publicly owned water can be appropriated only for specific, defined needs that are proven with demonstrable and persuasive evidence—including evidence of future water saved through conservation programs. Along with the extensive history of constitutional and statutory protections against speculation, *Pagosa I* and *II* provide precedent that water courts and water supply stakeholders must use to scrutinize the water supply planning decisions made by quasi-governmental agen-

202. *See, e.g.*, Chris Woodka, *Linked to the Land: Water Issues Cloud the "Good Life" of Farming*, PUEBLO CHIEFTAIN, Sept. 7, 2010, *available at* http://www.chieftain.com/news/local/article_40059846-ba22-11df-b448-001cc4c03286.html.

203. *See* Zellmer, *supra* note 6, at 1029. Collaborative water supply planning will hopefully ensure that water suppliers don't make the same mistakes as the Districts in *Pagosa I* and *II*. Notwithstanding an open public process and elected boards, public water suppliers will probably continue to be faced with the temptation to overestimate future population and to discount or underestimate the effects of future water conservation in projecting future water needs.

204. *See* Funk & Arnold, *supra* note 71.

205. Sibley, *supra* note 184, at 7 (quoting Colorado Supreme Court Justice Gregory Hobbs, the author of both *Pagosa* opinions). Given the historical theme of adversarial water litigation and the traditional go-it-alone paradigm of securing new water supplies, these adaptations may take some time. *See* Woodka, *supra* note 186. Woodka notes that IBCC members held tough discussions at a recent meeting concerning securing future supply options, with one attendee observing that the stakeholders are "just starting a conversation that never took place for 130 years." *Id.*

cies. Although the cases certainly increase the burden on municipal water suppliers to prove that water supplies are needed for future growth, heightened judicial scrutiny of conditional appropriations for future populations will lead to increased collaboration and reasonable planning for an increasingly uncertain water supply future.[206] And public agencies projecting water needs for future populations may now be required to project a declining per capita use rate over time because of future water conservation. Ultimately, the legacies of the *Pagosa* cases further the original goals of the beneficial use aspect of western water law: to prevent concentrated power over this vital resource.

206. *See* Judi Buehrer, *Envisioning an Alternate Future*, HEADWATERS, Spring 2009, at 8, *available at* http://www.cfwe.org/flip/catalog.php?catalog=hw19.