

# **THE BATTLE TO SAVE THE VERDE: HOW ARIZONA’S WATER LAW COULD DESTROY ONE OF ITS LAST FREE-FLOWING RIVERS**

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*This Note explores a battle for water in the Southwest that may ultimately destroy one of Arizona’s most precious rivers. This struggle pits the doctrine of reasonable use against the doctrine of prior appropriation and exposes the need to reconcile the uniquely Arizonan concept of “subflow,” which purports to synthesize the laws of ground and surface water, with scientific reality. The characters in this complicated battle include rural municipalities that plan to pump from the river’s headwaters, a major metropolitan utility company with century-old rights to the river, and an environmental advocacy organization seeking to protect endangered species. The plight of the Verde River exemplifies what has become a common tale in the United States—multiple parties with valid rights to the same water under different laws. Its resolution will likely require some difficult decisions about resource allocation, rural and urban growth, and the courts’ willingness to side with science in the face of impossibly high stakes and a river in peril.*

## **INTRODUCTION**

In a quiet, sunny corner of rural Yavapai County, beside a small pond where cattle graze beneath a lone oak tree, a battle is raging over the fate of one of the last free-flowing rivers in Arizona. Just beyond the pond, the Verde River begins humbly at the bottom of a craggy canyon carved over hundreds of thousands of years, gathering speed and volume as it makes its 170-mile journey southeast, eventually joining the Salt River north of Phoenix. But the Verde’s

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majestic path is in jeopardy. Parties at either end of the river are asserting their rights to its water and groundwater pumping threatens the aquifer that is its source.

Ultimately, the competing legal doctrines of ground and surface water may doom the river. The City of Prescott has a statutory right to pump groundwater from the Big Chino Aquifer, which supplies the majority of the Verde's headwaters. Salt River Project (SRP), one of the largest water providers in the state, has surface water rights to the river that predate Arizona statehood. But, in a series of decisions dating back to the 1930s, the Arizona Supreme Court has perpetuated the legal fiction that groundwater and surface water are separate things, despite overwhelming scientific evidence to the contrary. The rights that attach to ground and surface water in Arizona are largely mutually exclusive, connected only by the doctrine of "subflow." The adoption and persistence of this uniquely Arizonan doctrine, debated by legal scholars and academics since its inception, could result in the denial of SRP's century-old rights and limit metropolitan Phoenix's water supply. Law could also be the river's salvation, though, if environmentalists opposed to the groundwater pumping succeed in bringing suit under the Endangered Species Act or if Arizona's courts and legislature act quickly to reconcile the state's water law with scientific reality.

This Note explores the ongoing conflict between Arizona's booming growth and the interests of ecological preservation and resource management, as seen through the lens of the Verde River. The battle over the river's fate pits federal law against state law, development against conservation, and the state's largest city against a rapidly growing, rural mountain town. Part I describes the Verde River, including its ecology and geology, and introduces the communities that surround the river and their increasing water demands. Part II details the threats groundwater pumping poses to the river, providing an overview of relevant state law and discussing potential impacts on the river. Part III explores opposition to the pumping and the conflicting doctrines of ground and surface water that form the basis of opponents' claims. Part IV examines the Prescott-area municipalities' responses to legal challenges and other obstacles. Part V considers the potential consequences to the parties, the river, and Arizona water law depending on how this controversy is ultimately resolved.

The legal resolution of this battle could take decades, yet Arizona's growing population needs water now and harm to the Verde River is already manifest. The economic and environmental stakes are high: Prescott's future growth, metropolitan Phoenix's water supply, the habitat and existence of several endangered species, and the fate of the Verde River all hang in the balance.

## I. THE VERDE RIVER AND SURROUNDING COMMUNITIES

To understand the importance of the controversy over the Verde River's fate, one must first appreciate the integral role that the river plays in Arizona's economy and ecology. It is one of the last free-flowing perennial rivers in Arizona and its beauty is unparalleled.<sup>1</sup> Yet its flows are in peril as burgeoning

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1. American Rivers, *America's Most Endangered Rivers of 2006*, at 30, available at <http://www.americanrivers.org> (follow "America's Most Endangered Rivers" link; select "2006" to download report); KELLY EVANS & CACIA MCCLAIN, ARIZONA

municipalities like Prescott and its neighbors struggle to accommodate the increasing demands for water that inevitably accompany population growth and development.<sup>2</sup> This Part introduces the Verde River and the communities that surround it; together, they comprise the central characters in this poignant battle.

#### *A. The Verde River*

The Verde River is one of the largest remaining perennial streams in the southwestern United States, and its lower region is the only river in Arizona to receive congressional designation as “wild and scenic.”<sup>3</sup> To describe it as picturesque is an understatement, especially considering the stark contrast between the Verde’s lush riparian corridor and the dry juniper uplands of rural Yavapai County.<sup>4</sup> The river flows freely from its headwaters just east of the towns of Chino Valley and Paulden to the outskirts of Phoenix, where it joins the Salt River at Horseshoe Dam.<sup>5</sup> The river serves as an important biological corridor between the Central Arizona Highlands and the Sonoran Desert, and a unique ecosystem has evolved from the intermingling of desert and highland species.<sup>6</sup>

Home to hundreds of species of plants, animals, fish, and birds, the Verde supplies habitat essential to many species’ survival, including several on the endangered species list.<sup>7</sup> It provides opportunities for spectacular bird watching and wildlife observation, and myriad species of vegetation flourish along the river.<sup>8</sup> Deciduous trees line its banks, providing a much-needed canopy for beaver

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WILDERNESS COALITION, WILD AND SCENIC RIVER PROPOSAL FOR THE UPPER VERDE RIVER 13–14 (2005), <http://azwild.org/resources/proposals.php> (select “Upper Verde Wild and Scenic River Proposal” to download report).

The San Pedro River, in southeastern Arizona, is often (mistakenly) billed as the last free-flowing river in Arizona. Tony Davis, *The Battle for the Verde*, HIGH COUNTRY NEWS, May 14, 2007, available at <http://www.hcn.org/issues/346/17001>; L. William Staudenmaier, *Between a Rock and a Dry Place: The Rural Water Supply Challenge for Arizona*, 49 ARIZ. L. REV. 321, 323 (2007). In fact, the Verde River flows freely for 170 miles before it reaches Horseshoe Dam sixty miles northeast of Phoenix and is much deeper and wider than its “more famous counterpart to the south,” reaching widths of a mile in some places. Davis, *supra*.

2. See *infra* Part II.B.

3. See *supra* note 1; National Wild and Scenic Rivers System: Verde River, Arizona, <http://www.rivers.gov/wsr-verde.html> (last visited Nov. 28, 2008). For more information about the Wild and Scenic Rivers Act of 1968, see <http://www.rivers.gov>.

4. EVANS & MCCLAIN, *supra* note 1, at 7.

5. *Id.*; Davis, *supra* note 1. For a map of the Verde River Watershed, see *infra* p. 179.

6. EVANS & MCCLAIN, *supra* note 1, at 7.

7. *Id.* at 8, 25; Notice of Intent to Sue from the Center for Biological Diversity to City of Prescott Mayor Rowle Simmons, et al. 4 (Dec. 8, 2004) [hereinafter Notice of Intent to Sue]; Telephone Interview with Michelle Harrington, Rivers Program Director, Center for Biological Diversity (Nov. 6, 2007). The endangered species include Southwestern Willow Flycatcher, American Peregrine Falcon, Spikedace, Roundtail Chub, Western Yellow-Billed Cuckoo, Arizona Toad, Verde Valley Sage, Arizona Cliff Rose, and others. Notice of Intent to Sue, *supra*, at 3.

8. EVANS & MCCLAIN, *supra* note 1, at 22. The density of breeding birds along the Upper Verde River is one of the highest in North America, with more than 1000 pairs

and elk, among others; the trees survive the harsh Arizona climate thanks to the river's perennial flow.<sup>9</sup>

The geological formations that surround the Verde include limestone, sandstone, granite, and volcanic rock.<sup>10</sup> In some places, the river flows at the bottom of a deep canyon, making access more challenging for the hikers, rock climbers, kayakers, and fly-fishers who frequent the river, yet affording a singular sense of solitude.<sup>11</sup> In other places, the canyons drop away to reveal wide floodplains on either bank and sweeping horizons.<sup>12</sup>

Though critical to the abundance of life it supports, the Verde is in danger of drying up.<sup>13</sup> In 2006, the environmental group American Rivers listed the Verde as the tenth most endangered river in the United States due to threats posed by groundwater pumping and rapid development.<sup>14</sup> Base flows—the amount of water flowing in the river during the driest time of the year—have decreased by as much as half in recent years.<sup>15</sup> At least 90% of Arizona's riparian areas have already been lost to development or increased water use and the Verde stands as one of the few remaining rivers that can support the needs of such a rich and diverse ecosystem.<sup>16</sup> The intentions of nearby communities, however, may ultimately seal its fate.

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per 100 acres. Davis, *supra* note 1; Joanna Dodder, *Nature Conservancy Buys Key Upper Verde Land*, DAILY COURIER (Prescott, Ariz.), Jan. 4, 2008, at 1A. Commonly seen birds include robins, mallards, and clapper rails. EVANS & MCCLAIN, *supra* note 1, at 22. Common mammals include American Pronghorns, coyotes, elk, javelinas, beavers, and mountain lions, and the Verde River is “one of the last places in Arizona where [river] otter thrive.” EVANS & MCCLAIN, *supra* note 1, at 22; Dodder, *supra*. Vegetation and plant life flourishing along the river include Cottonwood, Velvet Mesquite, Desert Willow, and Netleaf Hackberry. EVANS & MCCLAIN, *supra* note 1, at 20.

9. EVANS & MCCLAIN, *supra* note 1, at 19–20.

10. *Id.* at 14, 16–17.

11. *Id.* at 14.

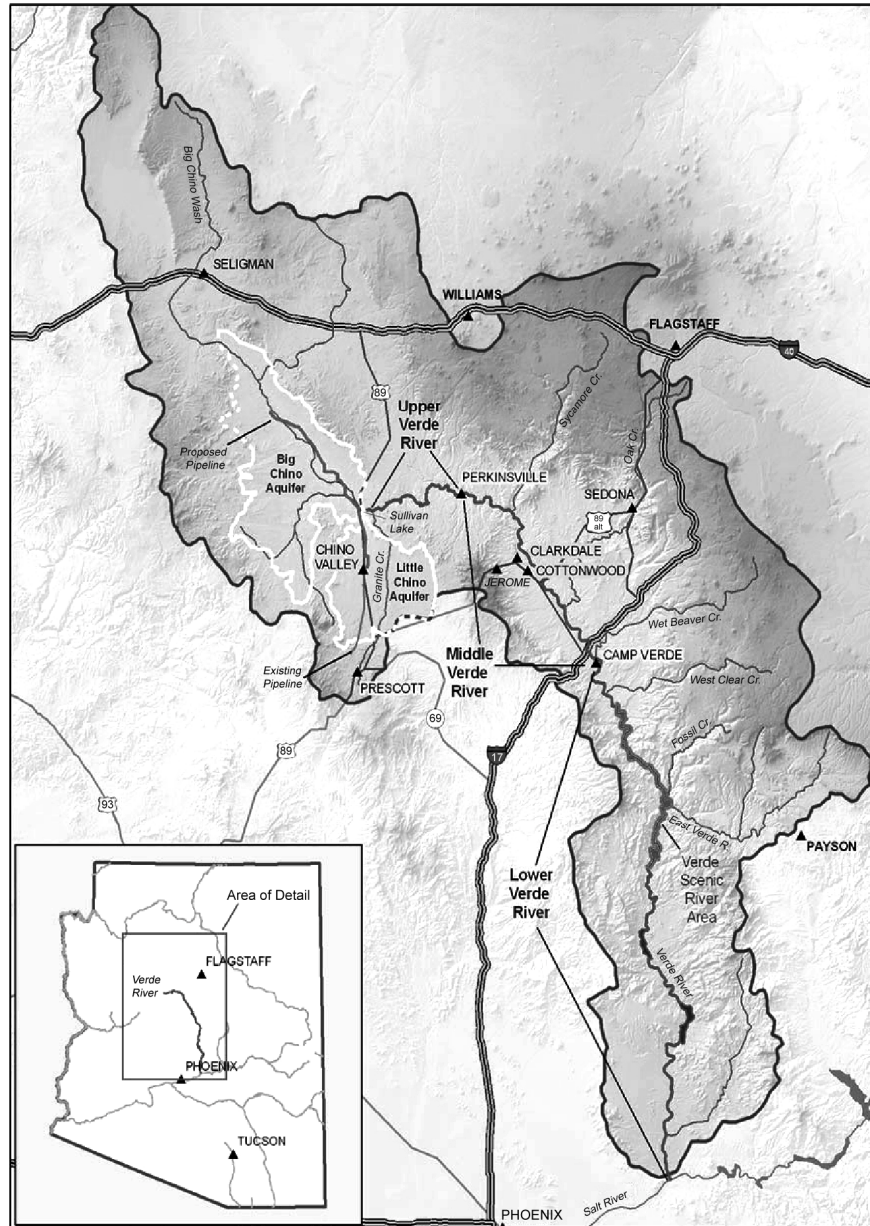
12. *Id.* at 15. For an excellent and concise history of the Verde River's geological formation and evolution, see *id.* at 16–19.

13. Notice of Intent to Sue, *supra* note 7, at 2; Davis, *supra* note 1.

14. American Rivers, *supra* note 1, at 30. In 1991 and 1992, American Rivers listed the Verde River as the thirteenth most endangered river in the United States. EVANS & MCCLAIN, *supra* note 1, at 19. In 1987, it was listed fifth most endangered. *Id.* at 19.

15. Notice of Intent to Sue, *supra* note 7, at 2–3.

16. *Id.*; EVANS & MCCLAIN, *supra* note 1, at 19–20. For more information on the ecological importance of riparian areas and the unique role that the Verde plays in creating a corridor for various species and regions, see *id.* at 19–25.

*Verde River Watershed Map*<sup>17</sup>

17. Center for Biological Diversity, Verde Watershed Map, [http://www.biologicaldiversity.org/campaigns/save\\_the\\_verde/map.html](http://www.biologicaldiversity.org/campaigns/save_the_verde/map.html) (last visited Feb. 20, 2009) (reproduced with permission).

*B. Prescott, Prescott Valley, and Chino Valley*

Yavapai County, home to Prescott, Prescott Valley, and Chino Valley, has a population of approximately 220,000, with more than two-thirds living in the greater Prescott area.<sup>18</sup> It is one of the fastest growing rural areas in the nation, with the population expected to exceed 400,000 by the year 2030.<sup>19</sup>

The City of Prescott is known for its quaint Courthouse Square, small-town atmosphere, and welcoming motto of “Everybody’s Hometown.”<sup>20</sup> But despite its rural charm, Prescott is rapidly growing.<sup>21</sup> A popular retirement destination, Prescott’s population has more than tripled in the last decade and continues to rise.<sup>22</sup> This growth spurred the development of neighboring Prescott Valley, a town immediately to the east of Prescott, where “strip centers, real estate signs and freshly bladed subdivisions-in-progress dominate the landscape.”<sup>23</sup> As of May 2007, 33% of Prescott Valley’s sales tax revenue came from the sale of new buildings and 15% of Yavapai County jobs were in the construction industry (compared with a statewide average of 9%).<sup>24</sup> Prescott Valley’s population is expected to more than double by 2020 and water demand is expected to increase five-fold by 2050.<sup>25</sup> The nearby Town of Chino Valley, approximately ten miles north of Prescott, was incorporated in 1970 with a population of 802.<sup>26</sup> By 2000, the population had increased ten-fold and is projected to double again by 2030.<sup>27</sup>

Former State Treasurer and Arizona legislator Carol Springer, now a Yavapai County Supervisor, has done more than anyone to usher in this growth.<sup>28</sup> A fiscally conservative Republican, Springer believes growth is essential to the survival of rural areas like Yavapai County.<sup>29</sup> In 1992, she was instrumental in the passage of legislation that authorizes Prescott to build a pipeline to import water from the Big Chino Aquifer for municipal use.<sup>30</sup> She sponsored another bill in

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18. Notice of Intent to Sue, *supra* note 7, at 2–3.

19. Joanna Dodder, *Group Estimates Population, Water*, DAILY COURIER (Prescott, Ariz.), Mar. 22, 2008, at 1A; Alex Markels, *Prescott, Arizona: This High-Desert Oasis Is Proving Popular with Folks of All Ages*, U.S. NEWS & WORLD REP., Oct. 1, 2007, at 60.

20. Davis, *supra* note 1.

21. *Id.*

22. Markels, *supra* note 19, at 60. *U.S. News and World Report* listed Prescott as number seven in its Special Report “America’s Best Places to Retire,” published in October 2007. *Id.* *Money* magazine listed Prescott as one of the top five retirement communities in the United States in 2006. Davis, *supra* note 1.

23. Davis, *supra* note 1.

24. *Id.*

25. Shaun McKinnon, *Water Wells Draining Rivers at Their Source*, ARIZ. REPUBLIC, Aug. 7, 2006, at A1.

26. Town of Chino Valley Homepage, <http://www.chinoaz.net/index.shtml> (follow “About our Town: Projects, Statistics, and Reports” link to download demographic and population information) (last visited Feb. 26, 2009).

27. *Id.*

28. Davis, *supra* note 1.

29. *Id.*

30. *Id.*; Joanna Dodder, *SRP Says Prescott Has No Right to Big Chino Water*, DAILY COURIER (Prescott, Ariz.), Feb. 17, 2008, at 1A.

1994 that allowed the proliferation of unregulated residential wells (known as “exempt wells”).<sup>31</sup>

But not all local officials agree with Springer’s “grow or die” attitude. Chip Davis, another Yavapai County Supervisor, believes that sustainability should be the touchstone of growth.<sup>32</sup> The United States Geological Survey (USGS) echoed these concerns in 2004, completing a series of studies that make the connection between the Big Chino Sub-basin and Verde River more explicit, and Arizona Department of Water Resources (ADWR) Director Herb Guenther has warned that the Big Chino Sub-basin should not be “counted on as a permanent supply.”<sup>33</sup>

Despite the adamant refusal of some local officials, like Springer, to admit that there is a water crisis, there is little question that declining water resources are the result of development.<sup>34</sup> Water levels have dropped in the Prescott area by more than half a foot each year since 1982, and have been decreasing even more quickly since 1994.<sup>35</sup> In 1999, ADWR declared that Prescott was withdrawing more groundwater than could be naturally replenished, known as “mining,” and imposed restrictions on new development.<sup>36</sup> In the three years prior to ADWR’s declaration, Prescott-area governments approved the construction of more than 32,000 homes, two-thirds of which were approved in the four months between ADWR’s tentative declaration that the basin was mining groundwater and its final declaration, when the restrictions actually took effect.<sup>37</sup> By ushering through these last-minute approvals—which equate to a doubling of the water service area’s population—Prescott allowed another 10,000 acre-feet of water per

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31. Davis, *supra* note 1; for more information on exempt wells, see *infra* note 46. As of March 2007, Yavapai County had more than 27,000 exempt wells and at least 450 new wells are sunk each year. This number is greater than in any other county in the state and has significantly affected the state’s water resources because these wells are exempt from many state controls and regulations. Davis, *supra* note 1.

32. *Id.*

33. *Id.*; U.S. DEP’T OF INTERIOR, U.S. GEOLOGICAL SURVEY, NO. 2004-1411, GEOLOGIC FRAMEWORK OF AQUIFER UNITS AND GROUND-WATER FLOWPATHS, VERDE RIVER HEADWATERS, NORTH-CENTRAL ARIZONA (2005), available at <http://pubs.usgs.gov/of/2004/1411/>; Joanna Dodder, *Governor Wants State to Help Resolve Big Chino Issues*, DAILY COURIER (Prescott, Ariz.), Feb. 17, 2008, at 1A.

34. Davis, *supra* note 1.

35. *Id.*

36. *Id.*; ARIZ. DEP’T OF WATER RES., ARIZONA DEPARTMENT OF WATER RESOURCES REPORT ON THE FINAL DECISION AND ORDER THAT THE PRESCOTT ACTIVE MANAGEMENT AREA IS NO LONGER AT SAFE-YIELD 1 (1999), available at <http://www.azwater.gov/dwr/Content/Publications/files/finrepweb.pdf>. As defined by the Arizona legislature, “safe yield” is “a groundwater management goal which attempts to achieve and thereafter maintain a long-term balance between the annual amount of groundwater withdrawn in an active management area and the annual amount of natural and artificial recharge in the active management area.” ARIZ. REV. STAT. ANN. § 45-561(12) (2007).

37. Davis, *supra* note 1.

year to be pumped from the surrounding basin that would otherwise have stayed in the ground under the new restrictions.<sup>38</sup>

### C. *The Verde Valley*

Mingus Mountain, at a height of approximately 7800-feet, separates the Verde Valley from the Prescott area.<sup>39</sup> The municipalities east of the mountain include Clarkdale, Cottonwood, and Camp Verde.<sup>40</sup> Together, they use nearly twice as much water as the Prescott area, and reside outside of the heavily restricted Prescott Active Management Area (AMA).<sup>41</sup> Much of that water is used to irrigate alfalfa fields but, even without agricultural uses, domestic and municipal water uses in the Verde Valley rival the amount of water currently pumped from the Big and Little Chino Sub-Basins to serve the Prescott area each year.<sup>42</sup>

The Verde Valley communities pose a significant threat to the Verde River because their water use is virtually unregulated. The number of private wells in the region increased from 500 in 1964 to 5600 in 2004; SRP estimated in April 2008 that there are now more than 7000 wells in the area.<sup>43</sup> Many of these wells are close enough to the river that landowners are actually pumping river water, or subflow, instead of groundwater.<sup>44</sup> SRP is attempting to work with local residents to assure that their water needs can be met without detrimentally impacting the river, though it has filed lawsuits against some of the larger well owners.<sup>45</sup> While the problem posed by exempt wells is significant, it is beyond the scope of this Note. Groundwater pumping in the Verde Valley threatens a different portion of the river and can be distinguished from the groundwater pumping planned by Prescott and its neighbors.<sup>46</sup>

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38. *Id.* The acre-foot is a commonly used measurement that refers to the amount of water required to cover one acre (43,560 square feet) to a height of one foot deep. One acre-foot is equivalent to 325,851 gallons or 1233.5 cubic meters. U.S. Dep't of the Interior, Bureau of Reclamation, Glossary, <http://www.usbr.gov/library/glossary> (last visited Apr. 16, 2008).

39. Davis, *supra* note 1.

40. For a map of the region, see Verde River Watershed Map, *supra* p. 179.

41. Davis, *supra* note 1. For more information on AMAs, see *infra* Part III.A.

42. Davis, *supra* note 1.

43. J. Craig Anderson, *Groundwater Plan Could Shrink Water Supply*, E. VALLEY/SCOTTSDALE TRIB., June 18, 2006, available at <http://www.eastvalleytribune.com/story/67945>; Joanna Dodder, *Competing Verde Uses Become Crystal Clear at Forum*, DAILY COURIER (Prescott, Ariz.), Apr. 14, 2008, at 1A.

44. Dodder, *supra* note 43. For an excellent explanation of the hydrologic connection between groundwater and surface water, see Robert Jerome Glennon & Thomas Maddock, III, *The Concept of Capture: The Hydrology and Law of Stream/Aquifer Interactions*, 43 ROCKY MT. MIN. L. INST. § 22.02 (1997). For more on the doctrine of subflow, see *infra* Part III.A.

45. Anderson, *supra* note 43; Dodder, *supra* note 43.

46. The middle portion of the river flows through the Verde Valley, where tributary streams supplement the river's flows; in contrast, Prescott's pumping threatens the upper portion of the river. *See, e.g.*, EVANS & MCCLAIN, *supra* note 1, at 56–57; McKinnon, *supra* note 25. For a map of the Verde River Watershed, including designations of the “Upper,” “Middle,” and “Lower” segments, see Verde River Watershed Map, *supra* p. 179.



## II. THE PLAN TO PUMP

Increasing demand for water and decreasing groundwater levels statewide have led Arizona to take drastic action to conserve and manage its limited resources. In 1980, Arizona passed the Groundwater Management Act (GMA), recognizing the Prescott area as one of four crucial management areas and designating the City of Prescott as an assured water supply provider for its region.<sup>47</sup> Since then, Prescott has struggled to manage that supply and, in January 1999, ADWR declared Prescott was out of compliance with the GMA's safe-yield goals.<sup>48</sup> To achieve compliance, Prescott has endeavored to secure new resources in an already water-strapped region, teaming up with Prescott Valley to utilize a provision in the GMA that allows Prescott to pump water from the Big Chino Aquifer.<sup>49</sup> This Part gives a brief history of the GMA and the statutory provisions on which Prescott, Prescott Valley, and Chino Valley rely, explores the municipalities' plans to pump from the Big Chino Aquifer, and concludes with a discussion of the likely impact pumping will have on the Verde River.

### A. *The Groundwater Management Act of 1980 and A.R.S. § 45-555*

In an effort to address the growing demand for water, the Arizona legislature passed the GMA in 1980, radically changing water management in Arizona.<sup>50</sup> The GMA designated four Active Management Areas, which are geographically distinct regions with critical or imperiled groundwater supplies that comprise whole or multiple groundwater basins.<sup>51</sup> It limited existing uses of groundwater within the AMAs and restricted new uses.<sup>52</sup>

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While the problem of exempt wells is beyond the scope of this Note, its importance cannot be overstated. For more information on the impact of exempt wells and the legal obstacles to regulating them, see Glennon & Maddock, *supra* note 44, § 22.04; Cindy Barks, *Group Hopes to Get Specific on Plans for Verde Mitigation*, DAILY COURIER (Prescott, Ariz.), May 20, 2006, at 1A; Joanna Dodder, *Study Shows Changes with Groundwater Pumping*, DAILY COURIER (Prescott, Ariz.), Jan. 25, 2006, at 1A; McKinnon, *supra* note 25; Staudenmaier, *supra* note 1, at 336.

47. *See infra* note 51.

48. *See infra* Part III.B.

49. *Id.*

50. Staudenmaier, *supra* note 1, at 321–22. The GMA is codified in sections 45-401 to 45-704 of the Arizona Revised Statutes. For a concise history of the GMA as it relates to Prescott, see *Town of Chino Valley v. City of Prescott*, 638 P.2d 1324, 1325–27 (Ariz. 1981). *See also* Robert Jerome Glennon, “*Because That’s Where the Water Is*”: *Retiring Current Water Uses to Achieve the Safe-Yield Objective of the Arizona Groundwater Management Act*, 33 ARIZ. L. REV. 89 (1991).

51. *Town of Chino Valley*, 638 P.2d at 1325–26. Groundwater basins are “areas designated as enclosing a relatively hydrologically distinct body or related bodies of groundwater.” *Id.* at 1326; ARIZ. REV. STAT. ANN. § 45-402(13) (2007). The four AMAs comprise the metropolitan areas of Phoenix and Tucson, the agricultural corridor between them, and the Prescott area. Staudenmaier, *supra* note 1, at 321–33.

52. *Town of Chino Valley*, 638 P.2d at 1326. The Prescott AMA encompasses the City of Prescott, the Towns of Prescott Valley and Chino Valley, the Yavapai Prescott Indian Tribe Reservation, and several smaller surrounding communities. CITY OF PRESCOTT, WATER MANAGEMENT POLICY 2005–2010 1 (Amend. 1, Mar. 27, 2007) [hereinafter CITY OF

The GMA also changed regulations regarding the transportation of water within and outside of groundwater basins and AMAs.<sup>53</sup> It authorized the transfer of groundwater within the same sub-basin, but required payment of damages for transfers between sub-basins and outside of AMAs.<sup>54</sup> This change “legitimiz[e] the prospective withdrawal of groundwater from the Little Chino Sub-basin by Prescott[,]” which was the focus of a decade-old lawsuit between Chino Valley and Prescott, and paved the way for the region’s current plans to pump groundwater from the Big Chino Aquifer.<sup>55</sup>

An important component of the GMA is the Assured Water Supply (AWS) Program, which requires that all new subdivisions, plats, or other developments within an AMA obtain certification of a 100-year assured water supply from ADWR prior to sale and/or construction.<sup>56</sup> The AWS Program also directs ADWR to designate certain water providers and municipalities within AMAs as assured water supply providers.<sup>57</sup> A certificate of assured water supply is not required for new developments within the service area of an assured water supply provider; rather, the responsibility of managing and monitoring water resources is transferred to the designated provider.<sup>58</sup>

Relieving some of the water shortage pressures that spawned the GMA and supplying much-needed Colorado River water to Arizona’s metropolitan cities, the Central Arizona Project (CAP) became fully operational between 1985 and 1992.<sup>59</sup> For Prescott, however, the CAP never held the same promise that it did for the other three AMAs. Geographically distant from Phoenix and Tucson, it

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PRESCOTT], available at [http://www.cityofprescott.net/\\_d/water\\_mgmt\\_policy.pdf](http://www.cityofprescott.net/_d/water_mgmt_policy.pdf); Staudenmaier, *supra* note 1, at 321–33.

53. *Town of Chino Valley*, 638 P.2d at 1326; Staudenmaier, *supra* note 1, at 325–26. The regulation of water transfers was a source of great controversy in Arizona at the time that the GMA was passed. An earlier decision by the Arizona Supreme Court, *Farmers Inv. Co. v. Bettwy*, 558 P.2d 14 (Ariz. 1976), had strictly interpreted existing transportation laws and the GMA was created partially to alleviate the concerns raised by that decision. Staudenmaier, *supra* note 1, at 326.

54. ARIZ. REV. STAT. ANN. § 45-541(A) (2007); *Town of Chino Valley*, 638 P.2d at 1326. “Sub-basins” are defined as “areas designated so to enclose a smaller hydrologically distinct body of groundwater found within a groundwater basin.” ARIZ. REV. STAT. ANN. § 45-402(25) (2006); *Town of Chino Valley*, 638 P.2d at 1326.

55. *Town of Chino Valley*, 638 P.2d at 1326.

56. ARIZ. REV. STAT. ANN. § 45-576(A) (2007). “Assured water supply” is defined as “[s]ufficient groundwater, surface water or effluent of adequate quality [that] will be continuously available to satisfy the water needs of the proposed use for at least one hundred years,” based on various factors. § 45-576(J). The AWS Program was developed largely as a consumer protection measure in response to the marketing and sale of residential lots that lacked sufficient water supplies. Staudenmaier, *supra* note 1, at 329.

57. § 45-576(D)–(I).

58. *Id.*

59. Robert Jerome Glennon, *Coattails of the Past: Using and Financing the Central Arizona Project*, 27 ARIZ. ST. L.J. 677, 680 (1995); Staudenmaier, *supra* note 1, at 322. Despite its promise as a partial answer to Arizona’s water troubles, the CAP has been plagued by financial, infrastructure, and legal issues since it was first negotiated. See Glennon, *supra*.

soon became evident that Prescott would not be able to access CAP water. In response, the legislature adopted Arizona Revised Statutes section 45-555 in 1991.<sup>60</sup>

Section 45-555(E) explicitly authorizes the City of Prescott to pump groundwater from the Big Chino Aquifer in excess of the amounts permitted under other parts of the GMA, up to 14,000 acre-feet per year.<sup>61</sup> The statute states this grant is in exchange for CAP water currently allocated to the Prescott AMA and to facilitate the settlement of local tribes' water rights claims.<sup>62</sup> Section 45-555(A) authorizes municipalities to "retire" historically irrigated acres (HIA), redirecting water from agricultural uses to municipal uses and claiming up to three acre-feet of water per acre of land (known as the "HIA exception").<sup>63</sup> Prescott, Prescott Valley, and Chino Valley have relied exclusively on sub-sections (A) and (E) to justify their plans to pump from the Big Chino Aquifer.<sup>64</sup>

### ***B. Prescott's Water Supply and the Big Chino Ranch Project***

The City of Prescott is the only designated water supplier in the Prescott AMA with a 100-year assured water supply.<sup>65</sup> Its current water supply comes from the Little Chino Sub-basin.<sup>66</sup> Approximately 8500 acre-feet per year is extracted from a well field in Chino Valley and transported fifteen miles north through three transmission lines to Prescott, where it serves some 40,000 people.<sup>67</sup> But faced with projected population growth of 2–3% per year and ADWR's 1999 determination that it was mining groundwater, Prescott decided to collaborate with Prescott Valley to begin pumping groundwater from the Big Chino Sub-basin, as authorized by section 45-555(E).<sup>68</sup> In December 2004, the municipalities purchased a 6530.7-acre parcel, known as the Big Chino Ranch, to use as their well site.<sup>69</sup> Their proposed wells will be sunk approximately twenty miles from the

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60. ARIZ. REV. STAT. ANN. § 45-555 (2007); 1991 Ariz. Legis. Serv. Ch. 212 (S.B. 1055) (West).

61. § 45-555(E).

62. *Id.*

63. § 45-555(A).

64. *See infra* Part II.B–C.

65. City of Prescott, Public Works: Big Chino Ranch Project, <http://www.cityofprescott.net/services/public/chino.php> (last visited Oct. 13, 2007) [hereinafter Public Works]. ADWR's 1999 declaration that the Prescott AMA was no longer in compliance with the safe-yield requirements of the GMA triggered restrictions on growth and capped the amount of water available within the AMA for new development. The restrictions require that new developments within the city's service area obtain certifications of assured water supply based either on renewable water resources or sources outside of the AMA. CITY OF PRESCOTT, *supra* note 52, at 1; ARIZ. DEP'T OF WATER RES., *supra* note 36; Public Works, *supra*; Davis, *supra* note 1.

66. Public Works, *supra* note 65.

67. *Id.*

68. *Id.* Under their agreement, Prescott is a 55% partner and Prescott Valley is a 45% partner. *Id.*

69. *Id.*

headwaters of the Verde River.<sup>70</sup> The transmission pipeline will be more than thirty miles long and transmit up to 12,400 acre-feet of water per year.<sup>71</sup> At an estimated cost of \$170 million, the municipalities have yet to award construction contracts to build the pipeline, but expect construction to take at least two years.<sup>72</sup>

Although section 45-555(E) authorizes the withdrawal of 14,000 acre-feet of water, a subsequent advisory letter from ADWR preliminarily determined that Prescott is entitled to withdraw only 8717 acre-feet per year under subsection (E)'s criteria, which will be shared with Prescott Valley.<sup>73</sup> Prescott filed a petition for a modification of its assured water supply in October 2007, arguing that it should be entitled to 9571 acre-feet and that the water should count towards meeting the safe-yield goals of the GMA.<sup>74</sup> After more than a year, repeated requests for additional documentation, and a public comment period that generated dozens of objections, ADWR partially granted Prescott's request.<sup>75</sup> ADWR's November 2008 decision modifies Prescott's assured water supply, allowing its Big Chino water to count towards safe-yield and to be used for new development, but finding it is entitled to only 8067 acre-feet per year under section 45-555(E).<sup>76</sup> While Prescott received the news favorably,<sup>77</sup> it appealed the determination in hopes of securing a larger allowance of water.<sup>77</sup>

### C. Chino Valley's Optimism

Originally part of Prescott and Prescott Valley's discussions to build a pipeline that would service all three communities, Chino Valley eventually had to back out because it "could not afford to participate."<sup>78</sup> But in a move that surprised many in the area, Chino Valley entered into an agreement in May 2007 with a Missouri-based development company, Chino Grande LLC, under which the company would build a water pipeline in exchange for revenues from the sale of

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70. Varying estimates put the location of the well fields between fifteen and twenty miles from the river. *E.g.*, Doug Cook, *Chino Valley Approves Pipeline; Will Import Big Chino Sub-Basin Groundwater*, DAILY COURIER (Prescott, Ariz.), May 12, 2007, at 1A (fifteen miles); Big Chino Water Ranch Project, Potential Impacts to the Verde, [http://www.protectingourwaterresources.com/impacts\\_of\\_the\\_verde\\_river.html](http://www.protectingourwaterresources.com/impacts_of_the_verde_river.html) (last visited Jan. 31, 2009) [hereinafter Potential Impacts to the Verde] (twenty miles).

71. Public Works, *supra* note 65.

72. Cindy Barks, *Local Officials Express Confidence About Status of Big Chino Pipeline*, DAILY COURIER (Prescott, Ariz.), Aug. 14, 2008, at 1A.

73. CITY OF PRESCOTT, *supra* note 52, at 2.

74. Joanna Dodder, *Chino, Prescott Progress on Big Chino Plans*, DAILY COURIER (Prescott, Ariz.), Oct. 21, 2007, at 1A; *see also* Cindy Barks, *City Files Appeal on ADWR Big Chino Ruling*, DAILY COURIER (Prescott, Ariz.), Dec. 13, 2008, at 1A.

75. *See* Decision of the Director to Grant City of Prescott's Application for Modification of Its Designation as Having an Assured Water Supply, No. 86-401501.0001 (Ariz. Dep't of Water Res., Nov. 12, 2008) [hereinafter Decision of the Director to Grant Prescott's Application], available at <http://www.azwater.gov/dwr/default.htm> (under "Hot Topics" section in center of page); Barks, *supra* note 72.

76. Decision of the Director to Grant Prescott's Application, *supra* note 75, at 13.

77. Barks, *supra* note 74.

78. Cook, *supra* note 70.

water.<sup>79</sup> Chino Valley's proposed wells would be only five miles from the headwaters of the Verde River, on a parcel of land owned by Chino Grande LLC.<sup>80</sup> Projected to cost only \$15 million, the project would allow Chino Valley to grow by approximately 20,000 new homes.<sup>81</sup>

Having found a way to build its own pipeline without incurring substantial cost, Chino Valley indicated its willingness to resume discussions about the possibility of combining efforts with Prescott and Prescott Valley.<sup>82</sup> However, due to an ailing economy and legal threats from entities opposed to the pumping plans, as of January 2009 Chino Grande LLC had been unable to secure funding for the project and Chino Valley currently has no concrete construction timeline.<sup>83</sup>

Regardless of when or if pumping occurs, Chino Valley has stated it will not attempt to claim any of the water allocated to Prescott under section 45-555(E).<sup>84</sup> It will instead conserve more than 3000 acre-feet of water from historically irrigated agricultural lands under the HIA exception in section 45-555(A).<sup>85</sup> In October 2007, Chino Valley received official authorization from ADWR to import 2893 acre-feet of water from the Big Chino Sub-basin.<sup>86</sup>

#### ***D. Impact on the Verde River***

The impact that groundwater pumping by Prescott, Prescott Valley, and Chino Valley will have on the Verde River is a question at the heart of the battle to "save" it. Scientists, conservationists, and water providers like SRP are in agreement that groundwater pumping has already impacted the river and, if Prescott and the other communities move forward with their plans to pump from the Big Chino Aquifer, further reductions in the river's flows are inevitable.<sup>87</sup> Still, Prescott-area officials insist that their pumping will not have a negative impact on the river.<sup>88</sup> Further complicating the debate, the parties are relying on drastically different statistics.<sup>89</sup>

Those who worry that groundwater pumping threatens the river rely heavily on a 2004 report published by USGS scientists Laurie Wirt and Winn Hjarlmarson, which found that as much as 86% of the Upper Verde River's flows

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79. *Id.*

80. *Id.*

81. *Id.*

82. *Id.*

83. Joanna Dodder, *Water Groups to Host Rally, Panel on Big Chino Wednesday; Pipeline Protest on Plaza*, DAILY COURIER (Prescott, Ariz.), Jan. 26, 2009, at 1A.

84. ARIZ. REV. STAT. ANN. § 45-555(E) (2007); Cook, *supra* note 70.

85. § 45-555(A); Cook, *supra* note 70.

86. Dodder, *supra* note 74; Town of Chino Valley, Water Transportation, [http://www.chinoaz.net/water\\_res/transport.shtml](http://www.chinoaz.net/water_res/transport.shtml) (last visited Dec. 1, 2008).

87. *See, e.g.*, Joanna Dodder, *New Study Backs Up Importance of Big Chino to Verde River's Flow*, DAILY COURIER (Prescott, Ariz.), Jan. 25, 2006, at 1A; Dodder, *supra* note 46; McKinnon, *supra* note 25; Staudenmaier, *supra* note 1.

88. *See* Potential Impacts to the Verde, *supra* note 70; McKinnon, *supra* note 25.

89. *E.g.*, McKinnon, *supra* note 25.

come directly from the Big Chino Aquifer.<sup>90</sup> Wirt predicted that if current pumping plans proceed, the first twenty-four miles of the river could go dry by the end of this century.<sup>91</sup> Declining flows—or no flow—would have devastating impacts on the biologically diverse ecosystem along the Upper Verde, further threatening or destroying the habitats of already-endangered species.<sup>92</sup>

Evidence of the effects of groundwater pumping can already be seen in the decreasing height of the water table.<sup>93</sup> The water table adjacent to the headwaters of the Verde River has dropped by as much as eighty feet since 1947 and, according to Wirt's study, the river actually begins flowing several miles further downstream than it once did.<sup>94</sup> Of course, the decreasing water table shows the impacts of *current* groundwater pumping; the effects of the proposed pumping have yet to be seen.<sup>95</sup>

In contrast to Wirt's study and other corroborating reports, Prescott-area officials insist that their plans to pump will not have serious consequences on the river.<sup>96</sup> An engineering firm hired by Prescott determined that the area where Prescott plans to pump is "physically separated" from the Verde's headwaters by a "clay plug."<sup>97</sup> The firm's report asserts that the springs and aquifer in question supply only 5% of the river's flows as measured below Camp Verde.<sup>98</sup> This discrepancy in frame of reference may be the source of the vast difference in numbers: Camp Verde is a community in the Verde Valley, many miles from the Verde's headwaters where Wirt made her calculations.<sup>99</sup> Conservationists and others have criticized the firm's report as obscuring the issue by "fudg[ing] words": by the time the river reaches Camp Verde many tributaries have joined its flow, diluting the aquifer's share.<sup>100</sup>

Because Chino Valley's proposed well sites are a mere five miles from the river, its plans to pump may affect the river more quickly than Prescott and Prescott Valley's.<sup>101</sup> An SRP consultant estimates the river's headwaters could be depleted by half the amount of water Chino Valley pumps within one year from the time pumping begins, and could reduce the river's baseflow by 47% within ten to twenty years.<sup>102</sup> Chino Valley Water Resources Manager Mark Holmes says his

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90. U.S. DEP'T OF INTERIOR, *supra* note 33; U.S. DEP'T OF INTERIOR, U.S. GEOLOGICAL SURVEY, OPEN-FILE REPORT 00-403, PRELIMINARY REPORT ON GEOPHYSICS OF THE VERDE RIVER HEADWATERS REGION, ARIZONA (2000), *available at* <http://geopubs.wr.usgs.gov/open-file/of00-403>; Dodder, *supra* note 87.

91. McKinnon, *supra* note 25.

92. Notice of Intent to Sue, *supra* note 7.

93. Dodder, *supra* note 46.

94. *Id.*; U.S. DEP'T OF INTERIOR, *supra* note 33, at ch. A.

95. U.S. DEP'T OF INTERIOR, *supra* note 33, at ch. A; Dodder, *supra* note 46.

96. *See infra* Part IV.

97. Potential Impacts to the Verde, *supra* note 70; McKinnon, *supra* note 25.

98. *Id.*

99. *Id.*

100. *Id.*

101. Joanna Dodder, *Water Pipeline Plans Advance; SRP Voices Concerns*, DAILY COURIER (Prescott, Ariz.), Jan. 15, 2008, at 1A.

102. *Id.*

town would prefer to join forces with Prescott and Prescott Valley to build a shared pipeline, so that they could take advantage of the other municipalities' more distant well sites.

An additional point of concern is water quality. Prescott learned in 2006 that arsenic levels on the Big Chino Ranch exceed revised federal standards and recently had to invest \$1.5 million in a filtration system.<sup>103</sup> Also, a new scientific study indicates that recharging aquifers or streams with municipal effluent—a likely component of any successful mitigation plan—can contaminate or kill fish and wildlife.<sup>104</sup> If water quantities in the aquifer and river continue to decrease, concentrations of arsenic and other contaminants may increase, further jeopardizing the water supply and ecosystem.

### III. OPPOSITION TO THE PLAN AND OTHER LEGAL ISSUES

Many people are concerned by predictions that the Verde River could be dry in less than 100 years if Prescott is allowed to pump from the Big Chino Aquifer. The most vocal opposition has come from two entities with vested interests in the river's health. The first, SRP, stands to lose a significant portion of its metropolitan Phoenix water supply if Verde River flows diminish. SRP's rights to the river date back to the early twentieth century and SRP has begun the process of seeking judicial enforcement of those rights.<sup>105</sup> The second entity, the Center for Biological Diversity (CBD), has made its name defending endangered species and the habitats critical to their survival.<sup>106</sup> CBD has been poised to bring suit on behalf of the rich, yet fragile, Verde River ecosystem since 2004.<sup>107</sup> This Part first examines the legal framework that sets the stage for these claims and then explores the concerns of SRP, CBD, and others.

#### A. Ground and Surface Water Under Arizona State Law

The battle over the Verde River is one of many disputes caused by the conflicting doctrines of ground and surface water in Arizona.<sup>108</sup> In order to understand the conflict, and its potential for resolution, it is necessary to have an understanding of Arizona's ground and surface water doctrines, as well as the uniquely Arizonan concept of "subflow."<sup>109</sup>

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103. Cindy Barks, *Arsenic Levels at Ranch Higher than Expected*, DAILY COURIER (Prescott, Ariz.), July 4, 2006, at 1A; Cindy Barks, *Arsenic Treatment Permits Raise Concerns for Council*, DAILY COURIER (Prescott, Ariz.), Mar. 5, 2008, at 1A.

104. Doug Cook, *Biologist Recommends Creation of Habitat Conservation Plan to Safeguard Verde River*, DAILY COURIER (Prescott, Ariz.), Nov. 14, 2008, at 1A; Joanna Dodder, *Water Group Hears About Water Contaminant Issues*, DAILY COURIER (Prescott, Ariz.), Apr. 15, 2008, at 5A.

105. See *infra* Part III.B.

106. See *infra* Part III.C.

107. *Id.*

108. See generally ROBERT GLENNON, WATER FOLLIES: GROUNDWATER PUMPING AND THE FATE OF AMERICA'S FRESH WATERS (2002).

109. For a concise history of these competing doctrines, see Glennon & Maddock, *supra* note 44, § 22.03; Staudenmaier, *supra* note 1, at 324–26.

In Arizona, as in much of the western United States, the doctrine of prior appropriation governs all surface water diversions.<sup>110</sup> Based on the “first-in-time, first-in-right” principle, the doctrine dictates that the most senior users of a river or stream have first priority and “junior” users’ claims are subordinate to those of senior users.<sup>111</sup> When there is a shortage of water, a junior user’s claim is only satisfied once all senior claims have been satisfied.<sup>112</sup> As a result, the most senior claims—some with priority dates reaching back to the 1800s—are the most valuable. Difficulty in measuring historic use, however, casts significant uncertainty onto these claims today.<sup>113</sup> Further, the permitting processes established in Arizona only require a junior user to file an application for a water right with ADWR; the agency does not determine whether sufficient water exists in that stream or river to satisfy the junior’s claim.<sup>114</sup> As a result, most, if not all, of the streams and rivers in Arizona are over-appropriated, making priority dates and the details of more senior rights (such as quantity, use, and point of diversion) very important.<sup>115</sup>

In an effort to relieve the tension and uncertainty among the thousands of surface water claims, states have developed general adjudication procedures “designed to bring all water users in a given watershed together in a single litigation that will adjudicate the priority and scope of their rights.”<sup>116</sup> Arizona has two ongoing general adjudications, one for the Gila River watershed and another for the Little Colorado River.<sup>117</sup> The Gila River Adjudication is the largest in size, with as many as 24,000 parties and almost a million potential claimants.<sup>118</sup> Much of Arizona’s water law has been developed and interpreted in the context of the Gila River Adjudication and SRP will likely litigate its rights to the Verde in the Adjudication court.<sup>119</sup>

Unlike surface water, groundwater is subject to no such priority system.<sup>120</sup> The doctrine of reasonable use governs groundwater, providing that

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110. ARIZ. REV. STAT. ANN. §§ 45-141(A), 45-251(7) (2007); *In re Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source (Gila River IV)*, 9 P.3d 1069, 1073 (Ariz. 2000); Robert Jerome Glennon & Thomas Maddock, III, *In Search of Subflow: Arizona’s Futile Effort to Separate Groundwater from Surface Water*, 36 ARIZ. L. REV. 567, 568 (1994).

111. Glennon & Maddock, *supra* note 110, at 568–69.

112. *Id.* at 569.

113. *Id.* Historical uses must be documented to assure that the right was not forfeited due to a period of non-use. *Id.*

114. *See id.* at 568–69; JOSEPH SAX ET AL., LEGAL CONTROL OF WATER RESOURCES: CASES AND MATERIALS 124–33 (4th ed. 2006).

115. *See* JOSEPH SAX ET AL., *supra* note 114, at 124–33; Glennon & Maddock, *supra* note 110, at 568–69.

116. Glennon & Maddock, *supra* note 110, at 569.

117. *Id.*

118. *Id.* at 569–70.

119. For more information and a history of the Adjudication, see Joseph M. Feller, *The Adjudication That Ate Arizona Water Law*, 49 ARIZ. L. REV. 405 (2007). For more on SRP’s intentions to sue Prescott, see *infra* Part III.B.

120. *In re Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source (Gila River IV)*, 9 P.3d 1069, 1073 (Ariz. 2000); *In re Gen. Adjudication of All*



users may extract as much groundwater as desired so long as the user puts it to a reasonable use on the overlying parcel.<sup>121</sup> In addition to lacking a priority system that would give one groundwater user a superior right in relation to others, the right is usufructory—groundwater users have no “legally recognized property right in potential, future groundwater use.”<sup>122</sup>

The conflict between the doctrines stems from the scientific reality that ground and surface water are not separate entities.<sup>123</sup> They are hydrologically connected and often, if not always, represent the same molecules of water at different stages in the hydrologic cycle.<sup>124</sup> Thus, pumping of groundwater can affect surface water and vice versa, as is the case with Prescott’s plans to pump from the Big Chino Aquifer, thereby negatively impacting flows of the hydrologically connected Verde River.<sup>125</sup> In *Maricopa County Municipal Water Conservation District No. One v. Southwest Cotton*, a landmark decision handed down in 1931, the Arizona Supreme Court addressed this disparity.<sup>126</sup> In an effort to preserve the prior appropriation rights of surface water diverters, the court created the legal concept of “subflow,” defined as “those waters which slowly find their way through the sand and gravel constituting the bed of the stream, or the lands under or immediately adjacent to the stream, and are themselves a part of the surface stream.”<sup>127</sup>

The concept of subflow has been a source of great controversy since it was first introduced.<sup>128</sup> In 1931, much less information existed about hydrology and the interrelationship between sub-surface and surface water than exists today.<sup>129</sup> The *Southwest Cotton* court relied on a 1912 treatise that created categories to describe the interrelation of groundwater and surface water, such as subflow and tributary groundwater, which modern science has revealed to be indistinguishable.<sup>130</sup> The court adopted the terms, however, holding that subflow was subject to the rules of prior appropriation because of its close relationship with

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Rights to Use Water in the Gila River Sys. & Source (*Gila River II*), 857 P.2d 1236 (Ariz. 1993).

121. *Gila River IV*, 9 P.3d at 1073; see ROBERT GLENNON, UNQUENCHABLE: AMERICA’S WATER CRISIS AND WHAT WE CAN DO ABOUT IT (forthcoming Apr. 2009).

122. *Gila River IV*, 9 P.3d at 1083 (quoting *In re Rights to the Use of the Gila River (Gila River I)*, 830 P.2d 442, 451 (Ariz. 1992)); see also *Town of Chino Valley v. City of Prescott*, 638 P.2d 1324, 1328 (Ariz. 1981).

123. For an excellent description of “general principles of hydrogeology” as they relate to the interplay between ground and surface water, see Glennon & Maddock, *supra* note 110, at 574–85. For a discussion of hydrologic principles as they relate to water law more generally, see A. DAN TARLOCK, LAW OF WATER RIGHTS AND RESOURCES § 2:4 (2007).

124. See Glennon & Maddock, *supra* note 110.

125. Notice of Intent to Sue, *supra* note 7; Dodder, *supra* note 87.

126. 4 P.2d 369 (Ariz. 1931).

127. *Id.* at 380.

128. Glennon & Maddock, *supra* note 110, at 571–72.

129. See, e.g., *id.* at 572.

130. *Id.* at 572, 590–91; *Southwest Cotton*, 4 P.2d at 380.

surface water, while tributary groundwater was not.<sup>131</sup> Thus ensued some seventy years of attempting to interpret and apply these imprecise and unscientific terms.<sup>132</sup>

In July 1993, the Arizona Supreme Court issued a decision, known commonly as *Gila River II*, affirming the holding of *Southwest Cotton*.<sup>133</sup> Despite huge advances in the science of hydrology, the court chose to adhere to the definitions of subflow influenced by the 1912 treatise.<sup>134</sup> It held that a determination of subflow depends on:

whether the well is pumping water that is *more closely associated* with the stream than with the surrounding alluvium. For example, comparison of such characteristics as elevation, gradient, and perhaps chemical makeup can be made. Flow direction can be an indicator. If the water flows in the same general direction as the stream, it is more likely related to the stream. On the other hand, if it flows toward or away from the stream, it likely is related to the surrounding alluvium.<sup>135</sup>

With this guidance, the court remanded the case for a determination of the precise procedure that would be used to distinguish subflow from un-appropriable percolating groundwater.<sup>136</sup>

Legal scholars, hydrologists, ADWR, and the trial court roundly criticized the *Gila River II* decision.<sup>137</sup> Even the Arizona Supreme Court seemed uncomfortable with its decision, acknowledging that Arizona's law "had failed to keep pace with scientific reality" and explicitly inviting legislative action.<sup>138</sup> On remand, the trial court judge meticulously gathered evidence, spending two days at the San Pedro River hearing from experts.<sup>139</sup> The court found that the "younger Holocene alluvium" was the "only stable geologic unit which is beneath and adjacent to most rivers and streams" and, as such, was the most accurate of all of the possible markers that could be used to determine subflow.<sup>140</sup> Under this test, all wells inside the saturated younger Holocene alluvium ("subflow zone") are presumed to be pumping subflow and wells outside it can be deemed to be pumping subflow if the well's cone of depression extends into the subflow zone.<sup>141</sup>

131. Glennon & Maddock, *supra* note 110, at 571.

132. See *In re Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source (Gila River IV)*, 9 P.3d 1069, 1073–74 (Ariz. 2000); see also Glennon & Maddock, *supra* note 110, at 572; Staudenmaier, *supra* note 1, at 325.

133. *In re Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source (Gila River II)*, 857 P.2d 1236 (Ariz. 1993).

134. *Gila River IV*, 9 P.3d at 1075; Glennon & Maddock, *supra* note 110, at 572.

135. Glennon & Maddock, *supra* note 110, at 573 (quoting *Gila River II*, 857 P.2d at 1246) (emphasis added by Glennon & Maddock).

136. *Gila River IV*, 9 P.3d at 1074.

137. Glennon & Maddock, *supra* note 110, at 590–99.

138. *Id.* at 573.

139. *Gila River IV*, 9 P.3d at 1075–76.

140. *Id.* at 1076. The alluvium must also be saturated and connected to a perennial or intermittent stream. *Id.*

141. *Id.* at 1076–77, 1080–83. A "cone of depression" is the funnel-shaped area created as water is sucked into a well. The cone varies in size depending on how much

The Arizona Supreme Court reviewed the trial court's second ruling in September 2000, affirming the new standards and adding additional criteria.<sup>142</sup> In dictum, the court distanced itself from the unpopular holdings in *Gila River II* and *Southwest Cotton*, noting that "our various descriptions [in those cases] . . . should not serve as a straightjacket that restricts us from reaching in the direction of the facts and, so far as possible under those decisions, conforming to hydrological reality."<sup>143</sup> Later trial court opinions have attempted to articulate more precise tests for determining the boundaries of the subflow zone and whether a well's cone of depression intrudes into the subflow zone, but these tests have yet to be accepted by the Arizona Supreme Court.<sup>144</sup>

### **B. SRP's Senior Water Rights**

Salt River Project has a major interest in the Verde River. Its claims to the Salt River—of which the Verde is a major tributary—date back to pre-statehood.<sup>145</sup> SRP first initiated an adjudication of its water rights in 1905, in Arizona's Third District Territorial Court.<sup>146</sup> It sought adjudication again in 1966, and for a third time in the 1974 Gila River General Adjudication that is ongoing today.<sup>147</sup>

The Phoenix metropolitan area, which SRP services, has historically received 300,000 acre-feet of water annually from the Verde River watershed, estimated to be as much as 40% of the company's total surface water supply.<sup>148</sup> As a result, SRP officials are paying close attention to Prescott, Prescott Valley, and Chino Valley's plans. For many years, SRP kept its cards close, demanding a mitigation plan but restraining from outright threats.<sup>149</sup> As the communities get closer to beginning construction on the pipelines, however, SRP has finally made its concerns public in a series of letters, appeals to ADWR, and a lawsuit filed in January 2009. This Section explores the substance of these concerns.

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water is being withdrawn and how quickly, and other characteristics of the soil and surrounding water table. Glennon & Maddock, *supra* note 110, at 573 n.44, 578–579. For a more detailed explanation and helpful illustrations, see ROBERT GLENNON, WATER FOLLIES: GROUNDWATER PUMPING AND THE FATE OF AMERICA'S FRESH WATERS 45–46 (2002).

142. *Gila River IV*, 9 P.3d at 1077–78.

143. *Id.* at 1079.

144. *In re Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source, In re Subflow Technical Report, San Pedro River Watershed*, No. W1-103, 1–2 (Maricopa Co. Sup. Ct. filed Sept. 28, 2005) (unpublished).

145. Feller, *supra* note 119, at 405–07. For a history of SRP, see <http://www.srpnet.com/about/history> (last visited Apr. 16, 2008). Arizona became a state in 1912.

146. Feller, *supra* note 119, at 406.

147. *Id.*

148. Jan C. Bush et al., *Examination of the Phoenix Regional Water Supply for Sustainable Yield and Carrying Capacity*, 46 NAT. RESOURCES J. 925, 933 (2006); Anderson, *supra* note 43; Dodder, *supra* note 33; Mike Padgett, *Valley Water Supply Threatened by Growth in SRP Watershed*, PHOENIX BUS. J., Aug. 19, 2005, available at <http://phoenix.bizjournals.com/phoenix/stories/2005/08/22/story2.html>.

149. Davis, *supra* note 1.

*1. Mitigation and Subflow*

SRP has been demanding that Prescott develop a written mitigation plan since 1991, when then-Mayor Sam Steiger announced Prescott's intention to pump from the Big Chino Aquifer.<sup>150</sup> It reiterated this demand in a December 2007 letter to Prescott, Prescott Valley, and Chino Valley.<sup>151</sup> Noting the connection between the aquifer and the river, and the need to protect SRP's "vested senior water rights," the letter states that any water withdrawn from the aquifer must be offset by either: (1) contemporaneously reducing existing water uses in the Big Chino basin; or (2) augmenting Verde River flows with water from outside the watershed.<sup>152</sup> "[T]he result," it states, "must be a 'zero loss' of water supplies to SRP's shareholders and to protect Verde river habitat from impacts resulting from the proposed pumping project . . . ."<sup>153</sup> SRP suggests the communities achieve this goal by setting aside the debate as to whether its pumping will impact the Verde River and acting quickly to implement a "sound monitoring program and an actionable mitigation plan."<sup>154</sup>

A question central to SRP's claim is whether the water Prescott, Prescott Valley, and Chino Valley plan to pump from the Big Chino Aquifer is subflow. If it is, the municipalities' rights to the water are subordinate to SRP's claims to the river under the prior appropriation doctrine. If it is groundwater, Arizona law recognizes no connection between the pumping and SRP's rights to the river.

While defining the parameters of the subflow zone requires sophisticated mapping and other historical and scientific data, the subflow zone is "usually less than a mile wide."<sup>155</sup> Because Prescott and Prescott Valley's proposed well field is between fifteen and twenty miles from the Verde's headwaters, it is unlikely their proposed wells or the wells' cones of depression will reach into the subflow zone. In fact, ADWR reached this conclusion in November 2008.<sup>156</sup> Noting that water withdrawn from a well is presumed to be groundwater barring clear and convincing evidence to the contrary, ADWR determined that because of the distance of Prescott's proposed well site from the river, the water it plans to pump is not subflow and therefore not subject to the surface water rights of downstream users like SRP.<sup>157</sup> SRP was precluded from directly participating in the appeal of that determination because it is not a resident of the Prescott AMA, but three local

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150. Joanna Dodder, *SRP Increases Pressure for Mitigation Plan*, DAILY COURIER (Prescott, Ariz.), Jan. 1, 2008, at 1A.

151. Steve Ayers, *SRP Concerned with Big Chino Plan*, VERDE NEWS, Jan. 2, 2008, available at <http://verdenews.com/main.asp?Search=1&ArticleID=24657&SectionID=1&SubSectionID=1&S=1>.

152. *Id.*

153. *Id.*

154. *Id.* The letter suggests that a satisfactory mitigation plan could include plans to retire historically irrigated lands, purchase development rights to neighboring parcels, and install monitoring wells throughout the Basin at least one year prior to the start of any pumping. *Id.*

155. Glennon & Maddock, *supra* note 110, at 597.

156. Decision of the Director to Grant Prescott's Application, *supra* note 75, at 6.

157. *Id.*

residents filed appeals substantially similar to SRP's and were represented by SRP's attorneys.<sup>158</sup>

Chino Valley's proposed well sites are much closer to the river, and therefore more likely to be within the subflow zone than Prescott and Prescott Valley's. SRP and Chino Valley are debating whether and how soon Chino Valley's proposed wells would affect the river, but if Chino Valley joins forces with Prescott and Prescott Valley to build a shared pipeline, it will use their more distant well sites, further from the likely subflow zone.<sup>159</sup>

Despite the placement of the proposed wells outside the likely subflow zone, SRP may still be able to show that the municipalities are pumping subflow if it can prove the wells "intercept water in the 'subflow' region."<sup>160</sup> According to the superior court's 1994 opinion, these wells will be subject to surface water laws (and the Gila River Adjudication) to the extent that the water they pump comes from the river or subflow zone.<sup>161</sup> Yet, while the superior court seems to invite the presentation of evidence that a well is impacting the subflow zone, despite residing outside of it, the Arizona Supreme Court did not explicitly acknowledge such a right when it affirmed the superior court's opinion in *Gila River IV*.<sup>162</sup>

SRP faces an uphill battle in establishing that Prescott and Prescott Valley will be pumping subflow. Even if it can show that the municipalities' wells are impacting the subflow zone and adversely affecting the river, it will be difficult to apportion fault among the many groundwater users currently pumping (or planning to pump) from the Big Chino Aquifer, which include the municipalities and numerous residents with exempt wells. Further, assuming SRP files suit to protect its rights to the Verde, it will likely do so in the Gila River Adjudication; this presents several problems.<sup>163</sup> First, the claim would be subjected to the incredibly slow speed at which the large and complex Adjudication process moves.<sup>164</sup> Second, the claim would be premised upon the seniority of SRP's rights, which, while widely recognized and respected, nevertheless have not been officially decreed by the Adjudication court.<sup>165</sup> Third, as discussed in the previous Section, the Arizona Supreme Court has not yet conclusively decreed the definition of subflow and the manner in which it is measured.<sup>166</sup> Thus, SRP's claim would be

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158. Cindy Barks, *ADWR's Prescott Ruling Elicits Appeals*, DAILY COURIER (Prescott, Ariz.), Dec. 23, 2008, at 1A; Cindy Barks, *SRP Files Suit Against State, City of Prescott*, DAILY COURIER (Prescott, Ariz.), Jan. 14, 2009, at 1A; Cindy Barks, *Three-Day Hearing Will Review Prescott's Use of Big Chino Water*, DAILY COURIER (Prescott, Ariz.), Feb. 8, 2009, at 1A.

159. Dodder, *supra* note 101.

160. Glennon & Maddock, *supra* note 110, at 597-98.

161. *Id.* at n.140; *In re Gen. Adjudication of All Rights to Use Water in the Gila River Sys. & Source (Gila River IV)*, 9 P.3d 1069, 1073 (Ariz. 2000).

162. *See Gila River IV*, 9 P.3d at 1077.

163. The Adjudication's scope includes all tributaries of the Gila River, including the Salt and Verde rivers. *See, e.g.*, Glennon & Maddock, *supra* note 110, at 569.

164. *Id.*

165. *See generally id.*

166. *See supra* Part III.A.

forced to rely on rights and doctrines that remain unsettled in the eyes of Arizona law.

Weighing in SRP's favor is the potential magnitude of harm that could be inflicted upon the river and SRP's customers if the municipalities' pumping causes the harm that SRP and others predict it will.<sup>167</sup> SRP may seek injunctive relief, pending the resolution of the Gila River Adjudication, and a court may be inclined to grant a temporary injunction to preserve the status quo (i.e., enjoin the pumping) in the face of such significant potential harm. Weighing against SRP, however, is Prescott's legislatively mandated right to pump from the Big Chino Aquifer and determinations by ADWR that it can do so without pumping subflow.<sup>168</sup> If SRP ultimately files suit against the municipalities, it could be decades before a final decision emerges from the judicial review process.

## 2. SRP Challenges Prescott's Entitlement to Big Chino Water

In addition to concerns about mitigation and impacts on the river, SRP has taken issue with the law that grants Prescott authority to pump from the Big Chino Aquifer. SRP explains its interpretation of Arizona Revised Statutes section 45-555(E) in a January 2008 letter to the Prescott City Attorney and ADWR.<sup>169</sup> It argues that the "14,000 acre-feet referred to in the statute is *not* an entitlement," but rather an "upper limit" on the amount of groundwater that Prescott could qualify to withdraw by satisfying the statute's requirements, and that the amount of water Prescott qualifies to withdraw under those two requirements is far less than ADWR or the City of Prescott believes.<sup>170</sup> SRP also challenges the constitutionality of the exception altogether, arguing that subsection (E) violates the prohibition against "special or local" laws.<sup>171</sup>

SRP asserts that Prescott is entitled to only 4081 acre-feet of water under section 45-555(E)—an amount far less than the 8067 acre-feet ADWR determined Prescott was entitled to its November 2008 decision and the 9571 acre-feet that Prescott hopes to withdraw.<sup>172</sup> The discrepancy between the figures, SRP argues, is partially the result of a mischaracterization of the amount of CAP water for which Prescott is entitled to reimbursement under subsection (E)(1).<sup>173</sup> Because Prescott sold its CAP rights to Scottsdale and used the proceeds from the sale to purchase other water rights equivalent to 3861 acre-feet, SRP argues the amount of CAP reimbursement Prescott is entitled to under (E)(1) should be reduced by that

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167. See *supra* Part II.D.

168. See *supra* Part II.B.

169. Letter from John B. Weldon, Jr., Salmon, Lewis & Weldon, P.L.C., on behalf of Salt River Project, to Gary D. Kidd, City Attorney, City of Prescott, Rita P. Maguire, Maguire & Pearce, P.L.L.C., & W. Patrick Schiffer, Chief Counsel, Ariz. Dep't of Water Res. (Jan. 29, 2008), [hereinafter Letter from SRP to Prescott, ADWR], available at <http://www.dcourier.com/main.asp?Search=1&ArticleID=52578&SectionID=1&SubSectionID=1&S=1> (download from link at bottom of page).

170. *Id.* at 2–7.

171. *Id.* at 7–10 (citing ARIZ. CONST. art. IV, pt. 2, § 19(20)).

172. *Id.* at 2; Decision of the Director to Grant Prescott's Application, *supra* note 75, at 13; Dodder, *supra* note 30.

173. Letter from SRP to Prescott, ADWR, *supra* note 169, at 2–5.

amount.<sup>174</sup> SRP also challenges the amount of water Prescott is entitled to under subsection (E)(2), arguing that, because it used water from other sources to settle its claims with the Yavapai-Prescott and Yavapai-Apache tribes, allowances under (E)(2) should be reduced by the amount that the claims have already been settled with other sources.<sup>175</sup>

But questions about the amount of Prescott's entitlement will be moot if SRP's next argument succeeds. The Arizona Constitution prohibits the enactment of "special" or "local" laws "when a general law can be made applicable."<sup>176</sup> Asserting that section 45-555(E) applies only to the City of Prescott, SRP argues it grants exclusive privilege to one entity, excluding other similarly-situated municipalities, namely Prescott Valley and Chino Valley, and other holders of CAP contracts who could sell their rights and seek replacement water.<sup>177</sup> Because other members of the relevant class are excluded from the privilege and a general (or, at least, *more* general) law is possible, SRP asserts section 45-555(E) is an impermissible special or local law, precluding Prescott from relying on it to withdraw groundwater.<sup>178</sup>

Building on this argument, SRP focused its attack on Prescott Valley in September 2008.<sup>179</sup> Because section 45-555(E) applies only to the City of Prescott, SRP argued, Prescott Valley is not "an intended beneficiary" of the statute and any Big Chino water it receives from Prescott is an invalid withdrawal.<sup>180</sup>

### 3. SRP Challenges ADWR's Interpretation of the HIA Exception

SRP's objection to Chino Valley's plans is not about the validity of Chino Valley's right to pump water, but *from where* the town will pump it. A 2007 ADWR report determined Chino Valley and other area municipalities could pump all of their groundwater acquired under the HIA exception from one location, even though the retired water rights come from acquisition of numerous parcels; in Chino Valley's case, the town has purchased twenty-six separate parcels throughout the Big Chino Sub-basin, at an estimated cost of \$3.5 million.<sup>181</sup>

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174. *Id.*

175. *Id.* at 5–7.

176. ARIZ. CONST. art. IV, pt. 2, § 19(20).

177. Letter from SRP to Prescott, ADWR, *supra* note 169, at 7–10.

178. *Id.* ADWR's November 2008 determination mentions but does not take a position on this issue, noting only that administrative agencies cannot consider the constitutionality of statutes and that ADWR must assume the statute is constitutional for purposes of analyzing Prescott's application. Decision of the Director to Grant Prescott's Application, *supra* note 75, at 1–2.

179. Cindy Barks, *SRP Questions PV's Rights to Big Chino Water*, DAILY COURIER (Prescott, Ariz.), Sep. 19, 2008, at 1A.

180. *Id.*

181. ARIZ. REV. STAT. ANN. § 45-555(A) (2007) ("HIA exception"); Joanna Dodder, *State Denies SRP Request to Review Big Chino Water Decision*, DAILY COURIER (Prescott, Ariz.), Feb. 14, 2008, at 3A.

ADWR's determination allows the town to withdraw the entire 648 acre-feet of water these parcels represent from one well site.<sup>182</sup>

Under SRP's interpretation, HIA water should be withdrawn from the same site where pumping historically occurred.<sup>183</sup> SRP fears that if Chino Valley is permitted to pump all of its water from one well site, a mere five miles from the Verde's headwaters, impacts on the river's flows will be far greater than if the town pumped the same amount of water from various wells throughout the area, many of which would be farther from the river.

Chino Valley and ADWR disagree with SRP, contending it is economically infeasible to build pipelines to all of the parcels from which Chino Valley has purchased HIA rights.<sup>184</sup> Chino Valley warns that if SRP's interpretation of the statute prevails, it could prevent the town from using Prescott and Prescott Valley's more distant well sites and force it to withdraw water from the closer well site.<sup>185</sup>

### *C. The Center for Biological Diversity's ESA Concerns*

Another party with an interest in the future of the Verde River is the Center for Biological Diversity. CBD is a nonprofit advocacy organization that promotes and protects biological diversity through "science, law, and creative media."<sup>186</sup> Numerous lawsuits filed on behalf of endangered species have made CBD a formidable foe in the arena of environmental protection.<sup>187</sup> Its "Save the Verde" campaign, launched in 2006, has turned CBD into one of the most vocal opponents of the Prescott-area communities' plans to pump.<sup>188</sup>

On December 8, 2004, CBD sent a Notice of Intent to Sue to Prescott, Prescott Valley, and several governmental entities for alleged violations of the

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182. Dodder, *supra* note 181. SRP challenged the ADWR determination, asserting the agency needed to undertake a public rulemaking process, which includes a public comment period, rather than issuing an administrative decision. ADWR denied SRP's request, but the Governor's Regulatory Council sided with SRP on appeal, holding that ADWR's report constituted a new rule requiring public review. *Id.*; Joanna Dodder, *Ruling Could Delay Pipeline Plans*, DAILY COURIER (Prescott, Ariz.), Apr. 8, 2008, at 1A; Joanna Dodder, *SRP Appeals Agency's Big Chino Decision*, DAILY COURIER (Prescott, Ariz.), Feb. 20, 2008, at 1A [hereinafter Dodder, *SRP Appeals*].

183. Joanna Dodder, *New Big Chino Draft Rules Still Raise Ire of SRP*, DAILY COURIER (Prescott, Ariz.), May 8, 2008, at 1A.

184. Dodder, *SRP Appeals*, *supra* note 182.

185. Dodder, *supra* note 183. Though, in that situation, the amount of water Chino Valley could withdraw from the closer parcel would presumably be limited to the amount of HIA water it had acquired by purchasing that parcel.

186. For general information about the Center for Biological Diversity, visit <http://www.biologicaldiversity.org> (follow "About" link at top of page).

187. *See, e.g.*, *Ctr. for Biological Diversity v. Kempthorne*, 466 F.3d 1098 (9th Cir. 2006); *Ctr. for Biological Diversity v. Badgley*, 335 F.3d 1097 (9th Cir. 2003); *Ctr. for Biological Diversity v. Norton*, 254 F.3d 833 (9th Cir. 2001).

188. Press Release, *Ctr. for Biological Diversity, Center Launches Campaign to Protect the Verde River* (Aug. 15, 2006), available at [http://www.biologicaldiversity.org/programs/public\\_lands/rivers/save\\_the\\_verde/index.html](http://www.biologicaldiversity.org/programs/public_lands/rivers/save_the_verde/index.html) (follow "Media" link).



Endangered Species Act (ESA).<sup>189</sup> The Notice cites potential harm to at least five endangered or threatened species and alleges that groundwater pumping will so severely impact the river's flows that it will destroy critical habitat within and around the river.<sup>190</sup>

CBD's Notice specifically alleges violations of section 9 of the ESA, which prohibits the "taking" of an endangered or threatened species.<sup>191</sup> The ESA defines "take" as "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."<sup>192</sup> Habitat modification qualifies as a taking under the statute<sup>193</sup> and the Ninth Circuit has held that habitat modification *reasonably certain* to injure endangered species is sufficient to warrant a permanent injunction.<sup>194</sup> Similarly, an *imminent threat* of harm to a protected species falls within the definition of "take."<sup>195</sup>

Section 9 takings are permitted only with an "incidental take permit."<sup>196</sup> To receive a permit, applicants must submit a Habitat Conservation Plan (HCP) specifying, among other things: the impact of the proposed taking; what will be done to minimize that impact; and alternative actions considered and the reasons for not implementing them.<sup>197</sup> In a presentation to Prescott-area officials in February 2008, CBD representative Michelle Harrington encouraged the municipalities to create an HCP, noting that a sufficient HCP (presumably resulting in the issuance of a permit) could prevent litigation.<sup>198</sup> U.S. Fish and

189. Notice of Intent to Sue, *supra* note 7, at 1. The letter is addressed to the U.S. Secretary of the Interior, U.S. Fish and Wildlife Service Director, U.S. Fish and Wildlife Service Regional Director, U.S. Secretary of Agriculture, U.S. Forest Service Chief, Prescott National Forest Supervisor, Coconino National Forest Supervisor, and Tonto National Forest Supervisor, in addition to City of Prescott Mayor Rowle Simmons and Town of Prescott Valley Mayor Harvey Skoog. *Id.*

The ESA, codified at 16 U.S.C. §§ 1531–44 (2006), allows groups like CBD to sue governmental entities to enjoin "destruction or . . . modification of [designated] critical habitat" or prohibit harm to protected species. These so-called "citizen suits" are governed by 16 U.S.C. § 1540(g) (2006).

190. Notice of Intent to Sue, *supra* note 7, at 3–4. The Notice cites potential harm to three federally protected fish (Razorback Sucker, Loach Minnow, and Spikedace), one federally protected songbird (Southwestern Willow Flycatcher), and the Southwestern Desert Nesting Bald Eagle. *Id.*

191. 16 U.S.C. § 1538(a)(1)(B) (2006) (section 9 prohibition on taking); *see also* Notice of Intent to Sue, *supra* note 7, at 5. CBD's Notice also alleges violations of sections 2, 7, and 9 of the ESA by the U.S. Departments of Agriculture and Interior and the U.S. Fish and Wildlife and Forest Services; however, the merits of these claims are beyond the scope of this Note. Notice of Intent to Sue, *supra* note 7, at 5.

192. 16 U.S.C. § 1532(19) (2006).

193. *Babbitt v. Sweet Home Chapter of Cmty for a Great Or.*, 515 U.S. 687 (1995).

194. *Forest Conservation Council v. Rosboro Lumber Co.*, 50 F.3d 781, 784 (9th Cir. 1995).

195. *Id.* at 784.

196. 16 U.S.C. § 1539(a)(1)(B) (2006).

197. § 1539(a)(2)(A).

198. Joanna Dodder, *HCP Mitigation Plan Could Help Area Avoid a Lawsuit*, *Center Rep Says*, DAILY COURIER (Prescott, Ariz.), Feb. 28, 2008, at 3A.

Wildlife Service (USFWS) representative John Nystedt explained that HCPs provide immunity for governmental entities from ESA litigation, allow applicants to determine the boundaries and scope of the plan, and require public participation and the involvement of all key stakeholders.<sup>199</sup> He noted Prescott would not be alone in having an HCP; Arizona is currently home to six other HCPs, mainly in southern Arizona.<sup>200</sup> The presentation sparked a debate among local officials, who expressed concern about the time required to develop an HCP and the effect it could have on private development.<sup>201</sup>

While CBD's ESA claims would become moot if Prescott and Prescott Valley submit an HCP and obtain an incidental take permit, it is CBD's preferred outcome.<sup>202</sup> CBD's Notice, consistent with subsequent public statements by CBD representatives, repeatedly demands that Prescott develop a comprehensive mitigation plan.<sup>203</sup> One of Prescott's attorneys, however, maintains the city does not need an HCP and questions whether its proposed pumping poses an actual threat to critical habitat or protected species.<sup>204</sup>

If CBD does file suit, it may face challenges in enjoining the pumping. In order to obtain an injunction, CBD will be required to demonstrate a likelihood of future harm.<sup>205</sup> Future harm need not be shown "with certainty"; rather, parties must establish only that future injury is "sufficiently likely."<sup>206</sup> The threat of future harm must be definitive, however, and not based on mere speculation.<sup>207</sup>

To establish a definitive threat, CBD must show that Prescott and Prescott Valley's plans to pump from the Big Chino Aquifer are sufficiently likely to harm or modify the habitat of the protected species that make their home in and around the Verde River. The existence of multiple conflicting reports about the probable impact of groundwater pumping on the Verde's flows will, at a minimum, cause challenges for CBD.<sup>208</sup> Both sides (CBD and the municipalities) are likely to

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199. *Id.*

200. *Id.* SRP has two HCPs in connection with its operations on the lower reaches of the Verde River. *See, e.g.*, U.S. Fish and Wildlife Serv., News Release: Fish and Wildlife Service Approves Salt River Project Habitat Conservation Plan (May 5, 2008), <http://www.fws.gov/southwest/es/arizona/Documents/HCPs/Horseshoe/Horeseshoe%20HCP%20fNewsRelease%205-5-2008.pdf>.

201. Dodder, *supra* note 198.

202. *Id.*; Cindy Barks, *Center for Biological Diversity Maintains Involvement in Pipeline Talks*, DAILY COURIER (Prescott, Ariz.), July 30, 2008, at 1A.

203. Notice of Intent to Sue, *supra* note 7, at 4–5; Barks, *supra* note 202; Barks, *supra* note 72; Dodder, *supra* note 198.

204. Joanna Dodder, *Attorney Objects to Big Chino Presentation*, DAILY COURIER (Prescott, Ariz.), Apr. 22, 2008, at 3A.

205. Nat'l Wildlife Fed'n v. Burlington N. R.R., 23 F.3d 1508, 1511–12 (9th Cir. 1994).

206. *Id.* at 1512.

207. *Id.* at 1512 n.8.

208. For a discussion of the conflicting reports about the impacts on the Verde River, see *supra* Part II.D. CBD also takes issue with the report Prescott relied upon in its decision to purchase the Big Chino Ranch, citing several alleged inaccuracies relating to the impacts of groundwater pumping. Notice of Intent to Sue, *supra* note 7, at 3. For example, the report predicts a maximum decrease of the surrounding water table of forty-nine feet in

produce voluminous expert testimony on the issue and a court may find, in the face of conflicting evidence, that CBD is unable to meet its burden of proof.<sup>209</sup>

Further, even if the court agrees that harm to protected species is sufficiently likely, CBD may have difficulty establishing that Prescott and Prescott Valley are individually responsible for the harm. Because of the multiple “straws” sucking from the Big Chino Aquifer, including exempt residential wells in the Paulden area and Chino Valley’s proposed withdrawals, it will be difficult for CBD to demonstrate which portion of the imminent harm would be specifically attributable to Prescott and Prescott Valley.

Yet, these potential challenges have not seemed to lessen CBD’s resolve. It maintains that, despite the four-year delay since sending its Notice of Intent to Sue, CBD is still prepared to file suit and will do so as soon as the municipalities break ground to build the pipeline.<sup>210</sup> Meanwhile, CBD’s media campaign and vigilant monitoring of the proposed pumping continue.<sup>211</sup> CBD hosts a monthly series of Verde-focused events in Prescott, known as “Watershed Wednesdays,” which are held at a local café and feature interactive events, poetry readings, letter writing, and petition signing.<sup>212</sup> CBD also arranges guided hikes for the public along the Upper Verde River.<sup>213</sup>

#### **D. Other Concerned Parties**

While SRP and CBD have been the most vocal opponents of the Prescott-area communities’ plans to pump from the Big Chino Aquifer, they are not the only concerned parties.

In January 2008, the Nature Conservancy announced its acquisition of the “last major parcel of private land” along the Upper Verde River.<sup>214</sup> The 312-acre parcel encompasses the first mile of the river, where some twenty-four springs join the river, significantly contributing to the Verde’s flows.<sup>215</sup> Dan Campbell, Verde Program Manager for the Nature Conservancy, described the parcel as a “symbolic

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100 years, while CBD argues that a decline of much less could have negative impacts on the river and that those impacts could be evident in as few as five years. *Id.*

209. Similarly, ADWR maintains the modeling necessary to determine potential impacts of groundwater pumping is “not yet available.” Decision of the Director to Grant Prescott’s Application, *supra* note 75, at 7.

210. Barks, *supra* note 202.

211. *Id.*; *Local Café Hosts ‘Refrigerator’ Poems for Verde*, DAILY COURIER (Prescott, Ariz.), Nov. 11, 2008, at 3A [hereinafter *Local Café*]; *Watershed Wednesday Features Poems About Verde*, DAILY COURIER (Prescott, Ariz.), Dec. 8, 2008, at 3A [hereinafter *Watershed Wednesday*].

212. *Local Café*, *supra* note 211; *Watershed Wednesday*, *supra* note 211.

213. *Center Offers Guided Upper Verde Hikes*, DAILY COURIER (Prescott, Ariz.), Aug. 28, 2008, <http://www.dcourier.com/main.asp?Search=1&ArticleID=58647&SectionID=74&SubSectionID=102&S=1> [hereinafter *Center Offers Guided Hikes*].

214. Dodder, *supra* note 8.

215. *Id.* Interspersed with the Conservancy’s holding are three parcels of approximately 700 acres owned by the Arizona Game and Fish Department. The Department plans to collaborate with the Conservancy to monitor and restore the fragile riparian area. *Id.*

and strategic location, where the quality and quantity of water can be monitored.<sup>216</sup> The Nature Conservancy is a key player when it comes to land conservation in Arizona; it has preserved more than 1.5 million acres in Arizona since 1966.<sup>217</sup> Though the Conservancy has not declared any intent to pursue legal action against Prescott or the surrounding communities in relation to their plans to pump from the Big Chino Aquifer, it has placed itself at the center of the controversy as a major stakeholder on the river and an advocate for the river's fragile ecology.

Prescott-area residents have also voiced a plethora of concerns about the impact of groundwater pumping. Editorials and columns in the local newspaper urge the municipalities to restrain growth and development as a way to conserve water.<sup>218</sup> Attendance at local events indicates significant interest in the issue; a public forum about the Verde River held in February 2008 drew hundreds of participants.<sup>219</sup> Other local events focusing on the issue have included guided hikes along the river, a local film festival featuring films about water issues (including six short features focused on the Verde), poetry readings, and rallies.<sup>220</sup> A recent "Verde River Awareness Day" featured skits and protests on the Courthouse Square in downtown Prescott, the presentation of a petition demanding the municipalities produce a written mitigation plan, and a panel workshop featuring various experts.<sup>221</sup> As Prescott and Prescott Valley gear up for city elections in March and August 2009, questions about the pumping project have dominated candidate forums.<sup>222</sup>

In September 2008, more than forty local residents registered formal objections with ADWR when it solicited public comments on Prescott's application to modify its assured water supply.<sup>223</sup> Many objectors used a template letter created by CBD, which Prescott City Manager Steve Norwood cited in

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216. *Id.*

217. For more information on the Arizona Chapter of the Nature Conservancy, see <http://www.nature.org/wherewework/northamerica/states/arizona/> (last visited Feb. 19, 2009).

218. Lou Bellisi, *Talk of the Town: Water Story Has More than One Side*, DAILY COURIER (Prescott, Ariz.), Sept. 15, 2008, at 4A; Al Herron, *Column: Safe Yield Means We Have to Stop Growth*, DAILY COURIER (Prescott, Ariz.), Jan. 14, 2008, at 4A; Al Herron, *Column: Water Quandary Is a Never-Ending Cycle*, DAILY COURIER (Prescott, Ariz.), Jan. 28, 2008, at 4A.

219. E.g., Joanna Dodder, *Verde Talk Draws Crowds*, DAILY COURIER (Prescott, Ariz.), Feb. 11, 2008, at 6A.

220. *Center Offers Guided Hikes*, *supra* note 213; Joanna Dodder, *Film Festival Focuses on Water Issues*, DAILY COURIER (Prescott, Ariz.), Oct. 3, 2008, at 1C; Joanna Dodder, *Groups Rally for Pipeline Mitigation Plan*, DAILY COURIER (Prescott, Ariz.), Jan. 30, 2009, at 1A [hereinafter Dodder, *Groups Rally*]; Dodder, *supra* note 83; *Local Café*, *supra* note 211.

221. Dodder, *supra* note 83.

222. Cindy Barks, *Prescott City Election Season Begins Friday*, DAILY COURIER (Prescott, Ariz.), Jan. 1, 2009, at 1A; Ken Hedler, *Economy, Water Dominate PV Candidate Forum*, DAILY COURIER (Prescott, Ariz.), Jan. 22, 2009, at 3A.

223. Cindy Barks, *Dozens Object to Prescott's Assured Water Request to ADWR*, DAILY COURIER (Prescott, Ariz.), Sep. 18, 2008, at 1A.

questioning the validity of the protests.<sup>224</sup> In response, CBD's Michelle Harrington noted the number of letters indicates residents' level of interest and concern, regardless of the fact that many used the form letter.<sup>225</sup> ADWR Assistant Director Sandy Fabritz-Whitney said the high number of protests was unusual, as the agency reviews three or four similar applications each year and rarely receives *any* protests.<sup>226</sup> Following ADWR's November 2008 ruling on the application, ADWR received appeals from seventeen entities and individuals.<sup>227</sup>

Other entities have expressed concern about the municipalities' plans to pump, for reasons including the potential impact on the Verde River, the failure to produce an adequate mitigation plan, possible harm to endangered species, and the unnecessary haste with which Prescott is proceeding towards the start of construction on the pipeline. These entities include, but are not limited to: the Arizona Game and Fish Department, the Sierra Club, the Yavapai-Apache Indian Nation, the Fort McDowell Yavapai Nation, the U.S. Fish and Wildlife Service, the Town of Camp Verde, and the local Citizens Water Advocacy Group.<sup>228</sup>

#### IV. THE MUNICIPALITIES' RESPONSES TO LEGAL CHALLENGES AND OTHER OBSTACLES

In addition to at least two threatened lawsuits, the Prescott-area communities face challenges including developing a mitigation plan, keeping costs at a manageable level, and even working together to study the issue.<sup>229</sup> Despite these hurdles, they have assured the public that they will not be deterred in their commitment to draw water from the Big Chino Aquifer, even as some Prescott City Council members begin to wonder whether they should be working on a "Plan B."<sup>230</sup> This Part explores the obstacles the municipalities face in their effort to pump and their responses to these and other challenges.

##### A. Cost

Originally projected to cost a mere \$30 million, the price of the pumping project has now grown to more than \$170 million.<sup>231</sup> The municipalities plan to

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224. *Id.*

225. *Id.*

226. *Id.*

227. Cindy Barks, *ADWR Water Supply Ruling; Administrative Appeal Hearing Will Proceed on Feb. 9, 10, & 11*, DAILY COURIER (Prescott, Ariz.), Jan. 18, 2009, at 1A.

228. Cindy Barks, *ADWR Ruling Buys Pipeline Plans; Opposition Grows*, DAILY COURIER (Prescott, Ariz.), Dec. 30, 2008, at 1A; Cindy Barks, *Judge's Decision Pending in Litigation over Assured Water Supply Appeal*, DAILY COURIER (Prescott, Ariz.), Jan. 30, 2009, at 1A [hereinafter Barks, *Judge's Decision Pending*]; Dodder, *Groups Rally*, *supra* note 220.

229. *See* Dodder, *supra* note 198.

230. *Id.*; Cindy Barks, *Recent Water Challenges Raise Concerns for Council*, DAILY COURIER (Prescott, Ariz.), Feb. 28, 2008, at 1A.

231. Cindy Barks, *Pipeline Cost Jumps to \$170M*, DAILY COURIER (Prescott, Ariz.), July 12, 2006, at 1A; Davis, *supra* note 1; Shaun McKinnon, *Prescott Wins a Battle in Groundwater Fight; SRP, Environmentalists Decry State OK to Tap Nearby Aquifer*, ARIZ. REPUBLIC, Dec. 23, 2008, at A1.

allocate costs 80/20 between new development and existing water users, with the majority coming from anticipated impact fees imposed on new growth and annexations, and the remainder derived from increased utility costs imposed on current residents.<sup>232</sup>

Members of the local Citizens Water Advocacy Group (CWAG) have voiced concerns that the municipalities are moving too quickly with the water project, arguing that Prescott already has enough water to serve existing needs within the city.<sup>233</sup> They warn that if proposed annexations fail, current residents will be saddled with a greater percentage of the bill for water resources they do not need and cannot use.<sup>234</sup> CWAG member Howard Mechanic proposes that the municipalities either: (1) demand that annexation property owners guarantee future payments; or, (2) contract with private investors to shield the municipalities from financial risk. If the city is unable to secure the funds, he says, “we don’t need to proceed with the pipeline for now.”<sup>235</sup> While Prescott Mayor Jack Wilson dismissed Mechanic’s comments as “a Chicken Little, ‘the sky is falling’-type” argument, the city began actively exploring a public-private partnership in October 2008.<sup>236</sup>

### ***B. Working Together***

Attempts to study the impacts of pumping on the Verde River have been the source of much discord among local leaders and residents. Prescott, Prescott Valley, and Chino Valley have refused to join a basin-wide partnership created in 2005 by federal legislation sponsored by Arizona Senator John McCain.<sup>237</sup> While the Verde River Basin Partnership offers several potential benefits to the municipalities, including as much as \$8 million in federal funding for scientific studies that could serve as the backbone of a future mitigation plan, the municipalities did not like the tone that was set at initial meetings.<sup>238</sup> According to Chino Valley Mayor Karen Fann, officials overheard citizens commenting that the Partnership would be their “big chance” to put a stop to the proposed pumping.<sup>239</sup> Perhaps as a result of the local governments’ refusal to join, the Partnership has yet to secure federal funding.<sup>240</sup>

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232. Cindy Barks, *Big Chino Pipeline Generates Debate over Who Will Pay*, DAILY COURIER (Prescott, Ariz.), Jan. 28, 2009, at 1A.

233. *Id.*

234. *Id.*

235. Howard Mechanic, *Talk of the Town: Water Project Should Go Slowly*, DAILY COURIER (Prescott, Ariz.), Jan. 17, 2009, at 4A.

236. Barks, *supra* note 232; Cindy Barks, *Big Chino Money Matters Top Prescott Council Agenda*, DAILY COURIER (Prescott, Ariz.), Jan. 26, 2009, at 1A.

237. Northern Arizona Land Exchange and Verde River Basin Partnership Act of 2005, Pub. L. No. 109-110, 119 Stat. 2351 (2005); Joanna Dodder, *Basin Partnership Continues; Local Entities Won’t Join*, DAILY COURIER (Prescott, Ariz.), Dec. 6, 2006, at 1A.

238. Dodder, *supra* note 237.

239. *Id.*

240. Dodder, *supra* note 219. Even recent efforts by Senator John McCain to bring the parties together and fund the Partnership have been largely unsuccessful. Joanna

The municipalities do participate in two other local water groups, the Yavapai County Water Advisory Committee and the Upper Verde Watershed Protection Coalition.<sup>241</sup> A proposal in April 2008 that three groups merge generated significant controversy.<sup>242</sup> Months of debate resulted in only a small step forward: the two groups sent letters to Arizona's Congressional delegation supporting the allocation of federal money to the Partnership.<sup>243</sup> The difficulty the municipalities have had working with local stakeholders to study Verde-related issues reflects poorly on their likely ability to develop a comprehensive mitigation plan, manage a shared pipeline, or implement an HCP.

### *C. Developing a Mitigation Plan and HCP*

In April 2006, faced with increased media pressure regarding the potential impacts pumping would have on the Verde River, then-Prescott Mayor Rowle Simmons and Prescott Valley Town Manager Larry Tarkowski reiterated the municipalities' intention to develop a mitigation plan, citing \$850,000 that had already been spent on monitoring wells and hydrology studies.<sup>244</sup> Tarkowski told one reporter: "I'm not concerned in the least that today there exists no mitigation plan, because we are not pumping until July 2009. That gives [us] plenty of time."<sup>245</sup> While the projected July 2009 completion date is a distant memory, the debate over whether a mitigation plan exists—or is even needed—continues.

In response to citizen protests in January 2009 demanding a written mitigation plan, Prescott Mayor Jack Wilson said that the city *does* have a mitigation plan in place. While it is not gathered in a single document, he said, conservation easements on the Big Chino Ranch, the retirement of historically irrigated lands, the existence of monitoring wells, and the distance of the proposed well site from the river are all components.<sup>246</sup> Wilson scoffed at the idea of producing a written plan merely because "we've got some eco-nuts telling us to do it."<sup>247</sup> This position is contrary to Wilson's 2007 campaign platform, in which he

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Dodder, *McCain Tries to Revive Verde Partnership*, DAILY COURIER (Prescott, Ariz.), Dec. 31, 2008, at 1A.

241. See Yavapai County Government, Water Advisory Committee, <http://www.co.yavapai.az.us/Content.aspx?id=20562> (last visited Feb. 1, 2009); Upper Verde River Watershed Protection Coalition, <http://www.uvrwpc.org/> (last visited Dec. 26, 2008).

242. E.g., Joanna Dodder, *Water Groups Argue over How to Cooperate*, DAILY COURIER (Prescott, Ariz.), Apr. 19, 2008, at 1A.

243. Joanna Dodder, *Upper Verde Group's Letter Supports Verde Partnership Money*, DAILY COURIER (Prescott, Ariz.), July 25, 2008, at 1A; Joanna Dodder, *Water Group Letter to Support Verde Partnership Money*, DAILY COURIER (Prescott, Ariz.), July 17, 2008, at 3A.

244. Cindy Barks, *Locals 'Forging Ahead' with Pumping Plans Despite Verde's Endangered Status*, DAILY COURIER (Prescott, Ariz.), Apr. 20, 2006, at 1A.

245. *Id.*

246. Barks, *supra* note 232.

247. Dodder, *Groups Rally*, *supra* note 220.

espoused the need for a mitigation plan and environmental impact statement before pumping began.<sup>248</sup>

The municipalities recently launched a website for the Big Chino Water Ranch Project, which elaborates on why they believe pumping will not adversely impact the Verde River.<sup>249</sup> It cites as a primary reason the existence of a “clay plug,” that it describes as a significant geological barrier between the water under the Big Chino Ranch and the rest of the aquifer.<sup>250</sup> “The communities have committed to monitoring the aquifer,” the website states, “. . . and to respond appropriately to any associated, demonstrable, adverse impacts . . . .”<sup>251</sup>

In response to requests that the municipalities consider developing an HCP, local officials have been similarly lukewarm.<sup>252</sup> Norman James, an attorney representing Prescott and Prescott Valley, characterized USFWS’s presentation to the municipalities as “one-sided and inaccurate in key aspects.”<sup>253</sup> He questioned whether endangered fish still exist in the Upper Verde and asserted that reductions of base flow in the river would not destroy the habitat of the endangered Southwestern Willow Flycatcher.<sup>254</sup> Mayor Wilson has said an HCP would unnecessarily delay the pumping and, in its “Myth vs. Fact” section, the Big Chino Ranch Water Project website purports to dispel the “myth” that the pumping project must include an HCP by explaining the “fact” that the project is “expressly designed not to ‘take’ any endangered species . . . [and] any additional expenditure to obtain a ‘take’ permit would be unnecessary unless there were evidence that pumping impacts the flows in the upper Verde and those reductions impacted an endangered species.”<sup>255</sup>

In contrast, Chino Valley Mayor Karen Fann said CBD’s statement that it would not sue if the municipalities develop an adequate HCP and that CBD supports regional cooperation through the Upper Verde Coalition was “one of the best things [she’s] heard in two years,” though she has not indicated whether Chino Valley will pursue an incidental take permit prior to pumping.<sup>256</sup>

#### ***D. Municipalities’ Responses to SRP and CBD***

Faced with increasing costs, public protests, and legal challenges, several members of the Prescott City Council have wondered whether they should be working on a “Plan B.”<sup>257</sup> Councilman Bob Luzius has been the most vocal

248. *Id.*; Jack D. Wilson, City of Water Issues: My Perspective, Nov. 10, 2007, <http://www.electjack.com/files/electjack/CWAG%20November%2010%202007.pdf>.

249. *See generally* Big Chino Water Ranch Project, Home Page, <http://www.protectingourwaterresources.com> (last visited Feb. 1, 2009).

250. Potential Impacts to the Verde, *supra* note 70.

251. *Id.*

252. Dodder, *supra* note 198.

253. Dodder, *supra* note 204.

254. *Id.*

255. Dodder, *supra* note 83; Big Chino Water Ranch Project, The Truth About the Big Chino Water Ranch Project, [http://www.protectingourwaterresources.com/myth\\_vs\\_fact.html](http://www.protectingourwaterresources.com/myth_vs_fact.html) (last visited Feb. 1, 2009).

256. Dodder, *supra* note 198.

257. Barks, *supra* note 230.



detractor, warning that the city should not spend too much money on the pipeline project before its rights to use Big Chino water are resolved: “The last thing I would like to see is to have the city spend upwards of \$200 million on a water ranch, and then find out we can’t use it.”<sup>258</sup> Despite this apprehension, the municipalities remain optimistic about the challenges they face from SRP and CBD. Prescott and Prescott Valley welcomed ADWR’s November 2008 decision to grant its assured water supply modification, hailing it as a “huge milestone.”<sup>259</sup>

Local officials initially characterized SRP’s concerns as a “significant issue” that they “[could not] afford to ignore,” and reiterated their commitment to mitigation and record of working with SRP.<sup>260</sup> But the recent ADWR ruling, combined with a breakdown of ADWR-initiated negotiations between the parties, seems to have emboldened the municipalities.<sup>261</sup> When SRP filed suit in January 2009 challenging ADWR’s determination that SRP could not participate in the administrative appeals process, Prescott Mayor Jack Wilson and Prescott Valley Mayor Harvey Skoog referred to the lawsuit as a “disingenuous and disappointing tactic,” which Wilson promised to “defend aggressively against.”<sup>262</sup>

The municipalities have chosen to frame the issue as a battle between rural and urban interests, accusing SRP of “using its deep pockets and political clout to contest our water rights.”<sup>263</sup> The municipalities’ Big Chino Water Ranch Project website, in a section titled “Maintaining What’s Rightfully Ours,” presents pie charts and graphs that compare Phoenix’s annual water supply and growth to the Prescott area’s, noting that the Phoenix area requires 515 gallons of water per person per day, while Prescott’s conservation measures have lowered its figure to 180 gallons per person per day.<sup>264</sup> It states Phoenix’s water portfolio is ninety times larger than Prescott’s, and includes several rivers that originate in northern Arizona.<sup>265</sup> “Not content with the amount of water they already obtain from rural Arizona,” the website claims, “the Phoenix interests campaigning against [the project] are pursuing every legal and administrative channel . . . [i]f successful,

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258. Cindy Barks, *Big Chino Pipeline Update Generates Queries*, DAILY COURIER (Prescott, Ariz.), Jan. 9, 2008, at 1A [hereinafter Barks, *Big Chino Pipeline Update*]; Cindy Barks, *Water Group Consolidation Idea Goes Before Prescott Council*, DAILY COURIER (Prescott, Ariz.), May 22, 2008, at 6A.

259. Decision of the Director to Grant Prescott’s Application, *supra* note 75, at 6; McKinnon, *supra* note 231. ADWR’s decision weighs heavily in favor of the municipalities, declaring that the groundwater they plan to pump is not subflow.

260. Letter from the Town of Chino Valley to the Salt River Project (Nov. 30, 2007), available at <http://www.dcourier.com/main.asp?Search=1&ArticleID=51126&SectionID=1&SubSectionID=1&S=1> (follow link at bottom of page); Barks, *Big Chino Pipeline Update*, *supra* note 258; see also Dodder, *supra* note 30.

261. Doug Cook, *Questions Remain: Will Tri-Cities Build One Pipeline—Together?*, DAILY COURIER (Prescott, Ariz.), Dec. 30, 2008, at 7A.

262. Barks, *supra* note 227; Mechanic, *supra* note 235.

263. Jack Wilson & Harvey Skoog, *Talk of the Town: Municipalities Will Stand Up to SRP*, DAILY COURIER (Prescott, Ariz.), Jan. 19, 2008, at 4A.

264. Big Chino Water Ranch Project, *Maintaining What’s Rightfully Ours*, [http://www.protectingourwaterresources.com/rural\\_vs\\_urban.html](http://www.protectingourwaterresources.com/rural_vs_urban.html) (last visited Feb. 1, 2009).

265. *Id.*

their efforts could devastate the long-term economic prospects for our region and threaten our way of life.<sup>266</sup>

It is highly unlikely that the municipalities' public relations campaign and aggressive posturing will be enough to overcome the legal concerns of SRP, CBD, and others. But, with so much at stake for the municipalities, including lost revenue if they run out of water and millions of dollars already expended on the initial phases of the project, Prescott officials have little choice but to be both concerned and hopeful.<sup>267</sup> ADWR's November 2008 decision has rightly been hailed as a victory for Prescott, but it is merely the first of many battles that will be fought in the war over the Verde River. It remains to be seen whether Prescott's cavalier attitude will withstand the judicial scrutiny that lies ahead.

### V. POSSIBLE OUTCOMES

At a January 2009 hearing on SRP's right to participate in the administrative appeal following ADWR's November 2008 decision, attorneys representing Prescott and ADWR were dismissive of concerns about the impacts that pumping would have on the Verde River.<sup>268</sup> ADWR attorney Janet Ronald said the hearing was not the time to discuss something that might not happen for many years.<sup>269</sup> "Then when is the appropriate time?" asked Maricopa County Superior Court Judge Andrew Klein. "After hundreds of millions of dollars have been spent [?] . . . It would be harder to un-ring the bell at that point."<sup>270</sup> Judge Klein's questions raise an important issue: when and how will these questions be decided? And at what cost to the parties? This Part explores possible resolutions to the complex issues that comprise the battle for the Verde River and what each outcome might mean for the municipalities, opponents of the pumping, and the river.

#### A. A.R.S. § 45-555(E)—An Unconstitutional Special Law?

If a court determines that section 45-555(E) is an unconstitutional special or local law, Prescott will not have the right to pump from the Big Chino Aquifer unless and until the legislature amends the law. The Arizona legislature could expand subsection (E) to allow all of the Yavapai County communities to tap into the Big Chino Aquifer, but expanding the amount of authorized pumping will likely pose an even greater threat to the Verde River and, by extension, SRP's

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266. *Id.*

267. Elliott Pollack, an economist working on the Big Chino Water Ranch Project Impact Analysis, warned Prescott and Prescott Valley in August 2008 that they stand to lose billions of dollars in construction revenue and more than half a million in governmental revenue without new water resources; combined, he predicted loses could reach close to \$16 billion over twenty-five years. Cindy Barks, *Area Could Lose Billions Without Pipeline*, DAILY COURIER (Prescott, Ariz.), Aug. 22, 2008, at A1. As of December 2008, Prescott and Prescott Valley had spent a total of \$34.7 million since the project began in 2004. Cindy Barks, *Prescott Council Finalizes 20 Easement Purchases for Pipeline*, DAILY COURIER (Prescott, Ariz.), Dec. 13, 2008, at A1.

268. Barks, *Judge's Decision Pending*, *supra* note 228.

269. *Id.*

270. *Id.*

rights. Alternatively, if a court determines that subsection (E) is constitutional, Prescott will be permitted to pump from the Big Chino Aquifer unless SRP, CBD, and others can prevent it from doing so on other grounds.

***B. Subflow—Redefining the Relationship Between Ground and Surface Water?***

SRP will fight an uphill battle to establish that the water the Prescott-area communities plan to pump is subflow. The location of Prescott and Prescott Valley's proposed well site, approximately twenty miles from the river's headwaters, is likely beyond the subflow zone as Arizona law currently defines it. Yet, many scientists believe that pumping from the Big Chino Aquifer will negatively impact the river's flows. If that happens, SRP will either have to show that the cones of depression from Prescott's wells extend into the subflow zone (which is unlikely) or Arizona courts will have to redefine the boundaries of the subflow doctrine to protect SRP's surface water rights.

A ruling that water twenty miles from a stream or river is subflow could revolutionize Arizona water law. It would mean thousands of well owners throughout Arizona are currently pumping subflow, if their pumping negatively impacts appropriated surface water, despite the wells' location outside of the saturated younger Holocene alluvium. Such a ruling, however, would be more consistent with scientific reality. For Prescott, it could spell the end of the pumping project and the loss of millions of dollars invested in pipeline design, monitoring wells, and even the purchase of the Big Chino Ranch. Depending on the parameters of the redefined subflow zone, the municipalities might be able to move their well sites farther from the river, but likely only at great expense, if at all.

If a court declines to extend the doctrine of subflow, despite evidence of harm to the Verde's flows, it would disrupt the well-settled expectations of innumerable surface water users, whose rights could be violated without legal recourse by groundwater users whose wells reside beyond the subflow zone but diminish the flows of nearby streams. Similarly, a court could determine that despite evidence of decreasing flows, SRP has not established its burden of demonstrating that Prescott's pumping is to blame, frustrating SRP's ability to protect its rights and possibly requiring the inclusion of numerous other water users in future litigation. For SRP, such a ruling would likely result in a decrease in metropolitan Phoenix's water supply.

A third possible outcome—one that the Prescott-area municipalities assert to be fact, despite scientific evidence to the contrary—would be for a court to find that pumping twenty miles away will have no effect on the Verde's flows. If a court determines that there is no current or prospective negative effect on the river's flows, it may not even reach the question of subflow. Prescott would be allowed to pump and SRP would presumably not experience a decrease in its water supply; no change in Arizona's water law would be required.

***C. Endangered Species Act—Federal Regulation of Local Water Use?***

CBD's threatened lawsuit would catapult the question of whether Prescott's pumping will negatively impact the Verde's flows into federal court. If a

court determines that the municipalities' pumping poses an imminent threat to endangered species or critical habitat, Prescott would be enjoined from pumping. To avoid litigation or lift the injunction, Prescott would have to obtain an incidental take permit, conducting scientific studies and creating a comprehensive written mitigation plan. Once in place, the municipalities' pumping and administration of its permit would be subject to review by the Department of the Interior.

### CONCLUSION

This Note explores a dispute caused by the conflicting doctrines of ground and surface water in which multiple parties have mutually exclusive rights to the same water. All of the parties who are battling over the Verde River have well-grounded legal arguments, colorable claims against the other parties, and a headstrong and determined belief that they will—and must—secure the water to which they are entitled. Nevertheless, each faces considerable challenges.

SRP has significant interests in the health of the Verde River, as it relies on the river's flows to meet Phoenix's water needs. Yet, any lawsuit to protect its century-old surface water rights must necessarily be premised on a complicated and unfinished area of Arizona law. CBD seeks to protect endangered species by imposing federal law restrictions on the pumping project, but discrepancies among scientific reports about the effect that pumping will have on the river may present a difficult evidentiary issue in future ESA litigation.

Prescott, Prescott Valley, and Chino Valley could likely quell most threats of legal action by producing a comprehensive written mitigation plan and obtaining an incidental take permit under the ESA. The municipalities, however, are adamant that their pumping will not adversely impact the Verde River, insisting they have already taken the necessary steps toward mitigation and that precautions to assure protection for endangered species are an unnecessary delay and expense. Despite many stumbling blocks, rising costs, and ongoing resistance from numerous entities and constituents, the municipalities have been largely undeterred in their efforts to pump from the Big Chino Aquifer.

This controversy brings into sharp focus the need for reconciliation of ground and surface water laws in Arizona, both to protect surface water users from groundwater pumping threats that fall outside the current definition of subflow and to protect groundwater users from uncertain rights and threats of litigation. It also foreshadows the difficult choices about water allocation that must be made as new development and growth throughout the region pit rural interests against urban. While the municipalities and their opponents have understandably myopic views of the water issue—debating factual questions such as the parameters of the subflow zone and what percentage of the river's flows are supplied by the aquifer—any resolution of this battle will have far-reaching consequences for water use throughout the state and region. With so much at stake, Arizona's courts and legislature must display clear vision and a strong countenance as they are forced to apportion of one of the state's last free-flowing rivers.