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Implementation of the Arizona Water Settlement Act in New Mexico: An Overview of Legal Considerations

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ABSTRACT

The Arizona Water Settlements Act of 2004 (AWSA) promotes water development in southwestern New Mexico by providing money and an opportunity to divert up to an additional 14,000 acre-feet per year from the Gila River system as part of an exchange with the Central Arizona Project. The AWSA provides a federal subsidy of $66 million to New Mexico to fund projects that meet water supply demands in the region. If New Mexico decides to take additional water from the Gila River system in exchange for Central Arizona Project water, the AWSA will authorize an additional federal subsidy of between $34 and $62 million to fund the capital costs of using that water. This analysis of the costs and liabilities associated with diverting additional Gila River water concludes that it is possible to assure a more sustainable and certain long-term water supply through alternative water utilization projects. New Mexico should not accept the second subsidy, thereby not committing itself to the federal water project. Rather, New Mexico should forgo the diversion of the additional water and utilize only the first federal subsidy of $66 million to support local water projects.

I. INTRODUCTION

The Arizona Water Settlements Act of 2004 (AWSA) subsidizes water development in Southwestern New Mexico by providing money[1] and an opportunity to divert more water from the Gila River system as part of an exchange for Central Arizona Project water.[2] The AWSA is the Congressional authorization of the largest and most complex settlement of Native American water right claims in the country.[3] It is a collection of

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1. *See* Arizona Water Settlements Act, Pub. L. No. 108-451, § 212(i)–(j), 118 Stat. 3478, 3529–3530 (2004).

2. *See id.* § 212(d)(1) (2004).

3. *See Arizona Water Settlements Act: Joint Hearing on S. 437 Before the S. Subcomm. on Water and Power of the S. Comm. on Energy and Natural Res. and the S. Comm. on Indian Affairs*, 108th Cong. 1 (2003) (statement of Sen. Lisa Murkowski); *see also id.* at 8 (statement of Dept. of Interior Deputy Sec'y Bennett Raley).

over 70 separate water agreements, including one agreement regarding the Gila and San Francisco Rivers in New Mexico.[4]

At the time the AWSA was being considered by Congress, New Mexico Senator Pete Domenici was the highest ranking member of both the Senate Committee on Energy and Natural Resources and the Senate Appropriation Subcommittee on Energy and Water Development, making his support of the AWSA critical to its passage. To obtain Senator Domenici's support,[5] the parties to the settlement[6] agreed that New Mexico *may* take up to 14,000 acre-feet of water more than it currently takes from the Gila and San Francisco Rivers, but only if New Mexico does not impair downstream water rights.[7] Downstream users of the Gila River agreed to allow New Mexico to provide them water through the Central Arizona Project to offset any additional water diverted in New Mexico.[8] Therefore, this new water diversion is only possible if the Gila River system in New Mexico becomes part of the federal Central Arizona Project. In the language of the AWSA, new diversions from the Gila in New Mexico made in exchange for Central Arizona Project water will be made through a "New Mexico Unit" of the Central Arizona Project.[9]

The AWSA initially provides a federal subsidy of $66 million to New Mexico to fund either a New Mexico Unit or "water utilization alternatives to meet water supply demands in the Southwest Water Plan-

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4. Arizona Water Settlements Act, *supra* note 1, at § 212(d)(1), 118 Stat. at 3528; *New Mexico Consumptive Use and Forbearance Agreement*, N.M. OFFICE OF THE STATE ENG'R §1.2 (Oct. 21, 2005), http://www.ose.state.nm.us/PDF/ISC/BasinsPrograms/GilaSanFrancisco/Final-CUFA-Oct27-2005.pdf.

5. *See generally Arizona Water Settlements Act: Joint Hearing on S. 437*, *supra* note 3, at 67 (statement of Sen. Pete Domenici).

6. Parties to the AWSA New Mexico Consumptive Use and Forbearance Exchange Agreement are the United States, the Secretary of the Interior, the Gila River Indian Community, the San Carlos Irrigation and Drainage District, the Gila Valley Irrigation District, the Franklin Irrigation District, the Brown Canal Company of the Gila Valley Irrigation District, the Curtis Canal Company of the Gila Valley Irrigation District, the Dodge-Nevada Canal Company of the Gila Valley Irrigation District, the Fort Thomas Canal Company of the Gila Valley Irrigation District, the Graham Canal Company of the Gila Valley Irrigation District, the Highline Canal Company of the Gila Valley Irrigation District, the Montezuma Canal Company of the Gila Valley Irrigation District, the San Jose Canal Company of the Gila Valley Irrigation District, the Smithville Canal Company of the Gila Valley Irrigation District, Sunset Canal, New Model Canal, the Union Canal Company of the Gila Valley Irrigation District, the Sunset Ditch Company, the NM New Model Community Ditch Association, the Valley Canal Company, and the Phelps Dodge Corporation (now Freeport McMoRan Copper and Gold Inc.).

7. Colorado River Basin Project Act, Pub. L. No. 90-537, § 304(f)(1), 82 Stat. 885 (1968) (codified as amended at 43 U.S.C. §§ 1501–1556).

8. *See* Arizona Water Settlements Act, *supra* note 1, at § 212(d)(1), 118 Stat. at 3528.

9. *See generally* Arizona Water Settlements Act, *supra* note 1, at § 212, 118 Stat. at 3527–3630.

ning Region."[10] The New Mexico Interstate Stream Commission (ISC) defines the Southwest Water Planning Region to include Catron, Luna, Hidalgo, and Grant counties.[11] Beginning in 2012, the United States will transfer this funding to New Mexico in ten annual installments of $6.6 million (adjusted to reflect changes in construction cost indices since 2004),[12] regardless of whether any new water is diverted from the Gila system.[13] The ISC will determine how these funds are utilized.[14] In addition to the $66 million subsidy, New Mexico then has the option to take additional water from the Gila River system under the AWSA. If New Mexico decides to take the additional water, the AWSA authorizes an additional federal subsidy of between $34 to $62 million to fund the costs of building a New Mexico Unit.[15]

This article analyzes the costs and liabilities associated with building a New Mexico Unit pursuant to the Central Arizona Project. The article concludes that it is possible for New Mexico to maintain local water management control and assure a more sustainable, certain long-term water supply by utilizing only the first federal subsidy of $66 million. New Mexico should not accept the second federal subsidy, which would commit the state to becoming a part of a multi-state federal water project.

II. NATURE'S RIVER AND MAN'S CANAL

The Gila River is one of the largest tributaries to the Colorado River.[16] It begins on the western slopes of the Black Range in New Mexico and flows through the Gila Wilderness and National Forest.[17] It emerges amidst the agricultural communities of the Cliff-Gila Valley and flows under Highway 180 west of Silver City.[18] The Gila then flows west to Red Rock Canyon, through the Virden Valley and into Arizona, where it is joined by the San Francisco River.[19]

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10. Arizona Water Settlements Act, *supra* note 1, at § 107(a), 118 Stat. at 3493–3498.

11. *See* DANIEL B. STEPHENS & ASSOC., INC., SOUTHWEST NEW MEXICO REGIONAL WATER PLAN (2005), *available at* http://www.ose.state.nm.us/isc_regional_plans4.html.

12. Arizona Water Settlements Act, *supra* note 1, at § 107(a), 118 Stat. at 3493.

13. Arizona Water Settlements Act, *supra* note 1, at § 212(i), 118 Stat. at 3529.

14. Arizona Water Settlements Act, *supra* note 1, at § 212(i), 118 Stat. at 3529.

15. Arizona Water Settlements Act, *supra* note 1, at § 107(a), 118 Stat. at 3493.

16. *See* J.C. KAMMERER, LARGEST RIVERS IN THE UNITED STATES (1990), http://pubs.usgs.gov/of/1987/ofr87-242.

17. *See generally* Jonathan Waterman, Samual Velasco & Robert E. Pratt, *Colorado River Basin: Lifeline for an Arid Land, Side* 1, NATIONAL GEOGRAPHIC, Mar. 2010, http://maps.nationalgeographic.com/maps/print-collection/colorado-basin1-map.html.

18. *See generally id.*

19. *See generally id.*

"The San Francisco River is the largest tributary to the upper Gila River."[20] It begins in Arizona, flows east into New Mexico's Catron County, then south, running parallel to Highway 180, before returning to Arizona near Pleasanton.[21] It merges with the Gila in Safford, Arizona.[22] Water diverted from the San Francisco River Basin in New Mexico is used primarily for irrigation.[23]

The Gila River in New Mexico is one of the last free-flowing rivers in the United States.[24] It is the last free-flowing river system in New Mexico.[25] A river with largely unmodified natural flows sustains its ecosystem functions better than rivers with flow patterns disturbed by diversions and dams.[26] The free-flowing Gila River system is an excellent example of the linkage between natural river flows and robust biodiversity. The Gila River system supports the most biologically diverse ecosystem in New Mexico, rife with species of concern.[27] The Gila River ecosystem supports the largest population of non-colonial breeding birds in the United States, the greatest diversity of raptors, and the largest number of endangered and threatened bird species in the Colorado River system.[28] The Gila ecosystem also features some of the best remaining bird habitat in the Colorado River system, illustrated by the presence of the largest endangered southwest willow flycatcher population in the world.[29] Overall, the Gila ecosystem is home to over 25 federal and state listed threatened and endangered species and at least 45 species of con-

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20. *Securing Arizona's Water Future*, ARIZ. DEP'T OF WATER RES. 3, *available at* http://www.azwater.gov/azdwr/StatewidePlanning/RuralPrograms/OutsideAMAs_PDFs_for_web/Southeastern_Arizona_Planning_Area/Upper_Gila_River_Watershed.pdf (last visited April 8, 2012).

21. *See generally* Waterman et al., *supra* note 17.

22. *See generally* Waterman et al., *supra* note 17.

23. *See* JOHN W. LONGWORTH P.E. ET AL., NEW MEXICO WATER USE BY CATEGORIES 53 (2005), *available at* http://www.ose.state.nm.us/PDF/Publications/Library/TechnicalReports/TechReport-052.pdf.

24. *See* Sandra Postel, *Still Wild and Free, New Mexico's Gila River is Under Threat Again*, NATIONAL GEOGRAPHIC (Sept. 27, 2011), http://newswatch.nationalgeographic.com/2011/09/27/still-wild-and-free-new-mexicos-gila-river-is-again-under-threat.

25. Press Release, New Mexico Office of the Governor (June 26, 2007).

26. *See generally* SANDRA POSTEL & BRIAN RICHTER, RIVERS FOR LIFE: MANAGING WATER FOR PEOPLE AND NATURE 13–36 (2003).

27. ECONORTHWEST, COST-EFFECTIVE UTILIZATION OF ARIZONA WATER SETTLEMENT ACT SUBSIDIES FOR SOUTHWESTERN NEW MEXICO, 1-1 (2005); *see generally* N.M. GAME AND FISH DEP'T., COMPREHENSIVE WILDLIFE CONSERVATION STRATEGY OF NEW MEXICO 287–302 (2006).

28. *See generally* N.M. GAME AND FISH DEP'T.

29. *See generally*; N.M. GAME AND FISH DEP'T; *see* David Ogilvie, *The Southwest Willow Flycatcher and Me*, THE QUIVIRA COALITION, Sept. 1998, at 1.

cern.[30] The Gila River Basin in New Mexico is also the heart of the United States' first protected Wilderness Area, established in 1924.[31]

The Central Arizona Project is a 336-mile long concrete aqueduct system that takes water from the Colorado River to central and southern Arizona.[32] New Mexico must replace any new water it diverts from the Gila River system by assuring delivery of an equivalent amount of water to downstream users of the Gila River through the Central Arizona Project.[33] Over five million people in Phoenix rely on it for domestic water supplies. Tucson uses the diverted water to recharge groundwater used for its municipal supply. Arizona intends to eventually use the diverted water to irrigate over 800,000 acres throughout the State.[34]

The future supply of Central Arizona Project water needed to offset any new diversions in New Mexico is not guaranteed. The Central Arizona Project anticipates that Colorado River water shortages may begin as soon as 2016[35] and that high-priority customers like municipalities may experience shortages as soon as the mid 2020s.[36] With these foreseeable shortages in supply, it is important to note that a new diversion in New Mexico will be subordinate to all Arizona and New Mexico water uses with a priority date prior to September 30, 1968.[37]

A. Three Strikes: A Little History

A federal diversion project on the Gila in New Mexico is not a new idea. Congress first passed the legislation that created the Central Arizona Project and provided for an exchange of water to allow additional diversions from the Gila in 1968.[38] That legislation contemplated

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30. *See generally* N.M. GAME AND FISH DEP'T.

31. *See* Pete V. Domenici, *To Commemorate the 25th Anniversary of the Wilderness Act of 1964*, 29 NAT. RESOURCES J. 322 (1989).

32. *See* Daniel Kraker, *The Great Central Arizona Project Funding Switcheroo*, HIGH COUNTRY NEWS, Mar. 15, 2004.

33. *See New Mexico Consumptive Use and Forbearance Agreement*, N.M. OFFICE OF THE STATE ENG'R § 5.4.2 (Oct. 21, 2005), *available at* http://www.ose.state.nm.us/PDF/ISC/BasinsPrograms/GilaSanFrancisco/Final-CUFA-Oct27-2005.pdf.

34. *Central Arizona Project Benefits*, U.S. BUREAU OF RECLAMATION, http://www.usbr.gov/projects/Project.jsp?proj_Name=Central%20Arizona%20Project&pageType=ProjectPage (last visited Mar. 27, 2012).

35. *Press Release: Lake Mead Level to Rise*, CENTRAL ARIZONA PROJECT (April 5, 2011), http://www.cap-az.com/PublicInformation/PressReleases/tabid/284/ID/60/Lake-Mead-Level-to-Rise.aspx.

36. *Press Release: CAP Water Supplies Secure for Cities*, CENTRAL ARIZONA PROJECT (June 22, 2010), http://www.cap-az.com/PublicInformation/PressReleases/tabid/284/ID/4/CAP-Water-Supply-Secure-for-Cities.aspx.

37. Colorado River Basin Project Act, *supra* note 7, at § 304(c)(3) & (f)(3).

38. Colorado River Basin Project Act, *supra* note 7, at § 304(f).

the construction of the Hooker Dam by the Bureau of Reclamation and the State of New Mexico,[39] which they planned to build just below the Gila Wilderness.[40] However, the reservoir created would have backed up into the Wilderness.[41] By the late 1970s, pressure from the burgeoning conservation movement decreased the push for the damn.[42] This was combined with the lack of any identified need for a storage reservoir, which killed the Hooker Dam proposal. Several years later, the State Engineer and Bureau of Reclamation considered a second diversion project, named the Conner Dam. They planned to located it in the Middle Box Canyon, 20 miles downstream of the Hooker Dam site.[43] The listing of the loach minnow as a threatened species, however, eventually killed the Conner Dam proposal.[44] Reclamation later considered a third diversion project on Mangas Creek.[45] This proposal did not have the same endangered species concerns but nonetheless failed due to a negative cost-benefit analysis, expensive local cost-share requirements, and the realization that Silver City has significant groundwater reserves.[46]

III. THREE INQUIRIES FOR THE FUTURE

The AWSA presents New Mexico decision-makers with several key options. It is critical that Southwest New Mexico communities and government officials fully inform themselves about all of the costs, obligations, and ramifications that come with implementng the AWSA. This analysis of the AWSA is framed around the following key decision points. First, New Mexico must decide by December 31, 2014 whether it will pursue the development of additional water from the Gila and San Francisco Rivers.[47] New Mexico must determine if it is in the state's best interest to develop additional water under the complex and onerous terms of the AWSA. Second, understanding the currently available water supply and foreseeable long-term demands for water is fundamental when considering the need to divert additional water. New Mexico must

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39. Colorado River Basin Project Act, *supra* note 7, at § 301(a)(4).

40. IRA G. CLARK, WATER IN NEW MEXICO 530 (1987).

41. Gary A. Soucie, *Reclamation or Wrecklamation*?, *in* LECTURES ON WATER CONSERVATION 5, 11 (William C. Kennard eds., 1968), *available at* http://digitalcommons.uconn.edu/cgi/viewcontent.cgi?article=1002&context=ctiwr_specreports.

42. M.H. SALMON, GILA LIBRE: NEW MEXICO'S LAST WILD RIVER 123 (2008).

43. *Id.* at 123.

44. Endangered Fish Puts Dam Plans up a Creek, THE DAILY COURIER (Prescott Az.), Oct. 29, 1986, at 5B, *available at* http://news.google.com/newspapers?nid=892&dat=19861029&id=4OxSAAAAIBAJ&sjid=QIIDAAAAIBAJ&pg=1890,6092345.

45. SALMON, *supra* note 42, at 124.

46. SALMON, *supra* note 42, at 124.

47. Arizona Water Settlements Act, *supra* note 1, at § 212(j)(1), 118 Stat. at 3530.

determine if the Southwestern Planning Region will actually need the additional water made available through the AWSA in the future. Third, regardless of whether New Mexico develops additional water from the Gila, New Mexico will receive the first of 10 annual payments of $6.6 million to meet water supply demands in Southwest New Mexico in 2012. The following analysis also contemplates how New Mexico can best use the $66 million that it will receive between 2012 and 2022.

A. Is It In New Mexico's Best Interest to Develop the Additional AWSA Water?

New Mexico does not have a free and unrestricted right to use the additional water made available through the AWSA.[48] The State must understand how the terms and limitations of new water development pursuant the AWSA will incur significant long-term costs and responsibilities for New Mexico. In 1968, the Colorado River Project Act authorized the Secretary of the Interior (Secretary) to provide New Mexico with additional water from the Gila system.[49] This was contingent on the Secretary's assurance that main-stem Gila River water users in Arizona would suffer no economic injury or cost.[50]

In 2004, the AWSA created the formal mechanisms by which the Secretary may exercise his authority to deliver additional water to New Mexico.[51] Pursuant to the AWSA, New Mexico and those who would be impacted by new diversions from the Gila in New Mexico developed a technical agreement called the New Mexico Consumptive Use and Forbearance Agreement (CUFA).[52] The CUFA sets forth the complex and detailed constraints under which additional water can be diverted in New Mexico. The broadest operational limitations on New Mexico's diversion of new water under the AWSA are described below, while the CUFA contains much greater detail regarding when and how the Secretary may deliver water to New Mexico.

1. Operational Limitations

The CUFA sets forth rules under which the Secretary may divert up to 14,000 acre-feet of either surface or groundwater from the Gila River system for beneficial use by a New Mexico Unit of the Central

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48. *See* Arizona Water Settlements Act *supra* note 1, at § 212, 118 Stat. at 3527–3530; *See also*, *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33.

49. Colorado Basin Project Act, 43 U.S.C. §§ 1524(d),(f) (2010).

50. *Id.*

51. Arizona Water Settlements Act § 212(c)(4).

52. *Id.* at § 212(b); *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33.

Arizona Project.[53] New Mexico must replace the additional water it takes by paying for delivery of the same amount of water to downstream users through the Central Arizona Project.[54] A New Mexico Unit of the Central Arizona Project may divert water in New Mexico but it must follow certain operational limitations described below.

New Mexico diversions made pursuant to the AWSA will be junior water rights, meaning that new diversions in New Mexico will be subordinate to all water delivery contracts existing between the Secretary and Arizona as of 1968.[55] New diversions in New Mexico will also be subordinate to all existing New Mexico and Arizona water rights with priority dates earlier than September 30, 1968.[56] The parties to the CUFA have agreed not to object to new diversions in New Mexico, but only when done according to the terms of the CUFA.[57] Therefore, New Mexico cannot divert water pursuant to the AWSA unless it assures downstream water rights can be fulfilled. The Secretary will not be allowed to divert water for New Mexico unless 30,000 acre-feet is already in storage in San Carlos Reservoir for use under the terms of the 1935 adjudication of the Gila River Basin water rights, known as the Globe Equity Decree.[58]

New Mexico diversions made pursuant to the AWSA cannot be used for new agricultural lands. New diversions from the Gila system may not be made available for irrigation of lands that did not have a recent history of irrigation in 1968. Exempt from this requirement are wildlife refuges and management areas, or agricultural lands specially approved by the Secretary.[59] It remains to be seen if the agricultural community will be able to afford the cost of the Central Arizona Project water required to offset new diversions in New Mexico.

New Mexico diversions made pursuant to the AWSA must not expand groundwater pumping for agriculture or run through earthen canals. Any new diversions must have measures approved by the Secretary to control the expansion of irrigation from aquifers affected by irrigation in the area served by a New Mexico Unit.[60] The distribution

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53. Arizona Water Settlements Act, *supra* note 1, at § 212(c)(4), 118 Stat. at 3528.

54. Arizona Water Settlements Act, *supra* note 1, at § 212(d)(1), 118 Stat. at 3528.

55. Colorado River Basin Project Act, *supra* note 7, at § 304(c)(3).

56. Colorado River Basin Project Act, *supra* note 7, at § 304(f)(3).

57. *New Mexico Consumptive Use and Forbearance Agreement, supra* note 52, at § 1.0

58. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33, at § 4.5; *See also* Gila Valley Irr. Dist. v. U.S., 118 F.2d 507 (9th Cir. 1941); *See also Globe Equity Decree No. E-59*, N.M. OFFICE OF THE STATE ENG'R (June 29, 1935), *available at* http://www.ose.state.nm.us/water-info/CourtOrders/Gila-VirdenValley/Gila_Valley.pdf (last visited March 28, 2012).

59. Colorado River Basin Project Act, *supra* note 7, at § 304(a).

60. Colorado River Basin Project Act, *supra* note 7, at § 304(c)(1).

systems through which any new diversions run must be maintained with liners adequate to prevent excessive conveyance losses.[61]

New Mexico diversions made pursuant to the AWSA will be limited and have bypass flow requirements. No more than 140,000 acre-feet may be consumed from the Gila and San Francisco Rivers in any 10-year period. No more than 4,000 acre-feet may be consumed from the San Francisco River in any single year.[62] New Mexico may not consume more than 64,000 acre-feet of additional water from the Gila and San Francisco Rivers in a single year.[63] Combined diversions from the Gila and San Francisco Rivers may not exceed 350 cubic feet per second at any time.[64]

2. Pre-Banked Offset Water Cost

In addition to working within the operational limitations, New Mexico must also pay to protect downstream users of the Gila and San Francisco from impairment caused by new diversions in New Mexico.[65] To protect Arizona water users, New Mexico and the Secretary must satisfy certain financial conditions before the Secretary will deliver any additional water. The Secretary may not divert water for New Mexico unless an equal amount of water has first been delivered and stored by New Mexico for southern Arizona water users through the Central Arizona Project.[66] Essentially, this means that New Mexico must first pay for the delivery of Central Arizona Project water for use by the Gila River Indian Community and the San Carlos Irrigation and Drainage District to offset in advance the diversion of an equivalent amount of water from the Gila system in New Mexico.[67] This is to assure that additional depletions in New Mexico will not injure Arizona water users.[68]

The Central Arizona Project does not guarantee a future supply for this offset water. As mentioned above, the Central Arizona Project anticipates that Colorado River water shortages may begin as soon as 2016 and that high-priority customers like municipalities may experience shortages as soon as the mid-2020s.[69] Shortages of Central Arizona Project water would restrict New Mexico's ability to divert, as the Secretary

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61. Colorado River Basin Project Act, *supra* note 7, at § 304(c)(2).
62. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33, at §§ 4.3-4.4.
63. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33, at § 4.6.
64. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33, at § 4.11.
65. Arizona Water Settlements Act, *supra* note 1 at § 212(d)(1), 118 Stat. at
66. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33, at 3528. § 6.
67. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33, at § 4.6.2.
68. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* note 33, at § 4.6.2.
69. *Press Release: Lake Mead Level to Rise*, CENTRAL ARIZONA PROJECT (April 5, 2011), http://www.cap-az.com/PublicInformation/PressReleases/tabid/284/ID/60/Lake-Mead-Level-to-Rise.aspx.

could not divert water for the New Mexico Unit unless equivalent quantities of Central Arizona Project water have been made available by New Mexico to southern Arizona. In addition, New Mexico may have no more than 70,000 acre-feet of offset water stored at any time.[70] Also, the Secretary may not deliver more than 18,000 acre-feet of offset water to southern Arizona in any one year.[71]

The price to pay to deliver an acre-foot of Central Arizona Project water will increase every year.[72] Taking an additional 14,000 acre-feet per year at today's price would cost New Mexico $1,904,000 per year. The table below shows the prices for the last two years with the advisory prices for the next four years.[73]

TABLE 1. New Mexico's Cost Per Acre Foot for Central Arizona Project Water

2010	2011	2012	2013	2014	2015	2016
$118	$122	$122	$126	$129	$137	$141

3. Federal Cost-Benefit Analysis

The Bureau of Reclamation will need to demonstrate the national economic costs and benefits of subsidizing a New Mexico Unit with up to $128 million federal dollars.[74] The AWSA itself requires that the Secretary demonstrate that the construction of a New Mexico Unit will not cost more per acre-foot diverted than a project sized to produce an annual average safe yield of 10,000 acre-feet per year.[75] Exactly how the

70. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* npte 33, at § 6.3.

71. *New Mexico Consumptive Use and Forbearance Agreement*, *supra* npte 33, at § 5.2.

72. *See* Nat. Res. Comm., *Joint Subcomm. Oversight Hearing on "Protecting Long-Term Tribal Energy Jobs and Keeping Arizona Water and Power Costs Affordable: The Current and Future Role of the Navajo Generating Station,"* U.S. HOUSE OF REPS. (May 24, 2011), http://naturalresources.house.gov/Calendar/EventSingle.aspx?EventID=240525 (The future energy costs associated with the CAP are currently in question. Currently the coal-fired Navajo Generating Station in Page, Arizona produces the power needed to transport CAP water to Southern Arizona. New Clean Air Act regulations have put the future economic viability of the Navajo Generating Station in doubt. Cost associated with installing new pollution control equipment or with establishing new sources of power will likely have a dramatic impact on the cost of CAP water deliveries).

73. CENTRAL ARIZONA PROJECT, *Final 2011/2012 Price Schedule, Delivery Rates for Federal Water* (June 2, 2011), *available at* http://www.cap-az.com/Portals/1/Documents/2012-04/Recommended%202013-2014-Rate-Schedule%204-18-2012.pdf.

74. U.S. WATER RES. COUNCIL, ECONOMIC AND ENVIRONMENTAL PRINCIPLES AND GUIDELINES FOR WATER AND RELATED LAND RESOURCES IMPLEMENTATION STUDIES Ch. 2 (1983).

75. Arizona Water Settlements Act, *supra* note 1, at § 212(j)(2), 118 Stat. 3530.

Bureau of Reclamation will determine if a New Mexico Unit meets this awkward fiscal standard has yet to be seen. However, the Bureau of Reclamation has stated that it may use the following federal fiscal planning tools: (1) a National Economic Development Benefit-Cost Analysis to determine national effects; (2) a Regional Economic Development Impact Analysis to determine impacts on the local economy (jobs and incomes); (3) a cost effectiveness analysis to rank project alternatives; (4) a fiscal impact analysis to determine the impacts on the government sector; and (5) a financial analysis of users ability to pay their project costs and the project's overall financial sustainability.[76]

In addition to the federal cost-benefit analysis, New Mexico should consider the costs and benefits of the New Mexico Unit above and beyond the available federal subsidy. There is a maximum of $128 million available in federal subsidies to construct a New Mexico Unit of the Central Arizona Project.[77] The Bureau of Reclamation will adjust these funds to reflect changes in the cost of the applicable construction indices since 2004.[78] New Mexico will be responsible for any capital, operation, and maintenance costs beyond these federal subsidies.[79] Currently, there are no detailed project proposals or engineering designs for a New Mexico Unit of the Central Arizona Project. This makes it practically impossible to estimate total project construction, long-term operations and maintenance costs.

The New Mexico Office of the State Engineer has estimated that the cost of building the New Mexico Unit is $92 million more than the federal subsidies currently available to build a new Gila diversion.[80] In 2003, then New Mexico State Engineer, John D'Antonio, testified before a joint hearing of the Subcommittee on Water and Power of the Committee on Energy and Natural Resources and the Committee on Indian Affairs.[81] He provided an estimate of $220 million for construction of a New Mexico Unit.[82] He also acknowledged that the Bureau of Reclamation has estimated the cost to be as much as $300 million when adjusted for

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76. Bureau of Reclamation, *AWSA Southwest New Mexico Planning Region Economic Analysis Tools – Description & Information* (Sept. 4, 2008) (on file with the author) (provided to the AWSA Stakeholder Planning Process); *See* U.S. WATER RES. COUNCIL, *supra* note 74.

77. 43 U.S.C. § 1543(f)(2)(D)(i-ii) (2012).

78. 43 U.S.C. § 1543(f)(2)(D)(ii) (2012); *See Technical Service Center Estimating, Specifications, and Value Program Group Construction Cost Trends*, U.S. BUREAU OF RECLAMATION, http://www.usbr.gov/pmts/estimate/cost_trend.html (last visited Mar. 11, 2011).

79. Arizona Water Settlements Act, *supra* note 1, at § 212(c)(2), 118 Stat. at 3528.

80. *Joint Hearing Before the Subcommittee on Water and Power of the Committee on Energy & Natural Resources and the Committee on Indian Affairs*, 108th Cong. 62 (2003), *available at* http://www.gpo.gov/fdsys/pkg/CHRG-108shrg90840/pdf/CHRG-108shrg90840.pdf.

81. *Id.*

82. *Id.*

inflation,[83] which would require New Mexico to finance $172 million of the project with State funds. It is important to note that federal water projects are subject to the same time and cost overruns often associated with large construction efforts. For example, cost estimates for construction of the Animas-La Plata Project in southern Colorado, the last large water federal diversion project in the West, went from $337.9 million in 1999 to $500 million in 2003,[84] a 48 percent cost overrun.

4. Environmental Compliance Costs

The AWSA explicitly states that the Secretary must comply with the Endangered Species Act (ESA), the National Environmental Policy Act and all other applicable environmental laws and regulations when implementing the CUFA.[85] The Secretary must complete a National Environmental Policy Act environmental review by issuing a Record of Decision approving any new diversions before the end of 2019.[86] The Secretary may extend this deadline, but not beyond the end of 2030.[87] The Record of Decision must include the final action to be taken, alternatives considered, the environmentally preferred alternative, mitigation plans, enforcement and monitoring commitments, and a discussion of how all practical means to avoid or minimize environmental harm have been adopted, and if not, why they were not.[88]

The AWSA and CUFA make it clear that the Secretary is responsible for the delivery of water to the New Mexico Unit.[89] Therefore, the delivery of additional Gila water will be a discretionary federal action subject to the ESA, like similar federal contractual water delivery obligations in New Mexico from the San Juan River, Middle Rio Grande, and Pecos Rivers. As described above, the Gila River supports the most biologically diverse ecosystem in New Mexico.[90] Moreover, the Fish and Wildlife Service recently changed the status of the spikedace and loach minnows in the Gila and San Francisco Rivers from threatened to endan-

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83. *Id.*

84. *Animas-La Plate Construction Cost Estimates: Report to the Secretary of the Interior*, U.S. BUREAU OF RECLAMATION (Nov. 2003), *available at* http://www.usbr.gov/uc/progact/animas/pdfs/alpreport.pdf.

85. Arizona Water Settlements Act, *supra* note 1, at § 212(h), 118 Stat. at 3529.

86. Arizona Water Settlements Act, *supra* note 1, at § 212(j), 118 Stat. at 3529.

87. Arizona Water Settlements Act, *supra* note 1, at § 212(j), 118 Stat. at 3529

88. National Environmental Protection Act Regulations, 40 C.F.R. § 1505.2 (2012).

89. Arizona Water Settlements Act, *supra* note 1, at § 212(c)(3), 118 Stat. at 3528.

90. *See generally Symposium Natural History of the Gila Second Symposium*, 2 THE N. M. BOTANIST 1 (2010).

gered.[91] In its Final Rule downgrading the status of these fish, the FWS discussed the ecological impact of potential new diversions from the Gila in New Mexico, stating, "should water be diverted from the Gila or San Francisco rivers, flows would be diminished and direct and indirect losses and degradation of habitat for aquatic and riparian species would result."[92]

Long-term compliance with the ESA will very likely require the creation of an ongoing program to safeguard threatened and endangered species that are reliant on the Gila. Such a program will probably be similar to the San Juan Endangered Fish Recovery Implementation Program or the Middle Rio Grande Endangered Species Act Collaborative Program. The non-federal contribution for the Middle Rio Grande Collaborative program was $12.7 million between 2001 and 2011.[93] Non-federal cost-share for the San Juan Endangered Fish Recovery Program between 2000 and 2007 was $2 million per year.[94]

In addition to ESA compliance for the actual diversion of water, the construction of the New Mexico Unit must comply with the ESA and other federal environmental laws. The AWSA is clear that the Secretary holds the authority and responsibility to design, build, operate, and maintain a New Mexico Unit.[95] The Secretary may transfer the responsibility for any of these activities to New Mexico;[96] however, the Bureau of Reclamation shall remain the lead agency for environmental compliance for these activities.[97]

In addition to standing environmental regulations, the President's Council on Environmental Quality has proposed new *National Objectives, Principles and Standards for Water and Related Resources Implementation Studies*,[98] which will also have to be considered by the Bureau of Reclamation while developing a New Mexico Unit. Once promulgated, these

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91. Endangered and Threatened Wildlife and Plants, Endangered Status and Designations of Critical Habitat for Spikedace and Loach Minnow, 77 Fed. Reg. 10810 (Feb. 23, 2012) (to be codified at 50 C.F.R. pt. 17).

92. *Id.* at 10812–10813.

93. MIDDLE RIO GRANDE ENDANGERED SPECIES ACT COLLABORATIVE PROGRAM, http://www.middleriogrande.com (last visited Mar. 11, 2011).

94. Authorization to Fund Recovery Programs, Pub. L. No. 106-392, § 3(c), § 3(d)(2), 114 Stat. 1602 (2000).

95. Arizona Water Settlements Act, *supra* note 1, at § 212(c), 118 Stat. at 3528.

96. Arizona Water Settlements Act, *supra* note 1, at § 212(c), 118 Stat. at 3528.

97. Arizona Water Settlements Act, *supra* note 1, at § 212(h), 118 Stat. at 3529.

98. Economic and Environmental Principles and Guidelines for Water and Related Land Resources Implementation Studies, 74 Fed. Reg. 31415 (notice July 1, 2009); *National Objectives, Principles and Standards for Water and Related Resources Implementation Studies*, WHITEHOUSE (Dec. 3, 2009), *available at* http://www.whitehouse.gov/sites/default/files/microsites/091203-ceq-revised-principles-guidelines-water-resources.pdf.

new guidelines will change how federal agencies conduct water resource planning. Although how the agencies involved in implementing the AWSA in New Mexico will apply the new guidelines is yet to be determined, the guidelines clearly direct federal water planners to: (1) consider the environment and non-monetary benefits in addition to economics; (2) protect and restore natural ecosystems and the environment while encouraging sustainable economic development; (3) avoid adverse impacts to natural ecosystems wherever possible and fully mitigate any unavoidable impacts; and (4) avoid the unwise use of flood plains, flood-prone areas and other ecologically valuable areas.[99]

5. Loss of Local Control

Developing more water from the Gila River in New Mexico will give the federal government significantly more control over the Gila system. Under the AWSA, a new water diversion from the Gila River system in New Mexico will transform the Gila from a locally operated and managed system into a subdivision of a huge federal water development project, the Central Arizona Project.[100] The creation of a federal nexus with Gila River water diversions and the reliance on Central Arizona Project supplies may result in a disconcerting loss of local control. For example, as part of a federal water delivery project, New Mexico's use of Gila River water will be subject to far greater scrutiny under federal environmental laws — in particular, the ESA.[101] The water users themselves currently manage diversions from the Gila in New Mexico, not the state or federal government.[102] Given the anticipated cost to New Mexico for construction, operations and maintenance, and environmental compliance for a New Mexico Unit, the cost of Central Arizona Project water to offset New Mexico's impacts on downstream users, the limitation on the uses of AWSA water in New Mexico, and the loss of local control, there will have to be a significant reasonably foreseeable demand for the AWSA water to justify the costs described above.

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99. *National Objectives, Principles and Standards for Water and Related Resources Implementation Studies*, WHITEHOUSE (Dec. 3, 2009), *available at* http://www.whitehouse.gov/sites/default/files/microsites/091203-ceq-revised-principles-guidelines-water-resources.pdf.

100. Colorado River Basin Project Act, *supra* note 7, at § 301(a)(4).

101. Endangered Species Act of 1973, 16 U.S.C. § 1536 (2012).

102. *See* Ellen S. Soles, Where the River Meets the Ditch: Human and Natural Impacts on the Gila River, New Mexico, 1880–2000 (Aug. 2003) (unpublished M.A. thesis, N. Az. Univ.), *available at* https://waterportal.sandia.gov/nmstateengineer/documents/Where%20the%20River%20Meets%20the%20Ditch.pdf.

B. Does New Mexico's Southwest Planning Region Need Additional Water?

Although not always done with taxpayer funded projects,[103] it seems sensible to inquire whether there is an actual need for a multi-million dollar federal project. In this instance, water users in Southwest New Mexico should determine if they will actually need additional water from the Gila River system. In 2010, the ISC commissioned a Regional Demand Study (Study) for the Southwest Planning Region.[104] The Study represents the best and most recent understanding of water demands in the area. The Study looked at past and current water demand, analyzed available projections of future growth, and estimated future water demands through 2050.[105] It is important to note that any such predictive study is accompanied by a degree of uncertainty.

The Study looked at previous population forecasting efforts and evaluated the assumptions, forecasting techniques, and time periods.[106] The Study concluded that the Southwest Planning Region will experience only modest population growth in the near future.[107] Although population is often thought to be the major driver in water demand growth, municipal and commercial use actually represents less than 10 percent of the current and projected water demand.[108]

The Study acknowledged that irrigated agriculture is a water use sector with potential for fluctuation.[109] Nonetheless, the Study concluded that that irrigated agricultural acreage will remain stable, although the frequency of surface water shortages for agriculture suggests farmers may desire some increased supply.[110] However, water rights in the Southwest Planning Region currently exceed irrigation demand.[111] The Study shows that the current total irrigated acreage in production in the Southwest Planning Region is well below the maximum irrigated acre-

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103. *See $315 Million Bridge to Nowhere*, TAXPAYERS FOR COMMON SENSE (Feb. 9 2005), http://www.taxpayer.net/user_uploads/file/Transportation/gravinabridge.pdf; SEN. JOHN MCCAIN & SEN. TOM COBURN, SUMMERTIME BLUES: 100 STIMULUS PROJECTS THAT GIVE TAXPAYERS THE BLUES (2010), *available at* http://www.foxnews.com/projects/pdf/8_3_10_Stimulus_III_Report.pdf.

104. AMEC EARTH & ENVTL., INC., REGIONAL WATER DEMAND STUDY FOR SOUTHWEST NEW MEXICO CATRON, GRANT, LUNA AND HIDALGO COUNTIES (2010), *available at* http://www.awsaplanning.com/Studies_files/FINAL%20report%20SW%20Demand.pdf.

105. *Id.* at ES-1.

106. *Id.* at 2-1–21.

107. *Id.* at ES-17.

108. *Id.* at ES-16.

109. *Id.* at 3-22.

110. *Id*. at ES-16.

111. *Id.* at Table 3.4.

age allowed by the State Engineer.[112] The last three columns of the table below, taken from the Study, illustrate this.[113] The Study's upper projection for 2050 irrigated water usage is less than 10,000 acre-feet above 2005 irrigated water usage.[114]

The Study found that copper mining is expected to continue to decline in the Southwest Planning Region. However, mining and mine reclamation will continue to require water for as long as another 100 years.[115] The Regional Demand Study's high water use projections for the mining industry in the Southwest Planning Region are not expected to exceed 2005 levels in the future.[116] The Regional Demand Study's high-end projections for overall industrial use of water in the Southwest Planning Region do not exceed historic industrial water use levels.[117]

The Southwest Planning Region holds potential for the development of solar, wind, and geothermal energy.[118] Depending on if and how Southwest New Mexico develops these potential energy supplies, water demands in this sector could be significant.[119] The Study's low and high projections for water use in 2050 varied between three-fourths of current power generation water demand and 23 times more than current demand.[120] This estimate varies based on whether or not the Southwestern Planning Region pursues water intensive alternative energy development.[121] To date, no proposals have been put forth for use of a new Gila River diversion for alternative energy projects.

Given the projections of only moderate population growth, moderate agricultural growth, declining mining activities that may free water supplies for other uses, and an uncertain and evolving alternative energy market, there does not appear to be a reasonably foreseeable future demand for a large new federal water diversion project on the Gila in New Mexico. The lack of any significant demand for new water supplies indicates that utilizing the $66 million to support local water projects may be a more sensible option for New Mexico to pursue. Furthermore, the immense cost and complexity of joining the Central Arizona Project, the inability of any party to develop a feasible project design at this late date, the environmental constraints, and the potential water users lack of re-

112. *Id.*
113. *Id.* at 3-29.
114. *Id.* at Table 3.12.
115. *Id.* at ES-8.
116. *Id.* at Table 3.1& Table 3.2.
117. *Id.*
118. *Id.* at ES-16.
119. *Id.* at ES-17.
120. *Id.* at Table 3-25.
121. *Id.* at 3–54.

TABLE 2. Maximum Allowable Irrigated Acreage Using Diversions from the San Francisco, Gila and San Simon Basins

Sub-Basin	Max Consumptive Use for a 10-year Period	Total Depletions in 1995 (AF)	Total Depletions in 1995 (AF)	Maximum Irrigated Acres per Year	Total Irrigated Acreage In 1995	Total Irrigated Acreage In 2000
San Francisco Basin	318.7*	1,783	1,866			
Luna		152	97	225	62	95
Apache Creek Aragon		149	92	316	144	294
Reserve		395	497	725	162	340
Glenwood		1,087	1,180	1,003	501	513
Gila Basin	1,366.2*	2,555	2,826			
Upper Gila		96	66	287	34	63
Cliff-Gila and Buckhorn-Duck Creek		1,999	2,424	5,314	875	1,117
Red Rock		460	336	1,456	146	141
Virden Valley	838.3 (GW)					
San Simon Basin	7,200	377	949	2,900 (Groundwater)	157	683

**10-year average*
Source of max values: Southwest New Mexico Regional Water Planning Study, DBS&A
Source of Total depletions and irrigated acreage: NMOSE Water Use by Categories (Wilson et al., 1996)

payment capability makes New Mexico's ability to develop a New Mexico Unit questionable at best.

C. How Can New Mexico Best Use the $66 Million That It Will Receive Between 2012 and 2022?

As described above, constructing a New Mexico Unit of the Central Arizona Project may not be the most cost effective way to meet future water demands. New Mexico may use the $66 million federal subsidy guaranteed under the AWSA to pay costs associated with building a New Mexico Unit of the Central Arizona Project or it may be used for other "water utilization alternatives to meet water supply demands in the Southwest Planning Region."[122] This means that New Mexico may choose to forgo tying the Gila River system to the Central Arizona Project and decline the additional federal subsidy to build a New Mexico Unit. In that event, New Mexico must determine how it will use the initial $66 million federal subsidy to meet water supply demands in the Catron, Grant, Hidalgo, and Luna Counties. New Mexico should consider the potential to create a more sustainable long-term water supply by utilizing the $66 million federal subsidy to support local water projects, rather than relying on the Central Arizona Project.

Although some local irrigators and government officials have voiced support for building a New Mexico Unit, a new diversion project that is feasible, cost-efficient, and supported by the local community has not been identified, proposed, or designed by any party. However, water users in southwest New Mexico have identified a great number of projects that would meet water supply demands without requiring a new federal water project.[123] The local community has developed alternative water utilization projects that could conserve water, improve existing water infrastructure, and restore the watershed.

1. Water Conservation Projects

Urban water conservation can directly reduce demand, thereby extending the life of existing supplies. Reduced demand eliminates the need to develop new water supplies, especially if conservation programs are more cost-effective than developing new supplies. Some of these project proposals include public and agricultural water system improve-

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122. Arizona Water Settlements Act, *supra* note 1, § 212(i), 118 Stat. 3529.

123. *See* Arizona Water Settlements Act New Mexico Planning Process, *Draft Project Matrix of April 27*, AZ. WATER SETTLEMENTS ACT PLANNING PROCESS, http://www.awsaplanning.com/Archives.html (last visited Mar. 11, 2011).

ments,[124] the development of better state and local water management policies, and the development of better public education about water.[125]

2. Infrastructure Project Endowment

Improving municipal, industrial, and agricultural infrastructure can also reduce demand. Moreover, projects such as deepening existing wells and improving existing surface diversion structures can allow greater access to existing New Mexico water supplies. This vast array of proposed alternative capital projects includes improving existing wells, water lines, regional systems, effluent treatment systems, rural supply, and sewage systems, as well as agricultural diversion structures.[126] The Nature Conservancy has suggested placing the $66 million federal subsidy into a permanent endowment, the proceeds of which would fund water use projects in the Southwest Planning Region as they develop in the future.[127]

3. Watershed Restoration Projects

Watersheds are the source of our population's water. A healthy watershed is more likely to capture and release precipitation in a safe manner, allow surface water to infiltrate and recharge groundwater, filter sediment, reduce pollutants, dissipate flood flows, and help maintain healthy stream temperatures.[128] Proposed upland restoration projects might include forest thinning, prescribed fire, erosion control, and road drainage improvement projects.[129] Proposed riparian restoration projects might include floodplain connectivity and recharge, riparian habitat enhancement, wetland restoration, and water quality improvement projects.[130]

These community-based water utilization project proposals illustrate that there is a real need for the $66 million subsidy to address existing and future water supply demands. Utilizing the $66 million as part of the funding for a New Mexico Unit would require that New Mexico identify alternate funding to implement any of these proposed community-based projects. There will likely be no federal funding available for local projects if New Mexico pursues construction of a New Mexico Unit.

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124. *Id.*
125. *Id.*
126. *Id.*
127. *Id.*
128. *See* EPA, HEALTHY WATERSHED INITIATIVE: NATIONAL FRAMEWORK AND ACTION PLAN 2011 1 (2011), *available at* http://water.epa.gov/polwaste/nps/watershed/upload/hwi_action_plan.pdf.
129. Arizona Water Settlements Act New Mexico Planning Process, *supra* note 123.
130. Arizona Water Settlements Act New Mexico Planning Process, *supra* note 123.

4. Alternative Water Projects vs. a New Mexico Unit

Given the vast number of alternative water supply projects proposed by the local community and the variety of combinations of these projects that could be implemented, it is difficult to accurately determine the cost associated with meeting the Southwest Planning Region's future water demand. However, preliminary analyses of alternative water supply project costs have provided some guidance for forecasting the economics of water utilization alternatives.

The Gila Conservation Coalition has proposed to use the federal subsidy to increase municipal water conservation.[131] A 2005 analysis of the economic costs of a new Gila River diversion concluded that if the region experiences low population growth in the future, it could expend only $3.3 million to reduce municipal water demand by 20 percent between 2025 and 2075.[132] If the region experiences high population growth, it could expend $21 million to reduce municipal water demand by 20 percent in the same time frame.[133]

The Gila Conservation Coalition's proposal estimates that high-efficiency toilets could reduce demand at a cost of $360 per acre-foot saved, high-efficiency clothes washers could reduce demand at a cost of $1,136 per acre-foot saved, and low-flow showerheads could reduce demand at a cost of $261 per acre-foot.[134] By utilizing these water saving technologies in concert with reducing municipal system leaks to below 10 percent and increasing rates charged to large water users, the Gila Conservation Coalition proposal asserts that for a $10.4 million investment in municipal conservation the region could save as much as 4,269 acre-feet per year.[135] When compared to the estimate provided by the State Engineer to build a New Mexico Unit of the Central Arizona Project[136] of $220 million in upfront capital costs to divert 14,000 acre-feet per year, municipal conservation clearly provides a much more affordable water supply. Furthermore, municipal conservation does not come with

131. GILA CONSERVATION COALITION, MUNICIPAL CONSERVATION TO REDUCE NET DEPLETIONS TO GROUNDWATER (2012), *available at* http://www.ose.state.nm.us/PDF/ISC/Tier-2%20Final/GCC%20Conservation/Municipal%20Conservation-Tier2%20(merged).pdf.

132. JENNIE RICE, ERNIE NEIMIE AND ECONORTHWEST, THE POTENTIAL ECONOMIC COSTS OF A GILA RIVER DIVERSION: MEETING FUTURE WATER SUPPLY NEEDS IN SILVER CITY AND THE CENTRAL MINING DISTRICT 3–20 (2005) *available at* http://www.gilaconservation.org/PDF/EcoNW%20Study/Gila%20River%20Final%20rpt.pdf.

133. *Id.*

134. GILA CONSERVATION COALITION, *supra* note 131, at 5–7.

135. GILA CONSERVATION COALITION, *supra* note 131, at 13.

136. *Joint Hearing*, *supra* note 80, at 62. It does not appear from the State Engineer's testimony that his estimate included ongoing Endangered Species Act compliance costs or the over $1.652 million of State funds needed annually to deliver offset CAP water.

the recurring cost of delivering offset water to southern Arizona of at least $1.9 million per year.

IV. CONCLUSION

Utilizing this simple comparison of costs for reducing demand through municipal conservation versus increasing supply through a new federal water project, it is clear that closing the projected gap between available water supply and future water demand with local water projects will be a much more cost-effective option. When combined with the loss of local water management control, the federal legal restrictions on how water from a new Gila River diversion may be used, and the potential environmental damage inflicted by a new diversion, it is hard to justify pursuit of a New Mexico Unit with legal or cost arguments. Understandably, there is an emotional component that cannot be underestimated as New Mexico considers developing new water from the Gila system. After centuries of developing and over-appropriating New Mexico water supplies, it is difficult for politicians and bureaucrats to advocate for letting water run out of New Mexico. Hopefully, New Mexico and the Department of the Interior will use rational reasoning, rather than emotions based on historic fervor, to divert every drop of water in New Mexico, to determine how New Mexico takes advantage of the opportunities created by the AWSA.