

Briefing for The Interim Water & Natural Resources Committee on the NM CAP Projects

History of the Colorado Basin Project Act as amended by the current Arizona Water Settlement Act

• **Arizona vs. California**

- In 1922, six states signed the Colorado River Compact at Bishop's Lodge near Santa Fe. Upset with its allotment, Arizona refused to sign. Arizona moved to block California when it sought to exercise their claim to Colorado River water under the compact by building Parker dam. On March 1934, Arizona Gov. Benjamin Moeur called up the Arizona National Guard and began the process of challenging California in the U.S. Supreme court. Following the decision in that case and further negotiations Arizona signed the compact.
- New Mexico intervened in this longest-running water rights case in 1952 with the filing of an original action in the Supreme Court by Arizona against California seeking a review of the division of the waters of the Colorado River. The United States subsequently intervened to protect federal water rights, including reserved water rights held for the benefit of five Indian reservations (Fort Mojave, Fort Yuma (Quechan), Chemehuevi, Colorado River, and Coocopah). Nevada and Utah also intervened. The Court appointed a special master who conducted extensive proceedings and later recommended a division of the Colorado River's waters. In a detailed 1963 decision, the Supreme Court largely adopted the Master's recommendations and subsequently issued a decree in 1964. This decree has been reopened a number of times with the court making some adjustments addressing Tribal claims all the way until to as recently as 2015.
- The Court's 1964 decree enjoined the State of New Mexico, its officers, attorneys, agents and employees:
 - From diverting or permitting the diversion of water from the San Francisco River, its tributaries and underground water sources for the irrigation within each of the following areas of more than the following number of acres during any one year: Luna Area 225 - Apache Creek-Aragon Area 316 - Reserve Area 725 -Glenwood Area 1,003 and from exceeding a total consumptive use of such water for whatever purpose, of 31,870 acre-feet during any period of ten consecutive years; and from exceeding a total consumptive use of such water, for whatever purpose, of 4,112 acre-feet during any one year;
 - From diverting or permitting the diversion of water from the Gila River, its tributaries and underground water sources for the irrigation within each of the following areas of more than the following number of acres during any one year: Upper Gila Area 287 - Cliff-Gila and Buckhorn-Duck Creek Area 5,314 - Red Rock Area 1,456 and from exceeding a total consumptive use of such water (exclusive of uses in Virden Valley, New Mexico), for whatever purpose, of 136,620 acre-feet during any period of ten consecutive years; and from exceeding a total consumptive use of such water (exclusive of uses in Virden Valley, New Mexico), for whatever purpose, of 15,895 acre-feet during any one year.
 - From diverting or permitting the diversion of water from the Gila River and its underground water sources in the Virden Valley, New Mexico, except for use on lands determined to have the right to the use of such water by the decree entered by the United States District Court for the District of Arizona on June 29, 1935, in [376 U.S. 340, 349] United States v. Gila Valley Irrigation District et al. (Globe Equity No. 59) (herein referred to as the Gila Decree), and except pursuant to and in accordance with the terms and provisions of the Gila Decree.
- The Special Master's recommendations were based on what "present uses" could be documented at the time of the evaluation. New Mexico argued that due to the depression, drought and World War II many of the agricultural lands previously in use were fallow but should be considered. After extensive negotiations the Court adopted the modified language of the Special Master and stated, "IX. Any of the parties may apply at the foot of this decree for its amendment or for other relief. The Court retains jurisdiction of this suit for the purpose of any order, direction, or modification of the decree, or any supplementary decree, that may at any time be deemed proper in relation to the subject matter in controversy."
- **Gila & San Francisco Water Rights Adjudication**
 - The New Mexico Office of the State Engineer initiated an adjudication of the Gila and San Francisco River Basins based on the Supreme Court's decree that was completed in 1968. The four years of adjudication is the most rapid adjudication of water rights in New Mexico history.
- **Colorado River Basin Project Act (Public Law 90-537)**

- In the 1963 Congressional hearings for consideration of legislation for the Central Arizona Project (CAP) the concept was introduced to allow increases of present uses in New Mexico through the use of downstream exchanges of deliveries of Colorado River water to the senior Indian water right holders.
- On April 6, 1964 New Mexico Governor Jack Campbell transmitted a letter to Senator Clinton P. Anderson reinforcing an earlier Interstate Stream Commission recommendation that the Senator, “not support S. 1658 unless certain amendments were made.” The Governor in conclusion stated, “In view of the forgoing I hope that the central Arizona project will not be authorized unless and until Arizona, New Mexico, and the United States have entered into a stipulation which would modify the decree in *Arizona v. California et al*, to permit consumptive use of water in New Mexico in excess of the present uses set forth in the decree.
- New Mexico State Engineer Steve Reynolds requested an additional 46,000 ac/ft of water for New Mexico at the hearing for the Central Arizona Project as a part of the Colorado Basin Project Act (Act). Mr. Reynolds conceded that New Mexico did not have a legal right to additional water but did have an equitable right.
- As a result of the testimony and further negotiations a May 12, 1965 memorandum was adopted amending the Colorado Basin Project Act allowing for construction of Hooker Dam and Reservoir with an initial capacity of 98,000 ac/ft and an additional 18,000 ac/ft of New Mexico consumptive use “only to the extent possible without economic injury or cost to present downstream users.” Also included in the language was the requirement that sufficient Colorado River water be made available to users of Gila River System water downstream from Coolidge Dam to replace any diminution of supply or reduction in flow resulting from the increase in uses by New Mexico. Of interest this was the same act that authorized the Animas-La Plata project for development of water in Northwestern New Mexico and Southwestern Colorado.
- **Hooker Dam or Alternative Efforts**
 - Shortly after passage of the Act proponents in the Silver City, Grant County area established the Hooker Dam Association. The association met regularly and raised funds to promote the construction of the dam. Several studies including the Upper Gila Water Supply Study by the Bureau of Reclamation were conducted looking at the Hooker and Conner Dam sites.
At the same time opponents to the construction began organizing. Throughout the years opponents have used every means to block and delay implementation. As a result millions of dollars and countless hours have been exhausted on studies and then studies of the studies.
 - As an outgrowth of the 1992 Southwest Regional Water Planning process the Southwest New Mexico Water Study Group was formed. Drafting of the successor Gila-San Francisco Water Commission Joint Powers Agreement commenced early in 2005 and finalized in 2007.
 - The Gila-San Francisco Water Commission initiated planning for conservation of water projects and design of a New Mexico CAP project. This resulted in recommendations for water conservation projects that the ISC eventually funded.
- **Arizona Water Settlement Act (AWSA)**
 - One of the primary purposes of the AWSA was to put into effect the settlement of the Gila River Indian Community claims to additional water in Arizona.
 - Members of the Southwest New Mexico Water Study Group were left out the input and negotiations in the development of the AWSA.
 - The AWSA amended the Colorado River Basin Project Act (CRBA) by striking paragraph (1) and inserting the following: (1) In the operation of the Central Arizona Project, the Secretary shall offer to contract with water users in the State of New Mexico, with the approval of its Interstate Stream Commission, or with the State of New Mexico, through its Interstate Stream Commission, for water from the Gila River, its tributaries and underground water sources in amounts that will permit consumptive use of water in New Mexico of not to exceed an annual average in any period of 10 consecutive years of 14,000 acre-feet, including reservoir evaporation, over and above the consumptive uses provided for by article IV of the decree of the Supreme Court of the United States in *Arizona v. California* (376 U.S. 340). Such increased consumptive uses shall continue only so long as delivery of Colorado River water to downstream Gila River users in Arizona is being accomplished in accordance with this Act, in quantities sufficient to replace any diminution of their supply resulting from such diversion from the Gila River, its tributaries and underground water sources. In determining the amount required for this purpose, full consideration shall be given to any differences in the quality of the water involved.

The struck language stated, “(f)(1) *In the operation of the Central Arizona Project, the Secretary shall offer to contract with water users in New Mexico for water from the Gila River, its tributaries and underground water sources in amounts that will permit consumptive use of water in new Mexico of not to exceed an annual average in any period of ten consecutive years of eighteen thousand acre-feet, including reservoir evaporation, over and above the consumptive uses provided by article IV of the decree of the Supreme Court of the United States in Arizona against California (376 U.S. 340). Such increased consumptive uses shall not begin until, and shall continue only so long as, delivery of Colorado River water to downstream Gila River users in Arizona is being accomplished in accordance with this Act, in quantities sufficient to replace any diminution of their supply resulting from such diversion from the Gila River, its tributaries and underground water sources. In determining the amount required for this purpose, full consideration shall be given to any differences in the quality of the waters involved.*”

The AWSA also struck clause (f)(2) of the CBPA that stated, “*The Secretary shall further offer to contract with water users in New Mexico for water from the Gila River, its tributaries, and underground water sources in amounts that will permit consumptive users of water in New Mexico of not to exceed an annual average in any period of ten consecutive years of an additional thirty thousand acre-feet, including reservoir evaporation. Such further increases in consumptive use shall not begin until, and shall continue only so long as works capable of augmenting the water supply of the Colorado River system have been completed and water sufficiently in excess of two million eight hundred thousand acre-feet per annum is available from the main stream of the Colorado River for consumptive use in Arizona to provide water for the exchanges herein authorized and provided. In determining the amount required for this purpose full consideration shall be given to any differences in the quality of water involved.*”

The result of these changes reduced the amount of water immediately available for New Mexico by 4,000 ac/ft. It also extinguished an additional 30,000 ac/ft that would have been made available to New Mexico if the Colorado River were augmented from an outside source at some future time. What State Engineer Reynolds and Senator Anderson fought so hard for to make whole the loss of water rights in the Arizona v. California Decree is gone.

- The original CBPA and the AWSA have a requirement that Arizona water users accept exchanges of Central Arizona Project water deliveries to offset any diversions of water in New Mexico. As part of this requirement the cost of the operation and maintenance of delivery of exchange water has to be paid for by the New Mexico users.
- The Consumptive Use and Forbearance Agreement (CUFA) was made a part of the AWSA to insure that no downstream Arizona water users are impacted by diversion in New Mexico and to eliminate environmental impacts due to reduction of in-stream flows. These are accomplished through strict requirements that water diverted and stored only occurs during high flood flows.

Benefits From Additional Water

○ The Present & Future Costs and Value of Water

- The current market cost of senior water rights in the Gila-San Francisco river basins run between \$10,000 to 15,000 per ac/ft. Water is said to be the gold of the future as demands for domestic, agriculture, municipal and industrial use increase. Using the low current cost of an ac/ft of water the additional 14,000 ac/ft represents a 140 million dollar asset.
- Depending on how water is used the value can differ significantly. California farmers pay an average of \$70 per acre-foot for water to irrigate crops, bottle it, and the value of that acre-foot is \$2.4 million.
- *Water is essential. Without water, life in a form familiar to us could not exist, thus water’s value is immeasurably high. It falls from the sky and has been available for the taking from lakes, streams and wells since time immemorial, thus it is free. When flooding, it may have a negative value. Between these extremes are the many values placed on water by its users. Other values may be placed on the same water by people who would prefer to see it used another way. These values reflect the complex interrelation of multiple factors, perspectives and contexts. Any effort to present the value of water will fall short of a comprehensive description.*

*Yet, if society is to respond appropriately to water challenges, it is important to understand the implications of limited current supplies and growing demands. **Action today is needed to forestall shocks, either in price spikes resulting from the need for supplies that are expensive to acquire, or***

the loss of reliability resulting from failure to secure additional supplies. Better to appreciate the value of water now than regret our lack of understanding in the future.¹ (Emphasis Added)

- Since authorization of the CBPA it is estimated that 800,000 ac/ft of water eligible for use in New Mexico has flowed into Arizona. Using a low \$1,000 per ac/ft value that represents an \$800 million dollar loss of economic value to the state. This estimate does not include value added economic activities and circulating dollar benefits.

Goals

- **Making Water Available to Agriculture When it is Needed**
 - Currently agricultural water for use in the Gila and San Francisco River valleys is subject to low or low flow conditions during the growing season. Stored water taken from high off-season flows can be released for use when needed. This could include stored senior rights and new AWSA water. Releasing stored water for use during the growing season has the added advantage of increasing the duration of river flows for the benefit of threatened and endangered species and the two rivers ecological functions.
- **Divert and Secure 14,000 AC/Ft Annually of Water for Future Use in Southwest New Mexico**
 - As stated above the value of additional water for Southwest New Mexico is immeasurable. The additional water could be used to augment agricultural, municipal and industrial uses. There is also a potential recreational benefit created by storage facilities. Certainly AWSA water is the only foreseeable additional source of water for future economic development.

Water Conservation Projects

- The Southwest Water Planning Group and successor the Gila-San Francisco Water Commission studied and recommend to the ISC a number of water conservation projects throughout the four county region. These projects included:
 - Grant County Water Commission water project \$2,100,000;
 - water system meter replacement, municipal water effluent reuse, park irrigation upgrade \$4,750,000;
 - Gila Basin Commission Diversion Structure \$1,250,000;
 - Luna Ditch Diversion \$100,000;
 - Pleasanton East Side Ditch Improvement \$200,000; and
 - New Model Canal Improvement \$200,000.
- For a total of \$9,100,000 for Non-NM Unit project awards.

Contemplated Projects

- **Gila River Diversions & Storage**
 - Phase I – Diversion near the existing Upper Gila Diversion site. The preliminary design of the diversion structure provides for delivery of AWSA water to both east and west irrigation systems at a design capacity of 150 Cubic Feet per Second with improvements to the existing conveyance structures (ditches) at 50 Cubic Feet per Second each. The recommendation from the Exec. Director was to continue to work with Engineers, irrigators and stakeholders to refine potential design characteristics for maximum effectiveness with minimal ecological impact. There are additional improvements to the ditch system to minimize losses and provide a more efficient delivery system.
 - A recommendation for 5 (500 gallon per minute) wells was approved to give irrigators opportunity to utilize alternative irrigation methods such as Drip or Sprinkler irrigation. There were also 8 on and off farm storage ponds with a maximum storage capacity of 2800 acre feet. 5 on farm storage ponds in the upper Gila River valley (1300 acre feet), Winn Canyon excavation (1000 acre feet) and on Farm storage ponds Virden Valley (500 acre feet).
- **San Francisco River Diversions & Storage**
 - Phase I – Construction of a diversion on the San Francisco River near the 180 Bridge Crossing at the existing Spurgeon Diversion Site plus 6750 linear feet of concrete box culvert or piping for delivery to both sides of the San Francisco.
- **Total Estimated NM Units Phase I project costs = \$49.5 million**

¹ What is the Value of Water? A Complex Question, Water Resources Research Center, College of Agriculture and Life Sciences, The University of Arizona, [Arroyo](#) 2014

- Based on the construction costs for the diversion and storage projects it is estimated that the per ac/ft price for the additional 14,000 ac/ft would be around \$2,500.00 and approximately \$70.00 per ac/ft for delivery of exchange water to downstream Arizona users.
- The current proposed project can be paid with the Lower Colorado River Basin Development Fund (Construction Fund) identified solely for the purpose of funding the construction of the New Mexico Unit. The Fund is paid from revenues generated by the Central Arizona Water Conservation District in combination with revenues from the Navajo Generating Station. The CAWCD pays the fund \$50 million annually and recent estimated available for construction of a NM Unit is between \$52-\$55 million.
- **Gila Diversion and Bill Evans Lake Storage and Transmission**
 - The NM CAP Entity has agreed to study acquisition of the Gila River diversion and Bill Evans lake storage and transmission infrastructure for well and aquifer recharge in Mimbres Basin to offset the basin depletion rate and encourage growth in agriculture, municipal and industrial development in Luna County.

Environmental Considerations

- Per the AWSA all proposed projects shall undergo a full environmental impact and threatened and endangered species analyses.
- Water will be diverted and stored only during high flood flows pursuant to the CUFA.

Current Status of the New Mexico Unit Fund

- Total received since January 2012 = \$54.24 million
- Cumulative total expenditures for FY12-17 = \$12.64 million
- Interest earned on fund balance = \$2.5 million
- Current Fund Balance = \$44.1 million

Future Revenue Potentials

- Every ac/ft of additional water would be available for purchase or lease in the Southwest four county area. This would allow for bonding to complete future storage and distribution systems.
- The NM CAP Entity has also explored the storage and marketing of water in Arizona to provide funding for the future phases of AWSA projects.