Agriculture and the Central Arizona Project

What was the original role of agriculture in Reclamation projects?
The Reclamation Act of 1902 was enacted to provide for “the construction and maintenance of irrigation works for the storage, diversion, and development of waters for the reclamation of arid and semiarid lands” in the west. Water from these irrigation projects would be made available for agricultural use by individual farmers on tracts not to exceed 160 acres. In this way, supporters believed, the Act would encourage and facilitate western settlement.1

It was not until 1920 that Congress authorized the sale of water from reclamation projects for purposes other than irrigation, and then only if there was “no other practicable source of water” for the alternative use and no adverse impacts to the irrigation project.2

What was the intended role of agriculture in the CAP?
In authorizing construction of the Central Arizona Project (CAP), Congress identified three primary objectives:

1. To reduce groundwater overdraft in central Arizona, then estimated at 2.5 million acre-feet per year;
2. To maintain as much as possible of central Arizona’s irrigated farm land as the region transitioned from an agricultural to a predominantly industrial economy; and
3. To provide a source of additional water to meet the expanding municipal and industrial needs that would accompany that transition.3

These objectives are reflected in the provisions of the 1968 Colorado River Basin Project Act, the Secretary of the Interior’s decisions allocating CAP water and the CAP water delivery contracts.

Reducing Groundwater Overdraft
The CAP provided a renewable water supply that could be used in lieu of groundwater pumping, thereby reducing the existing groundwater overdraft problem in central Arizona. But that result would be obtained only if CAP water use actually replaced groundwater use.

To ensure that CAP water use replaced, rather than supplemented, groundwater use, section 304(c) of the Basin Project Act required that contracts for CAP water delivery include measures to control the expansion of irrigation from aquifers affected by irrigation in the contract service area. That section also required that CAP water delivery contracts prohibit groundwater pumping within the contractor’s service area for use outside the service area.4

These statutory requirements were embodied in section 4.3(c) of the original CAP water delivery subcontracts for agricultural and Municipal & Industrial (M&I) users. Those subcontracts provided:

“The Subcontractor shall not pump, or within its legal authority, permit others to pump ground water from within the exterior boundaries of the Subcontractor’s service area … for use outside of said service area….”
Maintaining Existing Agricultural Uses

While Congress wanted to slow the pace at which existing agriculture uses were being preempted to satisfy growing urban needs, it specified that “no new lands are to be irrigated” with CAP water. To insure that the CAP would not be used to expand irrigation in central Arizona, section 304(a) of the Basin Project Act prohibited the use of CAP water for irrigation of lands not having a “recent history” of irrigation. To implement the “recent history” requirement, the CAP agricultural subcontracts provided that CAP water would not be made available to any land that Reclamation determined was not irrigated between September 30, 1958, and September 30, 1968.

Supporting the Transition to Municipal and Industrial Uses

The anticipated transition from an agricultural to an industrial economy was a key factor in how CAP water was allocated by the Secretary of the Interior in 1983. M&I and Indian water users were allocated defined volumes based on projected future needs and were given priority over non-Indian agricultural users. Collectively, the allocations to M&I and Indian users amounted to 948,651 acre-feet, roughly two-thirds of the anticipated normal-year CAP supply.

CAP water was allocated to non-Indian agricultural users on a percentage basis—that is, each user was allocated a percentage of the CAP supply available after higher priority demands had been met. In the early years of the project, before M&I and Indian uses developed, the volume of water available to non-Indian agricultural contractors was expected to be “substantial.”

How did agriculture fit into the original CAP financial structure?

As is typical in reclamation projects, the agricultural contribution toward CAP repayment was limited to that sector’s “ability to pay,” with surplus power revenues expected to repay the remainder of the construction costs allocated to the irrigation function. In 1983, Reclamation determined that the CAP agricultural water service capital charge would be $2 per acre-foot and that was the figure included in the CAP agricultural water service subcontracts. That charge was subject to review by Reclamation every five years over the life of the subcontracts.

Under the subcontracts, the agricultural water service capital charge was to be paid based on the volume of CAP water scheduled for delivery in each year, whereas the M&I capital charge was (and is) paid based on the subcontractor’s annual entitlement regardless of the volume delivered. Conversely, M&I subcontractors and Indian contractors were to pay CAP fixed Operations Maintenance & Replacement (Fixed OM&R) costs based on water scheduled for delivery, while the agricultural subcontractors were to pay fixed OM&R for all water available to them each year whether they took delivery or not—a provision commonly referred to as “take-or-pay.”

These subcontract provisions for payment of capital charges and fixed OM&R again reflect the expectation that agriculture would use much of the CAP water supply in the early years, but M&I users would be the primary project beneficiaries over the long run.

Agricultural use of CAP water also has a significant impact on CAWCD’s repayment obligation, since CAP construction costs were allocated, in part, based on how much CAP water was expected to be used by Indian, M&I and non-Indian agricultural users during the repayment period. The CAP master repayment contract provided that project water use would be reviewed every seven years throughout the repayment period—or more frequently if it appeared to Reclamation that there was a significant change in CAP water deliveries—with the CAP repayment obligation being adjusted accordingly. The portion of the CAP repayment obligation associated with the non-Indian agricultural water supply is interest-free.
What were the problems with the original CAP financial structure?

The CAP water delivery subcontracts were slated to take effect on January 1 of the year after the Secretary of the Interior issued a “notice of completion” for the CAP water supply system—the first stage of the project, consisting of the aqueduct, pumping plants and related features. Notice of completion also was the trigger for CAWCD’s repayment obligation.

M&I and Indian demands for CAP water were significantly below original projections in the early 1990s. As a result, the non-Indian agricultural sector would be expected to take more than a million acre-feet of CAP water per year and pay about 75% of CAP’s $30 million fixed OM&R after notice of completion. While this posed serious problems for individual agricultural subcontractors,10 it also threatened the basic CAP financial structure.

Nearly a third of the non-Indian agricultural supply was not under subcontract, so there was no one obligated to pay that portion of the CAP fixed OM&R. The CAP allocations of two non-Indian agricultural districts—Harquahala Valley Irrigation District and Roosevelt Water Conservation District—had been acquired by the United States for Indian settlements, but Reclamation insisted that it was not responsible for fixed OM&R associated with that water. And finally, it appeared that those districts that had signed subcontracts would be unable to afford the CAP water they were expected to take and pay for. As a result, CAP would need to find other revenue sources to cover about $25 million of fixed OM&R annually.

In addition, if agriculture did not use as much CAP water as had been projected, then CAWCD’s annual repayment obligation would increase substantially because more of the obligation would become interest-bearing. That would increase the net present value of the CAP repayment obligation and require M&I subcontractors to pay more in capital charges.11

What was the response to the impending CAP financial crisis?

As it became apparent that initiation of repayment and enforcement of the take-or-pay provisions of the non-Indian agricultural subcontracts would pose serious financial problems for the irrigation districts and potentially undermine the CAP financial structure, there were numerous efforts to identify solutions.

A Task Force on CAP Issues created by Governor Symington issued a report in September 1992 concluding that take-or-pay provisions would have “serious implications” for non-Indian agricultural subcontractors and that, “absent some type of debt relief and/or take-or-pay relief, some of the irrigation districts may default on their distribution system loans and bonds, and declare bankruptcy.”12

CAWCD and Reclamation met through the summer of 1992 to discuss initiation of repayment and related financial issues, culminating in a preliminary proposal referred to as the White Paper.13 The central elements of the White Paper proposal were:

- Notice of completion would be delayed by one year, which would postpone initiation of CAP repayment and application of take-or-pay for the agricultural districts.
- Agricultural districts would be allowed to relinquish part or all of their CAP allocations, in return for which they would receive proportionate relief from take-or-pay obligations and distribution system debt, both federal and private.
- Agricultural districts that relinquished their allocations would be allowed to purchase CAP water on a “spot market” basis, subject to availability.
- CAP water relinquished by agricultural districts would be reallocated for Indian and M&I uses.

In November 1992, shortly after Reclamation and CAWCD issued the White Paper, Paul Wilson of the University of Arizona published a report on CAP agriculture that concluded that “the implementation of take-or-pay provisions in 1994 … will drive the nine irrigation districts into default faster than any other economic or policy event.”14
In December 1992, CAWCD agreed to pay the United States $20.5 million to delay initiation of repayment until October 1, 1993. But water users were unable to reach consensus on the White Paper proposal. In January 1993, Reclamation abandoned the White Paper concept and proceeded with the activities required to put CAP into repayment status in 1993. That left CAWCD to pursue other alternatives. As Reclamation and CAWCD noted:

> It will be up to the CAWCD Board of Directors to make the several difficult decisions in the coming year to reconcile repayment requirements and revenue sources for the purposes of 1994 payments and the longer-term and long-term compliance with the master repayment contract.

**What solution did CAWCD develop?**

In December 1992, Governor Symington formed a Governor’s CAP Advisory Committee to investigate the issues facing CAP and provide recommendations. The Committee issued a draft report in March 1993 entitled “Likely Future Conditions Without Alternative Action.” The report, which Reclamation helped prepare, concluded that, without some sort of financial restructuring of the CAP:

- Irrigation districts would be unable to pay their take-or-pay charges, would challenge the take-or-pay charges in court and seek reformation of bond agreements and deferment of their federal distribution system debt, and might be forced into bankruptcy;
- CAWCD could choose to make up the shortfall in OM&R revenues by using its cash reserves, but would probably reformulate payment of fixed OM&R charges;
- CAWCD’s repayment obligation would increase because less CAP water would be used by agriculture; and
- CAWCD would develop contracting procedures and policies relating to ‘spot market’ sales and short-term contracts for excess CAP water.

On September 2, 1993, the Committee recommended that CAWCD “consider adopting a policy of target pricing to increase incentives for CAP use.” The Committee further recommended that CAWCD “adopt a policy that prices water to agricultural users at or below current groundwater costs to the extent that it benefits all CAP users.”

Building on the concepts developed in the White Paper and information obtained from water users, CAWCD developed a proposed program for repayment adjustments that was approved by the CAP Board of Directors in October 1993. As recommended by the Governor’s CAP Advisory Committee, the CAP program—also known as the Target Pricing Program—created three pools of CAP water, totaling at least 400,000 acre-feet annually, that would be available to non-Indian agricultural water users at reduced prices. As CAP explained, the program had two primary objectives:

1) it protects the interest-free designation of a major portion of the CAP costs allocated to water supply by encouraging agricultural use of CAP water by making such water available to agricultural users at prices which are less than cost, and

2) it minimizes rate shock and uncertainty for M&I users by establishing a forward pricing policy predicated on utilizing interest savings and CAWCD reserves toward these ends.

To address the take-or-pay issue, CAWCD entered into “Letter Agreements” with the CAP agricultural subcontractors under which the subcontractors agreed to waive their rights to CAP water under the long-term subcontracts, in return for which CAWCD waived its right to receive payment of OM&R charges under the subcontracts.
How was the Target Pricing Program involved in the CAP repayment litigation?

Shortly after Board approval of the Target Pricing Program, Reclamation Commissioner Dan Beard requested that CAWCD defer action on its financial restructuring proposal “until Reclamation has completed its review of the restructuring proposal, which should be accomplished within 30 days.”18 CAWCD considered Beard’s request, but determined that its restructuring plan must be implemented immediately because the take-or-pay provisions of the agricultural subcontracts had already taken effect and the agricultural subcontractors were unable to pay.

On the surface, the issue was whether the Letter Agreements required US approval. Commissioner Beard’s November 1993 letter had “caution[ed] that any effort to amend contracts without approval by Reclamation could be at risk.” CAWCD explained that it did not view the Letter Agreements as amending the three-party subcontracts, “but as a mutual waiver of certain rights under those subcontracts by the real parties in interest.”19 But Beard replied that the United States had “concluded that implementation of CAWCD’s plan requires Federal approval, including specifically the proposed two-party agreements to modify the terms and conditions of the agricultural water service subcontracts.”20 Beard did not say what factors Reclamation would consider in deciding whether to grant approval or when approval might be forthcoming.

Beard’s letter did offer some insight into Reclamation’s motives, revealing that the federal position on the Letter Agreements was asserted primarily to gain leverage on other issues:

> While CAWCD’s efforts to restructure the project’s framework are commendable, the District’s plan does not address all the issues we believe must be included in a comprehensive solution. Continued areas of concern for the United States include irrigation distribution system repayment, the CAP contractual repayment ceiling, equity among classes of users for payment of fixed operation, maintenance, and replacement charges, utilization of excess power revenues, and mechanisms for enhancing or restoring environmental quality and fish and wildlife habitat in Arizona.21

In short, Reclamation linked approval of the Letter Agreements to a comprehensive resolution of broader disputes between Reclamation and CAWCD.

What were the broader disputes between CAWCD and Reclamation?

At the same time that the Target Pricing Program was being developed, Reclamation informed CAWCD that it had calculated the CAP repayment obligation to be $2.203 billion. That was significantly more than the ceiling in CAWCD’s master contract under either party’s interpretation.22 On October 1, 1993, Reclamation issued its Notice of Completion for the CAP water supply system and called for CAWCD to enter negotiations to increase its repayment ceiling.

Reclamation’s internal analysis indicated that the United States would be better off financially if the agricultural component of CAP failed. If no CAP water was delivered for agricultural purposes, then the increased interest on the CAP repayment obligation would more than offset any losses the United States would experience from agricultural districts being unable to repay their federal distribution system loans.

Some within the Department of the Interior viewed the financial distress of the CAP agricultural districts as an opportunity to obtain additional water for Indian settlements at little to no cost. In the bankruptcy process, they reasoned, the CAP allocations would be an asset that the United States could recover.23

As negotiations between CAWCD and Reclamation continued, it became apparent that the issues of CAP repayment, the disposition of CAP agricultural subcontracts and unresolved Indian water rights claims were intertwined. Secretary Babbitt made that clear in December 1994 when he conditioned US approval of the
Letter Agreements on “the clear relinquishment of CAP water entitlements by non-Indian irrigation districts and satisfactory resolution of groundwater overdraft impacts on Pinal County Indian reservations.” Babbitt admitted that the Letter Agreements were linked to other federal issues—such as the irrigation districts’ federal distribution system debt and federal OM&R costs—and that “approval of the ‘Letter Agreements’ [was] a key part of obtaining additional water for Federal purposes.”

With the validity of the Letter Agreements (and the status of the CAP take-or-pay obligation) in question and faced with the inability to satisfy their federal distribution system debt obligations, several of the agricultural districts filed for bankruptcy protection. The United States and CAWCD both asserted their interests in the bankruptcy proceedings, eventually filing counterclaims against each other. Those counterclaims were subsequently removed from the bankruptcy court to US District Court in what became the CAP repayment litigation.

**How were those disputes resolved?**

The CAP repayment dispute and issues surrounding the CAP non-Indian agricultural subcontracts, along with a host of other issues, were resolved in a series of interrelated agreements and legislation, principally the CAP Repayment Stipulation, the Arizona Water Settlement Agreement and the Arizona Water Settlements Act of 2004.

The CAP Repayment Stipulation between CAWCD and the United States settled the pending litigation over the CAP repayment obligation, CAWCD’s rights with respect to excess CAP water, disposition of CAP revenues in the Lower Colorado River Basin Development Fund (LCRBDF) and other issues. The Stipulation established CAWCD’s repayment obligation at $1,646,462,500, premised on a total allocation of 667,724 acre-feet of CAP water for Indian use. It also fixed the interest-free portion of CAWCD’s repayment obligation at 27%, based on the parties’ expectation that non-Indian agricultural water users would continue to take substantial volumes of CAP water through 2030 using a pool of excess water created by CAWCD for that purpose. The Stipulation was contingent on a number of subsequent events, including a final Gila River Indian Community Water Rights Settlement, amendment of the Southern Arizona Water Rights Settlement, reallocation of CAP water and federal legislation authorizing the use of LCRBDF funds to pay fixed OM&R costs for CAP water deliveries to Indian tribes, construct CAP distribution systems for Indian tribes and other purposes.

The Arizona Water Settlement Agreement among the United States, CAWCD and the Arizona Department of Water Resources provided for the relinquishment and reallocation of the non-Indian agricultural (NIA) priority CAP water as well as the reallocation of 65,647 acre-feet of previously unallocated municipal and industrial (M&I) priority CAP water. The parties quantified the total volume of NIA priority water available for reallocation at 293,795 acre-feet. Of that total, 197,500 acre-feet was made available to the Secretary for Indian uses and 96,295 acre-feet became available for reallocation to non-Indian M&I users.

Irrigation districts that relinquished their long-term CAP entitlements under the terms of the Arizona Water Settlement Agreement were relieved of their federal distribution system debt—often referred to as 9(d) debt. In addition, CAWCD agreed to provide a pool of excess CAP water, subject to availability, to the relinquishing subcontractors at energy-only rates through 2030. This pool, referred to as the Agricultural Settlement Pool, was sized at 400,000 acre-feet initially, declining to 300,000 acre-feet in 2017 and then to 225,000 acre-feet in 2024.

Title I of the Arizona Water Settlements Act of 2004 authorized, ratified and confirmed the Arizona Water Settlement Agreement and, in particular, 9(d) debt relief for irrigation districts. The Act also exempted CAP lands from the Reclamation Reform Act of 1982, as well as any other acreage limitation or full-cost pricing provisions of federal law, and made LCRBDF revenues available for Indian water rights settlements and other purposes consistent with the CAP Repayment Stipulation.
The final condition to the effectiveness of these interlocking agreements was satisfied when the Secretary of the Interior issued his Statement of Findings in accordance with §207(c) of Arizona Water Settlements Act in December 2007.

How has the Agricultural Settlement Pool worked?
Since 2004, CAWCD has made 400,000 acre-feet of excess CAP water available annually to non-Indian agricultural water users in central Arizona to fulfill its commitment to the Agricultural Settlement Pool. Through 2014, essentially all of that water was used by non-Indian agriculture each year. Beginning in 2015, CAWCD entered into forbearance arrangements with certain agricultural users to protect water levels in Lake Mead. As a result of those programs, Agricultural Settlement Pool use in 2015 was approximately 318,000 acre-feet and in 2016 is expected to be around 281,000 acre-feet.

Water in the Agricultural Settlement Pool is allocated by CAWCD based on the number of CAP-eligible acres within each irrigation district. The two largest irrigation districts—Maricopa-Stanfield Irrigation & Drainage District, Central Arizona Irrigation and Drainage District—account for nearly two-thirds of Agricultural Settlement Pool use.

Agricultural Settlement Pool customers that operate groundwater savings facilities (GSF) are generally required to take delivery of their pool water before they are eligible to store water on behalf of other parties. This requirement, enforced by the Arizona Department of Water Resources, is designed to promote the use of renewable CAP water in lieu of groundwater pumping (or delayed groundwater pumping in the case of credits earned at a GSF).

As required under the Arizona Water Settlement Agreement, CAWCD’s delivery rate for Agricultural Settlement Pool water is Pumping Energy Rate 1—the same energy rate charged to CAP M&I subcontractors. CAWCD covers the fixed OM&R costs associated with Agricultural Settlement Pool deliveries from its reserves.

In 2006, as CAWCD began to forecast significant increases in the cost of energy from Navajo Generating Station, non-Indian agricultural customers expressed concern that projected CAP energy rates would be much higher than their cost of pumping groundwater, making Agricultural Settlement Pool water uneconomic in the years ahead. Following extensive customer workshops and Board discussions over the next two years, CAWCD adopted an Agricultural Incentive Program as part of its 2009 CAP water delivery rate schedule. CAWCD’s Pumping Energy Rate 1 continued to be set at cost, but the Agricultural Incentive Program allowed Agricultural Settlement Pool customers to partially offset that CAP energy cost if they met specified goals established by CAWCD. The incentive goals were designed to advance three CAWCD policy objectives:

- To promote full use of Agricultural Settlement Pool water
- To encourage irrigation districts to make their groundwater savings facilities available to the Arizona Water Banking Authority and the Central Arizona Groundwater Replenishment District to help meet statutory firming obligations
- To assist CAWCD in the recovery of previously stored CAP water

The CAWCD Board of Directors sets the amount of the incentive for each goal as part of its biennial rate-setting process.
1 See http://www.usbr.gov/history/borhist.html.


4 In 1980, the Secretary of the Interior stated that he had “regarded this provision as requiring the reform of groundwater management by the State prior to allocation of CAP water for non-Indian use” and noted Arizona’s recent enactment of the Groundwater Code as satisfying this requirement. 45 Fed. Reg. 81265 (Dec. 10, 1980).


6 The Record of Decision for the 1983 CAP water supply allocation, which formed the basis for the subsequent CAP water service subcontracts, is found at 48 Fed. Reg. 12446 (Mar. 24, 1983).

7 Id. at 12451.

8 Memo from Commissioner of Reclamation to Secretary of the Interior, June 3, 1983, at 12. For a more detailed explanation of the revenues used for CAP repayment, see “Understanding the CAP Repayment Obligation” (April 2016).

9 See Understanding the CAP Repayment Obligation (April 2016).

10 For example, Maricopa-Stanfield Irrigation & Drainage District had been allocated 20.48% of the available agricultural supply. The available agricultural supply for 1994 was projected to be 1.15 million acre-feet, which means MSIDD would have been responsible for paying fixed OM&R for 235,000 acre-feet—a total estimated cost of $5.3 million.

11 For a more detailed explanation, see Understanding the CAP Repayment Obligation (April 2016).

12 Reclamation had come to the same conclusion several months earlier: “Because of the precarious financial position of the CAP irrigation districts, imposition of the take or pay provision would result in most of the districts defaulting on their Federal distribution system loans and being forced into bankruptcy.” Memo to File from Regional Economist summarizing July 28, 1992 meeting of Reclamation leaders to discuss CAP issues.


15 Agreement between the United States and the Central Arizona Water Conservation District Regarding Initiation of Repayment (Dec. 3, 1992). The amount of the payment was based on the change in present value of the CAP repayment obligation due to a one-year delay. CAWCD’s payment was applied against the repayment obligation.


17 Memo from Tom Clark to Board of Directors (Oct. 7, 1993).

18 Letter from Dan Beard to Sam Goddard (Nov. 2, 1993).
Letter from Sam Goddard to Dan Beard (Nov. 10, 1993).


Id.

See Understanding the CAP Repayment Obligation (April 2016) for further discussion of the dispute regarding the CAP repayment ceiling.

See, e.g., Memo from Assistant Secretary, Indian Affairs, to Assistant Secretary, Water & Science, dated Sept. 22, 1992 (“If the reason for this [CAP restructuring] proposal is to provide water for Indian settlements, it may be that the bankruptcy route will provide more water at less cost to the United States”); Department of the Interior Position Regarding the “Letter Agreements” Among CAP Non-Indian Irrigation Districts and the Central Arizona Water Conservation District, dated Dec. 5, 1994 (“In bankruptcy, Interior should take appropriate action to ensure that the ‘take or pay’ language [is] upheld and force the districts to reject the subcontract, thus returning the water entitlement back to the Secretary’s control”).

As discussed above, the NIA priority water was originally allocated as a percentage of the CAP supply available each year after satisfaction of all M&I and Indian priority demands. The NIA quantification in the Arizona Water Settlement Agreement was premised on total long-term CAP entitlements of 1.415 million acre-feet, a limit confirmed in the Arizona Water Settlements Act of 2004.

The federal share of the NIA priority water was allocated as follows: 102,000 acre-feet to the Gila River Indian Community, 28,200 acre-feet to the Tohono O’Odham Nation and 67,300 acre-feet reserved for future Indian water rights settlements (23,782 acre-feet of which was subsequently allocated to the White Mountain Apache Tribe). In January 2014, the Arizona Department of Water Resources submitted a recommendation to the Secretary of the Interior for reallocating 46,629 acre-feet of NIA priority water to non-Indian M&I uses.

The irrigation districts had entered into contracts with the United States pursuant to §9(d) of the Reclamation Project Act of 1939 under which the United States constructed the districts’ CAP distribution systems and the districts committed to repay certain costs of that construction.


As discussed above, the Basin Project Act required that lands have a “recent history” of irrigation (Sept. 30, 1958, to Sept. 30, 1968) to be eligible to receive CAP water.

For a more detailed discussion, see Understanding CAP’s Strategic Reserves (April 2016).