

Conjunctive Use: A Reality Check

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Conjunctive Use: The coordinated and planned management of both surface and groundwater resources in order to maximize the efficient use of the resource; that is, the planned and managed operation of a groundwater basin and a surface water storage system combined through a coordinated conveyance infrastructure. Water is stored in the groundwater basin for later and planned use by intentionally recharging the basin during years of above-average surface water supply.

(California's Groundwater, The State of California, The Resources Agency, Department of Water Resources, Bulletin 118, Update 2003, October 2003, p. 215)

Conjunctive use provides a conjuring image. In its simplest terms, the concept involves a water agency to be named later storing surplus water in the Borrego Valley aquifer in wet years, retrieving it during droughts, and paying the BWD an in-kind fee, i.e., a fraction of the water stored, for the use of the aquifer.

In the 23 Feb. 2006 issue of the Borrego Sun the "AAWARE Steering Committee," (*The Agricultural Alliance for Water and Resource Education is a well-financed Mutual Benefit Corporation. Its membership is restricted to representatives of twenty or so agribusinesses in the Valley. Despite its innocuous name, AAWARE's purpose is to protect member's access to unlimited free water from the aquifer at all costs.*) published a Viewpoint piece entitled "Water banking is the key to sustaining the aquifer, agricultural community says." In it, AAWARE asserts that it is unrealistic to believe "all or most of the farm and golf course acreage is going to be fallowed;" and concludes that the community must figure out a way for agriculture, golf resorts, and residential/commercial water users to "coexist and thrive" in Borrego. It offers only two potential ways of doing so: "live within our means" or import water. Taking this dyad as a given, AAWARE claims the only viable solution is to import water and touts water banking or conjunctive use as a strategy for bringing water into the valley.

AAWARE's pitch sounds a lot better than it is because the assumptions and assertions on which it is based are misleading or false. Granted, conjunctive use is a conceivable long-term solution to the overdraft that deserves consideration. The remote possibility of perhaps achieving this best of all possible worlds at some point in the indefinite future, however, in no way diminishes the urgent need for a number of meaningful actions now to reduce the overdraft. We all lose big-time if this Hail Mary play eventually fails and we have done nothing else.

In the first instance, it is not at all unrealistic to believe that all of the farms and golf courses will be fallowed. If we sit on our hands and wait to be saved from ourselves by the miracle of conjunctive use and the miracle doesn't happen then,

absent stringent conservation measures starting yesterday, it is inevitable. Our groundwater will be effectively exhausted sooner than later, the irrigated lands will be necessarily fallowed, and the valley made uninhabitable.

Second, AAWARE sets up a false dichotomy between conjunctive use and conservation efforts. There are a number of things that can and must be done to conserve water such as fallowing as much irrigated land as possible, introducing conservation pricing for water, infrastructure upgrades to reduce water loss, persuading golf courses to reduce turf and use more efficient irrigation methods, etc. We must give high priority to such initiatives and implement them immediately in order to buy time to develop a more comprehensive solution to the overdraft which may – or may not – include conjunctive use.

Third, with regard to conjunctive use, we are anything but “masters of our own destiny” as AAWARE claims. On the contrary, we are totally at the mercy of large water districts and agencies outside the valley that, until now, have shown no interest in Borrego’s “massive storage capacity” and rebuffed the BWD’s overtures.

AAWARE seeks to smear some lipstick on this pig when it avers that “Recently, the BWD has been approached by the San Diego Water Authority with a proposal request for just such a conjunctive use project.” The truth is that the San Diego County Water Authority (SDCWA) sent out a “Request for Proposal” (RFP) to a large number of entities, including but probably not limited to the more than thirty water districts and other agencies that provide water service in the region. They did not single out (“approach”) the BWD because it offers some unique advantage as AAWARE’s statement disingenuously implies.

In fact, the BWD did pay AAWARE’s own groundwater consultant, hydrologist Bill Mills, to prepare and present to the SDCWA a conjunctive use proposal in response to SDCWA’s above referenced RFP. In response, the BWD received a letter dated 14 July, 2006, that reads in pertinent part:

The San Diego County Water Authority has completed its evaluation process of proposals received in response to the Request for Proposals for Groundwater Conjunctive Use Program. Based on the evaluation panel’s recommendation, we regret to inform you that your proposal was not selected for further review and negotiations for a conjunctive use project partnership.

Fourth, aside from the questionable validity and veracity of AAWARE’s arguments and assumptions, there are a number of developments on the horizon in California that cumulatively make the possibility of a conjunctive use project in the valley seem far less likely than when viewed through AAWARE’s rose colored glasses.

For example, state and federal planners are looking at a valley north of Sacramento

as a prime site for a reservoir that would probably hold 1.8 million acre-feet of water, about half the capacity of Lake Shasta. . .

It's one of five water storage projects being investigated by the California Bay-Delta Authority, a consortium of 25 state and federal agencies that oversees efforts to improve the reliability of California's water supplies. . .

The others involve building a reservoir on the upper San Joaquin River at Temperance Flat, raising Shasta Dam 6 to 18.5 feet, turning bowl-shaped islands in the Sacramento-San Joaquin Delta into reservoirs and expanding the Contra Costa Water District's Los Vaqueros Reservoir.

Gov. Arnold Schwarzenegger's massive public works plan includes \$1.25 billion in bonds to help fund one or more of those projects. . .

Plans also call for federal or local funding for whatever projects are built.

The Pacific Institute, an Oakland-based think tank, released a report last September that concluded that an aggressive conservation program could cut the state's water use in 2030 by as much as 20 percent below 2000 levels, even with projected population growth.

The report recommended a number steps, including phasing out agricultural water subsidies, especially for water-intensive crops . . .

(The San Diego Union-Tribune February 12, 2006. Antelope Valley prime site for water: It's 1 of 5 areas viewed by state for reservoirs)

Perhaps ever more inimical to Borrego's chances of landing a conjunctive use agreement than the above are plans for mammoth increases in water storage that would entail no infrastructure costs whatsoever:

California may soon be able to store a vast emergency pool of water that could help carry the San Diego region through prolonged dry spells – without building an expensive new reservoir or damming a river.

Seven Western states have sent U.S. Interior Secretary Gale Norton a plan listing a range of unprecedented strategies to stretch

Colorado River supplies, including banking more California water in Lake Mead behind Hoover Dam in Nevada.

Other components of the plan include: cloud seeding to encourage snow; desalination to make seawater drinkable; idling farmland; water trading between states; a schedule of water-delivery cuts if levels at lakes Mead and Powell drop; and a modest-sized new reservoir in the Imperial Valley that would be financed by Nevada.

If Norton accepts the proposal, as expected, California would be allowed to keep reserves of up to 1.5 million acre-feet in Lake Mead

. . .

California has the right to draw at least 4.4 million acre-feet from the river and Lake Mead every year. However, it can't legally hold unneeded water in the reservoir under a controversial "use it or lose it" policy that governs river operations.

California, and primarily the giant wholesaler Metropolitan, would have to comply with several conditions to store water in Lake Mead. Most important, the water kept there must meet strict conservation criteria, such as desalination and farm water conservation.

(Water plan would let state save for drought: Boosting Lake Mead reserves proposed. By Michael Gardner, San Diego Union-Tribune, February 10, 2006)

All of the projects included above appear to be significantly larger than what Borrego is proposing; i.e., 1.8 million acre-feet in the case of the Antelope Valley project, 1.5 million acre-feet in the Lake Mead agreement, etc., compared to the estimated 500 thousand acre-feet of storage available in the Borrego Valley aquifer. All of them appear to be already well along in the planning and development stages, e.g. the Lake Mead project lacks only approval from the U. S. Secretary of Interior. Many of them, particularly the Lake Mead agreement, also appear to be more cost effective than Borrego's. Taking all of this into account, one might conclude that:

- these projects are all several times larger than and in a different league from what Borrego offers
- so far as conjunctive use projects go, the train has already left the station and Borrego is not on board.

Finally, at the same time as water storage capacity is being increased dramatically, there will be a growing demand for that same water that, ironically, may result in a significant diminution of water available for storage.

California's thirst for water will jump by 40 per cent during the next 25 years at current rates, with much of the water going for landscaping in the hot, dry inland valleys that will see the bulk of the population growth. . .

The . . . Public Policy Institute of California. . . predicted 14 million more people will each use 232 gallons each day by 2030. . .

Half of all the water used by inland homeowners goes to irrigating yards, compared with on-third or less on the cooler coast.

“Spike in water demand predicted: 40% more by 2030, according to study” San Diego Union-Tribune, 27 July 2005)

L. R. Burzell, BWD’s District Engineer, wrote recently that “the SDCWA is considering proposed revisions to its policy for consideration of annexations. The probability of future water shortages appears to be one of the driving forces for more restrictions on annexations.”

He goes on to note that the “MWD does not deliver water for agricultural irrigation except when they have surplus capacity” and notes that “politically it will be very difficult [for the MWD]to consider annexation” of the BWD.

(Memo of January 23 2006 to the Ad Hoc Conjunctive Water Use Committee of the BWD from L. R. Burzell, District Engineer regarding “Consideration of the Possibility of the Borrego Water District Annexing to the San Diego County Water Authority (SDCWA) and the Metropolitan Water District (MWD))

The above suggest two things, neither of which is favorable to Borrego’s chances of partnering with the SDCWA or the MWD in a conjunctive use project. First, that SDCWA foresees shortages, which means there would be little or no excess water to store. Second, that the MWD’s prohibition on delivering water for agricultural irrigation except in extraordinary circumstances would at least complicate, and may well preclude, their joining in a conjunctive use agreement with the BWD when, in Burzell’s words, “the majority of the overdraft is caused by agricultural irrigation.”

In light of the forgoing, consider the following case study of the recently resurrected Cadiz, Inc. project:

For years, Cadiz tried to entice the Metropolitan Water District into a \$150-million scheme to store surplus water from the Colorado in the Mojave Desert. The skeptical MWD, which serves most of Southern California, finally nixed the project in 2002.

When proposed by Cadiz in 1997, it had a charming 25-words-or-less simplicity: The MWD would store surplus water under Cadiz’s 35,000 acres in wet years and retrieve it during droughts, paying Cadiz a fee at both ends.

But complexities soon surfaced. The storage site lies 35 miles from the MWD's Colorado aqueduct, so a \$100-million pipeline strung over an environmentally sensitive route was required. The proposal also committed the district to buy huge quantities of groundwater from the aquifer underlying the site, but experts disagreed about how much could be safely extracted; the U.S. Geological Survey regarded Cadiz estimates as optimistic by a factor of 10. And a persistent drought on the Colorado, along with interstate squabbles over its water, raised doubts over whether there would ever be surplus for the MWD to store.

The company had no expertise in large-scale water storage and no experience managing big construction projects. . .

. . . there's probably no way Cadiz could hook up again with the MWD and that it can't build the project on its own. But he says that other public agencies like regional water districts might be willing to join Cadiz in a new partnership.

. . . environmental studies will need to be updated and political opposition quelled, among other obstacles. But despite nearly a decade of discussion and debate, Cadiz may be with us for at least a few years more.

(Abstract of: Water Firm Awash in Political Influence; Michael Hiltzik, Los Angeles Times 02-13-2006)

Cadiz, Inc.'s failure to achieve its goal of a conjunctive use deal with MWD came about despite the fact that:

Gov. Arnold Schwarzenegger's new chief of staff, who is spearheading a \$9-billion plan to improve California's water system, was paid \$120,000 last year by a Los Angeles developer seeking to build a massive water storage project under the Mojave Desert.

According to interviews and her financial disclosure statement, Susan P. Kennedy earned \$10,000 per month in 2005 as a consultant to Cadiz Real Estate, operated by her longtime friend Keith Brackpool.

For nearly a decade, the British-born Brackpool has tried unsuccessfully to put together a public-private partnership that would use the aquifers under his San Bernardino property to store water for use during droughts.

Cadiz came close in 2002 to finalizing a deal with the Metropolitan Water District to store Colorado River water for the agency during

wet years that it would sell back in dry years. The proposal was defeated in a close vote of the MWD board over concerns about Cadiz's finances and about the environmental impact of the project.

Despite that rejection, Cadiz "is actively exploring alternative ways to develop" the project, according to its website. The company has requested a right-of-way from the federal government for a pipeline to transport Colorado River water to a 45,000-acre parcel it owns in San Bernardino County.

For years, Brackpool has kept close ties to several prominent politicians. Before Antonio Villaraigosa, now Los Angeles' mayor, was elected to the City Council in 2003, Brackpool employed him as a consultant for two years.

Brackpool was also close to former Gov. Gray Davis, who appointed Brackpool co-chairman of a 33-member task force that looked for ways to manage California's water. Brackpool and his companies donated \$345,000 to Davis' campaigns and gave candidate Davis the use of Cadiz's corporate plane.

(Gov.'s Top Aide Was Paid by Developer; Susan Kennedy is pushing to fix the state's water system. In 2005, she consulted for a firm with an aquifer project.; Robert Salladay, Times Staff Writer, Los Angeles Times 02-10-2006)

The Cadiz, Inc. story is a cautionary tale; and no one familiar with the situation in the Borrego valley and the BWD can fail to see the parallels between what AAWARE proposes and the Cadiz, Inc. project.

- Both are deceptively simple to the point of being naive and simplistic.
- Both ignore or gloss over daunting complexities such as:
 - Distances involved
 - Extremely high costs
 - Environmental and other regulatory considerations
 - Engineering, geologic, and hydrologic factors
 - Availability of water to store
 - Cost-sharing, payment structures, and other complex financial and economic arrangements that would have to be negotiated.
- Neither principal has any experience or expertise in large scale water storage or managing big construction projects
- Neither principal has been able to identify a single partner
- Neither project shows much promise of success.

Add to that the tremendous political influence that Cadiz, Inc. cultivated and outright purchased over the decade that it has been chasing after this project

only to see it fail and you will have some idea of what confronts the BWD if it pursues such a project with none of the resources that Cadiz, Inc. brought to bear. It gives new meaning to “wishful thinking.”

Despite that, in what can only be described as a triumph of hope over experience, AAWARE and others continue to insist on the viability of a conjunctive use project in Borrego against all odds.

It is instructive to note that although the Cadiz, Inc. project has involved “nearly a decade of discussion and debate,” and “may be with us for at least a few years more,” that pales to insignificance when compared to the length of time that Borregans have been considering importing water into the valley.

The citizens of the valley are also contemplating joining with the city of San Diego in assisting in the payments of the cost of a pipeline from the canals of the Imperial Irrigation District and securing an ample water supply . . . (San Diego Union, 1 January 1931)

Now consider that according to independent analyses performed on data collected in the valley over the last 25 years or so by Jim Bennet, Hydrogeologist for the county of San Diego, and Dr. Tim Ross, Engineering Geologist, California Department of Water Resources, and reported at the BWD 5th Annual Town Hall Meeting on 22 February 2006, the rate of decline in the groundwater level has doubled in the last quarter century, with the majority of that increase coming in just the last eight years; i.e., since 1998. That rapidly accelerating rate of decline should be extremely worrisome to all concerned; and cause the residents of the valley to demand, and the BWD to take, actions that will result in the immediate reduction of that rate of decline.

In sum, conjunctive use may provide a solution to Borrego’s groundwater problem and should not be eliminated from consideration; but it is a “monumental undertaking” even by AAWARE’s optimistic estimate and grows more daunting each day. We simply cannot, therefore, afford to put all our eggs in the conjunctive use basket. We must begin implementing as many effective, water saving strategies as possible as soon as possible. We haven’t got another 75 years to spend hoping for a miracle. The time for decisive and effective action is now – before it is too late.