

HOT WATER ISSUES

Arizona has no "casual" water; every drop should be measured, counted and carefully used, says Sen. John Hays, R-Yarnel.

"Private lakes are lovely, but Arizona is an arid state." Trying to imitate the lake country of Minnesota in Arizona can't be done without serious trade-offs. Hays sees a decline in the traditional Arizona agriculture as one trade-off as water costs increase.

A primary purpose of the Central Arizona Project (CAP) is to provide a renewable surface water supply to reduce the overdraft on ground water. Unfortunately, CAP isn't going to make much difference. The CAP won't save the farmers, says Dr. William Martin, UA agricultural economist. "In general, farmers would be better off if they continued to pump ground water than if they substituted CAP water."

Martin and David Bush, former UA agricultural economist, studied the costs and benefits of CAP to farmers on an irrigation district-by-district basis. In the entire state, only farmers in the Harquahala district will really have lowered costs from using CAP water, they found. Elsewhere, costs will be higher with CAP because farmers will have to maintain both ground water and surface water systems.

CAP water will be transferred to cities; the Colorado River will fluctuate. Some years farmers might not get CAP water at all. Martin says, "The long-range viability of Arizona agriculture depends on the market and the prices farmers get, not on water."

Rep. Jim Hartdegen, R-Casa Grande, has a different point of view; he says everything depends on water. "Do we want Tucson and Phoenix dominating the state? If large cities need water, they have to have it, but not on the backs of small cities. It's a touchy situation."

That may be the only point of agreement between legislators, farmers, large and small city officials and developers. Water transfer is one of the most touchy.

Ground water is the only source of water rights for legal water transfer from rural areas to large cities. It's not regulated by state codes except for a dam-

(left) Rainwater stands in the bottom of the unfinished southern Arizona leg of the CAP canal.



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by Lorraine B. Kingdon

HOT WATER ISSUES

age provision, says Dennis Sundie, Arizona Department of Water Resources. The Ground Water Management Act of 1980 virtually forces the land buy-ups by requiring that Phoenix, Tucson and Prescott plan ahead for an assured water supply that includes their needs for future growth and development.

Sundie says that, by the year 2025, Phoenix will have a 200,000 acre-foot water deficit even with conservation and water augmentation. "They must make up the overdraft with water transfers," he states.

The Salt, Verde and Agua Fria river systems are tied up by the Salt River Project; they're not available for water transfers. Eight areas in Arizona were studied as possible water suppliers.

- Yuma, Wellton, Cibola Valley
- Harquahala, McMullen and Butler Valleys
- Camp Verde
- Pinal County
- Safford—Duncan
- Lower San Pedro Valley

The transfer of water from the Yuma area won't impact the ground water, Sundie believes. However, in La Paz county, almost all water will be drained within 100 years to 1,000 feet below ground. Pinal county is mining itself out of water with a 50-year life of the water basin; some areas are worse, some are better. Maricopa County faces a 134,000 acre-foot overdraft with a 125-year life span predicted for its ground water.

Sundie suggests agriculture be given the right to pump water for irrigation down to 900 feet below ground; water from 900 to 1,200 feet below the surface should be reserved for other uses.

Water transfers aren't the nefarious practice some people believe. Mesa city director of water resources Karl Kohlhoff believes Arizonans have gained opportunities, not lost them. "I don't want a moratorium on water transfers; it will stop investors coming into Arizona," he says.

"I think Mesa is in great shape," he adds. The city will get 80 percent of its water from the Salt River, 15 percent

from the CAP and 5 percent from ground water. They have planned conservation measures; treated effluent water will be used for parks and golf courses; water will be recharged.

Still short 30,000 acre-feet, Mesa acquired water rights to 11,500 acres near Coolidge in Pinal County. Kohlhoff says that Mesa will lease the land for farming until the year 2000, then transfer the water to Mesa. After that, farmers will use CAP water instead of ground water; once farmers are gone, the land will be available for development.

We're not villains, Kohlhoff says. The city worked to get a law passed so Mesa could pay county land tax. The farmland Mesa bought doubled in value (from

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\$1,200 to \$2,600 per acre) before the city purchased it; now the adjacent land is selling for \$4,000 per acre.

The choice has been made to deliver water to the people rather than try to move people to the water, says Jerry Froment, Scottsdale water and real estate consultant. Agriculture will be forced out in many areas because the technology farmers need to get an adequate supply of irrigation water will be too expensive. In many cases, developers are on hand, waiting to buy the land. There's a big scramble with developers, investors and communities asking where to buy land next, he says. However, Sundie comments that speculators are buying up land for water rights just as fast as cities.

"Regulations made water valuable," Froment says. "There's a new breed of

people, more sophisticated about water who can use water effectively as a profitable business." He believes farmers can make more money in water than in farming—if they're sufficiently well informed and sophisticated. He—as well as Kohlhoff and Roger Manning, executive director of the Arizona Municipal Water Users Association—reject ideas of changing the 1980 ground water law. Stability is absolutely necessary, says Froment.

Manning says he finds nonproductive such suggestions from rural towns and counties as legislating a moratorium on water transfers—requiring cities to pay damages for buying up rural land—or, directly taxing cities for the land they acquire.

On the other hand, Bruce Driver, consultant to the Western Governor's Association, believes reforms are needed in many Western states. Water transfers need to be voluntary, but they need to abide with state-set policies, with efficient water use as the primary object. "It should be a win-win situation. Farmers should get rich and cities should pay less for water, but it doesn't always work that way."

Driver and Dr. Bonnie Saliba, UA agricultural economist, both believe in incentives to reduce the need for water transfers. "Make the cities pay," Saliba says. For example, she suggests changing Arizona law to allow farmers to sell or lease any irrigation water they conserve. Another suggestion is splitting water rights so some portion stays with the land. Both of these options are allowed in other states.

Further, Saliba suggests encouraging cities to seek option contracts that would lock in the price of the land sought for water transfers now, but the cities would acquire the actual rights at some later date. Dry-year-only leases might be promoted.

Traditionally, agriculture always has been asked to do with less water. Saliba thinks that flexibility should be shifted to cities. In a dry year, city residents could have interruptible water service; they could be asked to conserve more water. Cities should get credit toward

HOT WATER ISSUES

the assured water supply required by law if they reuse effluent, recharge ground water, conserve more water than they legally must, or retire irrigated land.

Water transfers aren't the only way to ensure an adequate water supply, says Jim Klinker, Arizona Farm Bureau director of public affairs. Water augmentation and flood control should include storage areas on the Gila and San Francisco rivers.

Water storage—or water banking—is also proposed by Mesa mayor Al Brooks. "We should begin water-banking CAP water today to stabilize falling water tables and provide a reliable water supply in droughts."

Everyone has an opinion about water in Arizona—politicians, homeowners, farmers. Dr. Kenneth Foster, UA director of the Office of Arid Lands Studies, summarized the demands of the various interest groups.

Rural counties don't want to see tax bases exported along with groundwater to the cities. These less-populated areas would like to have a severance tax that would enable the county to tax every acre-foot of water that leaves the county. Some farmers see the sale of their land and associated water rights as the last sure thing in an unsteady agricultural marketplace.

Cities don't need water immediately, but buying water farms in the next five years is a priority. Urban areas are putting together conservation programs, and they must begin using more effluent. Nonetheless, reduced agricultural pumping will allow cities to store ground water for future use; another option is putting their extra CAP allocation in underground storage.

Some cities are concerned about being squeezed out of using the CAP canals to import water from water

farms. Also, developers are buying up rural land to ensure meeting the 100-year water supply criteria of Arizona's Groundwater Act. Currently, this is within the law. However, the Central Arizona Water Conservation Districts have not determined whether to allow the use of CAP canals for these purposes.

The Department of Water Resources would like to oversee moving and exporting water. The department's pur-



pose, Foster says, would be to account for and achieve the Ground Water Act's goals of conservation and safe yield. The state legislature wants water allocated to the highest and best use.

"Inevitably, there will be conflicts between state and local governments over how and when development should occur. By allowing the transportation and export of the water now, the state will, in effect, lose its control of further

options for development. It will also discourage the reuse of existing water supplies within the cities where appropriate," says Foster.

There's another problem with all the opinions and solutions being offered: Too many questions about Arizona's water still need to be answered.

- Dr. Margot Garcia, department of planning, Arizona State University, asks for a systematic approach to water planning. Is there really a water shortage, or is it more a matter of economic distribution of water?
 - Gordon Henry, Eager, president of the Arizona Rural Water Users Association, wants research that will show the optimum population for a community. How can quality of life be measured in a way that considers changes in crime rate, travel time to work, and the cost of municipal services as factors included with the number of people in a community?
 - Bob McCain, program manager for Arizona Municipal Water Users Association, wants an accurate analysis of water transfers. How do water transfers affect people's income; what changes do water transfers make in state sales taxes; what changes are caused by CAP? He also wants to know why water use patterns vary so greatly between Phoenix and Tucson.
 - Nick Ferrari, water production division, City of Phoenix, calls for more research on ways to analyze water, hazardous contaminants and methods of treating water. How can we know immediately if hazardous wastes are dumped or spilled along the CAP canal? How can we make effluent wastewater suitable for drinking?
- Water will continue to be a controversial, hot topic in Arizona for the foreseeable future. 

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