

Beyond the reservoirs

City panel set to evaluate 50 new water sources

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Editor's note: Few issues are more crucial to San Angelo's future than water. The Standard-Times continues its coverage of this key community issue with a series of articles examining the city's proposed long-term water strategy.

Rain dumped 40,000 acre-feet of water into Twin Buttes Reservoir in August of 1998.

The downpours in one month gave San Angelo twice the water it uses in a year. So much rain fell that the city released 20,000 acre-feet of water to complete repair work on the Twin Buttes dam.

That was five long, dry years ago.

A "drought of record" has since sapped O.C. Fisher Reservoir, and the city is feverishly pumping water from Twin Buttes into Lake Nasworthy to provide San Angelo with an emergency supply.

"When O.C. Fisher was completed in the '50s, there was one event to fill it up," said Drew Darby, chairman of the San Angelo Water Advisory Board. "In the '90s, when Ivie was finished, there was one event.

"I keep telling people we can't wait for that one event every 30 to 50 years to fill up our reservoirs. We are going to have to look at ways to create other sources."

Hope lingers that today's West Texas drought is near its end. But city leaders say San Angelo cannot survive another drought if it relies solely on surface water from four reservoirs: O.C. Fisher, Twin Buttes, O.H. Ivie and E.V. Spence.

What are San Angelo's water alternatives? City Manager Tom Adams has 50 - options range from practical to hopeful to something out of a science fiction movie.

On Monday, the San Angelo Water Advisory Board will begin deciding which of those 50 alternatives make the most sense for the city's water future. Once the board's work is completed, the public will get a chance to comment before a final list of recommendations is presented to the City Council.

The council's work could affect the cost of taking a shower, watering the lawn or washing the pickup. The city might need voter approval to finance its water strategy.

"The water is expensive enough we need to involve the citizens," Adams said. "That's why we have a citizen advisory board. We will likely involve the citizens in a public vote at some point. They need to be a partner in the process."

Right now, the focus is the 50 water alternatives.

Alternative No. 35 suggests the city conserve more water. Alternatives 11-15 say developers have made offers to sell water rights to the Edwards Trinity Aquifer southwest of San Angelo - some of the best water in West Texas. Alternative No. 46 states the obvious about rain, "We need more. Lots more!"

The list of options even suggests tapping new technologies.

Alternative No. 34 recommends pumping water 300 miles from the Gulf of Mexico, effectively tapping the largest supply of surface water around. No. 45 says water vapor could be condensed directly from the air, requiring massive dehumidifiers all around town. At a cost of about 10 cents a gallon, condensed water vapor is still cheaper than bottled water, Adams said.

The point is to give San Angelo as many options as possible to survive the next drought.

Relying on surface water from reservoirs is great during normal weather. But during a West Texas drought, when long periods of heat are combined with low humidity, a city the size of San Angelo can lose a year's supply of water to evaporation each year. "It's like diversifying an investment," Adams said. "If we diversify our water supply, we have the ability to take care of the city in good times as well as drought."

The city's report lists individual water options as well as grouping them in terms of geography: north, south, east and west.

Cost necessitates the directional groupings. Building pipelines to carry water from source to city can cost \$1 million a mile. If the city chooses to look for other sources of groundwater or surface water, it likely can afford to do so in only one direction.

"If we go in one direction, then we can go off of that into the surrounding area and maximize our opportunity," Darby said. "It makes more sense than going off in several directions. Our resources won't allow it."

The City Council in 2001 put the city on drought level one, meaning the city has less than a two-year supply of water at any given time.

Level one limits outside watering to once a week from April through October. Level one penalizes excessive water users, charging \$5 for every 1,000 gallons used in excess of 80,000 per month on top of the base rate. If San Angelo moves to drought level two, all outside watering will be banned, and every 1,000 gallons more than 60,000 a month would cost \$5.

The council's drought stages action appears to be saving the city water. Since San Angelo was placed on drought level one in 2001, water conservation has increased.

San Angelo uses about 17,000 acre-feet of water a year, or enough water to cover 17,000 acres with a foot of water. Two years ago, San Angelo was using 23,000 acre-feet of water a year.

Some of that savings came from the city's effort to replace old, leaky water lines, some 50 years old, which were losing an estimated 3,000 acre-feet annually, Adams said.

"Some people complain that we're not fining those that are using too much water, but if you're having to pay that kind of fee, you are getting fined," Adams said. "We just don't have to take you to the judge."

Adams said the list of water alternatives offers no simple solutions.

The cost of water lines requires a major commitment from the city. Legal issues complicate the prospect of acquiring water rights between cities and between city and farmer. And problems exist with water the city pays for but cannot use, such as water in the Hickory Aquifer east of San Angelo that has high radio nuclei content.

But an alternative must be found, if not for now, then for later, Adams said.

"I doubt we can make it through this again in 20 years," he said. "When you have 106 degree temperatures in shallow reservoirs. evaporation is tremendous.

"Evaporation is a terrible thief."

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