# Study identifies 38 most viable sites for new Oklahoma reservoirs

Should Oklahoma build more reservoirs is a question proposed by a new water study.

BY RANDY ELLIS 0
Published: June 5, 2011

Should Oklahoma build more reservoirs?

“I wouldn’t say there is an imminent need, but I think they might be viable options in some areas,” said Kyle Arthur, director of planning for the Oklahoma Comprehensive Water Plan.

The Oklahoma Water Resources Board commissioned C.H. Guernsey & Co., an Oklahoma City architectural and engineering firm, to study and identify the best potential sites for future reservoirs as part of the state’s 50-year water plan.

The firm examined 125 sites where reservoirs have been proposed in the past and identified 38 of them as being the most viable based on such considerations as cost, water quality, size, closeness to where water is needed and environmental and archaeological issues.

The 38 most viable sites range from 1,555-acre Wellston Lake in Lincoln County to 53,000-acre Nuyaka Reservoir in Okmulgee County.

The latter would be about half the size of Lake Eufaula.

In an ideal world, several of the most viable sites would be located near population centers and near hot spots where shortages are most likely, so water transfer costs could be minimized.

That is often not the case in Oklahoma. There are a few notable exceptions, however.

In southwestern Oklahoma, where researchers indicate water shortages could develop within the next 50 years, construction of a reservoir at a viable site near Mangum could provide some relief.

And Oklahoma City is within about 30 miles of three of the 38 most viable reservoir sites.

Those include the potential Navina Reservoir site between Edmond and Guthrie, the Wellston Lake site near Wellston and the West Elm Creek Reservoir site east of Moore.

The Oklahoma City Water Utilities Trust owns the West Elm Creek site and could some day use it as part of its drinking water distribution network, but has no ownership interest in the other two nearby sites, said Debbie Ragan, spokeswoman for the utilities department.

Oklahoma City currently pumps part of its water supply from Atoka Lake and McGee Creek Lake, which are about 130 miles away, and last summer purchased water storage rights in Sardis Lake, which is even farther.

Ragan said the proposed West Elm Creek Reservoir site is like Lake Stanley Draper in the sense that it does not have a feeder stream capable of filling it, so water would have to be pumped in from elsewhere for it to be used as a water storage lake.

#### MORE NECESSARY?

Oklahoma tourism officials like to boast that the state has more than 1 million surface-acres of water, 2,000 more miles of shoreline than the Atlantic and Gulf coasts combined and more man-made lakes than any other state. And new reservoirs are expensive — often costing hundreds of millions of dollars.
Arthur said the state has options.

Studies indicate there are multiple ways to meet the state's anticipated water challenges and combinations of those solutions could be used that would not require construction of any new reservoirs over the next 50 years, he said.

"That's not to say new reservoirs wouldn't serve a number of good purposes in some locations," Arthur said.

"However, there are a variety of issues that must be considered, including environmental issues, benefits beyond water supply, costs and local and state political will."

C.H. Guernsey officials did not recommend whether any of the potential reservoirs should actually be built and did not attempt to rank them, although it did list pros and cons of various locations.

Ken Senour of C.H. Guernsey said officials believed ranking the lakes would not serve much purpose since decisions on whether particular reservoirs actually get built often depend on whether specific governmental entities want to sponsor and fund them.

#### OTHER OPTIONS

In a separate study, C.H. Guernsey consultants updated costs associated with building a statewide water conveyance system that could move nearly 2.3 million acre-feet of water per year from reservoirs in eastern Oklahoma, where water is relatively plentiful,

to regions in western Oklahoma where water is scarcer.
Like researchers before them, they concluded the high costs of such proposed systems rendered them “economically unfeasible under federal planning guidelines.”

However, C.H. Guernsey officials said while they were in the process of doing their study, they received new data from another consulting firm that indicated water deficits projected for western Oklahoma by 2060 were only about a tenth of the amount that prior researchers had assumed would be necessary by 2040 and had planned for during the previous study.