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## Running out of space in quest to store water

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Whether it's through building new dams, water conservation, a combination of the two or another way altogether, Northern Colorado water managers say options for finding more water for growing cities and towns are running thin.

And a tepid snowpack this year, with abnormally dry or drought conditions creeping ever closer to the Northern Front Range, serves as a reminder of the urgency for looking for long-term sources of water.

"Tell me when the next big drought comes, and you're going to see people screaming about storage," said Brian Werner, spokesman for the Northern Colorado Water Conservancy District in Berthoud. "Their willingness (to consider building new reservoirs) ebbs and flows based on when your last drought was."

The uncertainty about the mountain snowpack, which fluctuates every year, is the primary argument for building new reservoirs in the West, said Reagan Waskom, director of the Colorado Water Institute at Colorado State University.

"The amazing thing is, it comes down to three or four big storms every year, whether they get them, or they bypass us," he said.

Last year, Larimer County got all the storms it needed to ensure a blockbuster snowpack.

At the end of the 2011 water year in September, Werner sent a news release reminding the public that much of the extra water that ran furiously down the Poudre River during last year's near-record spring runoff season could be stored for future use in the proposed Glade Reservoir.

He said the Poudre's sustained high flows would have easily filled the reservoirs that are part of the controversial Northern Integrated Supply Project, which would provide additional water supplies to 15 cities and water districts north of Denver.

Environmental groups, including Save the Poudre, warn that siphoning so much water from the river during spring runoff will reduce the Poudre River's flows through Fort Collins, severely harming its water quality and recreation on the river. And, they question whether NISP water could be used for oil and gas development in the area.

One of five major proposed water storage projects in Larimer County that are in various stages of planning, NISP calls for storing about 170,000 acre-feet of Poudre River water in the proposed Glade Reservoir north of Ted's Place. A final decision could come sometime in 2013 or 2014.

"We're in the hurry-up-and- wait mode," Werner said. "We're stuck in the process."

A supplement to a draft environmental review for NISP and Glade Reservoir being prepared by the U.S. Army Corps of Engineers is expected later this year.

"There are very serious questions that need to be addressed, including how and if the water will be used for (hydraulic) fracking, what the impact will be on wetlands along the river, and, three, the real scientifically determined impact on farms and agriculture," said Save the Poudre Executive Director

Gary Wockner. "Those are the three big ones we're going to be looking for."

The other four proposed projects include expansions to Fort Collins' Halligan Reservoir and Greeley's Seaman Reservoir, the Chimney Hollow Reservoir west of Carter Lake and the more uncertain Cactus Hill Reservoir proposed for a site on the Weld County line between Wellington and Nunn.

If those projects are built, Waskom said, it's hard to conceive of other such large projects being built in Northern Colorado regardless of the need because there are few other places to build them, at least in Larimer County.

"Unless we can get Aaron Million's project or a West Slope diversion built, we don't have any more water left," he said.

Now, he said, it's time to start considering new ways to find and store water, including figuring out how to store water underground, implementing greater water conservation measures and striking water diversion agreements with water districts on Colorado's Western Slope.

"We're going to need every single one of those tools in the box to get to where we need to go," Waskom said.

But those tools may not include major new reservoir projects for this region beyond the ones already on the table, he said.

"All the easy projects have been built," he said. "Now we're dealing with the hard projects. What comes after the projects, that's the question, right? Where's the water and reservoir sites, and where's the political will to build projects?"

## **Additional Facts**

NEW PLACES TO STORE WATER IN LARIMER COUNTY

## Glade Reservoir

What is it? A proposed reservoir between two hogback ridges north of Ted's Place. Part of the Northern Integrated Supply Project, or NISP, the reservoir would siphon water from the Cache la Poudre River and provide for the future water needs of 15 towns and water districts in Northern Colorado, including Windsor, Eaton, Erie, Severance and others.

Who's behind it? Northern Colorado Water Conservancy District (Northern Water)

Capacity: 170,000 acre-feet

Location: North Fort Collins between two ridges along U.S. Highway 287, north of Ted's Place.

Cost: \$38 million - \$40 million

Status: Currently under environmental review by the U.S. Army Corps of Engineers. A supplemental draft environmental impact statement was expected in 2011, but it is now expected later this year. A final decision on the project could come in 2013 or 2014.

## Cactus Hill Reservoir

What is it? A proposed reservoir east of Fort Collins that could serve as an alternative to Glade Reservoir if it is determined that the environmental impacts of Glade may be too severe to justify construction. Cactus Hill is also mentioned in Fort Collins entrepreneur Aaron Million's proposed Regional Watershed Supply Project, a proposed 501-mile water pipeline from southwest Wyoming to Pueblo via Fort Collins, as a possible location for water storage

Who's behind it? Northern Water and, separately, Wyco Power and Water, Million's company proposing the Regional Watershed Supply Project

Capacity: 180,000 acre-feet

Location: Between Wellington and Nunn east of Cobb Lake straddling the Weld-Larimer county line.

Cost: About \$600 million

Status: Northern Water prefers to build Glade Reservoir over Cactus Hill, and NISP remains under environmental review by the U.S. Army Corps. The Federal Energy Regulatory Commission has just begun a very lengthy permitting process for the Regional Watershed Supply Project. There is no estimate for a date construction could begin or a final decision would come.

Chimney Hollow Reservoir

What is it? Part of the Windy Gap Firming Project, the reservoir would make water supplies pumped across the Continental Divide from Windy Gap Reservoir in Grand County more reliable for the cities and towns of Northern Colorado.

Who's behind it? Northern Water

Capacity: 90,000 acre-feet

Location: Half mile west of Carter Lake

Cost: \$270 million

Status: Under environmental review by the U.S. Army Corps of Engineers. A final environmental impact statement was issued in 2011. A final decision could come later this year.

Halligan-Seaman Water Management Project

What is it? An expansion project for Greeley's Seaman Reservoir and Fort Collins' Halligan Reservoir, providing greater municipal water storage capacity for each city.

Who's behind it?: Cities of Fort Collins and Greeley

Location: North Fork of the Cache la Poudre River

Capacity: Halligan would be expanded from 6,400 acre-feet to 22,500 acre-feet. Seaman would be expanded from 5,000 acre-feet up to 53,000 acre-feet.

Cost: \$43 Million for expanding Halligan, and between an estimated \$110 million and \$120 million for expanding Seaman.

Status: Currently under environmental review by the U.S. Army Corps of Engineers. A draft environmental impact statement is expected next year, and the project could be operational by 2017.

Sources: Northern Water, Federal Energy Regulatory Commission, City of Fort Collins, City of Greeley