

# Parker dam and reservoir offer hope for thirsty Colorado communities

To handle projected population growth, planners aim to build more reservoirs to hold more water before it flows out of state

Chimney Hollow, Glade among reservoirs being proposed

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By Bruce Finley

PARKER — The recent rain sent a surplus surge of 6,000 gallons a minute, diverted from Cherry Creek, gushing under semi-arid high plains into the West's newest major water stash. And even though the \$170 million Rueter-Hess Reservoir southeast of Denver remains less than a third full — after 4½ years of waiting for moments like this — suburbs are celebrating their vision and tenacity in simply getting it — and a \$50 million water treatment plant — done.

"This is why we have reservoirs: taking advantage of a wet period," Parker Water and Sanitation District manager Ron Redd said. "Now, 75 families for an entire year will have their water needs met. If we didn't have this reservoir, that water would be leaving Colorado and on its way to the Gulf of Mexico."

Colorado water planners facing a projected 163 billion-gallon statewide annual shortfall by 2050 now are aiming to emulate water-stressed Parker (population 50,000), which [labored for three decades](#) to build its 185-foot-high Frank Jaeger dam, reservoir and plant. Parker's leaders were driven by a desire to enable population growth up to 120,000 people without pumping more from dwindling underground aquifers.

Colorado officials have begun re-working a controversial state water plan — designed to support 10 million people — by including more details and targets for construction of reservoirs.

Boosting the statewide capacity to store an additional 130 billion gallons (400,000 acre-feet) would go a long way, along with everybody using less, to sustain a growing population, Colorado Water Conservation Board director James Eklund said.

Among the dam-and-reservoir projects Front Range water providers are proposing:

- Chimney Hollow, southwest of Loveland (90,000 acre-feet).
- Glade, northwest of Fort Collins (170,000 acre-feet).
- Galeton, northeast of Greeley (45,000 acre-feet);
- A bigger Gross Reservoir, west of Boulder (72,000 acre-feet).
- And possible new reservoirs in western Colorado.

But completing any new reservoir has proved difficult, compared with the dam-building feats of the 20th century that enabled massive settlement across the arid western United States.

A confluence of factors — huge costs, political opposition, environmental laws — complicate efforts to develop new water supplies.

Beyond inundating land, dams and reservoirs require federal government approvals from the Army Corps of

Engineers, Bureau of Reclamation and other agencies. States, too, are obligated to ensure water quality and minimize environmental harm.

Drought-prone California in 1999 completed the \$1.9 billion Diamond Valley reservoir between Los Angeles and San Diego, adding the capacity to store an additional 800,000 acre-feet. Metropolitan Water District of Southern California operators, diverting from the Colorado River, finally filled it in 2003.

Parker officials began their project in 1985 after anticipating a water shortfall as suburban development exploded. Longtime Parker Water employee Frank Jaeger scouted sites, filed for permits and obtained rights to divert water. Town leaders initially planned a reservoir to hold 16,200 acre-feet of water.

At first they focused on flooding Castlewood Canyon State Park. Courts rejected this.

Jaeger then negotiated with landowners for the current site, between Parker and Castle Rock. Environmental studies started in 1997. Designs were done in 2002. Construction began in 2004. In 2008, Jaeger and other suburban officials decided to make it a bigger reservoir, holding 75,000 acre-feet.

The reservoir was completed in 2012. And an adjacent water-cleaning plant last summer began operating — bringing reservoir water to residents who long have relied on declining underground water.

Any state push to build reservoirs will require determination and patience, said Jaeger, now retired. "You'll need state sponsorship," he said. "And you'll need somebody who is going to stay around for the whole deal. They're going to take a lot of heat."

More dams and reservoirs likely would cost hundreds of millions and, if off the main stem of a river, require huge amounts of electrical power to pump water.

Parker installed five grid-powered motors — three 1,250 horsepower, two 500 horsepower. These move water from headwaters of Cherry Creek, at a diversion point near Stroh Road, through a 3-mile, 48-inch-diameter steel pipe that runs up a 250-foot-high hill before it reaches Rueter-Hess. Then there's the matter of obtaining enough water to fill Rueter-Hess, factoring in annual evaporation losses of about 3 percent.

Parker secured limited junior rights to surface water and, in May 2011, began diverting to fill the reservoir. When senior rights holders call for water in dry times, Parker's diversions must stop. Today, Rueter-Hess holds 21,000 acre-feet.

The water treatment plant uses state-of-the-art filtering and chemical treatments to remove algae and minerals such as phosphorus so that the reservoir water is safe.

As Parker Water's team formally opened the plant last month, Redd said state planners will need to get started soon.

"It took Parker Water 25 years," he said. "They'll probably need more storage than what they are indicating. ... You're never disappointed with more storage."