

A Lookout Mountain Water District Water Supply Overview

With the recent rains and even some snow, it appears that our water supplies are back to normal. However, appearances in the world of water are often deceptive.

We are a small water district when compared to other water suppliers in Colorado. We are not issuing new taps and most of the taps authorized when we bought the water system from the City of Golden are in use. Geographically, our water system stretches over 12 miles from the Lookout Mountain Reservoir on Beaver Brook in the west to the Lower Lookout Mountain Reservoir near the entrance to Buffalo Bill's Grave in the east. We are a "checkerboard" district serving many non-contiguous parcels over the 12 mile supply line. Most water districts serve all of the property within the district boundaries.

Our physical supply of water comes from Beaver Brook, a tributary to Clear Creek. We have three reservoirs, Upper Lookout Mountain Reservoir, Lookout Mountain Reservoir #2 (located just upstream of our water treatment plant) and Lower Lookout Mountain Reservoir (near the entrance of Buffalo Bill's Grave). The largest of these reservoirs is the Upper Lookout Mountain Reservoir with a capacity of 250 acre-feet. One acre foot contains approximately 325,000 gallons. This reservoir provides the water that flows to our treatment plant and into our water lines. This is the source of the water we use in our houses and that provides our fire protection.

Our legal supply of water comes from our water rights with priority dates ranging from 1904 back to 1865. The earliest rights are vested in the Farmer's Highline Ditch Company and are generally available during the summer months by exchange. In essence, we leave water in Clear Creek via the Farmer's Highline Ditch while we take water out of Beaver Brook into the Upper Lookout Mountain Reservoir. Our other water rights are direct flow and storage water rights which have various priorities.

During the drought of 2002-2003, downstream senior water rights placed "calls" on the river for water to meet their requirements. All of our water rights were out of priority and we were not able to store or divert any water into our reservoir. While there was some water still flowing in Beaver Brook upstream of our reservoir, we did not have the legal right to take it. It all had to be released from our reservoir to supply downstream users. It is important to realize that just because there is water flowing into our reservoir doesn't mean that we have the right to use it.

The norm has been to store water during the high spring runoff and in the winter months when the downstream use was minimal. In fact winter storage actually worked well, because of the difficulty in operating the outlet works of our reservoir during the coldest months. However, in the last few years, since 2002, we have often had a full reservoir in the spring but had to release

a significant amount of water because of senior downstream calls. Releases are made in the spring to meet the winter call (November 1 - April 30) and in the fall for the summer call (May 1 – October 31). Another method of dealing with these senior downstream calls is to purchase “spot water” with a more senior priority date in the Clear Creek basin. This water is then allowed to flow down Clear Creek and we can then keep the water we have stored in our Upper Reservoir, thus giving us the water to put through our treatment plant and into our water lines. It should be noted that we have had very few times that we could store water in our reservoir in priority since 2002, even under our most senior water rights.

These water calls and releases are being enforced ever more strictly by the Colorado State Water Engineer. They have the legal power to take over a non-compliant facility and enforce these releases. Clear Creek is monitored on a daily basis (in some cases on an hourly basis) and calls are mandated daily. In my opinion, it is just a matter of time that we will be required by the state engineer to modify our upper reservoir outlet works so that we can release downstream calls during the winter months.

Historically the inflow into our Upper Beaver Brook Reservoir has been in the range of 150 gpm (gallons per minute) year around. This is approximately the daily baseline requirement for our district. This year has seen some dramatic decreases in the historical patterns. For example, flows into our upper reservoir in June 2006 averaged 30 to 40 gpm (the lowest ever recorded). In July 2006, the flow averaged 70 gpm and August 2006 was about the same. September 2006 flows were similar to those in June.

One part of the solution to our physical and legal water supply problem came as part of the solution to a totally different problem. We have planned on upgrading our water treatment plant for the last two years, due to increasingly strict Environmental Protection Agency water quality and drinking water standards. Our current 20 year old technology was not designed to meet and can not keep our water quality up to current EPA standards. We are in the process of upgrading our water treatment facility to a membrane filtration system. This new system is the latest in water treatment technology and should keep our water up to EPA standards for the foreseeable future. In addition, this new system will allow us to process water much more efficiently and provides the additional benefit of making our water system more efficient with respect to our water rights. We have traditionally used any water stored in Lower Lookout Mountain Reservoir to meet our downstream calls. Water is put into Lower Lookout Mountain Reservoir by treating it and allowing it to flow through our system into the reservoir. However the current treatment system does not have the capability to process water through our treatment plant fast enough to make this a good option. However, with the increased speed and capacity of the new system, we should be able to take advantage of any excess water that

we can store when our water rights are in priority. This is not a total solution but should help significantly.

The Lookout Mountain Water District Board of Directors and staff continue to pursue a variety of potential solutions. One obvious solution is the acquisition of senior Clear Creek water rights and storage. This is a complex and time consuming process as many other water suppliers are also looking at this as a solution. Another attractive solution is working with the City of Golden, as they are in a very good position from a water rights and water supply standpoint. We continue talking with the City of Golden about solutions to firm up and protect the Lookout Mountain Water District's legal and physical water supply. In addition, we are also talking with both Evergreen Metropolitan District and Genesee Water and Sanitation District about water supplies.

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