

## Cheyenne's Stage I/II Water System (Also known as the Little Snake/Douglas Creek System)

Cheyenne has an excellent water supply system that consists of several different components. One critical and complex component of Cheyenne's water system involves the collection of water in the Sierra Madre mountain range on the western slope of the Continental Divide. Water collected in the Little Snake River basin is transmitted across the Divide through a tunnel and is stored in Hog Park Reservoir on the eastern side of the Divide.

Water collected and stored in Hog Park Reservoir belongs to Cheyenne, but the presence of several mountain ranges between Hog Park Reservoir and Cheyenne make the actual delivery of this water to Cheyenne cost prohibitive.

So, how does Cheyenne benefit from this water? An exchange arrangement was developed and approved by the Wyoming State Engineer, whereby Cheyenne's water stored in Hog Park Reservoir could be swapped for water from the closer and more deliverable Douglas Creek drainage in the Snowy Range.

This agreement allows Cheyenne to store water collected from Douglas Creek in Rob Roy Reservoir if Cheyenne replaces it with water from another source. Water from both Douglas Creek and Hog Park Creek eventually empty into the North Platte River. Thus, when Cheyenne takes water out of the North Platte River Drainage via Douglas Creek and Rob Roy Reservoir, Cheyenne replaces it with water from west of the Continental Divide stored at Hog Park Reservoir, keeping the North Platte River in balance.

Water stored in Rob Roy Reservoir is then released into pipelines and transported to Granite Springs and Crystal Reservoirs for use in Cheyenne.

Under ideal conditions, Cheyenne would take water out of the North Platte River system at Rob Roy Reservoir at exactly the same rate that it puts water into the North Platte River system from Hog Park Reservoir.

But this is not possible. For safety, erosion and ecological reasons, Cheyenne is limited in the amount of water that can flow down Hog Park Creek. So, during spring runoff Cheyenne is unable to release enough water from Hog Park Reservoir to match what can be collected at Rob Roy Reservoir and keep the North Platte River in balance.

If it were not for a water storage contract between the City of Cheyenne and the Bureau of Reclamation, this restriction would limit Cheyenne's ability to collect water in Rob Roy Reservoir to about 2,000 acre-feet each year. The water storage contract allows Cheyenne to store 10,000 acre-feet of water annually in Seminoe Reservoir. This is like a water bank account that Cheyenne can deposit water into and then use later to trade for water to store in Rob Roy Reservoir.

The Seminoe water storage account is absolutely essential. It allows Cheyenne to maximize its water rights by allowing for additional storage of water in Rob Roy Reservoir ultimately for Cheyenne's use.

At different times during the year Cheyenne releases water from Hog Park Reservoir for storage in the Seminoe Reservoir account. Water stored in Seminoe can then be used as part of the exchange to balance the North Platte River during peak spring runoff.

Water from Rob Roy Reservoir is piped to Crystal and Granite Reservoirs then on to the Sherard Water Treatment Plant. The water is prepared for our use and made safe to drink then is piped to homes and businesses in Cheyenne.

During spring runoff each year, Cheyenne is able to trade for about 12,000 acre-feet of water to store in Rob Roy Reservoir for use in Cheyenne (2,000 acre-feet from releases to Hog Park Creek and 10,000 acre-feet from the Seminoe water account). Steps are currently underway to increase the amount of water Cheyenne can store in Seminoe Reservoir and in return increase what can be collected in Rob Roy Reservoir.

Both drainages (Little Snake River and Douglas Creek) depend heavily upon snow for runoff. When snow conditions are 100% of average, the Little Snake River yields about 21,000 acre-feet of water annually and the Douglas Creek drainage yields about 20,000 acre-feet.