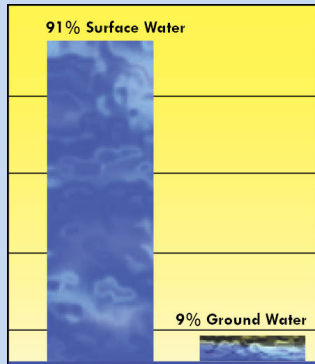


# highlands ranch

# WATER SUPPLY

planning for future generations...

## Using Renewable Surface Water



Centennial Water's diverse water portfolio, using surface water from the South Platte River, is unique among Douglas County water providers. In 2009, 91 percent of our community's water supply came from surface water.

## Aquifer Storage and Recovery (ASR) Program

To help sustain the long-term use of aquifers, Centennial Water injects high-quality treated water into its Highlands Ranch wells when surface supply allows. In 2008, Centennial Water recharged 556 acre feet of water into wells through the ASR method.

## Rates & Conservation Measures

For information about current water rates and conservation measures, please contact Centennial Water at 303-791-0430, or visit [www.highlandsranch.org](http://www.highlandsranch.org).



## Our Water Supply

### Where does the Highlands Ranch water supply come from?

Over the past 28 years, our community's water supply has consisted of a mix of surface water and groundwater, commonly referred to as a conjunctive use system. This means that water sources include both surface water from the South Platte River and groundwater from wells throughout Highlands Ranch. **In 2009, surface water comprised 91 percent of our water supply. Over the past 20 years, more than 80 percent of our water supply has come from surface water.** To firm up our surface water system, especially in times of drought, a network of groundwater wells makes a smaller, but important contribution to system reliability.

### Does Centennial Water have enough water to supply Highlands Ranch when it is fully built out and beyond?

Yes. Centennial Water has a water portfolio today to meet future demands for all Highlands Ranch customers. With present water sources, we will only use a fraction of our annual allowance of groundwater.

### What is Centennial Water doing to ensure that Highlands Ranch has adequate water at a reasonable cost in the future?

Centennial Water is taking several steps to enhance its existing water sources and assure their long-term cost-effectiveness. Ongoing efforts include:

- Utilizing South Platte Reservoir, a 6,400-acre-foot storage reservoir, completed in 2007, which stores surface water. The reservoir is full this year.
- Seeking and acquiring additional cost-effective surface water supplies.
- Diversification of our water portfolio: A combination of surface and groundwater sources.
- Continuing innovative programs such as aquifer storage and recovery, where water is recharged back into the aquifers when surface supply allows.
- Supporting a community-wide water conservation program.
- Participating in state and regional water planning efforts, such as the South Metro Water Supply Authority, the Douglas County Water Resource Authority and the reallocation of Chatfield Reservoir for municipal use.

### Do the aquifers have a finite supply of water?

Yes, deep bedrock aquifers have a finite supply. However, the laws that regulate our groundwater use limit annual pumping to no more than one percent of the total available water. Since groundwater is only a portion of our supply portfolio, Centennial has pumped a net withdrawal of seven percent of the decreed rate allowed in the last 25 years.

In Highlands Ranch, we utilize surface water sources to the maximum practical extent so that aquifer pumping is reduced. Also, as part of our aquifer storage and recovery program, we periodically replenish the aquifers with high-quality treated surface water.

# The Highlands Ranch Water Supply

## New Water Storage Reservoir



Construction of James Tingle Reservoir, a 400-acre-foot reservoir, is complete. Located in South Park, the reservoir stores water for Highlands Ranch customers.

## Conservation Queries?

You can help protect this valuable resource in your home by practicing water conservation in Colorado's semi-arid climate.

To find out more about water conservation and your Highlands Ranch water supply, visit Centennial Water's website at [www.highlandsranch.org](http://www.highlandsranch.org).

## Questions?

For more information, please contact Centennial Water at 303-791-0430, or visit [www.highlandsranch.org](http://www.highlandsranch.org).



### What is aquifer storage and recovery (ASR)?

Centennial Water recharges surface water into the aquifers to reduce the net withdrawal and to sustain pumping capacity at economical levels. Centennial Water has, to date, injected more than 2.7 billion gallons of water into 17 wells, replacing a portion of what has been withdrawn.



The amount of water returned to the aquifers in any specific year is highly dependent upon surface water yields from the South Platte River and other operational factors. Continued investment in our water supply infrastructure has expanded our ASR capacity. Eventually, we will have the capacity to return more than one billion gallons of water into the aquifers in a year.



### Why doesn't Centennial Water completely eliminate its use of groundwater?

Centennial Water has established a goal that water supply in Highlands Ranch will utilize an average 65 to 75 percent surface water each year. This target was set after reviewing the long-range cost effectiveness of a more flexible mixture of water sources.



During the last seven years, which have been drier than normal and included the 2002 drought, nearly 90 percent of our water supply has been derived from the South Platte River. As much as 100 percent of our past water supply has come from South Platte River sources. Our water planning and operations have increased our flexibility to use South Platte River diversions through storage, expanded treatment capacity, and injection into the aquifer.



Groundwater is important to a water supply portfolio because it is of consistently good quality, is not dependent upon seasonal snowpack, and can be developed with minimal environmental impacts. Groundwater is also not subject to evaporation losses, and is not exposed to surface contamination. During droughts, when surface supplies run dry, access to a groundwater source can be invaluable. Consequently, Centennial Water has opted for a supply plan that balances surface and groundwater sources in a cost-effective way.



### How is Centennial Water planning ahead as a player in the broader water situation in Douglas County?

Centennial Water is a leader in developing surface water sources, operating integrated groundwater and surface systems, and implementing ASR. Centennial Water is an active participant in the Douglas County Water Resources Authority and the regional South Metro Water Supply Authority conjunctive use project.



### How does water conservation impact our water supply?

As water conservation increases, the amount of water used per customer decreases, thus reducing our reliance on groundwater. A number of conservation measures have already been implemented in Highlands Ranch including:

- Metering all water users
- Code requirement for water-efficient fixtures in all buildings
- Efficient, computer-controlled irrigation techniques
- System leak detection and repair program
- Conservation promoting rate structure
- System-wide water audits

