



THE WATER THAT SUSTAINS US COMES FROM THE MOUNTAINS

What is the Santa Fe Municipal Watershed? Why does it matter to me?

The Santa Fe Municipal Watershed covers nearly 17,400 acres and 5,000 ft. in elevation gain east of downtown along the Santa Fe River. It contains a diverse forest of trees, shrubs, flowering plants, and grasses with varied ecological needs. This forested ecosystem is valued as a vital source of drinking water and provides clean air, critical wildlife habitat, and natural beauty for our community. The forest is also susceptible to wildfire.



Fire resiliency and city water - a vital connection



Due to overcrowded trees and increasingly hot and dry conditions, much of the forest is likely to burn fast when a wildfire sparks. A high-severity wildfire would kill vegetation and scorch the soil below, making it hydrophobic. Hydrophobic soils shed water, so after a wildfire the watershed would be extremely susceptible to flooding. Ash, sediment, and burned logs would wash down the mountain drainages and pollute the water supply. This same debris could clog McClure and Nichols reservoirs, which provide ~40% of Santa Fe's drinking water! This type of post-fire flooding has occurred in many nearby watersheds in northern NM following recent wildfires. The City of Santa Fe and collaborators are actively implementing forest thinning, broadcast burning, and riparian restoration to reduce the risk of a catastrophic high-severity wildfire and post-fire flooding.

Drought, wildfire, and water

The southwest is in *hydrological* drought – water from rain and snow is not enough to sustain our reservoirs and water supplies, forcing municipalities to depend more on underground aquifers. Due to the dry 2020 winter, New Mexico also finds itself in an *ecological* drought where the entire ecosystem is in a water deficit; trees, grasses, rivers, and soils are parched. The drought causes vegetation to become water-stressed, making it more vulnerable to disease and wildfire. There is less snow in the winter, less rain in the summer monsoons, and less river flow to fill the reservoirs. Climate change could decrease the water yield by ~20% in our lifetimes; combined with drought, this will drive wildfires to increase in size and severity. The biggest future threats: reservoir loss to wildfire and growing water demand.



SOURCE WATER PROTECTION

Creating resiliency

City of Santa Fe Water has joined with land managers to keep our ecosystem and the water supply healthy. This collaboration includes a wildfire mitigation plan: reduce the chance of forest fire beforehand while also planning for how to respond when a fire happens. Preventative measures ultimately reduce risk and cost of fire damage while safeguarding a robust water supply. A healthy forest creates a healthy watershed. Fire-resilient and stable ecosystems provide reliable quality and quantity of available drinking water, critical for city planning and the longevity of our desert dwelling. The best way to protect the water is through thinning, burning, and forest management which increase forest diversity and fire resilience.



Proactive treatments, preventative results



Stand thinning and broadcast burning can restore a natural forest structure while stimulating grasses and shrubs. These plants stabilize the soil, reducing surface runoff and increasing water quality. Treated areas also burn at lower severity and are less likely to experience flooding and debris flows following a wildfire. Members of the Greater Santa Fe Fireshed Coalition created the 2010 Santa Fe Municipal Watershed Plan outlining watershed treatments to increase forest resiliency, protect sensitive species, and manage for community smoke impacts. In partnership with the U.S. Forest Service, over 6,500 acres of the watershed have been treated since 2003. The plan aims to broadcast burn up to 1,000 acres annually so the entire area around Nichols and McClure is on a seven year burn cycle. Burning increases fire resiliency by preventing the buildup of flammable material on the forest floor and raising the tree canopy base height. These conditions discourage fire from climbing into the forest canopy and building in intensity.

An investment in the future

Healthy watershed conditions also aid fire suppression personnel in reducing intensity of fires within the Watershed. The potential for wildfire is still present, but the likelihood of a widespread catastrophic fire is reduced. City of Santa Fe Water plans to reinforce and repair both Nichols and McClure dam by 2026, increasing the safety and security of these century-old earthen dams. For every \$1.00 invested in fuel and resilience treatments, the Santa Fe community sees a return of ~\$1.55 in the form of prevented air quality impacts, recreational losses, structural damage and source water losses via a destructive watershed wildfire. Proactive protection of our source water ensures a vibrant and sustainable future for the capitol city. To learn more about our source water, visit the links below.

