

Montana: Red Mountain Flume/Chessman Reservoir Project (Tenmile Watershed)

The Partners

In 2008, the Helena City Commission appointed the Tenmile Watershed Collaborative Committee (TMWCC) with the charge to develop recommendations to address interrelated issues in the Tenmile watershed arising from the threat of uncontrolled wildfire, including the City's water supply infrastructure and the water quality that sustains it. The TMWCC consists of the city, county and state government officials, fire chiefs, state and national forest representatives, timber representatives, environmental organizations, local citizens, NRCS and EPA.



The Project

Protection of the Red Mountain Flume and restoration of the Tenmile Watershed are critical to protect communities, drinking water, and watershed health. 80 percent of the water supply for the city Helena, Montana comes from Tenmile Watershed. Critical water delivery infrastructure including a reservoir and 4.5 mile water conveyance constructed of earthen berm, wooden trestle and metal lining (the flume) are also located within the watershed.

Starting in 2006 through 2011, the entire project area was impacted by the mountain pine beetle leading to the death of tens of thousands of acres of mature pine forest. Heavy fuel loading of dead and diseased trees has increased the potential for a large landscape scale fire that would lead to severe post-wildfire impacts and possible loss of life. Wildfires pose a significant threat to the watershed as a whole, the flume, recreational opportunities, and homeowners in the Wildland Urban Interface (WUI).



Fire modeling has indicated that on an average summer day, a fire starting in the right location on the Helena National Forest could burn into downtown Helena and compromise the hospital. Seven additional communities are located within the project area, creating a significant potential for fire affecting vast areas of WUI. There is also an ongoing EPA superfund cleanup that is occurring within the watershed.

The City of Helena has treated approximately 100 acres of private land adjacent to the flume to date. NRCS has treated 675 acres of private land in area surrounding Red Mountain and Chessman Reservoir in the headwaters of the Tenmile Watershed. The Helena National Forest has an Environmental Assessment in the final stages to treat an additional 490 acres along the flume and around a storage reservoir. Additional land treatment on public and private land is needed to protect the flume and reduce the risk of catastrophic fire in this watershed.

The Benefits of Additional Resources

This project will complement work already being done by the City of Helena and the Forest Service to protect the water system infrastructure by addressing the larger watershed area, and will help to ensure the ongoing success of an EPA superfund cleanup site in the area. Investing resources in this watershed now will allow the project team to move forward more quickly and efficiently. Successful implementation of this project will protect public health and safety, reduce the risk of decades of erosion and flooding that could result from a wildfire, and potentially save millions of dollars in mitigation costs.



The Measure of Success

Success for this project will be measured in several ways. Protecting the flume from wildfire is the foremost measure of success. After treatment, future fire intensity during peak summer conditions would be reduced from a stand replacing, high intensity fire down to a low intensity surface fire with flame lengths less than 3 feet. The mitigation work proposed will increase the effectiveness of fire suppression operations along the flume in the event of a wildfire.