

FOREST & WATERSHED HEALTH

Spring 2018

Introduction

Colorado Big-Thompson (C-BT) Project water supplies are almost entirely dependent upon snowmelt from high elevation watersheds along the Continental Divide in Northern Colorado. High severity wildfire within these watersheds can have dramatic effects on the quality of runoff, which ultimately affects the ability of C-BT water deliveries to meet municipal, industrial and agricultural needs. C-BT watersheds include 355,000 acres on the West Slope in the headwaters of the Colorado River, and 300,000 acres on the East Slope primarily in the headwaters of the Big Thompson River.

This information sheet provides an overview of Northern Water's response efforts to past wildfire activity, and steps that are being taken to protect the C-BT watersheds into the future.

C-BT Headwaters Partnership

In 2012, the combination of extreme weather and poor forest health led to a devastating wildfire season throughout Colorado. In Northern Colorado, that included the High Park Fire, one of the largest wildfires in the state's recorded history (87,284 acres), and a rare late-season high-elevation wildfire that burned into January (Fern Lake Fire; 3,498 acres). That was followed by the 2013 season, where a quick-moving wildfire occurred on the East Slope in March (Galena Fire; 1,348 acres) and a rare high-elevation wildfire on the West Slope (Big Meadows Fire; 617 acres).

The 2012 and 2013 fire seasons were a wake-up call to water supply agencies in Northern Colorado that watershed health is paramount to delivering clean, reliable water. This, along with other Western water suppliers' experiences in restoring forest health and responding to wildfire, led to the formation of the C-BT Headwaters Partnership (CBTHP). The U.S. Forest Service, Colorado State Forest Service, U.S. Bureau of Reclamation and Northern Water signed an MOU in 2012 creating the CBTHP. This MOU was extended in 2017 and added the National Park Service and Western Area Power Administration. The partnership's goal is to proactively restore forest health, mitigate wildfire risk, and plan for post-wildfire mitigation activities in order to protect C-BT infrastructure and water supplies.



Lory State Park above Horsetooth Reservoir – Grasses in this area have regenerated as a result of seeding and mulching following the High Park Fire.

Wildfire Readiness, Response, and Recovery Plan

Northern Water developed a Wildfire Readiness, Response, and Recovery Plan (2016) to guide activities prior to, during, and immediately following wildfires within or adjacent to C-BT and Windy Gap contributing watersheds. This plan describes how Northern Water proactively engages in pre-fire planning and fuels management, supports wildfire suppression efforts of others, reacts internally, and coordinates post-wildfire mitigation.

Post-Wildfire Mitigation

Wildfire Response

Northern Water is committed to assisting local, state and federal agencies with post-wildfire mitigation activities. Activities following the 2012 - 2013 wildfires, and subsequent smaller fires, were aimed at protecting watershed health and included:

- ✓ Funding seeding and mulching of burned areas to reduce erosion and promote vegetation growth
- ✓ Placing wattles and constructing sediment basins to capture debris and sediment above reservoirs
- ✓ Installing water quality monitoring equipment to provide real-time data
- ✓ Developing multiagency baseline sampling protocols to study the water quality impacts of fire
- ✓ Evaluating options to modify C-BT system operations to minimize water quality impacts



Willow Creek Timber Sale in Grand County – Dead lodgepole pine and other timber was cut, removed and utilized by a local timber contractor, while aspen regeneration was stimulated.

Fuels Treatment Projects Implementation

Forest Restoration & Wildfire Mitigation

Forests in C-BT watersheds on both the West and East Slopes are becoming more susceptible to high-intensity wildfires that degrade the water quality of runoff. This is partly due to tree mortality caused by the mountain pine beetle epidemic, as well as increased forest densities from a century of fire exclusion, both of which have led to increased fuel loading.

A five-year operating plan was recently developed for the C-BT Headwaters Partnership that will guide collaborative fire mitigation project development. Utilizing procedures developed by the Front Range Watershed Protection Data Refinement Workgroup, which built upon recommendations by the Pinchot Institute for Conservation, J.W. Associates developed Zones-of-Concern priorities and a small watershed hazard analysis that serve as the foundation of the operating plan. Building on those analyses, the plan prescribes specific treatments within each watershed, and provides associated cost estimates.

Forest projects focus on the thinning of small trees that would naturally be removed by surface fires, and other fuel treatments that mimic the natural disturbance regime. This includes the removal of infested and dead trees, thinning of unnaturally dense stands, and the creation of fuel breaks. Wood from these projects is utilized for firewood or timber when feasible. Ultimately the goal of this program is to implement landscape-level treatments that will reduce the impact of severe wildfire on the watershed scale.

Current Mitigation Projects

The C-BT Headwaters Partnership has implemented a suite of projects throughout the C-BT watersheds utilizing funding from multiple sources. These projects complement over 16,000 acres of treatments already completed within C-BT watersheds by the U.S. Forest Service, National Park Service, Larimer County, and private landowners in conjunction with the Colorado State Forest Service.

The Colorado State Forest Service (CSFS) has been a key CBTHP partner. Projects administered in coordination with the CSFS include the Willow Creek timber sale on land owned by Northern Water, private land treatments carried out in conjunction with landowners on both the west and east slopes, and public land treatments implemented in conjunction with Larimer County on Chimney Hollow and Horsetooth Mountain Open Spaces, and on State Land Board property (Pinewood).

The Wildfire Risk Reduction Grant / Forest Restoration and Wildfire Mitigation grant program, previously administered by the Colorado Department of Natural Resources and now administered by the Colorado State Forest Service, has been a key source of funding and coordination for treatments on non-Federal land within C-BT watersheds. Northern Water (on behalf of the CBTHP) has received five grants through the program totaling over \$500,000 for treatments on more than 1,100 acres of forested lands.

Other funding mechanisms used by the C-BT Headwaters Partnership include a \$77,500 grant to Larimer County from the Colorado State Forest Service for additional work at Chimney Hollow and Pinewood, an agreement between Northern Water and the U.S. Forest Service to cost-share a project to treat 205 acres in the Kawuneeche Valley on the West Slope, and a joint project with the Peaks to People Water Fund. In total, nearly \$2.5 million in projects on over three thousand acres have been awarded, are in progress, or are completed.

QUESTIONS/ADDITIONAL INFORMATION

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