

Success Story: The Effectiveness of the Ruth Guard Station Fuel Treatment Areas



Ruth Fire, September 23rd, 2011

Six Rivers National Forest – Mad River Ranger District



The Ruth Fire was the largest and costliest wildfire on the Six Rivers National Forest during the 2011 fire season, however the outcome could have been much worse. The placements of the Ruth fuel treatments were pivotal on the outcome of fire behavior and area burned within the first few hours of the Ruth Wildfire.

In 2009, fuel reduction activities were completed in two treatment units adjacent to the Ruth Guard Station on the Mad River District of Six Rivers National Forest, California. Vegetation on treatment Unit 1 consisted of early to mid-mature Douglas-fir and ponderosa pine, with mixed conifer/oak in the understory. Vegetation on treatment Unit 2 consisted of scattered ponderosa pine and hardwoods with a continuous surface fuel of grass. Small diameter trees (less than 8" DBH) and brush was thinned and hand piled, or chipped. In June of 2010, hand piles in the northwest portion of Unit 1 along County Route 501 and north of Forest Service (FS) Road 2S02 were burned (Figures 1 and 2). The remainder of piles in both Units 1 and 2 did not get burned until the fall of 2011 after the Ruth Fire.

On September 23rd at approximately 1200 hours the Ruth Fire started on private land, 1¼ miles southwest of the Ruth Guard Station. Quickly escaping all suppression efforts, the fire was driven by a south wind through the community of Ruth in a northeasterly direction, destroying 4 residences and 27 out buildings. The head of the fire rapidly ran into both fuel treatment units (Figure 3). In Unit 2, initial attack forces were able to stop the advance of fire using water from engines on scene and one (private) dozer. In Unit 1 fuel reduction and prescribed fire treatments (east of County Route 501) halted the advance of fire, allowing helicopter water drops to mitigate occasional spot fires within the unit. Together these treatment units converted fire behavior from running, spotting, and torching to surface creep, effectively stopping fire spread to the north. Once the fire was held at the Ruth treatment units, firefighters were able to hold further advancement of north heading fire along FS Road 2S02 to the east. Topography and upslope/canyon winds then turned the fire's head to the east away from values at risk. FS Pro models run in WFDSS indicate that without the Ruth treatment units in place, the closest contingency control line would have been over 1½ miles to the north at FS road 2S48. Numerous homes and properties were kept out of danger as a result of the Ruth fuel treatments (Figure 4).



Figure 1. Treatment area Unit 1 showing scattered early and mid-mature conifer and hardwoods in the overstory. Small diameter trees and brush were thinned, hand piled, or chipped.



Figure 2. Pile burning of Ruth Guard Station treatment Unit 1 (northwest portion) in June, 2010.

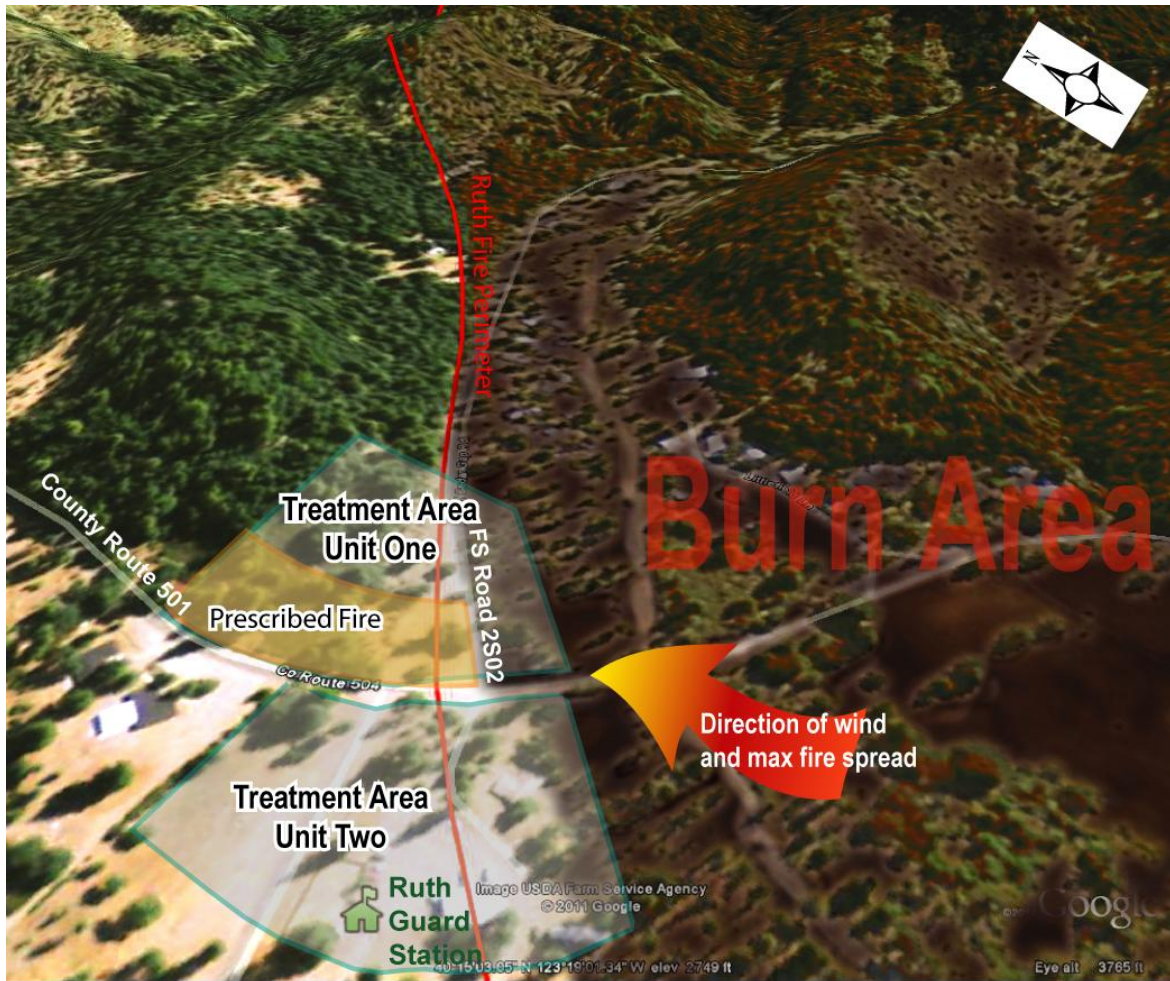


Figure 3. During the Ruth Fire, the Ruth treatment units modified fire behavior from running, spotting and torching to surface creeping, allowing firefighters, ground, and air resources to turn the head of the fire toward the east, away from values at risk.

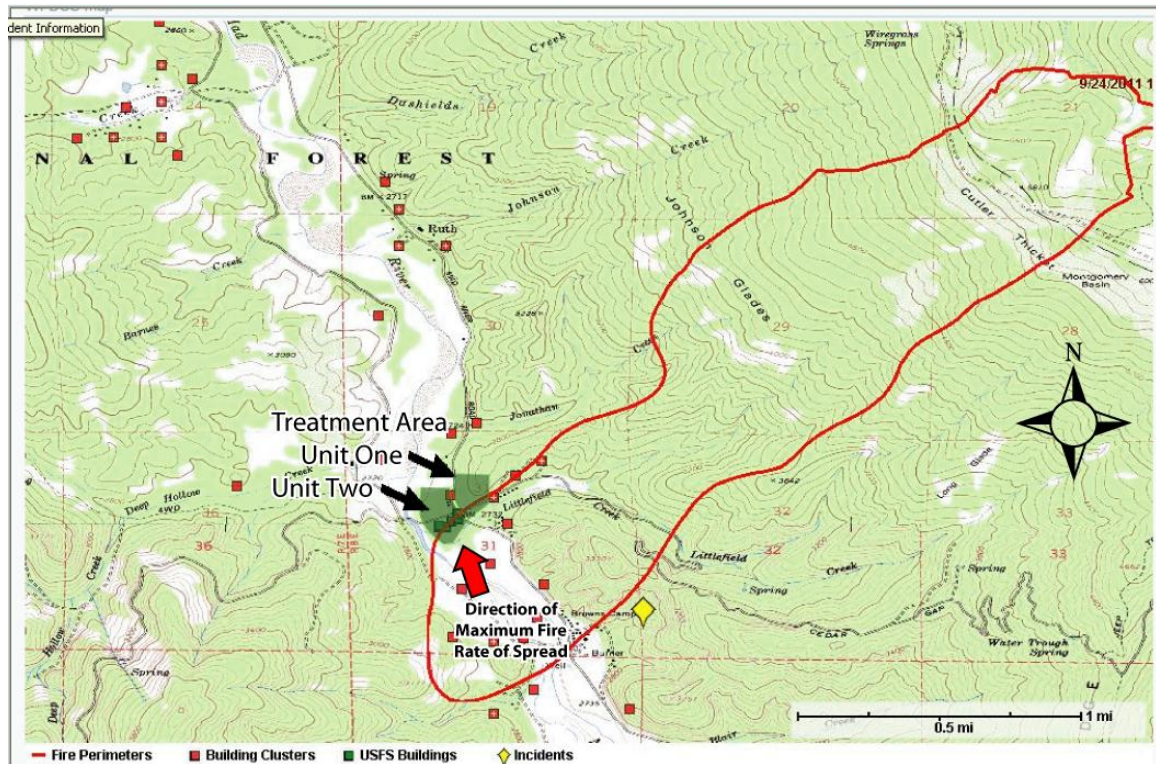


Figure 4. WFDSS topo map. The placement of the Ruth Guard Station Treatment Area successfully stopped wildfire spread to the north allowing firefighters to limit spread toward additional residences. Red line indicates final perimeter of the Ruth Fire.