



United States
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Route To:

Subject: Evaluation of Hotlum Burn (FHP Rept. No. N06-04)

To: Mike Hupp, SMMU District Ranger

I took a quick look at the Hotlum Burn on the northwest side of Mt. Shasta on March 23, 2006. At that time it looked like there were many discolored conifers, but it also looked like many of those trees should survive. I stopped by the Ranger Station on that day to discuss my findings with you and Dave Trevisan. You and I had come to the same conclusion about the status of the burned trees.

I went back to the burned area on April 6, 2006 with Deb Fleming. We spent several hours driving and walking in the area. The Shasta-Trinity LRMP shows the area as being Prescription III - Roaded Recreation. The soils are primarily pumice with some exposed volcanic rock. The Hotlum area is in a rain shadow and is snow-free for much of the winter. Western juniper and live oak are common. Timber production is not a primary concern in the area.

Our goal was to get an overview of the burn and to locate concentrations of totally dead trees ("black and brown" trees). The fire moved so rapidly through the stand that most of the tree boles had surface charring, but little cambial killing. We were able to check some foliage for the presence of live buds and found a mixture of live and dead buds. Because the burn occurred during the dormant season in March, we ignored the trees that still had heat-killed yellow or pink foliage hanging in a normal position. It would take a substantial effort to sample the buds in the upper crowns. The pines in the area that burned would typically put out a flush of new growth in early June.

We were initially optimistic when we found a concentration of several dozen commercial-size totally dead ponderosa pine. The large concentration was on level ground and was adjacent to an existing road. The next largest concentration was only about a half-dozen commercial-size totally dead ponderosa pine and was accessible with minor difficulty. From that point on, we only found a scattered tree or two that looked like it could be part of a commercial sale. Some of the largest "hotspots" in the burn were rocky knobs that had only smaller size trees. While some of these would technically be large enough to include in a commercial sale, an entire sale comprised of small diameter burned pine would not be very attractive.

We eventually concluded that it really didn't look feasible to have a commercial sale comprised only of the trees that are totally dead at this point. The alternatives that we can imagine at this point include:



Do nothing. The burn was conducted to improve wildlife habitat and it looks like a nice wildlife burn. There are a few extra snags, but the local woodcutters seem to be doing their best to remedy that situation. By not spending any more specialist time or funding on analysis and sale preparation, it would allow resources to be focused on projects with a higher potential payoff.

Offer the largest concentration of totally dead trees as a small sale. If the concentration could be offered with a minimum of investment for surveys, analysis and preparation, it looks like a viable project. The totally dead trees are not good bark beetle habitat and their removal will have no effect on pest conditions in the burned area.

Offer currently dead trees with the provision to add volume. The scorched trees that are still alive should have a flush of new foliage during early June. It should be relatively easy to identify the trees that fail to flush. Some of the more severely injured trees that do flush can be attacked by the red turpentine or western pine beetles. The beetle-attacked trees will fade before the end of summer. It is possible that the total volume of the conifer mortality could approach 1 MMBF. Not all of the dead trees may be accessible.

Offer dead trees and thin residual stand. The existing stand distribution is extremely clumpy. The areas that have trees tend to be overstocked. The residual stand would be more resilient and more likely to grow trees large enough to be useful as snags for cavity-nesters if the stands were thinned. The large number of small diameter stems and the need for slash treatment might not make an economical sale. The large amount of char would eliminate the market for high quality chips.

Replant burned plantations. The burn in the existing plantations produced a mosaic of live and dead trees. The distribution of live trees is similar to the clumpy nature of the natural stands. Areas of the plantations that didn't burn are overstocked. Under the current management direction and with limited funding available for plantation management, there may not be a high payoff to do a lot of planting in this area.

Please contact me if you need more information.

/s/

Dave Schultz
Entomologist