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Timber Harvest and Forest Thinning to Reduce Catastrophic Wildfire

In the ongoing debate over how we should manage the remaining roadless areas across the Western United States, including the millions of acres of roadless forests in Montana, one of the plausible cases for roading and logging those areas is built around the claims is that if we do not remove some of the wood fiber from those landscapes through commercial timber sales or non-commercial thinning, we are just turning the “clearing” of the excess woody fuels over to the inevitable wildfires. If we do not harvest it, it will simply be wasted as it burns. The resulting wildfires will rage through the densely pack trees that are the result of our failure to log those forests while at the same time successfully suppressing fires there. In the end, very hot and very large fires will sweep across those forests burning the trees and adding massive amounts of what had been stored carbon into the atmosphere while also threatening our communities, wildlife habitat, and watersheds.

In that sense, we are being told that roadless, unmanaged, forests are dangerous. To keep those forests safe and stable, it is being suggested, they need humans to periodically remove much of the wood material that grows there.

Some see this situation as having been created by our overzealous and overly successful suppression of wildfire in the past. Others see it as a natural characteristic of wild lands that simply are not safe or productive for human beings unless they are brought under active human management.

Some recent analysis¹ of low and mid-level Ponderosa Pine forests in Montana and Idaho raise some serious questions about that familiar timber industry diagnosis of the health of our forests, how they got into the condition they are in, and what management prescriptions are likely to get them back into safe and stable conditions that can be naturally sustained.

These forest researchers realized that several different human activities could have modified the nature of our forests so that they are now more prone to infrequent but large and hot wildfires, including fire suppression, cattle grazing, and past timber harvests. They therefore set about to find many pairs of similar timber stands where none or only one of these human impacts on the forest had taken place. What they found was that past timber harvest was one of the most important causes of the densely packed forests we now have. When previous logging was combined with the successful suppression of fire, the problems in terms of the likelihood of large hot wildfires was even greater. When comparing similar timber stands that all had been protected from wildfire, the stands that also had been logged were in much worse shape in terms of their current vulnerability to catastrophic wildfire. Past logging not only did not reduce the “flammability” of the forest but seriously aggravated it.

These results have important policy implications when it comes to how we manage our forested lands for human safety, appropriate use of fire as a tool in forest management, and the economic use of the limited forest management resources we have at our disposal.

¹ “Interactive effects of historical logging and fire exclusion on ponderosa pin forest structure in the northern Rockies,” Cameron Naficy et al. *Ecological Applications* 20z(7): 1851-1864, 2010.

To begin with, these results suggest that if we are concerned first with the safety of our communities, we should focus hazardous fuel reduction efforts on lands that were logged in the past. Those lands are likely to have a road system already in place and be closest to human habitation. These research results also suggest that those logged lands are likely to be the most prone to large hot fires. Focusing our fuel management efforts on these already human dominated landscapes will be both the least costly and most effective, especially compared to the costs of roading roadless areas far from human habitation which have not been logged in the past.

In addition, before we commit ourselves to thinning and logging areas that have not been logged before to remove hazardous fuels, we have to think long term. As this study pointed out, that mechanical treatment can lay the basis for future fire-prone conditions. To keep that from happening, such areas, once entered and treated, have to be repeatedly re-treated with fire and/or the mechanical removal of trees. That is very costly and current Forest Service budgets could not support those repeated reentries and retreatments. With a long run struggle to rein in federal spending before us, that money is unlikely to be available in the future either. The one-time mechanical treatment of a forest stand now will generate worse fire condition in the future than leaving that forest untreated.

In many ways, this is simply common sense. Think long term. Focus locally where the highest priority safety issues area. And do not subsidize commercial logging operations in distant rugged wildlands where the commercial values will not justify the costs and where the human intrusion will destroy valuable natural systems while replacing them with unstable and dangerous future fire conditions.