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Comments: Thank you for all the work that many have you put into stewarding our local Okanogan National Forest, and in this case the Twisp River Watershed. I have worked in the Twisp watershed both as a contractor to the Forest Service doing botanical surveys, and doing biological inventories for the Methow Naturalist journal, so I have some familiarity with the watershed. I am in complete agreement with your overall assessment that in general that forest is far from optimum health, largely due to fire exclusion. I am going to offer my comments as a MS Word attachment so that I can include a few visuals.

Dana Visalli

[From attached document "Comments.doc" (note that visuals must be referenced in attachment since this text editor is unable to include them in the body of the comment):]

#### Comments

I work as a professional botanist, naturalist, and ecologist, and coming from that perspective I would encourage the restoration work in the Twisp Watershed to not only strive to emulate natural processes as closely as possible, but to actually employ natural processes to help move the forest towards 'optimum natural conditions.' In my view even under completely natural conditions ecosystems might widely not be in what seems to be optimum condition; there is always a spectrum and a continuum of different conditions in the natural world. Perhaps one function for the human community as our ecological understanding grows will be to nurture optimum conditions.

From my naturalist perspective, I would encourage you to utilize fire as perhaps the best friend of healthy forests, and greatly diminish the planned mechanical intrusion into and manipulation of the forest. Fire is (or should be) much cheaper than major human intervention, and much healthier for the forest in the long run. In terms of the danger posed by fires, I recommend that the focus of the Forest Service and associated agencies be on fire-proofing the homes and homesteads that exist in the forest.

Not only should you let the fires burn, I (and many others) would suggest that you have no choice. When the temperature has been 100 degrees for two weeks and you get ignition and wind, there is going to be sizable fire, no matter what 'treatment' has been effected on the ground (at great expense and effort, which as you not in your EA will have to be repeated every 15 years because all the small trees will grow back[mdash]this is a 'Sisyphean task (Sisyphus was condemned in Greek mythology to roll a rock up a hill for eternity; the rock would of course always roll back down the hill).

By way of example, the Carlton Complex fire burned from the Winthrop area to Pateros in little more than a day-- and there were scarcely any trees on the route-- it burned through shrub-steppe most of the way. I have read that it traveled as fast as 4 acres a second.

To further reinforce this point I submit the following graph, from a paper written by the 'naturalist-ecologist' George Wuerthner, in which he points out that natural climate variability is the primary cause of large fires:

<http://www.thewildlifeneews.com/2020/09/16/misinformation-raging-like-wildfire/>

His point in this graph and paper is that influence of fire suppression is exaggerated. The idea that there was a "hundred years" of fire suppression ignores the fact that in the early 1920s and 1930s as much as 50 million

acres burned annually. Furthermore, climate controls fires, as indicated by the cool, moist decades between the 1940s-1980s.

[Refer to graphic on p. 2 of "Comments.doc"]

I found this corroborated in a graphic of precipitation in the Methow Valley from 1906 to 2020, which shows how dry it was in the Methow (and by extension throughout the west) 1920-1930 (from ACIS- Applied Climate Information Systems):

[Refer to graphic on p. 2 of "Comments.doc"]

Note: 4" total precipitation in 1920. There will be fires despite Homo sapiens best efforts; we need to work with fire, not prevent it.

There are several elements in the Twisp Restoration Plan that are in sharp contrast to any concept of 'restoration' of natural ecosystems, one of which is the creation of 170 miles of fire lines, 71 of them created by bulldozers. We are talking here about total destruction of the natural environment, killing every native plant in the 'line of fire' and massive disruption of the soil and rocky substrate in the name of restoration. Not only is this oxymoronic, but when we get a 100 degree summer an advancing fire will not even notice the fireline. These fire lines cannot in good conscience be called 'restoration,' more like 'linear destruction' of intact ecosystems. My suggestion is to delete all plans for scraping such lines through the forest[mdash]and along ridges.

I would encourage you not to remove any large diameter trees in the name of restoration. Most of the large diameter trees in our forests were removed in the 20th century, making a few people rich, and the forest and the local community poorer. Now we want to work on restoration. I fully agree that 'ladder fuels' are problematic and ideally would be removed to keep the fire-retardant larger trees from igniting.

To make this point briefly, it is not possible that a provision for all-terrain vehicles can be included in a prospectus for forest restoration[mdash]with a straight face. If ATV use is an active issue it should be considered separately and not as part of restoration work.

The idea of artificial beaver dams in the project area is problematic in that such dams are built in ecologically unstable environments. When a beaver dam is breached or damaged, which occurs every year, the beaver fix it. When a human 'beaver dam' washes out, probably the year after it is emplaced, no human beaver will appear to repair it[mdash]we are all too busy to fix the structures of the past. This is the beauty of the natural world: it is self-healing, at no cost to the human community.

The primary issue with beaver in the Twisp Watershed today is that grazing by cattle is destroying the ecological base for beaver colonies to exist and persist. Most notably, the cattle eat and trample the young willow and aspen saplings, such that beaver cannot co-exist with cattle grazing in wetlands. And in my experience it is no use building a fence around wetlands, because falling trees take the fences out within the first year-- and we do not have the time nor the money to revisit last year's projects. Once again, nature will heal the wetland ecosystems if we exclude the inappropriate and destructive forces. And there is no ecosystem more precious or important than a wetland.

One last point that to my mind is relevant to this project is that as a society we are obviously moving into an economically challenging time. To just offer one piece of evidence, the national debt is at an all-time high of \$27 trillion dollars. It probably is not realistic to think that workers will be able to head back out to the forest in 15 years for secondary forest treatments; we are living in a time of economic contraction. It is worth noting that nature's services are free, when we can manage to work with them, and not against them.

Sincerely,

Dana Visalli

Editor, The Methow Naturalist