Comments on
Swan Mountain Project
Draft Environmental Assessment
By Howard Brown

There is no evidence at all that the draft EA demonstrates paying any attention at all to any of the public comments submitted on the scoping document. The EA should be totally redone after the authors do pay some attention to what little public input that the agency has solicited. Please include all of my comments on the scoping document as comments on the draft EA.

The draft EA suggests that its authors and the agency have little or no understanding of succession, climax vegetation, and other basic ecological concepts or of the alpine ecosystems of Summit County. The EA draft needs to be redone by personnel that do and all district office personnel need to be taught or retrained about ecology. The complete disregard of the natural, cyclical role of beetle infestation and resulting lodgepole pine mortality in forest succession and ecology and of the natural and human-use benefits of the expectable succession of beetle-impacted lodgepole forest to stable, climax spruce/fir forest are particularly grievous.

The basic adopted central purpose of the proposed project of perpetuating lodgepole pine (essentially a weed) forest as opposed to allowing it to morph into (natural) climax spruce/fir forest demands a thorough evaluation of which is better or more desirable. The draft EA is glaringly and totally deficient in this regard. I challenge anyone to somehow find the insect-prone, disease-prone, crown-fire-prone, windblow-prone, sterile, monoculture, unnatural lodgepole the better choice.

Deforestation of more than 1700 acres by definition is a major ecological impact. This is especially so because the proposed project is in a high alpine environment where forest growth is particularly slow. It is also in the drought-stricken arid west which also means slow growth, but which in combination with climate change, also raises the specter that clear-cut forests could possibly not regenerate at all, instead becoming sage brush or high-altitude desert. Although the project clearly should be scrapped, certainly no action should be undertaken without conducting a full environmental impact analysis.

The draft EA does not address what will be done with the decimated trees from the proposed clear-cutting. The climate change discussion only generally refers to literature about possible uses of wood (p. 37), none of which are likely to happen with this project. If clear-cut trees are handled similarly to those of similar recent projects, they will mostly be hauled more than 70 miles for burning in a small power plant, which likely has only modest air-pollution-control equipment. The hauling and burning will both generate large amounts of both toxic and greenhouse gas emissions. These emissions need to be assessed and evaluated. The remainder of the wood will be burned in place generating even more highly toxic emissions and raising the highly significant danger of major forest fire. Several of Colorado's most damaging forest fires were the result of "controlled" burns or other intentional burning. All of the hauled and burned wood will preclude return of nutrients to the soil, a major part of natural processes that also needs to be assessed.. All of this suggests that the project is highly unwise, but certainly all handling of the decimated trees needs to be thoroughly assessed.

What little attention is paid to climate change relates in general terms to possible impact on carbon capture and is based on the erroneous assumption that because younger trees grow faster than older trees, they capture more carbon. This ignores the fact that even a small percentage growth rate of a very large tree will still be much more growth and carbon capture than rapid growth of even a large number of small trees. It also totally ignores more recent research about the tremendous carbon storage of the large root systems and associated fungal networks of mature trees.

In short, the draft EA's discussion of climate change is totally inadequate both on the consideration of carbon capture and of the impacts of removing and likely burning or burning in-place the clear-cut trees, as well as consideration of how climate change might affect the recovery of the decimated acreage from deforestation.

The basic assumption that the proposed project's proposed "fuels reduction" will reduce fire danger is also highly suspect and needs more thorough assessment. While clear-cutting may reduce the total mass of potentially combustible material, that does not inherently reduce fire danger. The grasses and weeds that typically first grow in clear-cut areas are far more likely to initiate a fire than the removed forest. (Both of Summit County's only recent large fires, almost certainly the Buffalo Mountain Fire and quite likely the Ptarmigan Fire originated in grassy/shrubby "buffer zones.") And while "fire breaks" may provide good fire-fighting staging grounds in the short term, wildfires unquestionably spread far faster in grassy/shrubby areas (just ask the residents of Marshall, Colorado), probably posing far-greater fire danger. And in the long-term, they will morph into dense, oil-rich doghair lodgepole, dense "adolescent" lodgepole (both very poor fire-fighting staging grounds), and, eventually of course, the same beetle-impacted lodgepole forest that the proposal would destroy on "fuels-reduction" grounds.

The proposed management of previously cut-down dead trees and subsequently blown-over live and dead trees along the Continental Divide (and other) trails acknowledges the horrible mistake that was made by previous district forest "management" projects. Rather than justifying new projects, past forest and recreation degradation should call for more critical assessment of any new "management" projects, generally. Specifically, removing more standing dead trees, thus exposing other dead- and live-standing trees to being blown over as well, would very seriously compound the past grievous mistake. Even removing already downed trees would be suspect because of the impacts of removing and transporting them,loss of soil nutrients, etc. It's probably better to just let nature eventually recover from the "management" damage done to it.

Cross-country skiing and snowshoeing are major recreational uses of trails within the project area. Trails through forested portions of Summit County and the project area generally offer excellent winter recreation opportunities–and are becoming increasingly scarce. When passing through clear-cut areas, on the other hand, trails quickly get sun-crusted and wind-crusted, so often become quite icy. Other times, unsheltered trail stretches through clear-cuts can be totally blown over, so impossible to follow or present dangerous blizzard conditions when forested trail stretches are totally calm. No clear-cutting should be allowed within proximity of existing recreational trails (say 250 feet) of trails within this proposed project area, within Summit County or within any national forest or other public land.

Comments pertaining to specific sections of the text:

From p. 1:

> *From the late 1990s to 2011, lodgepole pine in Summit County was affected by mountain pine beetle populations that reached epidemic levels.*
>
> > This was not some sort of unique rare event. While climate change may increase their impact, pine-bark beetle infestations are a natural cyclical phenomenon (generally thirty years and probably shorter duration than suggested), which, in older lodgepole pine forests in alpine regions, helps foster the natural succession to shade-tolerant climax vegetation and should be respected for that role. Here in Summit County, that is Engelmann spruce and subalpine fir.
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> *As a result, future forest stands will consist of live residual mature trees, standing dead snags, high concentrations of downed woody debris, and emerging lodgepole pine regeneration.*
>
> > No, actually, such a mix of live and standing dead lodgepole is ideal for generation of shade tolerant spruce and fir. Some sun-loving lodgepole pine will sprout in larger openings, but new seedlings will predominantly be spruce and fir. Like the weeds that they basically are, lodgepole largely only generate significantly–and then very densely–after major disturbances such as fire or clear-cutting. The large expanses of existing lodgepole in Summit County likely nearly all resulted from early 1900s mining activity or probably more so from 1930s Depression Era clearcutting. Why are the authors of this draft EA suggesting that the natural ecology of the area is different than what any scientist, forester or natural history would say and that is obvious to anyone looking around when walking through the woods?
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> *In addition, many of the live trees that survived the mountain pine beetle epidemic are infected with dwarf mistletoe, creating brooms that contribute to vertical fuel continuity between ground fuels and overstory canopies (hawksworth, 1989)*
>
> > Again, observation in the woods will find rather little mistletoe. This seems to be a specious effort to scare people of fire danger. All of these demonizing characterizations of naturally beetle-impacted lodgepole pine forest are strong

arguments to allow them to naturally morph into stable spruce-fir forest–which they are posed to do–rather than try to regenerate more dastardly lodgepole.

From p. 22:

Lodgepole Pine Forest = 55% of project area

Grass/Forb Regenerating to Lodgepole Pine = 9% of project area

while 74% of the forested areas are lodgepole pine.

Lodgepole pine stands within the analysis area originated around the turn of the century [I presume 1900 rather than 2000; actually probably 1930s depression era logging] *because of large-scale disturbance events such as stand replacement fire or logging*

So, it is clear that the subject area is inordinately and unnaturally dominated by lodgepole pine--rather than the natural spruce/fir climax for the area—largely because of previous deforestation by logging.

From p. 23

Table 5. Crown Condition Classes in the Project Area

16-50% Dead Trees = 51%

>50% Dead Trees = 26%

Under the no action alternative natural ecological processes would continue in the project area

So, it is agreed that left alone, the proposed deforestation area would continue the natural succession process to climax spruce/fir. Also, the majority of the project area is a mix of live and dead lodgepole, which is ideal for succession to spruce/fir.

These treatments [mechanical or hand clearcutting] *would increase structural stage diversity within the project area by moving mature stands* [sic; mature stands would by

definition be climax spruce/fir] *with varying amounts of dead trees to a younger age class.*

> Thus setting natural ecological processes back 100-150 years. The idea that having some patches of uniform-species, uniform-age, monoculture lodgepole that are twenty or thirty or even sixty years younger than other patches of monoculture lodgepole is a healthy or desirable diversity is absurd. This is particularly so because monoculture lodgepole are highly susceptible to crown fire, beetle and other insect infestation, mistletoe and other diseases and toppling by wind storms. They are also largely sterile of other plant and animal life and undesirably dense for human recreation.
>
> Deforestation of older lodgepole stands to encourage new ones is inherent folly as the new ones are destined to get back to the same state as those previously destroyed, with all of the unfavorable characteristics for which the previous stands were proposed for deforestation. The grass/weed, dense doghair and other stages along the way will also be more susceptible to fast-moving fires than the existing older stands.
>
> Spruce/fir forest on the other hand is inherently stable and diverse both in species (subalpine fir and Engelmann spruce, as well as aspen and lodgepole pine) and age. This diversity makes spruce/fir forests far less susceptible to insects, disease and other problems that plague monoculture lodgepole. And their wider spacing fosters a rich diversity of other plant and animal life.

Nonetheless, lodgepole pine will remain the dominant species in harvested stands over the next century (Collins et al., 2011)

> ‘tis a consummation devoutly NOT to be wished.
>
> I believe that this is the paper that looked at side-by-side plots in Fraser Experimental Forest and found that the unharvested plots came back predominantly subalpine fir.

From p. 24; Table 7 “Trees per Acre in Treated and Untreated Stands in the Project Area”

> In “treated” stands, lodgepole pine (highly susceptible to insects, disease, windblow and crownfire) would increase from 74% of the trees to 88% of the trees. Uncalculated, but without “treatment,” stable, climax vegetation spruce and fir would gradually become dominant.

From p. 26

> *The fire regime in Rocky Mountain lodgepole pine has a return interval of 92-307 years. The majority of these are replacement-severity fires (Fire Regime IV) which is characterized by crown fire and >75% tree mortality (USDA Forest Service, 2012). Wildfires of this severity can be extremely difficult or impossible to control and threaten firefighter and public safety, private property, forest resources, and critical infrastructure.*
>
> So why in @#%$#^$ does an agency of the United States government want to undertake a project to artificially, deliberately regenerate dense lodgepole pine stands, rather than allow the natural succession process to more stable, less fire-prone climax vegetation?

From p. 29

> *Across the project analysis area, the proposed treatment could result in an estimated reduction in crown fire activity from 25% to 24% and an estimated reduction in high to severe fireline intensity from 31% to 29% (IFTDSS modeling).*
>
> Thus, the proposed deforestation would have a negligible impact on reducing fire severity for the area. And this is for the short term, when increased grasses, weeds and dense doghair lodgepole would increase the likelihood of a fire starting and the speed at which it could spread.