



**WOLF CREEK**

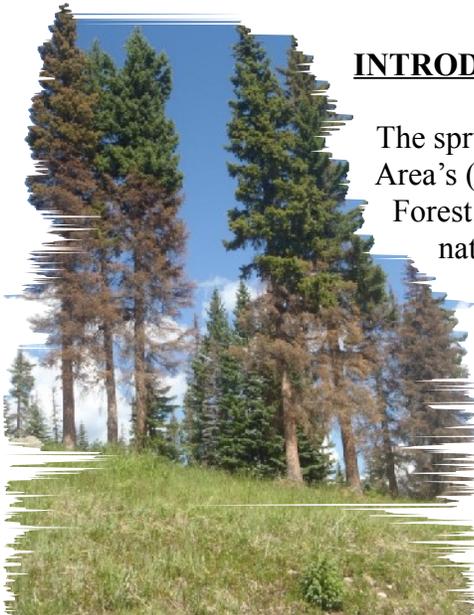
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## **INTRODUCTION**

The spruce beetle has impacted all 1,581 acres of Wolf Creek Ski Area's (WCSA) Special Use Permit within the Rio Grande National Forest. Wolf Creek identifies that the spruce beetle outbreak is a natural process, and accepts that a dramatic change to our existing landscape is unavoidable. Total infestation is inevitable, and we urge the general public to embrace this reality. We have explored many options, conducted internal research, and solicited information from specialists in drafting our Vegetation Management Plan (VMP).

**Wolf Creek is committed to upholding the standards of good stewardship of public land; therefore, our VMP is consistent with the management direction provided in the Rio Grande National Forest Revised Land and Resource Management Plan. The WCSA Special Use Permit (SUP) falls within the 8.22 Management Area (Ski Areas-Existing and Potential) of the Forest Plan, which includes the following vegetation management standard:**

*“Resort management plans are developed that include action items for vegetation management.”*

Forest Plan Management Area 8.22 also states:

*“Insects and disease will be managed to protect the recreation resource and to ensure public safety.”*

**The WCSA VMP will also satisfy the requirements our SUP, which states:**

*“The provisions of the Operating Plan and the annual revisions shall become a part of this permit and shall be submitted by the holder and approved by the authorized officer or their designated representatives. This plan shall consist of at least the following sections: ... 10. Vegetation management.”*

## FOREST INVENTORY

The WCSA SUP is predominately Engleman spruce (*Picea engelmannii*), which can stand for decades after the infestation. The rest of the forest is composed of Subalpine fir (*Abies lasiocarpa*), White fir (*Abies concolor*), a couple stands of Aspen (*Populus tremuloides*) and a few planted Lodgepole pine (*Pinus contorta*) and Limber pine (*Pinus flexilis*). Please see the attached Forest Service Map which delineates forest cover types. Below is a list of the major cover types and composition within the WCSA SUP.

- Forbes w/Spruce/Fir= 783 acres
- Grass -like/Willow= 60 acres
- Bare= 36 acres
- Rock/soil= 29 acres
- Spruce/fir, sapling/pole (less than 40%) = 15 acres
- Spruce/fir, sapling/pole (40-69%)= 150 acres
- Spruce/fir, sapling/pole (greater than 70%)= 4 acres
- Spruce/fir, mature trees (less than 40%)= 94 acres
- Spruce/fir, mature trees (40-69%)= 492 acres
- Spruce/fir, mature trees (greater than 70%)= 185 acres

## GOALS

WCSA has six major goals in our VMP.

- Remove hazard trees and reduce fuels.
- Facilitate regeneration.
- Identify the needs of wildlife.
- Stop erosion.
- Protect the watershed.
- Provide a safe and enjoyable experience for our guests.

## STRATEGIES

In order to meet these goals, we have laid out respective strategies.

**Remove hazard trees and reduce fuels.**

In dealing with the spruce beetle invasion, we have accepted that there are many moving parts, and therefore must be dynamic with our policy decisions. Our major priority is the removal of hazard trees, primarily within the lift corridors, around buildings, and within our parking lots. We will fell all hazard trees within a lift corridor that have potential to contact the lift or be a fuel source that could cause damage in the case of a fire. We plan to remove 100% of the hazard trees within the parking lots and around buildings. Summer crews are instructed to identify hazard trees throughout the Special Use Permit as well, and we will fell these as soon as possible. Remote hazard trees may be identified for being rotted, excessively leaning, or a general hazard to the skiing public.

**We also see the value of standing wood, which in many cases may be worth more for wind buffing, shade promotion, or habitat protection than as a forest industry product. Over the course of time we may decide to thin these trees in consideration of the hazard they come to pose.**

#### **Facilitate regeneration.**

Trees are a natural resource that can be managed over time, and should be utilized in a manner consistent with the long term interest of the ski area. Professional arborists will first identify the small percentage of high quality timber that can be harvested by a single tree selection process for timber sale. Then we decide which hazard trees need to be removed from the permit area, and which ones can be laid down to fortify the regeneration of the understory.

**Next we will identify options for regeneration. Trees that might hamper future regeneration will be felled. There will be a determination about the best use of a felled tree, which may be laid down for erosion control or may be buried to improve skiable terrain and attract moisture to the soil (these trees should be buried two to three feet underground and never within a potential road area). We will move some regeneration to promote shade, and move other transplants to provide wind protection. In addition to trees, we will continue fostering the growth of woolly bushes, and promoting the irregular mosaic of the permit area. It is important to mitigate the impact of down trees by removing the left over sharp edges, stumps, and branches from felling operations.**

**Professional foresters will determine which trees grow naturally in this area, and identify which species can be replanted in this largely homogenous forest. The untreated stands will most likely revert back to a spruce/subalpine forest as they are the most shade-tolerant species, whereas an aggressive treatment could change the natural forest trajectory. Furthermore, the understory will respond best to a largely untreated environment because the standing dead cover still provides sun and wind protection for saplings. We will also continue to bring in high quality top soil (mushroom dirt or mulch) to facilitate transplanting and re-vegetate clear cut slopes which will promote grasses and help with erosion control. We continue to buy fertilizer from the Monte Vista Co-Op.**

We are waiting on more guidance for the timing of transplanting saplings. We do not want to move saplings prematurely before the beetle is gone, but we have approximately 10,000 little trees that can be effectively moved by hand this summer. We are interested in available grant money to enlist the Southwest Conservation Corp for hand transplanting of new trees, re-vegetation, and erosion control.

The noxious weeds within the ski area boundary are controlled annually by Larry Lynch, a certified contractor. WCSA will continue to monitor outbreak areas, and summer crews are instructed to identify noxious weeds. Crews will notify management, who will line out either hand pulling or spraying. A map of the noxious weeds locations will be created annually and kept on file. Mulch material shall be weed free.

#### **Identify the needs of wildlife.**

We will be extremely thoughtful throughout this process to identify and protect wildlife habitats. We will keep trees that provide dens, inspect for birdlife before felling trees, and make sure critical shade habitats remain for populations that depend upon them wherever possible. Downed logs and woody debris of old forests are needed for denning, escape, and protection from severe weather. Existing snags and large diameter standing dead will be left to protect wildlife habitats. If there is any sign of lynx, boreal owl, goshawk, flycatcher, ptarmigan or marten, the crew will cease disturbing activity and alert the Permit Administrator.

#### Stop erosion.

Felled trees will be repositioned in a manner that decreases erosion and increases snow retention. When thinning vegetation to reduce fuel loads, trees will be removed by our ground crews, traditional skidders, and snowcats. In the spring, we fell trees using snow cover to skid over environmentally sensitive areas, thus reducing impact to sapplings, ground cover and topsoil. Once the snow melts, we will fell dead trees throughout the designated area, but will hold off skidding these trees until conditions dry out. Helicopters may be used in environmentally sensitive and roadless areas with proper approval.

When removing down trees, we will allow only one designated route up and down the mountain, so as to minimize soil disturbance. We will be attentive to soil erosion problems, and have related water flow directly into a drainage with filter strips and sediment traps.



#### Protect the watershed.

Healthy forests protect the watershed by preventing erosion, enhancing ground storage, reducing flooding, and filtering contaminants. Unlike beetle infested trees or standing dead trees, a healthy tree intercepts, slows, absorbs and stores water through normal tree functions. By removing dead and dying trees and replanting sapplings, as deemed necessary, we will improve the quality of water being filtered through our SUP at the headwaters of the Rio

Grande River. Prior to commencing work, WCSA will conduct a watershed analysis with the help of our local foresters. This type of forest management can reduce the risk of a catastrophic wildfire in our high-priority watershed.

These activities are an integral part of enhancing the protection of our watershed and water supplies. A high-intensity fire would lead to soil damage and debris flow into a vital American water source.

Provide a safe and enjoyable experience for our guests.

Wolf Creek is recognized for its abundant natural snowfall and lift-assisted quasi-backcountry experience which combine to offer a unique skiing experience which is aggressively sought,

yet remarkably rare, within Colorado. Wolf Creek is resolutely committed to the long-term preservation of these unique attributes that form "the Wolf Creek Experience". This VMP will prioritize this heritage, carefully selecting trees to be removed while keeping as natural a setting as possible.

Our first priority is to remove dead and down hazard trees from our lift corridors and those surrounding critical infrastructure. WCSA is aware that the remaining mature green trees will be more at risk to windthrow and breakage hazard post-outbreak due to the additional wind they'll be exposed to, and therefore must be monitored closely.



Reducing ground fuel loading and crown fire potential on State and Federal lands is a core component of the Mineral County Community Wildfire Protection Plan. In order to mitigate the potential impact of a wildfire, WCSA will continue to remove standing dead and down trees following fuel treatment recommendations. We will consult with professional foresters from Colorado State Forest Service and USFS on best management practices.

Wolf Creek will engage its guests in a public information campaign about the impacts of the beetle invasion, and ways they can protect the next generation of spruce trees that may survive this attack.

## CONCLUSION

Our Vegetation Management Plan should be understood as part of a greater acceptance of our changing landscape in order to mitigate certain effects and prepare for its consequences. These strategies are based on the known experience with the spruce beetle; there are unforeseen consequences that must be dealt with as they arise. We will use an adaptive management strategy with a strong monitoring component in order to test unknown assumptions. This preponderance of information will be considered with the best available science as we continue to adapt to the forest around us.