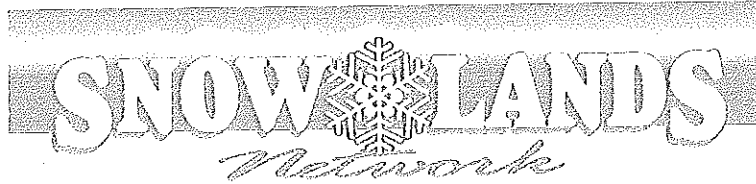


## **Exhibit A**

Analyzing Snowmobile Impacts to Other Winter Recreation Users  
in the  
Sierra Nevada and Southern Cascades



## Analyzing Snowmobile Impacts to Other Winter Recreation Users in the Sierra Nevada and Southern Cascades

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Snowmobiles and other OSVs substantially impact the recreation experience of non-motorized users. These impacts are discussed below. Not discussed in these comments, but also important, are OSV impacts on wildlife, regional air quality, water quality, climate change, and ecosystems. Also important but not discussed in these comments, is creating more trailheads where nonmotorized users can access existing nonmotorized terrain and ensuring continued access to public lands.

OSV impacts on other recreational users include noise, toxic exhaust, consumption of powder snow and rutting of trails and routes. Because nonmotorized users wish to avoid such impacts, nonmotorized use becomes concentrated at the areas where motorized use is prohibited. Where snowmobile use is heavy, non-motorized users are displaced to the extent that the area becomes effectively motorized-use-only. By analyzing and understanding each of the impacts, the Forest Service can enhance opportunities for nonmotorized winter recreation while maintaining a fair balance of motorized recreation opportunity...thereby augmenting the winter tourism dollars brought into local communities.

Two general factors cause the impact of motorized recreation on nonmotorized users to be substantially greater in winter than in summer. First, in summer, nonmotorized users desiring to escape the noise and emissions of vehicles can readily access many large areas of federally-designated Wilderness. In contrast, many roads and trailheads that access Wilderness are inaccessible in winter. Second, wheeled motor vehicle use is generally restricted to designated routes and trails, while OSVs are generally allowed to travel cross-country and into all areas where one might otherwise seek to distance oneself from motorized impacts.

Below, we first discuss the three most significant impacts. Then, we discuss a framework for analyzing motorized and nonmotorized activity that will facilitate a better understanding of impacts and needs and how to manage winter travel so as to maximize recreation opportunity. Lastly, we discuss two particular areas in which current Forest Service management has failed the backcountry nonmotorized user.

### **1. Impacts**

**Noise** For many nonmotorized users, the ability to enjoy natural soundscapes is a highly important aspect of their recreation experience. For some, the appreciation of natural soundscapes is at

least as important as the appreciation of visual landscapes. Although many motorized users also enjoy natural soundscapes, OSV use itself is incompatible with such experience. Indeed, some motorized users seem to be completely unconcerned about their noise impacts on other users.

The intrusion of snowmobile noise is significant and unique. Snowmobiles are extremely loud and on a still winter day (when most users like to recreate), such noise can travel across open landscape (where most use occurs) ten or more miles, completely filling mountain valleys. (By comparison, most automobile noise travels a fraction of such distance.) On most of the accessible national forest lands that are snow-covered, there are natural soundscapes in winter, but for the noise of snowmobiles. Noise is one of the principal reasons that heavy snowmobile activity can completely displace skiers and snowshoers from an area.

Quantification of snowmobile noise levels – as has been done by the National Park Service in Yellowstone – can help analyze and manage noise impacts, but we believe that the primary impact of noise is qualitative. It is the interruption of the natural soundscape, rather than the magnitude of the noise, that creates the disturbance. The fact that the noise is present, rather than just its intensity, is a problem to some users.

Just as sound bounces off ridgelines and noise can fill a valley, ridgelines can confine snowmobile noise, protecting natural soundscapes on the other side. Deep forest also can significantly buffer snowmobile noise. In some areas, such as within sight of highways with significant truck traffic, natural soundscapes are elusive in any event. Each of these factors should be looked at and taken into account in the winter travel management process.

Snowmobiles employing “best available technology” (BAT) emit substantially lower levels of noise, and thus the imposition of BAT restrictions can facilitate shared joint use in some areas.

**Emissions and Ambient Air** Snowmobiles are the most polluting recreational vehicle in common use. Snowmobile emissions contain heavy concentrations of toxic compounds, including carbon monoxide. Studies in Yellowstone National Park found snowmobile emissions can cause unhealthy levels of ambient air pollution in congested areas.

Even small amounts of carbon monoxide substantially adversely impact other users. Levels of air pollution that might be acceptable in urban environments, or at snowmobile competitions, are not appropriate for trails in which users seek fresh air. Snowmobile emissions are another reason nonmotorized users can be completely displaced from areas with heavy snowmobile activity.

Some OSV organizations use misleading comparisons to confuse this issue. Comparing OSV emissions to other vehicle emissions is difficult because the EPA regulates OSV emissions based on vehicle power rather than miles travelled.<sup>1</sup> (Thus, theoretically, a single OSV with unlimited power is legally able to produce unlimited emissions.) Studies conducted by Yellowstone National Park in 2004<sup>2</sup> found that older-technology 2-stroke snowmobiles, travelling at 15-20 mph produce, per mile, 221 grams of carbon

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<sup>1</sup> EPA emissions standards effective 2012 allow new snowmobiles to produce 200 grams of carbon monoxide per kilowatt hour and 75 grams of hydrocarbons per kilowatt hour. EPA, Emissions Standards for New Nonroad Engines, EPA420-F-02-037, September 2002.

<sup>2</sup> Yellowstone National Park, 2004-05 Winter Use Plan, Air Quality Analysis of Snowmobile and Snowcoach Emissions, accessible at the above website.

monoxide, 180 grams of hydrocarbons and 4 grams of PM -2.5. In comparison, cars employing 2002 year automobile technology emit 14.2 grams of carbon monoxide per mile and 1.2 grams of VOC (comparable to hydrocarbons)<sup>3</sup>. Snowmobiles are very dirty vehicles; breathing their exhaust is unhealthy.

In the travel management process, the Forest Service should measure ambient air impacts from snowmobiles at heavily used trailheads and trails. The Forest Service also should consider the feasibility of creating separate trailheads for motorized and nonmotorized users.

BAT-compliant OSVs emit substantially lower levels of toxic emissions and thus the imposition of BAT restrictions can facilitate shared joint use in some areas.

**Tracking of the Landscape and Consumption of Powder Snow** Snowmobiles track up the landscape at a rate twenty or more times faster than skiers, snowboarders or snowshoers. Many skiers complain about the severe rutting that snowmobiles can impart, especially when descending or turning at speed. With increased demand for backcountry alpine skiing and snowboarding, powder snow has become a precious resource that merits Forest Service management.

As is apparent at any ski resort on "powder days", the experience of descending steep slopes blanketed with smooth powder is highly sought by many skiers and snowboarders. In the backcountry, the experience of skiing or riding powder snow often is the primary reward for the strenuous effort of climbing up without a chairlift. Accessible backcountry powder snow on steeper slopes is a limited resource, and a significant impact of OSVs is their disproportionate consumption of this resource. Due to its power, size and speed, one snowmobile can in a matter of hours completely consume (shred, in colloquial terms) all the powder snow on a slope that could otherwise provide recreational opportunity for twenty or more skiers and snowboarders. Acknowledging and addressing this disparate impact is critical to managing the forest lands in a sustainable manner for the future.

In the Sierra Nevada and southern Cascades, demand for nonmotorized winter backcountry recreation well exceeds demand for motorized backcountry recreation. This is reflected in many studies, including NVUM<sup>4</sup> surveys.

## **2. A Framework for Effective Management**

In analyzing and addressing OSV impacts, it is helpful to distinguish between three types of activity. These same three types of activity are engaged in by both nonmotorized and motorized users. Indeed, one should not lose sight of the fact that both OSV riders and skiers/snowboarders/snowshoers share many of the same interests. For convenience, in the remainder of this discussion references to "skiers" are intended to include snowboarders and, in many cases, snowshoers as well.

In both skiing and snowmobiling, there is a *Trail Touring* activity, there is a *Backcountry Exploring* activity, and there is an *Alpine Adventure* activity. There is also a distinct group of users who use OSVs

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<sup>3</sup>Federal Highway Administration, Transportation Air Quality Facts and Figures January 2006, accessible at [https://www.fhwa.dot.gov/environment/air\\_quality/publications/fact\\_book/page15.cfm](https://www.fhwa.dot.gov/environment/air_quality/publications/fact_book/page15.cfm)

<sup>4</sup>The Forest Service National Visitor Use Monitoring program tracks visitation and use levels in each national forest on a five year rotating schedule.

demographics, e.g. the demand for each type of activity, and issues of sustainability. It is fact that far more skiers and snowshoers than snowmobiles can be accommodated on one slope. In areas of high demand, the public as a whole is better served by restricting types of use so as to allow the greatest number of individuals to enjoy their sport. Such management will have obvious benefits to communities dependent on a tourist economy. There are limited areas in the Sierra and the southern Cascades where user demand, easy accessibility and natural terrain features warrant this restrictive management, but in those areas the Forest Service needs to recognize that the importance of maximizing recreation opportunity for the greatest number of users.

### **3. Two Shortcomings in Past Forest Service Management**

**The ROS System** Forest Service land management has relied on a system of mapping recreational opportunity called the Recreation Opportunity System. Through this system, current land conditions are mapped so as to understand what areas have a high degree of developed presence and what areas are primitive without development. Thus, the ROS system maps what areas can be managed to provide users a primitive, backcountry experience. This mapping system has considered lands in summer, where access is far easier than winter. Thus, the ROS system has not reflected winter conditions. Areas that are crisscrossed by roads in summer may be relatively inaccessible in winter and thus in winter present a very primitive environment. Some of these lands should be protected for primitive backcountry experiences in winter, because the lands that provide a primitive backcountry experience in summer are largely inaccessible.

Whereas the ROS system has succeeded in preserving opportunities for primitive recreation in summer, it has had the opposite effect in winter. Rather than protecting areas where a primitive experience can be obtained in winter, the ROS system has resulted in mapping these areas as developed or semi-developed and thus opened the door for widespread OSV recreation. This has become a self-fulfilling mapping effort that has failed the nonmotorized winter user. This shortcoming needs to be acknowledged and addressed in the winter travel management process. The Forest Service should acknowledge that some lands mapped as developed or semi-developed under the ROS system are highly-suitable for primitive backcountry recreation in winter but for the presence of OSVs, and should manage some of these lands for that purpose.

**Unplowed Forest Roads and Impact of the State OSV Grooming Program** In large part due to the availability of funds under the State of California's OSV grooming program, many (if not most) of the accessible and scenic unplowed forest roads in California, that are closed to wheeled vehicles in winter, have become dominated by OSV recreation. This has largely displaced skiers and snowshoers from these areas and created an imbalance in recreation opportunity.

The OSV community often claims that skiers and snowshoers like to recreate on their groomed trails. Though there are some skiers and snowshoers who do like to do this, the more important fact is that skiers and snowshoers like to recreate on the unplowed roads. Regardless of whether these roads are groomed, they provide some of the best alternatives for skiers and snowshoers desiring long distance touring on well-marked routes (in our activity analysis above, either a *trail touring* or *backcountry exploring* activity, depending on one's primary focus.) They are wide, easy to follow, with consistent and moderate gradients. They are often very scenic. And, due to the State's OSV program, they are heavily used by snowmobiles. In many cases, where snowmobile use is heavy, skiers have been largely displaced

from such roads. In other areas, growth of ski tourism has been discouraged because of the OSV presence. This is not a fair balance, and it is not economically-sound policy for gateway communities.

This imbalance may be illustrated at the Gold Lakes trailhead in Plumas National Forest. Here a separate ski trail is provided for skiers and snowshoers who do not want to breathe snowmobile exhaust or compete with snowmobile traffic and want to try and distance themselves a bit from snowmobile noise. The ski trail is in the forested valley bottom below the road, while the road travels up the ridge with scenic vistas. The road is wide and open with even snowfall accumulation. The ski trail is in heavy forest where there are no views and uneven snow accumulation that creates constant bumps and bottoms. It is beyond dispute that the recreational experience provided by the ski trail is far inferior – not even comparable – to the recreation experience that otherwise would be available on the unplowed road, regardless of whether or not it is groomed. Perhaps this situation is justifiable at this one trailhead, but it is not justifiable for this situation to exist across the Sierra Nevada and southern Cascades. In the winter travel management process, more of the unplowed scenic forest roads that are closed to wheeled vehicle traffic should be protected for nonmotorized use, even if this results in a discontinuance of grooming on such roads.

Where OSV use is infrequent, shared use can be fostered by designation of trailheads and trails as limited to BAT-compliant OSVs. It needs to be emphasized that such restriction is not intended to give skiers grooming paid for with funds earmarked for snowmobile grooming. The restriction is warranted because it protects a fair balance of recreational opportunity on some of the best routes for touring, regardless of whether the routes are groomed. The OSV community may choose to discontinue grooming in areas with such restriction if it so desires.

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Snowlands urges the Forest Service in California to set aside more areas specifically designated for nonmotorized winter use. We seek a fair balance of motorized and nonmotorized winter recreation opportunity, taking into account all relevant factors, including levels of user demand, user trends, relative impacts, and economic benefit to local communities.