

ISSUE 15: NOISE

Changes from the Draft to the Final EIS

References to 36 CFR 295 were deleted, and updated CFR references (36 CFR 212, 251, 261) from the 2005 Final OHV Rule were added. The cumulative effects section was expanded. Discussions relative to the enforcement of noise regulations were expanded and new references relative to industry standards for measuring noise violations were added. An example of a noise enforcement protocol from other National Forest was provided. Citations relative to Montana State Code concerning modified snowmobile exhaust systems and noise was added.

Introduction

Travel management decisions have the potential to change the types of vehicles that use certain areas of the Forest. An issue raised during scoping for the benchmark proposal, and again during the comment period for the six draft alternatives was the impact that noise from OHVs, snowmobiles and other motorized vehicles has on the quality of recreationists' experience. Non-motorized recreationists advocate that the noise from motorcycles, ATVs and snowmobiles in particular detracts from the natural setting they have come to the Forest to enjoy. Recent campaigns of organized OHV clubs focus on communicating to their membership that "noise annoys" and encourages them to voluntarily quiet down their machinery – recognizing how important an issue this is to many public land constituents.

Affected Environment

The entire Gallatin National Forest is affected by noise in some way, whether it is ambient noise from wind in the trees, water flowing over rocks, or human-created noise from airplane flights, motorized vehicles and equipment or the sounds of gunshots, etc. Many people enjoy recreating on public land to escape the noise of modern civilization. The natural soundscape and tranquility is a condition that they seek as part of their recreational experience.

Noise levels are measured several ways, the most common measure being decibels A (dbA). Experts agree that continued exposure to noise louder than 85 dbA will cause hearing loss (League for the Hard of Hearing 2004). The measure of decibels increases on an exponential scale. For example, a piece of machinery that emits noise of 102 dbA is roughly four times as loud as one that emits noise at 96 dbA (NOHVCC 2004). Normal conversation measures around 60 dbA, while some snowmobiles and motorcycles (particularly performance machines) will test at over 100 dbA. The noise from a shotgun can exceed 170 dbA.

Noise carries differently in the natural environment depending on topography, vegetative cover, ambient conditions and snowpack. Flat terrain with little vegetative cover and crusty snowpack creates conditions for sound to carry longer distances than does terrain with more relief, vegetative cover and either fresh snow or no snow cover (USDI 2003).

Noise is regulated in Montana on public lands by Montana State Code 61-9-418. This law states that all motorcycles or quadricycles operated on streets and highways in the state shall be equipped with noise suppression devices at all times. Forest roads and trails are considered public ways under this law, and are covered by this requirement. For any cycles manufactured after 1987, the decibel limit is 70 dbA, measured at 50 feet. For snowmobiles, the same requirement applies (Montana Code 23-2-634) with a decibel limitation on machines that were built after 1975 of 78 dbA, measured at 50 feet. This language implies a measurement standard referred to as the “drive by” testing method. State game wardens have the authority to enforce noise infractions, but have not been successful in doing so, due to difficult testing requirements. Accurate field-testing of noise from OHVs using the “drive by testing protocol” has been problematic for many enforcement entities. While field-testing equipment is available, ambient noise can create erroneous readings, as can other environmental factors. Field tests for the “drive by standard” have been successfully challenged in court, limiting the effectiveness of this enforcement tool (R. Paige, Montana Fish, Wildlife and Parks, personal communication).

The Forest Service also has the authority to enforce noise standards set by other federal (typically EPA or OSHA) agencies and by the state under 36 CFR 261.15 (d). The agency also has the authority to set specific limitations through special order 36 CFR 261.55 (d). The standard fine for noise violations is \$50. Several years ago, an attempt was made to establish such a noise regulation for snowmobiles in the West Yellowstone vicinity on National Forest land. Officers investigating this enforcement option came to the conclusion that the field-testing equipment and test rigor available at that time would not hold up in court, and dropped the proposal (J. Walker, USFS, personal communication). In order to accomplish a test that would hold up in court, the vehicle would have to be tested in a controlled environment where ambient noise and other factors would not bias the test.

Montana State Code 23-2-634 which regulates snowmobile noise states: *(1) Except as provided in this section, each snowmobile must be equipped at all times with noise-suppression devices, including an exhaust muffler in good working order and in constant operation. A snowmobile may not be modified by any person in any manner that will amplify or otherwise increase total noise emissions to a level greater than that emitted by the snowmobile as originally constructed, regardless of the date of manufacture.* During the winter of 2006, police in the city of West Yellowstone began to ticket excessively noisy snowmobiles citing this modification of stock equipment clause (personal communication, Chad Kashmir). This remedy to be able to enforce noise limitations was employed to provide an enforcement tool that did not involve the “drive by” ambient noise measurement technique which has proven unreliable.

Industry has been aware of the shortfalls with the noise-testing situation and the public image issue of noise associated with motorized recreational vehicles, and has developed a cost-effective test that can be successfully implemented in the field. The Society of American Automobile Engineers published a protocol for testing stationary motorcycles in 1998. This method of noise monitoring has become the current industry standard for measuring ambient noise associated with OHV’s in several locations. In Oregon, State law was passed which uses this protocol and sets the standard for noise at 99 dbA monitored at 20” from the stationary vehicle.

In the Oregon Dunes National Recreation Area – a popular National Forest OHV play area, noise emissions have been closely monitored and enforced using the monitoring protocol SAEJ1287 (SAE, 1998) published by the Society of Automotive Engineers and outlined by the Motorcycle Industry Counsel Stationary Sound Test Manual (see: www.mic.org). These standards are clearly articulated to the public who recreate with motor vehicles in the Oregon Dunes. Law enforcement officers in the Oregon Dunes have a successful compliance program relative to noise through preventative screening, compliance check stations, and OHV rangers who monitor noise in the field. Numerous violations are written every year, and have been challenged in court. The field testing techniques using the stationary sound measurements have been upheld in these court cases (personal communication, Bruce Gainer).

The Gallatin NF could choose at some future date to define more stringent noise standards than are provided by State Code under 36 CFR 261.55 (d) and defining the limitation and test method using accepted protocols for stationary testing mentioned above. This would provide an enforceable noise standard specifically for motorcycles, 4x4 vehicles and ATV's.

A back door, though relatively effective, method that the Forest Service has to enforce noise restrictions is through 36 CFR 261.52 (j). This regulation requires spark arrester devices on all trail vehicles during the State declared fire season, typically May 1 to September 30. Many trail vehicles are now manufactured to meet this requirement, and typically when they meet the spark arrester requirement; they are also within the state mandated decibel limitation. Vehicles that have been modified with “straight pipes” tend to be loud and typically do not have spark arrestors built into their exhaust systems. This method of enforcement obviously has its limitations including an officer's ability to recognize mufflers that that been modified from stock equipment, and it only applies during a short portion of the year.

Direct and Indirect Effects

Analysis Methodology

A qualitative discussion of the number of areas/trails open or closed to motorized trail vehicles is the method for disclosing potential effects from noise.

Effects of All Alternatives (1 through 7-M)

All alternatives allow some motorized recreational vehicle travel that will contribute to noise on the Forest. Noise from recreational vehicles has the potential to impact people's recreation experience, and to affect wildlife (see Wildlife Issue).

Alternative 1 is the least restrictive alternative for motorized recreational vehicle travel. The largest number of trails, road systems, and areas would be affected by noise from vehicles in this alternative. Cross-country travel is not prohibited (except by existing closures) in this alternative, which greatly expands the total potential acreage on the Forest that would be affected by noise from recreational vehicles.

All other alternatives (Alternatives 2 through 7-M) would restrict summer motorized vehicles to designated routes only. Alternatives 2 through 7-M would reduce the total number of summer motorized routes, and open snowmobile areas, which would eliminate the noise vectors in these closed areas. Alternatives 4 through 7-M were designed to cluster motorized use areas, further concentrating the total area potentially affected by noise from recreational vehicles.

Alternative 6 would provide the most non-motorized trails areas of all alternatives, by eliminating motorized trail vehicles from the bulk of the Forest’s trail system and prohibiting snowmobiles across the largest area of all alternatives.

In Alternatives 2 through 7-M, motorized use (both summer and winter) would be more concentrated than it is today. By concentrating motorized activities to smaller areas, it is reasonable to expect that the noise levels would increase in those concentrated use zones, and decrease elsewhere. Seasonal restrictions for summer vehicles would also limit the amount of a given year that motorized vehicles are permitted on Forest roads and trails. Trails would typically be open to summer motorized vehicles between June and October. The snowmobiling season generally is between December 2 and April 15 (see the route specific discussions in “Detailed Description of the Alternatives” for seasonal restrictions by alternative and TPA). See the alternative summary table in this same section for a comparison of the number of open motorized routes and areas between alternatives.

Table 3.15. 1 provides limited information on the distance that three vehicle types (automobiles, standard two-cycle engine snowmobiles and quieter four-stroke snowmobiles) can be heard in open terrain and in forested terrain. This information was taken from the Winter Use EIS for Yellowstone National Park (USDI 2000).

Table 3.15. 1 Distances to limits of audibility for individual vehicle pass-bys in open and forested terrain and in average and quiet background conditions.

		Distance (feet) to Limit of Audibility			
		Open Terrain		Forested Terrain	
Vehicle Type	Maximum 50-foot Pass-by Level (dbA)	Average Background	Quiet Background	Average Background	Quiet Background
Automobile	68	2,180	2,330	1,130	1,200
Two-Stroke Snowmobile	74	3,860	4,120	1,990	2,230
Four-stroke Snowmobile	70	2,690	2,860	1,450	1,620

This table illustrates that emerging technology designed to quiet down recreational vehicles has a significant effect on the distance that the noise from those vehicles will travel under different environmental conditions. It also illustrates how much of an effect forest cover has on the limits of audibility. A large percentage of the Gallatin Forest is forested, which has the effect of muffling noise to a degree.

Mitigation that could be employed to minimize noise emissions associated with motorized recreational vehicles would be to require motor vehicles traveling on the National Forest to meet a

more stringent noise standard than currently required by the state. 36 CFR 261.15 (d) provides the authority to enforce other federal or state restrictions. 36 CFR 261.55 (d) provides special order authority to impose more stringent noise restrictions. The special order could be written to employ the “stationary sound test” methodology for enforcement – a defensible field testing technique (described earlier in this chapter). The standard fine for noise violations is \$50.

Cumulative Effects

Net Effects of Past and Present Programs and Activities

Background noise on the Gallatin National Forest (other than naturally occurring sounds from running water, wind in the trees, etc.) has been function of short term temporal activities like timber harvest, fire suppression activities, etc. Short term impacts to recreationists have occurred for many years, especially since the advent of heavy machinery, motor vehicles, aircraft and power equipment. There are no significant stationary noise sources from industrial activities which have effected recreationists on the forest in recent history (like sawmills or ore crushing facilities) other than noise associated with several active mines (East Boulder and Gold Hill). Noise from these facilities is confined to the immediate vicinity of the project.

Projected Combined Effects of Reasonably Foreseeable Programs and Activities

Noise associated with projects on the forest will continue into the future. Timber harvest, operations of mines or mineral development, wildlife management activities, etc. typically are project and site specific, and don't tend to all occur in the same general location at the same times. Because of the dispersed and temporal nature of these projects, combined effects are not very likely. In some cases, road reconstruction work could be occurring concurrently with timber harvest or mining activities, and special use projects which would have an additive effect to the intensity of noise associated with a specific project. All of these projects tend to be temporal with their effect to recreationsits typically lasting from several hours to several weeks or months. All reasonably foreseeable effects are short term (less than several months in duration).

Cumulative Effects of Past, Present and Reasonably Foreseeable Programs and Activities with the Travel Plan Alternatives

Effects Common to all Alternatives (1 through 7-M)

Numerous Forest activities other than the recreational use of motorized vehicles contribute to background noise and the loss of natural quiet. Permitted activities such as timber harvesting and mining often involve heavy equipment that is noisy. Fire fighting efforts frequently involve aircraft (helicopters, patrol planes, retardant bombers), as well as pumps, chainsaws, generators, etc. All of this equipment adds to human-caused noise. Commercial and private aircraft over-flights are a daily occurrence on the Forest, adding a short-term noise impact. Recreationists seeking natural quiet near these types of projects who are likely to be annoyed by human- caused noise, may find noise from motorized recreational vehicles to be additive to ambient noise from other forest management activities. These effects are all short term.

Alternative 1-3 would provide the most dispersed motorized recreation activities across the largest area of the forest, which could potentially exacerbate the effects of noise from other activities across a broader portion of the forest. In some cases, recreationists may not be as affected by noise from recreational vehicles in areas where other human caused noise may dominate the soundscape. In this sense, Alternatives 5 and 6 would concentrate noise generated by recreational vehicles to areas where other forest management activities are likely to contribute to noise most (the currently roaded portions of the forest), deflating the issue of motorized recreationists affecting “natural quiet”, while providing the most areas where natural quiet could be found without the influence of motorized vehicles. Alternatives 4 and 7-M would concentrate motorized recreation more than Alternatives 1-3, but less than 5 and 6, providing a moderate amount of the forest where natural quiet is highly likely.

Effects of Proposed Goals, Objectives, Standards and Guidelines

Alternatives 2 through 7-M propose a series of goals, objectives, standards and guidelines that would provide management direction for future decisions involving travel. For the most part these standards and guidelines have no effect on noise. Two of these standards and one objective would result in reducing the area impacted by noise from recreational vehicles.

Standard A-8: would prohibit off-route travel in summer. This restriction, in Alternatives 2 through 7-M, would minimize the total number of acres that motor vehicles may access.

Standard A-11: would prohibit snowmobiles from traveling on groomed ski trails, which would assure that those routes are not directly affected by the noise from snowmobiles.

Consistency with Laws, Regulations, Policy, and Federal, Regional, State and Local Land Use Plans (including the Forest Plan)

Applicable Laws, Regulations and Policy

36 CFR 295 which previously established guidelines for regulating OHV use and their associated social and resource issues was removed with the 11/9/2005 Travel Management; Designated Routes and Areas for Motor Vehicle Use; Final Rule (Federal Register Vol.70, No 216). Language relative to noise and motor vehicle use on National Forests was replaced by new regulations in 36 CFR 212.55. Specifically 36 CFR 212.55 (b) states that: “... *the responsible official shall consider the effects on the following with the objective of minimizing: ... (3) Conflicts between motor vehicle use and existing or proposed recreational uses of National Forest System Lands... (5) Compatibility of motor vehicle use with existing conditions in populated areas, taking into account sound emissions and other factors.*”

FSM 2355.14 reiterates the above regulations and further states: “*within the confines of certain requirements, the designation of open, restricted and closed areas and trails to OHVs should also consider local standards for air, noise, and other factors not specifically addressed in mandatory criteria identified in 2355.14 section (a).*”

There is no Forest Plan direction specific to noise associated with recreational vehicles.

Consistency with Laws, Regulations and Policy

All action Alternatives (2 through 7-M) are consistent with the policy noted above. Alternative 1 would not be responsive to issues identified by the public regarding noise associated with motorized recreation vehicles.

There are no laws, regulations, or policies that dictate what level of noise is acceptable associated with motorized routes, just state laws that regulate specific vehicle noise emission requirements. All action Alternatives (2 through 7-M) recognize the potential irritant of noise from motorized recreation to non-motorized recreationists, and would provide additional areas of quiet trails over current condition, in an attempt to mitigate this user conflict.