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Urgent alert

It has never been more critical to support organized snowmobiling. Become a Friend of ACSA and help to keep public lands OPEN!

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- Avalanche Safety for Snowmobile Riders
- Snowmobiling Facts & Stats
- Hand Signals
- Zero Tolerance
- Guide to Trail Grooming
- Facts & Myths About Snowmobiling
- Access Guide to Private & Public Lands
- Communication, Business & Leadership Tips
- Snowmobile Posters for Safety & Education
- Public Service Announcements (PSAs)

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Safe Riders

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Sound & Environment Research

Sound

Sound levels for snowmobiles have been reduced 94% since inception. Pre-1969 snowmobiles were noisy. At full throttle, these machines emitted sound levels as high as 102 dB(A) from a distance of 50 feet.

Snowmobilers enjoying their sleds along a groomed

Snowmobiles produced since February 1, 1975 and certified by the Snowmobile Safety and Certification Committee's independent testing company emit no more than 78 dB(A) from a distance of 50 feet while traveling at full throttle when tested under the Society of Automotive Engineers (SAE) J192 procedures. Additionally, those produced after June 30, 1976 and certified by the Snowmobiles Safety and Certification Committee's independent testing company emit no more than 73 dB(A) at 50 feet while traveling at 15 mph when tested under SAE J1161 procedures.

For comparison purposes, normal conversation at three feet produces approximately 70 dB(A).

It would take 256 78 dB(A) snowmobiles operating together at wide open throttle to equal the noise level of just one of the pre-1969 snowmobiles.

Problems with excessive noise levels do occur when irresponsible snowmobilers modify the snowmobile exhaust system or substitute the factory system with an after-market racing exhaust. In most states and

provinces, this practice is illegal and grossly misrepresents the sport.

Examples of decibel levels are as follows:

Sound	dB(A)
75-Piece Orchestra	130
Car Horn, Snowblower	110
Blow-dryer, Diesel Truck	100
Electric Saver, Lawn Mower	85
Garbage Disposal, Vacuum	80
Alarm Clock, City Traffic	70
Dishwasher	60
Leaves Rustling, Refrigerator	40

Effects on Wildlife

Dr. Andres Soom participated in the University of Wisconsin's comprehensive three-year study on the effects of snowmobile sound levels on deer and cottontail rabbits. His report titled **Emission, Propagation and Environmental Impact of Noise from Snowmobile Operations**, concluded that "*only minor reactions were noted in the movements of cottontail rabbits and white tailed deer to moderate and intensive snowmobiling activity*." He stated that it had not been possible to determine sound levels at which there is clear reaction on the part of the deer "*because snowmobiles must be so close to deer to generate the higher levels that other factors such as visible presence are likely to be more important*."

The Wisconsin study also compared the reaction of deer to the presence of cross-country skiers. When cross-country skiers replaced snowmobiles on the test trail systems, the deer moved away from the trail more frequently.

A three-year study, **Response of white-tailed Deer to Snowmobiles and Snowmobile Trails in Maine**, conducted by wildlife scientists for the Maine Cooperative Wildlife Research Unit and the Maine Department of Inland Fisheries and Wildlife, revealed that: "*Deer consistently bedded near snowmobile trails and fed along them even when those trails were used for snowmobiling several times daily. In addition, fresh deer tracks were repeatedly observed on snowmobile trails shortly after machines had passed by, indicating that deer were not driven from the vicinity of these trails? The reaction of deer to a man walking differed markedly from their reaction to a man on a snowmobile? This decided tendency of deer to run with the approach of a human on foot, in contrast to their tendency to stay in sight when approached by a snowmobiler, suggests that the deer responded to the machine and not to the person riding it.*"

In a study titled **Snow Machine Use and Deer in Rob Brook**, conducted by the Forest Wildlife Biologist of the White Mountain National Forest in New Hampshire, snowmobile operations and deer movement were monitored. A summary of the study indicated that deer travel patterns were not affected by periodically heavy snowmobile use. In addition, continued use of established trails was recommended.

The University of Minnesota issued a study by Michael J. Dorrance titled **Effects of Snowmobiles on White Tailed Deer**, which found no meaningful difference in the deer's home range during periods of snowmobile use and non-use.

Addressing the subject of snowmobile operations in Yellowstone National Park, Jack Anderson, a former Superintendent of Yellowstone commented: "*We found that elk, bison, moose, even the fawns, wouldn't move away unless a machine was stopped and a person started walking. As long as you stayed on the machine and the*

machine was running, they never paid any attention. If you stopped the machine, got off and started moving, that was a different story. The thing that seemed to be disturbing to them was a man walking on foot".

Effects on People

Operated in normal, considerate manner, snowmobiles are barely audible from inside a home. From a distance of 50 feet, snowmobiles generate between 68 - 73 dB(A) at 15 mph. Since doors and windows are almost always closed in the winter, snowmobiles operating outside at a distance of 50 feet only create an interior sound level of between 41 and 47 dB(A). From a distance of 200 feet, snowmobiles produce an interior sound level between 29 and 35 dB(A). This is well below the average evening household sound level of 47 dB(A).

Dr. Andres Soom, concluded from his study that the newer, quieter machines can travel within 45 feet of a residence without adverse effect.

Natural sound barriers, careful trail planning and reduced speed limits in residential areas further reduce snowmobile noise. Snowbanks or trees can cause a 20 dB drop in sound levels if they are between the machine and listener. Government and enforcement officials report they now receive few, if any, complaints from citizens about snowmobile noise.

U.S. Forest Service researcher Robin Harrison, reported that under usual wildland conditions, snowmobile operation is undetectable to the human ear at distances of more than 750 feet. He reported that snowmobiles were barely detectable above normal campground sound levels at a distance of 400 feet.

Compaction and Vegetation

Everything we do has some effect on the environment. When a hiker steps on a flower, he affects the environment. When land is paved over for a bicycle path, it affects the environment. Many of the foot paths man has used for centuries still exist and are clearly visible throughout the world.

However, it' a fact that a snowmobile and rider exert dramatically less pressure on the earth's surface than other recreational activities (i.e., just one-tenth the pressure of a hiker and one-sixteenth the pressure of a horseback rider). Average pounds of pressure per square inch exerted on earth's surface:

Object	Pounds Of Pressure
Four-Wheel Drive Vehicle	30
Horse	8
Man	5
All-Terrain Vehicle	1.5
Snowmobile	0.5

(All vehicle weights considered include 210 pounds estimated weight of one person and gear).

Moreover, the snowmobile's ½ pound of pressure is further reduced by an intervening blanket of snow.

In many jurisdictions, snowmobiles are not classified as off-road vehicles. By both definition and management policies, these jurisdictions have completely separated snowmobiles from off-road vehicles. As the U.S. Department of the Interior concluded in an environmental statement: "*A major distinction is warranted between snowmobiles and other types of off-road vehicles. Snowmobiles operated on an adequate snow cover have little effect on soils - and hence cause less severe indirect impacts on air and water quality, and on soil-dependent biotic communities, than other ORVs do.*"

Given adequate snowfall and responsible operation, all evidence of snowmobile operation disappears when the season changes and snow melts.

In its environmental statement regarding off-road vehicle use of public lands, the U.S. Department of Interior stated: "*Where snowmobiles are used exclusively over snow on roads and trails, the impact on vegetation is indeed virtually nil.*"

A University of Wisconsin study of J. W. Pendleton titled **Effect of Snowmobile Traffic on Non-Forest Vegetation** discovered that snowmobile traffic had no effect on grain yield of winter wheat, alfalfa, red clover plots or grass legume. Species of turf grass showed slightly reduced yields at first harvest, but were not negatively affected in subsequent harvests.

Research undertaken by Dr. James C. Wittaker and Dennis S. Wentworth of the University of Maine concluded that "**compaction by snowmobiling does not alter the grain weight yields of alfalfa in Maine**."

A Utah Water Resource laboratory study found that snow compaction, caused by snowmobile tracks, does not damage wheat crops. Instead, the compaction increases the yield and eliminates snow mold. Erosion is also reduced.

There is no evidence that snow compaction caused by snowmobiling, ski-touring or snowshoeing has a significant impact on the population of small burrowing animals. Since these recreations take place over a minuscule portion of the total land area, the ecosystem of burrowing animals tends to be overwhelmingly affected by natural forces-such as wind-induced compaction, early and late snowfalls, temperature fluctuations resulting in thaws and freezes, etc.

About ACSA

ACSA is a national organization uniting the snowmobile community and promoting snowmobiling as a safe, fun and environmentally friendly family sport.

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Join ACSA

Snowmobiling is enjoyed by millions and must be represented by a strong national organization. ACSA is that organization. Join ACSA today to help us in our mission to promote snowmobiling.

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Write Your Representative

It's never been easier! Write your representative and let them know it's important to protect public trail funding and other important issues.

SEND A LETTER

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It has never been more critical to support organized snowmobiling! Become a friend of ACSA by donating a tax-deductible amount and help keep public lands open.

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