

Noise in the Wilderness

by John Morton

If you've ever boated down the Kenai River during fishing season or hiked from one of the trailheads off the Sterling Highway, you probably noted how noisy it was even though you were in the great Alaskan outdoors. The rattle of an 18-wheeler or the dull whine of a motor boat can follow you for a long way in the woods. Noise can be a real spoiler when you're trying to get away from it all.

Ironically, Congress designated 1.3 million acres, fully two-thirds of the Kenai Refuge, as Wilderness. Wilderness is described in the 1964 Wilderness Act as an area which retains "its primeval character...with the imprint of man's work substantially unnoticeable" and which has "outstanding opportunities for solitude..." It's difficult to feel solitude when the sounds of other humans or their activities can be heard, sometimes over great distances.

Noise is typically measured in decibels (dB). The sensitivity of the human ear to sounds of different frequencies is denoted by dBa. The threshold of hearing is 0 dBa, normal conversation occurs at about 60 dBa, and the threshold of hearing damage is approximately 120 dBa. Because decibels are on a logarithmic scale, people generally associate a 10 dBa increase with a doubling of sound level.

Whenever I go hiking up the Skyline or Fuller Lakes trails, I'm always surprised at how far I have to travel to escape traffic noise. Three years ago, we measured noise on and adjacent to the Sterling Highway where it passes through the Refuge in July, a period of peak vehicle traffic. Noise averaged 72 dBa immediately on the highway, about the equivalent of typical construction equipment. However, we recorded values as high as 120 dBa for short periods, loud enough to cause permanent hearing damage!

Where the Sterling Highway passes through forested areas, most vehicle-generated noise was reduced to background levels within 200 yards of the highway. However, vehicles continued to be heard above background noise levels more than 500 yards from the highway where the highway passed through open areas such as wetlands.

In winter, snowmachines generate about the same noise levels as automobile traffic. Staff at Denali Na-

tional Park conducted pass-by tests using a 4-stroke Arctic Cat and a 2-stroke SkiDoo Skandic 500. These drive-by tests were conducted in 8 inches of powder with a 24-inch base, conditions that are more typical of a backcountry snowmachine experience than groomed trails. At full throttle, average sound levels were 67 to 76 dBa from 50 feet away, depending on whether they were 2- or 4-stroke engines. However, noise measurements alone can be a little deceptive. From the vantage of a treeless hill, an observer was able to hear snowmachine noise from 2.5 to 3.5 miles away depending on topography, wind and vegetation.

The Kenai Refuge is still a relatively quiet respite from more urbanized areas. As part of other wildlife monitoring, we measured ambient sound levels at 5-km intervals across the Refuge during the last three weeks in June 2004 and 2006. We measured 5-minute, integrated averages during early morning hours (0500–1000 hours) in the absence of rain and high winds. The mean sound level, averaged from 257 sites across our 2 million-acre Refuge, was 45.1 dBa. This value is a little higher than background noise levels (30–40 dBa) typically measured in other wildernesses.

Some of these early morning noise measurements were as high as 95 dBa, usually the result of low flying aircraft. To put this in perspective, 95 dBa indicates a 32-fold increase in noise over ambient sound. Motor vehicles traveling on the Sterling Highway represent an 8-fold increase in noise over typical background sound levels. Our data strongly suggest that, while the current soundscape is representative of undeveloped lands, noise pollution can be problematic at some sites on the Refuge, at least some of the time, for humans and probably wildlife at least some of the time.

The Kenai Refuge has provided some noise protection in wilderness areas. For example, we prohibit non-essential helicopter flights into Wilderness during the fall moose and caribou hunting seasons. This ban is not simply to avoid spooking the game. It is because we don't want to degrade the wilderness experience of hunters. Hunters are a big constituency of the refuge

and they enjoy the opportunity to “get away from it all” every bit as much as the hikers, bird watchers and photographers.

The absence of noise is a valuable commodity and people are willing to pay good money to experience it. Wilderness lodges market solitude along with their fishing, hunting and wildlife-viewing opportunities. When the solitude of a wilderness lodge is threatened, it can mean substantial loss of business. For example, wilderness fishing lodges on the Alaska Peninsula are seriously concerned that the proposed Pebble Mine could greatly increase aircraft flyovers and other activities which would degrade the wilderness experience of lodge guests. Similarly, a wilderness lodge in Sel-dovia Bay closed its doors several years ago because of blasting in a nearby rock quarry.

Noise pollution will almost certainly increase on

the Refuge as aircraft overflights, motor boats, highway traffic, and snowmachine use increase. In 2006, more than a million vehicles traveled down even the remotest sections of the Sterling Highway. On average, that's two vehicles every minute of every hour of every day! And at the current rate of population growth, over 1000 new residents are added to the Kenai Peninsula every year! These are startling statistics that reflect a vibrant economy but a diminishing wilderness experience for residents and tourists who seek it.

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