

Acoustic Environment and Soundscape Resource Summary Grant-Kohrs Ranch NHS

National Park Service
U.S. Department of the Interior

Natural Resource Stewardship and Science
Natural Sounds & Night Skies Division



The acoustic environment is a resource with intrinsic value. It is important as a natural resource, a cultural resource, or both. It is a critical component of wilderness character and plays an important role in wildlife communication, behavior, and other ecological processes. Results from multiple surveys indicate that hearing the sounds of nature is an important reason for visiting national parks. Therefore, the value of acoustic environments and soundscapes is related to an array of park resources and has broad implications for park management.



The quality of the acoustic environment is relevant in nearly every unit in the NPS System. When developing the foundation document, park staff should consider the acoustic environment as a resource with inherent value that may be recognized, when appropriate, in the Fundamental Resource and Value, Other Important Resource and Value, or other section of the document. The topics in Appendix 1 discuss the importance of the soundscape and the acoustic environment in relation to park resources and values. Please see Attachment 2 for an example of how Bryce Canyon National Park incorporated soundscapes into various sections of the foundation document.

Sound levels in national parks can vary greatly, depending on location, topography, vegetation, biological activity, weather conditions and other factors. For example, the din of a typical suburban area fluctuates between 50 and 60 decibels (dBA), while the crater of Haleakala National Park is intensely quiet, with levels around 10 dBA. Below are some examples of sound pressure levels measured in national parks.

Decibel level (dBA)	Sound Source	Decibel level (dBA)	Sound Source
10	Volcano crater (Haleakala NP)	80	Snowcoach at 30 m (Yellowstone NP)
20	Leaves rustling (Canyonlands NP)	100	Thunder (Arches NP)
40	Crickets at 5 m (Zion NP)	120	Military jet, 100m above ground level (Yukon-Charley Rivers NP)
60	Conversational speech at 5 m (Whitman Mission NHS)	126	Cannon fire at 150m (Vicksburg NMP)

Quality of the Resource at Grant-Kohrs Ranch NHS

The Grant-Kohrs Ranch (GRKO) was established to provide an understanding of the frontier cattle era. The cultural soundscape associated with the working ranch is core to visitor enjoyment and understanding. The sounds of a working ranch (bulls bellowing, draft horses pulling haying equipment, the blacksmith sharpening sickle mower blades) help immerse visitors in the historic time period the park helps preserve. To better understand the cultural soundscape of the park, a 2008 park survey lists sound of the park as the following:

- Historical (cows mooing, horse drawn equipment, teamsters working draft horses, horses running & neighing, blacksmith shop anvil & hammer, mother cows mooing to calves, bulls bellowing for cows, ranch hands working)
- Weather (rain, wind, thunder, quite when snow falls, sound of snow when walking)
- Water (sound of running water of Clark Fork River that runs through entire length of park and three tributaries)
- Vegetation (sound of vegetation when walking, varies throughout year and by type of vegetation)
- Wildlife (deer snorting, beaver activities in water, numerous waterfowl – geese honking, osprey)
- Community (traffic, sirens, airplanes, freeway, kids playing)

Air traffic noise is increasingly a concern at GRKO.