



National Park Service  
U.S. Department of the Interior

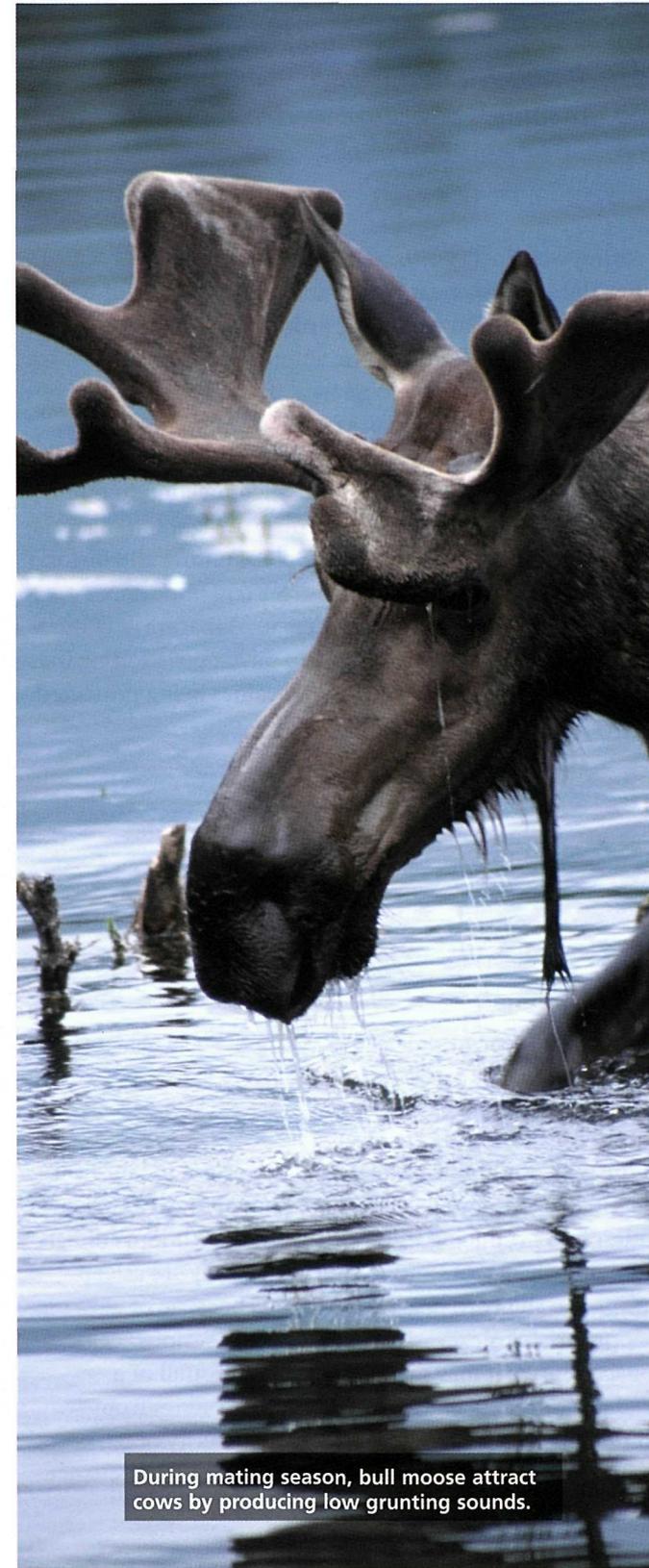
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## Natural Sounds Program: Safeguarding the Sounds of Life



During mating season, bull moose attract cows by producing low grunting sounds.

## Listening to the National Parks

*“All the sounds of the earth are like music.”*  
—Oscar Hammerstein II

Elk bugling in the cool autumn air of Rocky Mountain National Park, waterfalls thundering in Yosemite Valley, muskets firing at Gettysburg, the quiet hush among giant redwoods—these are the sounds that make visiting our national parks a unique experience. Natural and cultural sounds awaken the sense of awe that connects us to the splendor of national parks and have a powerful effect on our emotions, attitudes, and memories. Who can forget the flash of adrenaline from the sound of looming whitewater or the lightning bolt that cracked just a little too close? The National Park Service regards these sounds as part of a web of natural and cultural resources that must be protected.

### What are acoustic resources?

Acoustic resources include the sounds of nature such as wildlife, waterfalls, wind, and rain, as well as historic and cultural sounds in units of the NPS system.



### The Importance of Sound

Our ability to see is a powerful tool for experiencing the world, but sound adds a richness that sight alone cannot provide. In many cases, hearing is the only option for experiencing certain aspects of our environment. Natural sounds can present the best opportunities to find wildlife because animals can often be heard even when they cannot be seen. Noise impacts the acoustic environment much like smog impacts the visual environment; it obscures the listening horizon for both visitors and wildlife. Places of deep quiet are most vulnerable to noise. Therefore, wildlife in remote wilderness areas and park visitors who journey to these quiet places are likely to be especially sensitive to noise.



Acoustic monitoring site in Chaco Culture National Historic Park.

## Natural Sounds Program Mission

*“...to protect, maintain, or restore acoustical environments throughout the National Park System. We work in partnership with parks and others to increase scientific understanding and inspire public appreciation of the value and character of soundscapes.”*



Helicopter over Haleakala National Park; snow plow in Glacier National Park.



### Noise Pollution

In very quiet areas, noise is especially intrusive. The Natural Sounds Program works to prevent or minimize impacts of human-caused noise on park resources. Noise comes from a variety of sources, both internal and external to the park.

*In a survey of the American public, 95% of participants felt that experiencing natural peace and the sounds of nature were important reasons to preserve national parks.* (Haas & Wakefield, 1998)

### Hearing our Past: Cultural and Historic Sounds

A healthy soundscape is not limited to the sounds of nature. Human sounds also have an appropriate place in the outdoors. Cultural and historic sounds are important components of many national park units. The sound of a cannon shot echoing across a Civil War battlefield or the hypnotic drumbeat of a sacred tribal dance brings the past into the present and elicits a sense of connection to our ancestors. Cultural sounds can provide insight into historic events or an earlier lifestyle or people. Cultural and historic sounds are considered park resources and important components of the visitor experience. Managers at cultural and historic parks strive to preserve an acoustic setting that is consistent with the resources and values being protected.



Cannon firing demonstration at Vicksburg National Military Park.

### Sound and Wildlife

In the wild, the ability to hear is so important for survival that no deaf vertebrate species are known to exist. In addition to producing sounds for communication, animals continuously detect sounds, even when they are asleep. Losing the ability to hear those sounds because of inappropriate or excessive noise can have serious consequences. It may mean missing the footfall of a predator or failing to adequately compare songs from potential mates. When we protect the integrity of park soundscapes, creatures big and small have a better chance of reproduction and survival in the wild.

### Natural Sounds and Night Skies Division Expertise

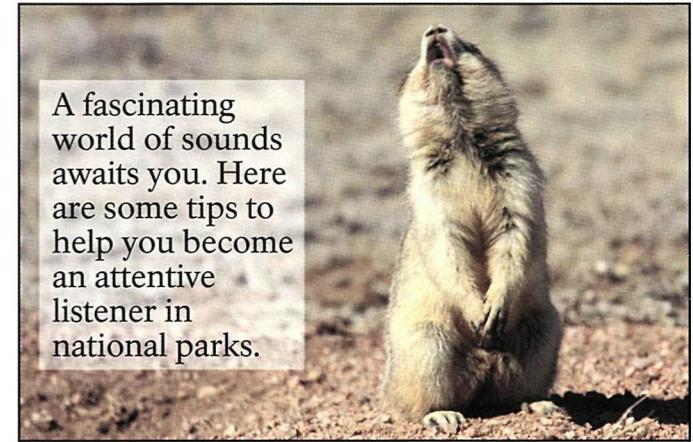
The Natural Sounds and Night Skies Division is a unit of the NPS Natural Resource Stewardship and Science Directorate. It is dedicated to preserving acoustic environments and dark night skies. The NPS Natural Sounds Program Office was established in 2000 to help parks manage the acoustic environment to protect both park resources and the visitor experience. The program also provides technical services to parks. These include: recreational planning assistance, acoustic monitoring, data collection and analysis, describing acoustic conditions, and research projects in areas of acoustic and social science.

## Did you know?

- Crickets have hearing organs in their knees.
- Humans begin to hear in the womb at 18 weeks. The ear remains active 24/7. Our bodies respond to sound even when we are sleeping or under anesthesia.
- The three bones in the middle ear are the malleus, incus and stapes (or hammer, anvil and stirrup). They are the smallest bones in the human body and are full sized when we are born. All three could fit on a penny.
- Prairie dog alarm calls can communicate the shape, size, and shirt color of human intruders.
- Many birds sing at a higher pitch when they live in noisy urban areas.



During the mating season, bull elk bugle to attract their mates. The bugle begins with a deep resonant sound that becomes a high pitched squeal, and is followed by a succession of grunts.



A fascinating world of sounds awaits you. Here are some tips to help you become an attentive listener in national parks.

## Making a Difference

- Take a moment to close your eyes and listen to the sounds around you. You may be surprised by what you hear.
- Speak quietly and turn off vehicle engines whenever possible.
- Look for mute options on electronic equipment such as cell phones, watches, or cameras.
- Turn off car alarms. Disable sounds on electronic door locks.
- Use alternative transportation such as shuttles when available.
- Be aware of campground quiet hours.
- Be respectful of others. The sounds you make will affect the experience of other visitors. Encourage friends and family to do the same.

NPS Natural Sounds & Night Skies Division  
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