

Natural Sounds: An Endangered Species

Introduction

Only in designated wilderness areas of the United States are there management goals and objectives such that natural sounds are preserved. While the criteria for listing under the Endangered Species Act are not directly applicable to natural sounds, the policy behind the act—to protect threatened and endangered species—is directly relevant. Much like the populations of plants and animals we now see on the endangered species list, the opportunity to hear natural sounds in wilderness areas has considerably diminished over the years. Designated wilderness areas collectively comprise probably less than 3% of the landmass of the country. In protected wilderness areas exceptions exist so that values such as solitude and the opportunity to experience areas untrammelled by people, and to engage in primitive and unconfined forms of recreation, are management goals that are not always met. Without considerable focus of management agencies on these declining resources, they will be lost.

Only a few National Park Service (NPS) units have enabling legislation or current planning documents that mention protection of natural sounds (e.g., Grand Canyon National Park Enlargement Act of 1975, Zion general management plan, Glacier general management plan). NPS and other land management agencies rely on the Wilderness Act to address protection of natural sounds. However, NPS, through implementation of Director's Order no. 47, has initiated a more encompassing approach to protecting, preserving, and restoring park soundscapes.

Within the past 20 to 25 years, inappropriate sounds have proliferated in both number and type. Fifty years ago, noise intrusions were only a minor issue. For example, in 1964 Marvin Jensen was conducting range survey work for the Bureau of Land

Management in the Escalante River drainage. He hiked into the Cathedral of the Desert, where the meanders of Davis Gulch in the southern Utah slick rock had created an overhanging cavern, complete with a lush hanging garden of maidenhair fern, cardinal flower, columbine, and white aster. The hanging garden was fed by a small desert seep from the wall of the smooth, vertical red-brown cliff. The slanting afternoon sun generated a golden bronze glow off the walls of the deep canyon. The dominating sound was that of a slow, intermittent, plinking drip from the seep onto the slope several feet below. Through his senses of sight, hearing, and smell there was an incredible awareness of the surrounding natural environment, and no penetrating noises from aircraft of any kind. Lake Powell, which was being filled at the time, was not yet a source

of boat motor noise, and the infrequently traveled Hole-in-the-Rock Road was more than 1,000 feet above and several miles to the west. Only the sounds of nature could be heard. Unfortunately, that area of the Cathedral of the Desert has been inundated by Lake Powell (Figure 1), and there are now fewer such places that remain in the lower 48 states where a variety of natural sounds can be heard for an extended period of time without inappropriate sounds.

Within the last 25 years or so, the numbers and types of sound sources

craft were estimated to be in operation in the United States. Snowmobile use has dramatically increased. In the winter of 1999–2000, more than 76,000 snowmobile passengers entered Yellowstone National Park. Aircraft numbers and types have also increased significantly over the years. In 1999, more than 200,000 general-aviation aircraft were in use in the United States, with 35 million flights. Air tours at national parks have increased at such a rate that air tour management plans for over 100 parks will be jointly developed by the



Figure 1. Lake Powell has inundated many spectacular and remote canyons in Glen Canyon National Recreation Area. *National Park Service photo.*

have dramatically increased. Use of park maintenance and operational equipment has increased substantially over the years. Personal watercraft did not even exist in 1964 when the Wilderness Act was passed. In 2000, however, 1.3 million personal water-

Federal Aviation Administration and NPS in the next several years. In 1987, there were an estimated 50,000 commercial air tour operations at Grand Canyon National Park, and the number has increased considerably since then. In 2003, more than 24,000 air

tour operations occurred at Hawaii Volcanoes National Park, while 23,000 occurred at Haleakala National Park. Military overflights occur near or over 150 NPS units. A

number of parks have operational aircraft that are used for search and rescue, firefighting (Figure 2), research, and law enforcement. Motorcycles, buses, trucks, automobiles, and NPS



Figure 2. A helicopter is used for firefighting at Rocky Mountain National Park. *National Park Service photo.*

operational and maintenance equipment in parks further add to the growing level of sound in national park units. Even in NPS-designated wilderness areas, there are inappropriate sounds.

Society is increasingly expressing concern about and interest in preserving places of natural sounds. Bernie Krause, president of Wild Sanctuary, has spent the past 30 years recording natural sounds in various places throughout the world. When he first

initiated his recordings, it took him 15 hours of recording in wilderness and backcountry areas to obtain one hour of natural sounds. Today, due to increased noise intrusions, it takes Krause 2,000 hours of recording to obtain the same amount of natural sounds. There are few places left in the lower 48 states where natural sounds predominate for the benefit of wildlife and for the enhancement of visitor experiences.

References

- Airline Owners and Pilots Association. 2003. General aviation fact sheet. On-line at www.aopa.org/special/newsroom/facts.html.
- FAA [Federal Aviation Administration]. 2003. *Commercial Air Tour Applications for Operating Authority at Hawaii Volcanoes and Haleakala National Parks*. Washington, D.C.: FAA.
- Krause, Bernie. 2003. Personal communications regarding natural soundscape recordings.
- Komanoff, Charles, and Howard Shaw. 2000. Drowning in noise: noise costs of jet skis in America. On-line at www.nonoise.org/library/drowning/drowning.htm
- McMullen, Ken. 2003. Personal communications regarding commercial air tour operations at Grand Canyon.
- NPS [National Park Service]. 1999. *Glacier National Park General Management Plan*. West Glacier, Mont.: Glacier National Park.
- . 2000a. *Director's Order no. 47: Soundscape Preservation and Noise Management*. Washington, D.C.: NPS.
- . 2000b. *Winter Use Plans, Final Environmental Impact Statement, Volume 1 for the Yellowstone and Grand Teton National Parks and John D. Rockefeller, Jr., Memorial Parkway*. Jackson, Wyo., and Yellowstone National Park, Wyo.: NPS.
- . 2001. *Zion National Park General Management Plan*. Springdale, Ut.: Zion National Park.
- Voorhees, Phil, and Lindsay Krey. 1998. *Prevalence and Severity of Overflights on U.S. National Parks: Preliminary Results of the 1998 Survey of National Park Superintendents*. Washington, D.C.: National Parks Conservation Association.

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