

# The Nature of Sound



**National Park Service**

**United States Department of the Interior**



**“All the sounds  
of the earth are  
like music.”**

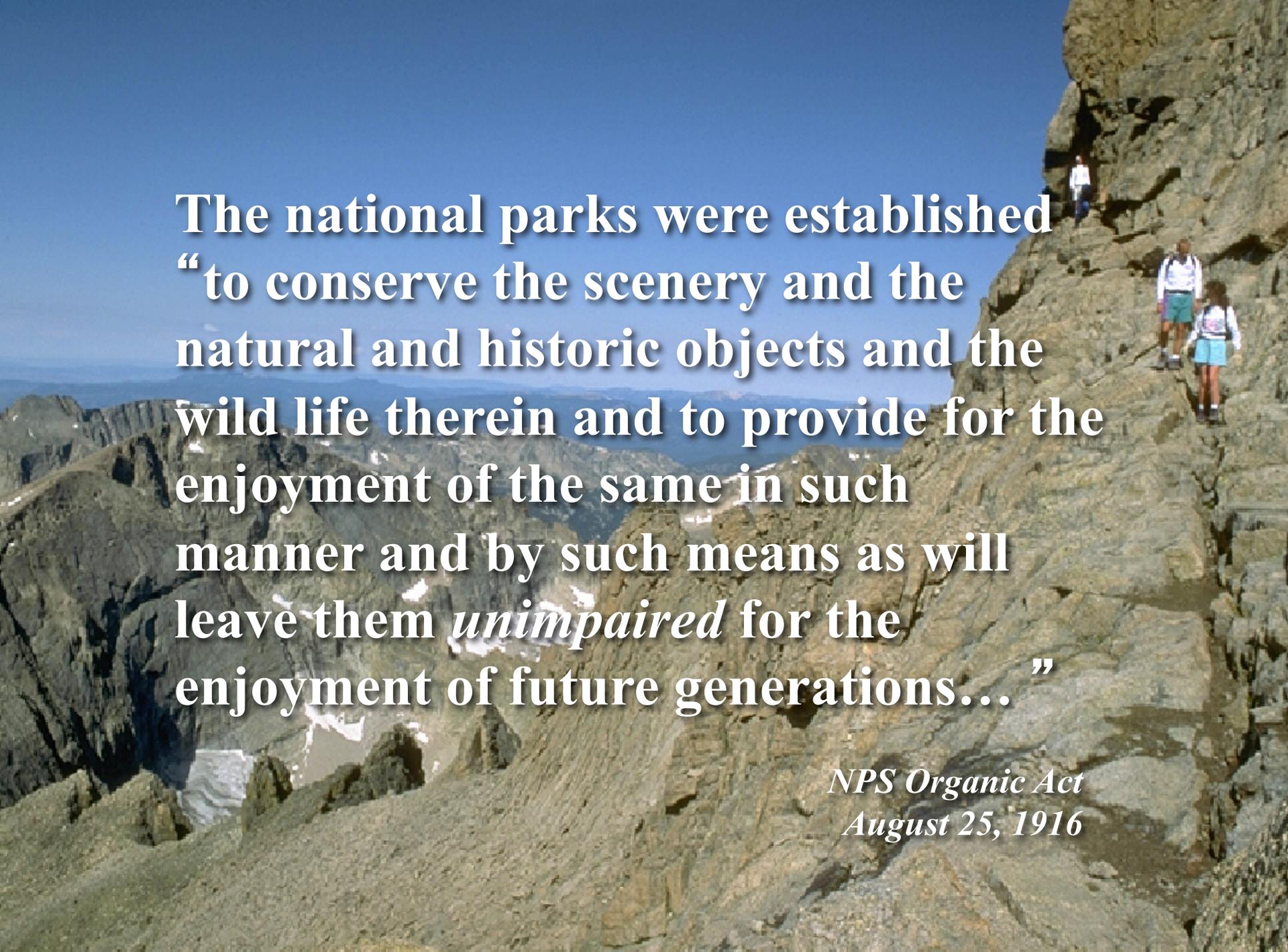
*Oscar Hammerstein II*

A photograph of a stream flowing over a bed of dark, wet rocks and fallen autumn leaves. The water is clear and creates soft ripples and small splashes as it moves. The overall scene is peaceful and natural.

the

**N**ature

of **Sound**

A scenic view of a mountain range with hikers on a rocky trail. The foreground shows a steep, rocky slope. In the middle ground, a group of hikers is ascending a rocky trail. The background features a vast mountain range under a clear blue sky. The text is overlaid on the left side of the image.

The national parks were established  
“to conserve the scenery and the  
natural and historic objects and the  
wild life therein and to provide for the  
enjoyment of the same in such  
manner and by such means as will  
leave them *unimpaired* for the  
enjoyment of future generations...”

*NPS Organic Act*  
*August 25, 1916*

# Importance of National Parks

How important do you think these reasons are for having national parks?



**Providing recreational opportunities.**



**Protecting wildlife habitat.**



**Preserving natural ecosystems.**



**Providing income for the tourist industry.**



**Providing opportunities to experience natural peace and the sounds of nature.**



**Protecting air and water quality.**



**Preserving America's most significant places for future generations.**

# Importance of National Parks

To Americans surveyed in 1998, some of the most important reasons for having national parks are:

**88%** Preserving America's most significant places for future generations.

**78%** Protecting wildlife habitat.

**73%** Preserving natural ecosystems.

**73%** Protecting air and water quality.

**72%** Providing opportunities to experience natural peace and the sounds of nature.

# Importance of National Parks

The American public clearly identified natural sound environments as a very important reason for having national parks:

**72% Providing opportunities to experience natural peace and the sounds of nature.**

Information Source: National Parks and the American Public, A National Public Opinion Survey on the National Park System, Conducted by Colorado State University, June 1998.

**“Natural sounds are part of the special places we preserve. Rustling winds in the canyons and the rush of waters in the rivers are the heartbeat and breath of some of our most valuable resources.”**

*NPS Director Robert Stanton*



# What is Natural Quiet?

**It's not so quiet after all. . .**

**Natural quiet describes the natural sound conditions found in national parks when people with normal hearing can perceive nothing but the sounds produced by the natural and cultural components of the parks.**

**These *soundscapes* may include wildlife calls, low-level background sounds or even silence.**



“Silence must be  
comprehended as not  
solely the absence of  
sound. It is the natural  
environment for serenity  
and contemplation.”

*Norman Cousins, author*

# What Are Soundscapes?

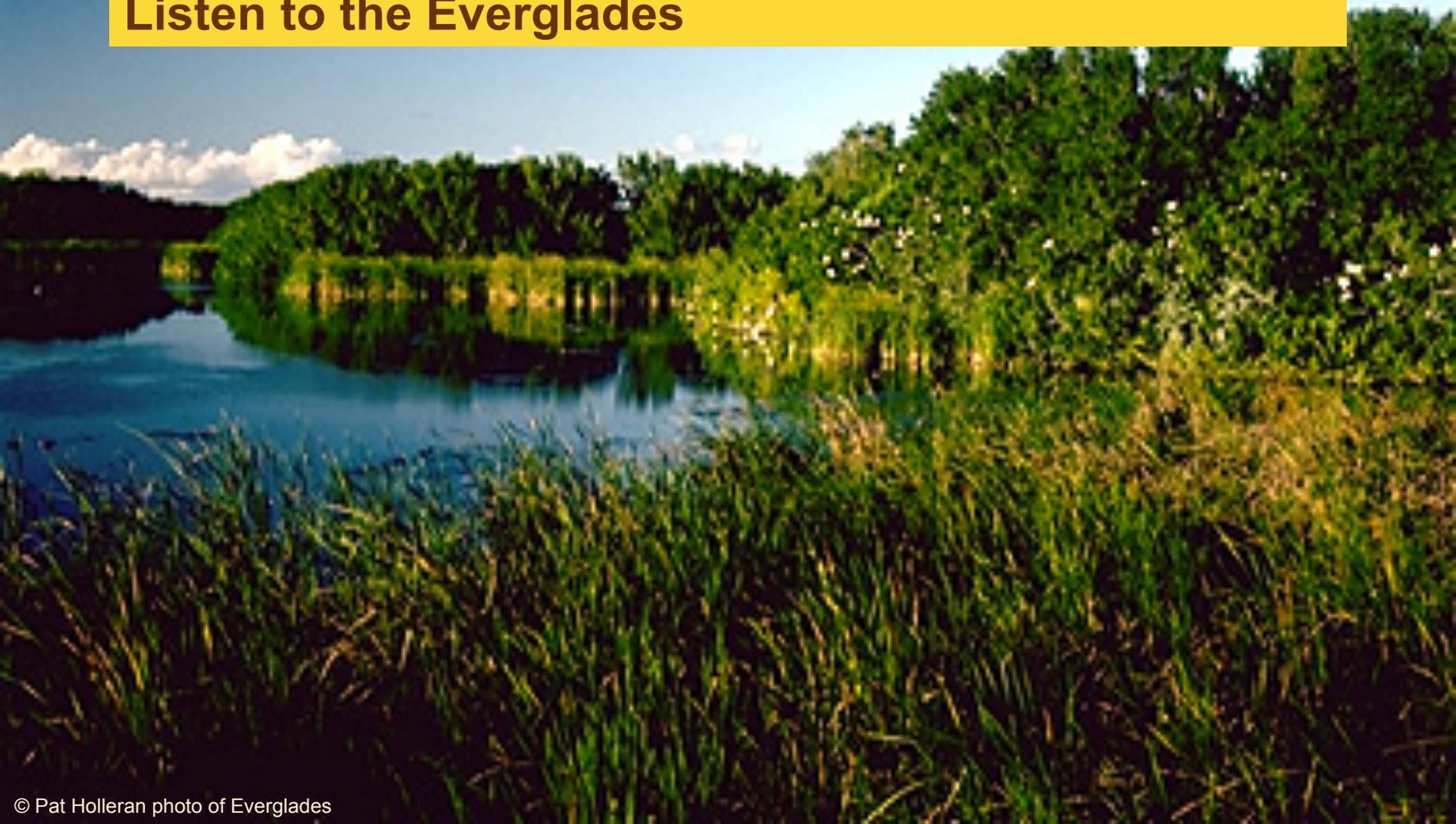
## NPS Sound Environments

National Park soundscapes are sound environments which may include natural and cultural components ranging from the chirping of birds to sounds associated with specific cultural events or periods.

Sound environments contribute to important intangible qualities in the parks that have received congressional recognition such as: natural quiet, solitude, space, scenery, and a sense of history.

# Natural Soundscapes

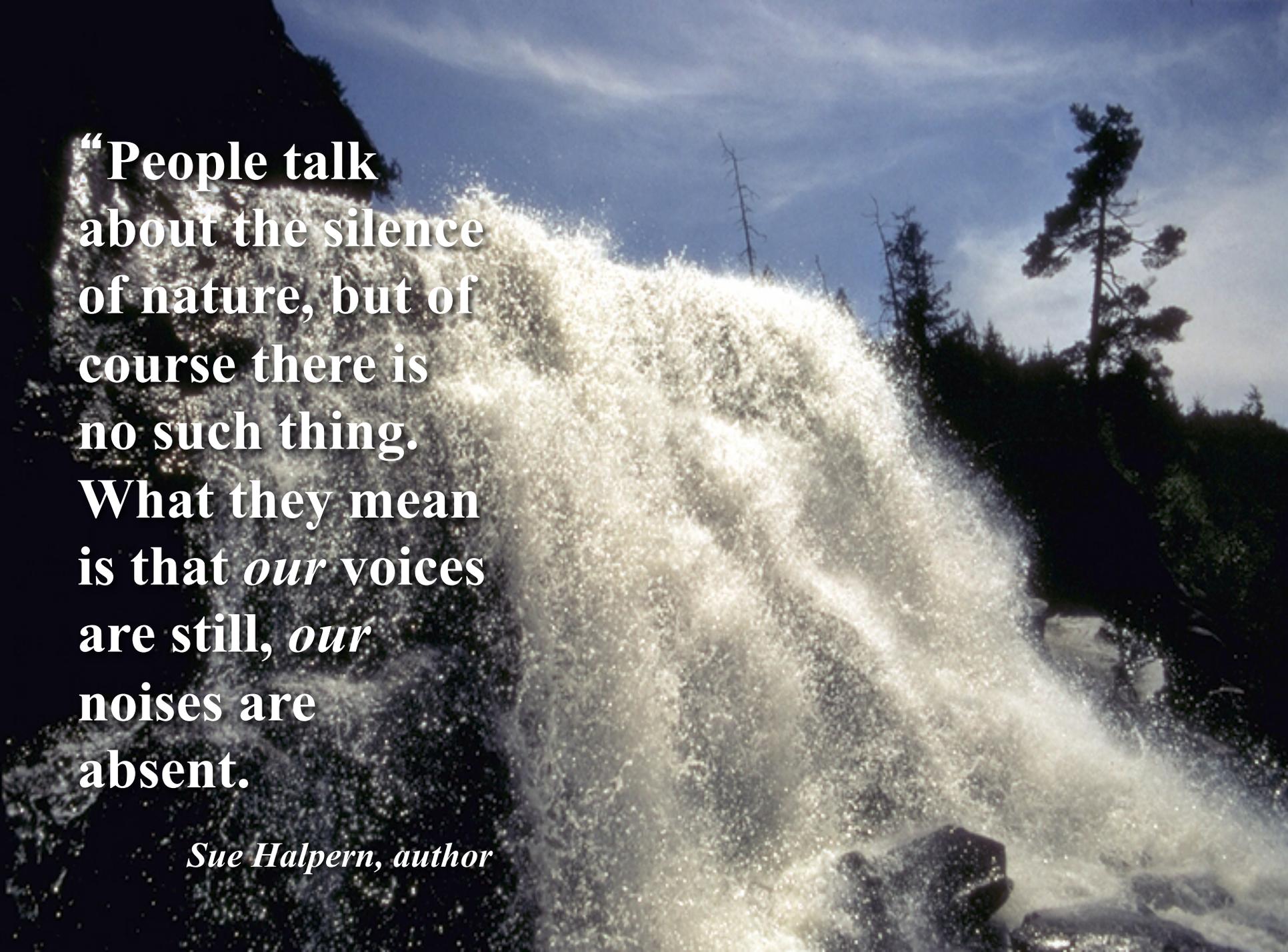
**Listen to the Everglades**



# National Park Soundscapes

## NPS Policy

The National Park Service strives to preserve resources and values such as natural quiet and natural sounds associated with the physical and biological resources of the parks (the sounds of wind in the trees or of the waves breaking on the shore, the howl of the wolf, or the call of a loon).

A photograph of a waterfall cascading over rocks in a forest. The water is white and frothy, splashing as it falls. The background shows dark evergreen trees and a bright sky with some clouds. The overall scene is dynamic and natural.

**“People talk  
about the silence  
of nature, but of  
course there is  
no such thing.  
What they mean  
is that *our* voices  
are still, *our*  
noises are  
absent.**

*Sue Halpern, author*

# Noise Sources in NPS Areas

What noises do you hear in national parks?



Cars, buses,  
other vehicles



Airplanes and  
Helicopters



Snowmobiles



NPS Maintenance Equipment

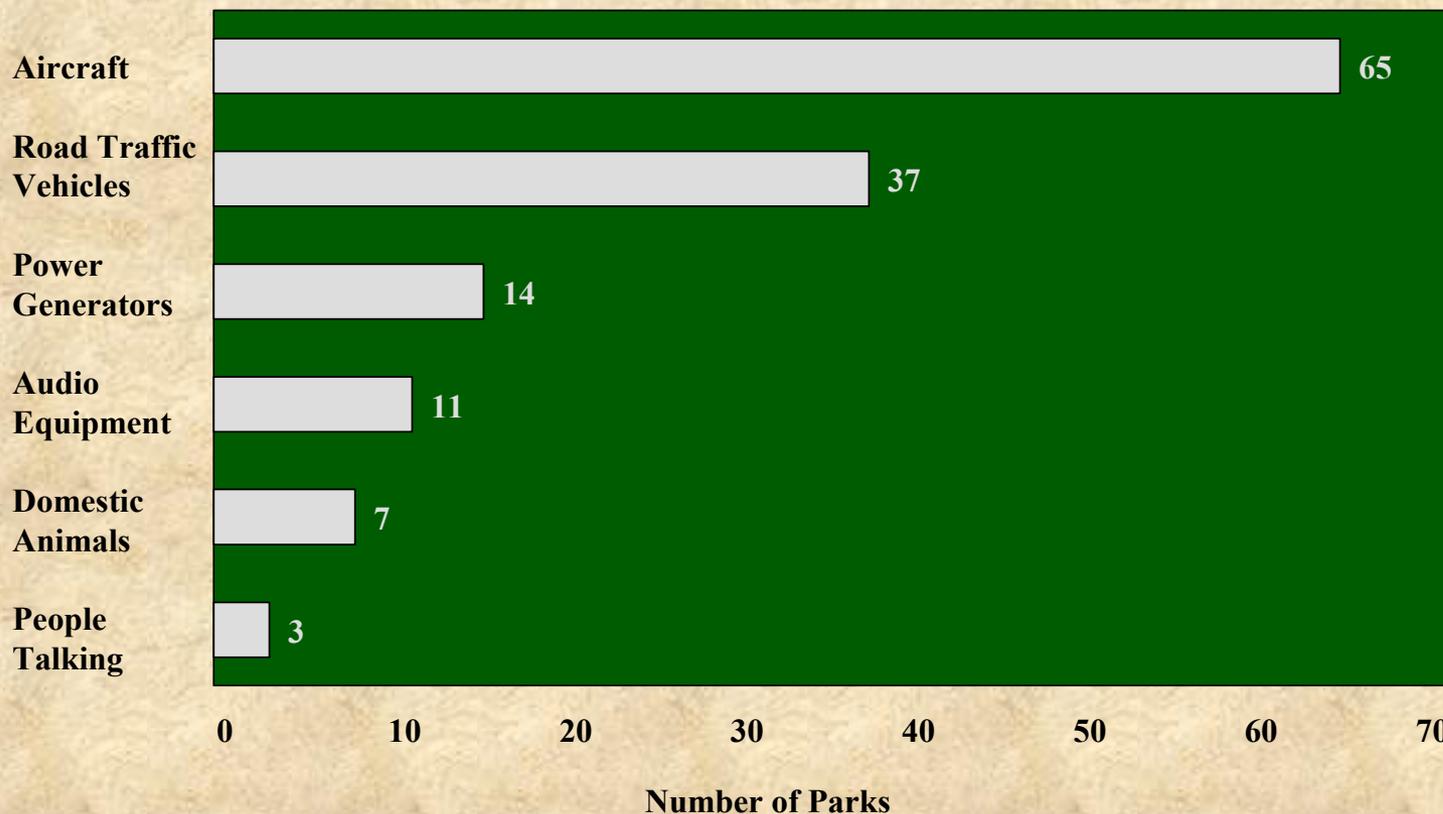


Watercraft

# Noise Sources in NPS Areas

## NPS Managers Rating of Sound Problems

(Reports from 91 NPS units affected by overflights)



# Sound Level Comparisons

## Ranges for Some Park and Non-Park Settings

*Sound Level (decibels)*

*Information source: Report on Effects of Aircraft Overflights on the National Park System, USDI NPS, July 1995, p.79.*

*Typical Outdoor Setting*

80  
|  
70  
|  
60  
|  
50  
|  
40  
|  
30  
|  
20  
|  
10  
|  
0

Noisy Urban (daytime)

Commercial Retail Area

Suburban (daytime)

Suburban (nighttime)

Grand Canyon (along river)

Hawaii Volcanoes (crater overlook)

Grand Canyon (remote trail)

Haleakala (in crater, no wind)

**NON-PARK**

**PARK**



# Sound Level Comparisons

**Park Setting: Listen to the Southwest Desert**



# Sound Level Comparisons

**Non-Park Setting: Listen to the sounds of a city**



# NPS Resources Management

## NPS Noise Mitigation and Prevention



Park managers are working to develop and implement plans to minimize NPS intrusive noise generation. Changes in use will be considered for various areas of park operations: aviation, vehicles, maintenance equipment, sirens, generators, and other practices.

# NPS Resources Management

## MD-900 Explorer Quiet Technology Helicopter



**Grand Canyon National Park is reducing noise from NPS aviation use by flying an MD-900 Explorer NOTAR (No Tail Rotor) helicopter for park operations. In addition, area tour operators are joining NPS efforts to implement quiet technology and restore natural quiet.**

# NPS Resources Management

## Yosemite National Park

Planning is underway for a valley shuttle system to reduce congestion and restore natural areas.

Awahnee Meadow - present conditions

# NPS Resources Management

## Yosemite National Park

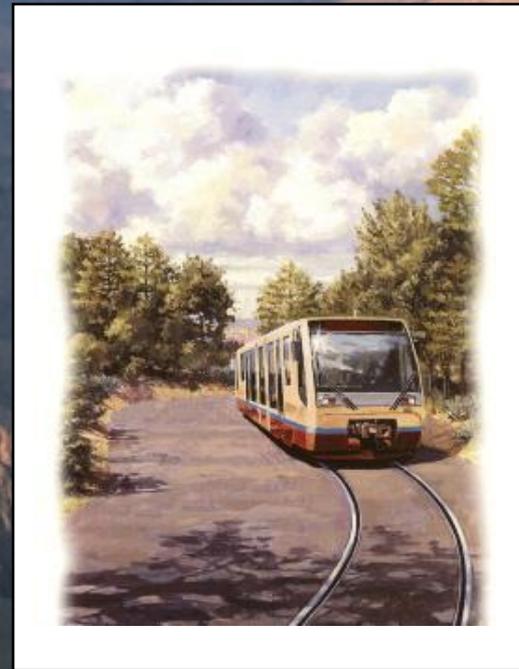
Awahnee Meadow - desired conditions

# NPS Resources Management

## Grand Canyon National Park

**A new light rail combined with an alternative fuel bus system will transport visitors to and within the South Rim.**

**Reduction of traffic and a better quality visitor experience will result.**



# NPS Resources Management

## Cooperation

Formed by the NPS and the Federal Aviation Administration, a National Parks Overflights Working Group addressed the problems associated specifically with impacts of commercial air tourism.

Comprised of aviation and environmental interests, the NPOWG recommended a process for addressing how commercial air tourism will be managed over individual national parks.

# NPS Resources Management

## Progress Report

Recommendations by the National Parks Overflights Working Group are being incorporated into the Federal Aviation Administration regulatory process. Recommendations by the group may also be implemented through legislation.

### Results Include:

- " Air Tour Management Plans for Individual Parks.
- " Improved Cooperation with the FAA.
- " Increased Opportunities for Public Input.
- " Increased Protection of Park Visitors & Resources.

# NPS Resources Management

## Progress Report

The NPS is working to manage where and when use of personal watercraft is appropriate in the parks. Public input has a key role in the planning process.

Results will include increased protection of park visitors and resources as well as better service to the public.



# NPS Sites and Sounds

## Stop and Listen

Complete park experiences feature sights *and* sounds.

Find a place to appreciate the sounds of nature on your next park visit and try to understand how your own presence affects natural sound environments.



# NPS Sites and Sounds

## Enjoy Quiet Campgrounds

Be aware of campground quiet hours provided in park information. Keep voices low and vehicle engines turned off to hear and enjoy the sounds of the natural world.



# NPS Sites and Sounds

## Watch Out for Wildlife

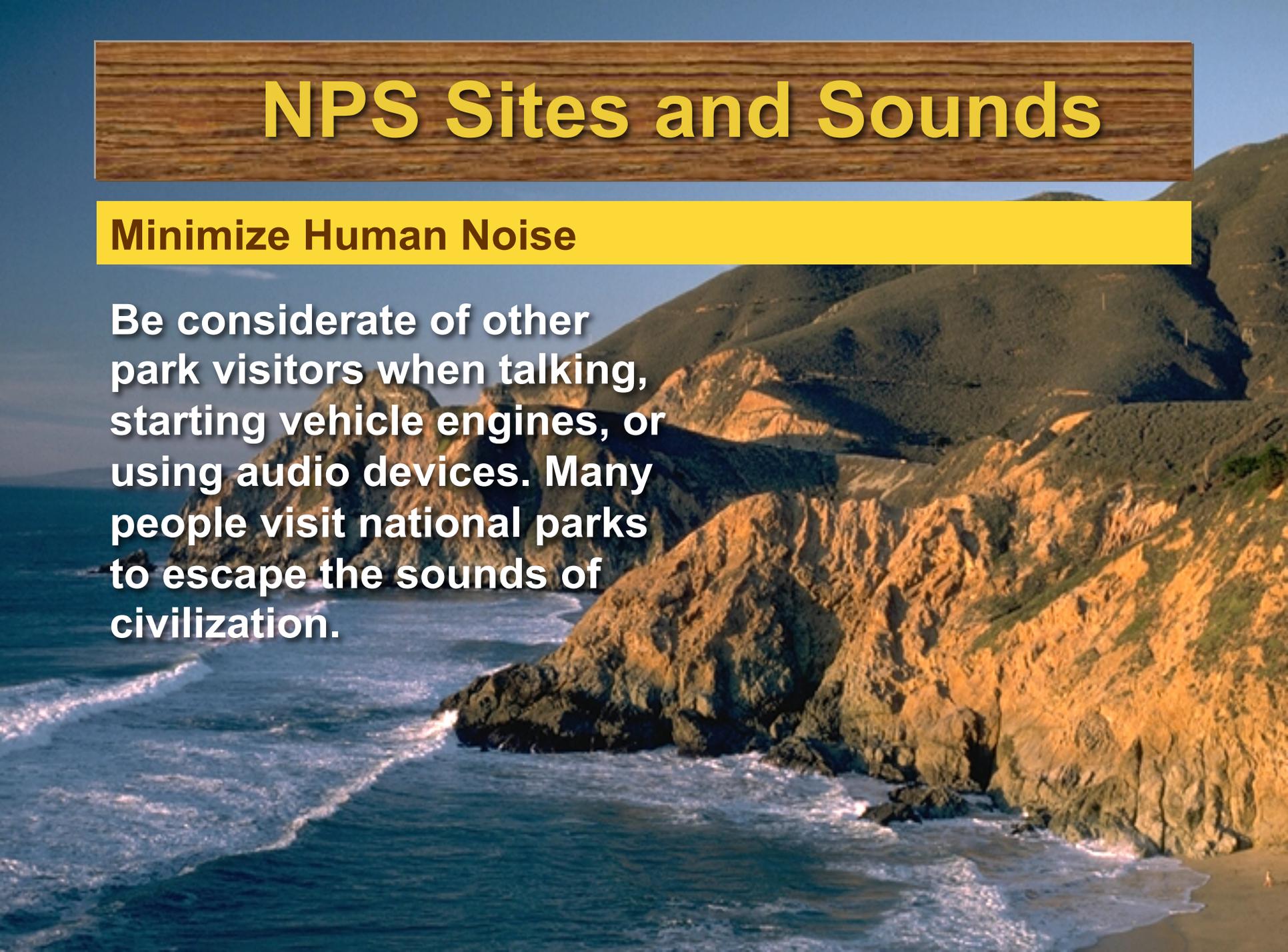
Speak quietly and turn vehicle engines off to observe wildlife. Human-made sounds can disrupt wildlife behavior.



# NPS Sites and Sounds

## Minimize Human Noise

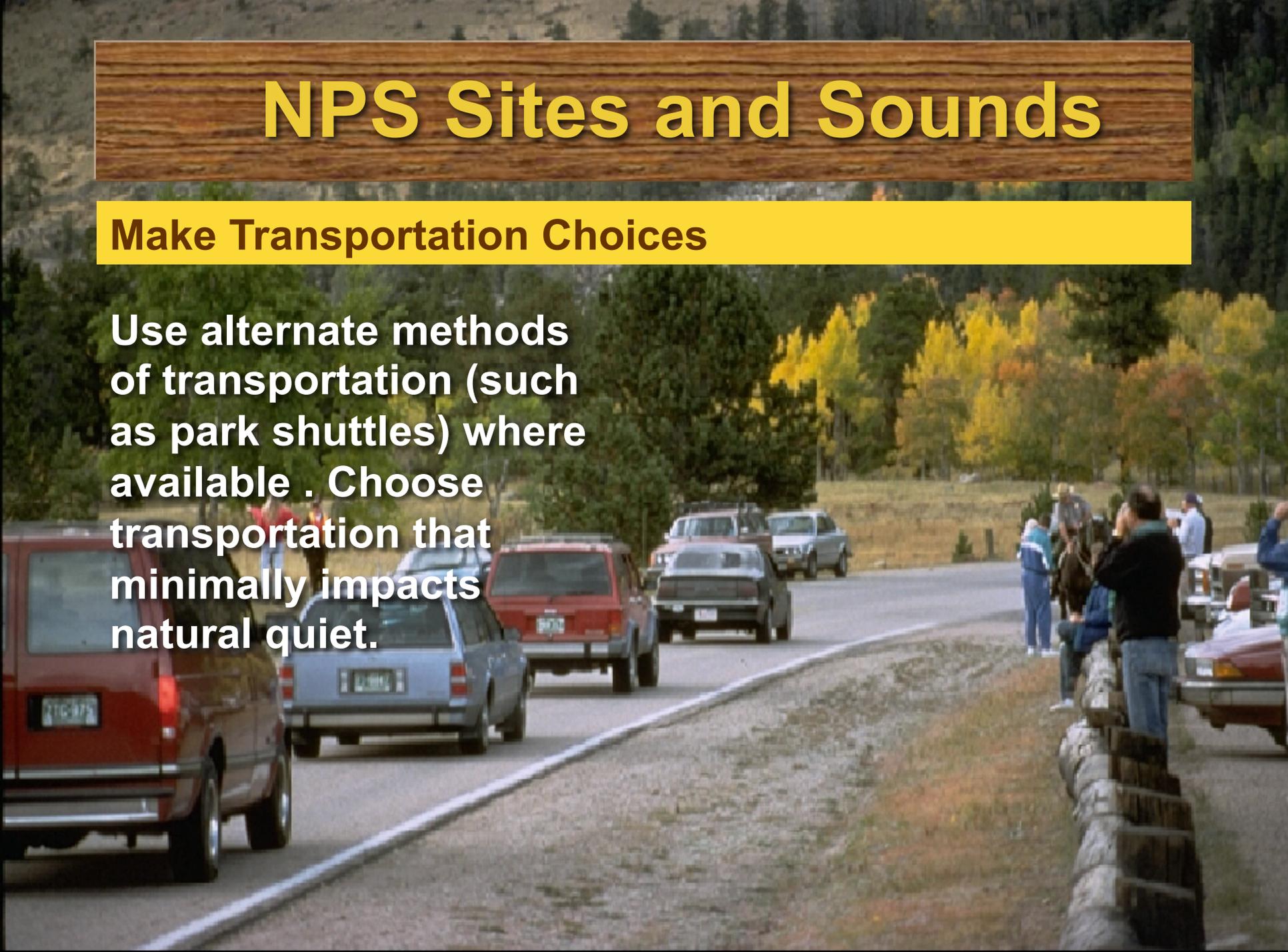
Be considerate of other park visitors when talking, starting vehicle engines, or using audio devices. Many people visit national parks to escape the sounds of civilization.



# NPS Sites and Sounds

## Make Transportation Choices

Use alternate methods of transportation (such as park shuttles) where available . Choose transportation that minimally impacts natural quiet.



# NPS Sites and Sounds

What will your next national park visit sound like?



# NPS Sites and Sounds

What will your next national park visit sound like?



# NPS Sites and Sounds

What will your next national park visit sound like?



# NPS Sites and Sounds

Discover a Heritage of Sounds in Any National Park

- " Biscayne National Park
- " Cape Cod National Seashore
- " Ford's Theater National Historic Site
- " Gettysburg National Memorial Park
- " Glacier Bay National Park
- " Hawaii Volcanoes National Park
- " Isle Royale National Park
- " Navajo National Monument
- " New Orleans Jazz National Historical Park
- " Padre Island National Seashore
- " Wolf Trap Farm Park for the Performing Arts



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# **The Nature of Sound**



**National Park Service, 1999**

**For further information contact:**

**NPS Ranger Activities Division  
Washington, D.C. 202-208-5211**

**or**

**NPS Intermountain Support Office  
Denver, Colorado 303-969-2274**

**Produced by Diane Liggett, NPS**

**Digital Sound Files provided with assistance from  
Justin Radford, NPS Harpers Ferry Center**

