

# Wilderness

## Air and Water Quality

The Wilderness Act established the National Wilderness Preservation System to *"...secure for the American people of present and future generations the benefits of an enduring resource of wilderness."*

While the benefits of wilderness are many, the value of clean air and water is a benefit evident to almost everyone across all lands. People, plants and animals rely on clean air and water, and wilderness areas are sources of clean air and water via the wild, undisturbed

systems that clean them naturally. As world populations increase, clean air and water will become more valuable to the nation and the world because increased human development often degrades air and water quality.



## Why Wilderness Is Important to Air and Water Quality

Wilderness areas are largely free from human development, disturbance, and manipulation, and as such they improve the quality of our air and water because undisturbed ecosystems protect some of the cleanest airsheds and watersheds in the nation. The streams and rivers flowing from wilderness provide natural filtration that makes air and water clean, a benefit that is found downstream in drinking water across the nation.

Reflecting the value of water from wilderness, a study conducted by the Internet Research Information Series found that, *"Over 90 percent of Americans said protection of air and water quality are very to extremely important values of Wilderness."* The results echo those of the 2000 National Survey on Recreation and the Environment, a study conducted by the Forest Service and the National Oceanic and Atmospheric Administration.

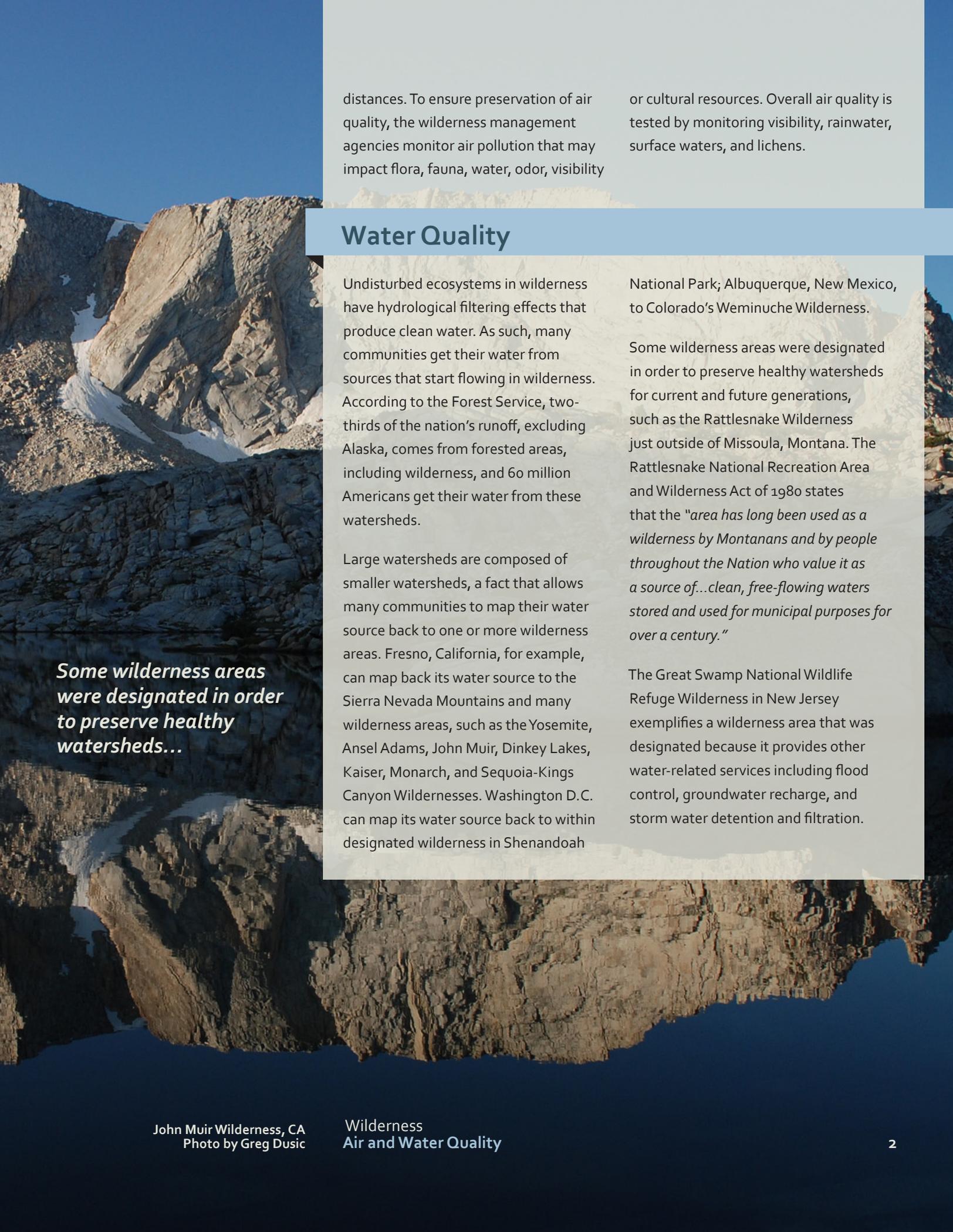
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## Air Quality

Many wilderness areas contain forests, which are known to cleanse the air. Forests clean and oxygenate the air as trees naturally intercept airborne particles, reduce heat, and absorb pollutants such as carbon monoxide, sulfur dioxide, and nitrogen dioxide. They reduce air pollution by lowering air temperature, through respiration, and by retaining particulates.

Just as the Wilderness Act protects wilderness areas, the Clean Air Act protects air quality values within wilderness areas. Wilderness areas in existence as of August 7, 1977 that are larger than 5,000 acres are protected under the Clean Air Act, a law that set a national visibility goal of no human-caused impairment. This is difficult, since most pollutants can travel great

Stikine-LeConte Wilderness, AK  
US Forest Service photo



distances. To ensure preservation of air quality, the wilderness management agencies monitor air pollution that may impact flora, fauna, water, odor, visibility

or cultural resources. Overall air quality is tested by monitoring visibility, rainwater, surface waters, and lichens.

## Water Quality

Undisturbed ecosystems in wilderness have hydrological filtering effects that produce clean water. As such, many communities get their water from sources that start flowing in wilderness. According to the Forest Service, two-thirds of the nation's runoff, excluding Alaska, comes from forested areas, including wilderness, and 60 million Americans get their water from these watersheds.

Large watersheds are composed of smaller watersheds, a fact that allows many communities to map their water source back to one or more wilderness areas. Fresno, California, for example, can map back its water source to the Sierra Nevada Mountains and many wilderness areas, such as the Yosemite, Ansel Adams, John Muir, Dinkey Lakes, Kaiser, Monarch, and Sequoia-Kings Canyon Wildernesses. Washington D.C. can map its water source back to within designated wilderness in Shenandoah

National Park; Albuquerque, New Mexico, to Colorado's Weminuche Wilderness.

Some wilderness areas were designated in order to preserve healthy watersheds for current and future generations, such as the Rattlesnake Wilderness just outside of Missoula, Montana. The Rattlesnake National Recreation Area and Wilderness Act of 1980 states that the *"area has long been used as a wilderness by Montanans and by people throughout the Nation who value it as a source of...clean, free-flowing waters stored and used for municipal purposes for over a century."*

The Great Swamp National Wildlife Refuge Wilderness in New Jersey exemplifies a wilderness area that was designated because it provides other water-related services including flood control, groundwater recharge, and storm water detention and filtration.

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