



*Treat the earth well:
it was not given to
you by your parents,
it was loaned to you
by your children.*

—ANCIENT PROVERB

More than 60 years of dirt and lichens were cleaned from Mount Rushmore National Memorial in 2005. Only hot water (without any chemical additives) was applied to the granite surfaces using gas-powered high-pressure sprayers. PHOTO ©KÄRCHER COMPANY

Environmental Sense

Environmentally responsible green cleaning practices help protect park resources by reducing or eliminating the release of harmful chemical pollutants into the environment. Traditional cleaning products may contain chemicals that affect natural habitats, historic structures, and artifacts. Cleaning chemicals may also include hazardous or flammable materials that threaten health and safety.

Green cleaning in the national parks requires using fewer and safer cleaners and more energy-efficient maintenance equipment. Such environmental leadership works to ensure successful stewardship of the nation's most important natural and cultural resources for future generations.



Proper training leads to successful green cleaning.

Green Cleaning

National Park Service
U.S. Department of the Interior



Environmental
Leadership Program



Yellowstone National Park

In 1999 Yellowstone National Park initiated an environmentally friendly janitorial program to provide greater protection to park resources. Park staff worked with professional consultants to implement a variety of green maintenance activities, including increasing the use of environmentally preferable cleaning products. The original goals of the project were met or exceeded, including the significant reduction or elimination of toxic or environmentally harmful cleaning chemicals. The key to success was consolidating and standardizing bulk purchases to reduce the quantity and variety of cleaning products while dispensing the safest and greenest products with proven commercial records. Custodial staff, supervisors, and top management received training to help reduce the number of cleaning products used by 80 percent. Yellowstone's achievements were complemented by similar efforts at nearby Grand Teton National Park and have inspired green cleaning programs in at least 40 other parks.

ABOVE PHOTO © ELLIS-SAWYER/FINLEY-HOLIDAY FILMS



Building Awareness

Park cleaning programs require careful consideration of people as well as resources. National parks include many different types of buildings and facilities—visitor centers, offices, restrooms, lodging, and gift shops—that must be cleaned regularly. Various commercial and consumer cleaners are used to accomplish this task; however, common cleaning products contain chemicals that, depending on concentration and exposure, may be harmful to staff and visitors.

Just the Facts

Each year routine cleaning and maintenance of institutional and commercial properties in the United States (excluding homes and industrial plants) use approximately the following:

- 6 billion pounds of cleaning chemicals mostly derived from valuable, but limited, natural resources such as petroleum.
- 4.5 billion pounds of janitorial paper products including toilet paper, paper hand towels, and napkins, requiring the cutting of approximately 35 million trees.
- 500 million pounds of janitorial equipment including vacuum cleaners and floor machines that consume natural resources during their manufacture and fill approximately 10,000 truck loads of garbage deposited in landfills.

The Resources Recovery and Conservation Act requires federal agencies to purchase recycled-content products such as paper towels, tissue, and trash bags. Designated janitorial products are listed in the Comprehensive Procurement Guidelines published by the U.S. Environmental Protection Agency at www.epa.gov/cpg.

Working with park concessioners and the public, the National Park Service commitment to green cleaning practices further reduces consumption of limited natural resources and decreases the burden on landfills nationwide.

Find Out More

- Green Seal: www.greenseal.org
- Janitorial Products Pollution Prevention Project: www.wrppn.org/Janitorial/jp4.cfm
- National Institutes of Health and National Library of Medicine, Household Products Database: householdproducts.nlm.nih.gov
- U.S. Environmental Protection Agency: www.epa.gov/epp/pubs/cleaning.pdf; Comprehensive Procurement Guidelines: www.epa.gov/cpg; Design for the Environment: www.epa.gov/dfe; and Environmentally Preferable Purchasing: www.epa.gov/epp

This publication was produced by Green Seal, Inc., under a grant from the National Park Foundation made possible by Hillyard Industries, Inc., and Wausau Paper Corporation.

Green Paths to Healthier Environments

Everyone can make simple changes—both at home and at work—to eliminate or reduce cleaning practices that are harmful to the environment and human health.

Actions for National Park Service Staff
Green cleaning programs start with inventorying and prioritizing janitorial products. Each new or existing product should be evaluated for its specific purpose and its effects on employees, visitors, and the environment. Custodial staff should be properly trained and equipped. Hands-on cleaning demonstrations, along with appropriate dispensing systems, tools, and manuals are necessary to implement environmentally preferable janitorial practices. Employees must understand how products work, how often to clean, how to measure properly and safely, and how to apply different techniques to improve the performance of cleaning products.

To reduce or eliminate the release of toxic substances into the environment, park personnel can purchase and use environmentally preferable and biobased products. Verify the ingredients in products that claim to be "green." For example, biobased products that include citrus ingredients may offer nontoxic cleaning solutions; however, some products contain citrus only to conceal potentially harmful chemicals. Suggestions for sustainable alternatives are available through the U.S. Environmental Protection Agency's Design for the Environment Program or Green Seal, an environmental certification organization. Many green cleaning products are available through the U.S. General Services Administration at www.gsa.gov.

National parks can also help reduce the unnecessary consumption of natural resources, especially in the manufacture of cleaning and sanitary products, by reducing waste and purchasing environmentally preferable products. Park staff can participate with these simple steps:

- Encourage recycling. Use janitorial paper products with post-consumer recycled content. Buy products with reduced packaging made from recycled materials that can be recycled again.
- Install paper towel dispensers that minimize waste.
- Use energy-efficient hand dryers.

Park staff can also develop effective cleaning plans and strategies to improve the capture of contaminants (i.e., use entry mats, micro-fiber dust cloths, and high-filtration

vacuums). Eliminating build-ups of bacteria-laden dust and dirt within interior building environments may reduce respiratory and other illnesses among occupants.

Interior and exterior building pollution can result from incorrectly dispensed products and the absence of simple, low-cost practices that reduce dirt. Park staff can practice pollution prevention and source control by using appropriate dispensing equipment to dilute concentrated cleaners with accuracy and by using proper amounts of disinfectants and sterilizers—only where they are needed.

Park Visitors Can Make a Difference

Recycling, along with proper disposal of food wastes and trash, can reduce litter and pest problems in the parks. Using appropriate receptacles for waste can reduce garbage sent to landfills while protecting wildlife that may be attracted to food and trash.

Park visitors can extend their concern for the environment by examining household cleaning products. It is not difficult to replace hazardous cleaning products with safe, biodegradable cleaners and degreasers. When purchasing products, consumers should read labels carefully and use products according to manufacturers' directions. Purchasers should buy only what is needed and avoid products using signal words such as "Danger," "Poisonous," "Corrosive," or "Flammable," or whose warning labels identify the product as a respiratory irritant or other health hazards. These homemade cleaners offer inexpensive and effective alternatives:

- Vinegar is a proven natural cleaner, disinfectant, and deodorizer.
- Lemon juice works to dissolve soap residue and hard water deposits.
- Baking soda can be used as an abrasive cleaner to scrub surfaces or as a deodorizer.

More Easy Green Cleaning Tips

- Use entrance mats at all exterior doorways and remove shoes to reduce the amount of dirt, pesticides, and other soils indoors.
- Reduce clutter. Cleaning can be done more quickly where less dirt can accumulate.
- Fix water leaks and moisture problems to prevent mold.
- Minimize pesticides. Fight pests by keeping buildings clean, eliminating food and water sources, dusting regularly, and sealing torn screens and cracks in foundations. Try traps, adhesives, or the least-toxic pest-specific products.
- Regularly wash linens including blankets and mattress and pillow covers where millions of dust mites may live.