

RESOURCES & ENVIRONMENT

*A Pall Over
the Parks*

"The Plight of the Parklands" by Gundars Rudzitis and Jeffrey Schwartz, in *Environment* (Oct. 1982), 4000 Albemarle St. N.W., Washington, D.C. 20016.

The sizable energy and mineral resources of federal parklands make tempting targets for developers. But Rudzitis and Schwartz, geographer and graduate student, respectively, at the University of Texas, warn that if development proceeds, as urged by the Reagan administration, the resulting air pollution alone would hasten the already serious deterioration of the parks' beauty.

Public lands account for 34 percent of U.S. surface area. Under the surface may be up to 37 percent of the nation's potential oil resources, 43 percent of its potential natural gas, and 80 percent of its recoverable oil shale reserves. Although one-third of all federally owned land is available for development, only 12.5 percent had been leased out by 1980, accounting for about seven percent of U.S. oil and gas output.

The parks are already suffering. The number of park visitors, most of them arriving by auto, rose 75 percent during the 1970s, to 295 million a year. New factories and power plants have been built closer to park borders. A 1979 National Park Service survey of the 63 largest parks showed that more than 45 percent were experiencing deteriorating air quality and 60 percent faced threats to their scenic beauty. In the "Golden Circle" of National Parks—including the Grand Canyon—in Nevada, Utah, Colorado, New Mexico, and Arizona, average visibility has dropped from 60 miles to 40 since 1974.

Congress extended special protection to large national parks under the 1977 Clean Air Act Amendments, barring any nearby industrial project that might seriously erode air quality within their borders. But because of political opposition and the technical difficulties of setting standards, the law has not been fully implemented.

The only other way to protect the parklands, the authors contend, is by buying up costly "buffer zones" of 60 to 125 miles around them. Yet Interior Secretary James Watt cut an annual \$200 million land acquisition appropriation from his budget in 1981. He called instead for upgrading existing holdings. That, the authors say, will be hard to do while Washington is also opening more federal lands to developers.

*A Water Crisis
in the Future?*

"Water Resources in Food and Energy Production" by David Pimentel, Sarah Fast, Wei Liang Chao, Ellen Stuart, Joanne Dintzis, Gail Einbinder, William Schlappi, David Andow, and Kathryn Broderick, in *BioScience* (Dec. 1982), 1401 Wilson Blvd., Arlington, Va. 22209.

While the energy crisis occupied center stage during most of the 1970s, other U.S. natural resources received scant attention. According to

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these nine Cornell specialists, state and federal policy-makers will soon have to make hard decisions about how fresh water is to be allocated in the United States.

While an individual drinks only 1.8 to 2.7 quarts of water per day, industry and agriculture boost daily U.S. water use to 1,900 gallons per capita. About 62 percent of fresh water used each day comes from reservoirs and other surface sources, 20 percent is pumped from underground, and the rest is desalinated. About 77 percent of the water withdrawn is eventually recycled; the other 79 billion gallons per day are "consumed." Of that amount, only some 63 billion gallons are replenished by rainfall, the authors estimate, leaving a 16 billion gallon per day "deficit."

Industry's demand for water is high—manufacturing a single glass bottle requires up to 660 gallons—but it returns most of what it uses. Farm irrigation accounts for 83 percent of the water consumed, most of it lost through seepage or evaporation. Seventeen western states account for 93 percent of the irrigation water used. Because surface water is scarce in these states, they rely heavily on underground water, which is naturally replenished at a rate of less than one percent annually. The continental United States now pumps 25 percent more water from underground than can be replaced.

Water shortages in the west could grow far more acute by the end of the century. Farm production is expected to grow by 30 percent, agriculture's water consumption by 17 percent. And if large-scale synthetic fuel production, a heavy water user, begins soon, total U.S. consumption could increase by up to 64 percent. Moreover, western farmers (and farm products) would suffer in the battle for scarce water: \$1 of water yields \$5 of corn, but \$250 of synthetic fuel.

Fresh water can no longer be taken for granted, the authors warn. A national water policy is needed before the taps in the west run dry.

ARTS & LETTERS

Portraying the Handicapped

"Pity and Fear: Images of the Disabled in Literature and the Popular Arts" by Leslie A. Fiedler, in *Salmagundi* (Summer 1982), Skidmore College, Saratoga Springs, N.Y. 12866.

A spate of popular plays and movies, such as Broadway's *The Elephant Man* and Hollywood's *Coming Home*, has put the handicapped in the spotlight. The effect, says Fiedler, a literary critic at the State University of New York at Buffalo, has not been entirely beneficial.

Up to the time of Shakespeare, the disabled were the butt of jokes. In Greek mythology, the god Haiphaistos, lame and a cuckold, was an object of ridicule on Mount Olympus. In *Richard III*, however, Shake-