Near Deming, New Mexico, after the group left Big Bend National Park in Texas, an on-coming car blew a tire and crashed head-on into the car that Roger Toll and George Wright were riding in. They were both killed.

George was an unusually effective champion of his cause—idealistic, hard working, highly sociable, keenly perceptive of other people, always generous, and unconcerned with personal status. At his death, Harlean James said, "I have never known a person of 31 who had as mature judgment as he had."

ARE THE NATIONAL PARKS IN PERIL?

By Roland H. Wauer

Editor's Note: On July 20, 1981, Roland H. Wauer, Chief of the Division of Natural Resources Management, U. S. National Park Service, Washington, gave a paper at the 10th Annual Southwest Studies Summer Institute in Colorado Springs. The entire paper is well worth reading and can be obtained from Wauer, NPS, Department of the Interior, Washington, D. C. 20240. Excerpts from the important historical section and the findings are here presented. The conclusions literally bristle with implications for science and education in parks and reserves—most especially for the need to start closing the gap between knowledge and public understanding, in the urgent interests of perpetuating our natural and cultural integrity.

The 10th General Assembly of IUCN meeting in New Delhi in 1969 resolved that all governments and local and private organizations should agree to reserve the term "national park" to areas possessing specific characteristics. This resolution was endorsed by the Second World Conference on National Parks in 1972. The importance of national parks and equivalent reserves in the fields of international conservation, research, education, recreation and economic development is increasingly evident. Today, 100 of the world's 170 nations have national parks.

Ironically, the popularity of national parks is often its greatest threat. Overuse causes damage and serious problems. Yet modern societies unquestionably need such areas for their mental well-being. An even more insidious impact comes from adjacent land uses--lands that once served as buffers to park resources.

The average park visitor however, is not likely to be aware of the downward trends in park ecosystems. To the untrained eye, only catastrophic changes are evident.

Threats to America's national parks have concerned farsighted conservationists for more than half a century. The loss of the Hetch Hetchy Valley in 1913 to provide water for San Francisco was perhaps the first significant loss. Out of that defeat emerged a more unified and determined park protection philosophy, and the National Park Service Act of 1916 seemed to solidify a park preservation commitment for all Americans.

The mid-1920's saw preservationists react to an effort by farmers and ranchers to usurp Yellowstone Lake for irrigation by extending park status to the Teton Mountains south of Yellowstone. In 1929, Grand Teton National Park was established as a "roadless" preserve.

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In 1933, the need for broader management considerations was set forth in the precedent-setting NPS report *Fauna of the National Parks of the United States.* Authors George Wright, Ben Thompson and Joseph Dixon stated:

> *The realization is coming that perhaps our greatest natural heritage, rather than just scenic features, is nature itself, with all its complexity and its abundance of life.*

The following year Congress authorized Forida's Everglades as the first park expressly designated for wilderness and wildlife protection. Because the reserve failed to include the entire ecosystem, it was vulnerable from the start.

Robert Sterling Yard wrote in 1922: "While we are fighting for protection of the National Park System from its enemies, we may also have to protect it from its friends." No statement was to prove more prophetic or enduring.

In June 1955, *U. S. News and World Report* headlined: "This summer 19 million Americans will visit parks that are equipped to handle only 9 million people. Results: Parks overrun like convention cities. Scenery viewed from bumper-to-bumper traffic tie-ups. Vacationing families sleeping in their cars."

In the sixth edition (1969) of Devereux Butcher's *Exploring Our National Parks and Monuments,* a new chapter—*"Threat After Threat"*—was added, including sections on "dam building," "road building," "increasing misuse of the parks," "national parks in name only," "architecture gone wild," and "menaces of inholdings." He stated:

> *Preservation of our natural sanctuaries offers a challenge to thinking people everywhere. If we are to prevent commercial raids on the national parks and monuments, such as airplane landing fields and chair lifts which would destroy the primeval landscapes and the wilderness solitude; if we are to keep them free from artificial amusements, which have no rightful place in nature sanctuaries but defeat their purpose; if we are to uphold the national policy and the standards in order to prevent the deterioration of the national park and monument system to the common level of playgrounds and commercialized resorts—to prevent, in fact, the loss of this proud American heritage—then informed Americans must unite in increasing numbers and stand ready to defend the parks and monuments in every emergency.*

In 1979, the National Parks and Conservation Association (NPCA) published results of their survey of 203 parks. "Unless all levels of government mount a concerted effort to deal with adjacent land problems in a coordinated manner," they found, "the National Park Service mandate...will be completely undermined."

In July 1979, Congressmen Phillip Burton and Keith Sebelius requested the NPS Director to prepare a State of the Parks Report:

> *We do not have in mind [such factors as] insufficient funding, personnel and equipment, local concessions operational problems, maintenance inadequacies, and other essential internal management considerations....What we have in mind is factors such as increasing air and water pollution, encroaching development, troublesome visitor use pressures, adverse adjacent resource uses, exotic plant and/or animal intrusions, legally on-going or rights to exercise incompatible uses within the park, and the like.*

In December 1979, the Conservation Foundation's Issue Report, "Federal Resource Lands and Their Neighbors," summarized responses to their questionnaires from a variety of Federal land managers. The conclusion: Adjacent land development was the principal threat.

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Meanwhile, the data from 301 park units were tabulated and written up as *State of the Parks—1980,* and submitted to Burton and Sebelius on May 6, 1980. The Report focused attention as never before on the resources and reminded the Service of its primary mandates. It provides today the very best hook available for rallying the kind of strength needed to initiate, at last, a resources management program capable of dealing with the ever-increasing spiral of threats.

The great natural area parks showed in the report as being under particularly severe attack. Most of these areas at one time were pristine wildernesses, surrounded and protected by equally vast wild areas. Today, with the buffer zones badly eroded, the 63 national parks with greater than 30,000 acre areas report an average number of threats nearly double the Servicewide norm. Surprisingly, the 12 Biosphere Reserve Parks, dedicated to longterm ecosystem monitoring, report an average nearly three times the threat norm for the System as a whole.

Although aesthetic degradation accounted for 25 percent of all threats reported, such objectively determined threats as air pollution [16%], physical removal of resources [14%], exotic encroachment [14%], visitor physical impacts [12%], and water quality pollution or changes [11%], were of special concern. Most frequently reported internal threats were associated with heavy visitor use—park utility access corridors, vehicle noise, soil erosion, and exotic plant and animal introductions.

Some of the more serious threats related to sources at considerable distance. Farm, ranch, urban housing and industrial encroachments make themselves felt directly and indirectly, through air and water that arrives in the park in degraded form. Often these degraded deliveries result in adverse chain reactions affecting the vegetation and the fauna.

Almost smothered in the mere listing of threats from mining, urban development, power plants, construction, spills, leaks, and dumps of various kinds, is the essence of the threatened resources themselves...the natural and cultural features that the national parks were created to protect and preserve. Forty-nine resource groups were identified and aggregated into five categories: biological [32%]; physical [24%]; aesthetic [20%]; cultural [16%]; and operational [8%]. Some of the most significant threatened resources, like coral reefs and mangrove habitats, hardly figure at all in such a generalized compilation. Their importance lies in their uniqueness, and care must be taken to place appropriate weight on their slim statistics.

Of all the reported threats, 75 percent were classified by onsite observers as **inadequately documented by research or other valid methods.** Threats associated with air and water pollution and visitor related activities were cited as needing additional monitoring, scientific measurements or research documentation. The paucity of information about park ecosystems relates not only to resource conditions and the status of impinging internal and external activities, but also to the baseline information available for planning and decision-making.

Very few park units possess sufficient natural and cultural resource information to permit identification of incremental changes that may be caused by a threat. Priorities assigned to the development of sound resource information baselines have been very low compared to the priorities assigned to meeting construction and maintenance needs. Very simply stated, preservation of the resource has been unsuccessful in competing for the appropriation dollar.