



# United States Department of the Interior

## NATIONAL PARK SERVICE

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IN REPLY REFER TO

K5417 (DSC-M)

### Memorandum

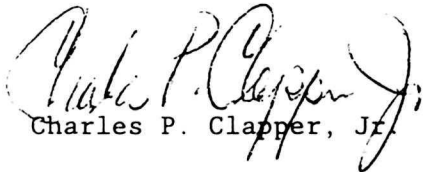
To: National Leadership Council; WASO Directorate; Superintendents; Managers, Division and Office Chiefs, Denver Service Center

From: Assistant Director, Design and Construction, Denver Service Center Operations

Subject: Article by Elizabeth Koreman on Sustainable Design and the National Park Service

Attached is an article written by Denver Service Center landscape architect, Elizabeth Koreman. The article addresses key issues related to our approach to park preservation and development. Ms. Koreman presented this paper at the annual American Society of Landscape Architects meeting in San Antonio, Texas in October 1994.

With all of the changes a part of our business these days, the article may prove an interesting point of discussion. Ms. Koreman uses Shenandoah National Park as an example of a park choosing to move in the direction of a sustainable park.



Charles P. Clapper, Jr.

Attachment

## DEVELOPING AN ECOLOGICAL AESTHETIC AT THE NATIONAL PARK SERVICE

Elizabeth Koreman  
National Park Service

"At the time of Lewis and Clark, setting the prairie on fire was a well-known signal that meant, 'Come down to the water.' It was an extravagant gesture, but we can't do less. If the landscape reveals one certainty, it is that extravagant gesture is the very stuff of creation. After the one extravagant gesture of creation in the first place, the universe has continued to deal exclusively in extravagances, flinging intricacies and colossi down aeons of emptiness, heaping profusions on profligacies with ever-fresh vigor. The whole show has been on fire from the word go." Annie Dillard, *Pilgrim at Tinker Creek*.

Our National Parks, as we know them today, came to be through a series of grand and visionary gestures: first, the creation of the service; second, park development during the New Deal; and, third, modernization effort of the late 1950s and early 1960s, known as the Mission 66. Landscape architects were integrally involved in each of those efforts, and as National Park Service (NPS) designers find the voice and courage to begin to once again influence the way the parks are developed, fundamental questions are being asked relating to the nature, necessity and sustainability of development within the National Parks.

The sustainable design movement has the potential to become the next grand gesture that will forever change our parks. A succinct definition for sustainability is difficult to find. The National Park Service relies on a compendium of principles. I prefer William McDonough's poetic description of the concept:

*"If we understand that design leads to the manifestation of human intention, and if what we make with our hands is to be sacred and honor the earth that gives us life, then the things that we make must not only rise from the ground but return to it, soil to soil, water to water, so everything that is received from the earth can be freely given back without causing harm to any living system."*<sup>1</sup>

It follows that sustainability can be thought of as an integrated understanding of place, ecology and human processes.

The 1916 Organic Act, which guides the National Park Service, states:

*"the purpose [of the National Park Service] is to conserve the scenery and the natural and historic objects and wild life therein and to provide for the enjoyment of the same in such manner as by such means and will leave them unimpaired for the enjoyment of future generations."* (16 USC 1:1916).

The contemporary interpretation of the act within the agency focuses on public enjoyment of its resources today, initiating actions that degrade park environments, and leave them seriously compromised for the future. Development of park facilities to meet contemporary visitor needs usually supersedes considerations of preserving natural processes.

This tradition is firmly rooted in the development aesthetic which took form in post-World War II America. Development of park facilities to meet visitor needs became the primary goal of the service. These development ideals impede change and the formation of an ecological aesthetic. The most serious consequence of this mindset is that science is ignored, and an understanding of natural processes is not brought to management and design discussions. Sustainability is used in the Park Service as an overlay on projects that in their very nature are not sustainable.

Frederick Law Olmsted, Jr. is credited with the writing of the Organic Act.<sup>2</sup> Olmsted clarified his thoughts on the future of National Parks in a talk given to the American Civic Association in 1921, saying:

*The National Parks are set apart primarily in order to preserve for the people for all time the opportunity of peculiar kinds of enjoyment and recreation, not measurable in economic terms and to be obtained only from the remarkable scenery which they contain -- scenery of those primeval types which are in most parts of the world rapidly vanishing for all eternity before the increased thoroughness of the economic use of land. In the National Parks direct economic returns, if any, are properly the*

*by-products; and even rapidity and efficiency in making them accessible to the people, though of great importance, are wholly secondary to the one dominant purpose of preserving essential esthetics qualities of their scenery unimpaired as a heritage to the infinite numbers of the generations to come.*<sup>2</sup>

In that brief statement, Olmsted twice mentions preservation of parks for all time, making it clear that the landscape architects and conservationists, such as John Muir, who were instrumental in the creation and early development of the National Park Service, had set their eyes on a very distant future. Olmsted makes it clear, in language foreign to our ears today, that natural processes were to be understood and preserved. He clearly states that the preservation and long-term stability of these precious places should be the paramount concern of those entrusted with their management.

Contrary to the provisions of the Organic Act, the parks have been viewed in a very Victorian sense, as islands, preserves away from the mainstream, intended to protect the curiosities of nature, and treated as outdoor extensions of the great Victorian museums of natural history. Despite the ecological rhetoric of recent years the old ideas of man's dominion over nature still prevail. For seventy-six years the Park Service has continued to subject nature to the convenience of man. The comfort and enjoyment of the visitor is the ultimate goal, making development the driving imperative.

In the early years the National Park system grew slowly, and development was limited in scale and concentration. The park designers sought to subordinate development to the environment, and often succeeded in making buildings accessory to nature, drawing on 19th century informal and naturalistic practices to develop the rustic style.<sup>2</sup> The massive public works initiatives of the Depression brought large scale development into the system for the first time. The service had prepared master plans for most park units, making it a ready recipient of funds from the Public Works Administration. Buildings, roads and trails were built throughout the system by the Civilian Conservation Corps (CCC).<sup>3</sup> The CCC work is simple and blends into the environment. Generally it was constructed with local materials such as wood and stone, often quarried within the parks, and was built primarily with hand tools. This limited both the scale of park structures and the environmental disturbance related to the building process. The work was supervised by landscape architects, and local experienced men were included in the projects. This brought a local style and vernacular craftsmanship to each individual project. However, the effort was not without its detractors.

Many in conservation circles were horrified by new roads going into national parks and forests.<sup>4</sup> The advent of World War II ended the CCC work in the parks, and many parks were closed for the duration.

By 1955 the post-war boom brought park visitation levels to double what had been projected. The hiatus of park development during the war years had left the service with outdated and inefficient facilities that were badly in need of repair. A ten-year program to upgrade NPS facilities, called "Mission 66," was begun. It had lofty goals of modernization and increased efficiency in parks, but in my observation it accomplished three negative things: 1) focused park management on meeting current and perceived visitor needs, rather than conservation; 2) standardized park structures; and 3) re-oriented the parks for the automobile through the construction of roads, parking lots, gas stations, motels and restaurants. The Mission 66 designers developed standard house, comfort station, picnic shelter and entrance station designs that are found throughout the system today. Unfortunately, these designs do not reflect the context of the individual parks. Therefore houses in Shenandoah National Park in Virginia are virtually identical to houses found at Zion National Park in the desert of southwest Utah. Although the Mission 66 was the last major construction effort, park development has nonetheless continued.

The question of what a sustainable park looks like remains to be answered and Shenandoah National Park (NP) is offered as an example of a park that is beginning to move in that direction. During the 1920s it became clear that the National Parks needed political support from the large numbers of people living in the east, and the Park Service received authorization from congress to create an Appalachian mountain park. Shenandoah NP was established in 1935 to provide a natural area for the people living in the major population centers of the East. Unlike the western wild areas of the Yosemite Valley, the Grand Canyon and Yellowstone, the 198,000-acre plot of land that was to become Shenandoah NP was not a pristine wilderness. It was marginal agricultural land that had been depleted from overuse and erosion, aggravated by a short growing season and harsh winter conditions on top of the ridge.<sup>5</sup>

The Appalachian states, attracted by the allure of a National Park, scrambled to get donation proposals together and Virginia's was accepted. There was, and is now, no authorization for the purchase of land. The Commonwealth of Virginia, however, bought the park from 1,000 families who held title to lands within the proposed boundary, and another 4,000 squatter families were evicted. Their settlements were burned or

demolished or neglected into rubble. Trees reclaimed the roads, the gardens, the fields and the pastures. The cultural features were razed and the cultural landscape lost. Today, to the untrained eye, the forests of Shenandoah NP seem pristine. The park is a symbol of environmental hope; it came into the system as a typical Appalachian patchwork of fields, pastures and woodlots, cut by roads and fences, and dotted with farm buildings, settlements and churches. The wood lots have matured into forests, the trees have enclosed the settlement sites and the overworked fields have become black locust stands within the forest complex.

Most of the existing housing, offices, and maintenance facilities in the park were built before World War II. Some facilities have historic and cultural significance, but many are merely old and in need of major repairs or replacement. Over twenty years ago, 32 used trailers were brought into the park as temporary housing and office space. The trailers are still in use, but they are impossible to heat in winter and rodents infest them in summer. As the size of the staff and their responsibilities have grown at Shenandoah, the facilities have not kept pace. Like all of American society, NPS employees and their families have changed since most of the housing in the park was built. Dual careers, child care, demands for privacy, and home equity all influence the decisions full-

time park employees must make regarding housing. To understand these issues, a survey of employees living in government quarters was conducted in 1992. All of the full-time employees at Shenandoah who responded to the survey wanted to move out of required park housing.

Shenandoah NP has been living with these problems for 20 years, constantly doing more with less, patiently waiting to rise high enough in the NPS funding schedule to receive development funds. The park has a 1983 General Management Plan (GMP) that called for major development of the ridge line within the park. It called for upgrading all facilities within the park and adding 76 new housing units within the park. (see illustration 1). The opportunity to re-examine the GMP arose in 1991, and the park looked for new solutions. The planning team responded by asking fundamental questions, such as; why do we have housing in parks, and what should this place look like? That effort resulted in a Facility Development Plan and Environmental Impact Statement that will amend the existing GMP. The facility development plan assessed the park's needs and provided alternatives for enabling the staff to fulfill their responsibilities. The goals are to provide parkwide facilities without further degrading the fragile environmental core of the park, and to meet park operational needs

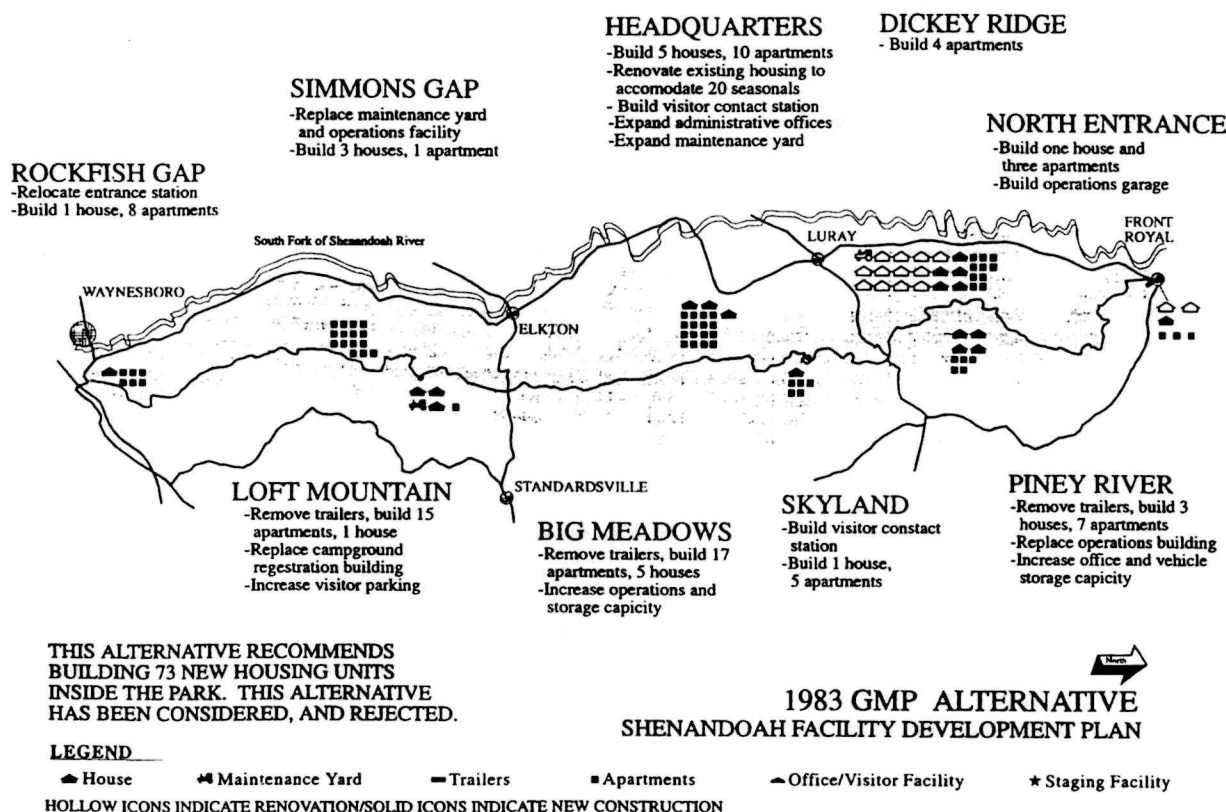
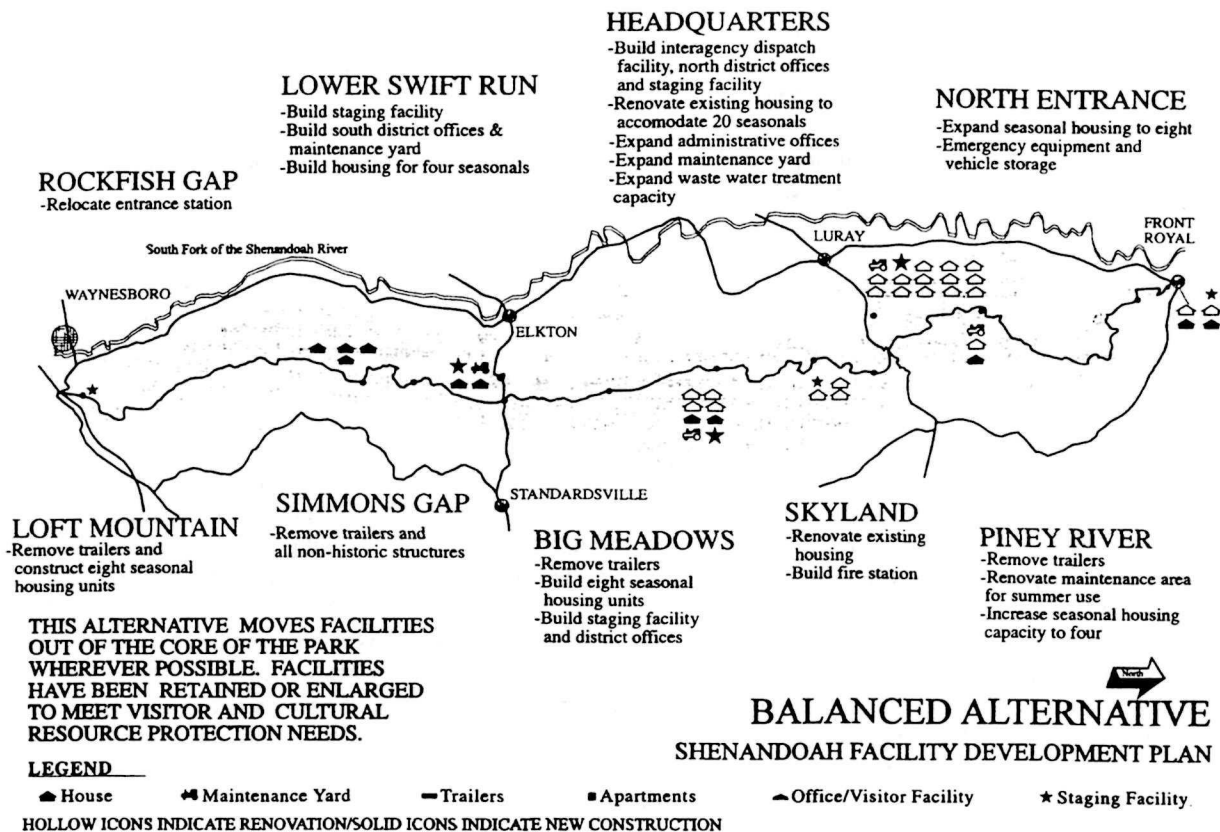


Illustration 1 - GMP ALTERNATIVE

In 1983, general management plan called for placing new housing in both new and exciting developed areas to accommodate park staff. These levels of development are no longer considered feasible, and the comparison between the 1983 proposal and current proposal illustrates the development of National Park Service thinking regarding development in parks.



#### ILLUSTRATION 2- BALANCED ALTERNATIVE

The balanced alternative is presented in the 1994 Draft Facility Development Plan and Environmental Impact Statement. Housing needs vary greatly throughout the park. This alternative groups housing in areas according to need without reliance on the park's traditional operational districts. Emergency response would be adapted seasonally. The park would begin the transition to staging facilities and 24-hour shifts as soon as funds for compensation become available. Some law enforcement rangers would still have required occupancy positions, while others would live outside the park.

through cost-effective means. The term *facility* indicates non-public areas and structures used by park staff; maintenance yards, district offices, and employee housing, but not campgrounds, visitor centers, or concessions operations.

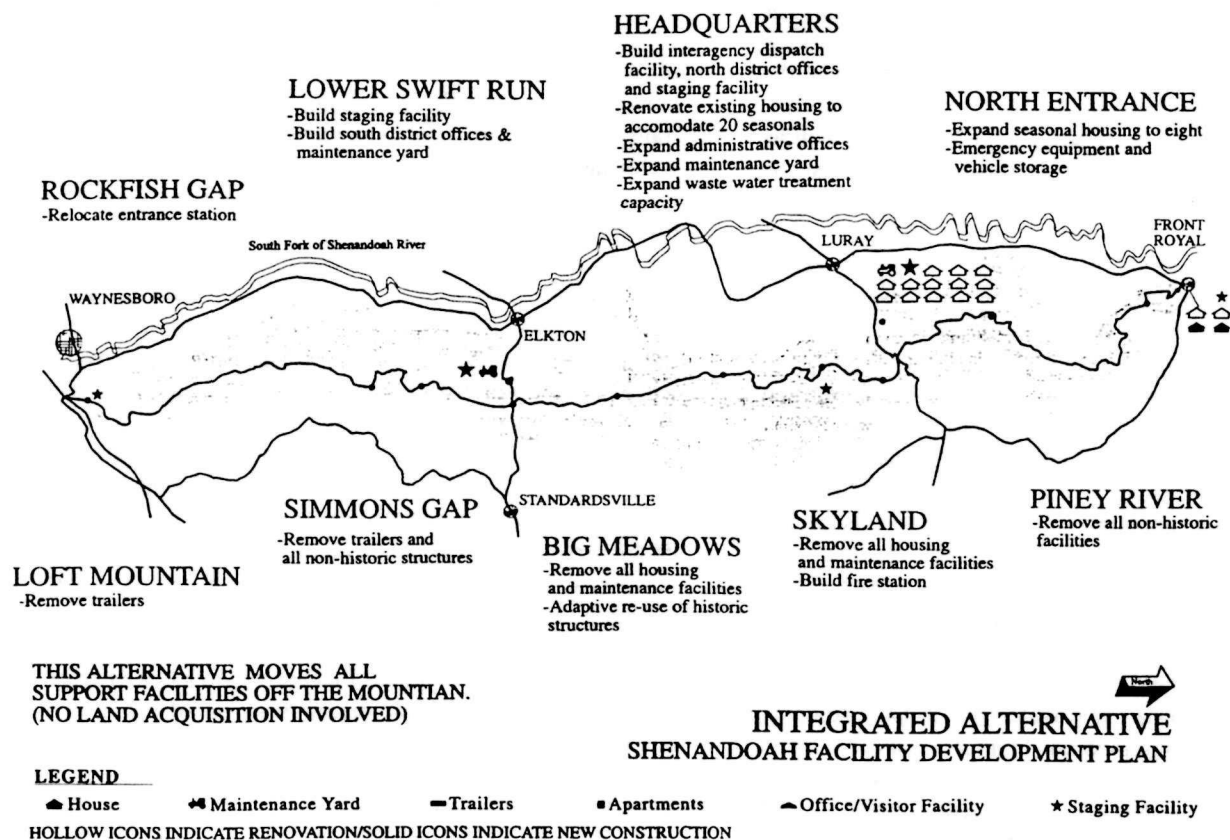
The park staff is required to live in park housing to provide personnel to meet emergency fire, visitor and resource protection and maintenance needs. The current required occupancy policy cannot compel the employee to be available to respond at all times, which allows gaps in the emergency response coverage. Furthermore, the business of everyday life during off-hours can absent them from the park for any number of reasons. A required presence model was developed requiring that employee be available for emergency response on assigned schedules.

The aim of the planning process is to determine the best way for the park to use its limited funding to provide parkwide facilities that protect the resources, reduce development, increase staff efficiency and foster sustainable neighboring communities. Increased develop-

ment within the park would further degrade resources, while the location of housing in adjacent communities would support local economies. Facilities located within the park but at lower elevations on the boundary would increase operational accessibility and reduce resource degradation. Allowing employees to leave required occupancy housing within the park and move into neighboring communities lets the employees build financial equity, have access to community services, assists the park with improving community relations, and helps augment local economies.

There are three alternatives presented in the Facility Development Plan and Environmental Impact Statement. The No Action Alternative removes the trailers from the park, but does not address any operational issues. The Balanced Alternative alters emergency response strategies and accommodates employee housing through a mix of housing within the park and through leases and private homes in the adjacent towns (see illustration 2). The Integrated Alternative moves all non-historic NPS facilities off the mountain ridge (see illustration 3). In





### ILLUSTRATION 3 - INTEGRATED ALTERNATIVE

The integrated alternative is presented in the 1994 Draft Facility Development Plan and Environmental Impact Statement. This alternative requires major changes in park operations. No employees would live in the park. Full-time staff would live in local communities; seasonal employees would be accommodated through private leases in adjacent communities. Emergency response needs would be met through staging facilities.

alternatives two and three, staging facilities would be built at the gateways to the park. Staff would respond to emergency calls from their homes in gateway communities or from staging facilities located on the boundary of the park, and proceed to the site of the incident.

The work at Shenandoah NP represents a commitment by the Park Service to incorporate the principles of sustainable development in park planning, design and management. This is a shift in the fundamental concepts supporting park development. Designers and managers are now beginning to consider not how much development the congressionally appropriated budget will support, but whether the proposed development is really needed. Is it in the right place? And, if development is necessary, the question becomes how can its impact be minimized? The answers will begin the shift to a new aesthetic.

The point has been made both by Charles Elliot and later by Ian McHarg that environmental planning is an essential precursor to design. Without careful and considered planning sustainability is merely an after-

thought, limited to material choices, but ignorant of larger questions and issues. The Facility Development Plan represents a major first step for the Park Service. And similar efforts are under way throughout the system. There is a major project at Zion NP to relieve the congestion in the canyon through a transportation system that would keep visitors' cars outside the park and significantly limit automobile movement within the park. Recent planning for Grand Canyon NP set limits on automobiles and people during peak season in order to lessen environmental degradation and improve the visitor experience. Preliminary proposals for Little Bighorn National Battlefield remove the visitor center from the battlefield itself.

The question facing the agency is: what does a sustainable park look like? If Shenandoah NP were entering the system now, it would be very different. Under today's management policies the cultural landscape would be treated differently, and a natural area would not be bisected by a road 105 miles long. There would be an alternative transportation system. The park's presence on the land would have a much lighter imprint. The Park

Service is responsible for all resources, whether natural or cultural, and therefore the historic resources within the park are sacrosanct. At Shenandoah NP, Skyline Drive and the historic structures at Big Meadows, Skyland, Pinnacles, Simmons Gap, Piney River and Rockfish Gap, as well as the cultural landscapes that surround them, must be protected and maintained.

The question of sustainability is complicated by the sheer number of people visiting the parks each year and the scale of the support facilities required to meet their needs. In 1955, 56 million people visited the 182 units in the system. Today visitation has increased to 273 million people visiting 367 parks each year. Shenandoah NP was originally designed provide automobile access, but the volume of vehicles along the drive often makes visiting the park a harrowing experience. Pollution levels in the summer often restrict visibility from park overlooks, and the acidic nature of the local bedrock creates a water chemistry that cannot buffer itself from the effects of acid rain. Due to its historic significance, the Skyline Drive must remain, but it need not stay open to vehicular traffic. Closing the Skyline Drive to private vehicles and providing alternative transportation would: 1) improve air quality; 2) improve the visitor experience; 3) allow for the removal of gas stations within the park; 4) prevent further loss of wildlife; and, 5) allow the park to accommodate more visitors in tranquil natural environment. Without automobiles on Skyline Drive and large parking lots at every overlook and rest stop, park development could again be subordinate to nature and provide the visitor with access to nature, an experience that has become both rare and valued in our culture. Park operations would change. Instead of individual vehicles, non-emergency response staff and maintenance operations could operate from special cars, designed to piggy-back on the transportation system to move around the park.

The tangential operations also impede the sustainability of the park. These are gift shops, gas stations, food shops, restaurants and hotels, most of which are operated by concessioners. These activities belong in adjacent communities, just as housing does. The visitor expects to find these amenities within the parks, because the service has provided them and allowed them to remain, but gas stations and shops selling trinkets simply do not belong in a National Park. Their presence is in fundamental opposition to the idea that the National Parks of this nation are sacred places, worthy of our special protection. They introduce the turmoil of the profane world into our parks, the very thing people seek to leave behind.

To achieve sustainable parks, the service must expand its educational efforts to encompass the concepts of sustainability. And while some people will be positively irate at the mere suggestion of alternative transportation and having to carry a lunch, many will welcome the changes in the park experience. The potential for change allows NPS landscape architects the opportunity to rethink the design paradigms of National Parks, to incorporate an ecological understanding into our work and begin to develop places in which built elements are accessory to nature. It is an opportunity to lighten our impact on the landscape. My sister said it best, last week when she returned from Gates of the Arctic NP. She said that it was an honor to be there. There were no parking lots, roads, comfort stations or restaurants intruding in the experience. She met nature wild and unfettered. When NPS managers are given the tools to understand how to balance visitor use with that wild experience, we will have developed an ecological aesthetic and we will be sustaining the landscapes in our charge. Through careful planning, the appropriate use of technology, and "de-development" of the parks, the Park Service will once again be able to fulfill its original mission of preserving our National Parks for all people for all time.

## ACKNOWLEDGEMENTS

Special thanks Kimball Koch, Joyce Evans Koreman and Dolores Mescher.

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