

YELLOWSTONE, PART II

Not just another pretty facade



Illustrations by Ruth Ketter

The 1988 Yellowstone fire stimulated greater interest in national parks management than any event in recent times. As towering flames raced through large areas of the park, public fears arose that Yellowstone's beauty, wildlife, tourist appeal and economic value were being sacrificed for a dubious scientific notion: that fire has a natural and essential role in preserving the ecology of our parks.

These differing perceptions reflect what has always been the central dilemma of national park management: Exactly what in a park should be preserved for future generations? Is it the scenery itself—the resplendent landscapes of forests and meadows, high mountains, wildflowers and spectacular animals? Or is it each park's total natural system, including not just the biological and scenic superstars, but also the vast array of less dramatic species such as grasses and soil fungi? And now another consideration has entered the equation: Increasingly, the parks are viewed as biologically vital to the planet as a whole—as globally important in their way as the Amazon rainforest is in its way.

The majestic beauty of the national parks has always given the impression that scenery alone is what makes them worthwhile and deserving of protection. Indeed, scenic preservation was the major factor in establishing our first national parks—Yosemite in 1864 and Yellowstone in 1872. In addition to spectacular topography, what mattered most to the public were the conspicuous elements of

Richard West Sellars is environmental historian, National Park Service, U.S. Department of the Interior, Santa Fe, NM.

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nature—trees and wildflowers, rather than mice and algae. Ecological sciences were only dimly understood, and though many important biological communities were included within park boundaries, this was thanks largely to chance—because these communities occurred in areas set aside to protect scenery, the beautiful “facade” of nature.

In 1916, Congress created the National Park Service to coordinate management of a steadily growing system of national parks. The legislation called for the conservation of scenery, natural objects and wildlife and for public enjoyment of these attractions in such a way that would leave the parks “unimpaired for the enjoyment of future generations.” The intent of this legislation has always been ambiguous, since it blessed both preservation and use. But in actual practice, leaving parks “unimpaired” applied primarily to the parks’ scenery, not to the subtle elements of biological communities.

Scenery or Biology Banks

In developing parks to give tourist access to the great scenic attractions, park managers sought to achieve visual harmony between new construction and the natural surroundings. They located many early hotels, museums and other facilities almost on top of major features, often building in a rustic architectural style using heavy logs and stone so that the structures appear to be part of the natural scenery. Landscape architects designed roadways and bridges to blend with natural surroundings.

Attuned to such visual factors, park developers showed almost no concern for biological processes. However, managers did oppose certain intrusions—railroads, dams and reservoirs. They protected large mammals and attractive bird-life. And except for tourist areas, the mountains and valleys were kept unscarred, the trees healthy, the flatlands lush with vegetation.

But maintaining scenery required little scientific research, so ecologically unsound practices crept in as well: the introduction of exotic (non-native) species; suppression of forest fires to prevent dark scars on the landscape; eradication of mountain lions and wolves, which preyed on the big, impressive game species; and spraying to prevent scenic forests from being infested and denuded by insects.

Facade management thus became the accepted practice—managing scenic parks for the public’s enjoyment, but with little understanding of the biological consequences. This approach accepted nature as more or less static. Park developers could bring in thousands of tourists, build spectacular highways through the wild backcountry and erect huge hotels well inside park boundaries—yet nothing that actually mattered would be changed. As long as development did not seriously affect the scenery, the parks would remain “unimpaired for . . . future generations” as Congress had mandated.

By the 1930s, as natural sciences advanced, the scenery, wildlife and natural objects referred to in the 1916 legislation were coming to be understood by scientists as parts of vast, interrelated ecological complexes. It became increasingly apparent that scientific research must be undertaken for effective park management. The natural history presented too many questions, too many unknowns.

Scientific management was promoted most strongly by George Wright, an independently wealthy National Park Service biologist who personally funded the first survey of park biology in the early 1930s. Wright’s survey produced “Fauna of the National Parks of the United States,” a landmark in Park Service scientific research and the model for a series of publications dealing with park biology. But the scientific movement led by Wright and his associates faltered with Wright’s death in an automobile accident in 1936. Money and manpower were further drained with the onset of World War II, and the program continued to languish after the war.

During the postwar years, tourism began to increase dramatically, putting great pressure on the parks and their limited facilities. The National Park Service responded with the “Mission 66” program, a billion-dollar effort to accommo-

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date more visitors through extensive facility development. However, this program triggered alarm among conservation groups that feared the ecological systems were jeopardized by too much public access.

Restoring Primitive America

By the 1960s, scientists inside and outside the National Park Service renewed George Wright's efforts to integrate science into park management. This time, the scientists sought a modern definition of the basic purpose of the large natural parks. Early in the '60s, a National Academy of Sciences study described the parks as a "system of interrelated plants, animals and habitat" and said they were to be regarded as "biological banks." As other landscapes in the country were being altered, the national parks were increasingly important as ecological remnants. More than ever, they required management based upon intensive scientific research to assure preservation of the ecological systems. Management chiefly preoccupied with maintaining scenery was not sufficient.

In 1963, a special advisory board chaired by University of California professor A. Starker Leopold, one of the premier biologists of his time, issued the most influential statement on park management since the 1916 act establishing the National Park Service. The Leopold Report emphasized the need for improved ecological management and advocated that each of the large natural parks should present a particular "scene" or "vignette of primitive America." The biotic associations within each park, it said, should be "maintained, or where necessary re-created, as nearly as possible in the condition that prevailed when the area was first visited by the white man."

This approach reflected an awareness of the great ecological changes wrought by European man and western technology. Where feasible in the large natural areas, biological restoration would seek to reverse the changes. The report acknowledged the difficulty of determining precisely what the primitive scene had been, as well as the impossibility of removing all exotic species or bringing back extinct species. But with a kind of New Frontier optimism, these leading scientists were confident that a "reasonable illusion of primitive America" could be attained and that this should be the objective in every sizable national park and monument.

The Leopold Report thus laid the foundations for a new kind of scene management—essentially a merger of facade management with biological management. The primitive scene to be recaptured would be valued as much for its increased biological integrity as for its beauty. Underlying this effort was the urgent sense that while the majestic scenery would last, the biological diversity would not.

The Leopold Report remains influential today, in part because of its clear, persuasive presentation of complex ecological issues. Even more subtly, however, its promised illusion of a primitive America touched romantic and patriotic chords, suggesting a kind of "From the New World" fantasy—the parks as virgin land. This vision the Park Service earnestly wanted to believe in and present to the public. It struck close to the deepest cultural reasons for the very existence of the parks, beyond preservation of scenery or ecology—the romantic nationalism that has always underlain the public's support of the parks, with the remnant frontier landscapes of high mountains and vast open spaces as powerful geographical symbols of national origins and national destiny.

In the quarter century since it appeared, the Leopold Report has bolstered Park Service efforts to change certain management practices. Scientific fire management now is intended to approximate the effects of natural wildfire. Insect spraying programs have been terminated. Predators are protected. Especially destructive exotic species have been eradicated or reduced in population, and native species reintroduced.

Scientific management in the parks also benefited from recent legislation, including the Wilderness Act (1964) and the Endangered Species Act (1973). These and other laws, particularly The National Environmental Policy Act (1969) have



improved the Park Service's environmental-review processes and opened its management practices to much greater scrutiny, including public involvement in park planning.

Gene Pools for the Globe

The national parks have many times been the focus of intense controversy over management of natural resources. Yet, while research in the parks is increasing in quantity and complexity, it still does not meet the increasingly complex requirements of management by ecological principles—a matter of serious concern inside and outside the agency. And when management takes action without sufficient research to anticipate the ecological consequences, half of the Park Service's 1916 congressional mandate is lost and the principal purpose of parks is reduced simply to ensuring public enjoyment of the “unimpaired” scenery.

Even as environmental stress on the parks increases, they are assuming yet another vital scientific role. The critical worldwide reduction of biological diversity has brought sharper focus to the concept of national parks as biological laboratories and “gene pools.” Although seriously altered in many respects, parks are still among the least disturbed natural areas. Therefore, scientists increasingly view the large natural parks as important to the biological health of the planet—reservoirs of genetic material and islands of naturalness providing baseline information against which manipulated landscapes can be tested for irreversible change or loss of species.

Whether the increasing scientific importance of the parks will be supported by the public remains an open question. Scenery has long provided the primary inspiration for national parks and, through tourism, their primary economic justification. Despite the environmental movement of the 1960s and 1970s, facade management based largely on aesthetic considerations is still acceptable to many people. Pretty scenery creates an impression of biological health and provides such overwhelming satisfaction that the general public gives little more than cursory consideration to the parks' greater ecological complexes.

The public, living almost entirely in manipulated, altered landscapes, usually takes for granted the existence of biological integrity (and thus an unchanged, primitive America) in the large scenic parks. A sense of unaltered scenic wilderness is easily come by, even in areas where scientists might quickly recognize that substantial biological change has occurred.

Few visitors can recognize when certain animal populations are too great or too small or whether trees and mammals (much less shrubs, grasses, and insects) are native or not. And even when human-caused ecological damage is explained to park visitors, the new conditions are often accepted as simply “another change in the scenery.”

Thus, while provocative issues such as the Yellowstone fire or proposals to dam rivers in parks create intensive public interest because they might affect tourism and the scenery, repeated calls for expanded research programs (essential for sound ecological management) receive little attention or support outside the environmental community. That is a major reason why park research programs have never been fully realized, why the National Park Service has not been a leading practitioner of scientific management and why the parks continue to be biologically out of balance.

Today, when tourists go to Yellowstone, they will be confronted more than ever by the ecological story behind the facade. In a sense, the fire itself—by burning off some of the scenery—has revealed and clarified the regenerative processes of natural systems. But to what degree an increased ecological understanding might change people's attitudes is questionable. Science has challenged traditional views of park management for more than half a century, yet interest in the scenery—the national parks as pretty places to visit—continues to dwarf real concerns for the parks' ecological systems and the threats they face. ■

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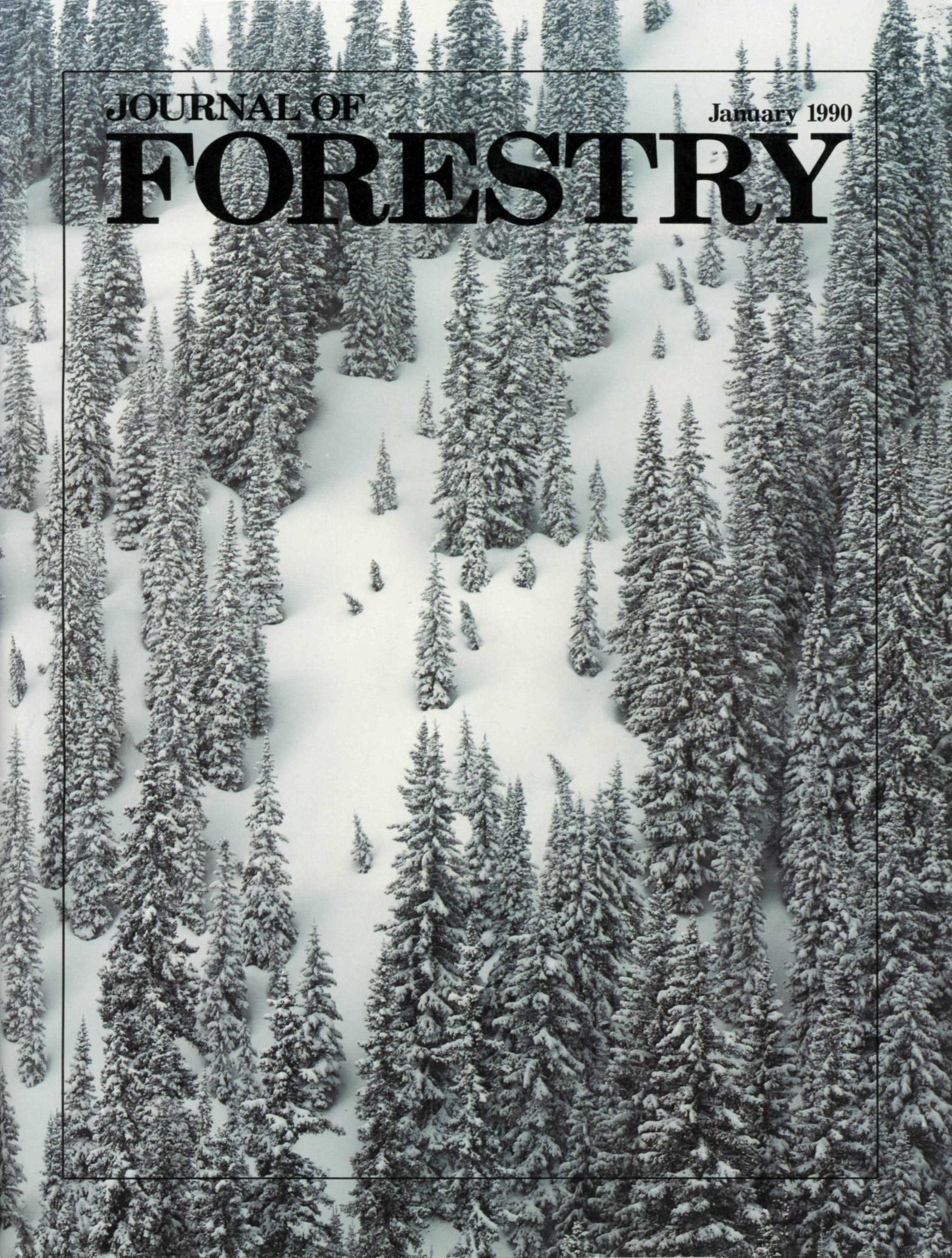
Pretty scenery creates
an impression of
biological health



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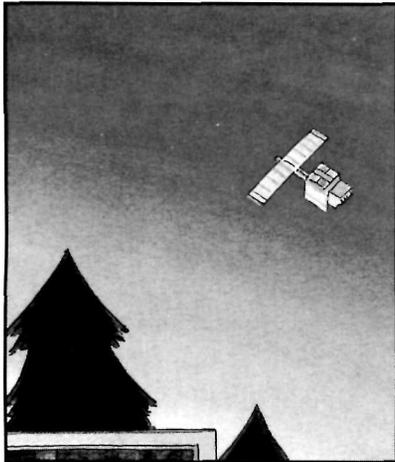


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