The George Wright

FORUM

Volume 5 ✦ 1987 ✦ Number 2

The George Wright Society

Dedicated to the Protection, Preservation and Management of Cultural and Natural Parks and Reserves Through Research and Education

The mailing list for this and subsequent issues of The George Wright *Forum* has been completely revised to reflect the recent payment of dues, changes of address, additions to the US National Park System, changes in Parks Canada addresses, etc. If errors exist on your address label, please notify the Publications Office, The George Wright Society PO Box 65 Hancock, MI 49930 USA *Thank You.*

Post-Press Announcement

We have learned, since the printing of this issue of *Forum*, that Horace Albright, second Director of the U.S. National Park Service, has died. We are told that Horace was writing letters and being busy as usual right up to the afternoon preceding the night when he passed away—peacefully in his sleep. *Forum* Volume 5, Number 3, will carry additional commentary about this remarkable man who has been so instrumental in the making of policies and in the operation of the National Parks of the United States.

Volume 5 ✦ Number 2

The George Wright Society was founded September 29, 1980 by Drs. Theodore W. Sudia and Robert M. Linn, both former Chief Scientists of the U. S. National Park Service. The Society is chartered in the State of Delaware, in accordance with the laws of the State of Delaware and of The United States of America, as a nonprofit educational and scientific organization dedicated to the protection, preservation and management of cultural and natural parks and reserves through research and education.

FORUM Editors: Jean Matthews, Corvallis, Oregon, and William E. Brown, Anchorage, Alaska; FORUM publisher: Robert M. Linn, Hancock, Michigan.

 (ISSN 0732-4715), P.O. Box 65, Hancock, Michigan 49930-0065 USA. The George Wright FORUM is published quarterly. The Editorial Board of The George Wright Society welcomes articles that bear importantly on objectives of the Society, and contributions from readers in the form of letters to the editor. Manuscripts, letters and news items (preferably double spaced typewritten) should be addressed to: Jean Matthews, Editor, The George Wright FORUM, Room 126, Forestry Sciences Lab, Oregon State University, 3200 Jefferson Way, Corvallis, OR 94331.

Membership applications and other business correspondence should be sent to: The George Wright Society, P.O. Box 65, Hancock, Michigan 49930-0065 USA. Membership in The George Wright Society is open to those who are "interested in promoting the application of knowledge, understanding and wisdom to the management of the resources of natural and cultural parks, sites and equivalent reserves." Membership dues are: Regular Member, $25 annually; Student Member, $15 annually; Sustaining Member, $500 annually; Life Member, $250. Subscriptions to The George Wright FORUM only (without membership in the Society) are: Libraries, $25; Individuals, $20. Dues, contributions, and subscriptions are US tax deductible. Additional information may be obtained by writing to the Society's P.O. box.

The Bicentennial of the Constitution and the Alaska Lands Settlement

William E. Brown

THE ALASKA LANDS ACT OF 1980 was a triumph for both conservation and constitutional government. It climaxed a lengthy process that had transformed Alaska from a distant territory to an integrated State of the Union and changed Alaska's lands from almost wholly Federal domain to mixed ownership by private interests, the State of Alaska, and the Federal Government.

From the beginning, the Constitution had governed Alaska's evolution as a possession of the United States. The power of the Federal Government to acquire and govern territories was determined by the Supreme Court in 1828 when Chief Justice John Marshall, speaking for a unanimous court, declared ".....the Constitution conferred absolutely on the government of the Union the powers of making war and of making treaties; consequently, that government possesses the power of acquiring territory, either by conquest or treaty." He went on to say that the Constitution empowered Congress, once territory was acquired, ".....to make all needful rules and regulations, respecting the territory, or other property belonging to the United States."[1]

For many years after its purchase from Russia in 1867, Alaska remained a neglected administrative district, detached and remote from the rest of the Nation. Then, with the Klondike discoveries, the 1898 Gold Rush attracted thousands of stampeders and national attention to the isolated region. In 1905, responding to a law suit protesting the lack of common-law jury trials in Alaska, the Supreme Court ruled that Alaska, by its acquisition and subsequent acts of Congress, had been incorporated into the United States; therefore its laws must reflect the constitutional rights of United States citizens.[2] In 1912 Congress enacted full-fledged territorial government for Alaska, with a representative legislature and a non-voting delegate to Congress. There ensued a drive for statehood that followed earlier patterns of the contiguous western territories.

But again the underpopulated, far-north territory faded from view. The end of major gold excitements had combined with World War I job opportunities in the Lower 48 to drain people from the territory and thrust the statehood issue into limbo.

With the threat and actuality of Japanese invasion during World War II, national interest again focused on Alaska. Road and military-base construction and the fighting campaign in the Aleutian Islands brought thousands of civilian workers and service men northward. The war, plus its Cold War aftermath of radar stations and air bases—responding to Alaska's location astride polar air routes—would help push the Great Land into the ranks of statehood in 1959.

With the grant of statehood, Alaska was authorized to select 104 million acres from the Federal domain to provide an economic base for

its development and governance—a land base larger than all of California. The State's selection of choice lands throughout Alaska soon aroused Native Alaskans—Indians, Eskimos, Aleuts—who mobilzed to protect their ancestral homelands.

From the time of the continental Congress and the Articles of Confederation, Congress had reserved to itself the power to regulate trade and manage all affairs with the Indians. The framers of the Constitution recognized that earlier history, giving Congress the power to "regulate commerce.....with the Indian tribes." The broad meaning of the word commerce, which went beyond mere trade to encompass Indian affairs generally, together with the treaty-making power, gave Congress plenary power to deal with the Indians.

Often marked by inequities and dubious policies over the years, this constitutional responsibility included a higher purpose. It placed the Federal Government in the position of trustee and protector of Native Americans, who, in their dispersion and small numbers, could not hope to match the power of the dominant national society. Alaska Native organizations appealed to this trust relationship and to history as they made their case to halt State land selections. They cited the 1821 charter of the Russian-American Company, the Tsar's governing body in Alaska, which provided that "The natives.....are permitted to enjoy fishing along the shores where they live.....They are entitled also to catch the sea animals and wild beasts on these islands and places where they are living."[3] Alaska Natives called for protection of ancestral lands so that these traditional lifeways could be perpetuated.

To give Congress time to respond to these petitions, the Secretary of the Interior halted State land selections in 1966. Two years later occurred the gigantic Prudhoe Bay oil discovery at the margin of the Arctic Ocean on land already conveyed to the State. This event forced Congressional action, because an oil-pipeline-right-of-way across Alaska from frozen arctic shores to a warm-water port depended on settlement of Native land claims.

Thus was the stage set for the Alaska Native Claims Settlement Act of 1971. The new oil discovery had the effect of aligning a host of interests, most of them previously at odds: national security concerns over oil dependency, the oil industry, the State of Alaska, conservationists, and the Native land claimants. The act opened the way for oil development, which would mean royalty revenues to the State, and it allowed further progress in the partitioning of Alaska lands to meet the demands of the Natives, the State, and—through proposals requested by Congress for parks and other preserved lands—the Nation's conservationists.

The 9 years between the Native Claims Act and passage of the Alaska National Interest Lands Conservation Act of 1980 tested the Nation's political institutions. On a grand scale, with now-or-never urgency, the people, their agency trustees, and their elected representatives fulminated over Alaska's fate, striving to balance conflicting demands of preservation and development. The struggle brought to the fore diverse national values and viewpoints about

Alaska, ranging from the esthetic to the utilitarian. Only by the thinnest margin of time and events was the act consummated, for the trends of world history had caught up with the United States, thrusting it into the economics and politics of scarcity. No matter how many new parks and refuges might be enacted in the years to come, never again would such extensive landscapes be dedicated as preserved lands.

During the Alaska lands struggle, as in other testing times, the Constitution's division of powers among the three branches of government—legislative, executive, judicial—and between government and governed, all came into play. Neither the tyranny of the majority nor the dictates of any minority could dominate the proceedings. The upshot of the legislative process was a compromise, effected in part by joint Federal and State consultation, in part by many public hearings and visits with local people by members of Congress. The compromise roughly balanced conservation and development needs; national, State, and local interests; modern and traditional lifeways.

From any particular viewpoint the Alaska Lands Act was an imperfect resolution, because no compromise is perfect for any one party to a dispute. But constitutional government is based on compromise. Winner-take-all is a philosophy repugnant to constitutional government. That is why the Founders built into the Constitution the many safeguards that force factions to come to the table, negotiate, and compromise. In a profound sense, there are no winners, no losers in constitutional government.

James Madison made that point in Federalist Paper No. 10 during the effort to ratify the Constitution in 1787. He recognized that the true sanction of government is found not in goodwill but in the coercion that controls universal selfishness. For this reason is government necessary. But the coercive sovereignty granted to government must guarantee justice for all. And justice demands that the majority shall be restrained equally with the minority.[4] Here, in a nutshell, was the reason for the checks and balances of the Constitution, which were designed to force compromise. That principle never ceased operating during the debates and politics that led to the Alaska Lands Act. It still operates as the complex issues spawned by the act call for more negotiation and administrative adjustment, or help from the courts when negotiation fails.

As the Alaska lands bill moved toward a vote in November 1980, one Congressman made explicit the ongoing vitality of that old constitutional ideal:

> *This measure clearly represents the product of....arduous work. These struggles have educated all of us and defined the key issues. I believe it is instructive that this measure has been criticized by both sides in this controversy. This demonstrates the compromise nature of the bill.*

He was joined by a colleague, who said:

(The bill) has many virtues. And it lacks many others. But I think it is wise at this moment to support it, and we have to accept that which is possible even if it is not perfect.[5]

In its scale the Alaska Lands Act was unique in our history—for example, it more than doubled the national parklands in a single legislative action. But in its genesis, its legislative background, and its final enactment the 1980 act followed constitutional patterns that had evolved throughout the Nation's Westward Expansion. In Alaska, as in the earlier West of Yellowstone and Yosemite, individuals and groups had found values for future generations in preserved lands. They had carried their message into the political arena, there to contend with those who perceived different futures for Alaska's outstanding landscapes. Through political processes ruled by constitutional checks and balances these varied perceptions had been cut and filed to conform with one another in a roughly balanced resolution. The result came not by governmental diktat nor by the domination of any particular interest. In this drama, with all of its imperfections and inefficiencies, is found the soul and the price of constitutional government.

Notes:

1. Carl Brent Swisher, *American Constitutional Development.* Houghton Mifflin Company, Boston, 1943, 126.
2. *Ibid.*, 480.
3. Robert D. Arnold, *et al., Alaska Native Land Claims.* Alaska Native Foundation, Anchorage, 1976, 24.
4. Vernon Louis Parrington, *Main Currents in American Thought.* Harcourt, Brace and Company, New York, 1927, I, 285.
5. *Congressional Record,* November 12, 1980, H 10528.

William E. Brown is a Historian with the U. S. National Park Service Alaska Regional Office in Anchorage.

The "Leopold Report" Revisited

Editor's Note: A group of eight U.S. National Park Service professionals met in December 1986 in Washington, D.C., to prepare a task directive for the National Park Service Director's Blue Ribbon Panel on the 1963 Leopold Report. The following two papers are among the products that emerged. The paper by Dave Graber is his assignment to synthesize the views expressed and come up with a "sense of the meeting." The Bill Brown paper is simply "his own." Denis Galvin, USNPS Deputy Director, to whom all the papers were submitted, agreed with the editors of FORUM *that both papers deserve to be circulated as submitted.*

"A Sense of the Meeting"

David M. Graber

Action Item: "Establish a blue-ribbon panel to examine NPS policies about natural and cultural resources and recommend how these policies may be improved."

Preamble: We believe, given new and increasing threats facing national parks, increased social awareness of the importance parks play in our national life, and the great advances in our scientific knowledge, it is timely that an advisory group of concerned citizens conversant with the principles and techniques underlying park resource management and protection be impaneled to counsel the National Park Service in its continuing development of a long-term strategy for preservation of the natural and cultural resources in its care. The following objectives and their annotations are designed to suggest areas for the panel's attention.

Objective 1: Reexamine the principles of ecological management propounded in the Leopold Report.

The 1963 report of the Special Advisory Board on Wildlife Management for the Secretary of the Interior: Leopold, A. S. et al., "Wildlife Management in the National Parks," proposed for the first time a set of fundamental principles by which natural resources in the national parks would be managed. These principles were largely adopted by the Service. The science of ecology and its applications in natural resources management have advanced considerably since 1963; new specialties in such areas as genetic and demographic management of small and bounded populations, pollution threats, paleoecology, and ecosystem theory have much to contribute to park natural resource management. Parallel advances in historiography, anthropology, archaeology, and landscape ecology, for example, have application to park cultural resource management. The role of national parks within society, and their existence as increasingly discrepant islands in an evolving landscape certainly has changed since 1963, and no doubt will continue to do so.

- ✧ Where is "ecosystem" management appropriate, and where is "scene" management or some other standard preferable?
- ✧ How "wild" and "natural" can natural area parks be, and to what extent must they be manipulated, in the contemporary American landscape?
- ✧ To what extent—if any—should parks function as zoos for purposes of display or for purposes of species preservation?

- ✧ Should parks seek to conceal necessary artificialities in the management of "natural ecosystems"?

- ✧ What is the appropriate management of permanently altered ecosystems and ecosystem fragments?

Objective 2: Scrutinize NPS policies for the management of both natural and cultural resources.

Is the National Park Service effectively protecting the natural and cultural resources in its charge? Are the tools and techniques used appropriate? Are policies correctly reflecting law and regulation, and are they guiding management to appropriate ends?

- ✧ Given limited funds, is NPS correctly balancing the maintenance of existing natural and cultural resources under its charge with the acquisition and primary restoration of other seriously compromised resources?

- ✧ Should "featured" natural resources (e.g., grizzly bears, giant sequoias) be managed as ecosystem elements, or as special resources deserving of protection in their own right?

- ✧ What should be the respective policy and operations functions of the Washington office, the regional offices, and the park units?

- ✧ Where should priority and funding determinations be made?

- ✧ What policies should be adopted for park management with respect to indigenous human populations?

- ✧ How does federal wilderness legislation affect NPS policy and regulations?

- ✧ How should NPS approach the management of threats to the protection of park resources that originate external to park boundaries?

- ✧ At what level should NPS be conducting baseline inventories and monitoring resources?

- ✧ NPS manages ideas as well as physical objects. Is there an appropriate perspective for presenting parks as expressions of historic perspectives, for example?

Objective 3: Examine the functions of research and resource management in the National Park Service, and the relationship of these specialties.

The Leopold Report affirmed the necessity for well-educated and experienced professional scientists and professional resource managers within the Service. Since 1963 those disciplines have become distinct specialties and greatly expanded in numbers of staff, while the resource conservation problems facing NPS have increased in number and complexity.

- ✧ What kinds and levels of information and expertise are required to manage parks intelligently?
- ✧ Where is NPS in greatest need of more information and expertise, and how should it best be acquired?
- ✧ How should we prioritize research and resources management projects and programs among themselves and within the operations of the Service?
- ✧ What is the appropriate balance between agency-conducted research and that performed by university scientists and other extramural organizations?
- ✧ How does and how should the research/resource management interface function in the Service?

Objective 4: Propose a holistic approach to park management that defines the underlying principles of park management and identifies the elements common to all units of the National Park System.

The National Park System now encompasses hundreds of units that range in size from a fraction of an acre to thousands of square miles, that were created to preserve an historic scene, a cultural artifact, urban open space, spectacular scenery, heroic species, recreational opportunity, or raw wilderness. What common niche do these disparate elements occupy in American society today, and what will be their role in the future? What are the principles of NPS resource management and protection today?

- ✧ How are conflicting purposes within park units—object preservation, ecosystem preservation, indigenous cultural practices, legal wilderness, aesthetics, recreation—to be resolved?
- ✧ How is the enabling legislation for each park unit to be weighed against the underlying principles of the National Park System?

- ✧ To what extent should natural areas function as "natural reserves" for scientific use in understanding natural processes?

- ✧ What are the responsibilities of NPS toward the maintenance of biological diversity, and what practices logically follow?

- ✧ Should the national park philosophy extend beyond park boundaries?

- ✧ What should be the role of indigenous peoples within park boundaries?

- ✧ What will be the consequences of the loss of buffer zones around parks, and their increasing isolation?

- ✧ How do visitors perceive their parks, and to what extent should NPS reflect present visitors' values?

- ✧ What new park protection strategies should be considered?

- ✧ Where does the National Park System fit in the context of all public lands?

David M. Graber is a Research Scientist at Sequoia/Kings Canyon National Parks, Three Rivers, California.

Preamble Grist

William E. Brown

The work group was called to provide a charter, a white paper, a task directive for the Blue Ribbon Panel. In the nature of such assignments the work group participants raised their sights to the Panel level. They played, at least part of the time, at *being* the Panel—but with the qualifying insights of operational experience. Their ruminations aimed to break down the rough-feed cellulose and make it digestible for the Panel's deliberations. Immanent in the cud here regurgitated should be the main concerns and questions that could move the Panel to a serious probing of the National Park System/Service, and help the Panel provide guidance for this institution's continued contribution to the Nation's higher purposes.

A sense of conservative dynamism shaped the work group effort. The traditional centrality of the System's physical resources—base for

all else—was reaffirmed. The fundamental role of science-based management in perpetuating these resources followed as corollary.

But concern that changing social and political values, national priorities, and environmental conditions—now and in the future—jeopardize the System's resources made the work group look beyond mere preservation—an essentially passive stewardship—to a more active role. This role would involve the System and its stewards in overtly helping to shape the future in constructive ways: as a bearer of positive national tradition in the traditional park role, as a repository and generator of scientific knowledge, as an extension service for intelligent local and regional land-use planning and cooperative management to avert or mitigate environmental degradation. Thus would the System/Service help provide continuity in a time of flux by adaptive transmission of useful tradition, and, at the same time, help provide new knowledge and technique evolved from long experience.

Out of this conservative dynamism came consideration of the System/Service niche in modern, accelerating times. This niche must be viewed through the lenses of both the institution (what we think we are and do) and the body politic (what the public thinks we are and do). It was understood that as we are the future of the past, we will soon be the past of yet another future. Succeeding futures, if current trendlines mean anything, will occur in national and world settings hard-pressed for social surplus and further degraded environmentally. Pressure will mount for instant utilitarian gratification in the future. Thus, for the System/Service, preservation of sustaining public value systems will be as important as preservation of the resources themselves. In this context **values and resources are indissolubly linked**. Newton B. Drury understood this truth in 1941 when he fashioned protections to save the National Parks from total mobilization that would have mined them for war purposes. The war produced a national unity—a compelling value system—that for a time subordinated the entire national patrimony to the single end of winning the war—entire exept for the National Park System. The analogy is clear. And the question must follow: How can the Service and its friends fashion protections so durable that temporal crises and long-term attritions in the future will not reverse the Nation's currently held values that hold the parklands dear?

This is not the stuff of environmental impact statements. It must be, rather, the continuing public affirmation that the Nation's parklands embody our culture's highest aspirations over time.....that these places will not be sacrificed to remedy immediate material shortage nor to muffle the alarums of an uncertain future. This commitment will survive only if the System's higher utility in national life is generally experienced, whether directly or vicariously.

Nor is this the stuff of press releases and propaganda. Rather, the System, with the intelligent assistance of its stewards and active partisans must be—even more than at present—functionally integrated into the Nation's daily life, a resource for all seasons, for all sectors of society. We have only sporadically tapped the System's

value as school, research center, and community resource. Its utility in the higher sense must be demonstrated through participation in the higher realms it provides—places of stimulation, challenge, and perspective—by all levels of society. Thus would preservation of the System become a categorical imperative, no matter the crises and attritions of a stressed biosphere or neighborhood.

What kind of a redefined mission—built on solid foundations of the past, buttressed by appropriate legislative mandate—could accomplish this end? What kind of strategic plan over, say, the next 25 years, might the Blue Ribbon Panel suggest to keep the National Park System central in the national consciousness, rather than a migrant to the inessential periphery?

These questions raise the ante, perhaps beyond house limits. The dynamics of our society and its evolving values only roughly can be forecast. They cannot be controlled. But old standards need not die, and new ones can be edified by abiding, available quality experiences in the National Parks.

****

Certain overriding themes animated the work group's efforts to provide grist for the Panel:

- First was affirmation that the National Park System is indeed a **system**, not a random collection of parts and pieces. The Blue Ribbon Panel can perform service by defining the common qualities that cohere the System despite the great diversity that marks the resources and purposes of constituent parts. Any application of holistic management (a concept of many applications and meanings) must certainly fail if there are no cohering qualities, no system to be holistic about. Discussion of cohering elements touched on, among others, these thoughts:

  - Resources in national parklands—cultural, natural, or recreational—are bona fide reflections of larger systems and societal needs whence they are derived.
  - All contained resources, however acquired, are valued parts of the System; there are no throw-aways or second-class resources that can be sacrificed or degraded for lesser purposes. (This assertion is distinct from, say, rational determination of preservation levels and ranking of cultural resources.)
  - Corollary: The highest value of each resource must be maintained—whether it occurs in a natural or cultural sanctuary or in a trammeled urban recreation site; inappropriate uses or activities trivialize resources.
  - Trivialization through misuse of national heritage properties is a worm in the guts of the System, debilitating the whole.

- Second was the universality of **external threats** to the integrity of the System. Changing environments and elimination of buffer

zones have joined with denigrated perceptions of the value of public lands and landscapes to jeopardize the very concept of preserved lands. Physical encroachments are largely a function of attitudes that see no utility in preserved lands where natural processes, cultural memories, and human renewal can occur untrammeled. Thus, for example, zoning and economic restraint to protect sanctified lands fails. Tools of the pragmatic, blocking kind and of the inspirational, philosophical kind are equally in demand. The System/Service cannot protect itself except as model for the larger society, in the long run.

- Third was recognition of **pervasive dynamism** in the overlapping natural and human ecosystems that make up the System and its physical and cultural context. The Panel's task to reexamine the Leopold Report—particularly the contradiction inherent in static scene preservation within dynamic ecosystems—cued wide-ranging discussion of the larger dynamics that shape the politics and policies of System management. These discussions led to thoughts about the Panel and its functions:

  - The makeup of the Panel, including the method of assembling it, to assure its appropriate stature and independence for dealing with those larger dynamics.
  - The limits, or lack thereof, of the Panel's charge—free ranging or channeled.
  - The responsibility of the Service to devise appropriate **methods** for accomplishment of Panel-inspired **goals** and **policies.**

Given adequate stature within the Panel, it was agreed that it both will (of its own accord) and should range widely, as did Leopold and his cohorts. Reverberations proceed both ways between the innermost and outermost circles; lines of demarcation would be artificial. To assist the Panel's quest, the Service would open its resources historical and personnel. Reports, case studies, and resource persons would be assembled or alerted and ready.

- Finally, the need for new levels of *holistic management* dominated the work group's discussions. In fact, *this holistic idea captured all other topics, as a deep cutting river pulls tributaries to itself, breaking down what once were divides.* Starting with the literal ecosystem concept, holism rapidly moved into larger fields:

  - *The System's common qualities or elements, which provide unity within diversity* and bestow value on all its resources.
  - *The System's dependence* on surrounding physical, social and political environments.
  - The need for *intellectual and managerial integration at the* ***higher levels*** *of natural and cultural resources management,* despite operational and methodological distinctions at lower levels.

- ✧ The network or *continuum reality that ties together resources, science, management policies, planning, operations,* and *implementation* from maintenance to interpretation by qualified, stimulated, and monitored personnel.
- ✧ *The niche idea,* evolving yet steady, which, ideally, should be the grand stategical integrator, *keeping this institution current in a dynamic society* that yet yearns for natural and cultural benchmarks whose integrity is entrusted to our care.

In sum, holistic management in its best application would be *a sort of universal solvent* that would allow the blending of programs and people into a larger *technical, operational, and spiritual complex.* It is the sort of thing that generalists used to do; now we have specialists and they view each other through one-way windows. The entity is out there somewhere, and holistic management in the limited sense of an interal mechanism may help us to find it. *What are the models* now extant? How, deductively, can this institution devise compelling policies and persuasions so that holism as an ideal filters down to the generalizing models coming up? Not by a new organization chart, surely. Perhaps the Panel can raise *our brush-fire smudged sensibilities* to this higher goal.

****

The classification of work group discussions follows. Larger goals, the genera of thought, are illuminated by intermediate groupings and particulars. The specific and mundane gave point to the larger issues, for the edifice of grand strategy is finally constructed of posts and beams fastened by nuts and bolts. The Panel can choose likely pieces and fasten them as it will.

Proposed Goals for Blue Ribbon Panel

I. Generic Goal

To assist the National Park Service in the development of a long-term strategy (25 years) to ensure natural and cultural resource protection [and institutional vitality and relevance in a changing world].

II. Study Goals

A. Reexamine the principles of Ecological Management propounded in the 1963 Leopold Report.

Critical to this examination is the concept of "vignettes of primitive America," with its corollary of manipulation to recreate approximate, illusory, and static scenes within dynamic ecosystems, or segments thereof. In the evolved ecological science of today—with *process* rather than *cultural ideal* at its center—the vignettes concept, though appealing in many ways, creates problems: among them,

profound ambiguity and resultant doctrinal extremes to resolve ambiguity. E.g., the 9/22/67 directive on implementation of the Leopold Report stated: "Management will minimize, give direction to, or control those changes in the native environment and scenic landscape resulting from human influences on natural processes of ecological succession." From this directive evolved disparate management approaches throughout the System which ranged from absolutely no tinkering with natural processes to extremely active manipulation to roll back natural processes.

Sample questions: (a) Is the vignette concept valid? (b) In today's scientific and environmental context, when are and when are not floral manipulations, reintroduction of species, etc., appropriate? (c) What should be the standards, or the procedurally coherent methods for evolving standards within the given park or resource for application of manipulative management techniques, or abstention therefrom (assuming an open intellectual atmosphere that resists entrapment by one or another doctrinal prescription)?

Associated with this topic are tandem or subordinate issues treated in the Leopold Report: (a) The matter of "observable artificiality"—should our necessary active management activities be hidden or should they be public examples of purposeful management for ends of public import, subject to public scrutiny, and, perhaps, contributing to public edification? In this context, the myth of "natural" parks is important: fractions of ecosystems beset both without and within often need doctoring—what can such treatment tell the public about environmental problems in the larger sphere? (b) the Leopold Report prohibition of zoos (animals in enclosures) led to other questions about appropriate facilities and activities in parklands (golf course, ski lifts, etc.)—which of these in their particular settings trivialize, which reinforce park values?

In the nearly quarter century since the Leopold Report, accelerating and general environmental degradation, major encroachments on old-style parklands proper, and accession of urban parklands have combined to produce a crisis of permanently altered ecosystems in-boundary and in buffer zones. What approaches and methodologies are appropriate for Service action in such places—restoration to a historical landscape? creative landscaping in the Olmsted tradition?

The Panel should identify and reaffirm—perhaps adaptively—the Leopold Report's many strong points—among them precepts as wise and pertinent today as in 1963. Examples are the stress on science-based management and habitat preservation.

B. Scrutinize NPS Management Policies for both Natural and Cultural Resources.

In the final analysis, all parks are cultural parks, whatever their primary resource bases may be. They embody cultural determinations of value, intellectual interest, and functional utility:

about nature—natural features, scenic grandeur, natural history, web of life, esoteric science, wilderness challenge;

about history—national events and traditions and personages, past cultures and value systems, relationships between cultures and with the natural world, including cultural choices that meant success or failure in environments of the past;

about recreational and social opportunities—amenity activities both strenuous and serene in non-domestic, "contrast" settings, physical and mental health, joy of play, interpersonal and group relations in park/recreation contexts, urban social and community reconstruction.

Thus, at the highest level, integration of natural and cultural resources and values is an accomplished fact. Yet, within the NPS management scheme now in place—and despite the recent integration of park resource management plans into one rather than two documents—natural resource management and cultural resource management remain almost universally separate functions, rarely bridged even at the interpretive level. The dynamics and processual nature of ecosystem management contrasted with the preservation of "static" historic and prehistoric resources helps to explain this persistent dichotomy. The division is emphasized in the different methods of assigning significance to resources natural and cultural. Of the former, each link in the great chain of being, each strand in the web is a critical component—mice and moose both and equally make the ecosystem go. Of the latter, some resources are primary, others secondary, tertiary, or "not considered." Based on relevance to historical theme and to park purpose, professional judgements lead to active preservation of some resources, benign neglect of others, and outright removal of yet others. Management policies reflect these distinctive differences.

In a third situation, given great scope in Alaska, but present elsewhere also, dynamic cultural resources—living culture groups—force a functional integration. Legal provisions for subsistence hunters, for example, recognize that these people are parts of the natural system. Subsistence management plans must therefore blend natural science and anthropology to be effective management tools.

In another field, re-creation of historic or cultural landscapes forces an integrated view, history providing part of the data, plant scientist specifying appropriate native species and the like. Yet in some instances—clearing of reforested battlefields is one—the historical objective has come up against nature: forests cut in half to reopen the scene of a charge or a historic field of fire may be subject to wind throw and other vulnerabilities associated with canopy destruction, erosion, and other factors.

Question: except at the higher levels of management commitment, interpretive synthesis, and intangible communion, is the subject of natural/cultural resource integration of general significance? Or is it a specialized concern brought into play in particular management contexts, with the main effort at integration a conceptual one left to creative interpretation?

A subordinate matter is the place of cultural resources in designated wilderness areas. Preservation law makes no distinction between wilderness and other land classes, yet distaste for a pox of historic-zone enclaves and the logistical difficulties of active preservation within remote wilderness areas may bias management decisions on this question.

Periodically, a movement arises for a separate historic preservation agency. It stems from a perception that from its origins the National Park System/Service has emotionally and managerially based on the great natural parks, with cultural parks—no matter their present preponderant number—an add-on of secondary significance. Whatever the merits of this view, it could be argued that gratuitous dismemberment at this time would be unwise. Nevertheless, it would be useful for the Blue Ribbon Panel to treat this issue, perhaps as an in-house determination, after an objective look at budgets and personnel allocations for the two species of resource management.

Also relating to budget and current strictures theron, in some quarters the thought has been advanced that natural resource components within each area should be ranked as to significance so that money and management attention can be focused on primary components only. On the face of it, this idea violates the principles of ecosystem management and would be directly opposed to the concept of holistic management of the System. The Panel's prouncement on this question should be sought.

Both natural and cultural resource management begin with adherence to centrally propounded policies, themselves derived from law—in the first instance, the **natural law** currently accepted by scientists; in the second, the **preservation law** on the books. The one is an abiding authority, only imperfectly known but about which knowledge evolves, and it is not controlled by man. The second, which evolves structurally at man's behest, is an authority based exclusively on human value judgments and enactments. No matter how dissimilar these two sources seem, in the operational context they are similarly problematic: both kinds of law require professional and managerial interpretation for application in the parks. The difficulty of attaining objective truth has changed little since Socrates.

Basic science, in the sense of discovering preexisting truth or fact or predictability is limited to certain fields of natural science subject to mathematical measure and expression. All else is either an intellectual construct (philosophy, value, judgment) or an application of technique derived from perceived truth and tinctured with judgment (bear management, architectural preservation, controlled burning, wildlife management, ranking of resource significance, determinations of appropriateness). Almost all that we do is based on

judgments that flow from current, fallible notions and approximations of what we think is true or appropriate.

Rampant relativism in a highly decentralized institution such as this one causes problems. Rightly, policies are broad to give room for judgment on regional and local levels. Wrongly, there is little provision in Service management style for constant monitoring and colloquey to cohere and standardize—within the broad tolerances of policy—**applications** of the evolving codas that should guide our hands-on work with resources. We have been criticized for lack of emphasis in assembling basic knowledge about our resources—providing the evolving data base that would better inform and keep current our approximations and judgments. Nor, in the last 20 years, have we placed in the resources themselves—except in larger parks and a few others with special problems—subject-matter specialists who day-by-day could strengthen both resource management/operations (from research to maintenance) and interpretation.

Putting hands-on specialists in every park (geologists, historians, botanists, archeologists, and/or comprehensively trained resource management specialists to match each park's inventory of significant resources) would be a practical, proven first-step in a larger remedial program. Review and updating, only as necessary, the Service's Management Policies would start things at the other end. Meanwhile, the operating divisions in Washington would be scrutinized to test their real influence and competence as purveyers and interpreters of policy to their counterparts in regional offices, *and* as monitors of these counterparts. Regional Office divisions would be similarly evaluated for their effectiveness in providing leadership in their technical fields for counterpart park staff. In general, today, there is a vacuum of division-level policy guidance from Washington to Region to Park. Nor is there adequate mechanism for monitoring compliance with policy at the critical place—the park. Nor is there effective sanction for non-compliance. Nor is there comprehensive, structured provision for two-way consultative interchange amongst the three management levels. Training programs, conferences, and project-level involvements, however useful, are no substitutes for day-to-day leadership and feedback. Moreover, lacking subject-matter specialists in most parks, there is no one to receive technical direction nor generate feedback where the resources live. The result is idiosyncracy in resource management/operations and pallid, packaged interpretation.

It would seem that in contradistinction to our ecosystem view of the System we have neglected the human ecosystem of the Service. We currently provide neither the processes nor the components to make the institutional ecosystem go. Imagine that policy guidance is the equivalent of energy, and data equals nutrient, and appropriate staffing of areas assures primary production. If, as premised here, we are deficient in these things, the System/Service is not healthy, nor does the higher order of consumer, the visitor, get a good meal.

However fanciful the metaphor, the subject of **policy**—its constant evolution in light of new knowledge both esoteric and experiential, its effective transmission within the organization, and its quality-checked application through park resource management and visitor services—**is central** to the kinds of improvements we can make ourselves. The requisite is an understanding of our own institutional ecosystem, which continually renews itself in a cyclical flow expressed as policy^1 =operations^1 =policy^2 =operations^2 =policy^3 =operations^3..... ad infinitum. Surely this is a rich field for the Panel.

Given the Service's limited managerial resources, the numbers and diversity of cultural resources and programs causes concern. The Service directly manages an in-boundary inventory of thousands of historic and archeologic sites, structures, and scenes, including hundreds of major complexes. The Service also has major external-program commitments: preservation assistance, National Register and Landmarks, grants, tax incentive program HABS/HAER.

Problems or perceived problems revolve less around undergirding law and policy and the technical integrity of cultural resource programs, more around the disparity between extended responsibislities and limited managerial means to meet them—particularly the in-house ones.

Question: does the current organization of NPS cultural resource management and preservation activities unduly drain talent and attention from in-house resources? Strongly held perceptions in some NPS quarters that this is so should be tested and either laid to rest if erroneous, or remedied. The value of external programs in propagating preservation ideals and environmental amenity in buffer zones and beyond cannot be argued. The external preservation programs are probably the most important programmatic battery now available to the NPS for putting into effect the higher outreach levels of holistic management. They provide focus for a nationwide network of state, local, and private interests concerned with heritage affairs. Yet, the current organizational scheme, which blurs the lines between internal and external preservation talents and efforts, may indeed dilute an already anemic capacity for legally mandated internal resource management. For example, to-standard preservation maintenance, after initial comprehensive preservation, tends to suffer neglect in relation to more dramatic and publically visible initiatives.

Some of these initiatives represent external program opportunities and impositions, others new accessions to the System, or gratuitous additions to inventory via reconstructions. As originally conceived, the Historic Landmarks and later National Register programs were intended to spread the Nation's preservation burdens across many jurisdictions. Given the attrition of social surplus in state, local and private jurisdictions, preservation projects encouraged by National Landmark/National Register recognition face rough times. For projects unqualified for tax incentive assistance, the response to hard times—now incipient but growing—is of two sorts: seek more NPS

technical and grant aid, or have the NPS, through Congress, take over the project. Some of the proposals now building (e.g., Steam Town, National Trust maritime preservation project) would impose either direct management or long-term technical and grant-subsidy responsibilities on NPS.

Reconstructions within the System usually represent a combination of external pressure—originating with local pride and hopes for tourist dollars—and the Service's own tendency to respond positively to local preservation sentiments. Present policy strictures, based on accepted preservation canons, make reconstructions overt exceptions to the rules. Such reconstructions are uniformly speculative, usually to disqualifying degree as measured by professionals in the field. But more, they add to the already overloaded inventory of resources to be preserved and maintained. Current efforts to soften policy on reconstruction should be scrutinized with care. Overriding management necessity or Congressional directive can always force exceptions to the rules, making unnecessary their gratuitous denaturing.

Implicit in much of the above is the debate over big-ticket preservation and the conservative approach during tight funding, summed up as preservation maintenance. The Panel's assistance in resolving this issue could be important. The concept of limited powers applies to domestic as well as international affairs. Big ticket accessions to the System, or those generated internally, create funding black holes that stretch management resources to breaking point. Meanwhile the current inventory falls apart. It is true that restrictive preservation maintenance, if adopted today as the Service's basic cultural resource management criterion, would still involve many big-ticket items and expenditures (e.g., Lowell, Ellis Island). But an eye-of-the-needle approach to major new accessions—only truly significant properties—and a cauterizing view of existing in-house programs would be a start in damage control within current inventory.

The Service manages past environments both natural and cultural that provide stabilizing *contrast* to relentless change and modernization. The shallow view would term this phenomenon a vast national investment in nostalgia. At greater depth it is postulated that this society—like all others in history—seeks sustaining traditions and myths in its heritage properties. These places provide glimpses of other times, other responses, other standards. They are, in effect, our national baby, constantly in danger of being thrown out with the used up ideas and artifacts of a fast-moving culture.

Maintaining authenticity of heritage properties is the Service's greatest challenge. For the Service is a part of the evolving culture and can unwittingly reflect back onto the resources it manages the temporal, shifting standards of the moment. Both natural and cultural resource management begin with history—understanding the scenes of the past and the perspectives that our ancestors brought to them and derived from them. Thus the origin and lure of the vignettes idea.

In natural resource management it is imperative that neither inappropriate recreation activities, nor our own preemptive presence as storytellers, engineers or scientists jeopardize the authenticity of discovery in wildlands.

In cultural resource management—where the question can truly be asked, 'Is history really about the past?'—it is imperative that neither enlarged historical and anthropological insights nor current social needs convert ancestral understandings to mere instruments in current polemics. Certainly the *full* history should be told, including foibles, warts, follies, and the stories of those heretofore left out of history. But the lights and understandings of the historic period should be presented within the context of that time, with the judgments of hindsight clearly identified. This generation, too, is not without folly. Indeed, if learning from history is possible at all, it must be based on recognition of the seeming validity of the controlling ideas of the given time. Understanding cultural entrapment then may help us see it now.

In cultural as in natural sites, authenticity can be jeopardized by inappropriate recreation activities—including re-creations, the human equivalents of speculatively reconstructed buildings—and our own preemptive presence. Policies that restrict and screen such activities and preserve memorial scenes from inessential physical intrusion should be maintained. Of particular interest now is the increasing use of historical archeology at historic sites. Restrictive standards as to both necessity and method should be developed so that necessary work is accomplished by the most sophisticated means to leave site dignity and integrity unimpaired.

In wildlands the strength of the sense of discovery is the measure of maintained integrity. In cultural sites the sense of walking in ancestral footsteps, glimpsing the world as then seen is the measure. In both types of setting, intangibles and atmospherics determine. Management, though present and provocative, is, in the established scene, hidden.

Indigenous populations form an increasingly involved constituency of the Service. They may be live-in or nearby neighbors, some with consumptive-use privileges in parklands. They are very often subjects of interpretive programs and museum exhibits, which may be fashioned from the artifacts and totems of ancestors. The current NPS Native American Relationships Policy categorically covers the bases of these relationships. But the shift of traditional *NPS* preservation values can be difficult. In Alaska, for example, preservation of natural resource health and esthetics *includes* subsistence use. Increased anthropological orientation and perspective must inform park managers and staffs. Full participation of Native people in planning processes and as local-hire members of park staffs is essential for evolution of local policies and operations in the changing value system. The essence of the mated parkland/homeland is preservation of environments of cultural choice in a social context of never-ending dialogue and adjustment.

C. Evaluate relationship between Science and Management.

Perhaps no other subject, over the years, has engendered so much outside and inside interest as this one. Prescriptions and cautions flow from all quarters. At the core of the problem is the scientist's need for time to understand complex, long-cycle systems versus management's need to respond promptly to political pressures, fleeting funding windows, and resource management emergencies. Various organizational and funding formulas have sought to properly order the science/management complex for long-term basic research, mid-term compliance and resource management, and short-term decision and action under pressure.

Growing management awareness sees adequate science as the prerequisite for defining and defending resource management programs. With few exceptions, both managers and scientists agree on the complementary nature of their respective disciplines and functions. Yet day-to-day exigencies and different planes of concern tax goodwill and effective working relationships. Managers may view scientists, with their often-flaunted specialist credentials, as patronizing scholars pursuing their own esoteric ends; scientists may see managers as pragmatic generalists too expedient under pressure. Each seeks to control the other and thus the park's resources. Scientific and technical lines of authority, as distinct from traditional line-management authorities, exacerbate the competition for control.

In the last few decades the growing scientific value of near-natural park ecosystems has expanded the meaning of parklands beyond the traditional park idea. This expansion has created new pressures and dilemmas for the Service. By tradition and by statute parks continue to be "for people." In this context, park science has been employed to reduce impacts brought by more people and responsive NPS accommodations to them. In wildlife and floral management, park science has been restorative, preventative, and healing in attempts to undo such pre-ecosystem management policies as predator control, banning of fires, and introduction of exotics. Mitigation of threats of encroachment, including regional planning and coalitions, though somewhat expanding the field of park science, has mainly still been a subordinate, service function.

When a park manager says he is in the business of managing parks, he counts science as one of the tools available for preservation of park resources. Other tools, equally important, include maintenance, protection, and interpretation.

What happens to this arrangement when park science is viewed as an end in itself rather than as a tool of park management? When significant numbers of scientific and lay people view certain parks **primarily** as scientific benchmarks, gene pools, and relict environments of inestimable value to mankind in a trembling biosphere?

An extreme scenario might go like this: First, certain parks or segments thereof are designated ecological reserves. Second, scien-

tific study, not enjoyment and use, becomes the controlling purpose in such reserves. Third, traditional park management is relieved in favor of a science management board.

At present the Service has bought the doctrine of ecosystem management, but only within the frame of park management. Ecosystem management is a special and potent tool in **park** management, not an end in itself. Closures and restrictive use regulations, based on scientific data, are employed in sensitive habitats and communities. Beyond such discrete applications, there is conceptual flirtation with the ecological reserve idea, spurred in some places by the designation of Biosphere Reserves. But nowhere is the reserve idea more than a flirtation at present.

Meanwhile, pressure from the scientific community mounts for more park science, with the implication that it should go beyond the utilitarian tool kind of science, and with further implication or outright advocacy that certain rare places should be designated science reserves.

Service science policy, and thus its science programs, are confused in part because we are bound by statute and general expectation to manage parks in the traditional manner, realizing all the while that we hold in trust many of the world's most scientifically valuable ecosystems and gene pools still extant. In a sort of inchoate way we are beginning to respond to that realization, that trust, but we have no philosophical or authority frameworks for doing so in a definitive way.

This incipient shift raises the preservation-use dilemma to the 10th power. It causes stress between managers with an established mission and scientists with a new and compelling cause. And it renders meaningless the usual kinds of questions: what kinds and levels of information are needed for intelligent management of natural areas? Who should perform park research—NPS scientists or outside scientists? What is the interface between scientific research and resource management? How do we allocate management resources and prioritize projects and funding? How do we measure and serve visitor perceptions and values? The counter question must be **for what purpose?**

Answers to these questions are absolutely conditioned by the expressed and understood role of the National Park System. Is it solely a complex of **parklands** as originally conceived? Or is it partly that and partly, in certain identified areas, an **international scientific resource** that may in some unpredictable future—through study of the natural processes and gene pools there, perhaps uniquely there—save mankind?

If the latter, then we must have two sets of questions and two answering management schemes. One in the traditional parkland mold, the other in the ecological reserve mold. Their purposes and precepts would be quite distinct. If we reject such a notion but continue the current flirtation within an unexamined traditional framework, we can only compound confusion. For there is no doubt that the genie is out of the bottle, both within and without the Service. We are now attempt-

ing the impossible: to manage certain resources as traditional parklands, with the usual give-and-take of the preservation-use tension, when in fact we are aware (however reluctantly) that they posses higher potential as ecological reserves and 'should' be managed under more restrictive criteria—in essence put in the vault and saved as scientific capital for the future.

Under a scheme of dual science management much of the current tension between science and management could be resolved. There would be policy and geographic foci for science as **tool** and science as **purpose**.

D. Provide guidance on Holistic Management Strategies.

Holistic management can be approached through many doorways and on many levels. A few examples:

1. in-house administrative management, talent pool, and communications/monitoring techniques;
2. park-based, in-boundary preservation and protection of resources;
3. philosophies and techniques for buffer-zone and contextual-region protection;
4. visitor and general public interpretation and education in eco-heritage precepts;
5. 'highest and best use' zonation of land base, with assignment of carrying capacities and appropriate uses;
6. purpose of System/Service in local, regional, national, and world affairs—the evolving niche idea.

Implicit in these few examples are the interlocking objectives of holistic management:

1. to synergize and motivate the Service as an institution of dedicated, creative, and effective people;
2. to preserve unimpaired park resources;
3. to encourage environmental wisdom and amenity in the contexts of parklands;
4. to educate and motivate the public—visitors and neighbors —by example, on-site experience, and mission-based advocacy to join in the preservation of both environmental and cultural standards;
5. to rationalize the parkland mosaic, compatible with legal purpose, to achieve the highest environmental and cultural values;
6. to project the evolving mission of System/Service as trustee of irreplaceable physical resources, bearer of cultural tradition, and guardian of the environments of future choice.

All of these particulars would contribute to a higher aspiration, a higher holism usually unstated: the National Park System is our

Nation's version of ancient Arcadia and Academy.....a geography where the public consciousness is raised, where environment and experience come together in soaring thought, spiritual adventure, and new possibilities, some of which persist to enhance daily life "back home."

The stewards of the System sometimes lose sight of this overarching function, this central social purpose and ultimate reason for having a National Park System. Their work—as protectors, interpreters, scientists, administrators, maintainers—breaks down into small pieces and hidden couplings over which or through which the vital ethos passes unrecognized.

Yet it is this ethos that must be rejuvenated if philosophy is to have content and technique is to have purpose. Only thus can this organization overcome bureaucratic sterility, task specialization, burgeoning size, and geographic dispersion.

In its role as steward and interpreter, the Service—through its individual people—either contributes to or detracts from the System's potential to fulfill high purpose. In the quality and spirit of the settings and stories offered resides that potential. For none of the System's physical and intangible benefits can be compelled. The offering is all.

Perhaps the Blue Ribbon Panel should start here.

William E. Brown is a Historian with the US National Park Service, Alaska Regional Office in Anchorage.

National Park System Advisory Board Report on "Overcrowding" in the National Parks

George Barley, Committee Chairman
and ***S. J. DiMeglio***
with staff assistance by ***Priscilla R. Baker***

[Editor's Note: *A letter to the Editor from Steven H. DeBenedetti, Resource Management Specialist at Pinnacles National Monument, Paicines, CA 95043, carried in full in the Spring 1987 issue of* Park Science, *calls this report "seriously flawed" and "totally unacceptable" as a "direct affront to the principal mission of the National Park Service." DeBenedetti asks how the Board can act or base conclusions "upon assessments of an assertedly undefinable concept; one that in its own judgment has been only superficially studied?" He faults the Board for "reducing the park environment to the physical*

tourist facilities provided to accommodate visitors and by claiming ignorance of the body of literature that relates human influence to park ecosystems." DeBenedetti concludes that "it is more accurate to state that park managers, when confronted with scientific data on the relationship between visitor use and impact are hesitant, unwilling, or unable to make the hard decisions necessary to protect park resources because of external political considerations than to say that the data upon which to base such decisions do not exist."]

THE COMMITTEE held two meetings in Washington, D. C., reviewed reports of a recent National Parks & Conservation Association study of park carrying capacity, monitored media coverage relating to national park visitation, received and reviewed a report from the Conference of National Park Concessioners and conducted a survey of all national park areas. [The Survey follows at the conclusion of this report.]

As the National Parks & Conservation Association found and as many park Superintendents indicated, the term "crowding" or "overcrowding" is used to express an individual's personal judgment rather than to describe any scientifically-established measures of a park's visitation. As the Superintendent of Canyonlands National Park put it, the term "...is based on individual perspective and varies with locations. What is crowded to one person may seem to be wilderness and solitude to another."

On their survey instruments, park Superintendents had the same sort of difficulty trying to define "overcrowding" as the late Supreme Court Justice Potter Stewart had many years ago when he needed to try to define the term "pornography." Justice Stewart finally admitted that although he had not been able to establish a precise, acceptable definition of the condition, he most certainly could recognize it when he saw it.

When parks' campgrounds, parking lots and restrooms are full and more visitors are waiting in lines, the parks' staffs have no difficulty recognizing the problem.

Our survey results show that many parks need to add staff and/or redesign facilities to alleviate existing problems. However, since crowding occurs only sporadically and at fairly predictable times for most parks, the problem is not an overwhelming one systemwide. As more than one survey respondent indicated, the National Park Service cannot afford to design and maintain facilities for peak visitation periods any more than churches can afford to build with Christmas and Easter solely in mind. The alternatives are to regulate the flow of visitors using techniques appropriate to the site and to work through travel and recreation industry organizations to try to affect park visitation patterns where problems have occurred.

The results of the committee's survey of "overcrowding" show that few national park areas have engaged in scientific studies designed to measure human impacts on a specific natural or historic resource. Accordingly, little (if any) data exist to indicate the effects of public use on natural and other resources.

Where funds and staff have been made available, scientific carrying capacity studies are underway. But as the Superintendent of Castillo de San Marcos National Monument put it, "...physical damage is slow and difficult to prove."

Although several Superintendents felt that it would be desirable to undertake more research in this area, some were concerned that it might be difficult to affect park operations based on the results of the research. As the Superintendent of the Gettysburg National Military Park put it, "except in extreme, dramatic cases, the use of 'carrying capacity' as a scientific justification for imposing restrictions on visitor use will probably not be widely accepted by park users in the near future."

It also is important to recognize that visitor counts do not provide accurate measures of resource use in all parks. The Great Smoky Mountains National Park's Superintendent stated that "to correlate crowded highway conditions to resource damage and impacts from those same visitors is incorrect. For example, we had a record year (over 9.3 million visits) in 1985, but our backcountry use tumbled 50% from its peak seven years ago. More people are driving through, but less people are physically 'using' the park."

The Superintendent of Tumacacori National Monument, after 22 years of service with the National Park Service, stated that he feels "we may put too much emphasis on the number of visitors, rather than on the quality of their experience." He and many others commented that with adequate staffing, the National Park Service can protect the resources within the parks and assure the visiting public of the best possible experiences. Under such conditions, most parks indicated that they would welcome agressive efforts to increase visitation during periods when facilities are not already used to capacity.

Committee Recommendations

1. The National Park Service should increase its efforts publicly to promote the use of less well known parks and the advantages of off-peak time travel to the better known parks.

2. The National Park Service should continue to experiment with reservations systems and other limited entry systems in one or more parks or sections of parks where crowding problems have occurred. A systematic record should be made of the characteristics of these experiments and of their results in order that all parks may have the benefit of the information that is produced.

George Barley and *S. J. DiMeglio* are members of the National Park System Advisory Board; *Priscilla R. Baker* is Special Assistant to NPS Director Mott.

National Park System Advisory Board Questionnaire on "Overcrowding" in the Parks

Questionnaires were sent to all parks. Ninety-four percent of the parks responded.

Forty-two percent of the respondents indicated that they have no overcrowding problem. Twenty-two percent see crowds as a problem only in summer months. Twenty-four percent are crowded occasionally during the summer, especially on weekends and at special events.

The majority indicated that they would welcome additional visitation at certain times of the year.

The following methods are used most frequently to determine whether conditions of overcrowding have occurred (listed in order of most frequently mentioned):

- ✧ personal observation/judgement
- ✧ conditions of parking lot(s)
- ✧ visitor/vehicle counts
- ✧ length of waiting lines at various facilities
- ✧ scientific studies of human impacts on resources; carrying capacity studies
- ✧ impacts on sewer systems; human waste accumulations
- ✧ visitor comments
- ✧ numbers of permits issued
- ✧ attendance at programs
- ✧ campground use levels
- ✧ survey of visitor experiences
- ✧ use reports from commercial operators/concessioners

With few exceptions, the problem occurs only in the developed areas of the parks.

Parks use the following techniques to control the flow of visitors where overcrowding has occurred:

- ✧ Traffic control: staff supervision of traffic in and near parking lots to enforce parking limitations.
- ✧ Limits are set on numbers of visitors permitted to enter specific areas/structures.
- ✧ Shuttle bus systems are used to limit access to some sites.
- ✧ Visitors are provided with information on alternative sites/programs.
- ✧ Grass is left long in certain areas to discourage use.
- ✧ Site bulletins are posted.
- ✧ School (and other) groups must make reservations.
- ✧ New interpretive programs are developed in less-used areas, if available.
- ✧ Additional staff are assigned in crowded areas, if available.
- ✧ Entry is controlled in some parks.

- ✧ Some parking lots and campsites have been redesigned.
- ✧ Illegally parked vehicles are ticketed.

Several parks indicated that they would never have overcrowding problems if they had adequate staff and/or if certain facilities (i.e., campgrounds, parking lots, restrooms, auditoriums) were re-designed. One park, for example, has a theatre that can accommodate more people than the parking facilities can handle. Most parks would rather redesign or add facilities than turn visitors away.

Some parks feel that increases in entrance and user fees may affect attendance.

Some Superintendents indicated that they "....believe that effective marketing of under-visited parks is in the interest of the public and our resources."

The 306 Survey Respondents are Listed Below According to the General Characteristics of their Visitation Patterns

CATEGORY	NO. OF PARKS	PERCENTAGE OF RESPONDENTS
No Crowding Problem	128	42%
Summer Crowding Problem	67	22%
Occasional Summer Crowding	21	7%
Summer Weekends/Special Events	52	17%
Some Holidays Only	11	3%
Spring and/or Fall Season Crowding	18	6%
Winter Crowding	6	2%
Year Round Crowding	3	1%

Summer Crowding in National Park System Areas

Acadia NP
Antietam NB
Assateague NS
Arlington House
Bandelier NM
Big South Fork NP
Bryce Canyon NP
Cabrillo NM
Canyon de Chelly NM
Cape Cod NS
Cape Hatteras NS
Custer Battlefield NP
Denali NP
Eleanor Roosevelt NHS
Fort McHenry NM
Frederick Douglas Home NHS
Fire Island NS
Fort Clatsop NM
Fredericksburg/Spots NMP
Home of FDR NHS
Ice Age NSR
Indiana Dunes NL
J. D. Rockefeller Mem. Pkw.
Jewel Cave NM
Katmai NP & Preserve
Lake Meredith NRA
Lincoln Home NHS
Lower St. Croix NSR
Lyndon B. Johnson Mem. Grove
Mount Ranier NP
Mount Rushmore NM
Muir Woods NM
NCP—East
National Mall
Oregon Caves NM
President's Park
Rock Creek Parkway
Rocky Mountain NP

George Washington Mem Parkway
Gettysburg NMP
Glacier Bay NP and Reserve
Glacier NP
Golden Gate NRA
Grand Canyon NP
Grand Teton NP
Great Falls Park
Great Sand Dunes NM
Great Smoky Mountains NP
Gulf Islands NS
Haleakala NP
Harpers Ferry NHP
St. Croix NSR
Salem Maritime NHS
Sequoia/Kings Canyon NPs
Shenandoah NP
USS Arizona Memorial
Vanderbilt NHS
Whiskeytown-Shasta NRA
Wind Cave NP
Wolf Trap Farm Park
Wright Brothers NM
Yellowstone NP
Yosemite NP

No Crowding Problems in National Park System Areas

Aniakchak NM
Abraham Lincoln Birthplace NHS
Adams NHS
Agate Fossil Beds NM
Allegheny Portage RNHS
Alibates Flint Quarries NM
Andrew Johnson NHS
Apostle Islands NL
Bering Land Bridge N Preserve
Big Bend NP
Big Cypress N Preserve
Booker T. Washington NM
Boston-African American NHS
Big Hole NB
Big Thicket NP
Biscayne NP
Black Canyon of the Gunnison NM
Cape Krusenstern NM
Canaveral NS
Casa Grande NM
Chicago Portage NHS
Colorado NM
Capulin Mountain NM
Casa Grande NM
Chiricahua NM
Christiansted NHS
Clara Barton NHS
Coronado NM
Cowpens NB
Crater Lake NP
Craters of the Moon NM
Cuyahoga Valley NRA
DeSoto NM
Edgar Allen Poe NHS
John Day Fossil Beds NM
John F. Kennedy NHS
Kobuk Valley NP
Kalaupapa NHP
Kanai Fjords NP
Klondike Gold Rush NHP
Knife River Indian Village NHS
Lake Chelan NRA
Lake Clark NP & Preserve
Lowell NHP
Lava Beds NM
Lincoln Boyhood NM
Maggie L. Walker NHS
Martin Van Buren NHS
Mound City Group NM
Nez Perce NHP
Ninety Six NHS
North Cascades NP
Noatak N Preserve
Ocmulgee NM
Old Post Office Tower
Oregon NHT
Pu'uhonau O' Honaunau NHP
Piscataway Park
Obed Wild & Scenic River
Pipe Springs NM
Palo Alto Battlefield NHS
Pecos NM
Petersburg NB
Petrified Forest NP
Pipestone NM
Prince William Forest Park
Puukohola Heiau NHS
Richmond NBP

Ebey's Landing NH Reserve
Edison NHS
Eisenhower NHS
El Morro NM
Eugene O'Neill NHS
Fort Scott NHS
Frederick Law Olmsted NHS
Fort Bowie NHS
Father Marquette NM
Fort Davis NHS
Fort Donelson NB
Fort Jefferson NM
Fort Larned NHS
Fort Point NHS
Fort Raleigh NHS
Fort Stanwix NM
Fort Union Trading Post NHS
Fossil Butte NM
George Rogers Clark NHS
Golden Spike NHS
Grand Portage NM
Grant-Kohrs Ranch NHS
Guilford Courthouse NMP
Hamilton Grange NM
Herbert Hoover NHS
Homestead NM
Independence NHP
Jefferson Nat'l. Expan. Mem.
Rio Grande Wild & Scenic River
Roger Williams NM
Russell Cave NM
Sagamore Hills NHS
St. Gaudens NHS
Salinas NM
San Juan NHS
San Juan Island NHP
Santa Monica Mountains NRA
Saratoga NHP
Saugus Iron Works NHS
Stones River NB
Theodore Roosevelt NP
Theodore Roosevelt BP NHS
Tonto NM
Touro Synagogue NHS
Tumacacori NM
Tuskegee Institute NHS
Tuzigoot NM
Valley Forge NHP
Voyageurs NP
Walnut Canyon NM
White Sands NM
Whitman Missions NHS
William Howard Taft NHS
Women's Rights NHS
Wrangell-St. Elias NP/Preserve
Wupatki/Sunset Crater NM
Yukon Charlie Rivers National Preserve

NP System Areas Occasionally Crowded in the Summer

Capitol Reef NM
Carl Sandburg NHS
Castillo de San Marcos NM
Cedar Breaks NM
Channel Islands NP
Devils Tower NM
Fort Vancouver NHS
General Grant NM
Hubbell Trading Post NHS
Isle Royale NP
Jean Lafitte NHP & Preserve
Mesa Verde NP
Minute Man NHP
Navajo NM
New River Gorge NR
Ozark NSR
Petersburg NB
Pictured Rocks NL
Redwood NP
Sitka NHP
Upper Delaware Scenic River

NP System Areas Crowded on Summer Weekends and/or During Special Events

American Memorial Park
Andersonville NHS
Appomattox NHP
Everglades NP
Florissant Fossil Beds NM
Fort Laramie NHS

Arches NP
Aztec Ruins NM
Badlands NP
Benjamin Franklin NM
Bents Old Fort NHS
Bighorn Canyon NRA
Blue Ridge Parkway
Buck Island Reef NM
Buffalo National River
Canyonlands NP
Colonial NHP
Cape Lookout NS
Carlsbad Caverns NP
Chamizal NM
Chattahoochee River NRA
Coulee Dam NRA
Cumberland Gap NHP
Cumberland Island NS
Currecanti NRA
Delaware Water Gap NRA
Dinosaur NM
Fort Pulaski NM
Gila Cliff Dwellings NM
Gateway NRA
Glen Canyon NRA
Hampton NHS
Harry S. Truman NHS
Hopewell Furnace NHS
International Peace Garden
John Muir NHS
Lake Mead NRA
Longfellow NHS
Lyndon B. Johnson NHP
Mammoth Cave NP
Montezuma's Castle NM
Natural Bridges NP
Olympic NP
Pea Ridge NMP
Perry's Victory/Int'l Peace Mem
Scott's Bluff NM
Shiloh NMP
Sleeping Bear Dunes
Timpanogos Cave NM

National Park System Areas Crowded on Some Holidays Only

Amistad NRA
Arkansas Post NM
Fort Sumter NM
Fort Smith NHS
Hot Springs NP
Lehman Caves NM
Martin Luther King NM
Moores Creek NB
Padre Island NS
Saguaro NM
Zion NP

National Park System Areas Crowded in the Spring and/or Fall Season

Congaree Swamp NM
Catoctin Mountain Park
Effigy Mounds NM
Fort Frederica NM
Fort Vancouver NHS
Fort Caroline National Memorial
Fort Necessity NB
Friendship Hill NHS
G. Washington Birthplace NM
George Washington Carver NM
Guadalupe Mountains NP
Joshua Tree NM
Kennesaw Mountain NBP
Kings Mountain NMP
Manassas NBP
San Antonio Missions NHP
Vicksburg National Military Park

National Park System Areas Crowded in the Winter

Death Valley NM
Lassen Volcanic NP
Morristown NHP
Organ Pipe Cactus NM
Point Reyes NS
Virgin Islands NP

National Park System Areas Crowded Year-Round

Chickamauga & Chattanooga NMP Hawaii Volcanoes NP
Natchez Trace Parkway

National Park System Areas that did not Respond to Survey

Boston NHP
Castle Clinton NM
Chaco Culture NHP
C & O Canal NHP
Devils Postpile NM
Federal Hall National Memorial
Ford's Theater NHS
Fort Matanzas NM
Gloria Dei Church NHS
Hohokam Pima NM
Home of FDR NHS
Hovenweep NM
James A. Garfield NHS
Missouri Nat'l Recreational Riv.
Pinelands National Reserve
Rainbow Bridge NM
Sewall-Belmont House NHS
Thomas Stone NHS
Tupelo NB
War in the Pacific NHP
White House

New Options for Park Protection

Robert H. Gartner and *Theodore W. Sudia*

.....it would be useful if each of the federal land-management agencies had authority, staff, and funding to provide technical assistance.....to local, regional, and state governments to strengthen land-use and resource management planning for areas near and affecting the federal units. *

After 50 years of effectively being hidden, it is time to bring P.L. 770½ out of mothballs and examine how this 1936 piece of legislation can be employed effectively to help protect the national parks.

P.L. 770½, passed on June 23, 1936 authorizes a study of the park, parkways, and recreational area programs in the United States. It grants the National Park Service authority to aid States and local government agencies in planning public park areas.

The original bill (H.R. 10104) easily passed the House in January 1936, supported by the Secretaries of Interior and Agriculture, but was essentially gutted in the Senate. Among the provisions deleted were: 1) the acceptance by the Secretary (Interior and Agriculture) of

---

* An issue report, *Federal Resource Lands and Their Neighbors.* Conservation Foundation, 1979, by William E. Shands, describing Federal lands being adversely affected by activities taking place around them.

unconditional donations and gifts (of land) from private agencies or individuals; 2) the transfer of Federal lands to a State or local government for park, parkway, or recreational use; 3) financial aid to States and local governments in planning, establishing, improving and maintaining recreational area facilities. From the well-intentioned efforts of H.R. 10104, the National Park Service is left with only one substantial provision, the legal authority to provide planning aid as stipulated in P.L. 770½.

Protection of the natural and cultural resources within an NPS unit is an ongoing process for which the superintendents are responsible. However, the superintendents are increasingly beset by activities taking place **outside** their parks.

A traditional Federal response to the adjacent land problem has been to expand the park boundary by establishing new legislation and adding the problem site to the NPS unit in question. This solution (usually very costly) was used in 1976 at Cuyahoga Valley National Recreation Area in Ohio and in 1978 at Redwood National Park in California. Fee simple land acquisition is the preferred method because less-than-fee easement rights often run up to 95% of the fee simple costs. However, NPS has only limited authority to acquire interests in land beyond a unit's designated boundaries. An alternative method—land exchange—often is lengthy, cumberson, and expensive.

Another alternative is to coordinate NPS and State/local planning efforts. Both the U. S. Forest Service and the U. S. Bureau of Land Management have Congressional mandates to coordinate their land-use plans with the plans of State and local governments. In some cases, the Federal agencies have found that State/local planning capabilities and land-use regulation techniques were nonexistent. Therefore, the agencies had nothing with which to coordinate.

P.L. 770½ provides an opportunity to protect park boundaries by giving NPS the ability to aid the State/local governments via land use and recreational planning. The key to proper use of this law is a park superintendent who understands the act and is willing to work with the State or local jurisdiction. For practical and political considerations, a good working relationship with the local jurisdictions should be a top priority with all superintendents. A former NPS Director once observed, that "No park is physically, economically, or socially a self-sustaining enclave, but rather an integral part of the fabric of the surrounding community."

Every unit of the National Park System has national significance. An NPS unit attracts visitors for a variety of reasons and these visitors make a significant monetary contribution to the local economy. A case in point is the Grand Teton National Park, where the adjoining community of Jackson Hole, Wyoming, is totally dependent on tourism. Most communities realize the economic significance of an adjacent location to a Federal tourist attraction but they also are wary of Federal plans and actions that could affect the well-being of individuals and the community. To attain local cooperation, it is imperative that the Service be perceived locally as willing to work in

conjunction with local needs rather than intent on imposing some Federal design upon them. Emphasis on a symbiotic relationship will go a long way towards inclining local jurisdictions to work with the National Park Service.

Misunderstandings on the part of local citizens about the purposes of a National Park Service unit or misreadings of Federal policy can be avoided by timely communications with relevant local interests. Local jurisdictions and business communities that work cooperatively with a superintendent can help ensure that park boundaries remain protected and the experience of visiting the park remain distinctive and of high quality. Such an outcome is obviously in the best interests of both the local communities and the National Park System.

Let us now assume that the superintendent maintains good relations with the local jurisdiction and that the locals welcome NPS planning assistance. Who, then, will pay for the planning studies and who will do the actual work?

A drawback to P.L. 770½ is that while it authorizes assistance for planning activities, it does not authorize funding. Should the local jurisdiction offer reimbursement, the joint work can proceed immediately. In some cases, local jurisdictions receive planning aid from NPS when the aid and funding are specifically authorized in legislation. At Sleeping Bear Dunes National Lakeshore in Michigan, for instance, the enabling legislation allocated $30,000 to assist Leland County in developing land planning and regulation programs for lands adjacent to the park.

Funds also can be appropriated through legislation for each planning study. In this case, the NPS would prepare budget estimates and submit them along with the regular budget. In lieu of appropriated funds, we now assume that local jurisdictions are strapped for money and that NPS would have to pay for the study. Who then would conduct the study? Six options immediately evident are:

1. Donated private consulting/planning firms.
2. NPS planning team from the Denver Service Center.
3. Planning team from the Region.
4. Park Staff.
5. Volunteers In the Parks (VIP).
6. Staff and graduate students from local universities as Schedule "A"s.

Private consulting/planning firms generally are expensive because of their high overhead costs. Their expertise is usually in the area of urban planning rather than natural resource planning and protection. In some cases, private planning firms might want to contribute their services but this option is not a readily available or consistent source of support.

NPS planning teams from the Denver Service Center, the Region, or the park staff could do the job. NPS planners are experienced in working with land use plans and can be expected to do a thorough job to insure the park's protection. The park staff option may be the least feasible option because of its usual heavy workload and general lack of planning experience.

If in-house planners were used, NPS would pay the tab from ONPS (Operations National Park Service) funds. Since the salaries of the regional NPS planners are base funded, an average planning study would cost between $15,000-$20,000 (the salaries of Denver Service Center planners are project funded). The cost would increase if large amounts of data were needed and if the environmental compliance requirements were substantial. The final decision to assign the planning team rests with the superintendent and the regional director.

Volunteers in the Parks is the least expensive way to aid the local jurisdictions with their planning and, at the same time, protect NPS interests by combining the "aid" authority of P.L. 770½ with aspects of P.L. 91-357, the Volunteers in the Parks Act (VIP). The Volunteers in the Parks Act was passed in 1970 to provide a vehicle through which the NPS can accept and use voluntary help and services from the public. The major objective of the program is to utilize this help in such a way that it is mutually beneficial to the NPS and the volunteer.

Volunteers are selected to participate in the program because they can fill an identified need. Usually they are individuals or members of groups with specific skills and/or interests who will perform a specific function or type or work. Almost anyone can be a volunteer in the VIP program. A VIP is anyone who performs work for the NPS for which he or she receives **no pay from the Service**, except for reimbursement for out-of-pocket expenses (local transportation, meals, uniforms, lodging, supplies, materials, etc.). Volunteers receive the same benefits and protection as NPS employees and they can be lodged in government quarters (if available) and will not be charged rent or utility costs. Long distance travel reimbursement is not allowed but exemptions to this stipulation are possible. Each volunteer is supervised by a paid staff member of the park who is directly responsible for the volunteer's work. The persons may receive pay, work credit, academic credit, or other types of compensation from sources outside of NPS; if the Service is not paying these persons for the work they are doing, they qualify as VIPs.

P.L. 770½ and the VIP program could be implemented through the use of college students (preferably graduate students) to do the planning study. In many cases, a graduate planning course could undertake this project as a class assignment with supervision from the class professor. Small, rural counties and towns with limited funds have received planning help as a college class project. Usually this assistance comes from university departments such as Park and Recreation, or Urban Planning.

The NPS could engage students to perform the planning work under the VIP program, which would provide out-of-pocket expenses and lodging. In theory, this scenario is possible. The park would need to have VIP funds available, but the cost would be negligible compared to the benefit. Even though the work were being done for the local jurisdiction, VIP funds would be used because the park would benefit from the final product; the NPS mission of park protection would be served. The key here is a superintendent who has established a rapport with area colleges in addition to the local jurisdictions and can bring

the two together. It is in a superintendent's career interest to establish working relationships with the area universities regarding research that could benefit the park.

The use of NPS planning teams and the use of student VIPs can be effective for the protection of national park boundaries at a relatively low cost. Although professional NPS planners are preferred, the use of NPS planning teams would be the more costly of the two, but still far less expensive than land acquisition strategies. Use of the VIP program can return a quality product at a minimal cost. In either case, the success of park protection will depend on the ability of park management to establish and maintain a good rapport and working relationship with the local governments and universities.

The last option, a variation on the VIP approach, would have NPS engage the planning staff faculty and students from a university as Schedule A appointments. As long as the planning effort was contributing to the students' education, it would meet regulations.

Different parks have different problems. A variety of options is necessary to attack the incompatible uses surrounding the parks. P.L. 770½ provides six possible options. P.L. 770½ and a little ingenuity would go a long way towards solving some of the threats to park resources.

Robert H. Gartner is Natural Resource Specialist, and *Theodore W. Sudia* is Senior Scientist, both in the Washington, D.C. Office of the U. S. National Park Service.

The Educational Mission of The George Wright Society demands that solid and accurate Information be delivered to the Park Visitor. To this end, the Society urges all members and recipients of The George Wright *FORUM* to support, be members of, and be active in, the National Park Cooperating Association of choice. There are approximately 63 Cooperating Associations operating in 337 U. S. National Park System areas.

Notices

Symposium on the Significance of Long-Term Ecological Research in Preserving National Parks

Ohio State University, Columbus
Week of August 9—13, 1987

Symposium Description and Background

The U. S. National Parks consistently rank very high in public interest. The parks are scattered rather uniformly over most of the U. S., and are thus good indicators of national environmental change. At present most threats to park resources are external in origin. Their mitigation will require a new research strategy. The goal of this proposed symposium is to acquaint and encourage the Ecological Society of America community to see the research potential, public service value, and professional satisfaction possible from the conduct of research in national parks. Symposium objectives are (1) to demonstrate the unique opportunities parks have in the conduct of long-term ecological research, (2) demonstrate the need to carry out long-term research to meet mandate obligations of ecosystem preservation, (3) provide examples of where long-term ecological research in parks has led to change in park management and public land use policy, and (4) explore possibilities for use of the Park Service interpretive programs to further public knowledge of ecological research and its role in preserving our natural heritage.

The following points are germane to this topic: (1) Nationally we are losing examples of many ecosystems—particularly mature ones. Exceptions to this trend are the increasingly valuable national parks which represent a diverse array of our natural heritage—a heritage which is protected by law from deliberate disturbance; (2) we need to further our understanding of intact ecosystems—the duration of most ecological research is such that long-term change is missed, and the LTER program alone is not diverse enough; (3) National parks often provide a unique opportunity for the conduct of long-term ecological research; (4) the creation of many national parks was directly and indirectly related to their scientific value (W. S. Cooper, Glacier Bay and Isle Royale); and (5) Park Service research is generally not peer reviewed. Ecologists should become more involved in assuring the quality of such research.

The Park Service is now reexamining the policy ramifications of the 1963 Leopold Report, and it is timely that the ecological community be informed of developments in and the potential for long-term ecological research in national parks. Ecology is probably the most essential research discipline in providing the scientific basis for carrying out the mandates which established the national parks. But there has been very little outside involvement by

ecologists in park research execution or supervision. This is true regardless of funding sources. The ESA membership has both a professional and public service obligation to be more concerned with the conduct of ecological research aimed at providing the basis for preserving our national natural heritage.

Significance of Long-Term Ecological Research in Preserving National Parks

7:55am	R. Stottlemyer	Introduction
8:00am	R. Peterson	"The wolves of Isle Royale: 30 years of evolution in understanding."
8:30am	L. Loope	"The role of long-term research and monitoring in managing biological invasions in national parks of Hawaii."
9:00am	W. Halvorson and G. Davis	"Long-term natural resources monitoring in Channel Islands National Park and National Marine Sanctuary, California."
9:30am	J. Kushlan	"The Everglades: Developing ecosystem management goals based on long-term research."
10:00am	**Break**	
10:20am	R. Dolan	"Management of coastal and marine areas within the national park system."
10:50am	R. Stottlemyer	"Long-term watershed ecosystem research in national parks."
11:20am	**Discussion**	
12:00 noon	**Lunch**	

Thomas William Lucke
1940—1987

WE HAVE BEEN GREATLY SADDENED to learn of the recent death of Tom Lucke, a frequent contributor to *Forum*, and Chief of the U. S. National Park Service Water Resources Division located at Fort Collins, Colorado.

Thomas William Lucke, 46, of Fort Collins died Wednesday, February 25, 1987, at the Phoenix airport. Mr. Lucke was born October 21, 1940, in Dubuque, Iowa. He married Louise (Liz) Zimmer on August 24, 1970, in Cortez. Mr. Lucke was Chief of the Water Resources Division of the U. S. National Park Service. A 20-year veteran of the National Park Service, his previous assignments included: Mesa Verde National Park; the Western Regional Office in San Francisco; Buffalo National River in Harrison, Arkansas; Fort Larned National Historic Site in Kansas; and the Southwest Regional Office in Santa Fe, New Mexico. Before joining the National Park Service he served as a Peace Corps volunteer in Nepal.

A native of Bellvue, Iowa, he received a Bachelor of Arts degree in Classics and History in 1963 from Loras College, Dubuque, Iowa; a Master of Arts degree in History in 1965 from the University of Colorado; and a Law degree in 1971 at the University of Iowa.

Mr. Lucke was a life member of the Association of National Park Rangers and the National Park Service Employee and Alumni Association. He recently had been appointed Trust Fund Officer for the Employee and Alumni Association and to the Editorial Board for *Park Science*.

In Fort Collins he was a member of the Board of Directors for the Fort Collins Area Swim Team and attended John XXIII Catholic Church.

Tom is survived by his wife, Liz, and three children—Anne, David and Robert; his parents, Ester and Robert; his brother and sister-in-law, Bob and Judy Lucke; a brother, Will Lucke; and a sister, Ann Benson.

The family has requested that memorial donations be made to the *Employee and Alumni Association Education Trust Fund,* P. O. Box 1490, Falls Church, VA 22041.

We extend our heartfelt condolences to Tom's family and friends, and we all will miss him very much.

What Price War?

Do you know how much the United States spends on its military establishment? Do you ever wonder what our Nation gives up in order to finance military preparedness? What affect do military budgets have on the Nation's economic performance? If you wish answers to these and similar questions, consider purchasing an audiotape of a provocative and informative discussion by Professor Gary Williams, Director of the MBA program, College of Business, Stanford University. A tape of Professor Williams' 40-minute presentation can be purchased for $2.00 from *Beyond War,* 222 High Street, Palo Alto, CA 94301.

Back Issues of *FORUM*

Most issues of *The George Wright FORUM* are still available. The following pages contain tables of contents for the issues published thus far. Copies may be obtained for 50¢ by members, $1 by non-members, each, plus 40¢ postage (first class). Volume 1, Number 1 is no longer available.

Volume 1—Number 1

Volume 1—Number 2

Volume 2—Number 1

Volume 2—Number 2