

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.

Preamble Grist

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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 except 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 alarms 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 trammled 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 untrammelled. 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 statistical 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 internal 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 thereon, 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 pronouncement 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 tintured 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 colloquy 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 purveyors 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 idiosyncrasy 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 policy¹ = operations¹ = policy² = operations² = policy³ = operations³..... 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 responsibilities 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 possess 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.

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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