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**MULTIPLE USE AND SUSTAINED YIELD:  
CHANGING PHILOSOPHIES FOR FEDERAL  
LAND MANAGEMENT?**

THE PROCEEDINGS AND SUMMARY OF A WORKSHOP  
CONVENED ON MARCH 5 AND 6, 1992  
WASHINGTON, DC

PREPARED BY THE

CONGRESSIONAL RESEARCH SERVICE

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AT THE REQUEST OF

Hon. GEORGE MILLER, *Chairman*

COMMITTEE ON  
INTERIOR AND INSULAR AFFAIRS  
U.S. HOUSE OF REPRESENTATIVES



DECEMBER 1992

Printed for the use of the Committee on Interior and Insular Affairs

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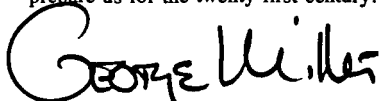
TO: Members of the Committee

The federal government's management of natural resources owned by the American people is coming under growing scrutiny. Many Americans question whether the changing nature of our nation has made the old ways obsolete or whether new requirements on federal land managers has effectively cancelled agency missions. Some question whether it is even possible to honor the icon of "balance" between production and conservation that so marks our political discourse on natural resources.

Population growth and urbanization in the West, demands for greater equity, the role of science and the need to protect biological diversity and healthy environments, competition between potential users, disagreement over the meaning of terms such as "sustainable" and growing polarization and stridency all mark the current course of public land management discussion.

In 1991, I asked the Congressional Research Service (CRS) to explore ideas which could help promote a new understanding of where we are and where we want to go in this area. As a result of those discussions, CRS convened a workshop on March 5 and 6, 1992, entitled, "Multiple Use and Sustained Yield: Changing Philosophies for Federal Land Management?" The workshop brought together almost a hundred people representing many experiences, points of view and disciplines.

The proceedings of that workshop are contained in this Committee Print. I believe that the discussions and papers gathered in this document offer much food for thought as we search for ways to update or renew old models of natural resources management and develop entirely new approaches that reflect our experience of the twentieth century and prepare us for the twenty-first century.



GEORGE MILLER  
Chairman



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LETTER OF SUBMITTAL

December 4, 1992

Honorable George Miller,  
Chairman, Committee on Interior and Insular Affairs  
U.S. House of Representatives, Washington, D.C.

Dear Mr. Chairman:

I am pleased to submit herewith a summary and proceedings of a workshop entitled "Multiple Use and Sustained Yield: Changing Philosophies for Federal Land Management?" This workshop emerged from discussions with the Committee about the evolution of these two fundamental land management principles for the U.S. Forest Service and the Bureau of Land Management and the principles' effectiveness and relevancy in this decade. The Congressional Research Service convened a two-day workshop to address these questions. Participants included twenty-five speakers and panelists, congressional staff, and fifty invited guests who represented a cross section of interests. The summary includes an overview of the purpose of the workshop, background on the multiple use and sustained yield principles, new concepts that could provide alternatives to managing Federal lands, and a discussion of issues associated with change. The proceedings include the papers presented by the speakers, the remarks of panelists, and the discussion of participants.

The workshop, and compilation of the summary and proceedings were coordinated by Adela Backiel, Specialist in Natural Resources Policy, and Betsy A. Cody, Analyst in Natural Resources Policy. Other contributors were Ross Gorte, Jeffrey A. Zinn, George Siehl, and M. Lynne Corn, Specialists in Natural Resources Policy, Alfred R. Greenwood, Senior Analyst, John Moore, Chief, and David Bearden, Production Assistant, from the Environment and Natural Resources Policy Division; and Pamela Baldwin, Legislative Attorney, American Law Division.

We hope the enclosed summary will be useful to the Committee as it continues its work in the area of Federal land management.

Sincerely,

Joseph E. Ross, Director

(v)

# **MULTIPLE USE AND SUSTAINED YIELD: CHANGING PHILOSOPHIES FOR FEDERAL LAND MANAGEMENT?**

## **SUMMARY OF A WORKSHOP CONVENED BY THE CONGRESSIONAL RESEARCH SERVICE**

**MARCH 5 AND 6, 1992  
WASHINGTON, D.C.**

### **EXECUTIVE SUMMARY**

Both the U.S. Forest Service and the Bureau of Land Management are governed by statutes and policies mandating land and resource management for multiple uses on a sustained yield basis. Over the years, increasing demands and pressures for resources and services from these Federal lands, plus heightened public interest in how these lands are used, have caused management and administration to become more complex and contentious. A growing sense of dissatisfaction has developed not only over individual uses of Federal lands and resources, but also over the fundamental operating principles of multiple use and sustained yield.

The Congressional Research Service convened a workshop in March, 1992, to review the intent and implementation of the multiple use and sustained yield management philosophy of Federal land management, and identify and explore new ideas -- or visions -- that could guide future Federal land management. This workshop -- *Multiple Use and Sustained Yield: Changing Philosophies for Federal Land Management?* -- was designed to expand the current debate for Members and Committees of Congress, and to assist them in assessing the level of congressional involvement in review or revision of the current system.

The Workshop stimulated the discussion and critical examination of new ideas in an open, nonpartisan forum. Participants were encouraged to think beyond the present constraints of current law and tradition, to think freely about the future in a creative way, and to suggest ideas that may never have been discussed in an open setting. This report summarizes the proceedings of the Workshop, highlighting key issues and ideas, and presents the papers that were written for and delivered at the Workshop along with the transcripts of response panels and discussion sessions.

The principles of multiple use and sustained yield have provided the underpinnings of the Forest Service and the BLM management philosophies for many years. Are they working today? Perhaps. They seem to provide a generally acceptable philosophy of resource management, and flexibility to adjust to changing demands and conditions. However, that generality and flexibility also vest substantial discretion with the agencies -- discretion that many critics believe has been abused. Others argue that multiple use and sustained yield have become too constrained by various environmental laws to work.

Is legislative reform of multiple use and sustained yield necessary? Is a new vision and philosophy of Federal land and resource management needed? While

there was little consensus on how to resolve the many disparate issues involved with Federal land management, there appears to be widespread dissatisfaction with how the current system is working. Many are calling for some degree of change. Some believe that change can be accomplished through administrative action, while others argue that legislative reform is necessary to effect sufficient change. Whether radical or incremental change of current policy is contemplated, it is clear that several major issues need to be addressed: protection of the fundamental capacity of natural systems to produce over time; definitions of multiple use and resource sustainability; public and private landowner cooperation regarding land management goals and practices; fiscal and economic responsibilities of Federal agencies; and the balance between national interests and local needs.

Whatever the future management situation of Federal lands and resources, many questions still remain. How is sustainability to be defined? What is to be sustained, and how is it to be demonstrated and evaluated by managers? Would an ecosystem-based management philosophy be part of, or synonymous with, or more than, sustainable management? How can ecosystem-based management be applied in a context of mixed ownerships? To what extent is there a commitment to commodity users that depend on Federal resources, and how can these local needs be balanced with broader national interests? What pricing system for resource uses and outputs is of greatest national benefit? Is it a fair system? How can the public be effective in their involvement with land management decisionmaking?

These issues and questions will continue to shape not only the current debates over Federal land and resource management, but will also structure future concepts of Federal land philosophy for years to come.

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# **MULTIPLE USE AND SUSTAINED YIELD: CHANGING PHILOSOPHIES FOR FEDERAL LAND MANAGEMENT?**

**SUMMARY OF A WORKSHOP CONVENED BY THE  
CONGRESSIONAL RESEARCH SERVICE  
MARCH 5 AND 6, 1992  
WASHINGTON, D.C.**

## **PREFACE**

Few organized efforts have questioned the fundamental management principles of multiple use and sustained yield, which guide the two largest Federal land management agencies -- the U.S. Forest Service and the Bureau of Land Management (BLM). That is not to say that these principles have never been challenged. Many of the current debates in Federal land and resource management seek to change the status quo: increasing grazing fees, preserving old growth forests, reforming the mining and reclamation laws, restructuring the Endangered Species Act, and many more.

These debates arise from increasing demands and pressures for commodity and non-commodity resources and services from Federal lands, plus heightened public interest in how these lands are used. Management and administration have become more complex and contentious. A growing sense of dissatisfaction has developed, not only over individual uses of Federal lands and resources, but also over the fundamental operating principles of the land management agencies -- multiple use and sustained yield. Are the definitions and interpretations of these principles still relevant today? Do they mean the same now as they did 30 years ago? Does legislative direction need to be revised? If so, what kind of philosophy could and should govern Federal land management?

In fulfillment of its mandate to anticipate emerging issues that are likely to be of consequence to current or future legislation, the Congressional Research Service convened a workshop to seek out and discuss different ideas and perspectives on the definition, implementation, and future role of multiple use and sustained yield. Although not specifically on the legislative agenda today, dissatisfaction with several fundamental aspects of current Federal land management underlies the majority of natural resource and Federal lands questions currently before Congress.

The Workshop, entitled "Multiple Use and Sustained Yield: Changing Philosophies for Federal Land Management?", was convened on March 5 and 6, 1992, at the Library of Congress, in Washington, D.C. (see Appendix I for the Workshop Agenda). Twenty-five speakers and panelists and fifty invited guests participated with Congressional staff in the Workshop. Speakers and participants represented a cross section of interests, including people who use the many products, services, and amenities from these lands, Federal land managers, natural resource professional societies, and academics who study the resources, their management, and the people who use or otherwise enjoy them (see Appendix II for a list of Workshop Participants). A workshop format was

used so that various ideas and perspectives on these issues could be presented and discussed, not just by CRS and the congressional community, but also by a professional, academic, and interest group audience as well.

The primary objectives of the Workshop were to assist Members and Committees of Congress in determining 1) whether they believe the current system of multiple use and sustained yield management is working, 2) whether it should be continued or revised, and 3) what a revision, or change in philosophy, might address. To carry out these objectives, CRS commissioned several experts to present papers on different facets of the multiple use and sustained yield concepts. The Workshop began by setting the context in which multiple use is viewed -- historically, scientifically, and socially. The first paper examined congressional intent of the Multiple-Use Sustained-Yield Act of 1960 and the Federal Land Policy and Management Act of 1976 and discussed how the philosophies expressed in these laws were developed and implemented. The second paper presented the social changes that have occurred in this country over the past few decades, including changes in public values, demographics, and uses of resources, all of which affect the interpretations and perspectives of multiple use and sustained yield policies. Then, critics and supporters argued their cases regarding maintaining, revising, or repealing these policies.

These papers and the discussions that followed set the stage for considering new ideas -- or "visions" of the future. Four speakers presented different visions of future Federal land and resource management philosophies and discussed why they would be important and how they might be implemented. Then, the mechanics, philosophical underpinnings, and pros and cons of these visions were discussed by three response panels. The response panels focused on 1) fiscal responsibilities and economics, 2) administration, management, and planning, and 3) resources and resource quality. The response panels were designed to include diverse views and perspectives. Two rapporteurs summarized the Workshop. (See Appendix III for biographies of Workshop speakers.)

This review and analysis of multiple use and sustained yield, with a forward look at potential and changing philosophies, was specifically designed to promote the critical examination of new ideas in an open, nonpartisan forum. Participants were encouraged to think beyond the constraints of current law and tradition, to think freely about the future in a creative way, and to suggest ideas that may never have been discussed in an open setting.

This report summarizes the proceedings of the Workshop, highlights key issues and ideas, and includes the papers that were written, delivered, and discussed at the Workshop. It stands as a tribute to the Workshop participants who showed that new ideas and discussion among disparate groups need not always be antagonistic or disappointing; that the future is not predestined; and, that continuing, open discourse of this kind could help to shape the way to both an individual and a collective vision of the future.

## BACKGROUND

The U.S. Forest Service in the Department of Agriculture and the Bureau of Land Management (BLM) in the Department of the Interior together manage nearly 70 percent of the country's federally owned lands and resources. These agencies are governed by statutes and policies that require lands and resources to be managed for multiple uses on a sustained yield basis.<sup>1</sup> The two other major Federal land management agencies -- the National Park Service and the Fish and Wildlife Service, also in the Department of the Interior -- differ from the Forest Service and the BLM in that their lands are designated for specific purposes, and management is not guided by the principles of multiple use and sustained yield.<sup>2</sup>

The multiple use and sustained yield concepts have been defined in law for both the Forest Service and the BLM. The Multiple-Use Sustained-Yield Act of 1960 (together with the Organic Act of 1897) sets forth land management goals and philosophy for the Forest Service and the national forests, and the Federal Land Policy and Management Act of 1976 governs activities of BLM and the management of public lands.<sup>3</sup>

### Forest Service

In 1891, Congress granted the President the authority to establish forest reserves from the existing Federal lands. As stated in the Organic Administration Act of 1897, these forest reserves (later renamed national forests) were:

... to improve and protect the forest within the reservation, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of the citizens of the United States.

This authority, and the Weeks Act of 1911, which authorized additions to the national forests through the purchase of private lands, provided the general land and resource management philosophy for the Forest Service until 1960. The Multiple-Use Sustained-Yield Act of 1960 (MUSY, P.L. 86-517, 16 U.S.C. 528) further describes the goals of national forest management:

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<sup>1</sup>For a history of legal and technical definitions of multiple use and sustained yield see "Some History of Multiple Use and Sustained Yield Concepts" by Perry Hagenstein in the Workshop Proceedings.

<sup>2</sup>For information on all four Federal land management agencies, see *The Major Federal Land Management Agencies: Management of Our Nation's Lands and Resources*. U.S. Library of Congress. Congressional Research Service. Report 90-239 ENR. May 7, 1990. 38 pp.

<sup>3</sup>"Public lands" are defined as those lands managed by the BLM; "Federal lands" is the term used to describe all Federal land-holdings.

Section 1. It is the policy of the Congress that the national forests are established and shall be administered for outdoor recreation, range, timber, watershed, and wildlife and fish purposes...

Section 2. The Secretary of Agriculture is authorized and directed to develop and administer the renewable surface resources of the national forests for multiple use and sustained yield of the several products and services obtained therefrom. In the administration of the national forests due consideration shall be given to the relative values of the various resources in particular areas. The establishment and maintenance of areas of wilderness are consistent with the purposes of this Act.

Multiple use and sustained yield were defined in Section 4 of MUSY as follows:

(a) "Multiple use" means the management of all the various renewable surface resources of the national forests so that they are utilized in the combination that will best meet the needs of the American people; making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions; that some land will be used for less than all of the resources; and harmonious and coordinated management of the various resources, each with the other, without impairment of the productivity of the land, with consideration being given to the relative values of the various resources, and not necessarily the combination of uses that will give the greatest dollar return or the greatest unit output.

(b) "Sustained yield of the several products and services" means the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the national forests without impairment of the productivity of the land.

In order to implement multiple use and sustained yield management, the Forest Service is required by the Forest and Rangeland Renewable Resources Planning Act of 1974 (RPA; P.L. 93-378; 16 U.S.C. 1601) to plan for the future. RPA focuses on the national, long-range vision of forest resource management, but also requires the agency to develop land and resource management plans for the national forests. Controversy over the use of clearcutting in national forests was the impetus behind amending RPA with the National Forest Management Act of 1976 (NFMA; P.L. 94-558; 16 U.S.C. 1600). Although clearcutting is still a controversial issue today, NFMA sets more definitive statutory guidelines for national forest planning, implementation, and reporting. NFMA directs the Forest Service to prepare comprehensive management plans for all national forests which then are integrated with the national RPA plan. NFMA reiterates the commitment to multiple use, requires an interdisciplinary approach to planning (including economic analysis and the identification of costs and benefits of all resource uses), and mandates public participation as an important aspect of the planning process.

The Forest Service now manages 191 million acres of land, including national forests, national grasslands, purchase units, land utilization projects, research and experimental areas, and other areas. Although these lands are

concentrated in the West, the Forest Service manages more Federal land in the East than all other Federal agencies combined.

### **Bureau of Land Management**

The BLM was formed in 1946 from the merger of two agencies in the Department of the Interior -- the General Land Office and the U.S. Grazing Service. The General Land Office was formed in 1812 to help convey lands to the country's early pioneers who first began to settle the western lands.<sup>4</sup> The U.S. Grazing Service was organized to manage the public lands best suited for livestock grazing under the authorities of the Taylor Grazing Act of 1934, which had been enacted to remedy the deteriorating condition of the public lands due to overuse and the drought and depression of the 1920s and 1930s.

Regarding the use of the public lands and their resources, numerous management authorities accumulated over the years and became increasingly scattered among Federal statutes. These laws applied not only to grazing and land disposal, but also to mineral leasing and mining, timber harvesting, homesteading, and other uses or services, and often resulted in inefficient and inconsistent land management. In 1964, Congress commissioned a major study of the law and management of Federal lands and resources, along with recommendations for improvements. *One Third Of Our Nation's Land*, the summary report of the Public Land Law Review Commission (PLLRC), was published in 1970 and provided the major basis for change. In 1976, after deliberations in three Congresses, a comprehensive public land law was enacted: the Federal Land Policy and Management Act (FLPMA, P.L. 94-579; 43 U.S.C. 1701).

Included in the declaration of policy in FLPMA was the premise that "... management [of these lands] be on the basis of multiple use and sustained yield unless otherwise specified". FLPMA also lists "multiple uses". However, the list differs from the one in MUSY:

... the public lands will be managed in a manner that will protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values; that, where appropriate, will preserve and protect certain public lands in their natural condition; that will provide food and habitat for fish and wildlife and domestic animals; and that will provide for outdoor recreation and human occupancy and use...

And, FLPMA defines sustained yield as:

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<sup>4</sup>Initially, the forest reserves were created from lands also administered by the General Land Office and were managed by the General Land Office. The reserves and the Forestry Division were transferred from the Department of the Interior to the Department of Agriculture, and merged with the existing Bureau of Forestry to form the new Forest Service in 1905.

... the achievement and maintenance in perpetuity of a high-level annual or regular periodic output of the various renewable resources of the public lands consistent with multiple use.

FLPMA requires the BLM to develop management plans for its lands and resources. BLM regulations require Resource Management Plans (RMPs) to be developed where conflicts over uses call for public input and a systematic review of resource uses and land allocations. In contrast to the national forest management plans, FLPMA did not set up a national planning process nor a target date for completion or periodic update of BLM plans.

Today, BLM manages 269 million acres, predominately in the western States, with 92 million of these acres in Alaska.

### **Special Management Areas**

Congress also has provided further management direction for particular areas for both the Forest Service and BLM by creating special designations based on specific characteristics or desired land use.

Three special management systems include lands from more than one Federal land management agency: the National Wilderness Preservation System, the National Wild and Scenic Rivers System, and the National Trails System. These systems were created by Congress to protect special features or characteristics that occur on lands managed by the various agencies. Rather than establish new agencies for these systems, Congress chose to have the existing agencies administer the lands within special parameters set by Congress.

In addition to these systems, each agency has several other types of congressionally enacted land designations. Congress has established national recreation areas, national monuments, wildlife preserves or game refuges, scenic areas, and other specially designated areas on national forest lands. For BLM, Congress has established national conservation areas and national recreation areas, and authorized the BLM to designate areas of critical environmental concern.

Congress has developed many different methods of emphasizing special lands, resource values, and management. Different land classifications have varying degrees of permitted and prohibited uses. Many classifications allow certain activities only if they are deemed compatible with the purposes for which the area was designated.

### **The Current Debate**

Over the years, increasing demands and pressures for resources and services from the Federal lands, plus heightened public interest in how these lands are used, have caused management and administration to become more complex and contentious. This is manifested in many of the current debates, such as mining

reform, wilderness allocation, below-cost timber sales, proposed grazing fees increases, old growth forest and spotted owl management, and appeals of land and resource management plans and activities.

The meaning and application of the dual concepts of multiple use and sustained yield have always been the subject of debate. The terms multiple use and sustained yield do not appear possessed of any more generally accepted meanings now than when they were first proposed, implemented, and then enacted. The debate today is essentially the same debate that took place years ago: is multiple use achieved through adjacent or sequential allowance of single resource uses or by simultaneous application of several uses? Is sustained yield only the maintenance of a periodic output of commodity products or is the essence of a newer term -- sustainability -- inherent in its meaning?

To a large extent, these debates are based on varying and evolving views of the definitions of multiple use and sustained yield. For example, multiple use has come to mean different things to different people. Some have come to view it as the justification for wildlife, scenic, and recreational values, but believe that it is no longer sufficient to protect the full range of resource values. Others assert that it justifies commodity production and that proscribing commodity production is counter to multiple use -- suggesting that such outputs are required and that managing land for recreation, wildlife, water, and other non-commodity values alone is insufficient for "true" multiple use.

Many argue that it is not a matter of uses at all, but of sustaining the resources and the ecosystems -- lest there be nothing left to use. Sustained yield, seen as periodic outputs of commodity resources, is not enough in this view. Some critics assert that this approach of sustaining outputs, not resources, has led to mismanagement by the Federal agencies and to a decline in the integrity and productive potential of Federal lands and resources. Thus, how the policies are interpreted and implemented by the agencies are as important as the definitions.

The focus of current concerns tends to be more on particular issues that involve land and resource allocation and valuation. However, the controversy can often be traced back to fundamental land management questions and to the relevance of multiple use and sustained yield as the guiding management philosophy for the Forest Service and the BLM.



## THE WORKSHOP<sup>5</sup>

### Setting the Context: Historical, Scientific, and Social

#### *Some History of Multiple Use/Sustained Yield Concepts*

Perry Hagenstein begins the Workshop by exploring the history of the multiple use and sustained yield concepts. His material draws from historical compilations and analyses, congressional documents, speeches, and letters and articles by dignitaries of the day. Hagenstein reminds us that when MUSY was passed, it was not a new idea and it was not a critical, or policy-changing, idea. Both the Forest Service and BLM were, in essence, managing under the philosophies of multiple use and sustained yield already, and the ideas had been integral to earlier decisions to reserve public domain lands for national forests and to end the era of using Federal lands as an inducement for westward expansion. The critical decision for Federal land management, according to Hagenstein, came much earlier when it was decided to keep lands in Federal ownership and not to sell or give all of the public domain to private settlers, companies, or the States. Even before they were defined in law, the multiple use and sustained yield concepts provided assurance to the West that resources from Federal lands would continue to be made available "to support ranches, mills, and other users of the region."

Hagenstein also discusses the politics surrounding the earliest Federal land allocation decisions, including the Administration, the agencies (including the National Park Service), and the resource professionals who had great influence in policy decisions. He notes the importance of the behind-the-scenes activities in getting MUSY passed, in developing its meaning, and in its implications for the definitions of multiple use and sustained yield for the BLM.

He suggests that Congress addresses political problems, not scientific ones. He finds that the legislative history actually sheds little light on the technical meaning of multiple use and sustained yield, and that interpretations of these terms rely less on legislative history than on debates among professionals. "Congress resolved the political issues of public land management that were of greatest concern at the time," Hagenstein says, but deferred to the land management agencies the technical implementation of the policies and "left those who had to implement MUSY and FLPMA with no clear guidelines or standards for clarifying" their meaning.

*Multiple Use.* Hagenstein traces the debate on the meaning of multiple use back to the 1940s when a critical debate was occurring within the forestry profession between two prestigious forestry academics. One school of thought defined multiple use as the spatial and temporal allocation of dominant uses — single uses designated for specific areas but multiple uses overall. The competing idea was the simultaneous use of the same piece of land for many of these

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<sup>5</sup>The papers written for and presented at the workshop and a transcript of the discussion periods following paper and panel presentations are presented following this Workshop summary. See Appendix III for biographies of speakers.

resources -- or joint production and use of many resources at the same time -- because the various uses of the forest "community" were seldom considered to be wholly incompatible. Although the latter idea may have, as Hagenstein put it, "presaged the current emphasis on ecosystem management" by envisioning multiple use being applied simultaneously, the former idea has generally prevailed.

*Sustained Yield.* A few laws that preceded MUSY and FLPMA developed the "idea that Federal timber would be used to sustain existing mills and communities as private timber was depleted," and that the "emphasis was firmly put on the sustained yield of lumber rather than on the forests themselves."

It is shown that both MUSY and FLPMA, and preceding legislation, defined sustained yield with two meanings: 1) management to assure the maintenance of the biological productivity or capability of the forest resources, and 2) management to provide a regular flow of products for human use. Although statutes included both interpretations, Hagenstein suggests that the regular flow meaning so dominated agency interpretation and implementation that the productivity meaning was virtually lost.

Hagenstein asserts that with the congressional approval of multiple use and sustained yield for both agencies, Congress "solved yesterday's problem by defining in law what had been in practice for many years" and immediately started disregarding it by passing laws that usurped some of the agencies management discretion (such as specific land and resource allocations and designations) or limiting the agencies' decisionmaking abilities.

Notably, the concepts of multiple use and sustained yield were not universally accepted, even at the time of passage of MUSY and FLPMA. Questions about the meaning of the terms and how to implement them started immediately. During the floor debate on MUSY, Hagenstein quotes one Member of Congress who noted that "the increased demands to use the forests for their many uses cannot be met simply by pronouncing a policy of multiple use." These concepts were also criticized as being vague, particularly in the PLLRC Report that provided much of the impetus and basis for FLPMA. Many of these doubts and questions remain today.

***Public Land Management and Three Decades of American Social Change: Thoughts on the Future of Public Lands and Public Demands***

Matthew Carroll and Steven Daniels address the macro-social trends that have changed the way people view public land management since MUSY and FLPMA were enacted. The authors describe four major vectors of change:

- the changing social composition of the United States;
- a growing distrust of government and other large institutions;
- the rise of environmentalism as a political and social force; and

- the rise of the information age and its implications for a changed world economy.

The changing social composition of the country has two major implications for Federal land management. First, population growth, largely from immigration, is leading to greater diversity. This means managing for a more diverse population in the future – "a deceptively simple thing to say, very complicated in terms of its implications," as Carroll and Daniels note. Second, the United States is becoming increasingly urban and suburban. This transition makes managing land and resources more complex because of the need to respond to an increasingly urbanized society while attempting to maintain the interests of the rural populations and economies which sometimes depend upon the Federal land and resources.

Carroll and Daniels find a growth in western society of distrust in government, business, and other large institutions, which affects the ways organizations operate. They contend that our society no longer believes that government can solve all problems and does not trust experts to make decisions for them. This leads to conflicts over land and resource valuations and management.

Concerns about the natural environment and quality of life have led to the development of a professional environmental sector within society. Carroll and Daniels suggest that the large body of environmental legislation is a "legacy of distrust of institutions to protect the environment," which has encouraged development of this professional, environmental sector and process-oriented decisionmaking.

The information and technology age has led to some important uncouplings in our society of linkages that were once predictable and direct. Carroll and Daniels cite two examples from an analysis by Peter Drucker. The first is an uncoupling of primary production from the industrial economy. Carroll and Daniels use agriculture as an example; agriculture used to be 25% of the Gross National Product (GNP) but is now less than 5% of the GNP, making the link between agricultural production and overall economic health both weaker and more difficult to see. The second uncoupling is between manufacturing and employment. For example, international competition has impelled technological improvements in lumber production, and the resulting efficiency has led to lower wood industry employment while maintaining output levels.

Carroll and Daniels apply the ideas behind these vectors of change to the four visions papers being presented at the Workshop and challenge the authors of the papers to respond to the specific needs and implications for Federal land and resource management that have accompanied these changes.

### **Is the Multiple Use/Sustained Yield Philosophy Working?**

In addition to historical and cultural views of multiple use and sustained yield, the Workshop critically examined current operations of multiple use and

sustained yield to gain perspectives on why some interests think the concepts work and others do not. These perspectives on the success of policy implementation are presented by addressing the question, "Is the multiple use/sustained yield philosophy working?"

***Is the Multiple Use/Sustained Yield Philosophy Working?*** James Magagna answers "Yes". Magagna describes the two policies as the basic philosophy behind the nation's commitment to three principles: 1) that the "productive capacity of the Nation's natural resources shall be harnessed to benefit" the citizens; 2) that natural resources shall be protected from abuse and destruction; and 3) that the Federal lands and resources in the West are an integral part of the base upon which the wealth of the States and citizens are founded. He asserts that although these commitments have been ignored, the basic principles have not been repudiated, leading to many of today's conflicts.

Magagna also suggests that the multiple use and sustained yield philosophy "should not be judged by the limits placed on its application nor by the facility of its implementation" because it has never been allowed to "operate in its purest sense." There have always been "other laws, regulations and policies that have bridled its full implementation. ... The magnitude and multitude of its handicaps have grown exponentially in the past decade." As examples he cites laws that reduced the land areas subject to the two policies (such as The Wilderness Act) and laws that restrict or eliminate certain uses and thereby upset the balances that multiple use and sustained yield management sought to achieve (such as the Endangered Species Act).

Recognizing that typical landownership patterns cannot be ignored, Magagna asserts that optimum management results are achieved when landowners, both public and private, subscribe to the same management theory. As the only theories having widespread acceptability, he maintains that multiple use and sustained yield should be kept. The greatest single threat to its application comes from "vocal advocates of single use on both the commodity and preservation ends of the spectrum." [According to Hagenstein, this was one of the reasons MUSY was enacted -- to ward off single use advocates.] While Magagna believes in the principles of multiple use and sustained yield, he also proposes a new axiom -- Responsible Shared Use -- as a recognition and understanding of all authorized uses of a given tract of land and the responsibilities of the user.

***Is the Multiple Use/Sustained Yield Philosophy Working?*** Richard Behan answers "No". Behan asserts that most of the difficulties in implementing multiple use and sustained yield result from the conceptual flaw of focusing on uses not resources, "which makes attainment [of these principles] . . . difficult if not impossible." He also criticizes implementation because it shows that "the best we could do in the past was to achieve multiplicity by adjacency -- a clearcut here, a wilderness across the valley; multiple use overall, perhaps, but damaged and segregated landscapes as a consequence. We failed to achieve multiplicity simultaneously, through harmonious coordination." The implementation of adjacent multiple uses has come to mean "a carte blanche invitation to reduce anything of value on public lands to private position and

benefit. . . . What Marion Clawson once described as the private use of public lands, [has become] the *de facto* land use policy for the Federal estate."

Behan proposes that "rather than looking at the uses we get from the forests, we need to look at the systems. . . . instead of sustaining yields, we should have been sustaining the biophysical systems in which they originated." He states that "the obsession with sustaining the yield of timber displaced an honest application of multiple use, and that precipitated the whole program of statutory planning for the national forests".

Behan goes on to say that statutory requirements for planning have led to the nationalization of local decisions -- a kind of "Potomocentric" policy of land use management -- which takes decisions out of the hands of the people it most affects. Behan believes that it is "time for a major change in [the current] *de facto* land use policy" of the Federal lands.

*Is the Multiple Use/Sustained Yield Philosophy Working?* John Leshy answers "Maybe". Yes, because it is still the country's most important Federal land management concept and is the governing standard applicable on more acres than any other concept of Federal land management. No, because events over the last twenty years or more underscore that Congress is recapturing its decisionmaking authority after decades of deferring to the agencies.

Leshy asserts that MUSY and FLPMA were passed when a high degree of influence and power still rested with the agencies. Yet, that power, he contends, has been flowing back to Congress "by steadily reclaiming political jurisdiction over Federal land management from the Forest Service and BLM. . . . Admittedly, it has not wholly repudiated the idea of agency discretion. . . . but Congress has been revoking the relatively blank check that [it] gave the executive agencies."

Increasing congressional power is being exerted, says Leshy, because the socioeconomic changes discussed in the Carroll and Daniels paper have led to public goals that differ from the results of multiple use and sustained yield management under substantial agency discretion. Congress has recaptured the power by altering agency decisionmaking. The changes that Leshy cites include: a) congressional designations establishing a dominant use for a specific area (such as wilderness and national recreation areas); b) substantive congressional limitations (such as the timberland suitability review in NFMA for timber harvesting); c) process-oriented laws requiring open, public decisionmaking (such as the National Environmental Policy Act (NEPA) as well as NFMA and FLPMA); and d) environmental protection laws that apply generically, across the board (such as the Endangered Species Act, the Clean Air Act, the Clean Water Act).

The effective result, Leshy asserts, is that Congress is much more in control because "these multiple uses are at the core of political decisions." But, "Congress is the most accountable political body in the country . . . [and] as long

as these lands are in Federal ownership, it is most appropriate that Congress make these decisions."

Leshy does not foresee a change in the flow of power from Congress back to the agencies anytime soon, nor does he see a constituency for making legislative changes to MUSY or FLPMA in the near future, primarily because it is more effective to change management through specific legislation affecting particular areas or uses. He believes that congressional power through specific legislation and through channeling the agency planning processes has effectively replaced multiple use.

Although Leshy does not see a "frontal assault on the central concepts" of multiple use and sustained yield, he reasons that they are "withering away." He predicts that "Congress will do something to change MUSY in 30 years when whatever system is then in practice becomes the standard. . . . However, going to a more dominant, or any other kind of system does not mean there would be no commodity production -- it just may not be the dominant use." Until that time, the two concepts retain enough "political currency to justify a very large amount of executive branch agency discretion over Federal lands."

### **Visions of the Future: New Concepts for Federal Land Management**

Four noted experts in various natural resource disciplines described future visions of Federal land and resource management. These four visions were 1) a vision of a public and private cooperative approach, 2) a vision based on using the tools of ecology and the concept of "ecosystem management," 3) a vision of resource management based on the free market system, and 4) a vision based on a strong "populist" notion of land management -- an emphasis on citizens participating in government. A description of each follows.

#### ***Vision: Public/Private Cooperatives***

##### ***A Public/Private Cooperative Paradigm for Federal Land Management***

During a recent stay in Russia, Carl Reidel and Jean Richardson met people who asked basic questions about starting a free enterprise and private property market approach to governance and the economy. The authors suggest that re-asking some of those same questions here in the United States may be helpful to evaluate our current system and philosophy of public land and resource management and to envision alternatives to the status quo.

Reidel and Richardson assert that the primary formidable challenges for any new public/private cooperative model would include major new visions for land and resource valuation, private property rights, and the role of government in keeping and managing public lands and resources in trust for the public. The issue of mixed land ownerships is seen as especially troubling in a cooperative model because "until we are able to value the ownership shares in any

cooperative arrangement, it will be impossible to calculate shared annual operational costs or to make realistic comparisons of the relative total costs of a purely public management system versus some cooperative system."

Although Reidel and Richardson do not foresee the wholesale replacement of our country's current land management system with one that is vastly different, they presented some strategies for change that would move towards a cooperative approach for both public and private lands and resources. Ultimately, however, some of these strategies would involve some changes in institutional and legal frameworks on both national and regional scales. This type of tinkering around the edges of the existing system, especially in regional settings, can have, the authors suggest, a "synergistic potential for creating new visions."

In the authors' search for working models, they draw on examples from other countries as well as from within the United States. One possibility is divestiture of public lands, within strict planning guidance, such as in Great Britain and New Zealand. Another is designation of significant landscape regions in which management and protection are an intergovernmental, public and private enterprise -- often called greenlining. With greenlining, they assert, there would likely be less emphasis on fee acquisition, direct government intervention and displacement of people than in the current system. They cite the English National Park System, Adirondak Park in New York State, and the Northern Forest Land Study of New England as examples. A third possibility is a new system of shared land ownership, including various types of easements, transferrable development rights, community land trusts, intergovernmental ownership sharing arrangements, special use permits and innovative variations of traditional leases.

The authors project that a cooperative vision with these types of strategies would likely be more market responsive. It would require radical institutional changes as new categories of shared ownerships are established which may conflict with rigid boundaries (such as State, county and other public and private borders) and existing parks and forests. Land use planning would be crucial, driven by local planning and local objectives within a strong national planning context. While they assert that it would be difficult for the current multiple use and sustained yield philosophy to coexist within such a cooperative paradigm, a more definitive delineation of uses (such as zoning might provide) could be achieved within particular areas.

The authors point out that while there are examples of cooperative natural resource programs throughout the history of public land management in the United States, few have been unflaggingly successful. Most "have failed on the threshold of private property rights." They see cooperative management currently being defined as a contract, a legal relationship. Until the time that cooperative management is viewed as a "social contract involving shared rights and responsibilities which strikes a balance between private property and social property," the authors see it remaining an option of last resort.

## ***Vision: Ecosystem-based Management***

### ***Do We Owe Anything to the Future?***

Although Chris Maser does not use the term "ecosystem management" (because, he asserts, ecosystems cannot be managed or controlled -- they are treated and respond to the treatments), he presents the basic benefits to society and to the resources of using ecosystem-based concerns to delineate or constrain land management. Maser emphasizes that lands and resources should be managed for more than just the political and economic expediency of the moment; they are our legacy to the future.

Maser asserts that before multiple use can be a viable policy, there must be sustainability of the ecosystem. Sustainability, in turn, depends largely on the biodiversity of the ecosystem, so that the capacity for choice is retained. "We must shift our attention from the mechanical notion of sustained yield to managing for a sustainable array of choices, which means we must afford the maximum protection to the existing biodiversity, regardless of the apparent, short-term, economic and political costs. . . . The loss of biodiversity may so alter the ecosystem that it no longer can produce that for which we valued it in the first place -- a desired lifestyle."

Although not quite defining sustainability, he does maintain that "while sustainability does not exclude the extractive use of resources, it does demand a balanced approach to their extraction and use." This balance means a "biological reinvestment of resources," without hesitating at economic or political costs. Maser challenges the status quo, especially current interpretation and implementation of multiple use and sustained yield, by demanding that society ask new and probing questions -- of natural resource policy, of supply economics, of consumptive lifestyles, and of sustainable development.

## ***Vision: The Free Market Enterprise System***

### ***Prices, Property Rights, and Profits: Market Approaches to Federal Land Management***

Terry Anderson's premise is that the public sector has not been successful in resource management and that private enterprise could do a better job. Anderson asserts that the continued existence of public lands is based largely on a belief in the Government's ability to address market failures, and that it is appropriate both to consider whether "political" (public) management is more efficient than private management and whether market failure is as pervasive as alleged.

Anderson summarizes the pervasive conflict of multiple use decisions: "the problem that both public and private allocative institutions must confront is how best to use resources when the values in different uses are necessarily subjective." Given this situation, he asserts that MUSY cannot work. In order



for prices to truly reflect values in alternative uses, a system of tradeable property rights is necessary.

To Anderson, the privatization of the Federal lands and resources is probably the best way to solve the problem. However, since that would likely be difficult to implement, both politically and institutionally, he offers ideas for actions short of such a wholesale change. He contends that within the current system of economy and governance, the only possible approach to achieve an efficient multiple use plan is one that depends on prices, property rights, and profits. Anderson provides thoughts on how prices, property rights, and profits might be used in the existing structure without transferring land in the Federal estate, such as 1) moving from "political" (public) rights to property rights for both resources and land; 2) having agencies' operating budgets rely on assets and revenues; and 3) charging market prices for most of the resources and services from Federal lands, and/or instituting a tax for environmental amenities. Anderson believes that many of these ideas could be implemented with few changes to the existing system of land and resource management.

### ***Vision: Public Participation***

#### ***Community Governance: An Enduring Institution of Democracy***

Margaret Shannon's vision of community governance is based on the need for a change in the political or governmental system so that the multiple use and sustained yield philosophy and the public participation provisions of NFMA and FLPMA can be fully implemented. She also implies that management of public resources as intended in current law and policy will never really work without such a system. Shannon's assertion, and her vision, are the opposite of the thought in the following citation from a footnote in Terry Anderson's paper: "Note that I use the terms political sector and political land because management is ultimately governed by politics. The terms public sector and public land conjure up visions of friendly town meetings where the citizens come to a consensus on how land should be used. Nothing could be farther from reality in the modern world of Federal land management."

Shannon implicitly rejects using the market as the basis for Federal land management because it relies solely on people acting independently in the marketplace. Rather, she "conjures up" exactly the sort of town meeting and consensus building atmosphere that Anderson belies and which she believes is the only way to achieve the intent of the laws. She states that the current system shows the national, or "nation-state" interests, as always first and foremost, but that this limits the scope of the debate among the decisions and the attempts at consensus. "Taken together, MUSY encodes the limits on debate necessary to force a perceived consensus among losers that their sacrifice is for the greater good. However, this consensus has diminished as localized policy deliberations throughout the planning processes have revealed the constraints on policy options imposed by federal administrators determined to serve the interests of capital in the immediate term rather than maintain the integrity of ecosystem processes in the longer term."

Shannon proposes a new model of public administration based upon principles of a democratic forum among citizens. This approach would bring interests together to discuss their goals, and management options and constraints. Agency employees would contribute their professional expertise, and knowledge and information about the land and resources. Acceptable decisions could then be built by cooperative and informed citizens, rather than handed down by agency decisionmakers.

### **Changing the Future: Where Do We Go From Here?**

Changing the status quo is not easy. Despite numerous evaluations of the present and tinkering with current programs and policies, the future always seems predestined even when it is not. As described by vision paper author Reidel: "We can't plan ahead because we can't imagine a future built on anything but present ideas which were forged and institutionalized in the past." But Reidel goes on to say that "we cannot escape the present, especially the mind set that prevents us from exploring truly new options, if we refuse to ask some questions and will not consider creative systems used elsewhere in the world. . . All we would be doing is rearranging deck chairs on the Titanic."

Carroll and Daniels, in their paper on socioeconomic changes, also caution against this feeling of predestination. The power behind the vectors of change they describe is the realization that the future is not predetermined. They emphasize our capability to mold the future through decisions made today.

The four vision papers were designed to step back from the present and the confines of current thinking, to be creative, and to stimulate discussion. Only by creating and thinking about a vision of the future can the future be redefined. However, as Hanna Cortner, one of the response panelists cautions, "Visions reflect distant stars that we may want to visit. And, I don't want to diminish the importance of gazing at those stars. However, in the meantime, down on earth, actual decisionmaking and change will continue to be characterized by incremental -- not radical -- adjustments and changes that reflect the diversity of interests and values within our pluralistic society."

Response panels were assembled to assess the "star-gazing" of the four visionaries by critically reviewing the philosophies of the alternative future visions. These response panels, in addition to the discussions throughout the Workshop and the summaries of the rapporteurs, identified a wealth of ideas and interactions that could only be captured by reading all the papers and the transcripts of the Workshop (see Workshop Proceedings). There are, however, issues that surfaced repeatedly and dominate both the vision papers and the panel responses. These issues promise to be among the most significant concerns and problems that Federal land and resource management -- with multiple use, sustained yield, or any alternative philosophy -- is likely to confront in the future. These issues are identified and discussed below.

***Sustained Yield v. Sustainability.*** Sustained yield and sustainability are not considered to be the same thing. Sustained yield emphasizes the continuous or recurring ability to produce outputs (largely economic) from a particular piece of land in perpetuity. The written definitions of sustained yield include the idea of sustainability (producing outputs without impairing the productivity of the land), although many question whether this part of the definition has ever really been implemented.

A universally acceptable definition of sustainability has not yet been written for either the domestic or international resource arena. However, the idea of sustainability adds another dimension to that of sustained yield – the idea of sustaining *all* resources, all of the interactions that comprise an ecosystem, and maintenance of ecological interactions and biological diversity. However, there are few measures of productivity that could be used to assess whether the land or resource productivity has been impaired.

As described by Richard Behan, sustained yield leads to managing uses, while sustainability leads to managing resources. He argues that management should not focus solely on sustaining production of resources currently demanded by humans, but should primarily emphasize tools and techniques to maintain the ecosystem and its interactions, and thus perpetuate all the resources.

And, as summarized by panelist Richard Alston: "The concept of multiple use and sustained yield was not a scientific one. It gave little or no direction in terms of what should be done on the land. . . . Hidden in the sustained yield language . . . was the promise that the Federal lands, whatever they produced, would be managed in such a way that there would be no permanent . . . impairment of the productivity of the land. And, as Hagenstein reminded us, that element . . . simply has been ignored. The idea of no impairment was not understood and was language that the agencies surely didn't want defined. Nevertheless, this conference and others like it are starting to define precisely the meaning of that term."

To Reidel and Richardson, "sustainability must rest on a holistic, ecosystem approach which operates on landscape spatial scales; bio-regions with ecologically-rational boundaries and integrated organizational systems that can cope with cumulative environmental impacts. It cannot function with fragments of multi-agency, site-specific land management systems based on out-dated political boundaries and Pinchot-era forestry."

Does the current definition of sustained yield agree with society's ideas about what it wants from its Federal lands and resources? Should the definition, or interpretation, of sustained yield be changed to equal what is meant by sustainability? Assuming that sustainability is a universal goal, how do we know when it is achieved, and alternatively, how do we know when we have fallen short? Is it possible to reward managers who are successful in moving toward sustainability within a budget system that emphasizes uses and outputs? How could an appropriate reward system, or evaluation criteria, be developed?

### Federal Land Management Viewed as a Natural Resource Trust Fund

A traditional trust fund is a collection of assets managed to produce a flow of annuities for beneficiaries. Trust fund management has at least two purposes: generating annuities, and protecting and enhancing the assets to assure future annuities. The annual benefits are important, but preserving the productive assets is paramount in trust fund management. (Trust funds in the Federal budget process are quite apart from this traditional view).

In many respects, the Federal lands are comparable to traditional trust funds created to provide natural resource benefits to the American people. The first "trust" was Yellowstone National Park, established in 1872, when the lands were set aside "... for the preservation, from injury or spoliation, of all timber, mineral deposits, natural curiosities, or wonders, within the park, and their retention in their natural conditions". (16 U.S.C. 22)

Yellowstone was, thus, both to be made available for public enjoyment and to be protected for the enjoyment of future generations -- the classic trust fund duality of annuity generation and asset preservation.

The national forests are also comparable to trust funds established to provide permanent natural resource benefits. The 1897 Forest Service Organic Act identified that the forest reserves were established "... to preserve and protect the forest within the boundaries, or for the purpose of securing favorable conditions of water flows, and to furnish a continuous supply of timber for the use and necessities of citizens of the United States ...". (16 U.S.C. 475)

The Multiple-Use Sustained-Yield Act of 1960 further defined the goals of national forest management, and specified the multiple uses and the sustained yield of outputs were to be "without impairment of the productivity of the land." This direction -- continuous and sustained uses and outputs while protecting productivity -- is consistent with trust fund management.

The Federal Land Policy and Management Act of 1976 enacted a policy of retaining public lands that extends the trust fund analogy to BLM lands as well. Management of the public lands was generally to be "on the basis of multiple use and sustained yield," and was to be "without permanent impairment of the productivity of the land and the quality of the environment." Again, management to provide uses and outputs while protecting the productive assets is similar to trust fund management.

In one respect, Federal land and resource management is more complicated than trust fund management. The annuities and assets of trust funds are measured in simple financial terms. However, the "annuities" from Federal lands include uses and outputs that are often not readily quantifiable. While commodity outputs (e.g., timber and livestock use) can be precisely measured, many uses (e.g., hunting and backpacking) are widely dispersed, and use levels are often only "horseback estimates". The "annuities" from Federal lands also include nonuse values -- knowing the resources exist (existence values), and preserving them for future generations (bequest values) -- that are far more difficult to quantify than use values are. (See box on Public Goods and Private Goods for more on nonuse values.)

The other major complication is that different balances of uses, outputs, and nonuse values from the Federal lands yield different distributions of benefits. Building and/or maintaining a campground, for example, provides little direct benefit to the timber industry or to backpackers, wilderness may benefit backpackers, but provides little of direct value for loggers or for snowmobilers. Thus, in contrast to trust fund managers, who deal only in dollars and cents and in one type of beneficiary, Federal managers of multiple-use lands must generate a publicly-acceptable mix of annuities for different constituents, as well as protecting and enhancing the value of the assets for which they are responsible, within current and likely fiscal constraints.

***Ecosystem-based Management.*** Related to the idea of sustainability is the concept of ecosystem-based management – managing lands and resources for the sustainability of an entire ecosystem. Under this management technique the sustained "health" of the ecosystem would become a driving force in land use decisions. While many agree that maintaining the health of Federal lands is important, people often disagree about what the term "health" means. Some groups define health in terms of maximizing the land's productive potential – in the short- and/or long-term. Others may define it in terms of a landscape capable of supporting the broadest possible biological diversity. Conflicts arise when these two views are seen as being mutually exclusive, or seen as requiring difficult or costly tradeoffs.

Ecosystem-based management in its broadest context may include managing lands for biological diversity, soil conservation, scenic beauty, and all other resource values. While maintaining biological diversity and the quality of other resources may be laudable goals, how do these transfer to actual management techniques in the field?

One approach to implementing ecosystem-based management has been the development of "new forestry." New forestry developed in part as an effort to manage lands for ecological values, while still allowing the harvest of timber. New forestry proponents assert that managing lands for the health of the entire forest system (water, soils, plants, and animals) will reduce the risk of fire, soil erosion, and insect and disease epidemics. Such management would preserve ecological interactions while accommodating some levels of uses and outputs – arguably the essence of sustainable resource management. Some critics argue that such management is too expensive compared to conventional forestry methods, such as clear-cutting; others argue that new forestry should not be used as a replacement for preserving complex ecosystems such as coastal or inland old growth forests. Also, critics question the broad application of a concept that has not been widely tested and is not yet a proven technique.

One issue stemming from the ecosystem-based management debate is the relation between the short-term costs associated with the concept and the long-term gains it may offer. Can ecosystem-based management work even where groups have different objectives in mind (i.e., commodity extraction, preservation of complex ecosystems or biological diversity)? Who should pay for the added costs (or forgone income) from new management practices? Does ecosystem-based management fit with the MUSY philosophy? What is the social and economic value of an ecologically healthy forest? Who determines that a forest is ecologically "healthy"? Do the benefits from such a forest outweigh the costs of such management? Who decides?

How would ecosystem-based management fit with the public participation required for Federal land management planning? Are new forestry and ecosystem management new buzzwords created to sustain the independence and influence of the professionals and keep the agencies from responding to the desires of the public? Would implementation of ecosystem management just be another "techno-fix"? Finally, can ecosystem-based management work when these ecosystems stretch across property, political, and jurisdictional boundaries?

Are current institutional arrangements sufficient and appropriate for areas of mixed ownership, especially public/private checkerboards? What options are available for changing the arrangements? Does the pattern of Federal lands need to be reorganized to include various ecosystems and address these concerns?

***Private Property Rights.*** Although private property has always been regulated in the interest of the public good, private property rights also have received considerable recognition and protection under the law. These rights, however, are scrutinized closely in many visions of future land management. One reason is because resource use on private land affects how public land is managed -- what goals are feasible, what activities are possible, and how best to achieve desired goals. Also, many people's future vision embodies some kind of cooperation among not only public land agencies but private landowners as well.

This type of cooperative management would be particularly important when attempting to manage the land and resources on an ecosystem basis. Boundaries of ecosystems (if ecosystem boundaries can be defined at all) rarely correspond with the boundaries that humans have placed on the land, e.g. acres, meridians, State borders, national forests and BLM districts. One of the classic examples of this in the Federal estate is the Yellowstone Ecosystem which includes not only the land within the boundaries of Yellowstone National Park but land from 7 national forests, 3 national wildlife refuges, two other National Park System units, and several BLM districts, as well as many acres of private land.

How can private property rights be protected while managing on an ecosystem level? What kind of incentives could be used to encourage private participation in cooperative management of both public and private resources? Could the tax system be modified to encourage cooperation, and if so, how? Or, could private land use be more regulated, by what level of government, and should the landowners be compensated?

***Public Participation.*** NEPA, NFMA and FLPMA all encourage public participation in the planning and management of major Federal actions on public lands. The agencies were directed to develop means of involving the public to 1) identify their needs and wants from Federal lands and resources and 2) plan to produce the desired goods and services. Expectations were that management decisions would be less contentious if they were made with public participation and awareness of public opinions and desires. These expectations have not been met.

Carroll and Daniels emphasize that public needs and wants change over time. Changes are caused by many economic, social and biological factors. Adapting to these changes is the job of a public agency. This is one of the reasons why MUSY and FLPMA left to the discretion of the agency the balancing of the various multiple uses. NFMA and FLPMA required that this would be done throughout the planning process and with public input.

No matter how public land and resource management might change, the mandate to involve the public in management decisions is likely to remain. Margaret Shannon's vision describes community governance as a way not just to involve the public, but to work cooperatively with the public agencies and in public decision-making. This type of change need not be viewed by itself but could be joined and implemented with ideas from many of the other visions.

Is community governance feasible? Can the agencies and the public work more closely and cooperatively? How will the results change? What added costs (in time and money) does this approach impose, and what possible savings? Is this approach sufficient to balance national and local interests? Does MUSY need to be amended (or is other congressional direction necessary) to effect the change? Are changes needed that go beyond the Federal land management agencies to all of our governmental systems?

***Local Needs v. National Interests.*** The problem of providing for broad social interests while preserving some local autonomy and the flexibility to address local conditions is a classical dilemma for governments. This dilemma is widely discussed in natural resource management, generally as preserving community stability while managing the lands and resources to meet national needs and goals. In part, this dilemma has resulted from the shifts in national priorities and the economic transition of the past few decades, as well as a declining base of relatively undisturbed ecosystems.

Many rural communities, especially in the West, developed around resource extraction and processing, and the Federal agencies contributed to such regional development. For example, many early timber sales required the buyer to build a public railroad and/or a sawmill to spur development; the last of the large regional development timber sales were the two long-term timber contracts sold in southeast Alaska in the 1950s. As James Magagna noted, multiple-use, sustained-yield management was seen by some, at least implicitly, as a commitment to sustained commodity outputs from the Federal lands.

Despite such local interests and community dependence upon historic patterns of resource use, national needs and desires have been changing. As described by Carroll and Daniels, the U.S. population has become more urban and suburban and less trusting of government, and the economy has (or at least many believe it has) become less connected to manufacturing, especially primary processing of raw materials, and more dependent on the information and service sectors. The changes have increased recreation, spurred concern about the natural environment, and heightened interest in the nonuse (existence and bequest, see box on page 20) values provided by Federal lands and resources. However, providing more recreation and nonuse values (or possibly even maintaining existing levels) from Federal lands and resources often conflicts with sustaining the levels of resource extraction upon which many rural communities depend. Multiple use, as defined in law, provides no guidance for resolving the differences between local and national demands.

The two-level (national and forest) planning process of the Forest Service is intended to help balance local and national demands. It requires multiple-use land and resource planning for the national forests, and national strategic planning to assess the overall renewable resource situation, develop a program, and evaluate results. In theory, local capabilities and demands from the forest plans contribute to the assessment of the resource situation, and the program then provides direction for the national forests. However, many have criticized this two-level planning process as ineffective -- as a political process with top-down direction that has ignored local capabilities and needs.

Can a balance between local and national demands be achieved? What level of land and resource planning is necessary and appropriate both nationally and locally? Is public participation in local planning sufficient to safeguard national interests? What happens if local decisions are made that do not sustain production of goods and services?

***Charging for Products, Uses, and Services.*** Historically, the Federal Government encouraged the settlement, use, and development of Federal lands and attendant resources, often at little cost to prospective users. In recent years, however, more people have begun to question the rationale behind the subsidization of natural resource extraction and other Federal land uses. Neoclassical economic theory asserts that subsidies always lead to overuse, and conservationists contend that the overuse caused by below-market prices has caused unnecessary degradation of Federal lands. Additionally, increasing pressure to manage lands for recreation, scenic beauty, biological diversity, and other "non-commodity" values may also result from below-market rates for uses and the difficulty in charging for nonuse values. However, this pressure has also added to the call to end subsidies for commodity uses that impose environmental or social costs on other users.

Key to the debate over Federal fees for resource uses and outputs are the expectations associated with such programs. In many cases, industries have developed and grown largely because of Government policies that encouraged the use and development of Federal land resources, and many western rural communities have come to rely upon firms that use timber, oil, gas, minerals, recreation facilities, water, and rangeland under permits or contracts that require nominal (or at least less than fair market value) payments to the U.S. Treasury. Policy changes that would restrict supplies from Federal lands (effectively raising prices) or directly raise prices are often met with outrage and criticism from those who depend on Federal lands and resources.

Given current budget constraints, should the Government continue to charge less than market rates for access to Federal lands and resources? Should pricing be the principle method for allocating land and resources among demands, or should other policy objectives, (e.g. supporting rural communities and selected industries, or subsidizing scenic or recreational values) be considered? Is there an obligation to continue pricing policies established decades ago? How dependent are communities and industries on natural resource subsidies? What would be the marginal effect of raising prices? How



much inefficiency is present in the current system? Should the receipts go to the U.S. Treasury or should they be used specifically for the uses from which they were derived? Consumption is also part of the economic supply and demand equation; how much can or should the agencies attempt to influence or manage demand? Can companion markets in conservation, environmental protection and preservation be developed as parallels to traditional markets for goods and services, such as transferable development rights, land banking, emissions trading, land trusts, etc.?

### Public Goods and Private Goods

Substantial confusion surrounds the use of the economic terms "public goods" and "private goods." Private goods are the commonplace goods and services that are exchanged in the marketplace. They are owned, used, and/or controlled exclusively by an individual or organization. For example, if you buy a car (or a gallon of gasoline or a hamburger), you control when, where, and how to use it (within the limits of the law). The enjoyment of private goods requires owning them – or leasing, borrowing, or otherwise legally acquiring exclusive rights to and control of the goods for a period of time.

Public goods are different. They occur because 1) simultaneous use by many people does not diminish the quantity or quality of each person's use, and 2) it is difficult or impossible to exclude benefits from people who do not pay. Sometimes this inability to charge results from difficulties in controlling access, but nonuse values – such as existence values (knowing the good exists) and bequest values (providing for future generations) – contribute to the problem of excluding benefits from non-payers.

National defense is the standard textbook example of a public good. The possible simultaneous use is obvious – if my home is protected from a hostile invasion, all my neighbors' homes are equally protected, and increasing my safety doesn't decrease (but rather probably increases) their safety. National defense also demonstrates the inability to exclude benefits from non-payers (a.k.a. free-riders). If your neighbors pay for protection, your home is protected, even if you choose not to pay. Furthermore, the benefits of national defense are primarily nonuse values; protection (deterrence) occurs because the defense exists.

These public goods characteristics – possible simultaneous use and inability to exclude benefits from non-payers – lead most economists to refer to the under provision of public goods as a failure of private markets. Because of the difficulty in collecting from beneficiaries, there is little incentive for private owners to provide public goods, even though they may be socially desirable. This is a common justification for government intervention in private markets – to encourage or require private provision of public goods or to establish government provision of public goods.

Many natural resources have at least some public goods characteristics. Dispersed recreation users (e.g., hikers and hunters) are relatively unaffected by others' recreational use of the same areas, particularly for large areas (e.g., national forests and wilderness areas). Charging for the use of some resources (e.g., water production and dispersed recreation) can be quite difficult, as well as illegal in some cases. Finally, nonuse values are the essence of some resources (e.g., endangered species and wilderness); their existence and preservation for future generations are a principal reason for their protection.

Also, does losing money on a resource sale or delivery necessarily imply a resource subsidy? For example, the Forest Service sells timber in competitive markets in many places, and loses money on some of those sales (i.e., administrative costs exceed bid values). If the timber is bid competitively to the fair market value, and the Government still loses money, is it a subsidy? Further, is losing money on resource sales necessarily bad policy? Are there other valid public purposes, such as community stability, served by sales where costs exceed revenues? When, where, how, and by whom should such policies be established?

## CONCLUSION

The principles of multiple use and sustained yield provided the underpinnings of the Forest Service and the BLM management philosophies long before they were codified in law. Are they working today? Perhaps. They have been described as "grand talismen" that are needed, especially now with increasing demands on Federal lands and resources, and they seem to provide a general and acceptable philosophy of resource management and flexibility to adjust to changing demands and conditions.

However, that generality and flexibility also vest substantial discretion with the agencies -- discretion that many critics believe has been abused. Others argue that multiple use and sustained yield have become too constrained by various environmental laws to work. As described by John Leshy, there is no question that Congress continues to diminish the discretion it gave the agencies with multiple use and sustained yield. But it is unclear, and highly debatable, whether new laws have been enacted because the multiple use and sustained yield concepts were not working, because of disagreements with agency interpretation and implementation, or because of broader social goals, such as clean water and endangered species preservation.

Is legislative reform of multiple use and sustained yield necessary and appropriate? Is a new vision and philosophy of Federal land and resource management needed? While there was little consensus on how to resolve the many disparate issues involved, there appears to be widespread dissatisfaction with the current system. Many are calling for some degree of change. Is wholesale change necessary, or can change occur within the current system through modification of implementation? Certainly, many people inside the agencies as well as outside believe that greater sensitivity to sustaining biological systems is needed, and recognize that all uses cannot occur on all lands and that the agencies are moving in that direction. Dr. Jerry Franklin writes that with new research "we have finally begun to develop a sound ecological basis for the concept of multiple use forestry."<sup>6</sup> Nonetheless, some argue that legislative reform is necessary to effect sufficient change. Many fear that without this action and oversight, agencies may, as described by panelist Johanna Wald, "capture the concept, but not change their ways" of doing business.

Whether multiple use and sustained yield are reformed legislatively or continue to evolve administratively, or whether radical change or incremental adjusting of current policy takes place, it is clear that several major concerns and barriers to change need to be addressed. These concerns are part of, and in some cases the entire thrust behind, the alternative visions of the future presented here. Frank Gregg summarized two of these as: "protecting the fundamental capacity of natural systems to produce over time ... and devising incentives to encourage responsible interaction among concerned people in seeking sensible solutions at levels at which resource [quality], [management]

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<sup>6</sup>Franklin, Jerry. The "New Forestry". *Journal of Soil and Water Conservation*. Nov./Dec. 1989. p. 549.

actions, and impacts can be comprehended." Hanna Cortner saw the fundamental issues as remaining at the center of the debates: "the appropriate use of public lands; defining the meaning of multiple use; and, defining resource sustainability -- living within the confines of our environment while still being able to produce an economic living from it." Other concerns include cooperation between public and private landowners regarding land management goals and practices; fiscal and economic responsibilities of Federal agencies; and the balance between the national interest and local needs.

Whatever the future management situation of Federal lands and resources, many questions still remain. How is sustainability to be defined? Under sustainable management, what is to be sustained, and how is it to be demonstrated and evaluated by managers? Would an ecosystem-based management philosophy be part of, synonymous with, or more than, sustainable management? How can ecosystem-based management be applied in a context of mixed ownerships? To what extent is there a commitment to commodity users who depend on Federal resources, and how can these local needs be balanced with broader national interests? What pricing system for resource uses and outputs is of greatest national benefit? Is it a fair system? How can the public be effective in their involvement with land management decision making?

These issues, and answers to these questions, will continue to shape not only the current debates but also will structure future concepts of Federal land philosophy for many years to come.

## WORKSHOP PROCEEDINGS

### Session I: Multiple Use Management: What Was It/What Is It?

- I. Some History of Multiple Use/Sustained Yield Concepts  
*by Perry R. Hagenstein, President, Resource Issues, Inc., and Institute for Forest Analysis, Planning, and Policy*
  
- II. Public Land Management and Three Decades of American Social Change: Thoughts on the Future of Public Lands and Public Demands  
*by Matthew S. Carrol, Department of Natural Resources Policy, Washington State University, and Steven E. Daniels, Department of Forest Resources, Oregon State University*

Questions and Discussion

## SOME HISTORY OF MULTIPLE USE AND SUSTAINED YIELD CONCEPTS<sup>7</sup>

### INTRODUCTION

Multiple use and sustained yield are concepts that are most often thought of in relation to federal lands. As directives in law, they now apply to the national forests, managed by the Forest Service, and the federal public lands, managed by the Bureau of Land Management (BLM). But to the extent that these concepts have meaning as management principles, they could apply to many other rural lands as well (McArdle, 1960. p. 145).

The national forests for the most part and the federal public lands almost in their entirety are remnants of the original federal public domain that once stretched almost unbroken from the Appalachian Mountains to the Pacific Ocean and Alaska. Most of the national forests west of the Mississippi River were reserved from the public domain near the height of the public land disposal era because of concerns that their timber resources would be rapidly depleted if they were allowed to go into private hands. Other areas in the eastern states, mainly lands that had been logged heavily, were acquired by the federal government during this century as additions to the national forest system. The federal public lands managed by BLM, many of them dry and unsuitable for agriculture, were available for disposal until they, too, came to be seen as having public values that would be lost unless kept in federal ownership. The final decision to keep them as federal lands was made in 1976 with the passage of the Federal Lands Policy and Management Act (FLPMA), although the real end of the disposal era came with the Taylor Grazing Act in 1934.

The idea behind the concepts of multiple use and sustained yield were an important part of the decisions to keep these lands in federal ownership. The basic idea was that the resources of the national forests and BLM lands would be available for use. Thus, the concepts of multiple use and sustained yield, even before they were defined in law, provided assurance to the West that resources from federal lands would continue to be made available over the long run to support ranches, mills, and other users of the region.

This paper traces some main threads in the intermingled technical and political history of multiple use and sustained yield. It starts with the management of the forest reserves in 1897 and ends with passage of FLPMA in 1976. It attempts to keep the history of the two concepts separate, but they remain substantially linked. Much of the focus is on the Forest Service because its statutory authority predated that of BLM, but there are also interesting turns in the development of the main ideas as applied to the lands managed by BLM.

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<sup>7</sup>Prepared by Perry R. Hagenstein, President, Resource Issues, Inc., and Institute for Forest Analysis, Planning, and Policy.

## MULTIPLE USE

As applied to national forests, multiple use has at least two common meanings or interpretations. First, there is the idea that Congress has authorized the Forest Service to manage the national forests for any of the indicated uses that it deems reasonable. The Forest Service has argued that it long had this authority. The Act of June 4, 1897 (the so-called Organic Act for the Forest Service), directed that rules and regulations be established to guide "the use and occupancy" of the forest reserves. The Forest Service, once it had assumed responsibility for administering the forest reserves, interpreted "use and occupancy" broadly. It regulated grazing and permitted recreation use, even though they were not explicitly mentioned in the 1897 Act, and considered that Congress had subsequently consented in this interpretation in various appropriation acts (Letter from Assistant Secretary of Agriculture E. L. Peterson, U.S. Congress, 1960a. pp. 6-7).

The other common meaning of multiple use is as a directive to manage tracts of land for some combination of uses. How this was to be done was the topic of considerable discussion over at least two decades prior to passage of the 1960 Act. One approach, supported by, among others, G. A. Pearson, a respected Forest Service silviculturist in the Southwest, was that multiple use would be applied over large enough areas that portions of the area could be managed for a single use, but that overall the area would be managed for more than one use (Pearson, 1940. pp. 248-249). The other approach, supported by an equally well-respected forester, Samuel T. Dana, who at the time was editor of the *Journal of Forestry* and head of the school of forestry at the University of Michigan, was that more than one use would be made of each area of forest land (Dana, 1943a, 1943b).

Both Pearson and Dana argued their cases persuasively. Pearson compared multiple use of forests with farming, where some lands are devoted to grain and others to pasture, while still others are used for orchards or woodlots. The land allocations would be based on soil and topographic factors. The alternative was the kind of farming where "pigs wallow in the dooryard and chickens roost on the family car." This, too, Pearson noted, "is multiple use" (Pearson, 1944. p. 243). Richard Behan also played on parallels to farming in his critique of multiple use, "The succotash syndrome, or multiple use, a heartfelt approach to forest land" (Behan, 1967).

Dana pointed out that while "simultaneous use of the same piece of land for several purposes is often difficult..., these various uses are seldom wholly incompatible" (Dana, 1943a, p. 625). He made much of the idea of forests as "communities," and presaged the current emphasis on ecosystem management in noting that foresters of the time eliminated "dogwoods and serviceberries and grapevines in stand improvement cuttings...with little regard to their value as soil builders, as sources of food for wildlife, or as scenic assets" (Dana, 1943b, p. 703).

In his accounts of the 1960 Multiple-Use, Sustained-Yield Act (MUSYA), Edward C. Crafts described what the Forest Service wanted when it took its bill

to the Congress. At the time Crafts was the assistant chief of the Forest Service for programs and legislation and was deeply involved in presenting the agency's point of view during passage of the MUSYA. It is clear from what he later wrote that the ends sought by the Forest Service in proposing and shepherding MUSYA through Congress mainly concerned interagency and jurisdictional politics. Interpretations of the technical meaning of the concepts of multiple use and sustained yield, thus, rely less on the legislative history of MUSYA than on debates among resources professionals.

The debate over the meaning of multiple use as a management concept continued up to and even after passage of MUSYA. G. R. Gregory showed how the tools of economic analysis could be used to identify those cases where multiple use was efficient, although getting the necessary data to define the competitive relationships among uses posed serious problems (Gregory, 1955). Richard McArdle, then chief of the Forest Service, explained how multiple use should be interpreted in a talk at the Fifth World Forestry Congress a few months after MUSYA was signed into law. His prescription included the requirement that there be at least three uses on the area in question, which could be as large as a national forest ranger district, and that each of the uses be actively managed, as contrasted with merely occurring in the sense that rain falls on all forest watersheds (McArdle, 1960. p. 145). These requirements, however, appeared to have as much foundation in interagency politics as in resources management science. Crafts pointed out how each of them distinguished what happens on national forests as compared with what happens on national parks (Crafts, 1972. pp. 58-61).

While resources professionals debated the meaning of multiple use as a management guide, the Forest Service was concerned with two other issues. One was the competition between the Forest Service and the National Park Service for control of some of the more spectacular areas of the national forests. The other was a growing concern that the burgeoning role of timber harvesting on the national forests following World War II would ultimately lead to conflicts with other uses, especially outdoor recreation. Both concerns increased with the establishment in 1958 of the Outdoor Recreation Resources Review Commission (ORRRC) (Crafts, 1970, Part I. p. 15). The Commission, headed by Laurance Rockefeller, seemed likely to weigh in with some force on the side of those who favored outdoor recreation and the Park Service.

Recognizing that the statutory authority of the Forest Service did not mention providing outdoor recreation as one of the purposes of the national forests, McArdle and Crafts decided to rectify the situation. They proposed and, after considerable maneuvering, as described by Crafts in a two-part article in *American Forests* in 1970, secured passage of the Multiple-Use, Sustained-Yield Act of 1960 (Crafts, 1970). The Act was short, but gave the Forest Service what it wanted--authority to manage the national forests for the five major renewable resources with broad discretion for deciding how to achieve some balance among them.



## SUSTAINED YIELD

As with multiple use, the concept of sustained yield can be assigned at least two meanings. The most intuitive interpretation is that forests should be managed to assure that the biological productivity or capability of the forest resource is maintained. The second meaning is that forests should be managed to provide a more or less regular flow of products, presumably products for human use. Bernhard Fernow, who in 1886 became chief of the Division of Forestry in the Department of Agriculture, thought of sustained yield in this sense as harvesting the interest on timber capital (Steen, 1976. p. 38).

The 1897 Organic Act, without mentioning sustained yield, said that the forest reserves were established to "improve and protect the forest...and to furnish a continuous supply of timber...." This could be interpreted to be consistent with either or both of the above interpretations of sustained yield, at least with respect to the timber resource. The next two statutes to deal with sustained yield on federal lands focused on the timber resource and on the second meaning--providing a regular flow of timber for use.

The first of these statutes was the 1937 Sustained Yield Act for the O and C lands in western Oregon (the revested Oregon and California Railroad Grant lands). This law, passed at the height of the Great Depression, stated that timber from the O and C lands should be cut "in conformity with the principle of sustained yield for the purpose of providing a permanent source of timber supply, protecting watersheds, regulating stream flow, and contributing to the stability of local communities and industries, and providing recreational facilities." It then went on to say that timber "in an amount...not less than the annual sustained yield capacity...shall be sold annually, or so much thereof as can be sold at reasonable prices on a normal market." The 1937 Act also authorized "sustained-yield forest units" to provide "a permanent source of raw materials for the support of dependent communities," as well as cooperative agreements that would coordinate administration of parts of the O and C lands and private or other timberland with respect to "time, rate, method of cutting, and sustained yield" of such units.

David T. Mason, a forestry consultant, played an important role in getting the 1937 Act signed into law. His concern during the 1930s had to do with the relationship between timber harvesting on private lands and on federal lands and the potential impact of federal timber on stabilizing prices for private timber. While the O and C lands held only a part of Oregon's timber, Mason believed it was enough to "depress the Oregon lumber market if it were indiscriminately cut" and he argued that it should be offered for sale in a way that would provide "a sound foundation for future response to variable conditions" (Richardson, 1983. p. 74). Thus, sustained yield as incorporated in the 1937 Act came to mean coordinating federal timber offerings with those of private timber so that total timber supplies did not exceed the demand for timber. Mason was given substantial credit for the idea even though variations on the idea had been proposed earlier by the first three chiefs of the Forest Service, Gifford Pinchot, Henry Graves, and William B. Greeley (Steen, 1976. p. 224-225).

It was also becoming evident at the time that the private timber that supported some northwest lumber mills was running low and that the future of these mills would depend on access to the vast stores of timber on the national forests. Mason suggested that access to the national forest timber could be had only if there were "strong cooperation between a progressive industry and a progressive Forest Service" (Richardson, 1983. p. 81). The Forest Service response was to propose long-term cooperative agreements with companies owning timberland adjacent to or intermingled with national forest timberlands. This led to the second of the two sustained yield statutes, the 1944 Sustained Yield Forest Management Act.

The 1944 Act provided for the establishment of sustained yield forest management units on the national forests, similar to those authorized for the O and C lands. The purpose of the 1944 Act was to "to promote the stability of forest industries, of employment, of communities, and of taxable forest wealth;...to provide for a continuous and ample supply of forest products; and...to secure the benefits of forests in maintenance of water supply, regulation of stream flow, prevention of soil erosion, amelioration of climate, and preservation of wildlife." On the sustained yield units authorized by the 1944 Act, federal timber supplies would be coordinated with private timber supplies in an area to assure a regular flow of timber to the market.

Sustained-yield units were attempted on both the O and C lands and the national forests. A dozen "master units" were established with O and C lands and these involved some private, as well as federal, lands. Five federal sustained-yield units that committed national forest timber to the support of particular communities were created in Arizona, California, New Mexico, Oregon, and Washington. In addition, one cooperative sustained yield unit, the Shelton unit in western Washington, was established to use national forest timber along with private timber to support a firm and its dependent community. On the whole, the idea for sustained yield units failed, in good part because of opposition from firms that would lose access to the timber that was assigned to others (e.g., see Richardson, 1980. 95-111). Nevertheless, the idea that federal timber would be used to sustain existing mills and communities as private timber was depleted was spawned with these two acts.

Neither Act specifically defined sustained yield. The main concern was sustaining timber harvests, but it was believed that this, as contrasted with overcutting, would benefit wildlife, watersheds, and other forest resources. As Steen notes, the emphasis had now been firmly put on the sustained yield of lumber (and presumably other products such as plywood) rather than on the forests themselves, and much of the credit for this goes to Mason (Steen, op cit, p. 251). In addition, the idea of using federal timber as a complement to private timber was established and would come back again in the recent debates over the national forests.

## THE 1960 MULTIPLE-USE, SUSTAINED YIELD ACT

Twenty-three years after Congress directed that the O and C lands were to be managed for sustained yield, and twenty years after G. A. Pearson began the "debate" over multiple use with Samuel T. Dana, the Forest Service decided that it was time for it to get statutory authority to manage the national forests for multiple use and sustained yield. It was not that the Forest Service wanted Congress to tell it what was meant by the two terms. In fact, Crafts wrote that the Forest Service wanted definitions of the two terms in the legislative history rather than in the Act itself because this would be "less binding" in administration of the Act. The definitions that appear in the Act were drafted by the Forest Service (Crafts, 1970. Part II, p. 31).

Nor did the Forest Service believe that it lacked the necessary authority to manage the national forests for multiple use and sustained yield. In his letter submitting a draft of the proposed legislation to the Congress, Assistant Secretary of Agriculture E. L. Peterson said that the Department "does not believe there is any question as to its authority to so manage the national forests..." based on the general authority granted in the 1897 Act that provided for administration of what were then called forest reserves, and the support given to various uses in subsequent appropriations acts (U.S. Congress, 1960a. pp. 6-7). Yet, without specific statutory direction for multiple-use and sustained-yield management, the Forest Service foresaw some problems that legislation might help skirt.

Crafts lists five such problems, of which the first three are pertinent: "(1) the drives by various organizations for single use or priority for their special use; (2) increasing conflict between national forest uses and users; (3) growing pressures to overcut national forest timber" (Crafts, 1970, Part I. p. 14). These were problems of resource allocation that could not be solved by technical means. They required a political solution, and that is what the Multiple-Use, Sustained-Yield Act offered.

The first of the problems listed by Crafts, drives by various organizations for segregating national forest lands for specific uses, was clearly high on the Forest Service's list of concerns. The Outdoor Recreation Resources Review Commission was working on its report, which was ultimately issued in 1962. Congress was considering various wilderness protection bills. And national forest lands in the North Cascades in the State of Washington were being considered as the basis for a new national park, one indication of what Fairfax called "the constant marauding of the National Park Service" (Dana and Fairfax, 1980. p. 201). The Forest Service believed that getting statutory authority for managing the national forests for multiple use, especially if outdoor recreation were included as one of the uses, could be used to convince Congress that it, rather than the Park Service or other agencies, should continue to have complete jurisdiction over the national forests (Crafts, 1972. p. 67). Assistant Secretary Peterson's letter of transmittal of the draft bill stated that this would provide "protection against advocates of single use," a code word for management of parks and wilderness areas (U.S. Congress, 1960a. p. 8).

The other two problems identified by Crafts were jurisdictional only to the degree that maintaining the largest possible land area under multiple use could help ameliorate them. Until the 1950s, conflicts among uses of the national forests were minor. But, pressure on all forest resources then began to mount and, as Zivnuska noted, "the question of resource allocation becomes important only when resources become scarce and take on value" (Zivnuska, 1961. p. 193). Crafts saw that the proposed bill had something for each of the interest groups at the time and, therefore, whatever concerns they had about the bill would tend to cancel each other (Crafts, 1970, Part I. p. 17). But he also believed that having statutory authority for multiple use and sustained yield would help the Forest Service fend off, or balance, the various interests over the long run.

This view was not held by all. Congressman Clem Miller of California during the floor debate noted the lack of clear guidelines for administration and said that "...this bill will solve nothing standing by itself. The increased demands to use the forests for their many uses cannot be met simply by pronouncing a policy of multiple use" (U.S. Congress. 1960b. p. 11717). Fairfax wrote some years later that, "The continuing difficulty with the term "multiple use" is that it does not give any guidance or set any standards" (Dana and Fairfax, 1980. p. 203).

In the absence in MUSYA of standards for applying multiple use, Crafts suggested using a talk by Richard E. McArdle, then Chief of the Forest Service, at the Fifth World Forestry Congress three months after MUSYA passed to determine how the Forest Service would apply the concept (Crafts, 1970. Part II. pp. 31-32). McArdle was talking about the part of the definition of multiple use in the Act that says, "making the most judicious use of the land for some or all of these resources or related services over areas large enough to provide sufficient latitude for periodic adjustments in use to conform to changing needs and conditions...." McArdle said that "...multiple use is positive, affirmative management..." and that it "requires that there be more than two uses" (McArdle, 1960. p. 145). McArdle also noted that multiple use must be judged "over a period long enough to experience the cycle of seasons" and that national forest districts, which at the time averaged about 200,000 acres, were of suitable size for judging whether multiple use was occurring (Id. p. 145). In a somewhat strained interpretation of uses, and one that again indicates the land jurisdiction issue that underlay the Forest Service's desire for a multiple use act, Crafts notes that having three or more uses was necessary "to have more uses than the National Parks have in order to distinguish their type of use from multiple use" (Crafts, 1970. Part II. p. 32).

The House committee report on its version of the multiple use act added a piece to the legislative history that seems to have come down on the side of G. A. Pearson's 1940 version of multiple use. This version was to erupt in controversy ten years after passage of MUSYA, as will be noted below. The Committee's report stated that while all of the named resources are entitled to equal consideration, in practice "...the priority of resource use will vary locality by locality and case by case. In one locality timber use might dominate; in another locality use of the range by domestic livestock; in another outdoor recreation or wildlife might dominate" (U.S. Congress. 1960c. p. 3). This portion

of the legislative history and the use of the term "dominate" appear to have been missed by Crafts and McArdle in their subsequent renditions of how multiple use should be interpreted.

Crafts' later account of MUSYA said that it was "defensive legislation...to prevent any particular use from assuming the driver's seat" and that it "should have resulted in major changes in administration" (Crafts, 1972. p. 79). That it did not he laid to the Forest Service finding that it was "very difficult to get hold of the concept in precise terms" and that the Forest Service "forgot the requirements of size of area, three of five resources, and affirmative management actions." The Forest Service "had difficulty translating generalities of the language, definitions, and history into specific working mechanisms" (Id., p. 80). This was after Crafts left the Forest Service in 1962 to serve as Director of the new Bureau of Outdoor Recreation in the Department of the Interior where, among other duties, he had to mediate between Interior and Agriculture over the North Cascades National Park issue. He found from this perspective that the Forest Service tended to use MUSYA "more and more...as a propaganda cloak" (Id., p. 80).

Little attention seems to have been paid to the meaning of sustained yield at the time. The definition of sustained yield in MUSYA was remarkable only in that it emphasized regular annual flows of all of the five uses of the national forests, and was not limited to timber as in the 1937 O and C Act and the 1944 Sustained Yield Forest Management Act. To the extent that sustained yield in MUSYA had antecedents, they appear to be those in the 1937 and 1944 acts. As Fairfax noted, sustained yield did not become an issue for fifteen years, while multiple use was controversial from the start (Dana & Fairfax, 1980. p. 202). But when it did become an issue, it concerned regular annual flows of timber to the market and the relationship of federal to private timber, the interpretations assigned in 1937 and 1944. The general interpretation of sustained yield as referring to maintenance of the productive capability of forests seems to have been lost.

## **MULTIPLE USE AND SUSTAINED YIELD IN BLM**

Under its general authority to protect and administer the unappropriated public domain, the Bureau of Land Management had provided for various uses well before it received permanent statutory authority in the 1976 Federal Land Policy and Management Act, the Bureau's organic act. Congressman Wayne Aspinall, in the floor debate over the Multiple-Use, Sustained-Yield Act of 1960, expressed his disappointment that the 1960 Act did not extend its multiple use and sustained yield authorities to all federal lands. He noted that multiple use already was "the general rule" in managing rural federal lands (U.S. Congress, 1960b. p. 11713).

The Bureau of Land Management got its first statutory multiple use authority for managing public lands in the 1964 Classification and Multiple Use Act (CMUA). This law was part of a three-piece package orchestrated by Congressman Aspinall. The centerpiece created the Public Land Law Review

Commission (PLLRC), which was to conduct a broad-ranging study of federal land laws and policies. A second piece provided for the sale of some public lands during the time that the PLLRC was making its study. And the third piece was the CMUA, which provided for classifying the BLM lands to identify those that should be made available for sale under the second of the three laws. Those lands classified for retention and "interim management" during the life of the PLLRC were to be managed under the principles of multiple use and sustained yield.

The definitions of multiple use and sustained yield in CMUA closely followed those in the 1960 MUSYA. However, the list of uses that justified interim management was changed from the Forest Service's five--outdoor recreation, range, timber, watershed, and wildlife and fish--by altering the wording somewhat and adding several uses: domestic livestock grazing, fish and wildlife development and utilization, industrial development, mineral production, occupancy, outdoor recreation, timber production, watershed protection, wilderness preservation, and preservation of public values that would be lost if the land passed from federal ownership. The changes reflected in part BLM's responsibility for administering mining and rights-of-way laws, as well as the fact that the Wilderness Act had passed Congress a few days earlier.

In its 1970 report, the Public Land Law Review Commission clearly favored the idea that BLM lands should, like the national forests, be available for a full range of uses, with priorities among them to be set by the management agencies depending on the character of the particular lands in question and the public's needs. The Commission was, however, critical of multiple use as a management concept, noting that "multiple use has little practical meaning as a planning concept or principle" (Public Land Law Review Commission, 1970. p. 45). The Commission then created a furor when it proposed that federal lands be allocated to the various multiple uses through a land use planning process that would recognize "dominant" uses on some of the available lands (Id., pp. 48-52). This proposal was made after considering a range of other planning approaches for resolving land use conflicts (Id., pp. 45-52; Hagenstein, 1972. pp. 66-73). And it had roots in G.A. Pearson's 1940 article and in the House Agriculture Committee's report on the 1960 Multiple-use, Sustained-yield Act. That report in its interpretation of multiple use, as noted above, said that in practice some uses would "dominate" the others in specific cases.

The Commission's report helped set the stage for BLM's organic act, the 1976 Federal Land Policy and Management Act. There was no doubt that this act, once it passed, would provide BLM with statutory authority for managing its lands for multiple uses and for sustained yield and, indeed, FLPMA provides for both. The definitions in FLPMA differ somewhat from those in MUSYA.

The FLPMA definition of multiple use differs in two respects. First, it directs that management not only avoid permanent impairment of the productivity of the land, as in MUSYA, but also that it not lead to permanent impairment of "the quality of the environment." Second, it expands on the list of uses that are embraced in the concept of multiple use. The definition in FLPMA adds mineral and natural scenic, scientific, and historical values to the

list of five in MUSYA. And the declaration of policy section of the Act says that the lands should be managed to "protect the quality of scientific, scenic, historical, ecological, environmental, air and atmospheric, water resource, and archeological values;...and provide for...human occupancy and use." FLPMA was a product of the new environmental era, and the additions to the definition of multiple use reflected this.

As recommended by the Public Land Law Review Commission, the means in FLPMA for deciding on how the now numerous multiple uses are to be accommodated on BLM lands is comprehensive land use planning (U.S. Congress, 1976. p. 2). Not surprisingly in view of the furor it had raised, especially among environmental interests, "dominant use" was not mentioned in the Act. Nor was it mentioned in the National Forest Management Act (NFMA), which passed Congress the following day and provided for parallel comprehensive land use planning for the national forests. At the same time, neither FLPMA nor NFMA provided much in the way of substantive guidelines to the management agencies for interpreting "multiple use" as they went off to allocate land to various uses in their comprehensive planning processes.

The definition of sustained yield in FLPMA does not contain the MUSYA phrase "without impairment of the productivity of the land." Thus, FLPMA apparently dropped the intuitive meaning of sustained yield as not reducing the biological capability of the land. This leaves BLM with a sustained yield directive only to maintain a high-level output of the various resources from the public lands, the same meaning assigned for sustained yield of timber in the 1937 and 1944 Sustained-Yield Management Acts. It may, however, be misleading to read too much into this even though, on the face of it, the act clearly defines sustained yield only in terms of assuring a flow of resources from the land.

The phrase "without permanent impairment of the productivity of the land" appears in the FLPMA definition of multiple use, as well as in the MUSYA definition, although the word "permanent" does not appear in the MUSYA definition. The FLPMA definition of sustained yield has yet another phrase, "consistent with multiple use," which may have been an editor's way of incorporating the concept of not impairing productivity in the meaning of sustained yield without repetition. There may also have been more substantive matters at stake over the phrase "without impairment of..." in the definition of sustained yield inasmuch as it was in both the Senate and House bills and was not dropped from the definition until the Senate-House conference. The reasons for dropping it are not clear in the legislative history. The word "permanent" was added to the House bill in response to a comment from the Department of the Interior that temporary impairment may be necessary in some cases (U.S. Congress, 1976. p. 474).

## SOME CONCLUSIONS

Congress did what it is best suited to do with respect to multiple use and sustained yield on federal lands. It resolved the political issues of public land

management that were of greatest concern at the time. When the forest reserves were created about the turn of the century, it allowed the Forest Service to manage them for those uses for which they were suited as long as the uses could be sustained. In 1937 and again in 1944, Congress passed laws to modulate the flow of federal timber to the market and adjust federal timber harvests in concert with private timber harvests to support dependent mills and communities. This was termed sustained yield. In 1960 the Forest Service believed it needed statutory recognition of outdoor recreation on the national forests to fend off incursions from other agencies. Congress provided it in MUSYA and called it multiple use, but did not limit future transfers of national forest land for more restrictive purposes. And in 1976 Congress in FLPMA provided BLM with multiple use authority for the unappropriated public domain lands when it became apparent that the bulk of these lands would no longer be offered for disposal to the private sector.

At the same time, Congress left those who had to implement MUSYA and FLPMA with no clear guidelines or standards for clarifying the meaning of multiple use. This is not surprising given the readiness of Congress to defer to the land management agencies on such matters and in view of the continuing debate among professionals over the meaning of multiple use as a management guide. In 1972, Crafts accused the Forest Service of using multiple use as a slogan, rather than sticking to what he saw as its practical meaning based on affirmative management of at least three uses on tracts large enough to make adjustments to account for changing needs and conditions (Crafts, 1972. 79-80). One might well ask if having those guidelines in a statute would have avoided current problems in applying multiple use, such as the lack of site-specific data on relative values of the various resources over the vast expanse of the federal lands? Or, would the agencies be in a more tenable position today if they had used the "dominant use" approach suggested in the House Committee report on MUSYA in 1960? Would dominant use zoning have lessened the dispute over the northern spotted owl?

Sustained yield posed fewer problems for Congress than multiple use when MUSYA and FLPMA were being passed and, until recently, fewer problems for analysts, too. The emphasis in 1960 and 1976 on maintaining a steady flow of resources from the national forests and public lands must have seemed a small price to pay for getting agreement on more contentious issues in these statutes--recognition of the legitimacy of noncommodity uses and a commitment that the land disposal era had ended. Congress did little more in these acts than it had to do with respect to multiple use and sustained yield.

The debates over the use of the national forests and federal public lands have now shifted. It is reasonable to ask if the meanings assigned to the concepts of multiple use and sustained yield by the Congress still have relevance. The legislative history of the two concepts has focused on political and jurisdictional concerns of the times and has avoided hard-and-fast guidelines for local decisions. Can we reasonably expect more from Congress in the future as it struggles with the competing interests and values in federal land policies?



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**PUBLIC LAND MANAGEMENT AND THREE DECADES OF  
AMERICAN SOCIAL CHANGE: THOUGHTS ON  
THE FUTURE OF PUBLIC LANDS AND PUBLIC DEMANDS<sup>8</sup>**

**INTRODUCTION**

Public land management in the U.S. is changing dramatically, due largely to forces exogenous to the lands themselves. These forces for change include:

- demographic shifts which are altering the country's social composition,
- growing distrust of government,
- the rise of environmentalism as a social and political force, and
- the coming of the information age and the changed world economy.

These changes have important consequences for the future of multiple use/sustained yield management, the balance between agency discretion and public participation, and rural communities.

Responses to such changes and their consequences can apply lessons learned from past experiences:

- There are no simple solutions to these complex problems;
- Policy experiments may provide solutions to the "wicked problems" of public land management;
- Institutional incentives exist in public land management policy and warrant examination;
- More land management decisions may need to be decentralized;
- Community development can be promoted;
- Public land management is an ongoing process of social learning for *both* citizen groups and land managers.

The ways societies manage land always reflects a great deal about their circumstances. Nowhere is this relationship better described in a North American case than in Hugh M. Raup's essay *The View From John Sanderson's*

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<sup>8</sup>Prepared by Matthew S. Carroll, Washington State University, and Steven E. Daniels, Oregon State University. The authors gratefully acknowledge the assistance of Andrea Brandenburg and Donna Cook in preparing this paper and the ongoing support of the Consortium for the Social Values of Natural Resources.

*Farm* (1966), which traces the evolving farm/forest land use in central Massachusetts from the 1730's to the middle of the current century:

I suggest that the principal role of the land and the forests has been of stage and scenery. The significant figures have always been the people and ideas they have had about what they might do at specific points in time with the stage properties at hand. At each point in time an actor could play his role only by the rules he knew in terms of his own conception of his relation to the play of which he was a part. He was always hampered by lack of precise knowledge of the stage and its properties, the land and the forests. Perhaps more important than this, he had severely limited knowledge of the changing rules by which he and other actors of his time were playing. Both of these failings are perennial and no doubt will continue to be.

As was the case in nineteenth century New England, the management of U.S. public forests and rangelands is anything but immune to the effects of local, national and international change. Recent statutes and continuing controversies related to public forest and range lands suggest that not only are circumstances exogenous to the lands themselves continuing to drive changes in their management, such changes are occurring at an accelerating rate.

While the present era is obviously not the first in which pressures for change on public lands have been exerted, it is increasingly apparent that public land management in the U.S. is in significant transition. The experience of over two decades of increasingly divisive and seemingly unresolvable controversies over lands suggests that public land management is undergoing sweeping rather than marginal change. We contend that these controversies are only the most visible manifestations of the interaction of a number of "vectors of change" whose origins and consequences reach far beyond wildlands, but which are fundamentally altering the "rules of the game" for their management. Once one understands these vectors, it is possible to determine the extent to which the current situation is a direct consequence of them, and then proceed to develop both predictions and policy recommendations. Our paper follows that design.

## **VECTORS OF CHANGE**

Social change in the U.S. has always been multi-faceted, but four of its features from the last 30 years are particularly relevant to public land management: the nation's changing social composition, the growing distrust of government, the rise of environmentalism, and the coming of the information age, particularly as it has altered the world economy.

### **Immigration, Regional Migration and Urbanization: the Country's Evolving Social Composition**

...The conflict between capitalism and tradition is now tinged politically, for, if economic and political power definitely passes into the hands of the urban capitalist, the question arises whether small rural centers of political intelligence, with their peculiar tinged social

culture, shall decay and the cities, as the only carriers of political, social and esthetics culture shall occupy the entire field of combat.- Max Weber (St Louis Missouri, 1906 (1946 ed.)).

If one theme cuts across the various factors resulting in pressure for changes in public land management, it is the growing population proportion and political and economic influence of the urban/suburban sector of U.S. society and the accompanying diminishment of the rural sector.

The changing social composition of the United States can be illustrated by examining demographic trends. Between 1960 and 1990, population increased 38.7% in the U.S. from 179.3 million to 248.7 million. Population growth during this period was due mainly to an increase in net immigration rather than an increase in the birthrate. The West has experienced the highest growth rate (88.2 percent) among the four census regions of the U.S. since 1960. The growth rate was down slightly during the 1980's but nevertheless, the West grew at a rate more than twice that of the nation. The only western state which did not grow from 1980 to 1990 was Wyoming, which decreased in population by 4% (Figure 1) (U.S. Dept. of Commerce, 1991c).

Trends in regional growth due to immigration into the United States can be illustrated more clearly by focusing on the growth rate that has occurred in California, Florida and Texas (Table 1). Growth in these areas can be attributed mainly to Hispanic immigration. For instance, California's Hispanic population increased sharply in 1990 by 69%, Florida by 83%, and Texas by 45%. In fact, for the first time in U.S. history, as few as three States (i.e., California, Texas, and Florida) counted for over half of the national population growth (U.S. Dept. of Commerce, 1991d).

Metropolitan areas (defined as an area with a large population nucleus at least 100,000 people together with adjacent communities that have a high degree of social and economic integration with the nucleus) reached 77.5% of the United States residential total. The nation's 248 metropolitan areas had a total of 192.7 million residents according to the 1990 census; This is an increase since 1980 of nearly 20 million, or 11.6 %. This increase in population, due primarily to migration and immigration has contributed to expansion into formally rural places. This phenomena is often referred to as "urban sprawl." The 1990 census predicts that by the early 21st century, if not before, metropolitan *suburban* areas are likely to account for more than half of the United States population (Table 2). Currently, the West has an overwhelmingly large metropolitan population, contributing to 84.6% of its total population. This reflects the sparse settlement of much of the non-metropolitan and rural territories in the Western States (U.S. Dept of Commerce, 1991b).

### **Implications of Demographic Change**

One obvious affect of demographic changes in the United States is Congressional representation. As a result of population changes from 1980 to 1990, eight States will have additional representatives in the 103rd congress. The largest gains will be in California (+7), Florida (+4), and Texas (+3), while

five other States, Washington, Arizona, Georgia, North Carolina and Virginia will each gain one seat. Thirteen States will have fewer representatives. The largest losses will be in New York (-3), and in Illinois, Michigan, Ohio, and Pennsylvania (-2 each). Eight other States, Montana, Louisiana, West Virginia, Kentucky, Kansas, Iowa, New Jersey and Maine will each lose one seat. Thus political power is continuing to concentrate in the Sun Belt states.

The population trends reveal that the U.S. is likely to continue to become more racially and culturally diverse. Thus, land managers will be faced with managing for an ever-broadening array of values. This in turn suggests increased potential for resource conflicts. The public land management implications of an increased suburban population have not been well studied. The influence of suburbanization is more difficult to fathom and it remains to be seen if new suburban dwellers will retain their urban values, or will begin to adopt the more traditional rural perspective. Clearly suburbanization is a wildcard in predictions about traditional rural v. new rural v. urban value conflicts over land uses.

Demographic changes are also creating new recreational patterns, a trend that is likely to continue, with significant implications for public land management. As the baby boomers approach middle age and beyond, demand for access to lands for developed recreation uses (i.e. elder hostels) are likely to increase relative to those for "high adventure" experiences which require substantial physical exertion. In addition, the two-career and more harried households cannot find the time for two-week trips, and are substituting shorter trips (Siehl, 1990).

**Table 1. Percent Distribution of U.S. Population Growth for Selected Areas, by Decade: 1960-1990**

<b>1960-1970</b>	<b>Population Growth</b>
Northeast and Midwest	39.0%
South and West	28.8%
California, Florida and Texas	32.2%
<b>1970-1980</b>	
Northeast and Midwest	10.1%
South and West	48.2%
California, Florida and Texas	41.7%
<b>1980-1990</b>	
Northeast and Midwest	11.2%
South and West	34.5%
California, Florida, and Texas	54.3%

**Table 2. Percentage of United States Population Living in Metropolitan Areas and Their Central Cities and Suburbs: 1960-1990**

<b>Year</b>	<b>Metropolitan Areas</b>	<b>Suburbs</b>	<b>Central Cities</b>
1960	63.3%	30.9%	32.3%
1970	69.0%	37.6%	31.4%
1980	74.8%	44.8%	30.0%
1990	77.5%	46.2%	31.3%

**Table 3. Percentage of Population by Age 1960-1988**

<b>Age</b>	<b>0-19</b>	<b>20-29</b>	<b>30-49</b>	<b>50-64</b>	<b>65 and over</b>
1960	38.5	12.3	26.0	14.0	19.2
1970	37.7	15.2	22.8	14.5	9.8
1980	31.7	18.2	24.1	14.7	11.3
1988	28.9	16.8	28.6	13.3	12.4

The older segment of the population is also likely to contribute to the growth of the "urban-wildland interface" as retirees migrate in numbers disproportionate to the general population to non-metropolitan counties:

Elderly migrants are now being hailed as economic saviors in some nonmetropolitan areas. The extraordinary growth of rural retirement has revitalized dozens of small towns; as a result, some state economic development officials court retirees who have Social Security, pension and investment incomes (Glasgow, 1991:26).

The phenomenon of retirees migrating to rural areas appears to be part of a larger but not yet statistically visible trend of "exurbanites" moving to what has become known as the "urban-wildland interface". This pattern is likely to result in a continuation of the current trend of increasing conflicts over uses of a particular management practices on lands adjacent to residential areas (Bradley, 1984).

Demographic shifts are clearly important harbingers of social change, particularly in terms of electoral politics. Note, however, that not all significant change is driven by population trends. For instance, ideas can gain currency and become the focus of a social movement that affects the politics and histories of entire societies, yet be largely undetectable in census data. A particularly relevant example is the effect that Rachel Carson's book *Silent Spring* (1961) had in influencing the evolution of environmentalism in western society. This book was instrumental in dampening public optimism that technology promoted by government leads to a better world (Hughes, 1989). The reaction to the book also contributed to the weakening of public trust in the government. This distrust continues today, and transcends demographic boundaries and trends.

## THE INCREASING DISTRUST OF GOVERNMENT

Identifying the beginning of a social change is always an arbitrary choice; anyone selecting a particular date or event will be deluged with critics arguing for earlier dates or a more subtle onset. Nevertheless, President Eisenhower's farewell address can be seen as the beginning of the great post-World War II distrust of government.<sup>9</sup> The electorate's respect for him was built in no small measure on his prowess as a general, so his broadside attack of the "military-industrial complex" was unexpected by many, and thus increased its impact. His classic statement that the military is too important to be left to the generals was a bold indictment of centralized power, and to a large measure set the stage for the analogous sentiment that governing is too important to be left to the government:

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<sup>9</sup>The distrust of an elite government is a durable feature of the American political landscape. Disagreement over the notion of superiority of particular classes in the political process was the great difference between Hamilton, who maintained the notion of class superiority, and Jefferson, who did not.



In the councils of government we must guard against the acquisition of unwarranted influence, whether sought or unsought, by the military-industrial complex. The potential for the disastrous rise of misplaced power exists and will persist. We must never let the weight of the combination endanger our liberties or democratic processes (Farewell Address, 17 January 1961).

At a general social level, the 1960's and early 70's were characterized by events that were at the very least public relations nightmares for the "establishment": the Bay of Pigs, the Viet Nam war, and Watergate. Big business was also being challenged more strongly than it had been since the Progressive era: Ralph Nader's indictment of automotive design in *Unsafe At Any Speed*, and the legal finding that Ford had knowingly produced the Pinto with a potentially dangerous fuel tank were important in this regard. The view that the individual had to stand up to the pervasive immorality of big business and government led to Nader's publication (et al., 1972) of *Whistleblowing*.

It is tempting to characterize these attitudes as concentrated in hippies on the west coast, but that would not be correct. Vocal distrust of government perhaps began on college campuses and was the most extreme in places like Berkeley, but it came to affect the general populace. It is important to note, however, that the distrust was not the same across all groups. Some found the government to be too authoritarian, others viewed it as excessively permissive. The key point is that the electorate began questioning the presumption that the people in charge were both competent and acting in good faith.

## THE RISE OF ENVIRONMENTALISM

The increased urbanization and skepticism of American society in the 1960's and 70's was accompanied by a significant increase in concern about the effects of human activities on the environment. Although such concern was present in many quarters of society, the emergence of environmentalism was largely an urban-based phenomena:

Cities were the major source of the environmental movement. Here was the largest membership in environmental organizations and the greatest expression of environmental values. Almost every foray into the dynamics of environmental affairs takes one back to the urban experience (Hays 1987 p.70).

There were both general and specific issues that fueled the growth of the environmental movement. At a general social level, much of the environmental damage was perceived to stem from the intransigence of big government and industry, and any situation where either institution was viewed as damaging the biosphere was politically volatile. The specific concerns which motivated this movement related to increases in water and air pollution which became increasingly evident in the 1960's and media attention to a growing number of environmental crises: the Santa Barbara oil spill, the proposed jet-port in the Everglades, and the construction of the Alaska Pipeline. Cases like the

fluorocarbon controversy raised serious question about the apparent willingness of business to endanger the environment rather than forego potential profits.<sup>10</sup> Even Ralph Nader, a peripatetic social critic, challenged National Forest management in *The Last Stand* (Barney, 1974).

The first Earth Day, 1970, served as a watershed for the public expression of environmental concerns and demands for cleanup (Milbrath, 1985). Although the first Earth Day is seen as the high point of environmentalism as a classic social movement, in the decades that followed, environmentalism became institutionalized and professionalized. The environmental movement is today no longer either insurgent nor fringe; rather it has taken its place along side industry and other major lobbying groups as an institutionalized and powerful part of the political landscape. In 1990, the total membership for 13 major environmental groups was 3.1 million with combined budgets of \$217 million (Dunlap and Mertig, 1991).

One of the most serendipitous events for the environmental movement (but arguably not for environmental protection itself) was James Watt's appointment as Secretary of the Interior at the outset of the Reagan Administration. It created a political backlash and resulting increase in the membership of mainstream environmental groups (up 21% between 1979 and 1983), with comparable increases in budgets. The Wilderness Society's membership grew by 144% during the same period (Dunlap and Mertig, 1991). Perhaps more important for shaping the movement's future was the emerging view that despite such gains as the National Environmental Policy Act of 1969 (NEPA), the creation of the Environmental Protection Agency and the appointment of environmentally concerned officials in the Carter Administration, government could still not be trusted to ensure environmental protection.

The long-time president of the Sierra Club, Michael McCloskey suggested recently (1991) that there are important divisions and challenges facing the environmental movement and that it has not been able to convert its resources into the magnitude of results that many of its adherents have hoped for and expected. One of these divisions, is that between main stream environmentalists and "deep ecologists". The latter groups, in the tradition of such activists as Edward Abbey and members of Earth First!, is described by Marston:

Although Earth First! may rail at organized environmentalism and its professionalism, its [Earth First!] real target is middle-class environmentalists -- people who want to have good jobs, and to use the public lands for recreation. These people bring a middle-class, parklike vision to the West that sets Abbey's and Earth First!'s teeth on edge. Abbey and Earth First! spokesman Dave Foreman are anything but middle-class park seekers. They are in flight from that kind of

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<sup>10</sup>Early findings about the effect of fluorocarbons on the ozone layer emerged in 1974 and DuPont, the world's largest producer of fluorocarbons, aggressively attacked the research and lobbied to prevent any fluorocarbon bans. A federal ban on fluorocarbons as an aerosol propellant was enacted in 1978, and their continued use as refrigerant and solvent was allowed (Velasquez, 1983).

America, attracted to the relic anarchy and violence of this nineteenth-century region. People who think ecotage is a tactic miss the point: ecotage is the end, not the means (1989, 160-161).

"Deep ecologists" are immersed in nature on an emotional and philosophical level, and their power in the public policy sector is growing. These new environmentalists believe that human beings have the obligation to extend the rights to life and well being to all living organisms. This belief system creates an ethical extension from the kind of environmentalism we have become familiar with in the past (Nash, 1989). In turn, this stricter environmental ethic creates activists who, like the traditional rural dwellers they often oppose in land management debates, will quite literally fight for what they believe.

There are at least two commonly held views about the relationship between the rise of environmentalism and the current polarization over land management. On the one hand, it is argued that environmentalists are the provocateurs since they are the ones raising objections to many land management practices (Barton, 1992). The other camp holds that polarization is the result of longstanding reluctance or inability of many resource managers to recognize widely held values and knowledge concerning wildlands (Fairfax and Achterman, 1977). A more detached perspective suggests that differences in deeply felt values and beliefs underlie the conflict, and a constellation of social and legal structures, attitudes among professional land managers and others, and the skill of the environmental lobby at marketing its agenda have contributed to its continuation.

### **Environmental Legislation as the Legacy of Distrust**

It is difficult to imagine that controversies over public land management planning in recent decades would have been nearly so protracted or complex in the absence of environmental activism. One result of these controversies has been the dramatic increase in process and documentation requirements for public land planning and decision-making. Many of these requirements are a result of the passage and subsequent judicial interpretations of NEPA. The core of the "NEPA process" is to document the environmental impacts of a proposed action and to rigorously compare the impacts of alternatives to the proposal.

The rationale for developing the procedural requirements in NEPA is twofold: to require decision-makers to consider in a very specific manner the environmental effects of actions and secondly, to ensure that the decisions are available for public review through the documentation process. These are also symptom and cause of the way those agencies relate to the larger society. They are symptoms because they resulted from the broad societal mistrust of government and they continue to cause discord between the agencies and the publics they must try to serve.

Clearly the mandatory public involvement that was imposed on the federal land management agencies cannot entirely be attributed to events external to them; agencies did their share of the damage to the public's perception of government. The BLM, for example, did not have the personnel to comply with

NEPA requirements for disclosure regarding grazing leases, which in turn led to litigation (*NRDC v. Morton*), and ultimately the Federal Land Policy and Management Act of 1976 (FLPMA), which has a substantial planning (Sec. 202) and public participation mandates (Sec. 202 and 309). The Forest Service has two more famous cases: the controversies on the Monongehela and Bitterroot National Forests. The Monongehela controversy arose over the clearcutting of mixed hardwood stands on lands that had been acquired by the Forest Service under the Weeks Act of 1911, which had undergone little harvesting for nearly fifty years. The Forest Service's response to controversy at a local level resulted in *Izaak Walton League of W. Va. et al. v. Butz*, which was found against the agency and upon appeal ended harvesting on all Forest Service lands in the Fourth Circuit. The National Forest Management Act of 1976 (NFMA) is the direct result of this controversy. The Bitterroot involved clearcutting as well, but the real bone of contention was the terracing that the Forest Service was using to enhance regeneration on the relatively harsh sites on that western Montana forest (Popovich, 1975). In both cases timber management was the focal point of the controversy, but the real source of discontent was differences in values. These differences resulted in rancorous conflict at the national level when the Forest Service did not respond to an emerging environmental voice among its local constituencies.

## THE INFORMATION AGE AND THE CHANGED WORLD ECONOMY

The changes that affect natural resource management on public lands include some economic shifts that are both profound and global. Not the least of these is the increasing difficulty people have understanding their role in the global economy and their effect on it.

At the anecdotal level, there is certainly evidence that people involved in primary production, who are often rural, perceive an ignorance among urban populations regarding the role of primary production in supporting a modern urban economy. A recurring theme in rural areas is "Where do people think their 'X' comes from?", with each industry replacing "X" with their product. Whether fish sticks, toilet paper, hamburger, or milk is at issue, primary producers often feel that urban populations support environmental causes in part because they have forgotten where their food, energy, and possessions originate.

It is possible to go beyond the anecdotal level, however, by recognizing that what the rural populations are sensing is not a superficial ignorance among their urban counterparts, but a fundamental shift in the structure of the world economy. Three such changes are particularly important.

- The primary products economy has come "uncoupled" from the industrial economy.
- Production in the industrial economy has become "uncoupled" from employment.

- Economic systems of interdependence have become more difficult to understand.

These changes result in the observation that it is no longer true, for example, that toilet paper requires logging which requires jobs for loggers in the same proportions as in the past. It is also increasingly hard to explain to the consumer, voter, and producer how their consuming is related to production that is in turn affected by policy.

A very coherent discussion of these economic changes is Drucker (1986), who describes the uncoupling as the weakening of once-direct and predictable linkages. The role of agriculture in the American economy is a good example. When much of the Progressive Era and New Deal agriculture policy was established in the early part of the century, farmers were almost one-third of the population, their income was one-fourth of the GNP, and they were major consumers of equipment that in turn supported the manufacturing industry. As agriculture went, so went the economy, to a very large extent. Now, with agriculture's shares of the population and of the GNP less than 5%, the linkage between agricultural production and economic health is both weaker and harder to see.

Drucker also questions the assumption that constant industrial production leads to constant industrial employment. The prevalent trend in industrialized countries over the last three decades has been for increasing industrial production and decreasing industrial employment. The major input that has been substituted for labor is knowledge, either through more automated production processes or the development of less labor intensive technologies. The number of workers-hours in the average General Motors car fell by half during the eighties, due in part to semiconductor-based designs and manufacturing techniques. Semi-conductors themselves are no more than 12% labor, and roughly 70% knowledge. If the price-to-earnings ratios on Wall street are valid indicators, the growth industries with the brightest futures are in software, biotechnology, telecommunication, and pharmaceuticals. All of these industries' products are derived much more from knowledge than from industrial labor.

Finally, the world economy has become harder to understand as it has grown more intricate and internationalized. There are more processing, financing, transporting, marketing, and waste disposing links in the modern industrialized economy. As such, the primary producers' view that they are central to economic activity is as naive as Ptolemaic cosmology. Primary production is just one link among many equals, each one being necessary to efficient economic function. Moreover, a complete understanding of one's role as an economic agent requires an international perspective. Capital and information are flowing instantaneously around the globe, and producers must transcend national boundaries as they consider potential markets and competitors.

The relevance of all of these changes to natural resource management is that employment in the commodity industries is not as important to overall economic activity as was the case in the past, and that the political support is

waning for programs that promote employment in primary production. In fact, Drucker argues that "Another implication of the 'uncoupling' of manufacturing production for manufacturing employment is, however, that the choice between an industrial policy that favors industrial production and one that favors industrial employment is going to be the singularly contentious political issue for the rest of this century." (p.780)

Clearly not all of the structural changes facing the commodity interests that use federal lands stem from increasing environmentalism. Nevertheless, the difficulties of rural resource-based communities are often characterized as such. The structural changes in the world economy, and their implications, should not be ignored and cannot be legislated away.

## CONSEQUENCES OF CHANGE

Analysis of the vectors of change described above allow for a better understanding of the current state of public land politics, perhaps even emboldening one enough to project those trends into the future. These vectors--demographic change, the growing distrust of government, the emerging environmentalism, and the coming of the information age--must be understood systemically. The order in which they were presented should not imply that they relate to each other in a linear historical fashion. No one of them arose independent of the others, and none is an adequate predictor alone.

## THE INSTITUTIONS

Two institutions that may face the greatest challenges are the concept of multiple-use/sustained-yield (MUSY) management and the historical balance between agency discretion and public participation/oversight regarding federal land management decisions.

### Multiple Use/Sustained Yield Management

The practice of multiple-use/sustained yield land management is a critical institution to public land management because it defines the relationship between the society and public land resources (i.e., maintain productivity to insure sustained yield), and determines the relative importance of particular land uses and users (all uses will be balanced in order to provide the greatest benefit). MUSY was first legislated for national forests in the Multiple-Use Sustained Yield Act of 1960, but its evolution as a social institution has a long history, as witnessed by the 1905 letter from Secretary of Agriculture Wilson to Gifford Pinchot that set the early priorities for the Forest Service. The BLM got an early sustained yield mandate regarding the revested O&C Railroad lands in Oregon, but its major MUSY guidance comes from FLPMA (Dana and Fairfax, 1980).

The meaning of MUSY land management has changed over time, particularly at the operational level. This is due in part to the considerable

ambiguity in both multiple-use and sustained yield, which leaves considerable room for interpretation. Thus a number of land managers could all claim to be following MUSY, while their behavior could differ significantly. The federal agencies were not alone in taking this position; it was supported by the most land management profession. Taking forestry as an example, Duerr and Duerr's classic article (1971) defined forestry as a faith that was expressed in terms of its doctrines, two being:

**Doctrine of Timber Primacy:** timber is the chief product of the forest; all else that comes from the forest is by-product, of secondary interest; water, forage, wildlife, and the rest, including recreation. Indeed, people are a nuisance in the forest. Wood is, and will always be a necessity, for it has no true substitutes. Its consumption is assured, its consumers may be taken for granted. In fact there is going to be shortage of timber, and the central problem in forest management is the biological and engineering problem of growing more timber.

**Doctrine of Sustained Yield:** to fulfill our obligation to our descendants and to stabilize our communities, each generation should sustain its resources at a high level and hand them along undiminished. The sustained yield of timber is and aspect of man's most fundamental need: to sustain life itself (p. 50).

The preponderance of evidence shows that these attitudes are as important today as when these classic observations were made. No contemporary representation of them is more graphic than Barton (1992) but Twilight and Lyden (1989) and Kennedy (1991) show that much of the current internal discord in the land management professions may come in part from the conflict between these doctrines and their more ecologically-based counterparts.

### **Agency Discretion v. Public Participation**

The balance between governmental discretion and public oversight/participation is always precarious, but it is also a fundamental part of fabric of American politics. Debates over this issue led in large measure to the Declaration of Independence and the Revolutionary War.

Decision-making authority ultimately rests in the body politic, and is delegated to agencies if it furthers the desires of the electorate to do so. When agency behavior fails to reflect a balance of interests that is acceptable to the electorate, the public has the right (perhaps even the responsibility) to re-direct the agency or remove its discretion. Agency personnel must recognize that although they have legislated authority, it is derived from the political authority vested by our form of government in the citizenry. Legislated authority is therefore temporary, and can be rescinded or restructured at any time.

This balance between discretion and public participation is of grave importance to the federal land management agencies. If they cannot convince key members of the electorate that agency behavior is consistent with the

electorate's interests, they risk continued erosion of decision-making power. If agencies are persistently unwilling or unable to make their case, a scenario where agencies are eliminated or eviscerated is not unimaginable.<sup>11</sup>

Historically, both the courts and Congress have been reluctant to restrict agency discretion. The major environmental legislation of the last three decades preserved a large measure of agency discretion primarily by providing procedural requirements, and leaving the final decision authority in the agency.<sup>12</sup> NEPA is a clear example; it prescribes a decision process, but the decision still rests with the "responsible official" (Sec. 102; 1505 40 CFR Ch. 5). The legislative history of NFMA also shows that the debates in the Senate between the Humphrey and Randolph bills--and subsequently in conference-- focused directly on agency discretion v. prescriptive management practices, and that discretion carried the day (Stoel, 1978). It is ironic that agency personnel denigrate the process requirements in NEPA and NFMA as trivial; they are clearly procedural, but their designs reflect a respect for the land management agencies that is often overlooked.

Even though the courts and Congress have generally deferred to agency discretion, a growing number of citizens have not. The process requirements in NEPA and NFMA have created a powerful dynamic over the "politics of expertise." Professional land managers have traditionally tended to view themselves as sole possessors of the knowledge needed for proper land management decisions (Behan, 1966; Wondolleck, 1988). Environmentalists challenged this view, and process requirements were the primary means for doing so. They contended in administrative appeals and lawsuits that federal land managers failed to properly comply with a number of laws that pertain to public decisions (notably NEPA and NFMA, but also the Administrative Procedures Act of 1946 (APA), and the ESA).

Nevertheless, the persistent debates over the federal lands revolve around the discretion to decide management for what and for whom. There is a considerable body of evidence that the post-NEPA public involvement procedures have not resulted in a widespread public perception that land management has become more socially responsible. As a further complication, the nature of the dissatisfaction with the behavior of land management agencies in recent decades differs across groups. To the rural populations who rely on public lands for economic sustenance, the agencies seem to have become captured by an elite group of "preservationists" and to have lost sight of their original and primary purposes. To the urban baby boomers, currently the dominant social and economic cohort, the agencies appear to be unresponsive bureaucracies that pursue agendas that result from a strong professional orientation and an over-emphasis on commodity production. Thus the agencies find themselves torn

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<sup>11</sup>This may seem alarmist, until one recognizes that the courts and the U.S. Fish and Wildlife Service currently control timber management on all Forest Service and BLM lands in the spotted owl region.

<sup>12</sup>A major exception being the Endangered Species Act of 1973 (ESA), with its clear prohibition of activities that threaten or endanger species.



between their traditional constituencies and a rising social demand for a broader set of management objectives. In either case, the agencies are perceived as being on the wrong course, and the groups turn to direct intervention (appeals, litigation, political action, etc.) to remedy the situation.

This has led to the complaint by many managers that the process has become "too political". That view ignores the fact that public land decisions are inherently political and that the struggles in recent decades are merely continuing the same social discourse that at one point (i.e., the Progressive Era) chose to vest both considerable political power and autonomy in federal land management agencies. The future of federal land management agencies will depend largely on how they use their remaining discretion.

### Use of Agency Discretion

Rational comprehensive planning been the major agency response to environmental/decision-making legislation since the early 1970's. The reasons appear to have been the juxtaposition of a number of factors; among them the ascendance of rational comprehensive planning models (such as Planning Programming and Budgeting), which approach decisions as exercises in net benefit maximization (Reich, 1985), and the availability of computers capable of manipulating large data sets and performing previously impractical calculations. Still another was the land management professionals' longstanding belief that rational scientific approaches are, by themselves, sufficient to guide resource decisions (including those related to values and allocation).

The classic expressions of the rational comprehensive approach to land and resource planning process were developed pursuant to the Forest and Rangelands Renewable Resources Planning Act of 1974 (RPA) as amended by NFMA. The Forest Service chose FORPLAN, a linear programming model, as the core of it's forest-level planning process pursuant to NFMA. The vision for FORPLAN was to analyze alternatives in a sufficiently sophisticated manner that all stakeholders viewed the result as the preferred solution.

It is not our intent to provide an extended critique of forest planning. But if it can be assumed that a key objective of NFMA was to restore greater political legitimacy to national forest decision-making (or, as one commentator who was instrumental in the passage of NFMA said, "to solve the problem on the forest, not in the courts, not in the Congress" (Giltmier, 1983)), the process has failed to completely live up to its promise. At least part of the problem stems from relying on rational comprehensive planning as a substitute for a meaningful public dialogue designed to identify a satisfactory direction for the federal land management that adequately reflects the evolving public interests.

A related situation deserves comment because it is another agency response to perceived social demands, perhaps in an attempt to preserve discretion. If NFMA was a technical attempt to solve social differences, it was also what Kimball (1957) first referred to a Type III error, "giving the right answer to the

wrong problem." There is perhaps another "techno-fix" looming on the horizon: the Forest Service's adoption of New Forestry.<sup>13</sup>

Although FORPLAN is based in economics, and New Forestry in ecology, they both attempt to solve the problems of public forestry with relatively little substantive collaboration with the public. The desired output from FORPLAN was an alternative that was clearly preferable in terms of net present value, and from New Forestry it is alternatives that are clearly preferable in terms of ecological effects, and neither explicitly considers public acceptability.

One already hears rumblings from the Pacific Northwest, where much of New Forestry began, that it continues to ignore socio-political issues (Shepard, 1990), that it is a "kinder and gentler form of rape, but it's still not forestry" (Kerr, 1990), and that it lacks the years of field experiments embodied in the current techniques (Atkinson, 1990). A wager that the enduring debates over the public lands will be resolved through ecologically-based harvesting is a long-shot indeed, when one considers the broad sweep of public land management.

Recent experience suggests that the public involvement efforts of the federal land management agencies have been largely unsuccessful at preventing acrimony. Discontent is creating a regulatory logjam, if the appeals filed with the Forest Service are any indication. There were 163 appeals pending at the beginning of FY 1986, but at the beginning of FY 1992 there were 1453 (Robertson, 1991). Although the appeals procedure is part of the agency's overall public participation process, the goal is to incorporate enough of the publics' values and information before the decision so that the appeal is unwarranted. That goal is apparently not being met.

Why have the lines of communication between the federal land management agencies and their publics failed in recent years? If federal land management debates are amalgams of the perennial agency discretion v. public interest conundrum, combined with growing environmentalism and distrust in government, then they cut to the core of the American political experience. It would therefore be very surprising if the public participation techniques of the federal land management agencies were successful at preventing acrimony.

We must progress beyond this assessment, if we want to move beyond the current impasse. Several hypotheses explain the limited success of the agencies' efforts to date, and also provide specific avenues for change: 1) the agencies are failing responding to persistent public demands in a substantive manner, and are using their public involvement processes as diversionary windowdressing (Mohai, 1987; Brittel, 1991), 2) the agencies lack the kind of frameworks and institutions that facilitate public involvement of an adequate quality and timeliness to affect decisions (Stankey and Clark, 1991), 3) some groups do not participate because current public involvement processes disadvantage them

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<sup>13</sup>We refer to "New Forestry", rather than the Forest Service's "New Perspective" because the former is reasonably-well articulated set of practices, while the latter is not yet so well-defined. See Franklin (1989) for an introduction to New Forestry.

because the extent to which the incentives created by the processes do not correlate with the groups' organizational aptitudes (Daniels, Carroll, and Wondolleck, 1991), or 4) the conflicts stem from fundamental values differences, and therefore transcend mere communication problems. Regardless of which of these hypotheses one finds most compelling, they all assume that federal agencies behavior must begin to reflect social demands more substantively.

## **RANGE POLICY: THE OFT-FORGOTTEN ISSUE**

While many of the dynamics discussed above have been focused on issues related to forests, there are a number of parallel developments in forest and range policy. It is interesting to observe that many of the major events in range policy have lagged roughly 30 to 50 years behind their counterparts in forestry. For example, the Society of American Foresters was founded in 1900, and the Society for Range Management in 1948; the Forest Service received its mandate as a land management agency in 1905; the Bureau of Land Management's origins were in 1946. One reasonable explanation for this lag is that the historical pattern of settlement on this continent meant that development began in forested regions rather than the arid regions, and thus scarcity and conflict arose earlier. Another is that the difficulty recognizing and then raising public concern over changes in grassland ecosystems is more difficult than for forested ones, which perhaps postponed acknowledgement of the impacts of some range management practices. In short, much of the arid west looks like a waste land to most untrained observers before the livestock arrive, so range issues are not easy to sell to a broad electorate.

Clearly there are differences between range and forestry issues: the role of the family ranch has no direct analogue in public forestry, there was no tradition-steeped range management profession in Europe that served as a model in the U.S., the perennial fights over grazing fees have tended to be more rancorous than similar ones in forestry, and the Forest Service (BLM) is not strictly a timber (grazing) agency. Nevertheless, forest policy controversies and processes may serve as a useful leading indicator of many range issues. The "Cattle Free in '93" movement bears many similarities to the clearcutting controversies on the Monongahela and Bitter Root National Forests of the early 1970's. The Monongahela/Bitter Root controversies were ostensibly about clearcutting, but the core issue was over the nexus of control over federal land management. The same issue persists in forestry as it does in range. In addition, the particular resource issue that prompted the battle over control regarded the appropriate balance of the traditional output-timber-over an emerging one--aesthetics. The analogue in current range policy is that livestock production's position as a major, if not pre-eminent, management emphasis in grassland ecosystems is being challenged by riparian-zone ecology.

Because of these circumstances, range policy could evolve along a similar path as forest policy, perhaps moving through similar phases more quickly, or by-passing them entirely, depending on recognition and desire to learn from forestry's experience.

## RURAL AREAS

Among the most dramatic consequences of the changing context of public land management are the direct effects it can have on people's lives. Notable among the affected publics are the rural communities which are linked in a variety of complex ways to public land resources. The federal land agencies and many of their policies were originally structured to ensure the orderly, sustained use of resources, and in part, to provide for the "stability" of communities whose economies have depended on such resources as sources of raw materials, (Pinchot, 1910; Dana, 1956). In recent years, such communities have faced various changes including shifts in economic linkages related to extraction related employment, decreased availability of commodity resources due to past extraction patterns on state and private lands and the reallocation of public lands previously designated for production of commercial goods. Perhaps most problematic for many residents of resource-based communities has been uncertainty about the availability of public land resources resulting from extended political battles over their disposition (Society of American Foresters, 1990).

The relationship between the federal government and rural communities is clearly changing. The "rules" of the implicit exchange wherein communities have extracted or produced raw materials in return for considerations from the government (including outright subsidies and guarantees of access to lands and resources) are in a state of flux, due to all the factors stated above. Proposals for what to do run the gamut from increasingly restrictive policy combined with a laissez faire approach to any social and economic consequences, to land reform wherein large private and public land holdings would be redistributed across a much broader base of private ownership (Geisler, 1991). The most politically feasible solution probably lies between these extremes and would take account of increasing knowledge of, and emerging societal values for, the ecological functions occurring on the lands in question.

The following discussion, however, assumes that the federal government is likely to continue to play a role--more or less a direct one--in the future of such communities. Clearly that role will be altered, but is unlikely to end altogether.

Any treatment of this issue should consider the dramatic changes that the social composition of many resource-based communities have undergone in recent years. It is now appropriate to talk about a spectrum of communities ranging from those on the "urban interface" to those that might be termed "traditional" (Lee, 1991; Society of American Foresters, 1990). Many such communities contain significant proportions of former urbanites who often derive their income from non-resource extractive pursuits and who tend to see the world very differently from their more traditional neighbors (Marston, 1989; Lee et al., 1991). Such groups often coexist in very different social circles with relatively little friction unless a contentious issue emerges. Resource use questions are a common source of such intra-community conflict (Lee, 1991; Brown, 1991).

No matter what role the federal government ultimately chooses to play in resource-based rural communities, there appears to be considerable risk of increased political alienation of many rural stakeholders groups if current conflict dynamics are not somehow altered. One reasonable way to achieve this is to draw clear distinctions (particularly in analyses of resource disputes) between the interests of local people and those of the industries upon which they depend (Backiel, 1989; Daniels et al., 1991b).

## **POLICY CONSIDERATIONS**

Once one grasps the social context within which public natural resource managers operate, it becomes possible to draw some conclusions about the kinds of legislative/regulatory responses that are likely to be needed both now and in the future. This section lists some of the themes that may be useful to consider when crafting such responses, if our arguments to this point are valid.

### **No Silver Bullets**

Despite our hopes, there is very little chance of devising a new approach to resource management that will circumvent the underlying social differences. The decision-making models often used by resource managers and policy makers have typically assumed the existence of a rationally definable "public interest" for which public lands should be managed. As society has become more complex and resource issues more contentious, the weaknesses of that assumption have become more apparent. Stated simply, if FORPLAN is a technocratic fix or New Forestry becomes one, neither will resolve fundamental differences in values and interests relative to the desired role for public lands. Decision-making approaches must explicitly recognize multiple values and interests, rather than try to assume them away.

### **Promote Policy Experiments**

Rittel and Webber (1973) wrote eloquently about "wicked problems", and Allen and Gould (1986) explained how the concept applies perfectly to public natural resource management. One feature of wicked problems is that there is little from which to draw guidance in one's search for answers, and there must be a substantial amount of experiential--rather than experimental--learning. It may be necessary to allow local managers and communities the latitude to implement new and innovative approaches to public resource management, even if there is no a priori guarantee of success.

This need is perhaps particularly pronounced in regard to the appropriate nexus between the public lands, the rural populations directly affected by them, and the agencies attempting to operate as the trustees for an increasingly suburbanized constituency. We will need new public participation frameworks that can accommodate the widest range of values, but at the same time provide an appropriate distribution of power across the stakeholders. It seems as likely that such methodologies will come from the pressure cooker of application as from the relatively staid halls of academe, or the tug and pull of Congress. It

would therefore seem important, perhaps crucial, that there be mechanisms in place to actively support such innovation.

### **Re-Examine Institutionalized Incentives**

One of economics' major contributions in recent decades is an improved understanding of the role incentives play in shaping behavior. It is clear that people respond powerfully and predictably to the incentives they face. Quite by chance, much of the legislation that currently shapes the policy landscape that public land managers must negotiate was crafted prior to these findings, and thus were designed with less consideration of incentives than we could provide today.

It may therefore be time to re-examine many of the core pieces of federal land management legislation and regulation to consider if the incentives they establish coincide with the range of goals that forestry is being asked to achieve. For example, the Knutson-Vandenberg Act of 1930 ties funding for many of the activities performed by Forest Service ranger districts directly to their harvest level. Thus any attempt to reduce harvest to promote the output of other values may strangle the flow of funds needed to manage for them. O'Toole (1988) has been arguing persistently and, to some, convincingly that the incentives that Forest Service employees face assure that they will continue in their preoccupation with timber production, regardless of either the social signals to the contrary or their personal preferences. There is too much theoretical and empirical evidence to reject such notions out-of-hand.

The Knutson-Vandenberg Act is by no means the only legislatively-created restriction on incentives-based land management. The Land and Water Conservation Act of 1965 greatly limits the situations where recreational fees can be charged, thus eliminating much of managers' ability to change recreational use patterns through prices. It also established the "Golden Age Passport" which provides for reduced recreation fees for U.S. citizens 62 or more years old. It has been shown that there would be a substantial increase in net welfare from Forest Service campgrounds if the Passport was valid only during off-peak periods, thus spreading use to less congested periods (Daniels, 1986).

A final illustration of incentives comes from within natural resource management agencies themselves. The Forest Service has a cultural predilection for transferring personnel between jobs frequently. While there may have been reasons for such behavior at one time (Kaufman, 1960), it is hard to find anyone either in or out of the agency who supports it today. There are some scattered examples of manager trying to break this cycle, but they are doing it in spite of the incentive structure, rather than because of it.

### **Reconsider a Decentralized Approach**

A recent trend in politics is that many issues that were once regional are becoming increasingly nationalized (Lunch, 1987). As such, the remedies that we attempt to design for them are national as well. Behan (1991) refers to this bitter medicine as "Potomo-centric statutory fixes" and argues that partisan

politics in recent years--most noticeably in the transition between the Carter and Reagan administrations--"succeeded in transforming, or perverting, the budgeting and appropriation process" (p. 6) and created "the ASQ charade" (p. 7). If Tip O'Neill was correct that all politics is local, and since it seems that all forestry is politics, then all forestry is local. History may show that the NFMA gave the Forest Service its final chance to use agency discretion at a local level to manage public land in ways acceptable to a broad constituency. If the agency has failed, that does not necessarily mean that the local level was an inappropriate venue for land management decisions. Some measure of decentralization seems necessary unless Congress wants the Rayburn cafeteria continually festooned with maps of obscure western watersheds.

### **Promote Community Development**

The Forest Service, in recognizing the problems many local communities face, is exploring ways to aid in community development. This could be one effective means of providing federal help for communities, given the historically active role that agency has played in rural communities adjacent to the national forests. If such efforts are to be successful however, a clear rationale for and commitment to them would be necessary, as would considerable agency reorientation and the addition of resources and expertise. Certainly there are lessons (good and bad) to be learned from the Tennessee Valley Authority's experience in community development. Perhaps the most crucial element needed for the success of such efforts is for more effective ways of involving local people as full partners in decision-making concerning their futures. It is no small irony that increasing the effectiveness of local involvement has more often an objective of international resource development programs supported by the U.S. than it has been in domestic situations.

### **View Public Land Management as a Process of Social Learning**

Robert Reich's essay on public administration and public deliberation (1985), draws some conclusions that relate directly to the limited political success of public natural resource managers in recent decades. The history of public administration in this century has been dominated by two visions of administrative process: interest-group intermediation and net-benefit maximization. The former model views the public administrator as an intermediary between competing interest groups who must "accommodate--to the extent possible--the varying demands placed on government by competing interest. The public administrator was a referee, a skillful practitioner of negotiation and compromise." (p. 1620) Net-benefit maximization, on the other hand, views the administrator's role as analyst rather than referee, developing a problem structure that allows the identification of a policy option yielding the largest net benefit or greatest "social utility." (p. 1622) Public policy between 1960 and 1980 was characterized by an uneasy coexistence of interest-group intermediation and net-benefit maximization.

NFMA was certainly part of this pattern of public policy formation. Both its genesis--the search for compromise between the competing interest groups--and its public disclosure requirements were consistent with the intermediation

vision. Its emphasis on planning, and the eventual selection of FORPLAN as the core decision-making technology, is clearly an expression of the net-benefit maximization paradigm.

Reich argues that both the intermediation and the maximization visions are inadequate and resulted in the incoherent administrative policy-making in recent years. He argues for social learning as a replacement. Public decisions must be viewed as learning processes where the interest groups' perceptions and preferences are shaped and articulated over time. The process, as well as the outcome, must be viewed as determining social utility and sending social messages.

There may be no more direct way to break the current political logjam than to turn away from negotiation and net welfare calculus and toward collaborative learning.

## CONCLUSION

Concern for the natural environment is a defining characteristic of our era. As a society, we are shaped by natural resource issues as much as we shape them. Examining issues of land management apart from the larger milieu of political discourse, dominant ideas, and world events simply does not make sense. One dilemma that many land management professionals have historically failed to confront is the genuine differences in interests that exist across groups with respect to the land resources, and the extent to which those differences coalesce into legal and political processes. Moreover, some of these differences can be described demographically, but others stem from membership in social groups that demographics do not reflect.

It is necessary for each generation to struggle anew with the task of defining what interests are held in common and what balance can be struck among the remainder. We view this conference as a chapter in that struggle.

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**Public Land Management  
and Three Decades of  
American Social Change:  
Thoughts on the Future of  
Public Lands and Public Demands**

**Matthew S. Carroll  
and  
Steven E. Daniels**

**March 5, 1992**

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Note: The following large font displays were used as visual aids in the presentation of Matt Carroll and Steve Daniels' speech.

# **Vectors of Change**

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**Changing Social Composition**

**Growing Distrust of Government**

**Rise of Environmentalism**

**Information Age/Changed  
World Economy**

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## **Key Premise**

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**Vectors of Change Do Not  
Produce "Inevitable" Results**

**Never Underestimate the  
Power of Human Imagination  
and Ideas!**

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# **Changing Social Composition in the U.S.**

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**Immigration and the Sunbelt**

**Increased Diversity in American  
Society**

**Increased Urbanization of  
American Society**

**Max Weber's Predictions  
Come True**

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# **Growing Distrust of Government and Business**

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**Eisenhower's Farewell Address**

**Bay of Pigs**

**Vietnam**

**Watergate**

***Unsafe at Any Speed***

**Evolving Relationship  
Between Government  
and the Governed**

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# **Rise of Environmentalism**

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**Social Movement to  
Professionalization**

**Environmental Legislation  
as Legacy of Distrust**

**Process Approaches to  
Land Management  
Decision Making**

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**Process Approaches to  
Land Management  
Decision-Making**

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# **Challenges for the Cooperative Management Vision**

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**Design new property rights systems based on an understanding of their collective incentives.**

**Recognize the trained incapacity many Americans have for cooperation.**

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# **Challenges for the Ecosystem Management Vision**

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**Avoid becoming a "techno-fix".**

**Develop a richer understanding  
of public acceptability of  
practices.**

**Overcome the natural/human  
dichotomy: become as  
sensitive to social ecology  
as to biological ecology.**

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# **Challenges for the Free Market Vision**

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**Incorporate other models of  
behavior in incentive theories.**

**Are the rents the only  
mechanisms available?**

**Push for operational  
experiments.**

**Reconcile efficiency with  
intrinsic values.**

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# **Challenges for the Public Involvement Vision**

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## **Deal with local interests on National Forests**

**Reconcile Tip O'Neill and Bill Lunch.**

**Design institutions that  
incorporate a range of values  
and the distribution of those  
values in different groups.**

**Address the potential tyranny  
of the majority.**

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## QUESTIONS AND DISCUSSION: SESSION I<sup>14</sup>

**Question:** I would like you to expand on the part of your paper about the information age and the changed world economy. You talk about the uncoupling, you can't just say cut a tree and get a piece of 2 x 4 and then build a house. One of the things that I'm concerned about in this whole argument on local use of public lands is the use of materials in our society. I notice that you talked about increases in population over the last 30 years. I think we also kind of missed that we have a supermarket mentality, that you can go in and just buy anything in the supermarket and no one really has any idea where those things come from. I think it is the basis of the use of materials in our society.

I just want to see how this uncoupling works and just try to get some ideas on how we could better change public attitude toward the use of natural resources and things of that sort.

**Answer (Dr. Carroll):** I understand your question very well. Most of my research is done in resource-dependent communities and there is a great concern out there amongst people who live in those communities that their urban brethren have lost sight of the fact of where their materials come from and have lost sight of the fact that they, in those rural areas, play a very important economic role in our society in those industries.

Again, the economic relationships between the extraction and manufacturer of goods to the larger economy, to employment, for example, is changing very dramatically.

**Comment (Dr. Daniels):** I would refer you to that paper by Peter Drucker. He speaks to these issues very directly. The point we try to draw on is that it is not merely a matter of perceptions, however; it is reality. The economy is becoming more complicated and increasingly uncoupled. So it is not just an educational question. And the real policy point is: Do we want to try to resist that trend or further it? Drucker's conclusion, which I tend to share, is if we want to stay competitive internationally, we will have to further the uncoupling and become and more an information-based economy.

So to the extent that we say, gee, we're becoming uncoupled, we ought to stop that, Drucker would conclude just the opposite. And I think that's the really intriguing thought. Maybe the primary materials industries ought to recognize the inevitability of that uncoupling and become part of it.

**Comment (Dr. Hagenstein):** If I could just add one comment. As a sociologist, I also look at the distributive impacts of that and am very concerned

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<sup>14</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. Because questions were directed to a specific speaker, names are attributed to those who answered questions.



about it. For example, we now reach the conclusion that the interests of communities are not the same as the interests of the industries upon which they depend in many instances because of the reduced amount of labor that is required for certain outputs. So it is a very complex issue. But it has some ethical implications that I think we need to address.

**Question:** You spoke about the tyranny of the majority. I read in your paper that you think we should consider more of a decentralized approach to local forest management issues. How would you construct that? Right now, we do have a centrist approach. How would you implement change?

**Answer (Dr. Daniels):** Let me qualify a little bit, hedge out of the box a little bit. My slide does say "potential", but I think that's a real key issue. Some of the work that I'm doing on a research perspective is trying to figure out ways to further local level dialogue. I've got a couple of projects going where I'm trying to bring people together at a local level and see if they can come up with compromises that don't come out of any other venue. I look at the different venues where new ideas could come from and it is the people who are in the trenches and trying to get along with one another that come up with some of the ones that no one else seems to. So what you do is you try to promote some kind of a collaborative learning setting for people at the local level and see if we can learn how to get past the trained incapacity to get along.

**Question:** It seems to me the problem of multiple use and sustained yield is mainly in the definition of "even flow". Neither biological systems nor social systems work very well with even flow.

**Answer (Dr. Hagenstein):** Well, the sustained yield idea, the even flow notion, really was a timber concept. While Congress, in the Multiple Use, Sustained Yield Act of 1960 and presumably in FLPMA also, seemingly applied it to all other resources, it was never clear how it would work. You're quite correct that biological systems don't have even flows, most of them, and timber too probably has its problems in having even flows.

I don't know what Congress thought it was doing in the National Forest Management Act when it required non-declining or a form of non-declining even flow for timber. I don't really have an answer to your question.

**Question:** I just wanted to ask Thad Box what he thought these meanings should be and what implications would he see from correcting the error. How would he correct the error of even flow and what implications would that have?

**Answer (Dr. Box):** I would try to look at general principals of sustainability for sustainable social systems rather than just sustainable National Forest land. This would lead to equal access of this generation, equity for the next generation, long-term sustainability over short-term profitability, and environmental enhancement. We can work on these later on, but rather than just look directly at an even flow of three eggs per day or something, you have to look at the realities of varying both biological and social systems.

**Comment:** I think that sustained yield has taken perhaps too hard a hit. The concept of sustained yield, at least in the minds of some analysts, notably Bob Lee, is a very broad concept that talks about the social commitment of society to not use up more than it can produce say in a given generation. We have adopted a very technocratic version of sustained yield in non-declining even flow on the National Forests, for example. But if you look at the German origins of the concept, perhaps we're thinking too narrowly about the flow and broadly enough about the social meaning attached to the general concept of sustaining the society and sustaining the biota.

**Comment:** I think that there has been not just a centralization, I think there has been a movement toward decentralization at least on the land management agencies. BLM, in particular, has decentralized and is trying to make many of the decisions on a regional basis. In that case, you sometimes have a tyranny of the minority because in some cases you can't find environmentalists everywhere across the West. Sometimes the end result is to make decisions in a social vacuum where you can't find anybody who won't go along with the status quo that's been there for years. So Potomocentricity isn't always all bad.

**Question:** You make the point that as we move away from commodity production toward other multiple uses, there may have been an implicit promise to timber-dependent communities that we wouldn't rip the blanket out from underneath them quickly. And that implied, although you didn't say, that we owe them an obligation to do something. What do we owe them that we didn't owe, or at least we complained about not owing auto workers in Detroit?

**Answer (Dr. Daniels):** You're not talking about this paper; you're talking about another paper I wrote I guess. But I will agree, I think there was an implicit promise in the whole notion of sustained yield that, with respect to timber on the National Forest, the timber would be there as it was needed over a period of time, and that the supply has been whittled away. It is whittled away with the Wilderness Act, whittled away with national recreation areas, and also whittled away with minimum management requirements, and all of the other restrictions on use.

And everybody can see there is going to be a downward trend. I've projected in the stuff I've written elsewhere about the big fall off that is occurring right now in the Pacific Northwest because of the old-growth reserves. But that is sort of another question.

I suppose the only difference really between the auto workers' situation and the public lands situation is that Congress has the authority to do whatever it wants to do with the public lands, and everybody knows it and they have got a tremendous platform on which to try to deal with it and get some sort of response. If they had as good a platform as that with the auto workers, people would be pursuing the auto worker situation, too, or anything else. In Massachusetts, they would be trying to get people to buy more computers.

**Question:** You talked about the increasing diversity in American -- and I would focus it also on the people being hired by land management agencies -- and on Americans' trained incapacity to cooperate. Gender analysis research suggests that women managers tend to have more participatory cooperative management styles than male managers. Do you see any trend towards cooperative models for land management as women move into management positions in natural resource professions and other areas of society?"

**Answer (Dr. Carroll):** That's a very difficult question and I'm not sure that I have any more wisdom on it than anyone else.

A couple of comments. One is that organizations have a hard time changing rapidly. There is a lot of literature out there that says that particularly organizations that have been organized traditionally with the lines of authority with, as sociologists refer to, vivarium structure and organization have a hard time changing rapidly. They are designed not to change rapidly.

But, on the other hand, it has been my observation that the Forest Service is attempting to change itself. That is, people within the organization are attempting to change. So I think there is a balance going on, a struggle within that organization to attempt to change. One of the major things going on there has to do with diversification. There is one best argument for diversifying the workforce within the Forest Service beyond the fairness issue, which is terribly important, it is the fact that if you diversify the workforce you will very likely change the management style or it can change the management style.

But I think it is a very difficult process. I think it is moving very slowly. One of the possible problems that I think both Steve and I see there is because of the rapidity at which women and minorities are now being moved up within the organization one wonders if there is enough time for them at given levels to make the kind of changes within the organization that need to be made. But you probably have to change the organization one level at a time.

**Comment (Dr. Daniels):** I want to extend on that last point. I may end up using some jargon that talks about more feminine approaches being more collaborative and male approaches being more authority related. So if I use those terms, you know what I mean.

I have seen, and it is not a large enough set to know for sure, but I have seen women and minorities who are being moved up through the land management agencies who are under so much pressure to succeed in each one of those levels that rather than develop their own style, which might be more collaborative, they were forced to assimilate into the way decisions were usually made and were adopting a more masculine approach. So they weren't being allowed to grow into a collaborative kind of approach.

Session II: Is the Multiple Use/Sustained  
Yield Management Philosophy  
Still Applicable Today?

- I. Is the Multiple Use/Sustained Yield Management  
Philosophy Still Valid Today? Yes  
*by James H. Magagna, Rancher and President,  
American Sheep Industry Association*
  
- II. The Irony of the Multiple Use/Sustained Yield  
Concept: Nothing Is so Powerful as an Idea Whose  
Time Has Passed  
*by R.W. Behan, School of Forestry, Northern  
Arizona University*
  
- III. Is the Multiple Use/Sustained Yield  
Management Philosophy Still Applicable  
Today?  
*by John D. Leshy, Professor of Law, Arizona State  
University*

Questions and Discussion

**IS THE MULTIPLE USE SUSTAINED YIELD MANAGEMENT  
PHILOSOPHY STILL VALID TODAY?  
YES<sup>16</sup>**

Multiple Use--Sustained Yield (MUSY) has been the guiding principle of Forest Service management for thirty two years. It has guided BLM management for over 15 years. In recent years a plethora of other laws and regulations restricting the management flexibility of these agencies have increasingly restricted unbridled application of this principle. The acreage to which MUSY applies has concurrently decreased. Meanwhile, broadened public interest in federal land management led by the intense involvement of a few individuals and environmental groups has complicated both planning and management under the MUSY principle. Given this evolution it is timely to analyze the ability of MUSY to meet the management needs of the next thirty years. In light of these evolving complexities of public land management it is not unexpected that some would view MUSY as outdated, impractical and unduly restrictive. However MUSY should not be judged by the limits placed on its application nor by the facility of its implementation.

The current planning process has provided vastly expanded opportunity for public input into land use decisionmaking. Regrettably, certain groups and individuals, generally favoring preservation or single use management, have not been satisfied with this level of input. They fight to turn localized resource management decisions into public policy decisions. The courtroom often becomes the battleground and the final decision is made by a judge who understands neither resource management nor the MUSY principle. Again, MUSY should not be judged by its inability to respond to the demands of preservationists and single use advocates.

The issue of whether multiple use and sustained yield are any less valid management concepts today than thirty years ago must be addressed by turning to the fundamental socioeconomic needs which these public lands must meet. While both the perception and the reality of our socio-economic needs have changed, our basic belief as a nation that our vast publicly held natural resources are to be managed for the benefit of the human species of this nation has not changed. Debate may rage over whether to harvest a non-renewable resource or protect a fragile ecosystem. The appropriate decision should reflect a balancing of the short and long term socio-economic needs of the nation.

Since the arrival of Christopher Columbus two hundred years ago, and perhaps earlier, people have looked to the vast resources of North America to provide for their basic human needs. These included food, clothing, shelter, and, later, minerals, oil and gas. As early Americans discovered the true vastness of these resources, they became the basis for the creation of a great economic power. Not only were fundamental needs met, an unprecedented style of life was created. This was accomplished by putting the most productive of these

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<sup>16</sup>Prepared by James H. Magagna, Rancher and President, American Sheep Industry Association.

lands into private ownership. The need for government held wealth was viewed as adequately met through the retention of ownership of a portion of the minerals underlying the surface. While this clearly created many examples of vast private wealth, it was properly understood to be the direct path to the enhancement of the nation's wealth and well-being.

The lands which have, in our more recent history, generally been managed under the multiple use philosophy arrived there along two very distinct paths. Most Forest Service managed lands were set aside to be retained in federal ownership to make their vast natural beauty a part of our nation's wealth available for the enjoyment of its citizens. Lands now managed by the Bureau of Land Management were generally less productive, often arid, lands not sought for private ownership. We can identify a greater historical commitment to protection of forest service lands than to BLM land. This is a matter of degree, not a distinctive management philosophy.

Two fundamental principles have withstood the changing needs, attitudes and management philosophies of over two hundred years. The first: The productive capacity of our natural resources shall be harnessed to benefit the wealth and welfare of the nation. Second: These same resources shall be protected from abuse and destruction.

A third socioeconomic principle evolved with the granting of statehood to the several western states in which the federal government retained ownership of vast areas of land: The productive capacity of these lands are an integral part of the base upon which the wealth of these states and the well-being of their citizens must be founded. The Federal Land Policy and Management Act of 1976 (FLPMA) changed the earlier assumption that these lands were being held in trust for the states to a clear declaration of federal ownership. FLPMA did not remove the right of these states to an economy and quality of life that can result only from the continued protection and use of the productive capacity of these lands. This commitment is rooted in the history of development of the west. More importantly, it is a matter of fundamental justice legally supported by the principle of equality of statehood.

The management philosophy of multiple use and sustained yield evolved with the recognition of these socioeconomic principles. It is a philosophy mandated by our commitment to these principles. Congressional action in the National Forest Management Act of 1960 (NFMA) simply served to define and codify an existing management philosophy. In FLPMA Congress did no more than further define the concept and mandate its application to BLM lands.

NFMA and FLPMA do represent Congressional efforts to redefine the relationships among the basic guiding principles. These and subsequent federal actions have served to prioritize resource protection. The commitment to the western public land states in particular has been largely ignored in the language of legislation. However, these basic principles have never been repudiated. Their protection is critical to the future of this nation.

Many who say that multiple use has not worked base their condemnation on information, both accurate and inaccurate on the condition of the lands managed under this philosophy. This condemnation ignores one of its most important features. Multiple use allows the professional resource manager the flexibility to make decisions that recognize the limitations of the resource to sustain itself. Sustained yield is the second critical part of the multiple use equation. The blame for less than satisfactory resource condition is frequently placed on the management philosophy when in fact it lies with the managers. Multiple use is a balancing of the competing public demands for use of the resource. Sustained yield is a balancing of these same demands against the sustainable productive capabilities of the land. In a theoretical setting the combination of multiple use and sustained yield will always produce the desired outcome.

The often demonstrated failures of multiple use and sustained yield are the product of the setting in which the principle must operate. Like most complex management theories its proper implementation is dependent upon adequate data. A resource manager can anticipate the impact of a given use only based upon sufficient accurate information on current resource condition and production and a clear measure of the use to be made. Impact over time can be managed only with adequate trend information. Multiple use has been the victim of both land managing agencies and users to commit to and participate in the data gathering and analysis process.

It is remarkable that multiple use and sustained yield has served federal land management so well for so long. It has almost never been allowed to operate in its purest sense. There have always been other laws, regulations and policies that have bridled its full implementation. The magnitude and multitude of its handicaps have grown exponentially in the past decade. Laws with broad applicability such as the Clean Water Act, Clean Air Act and Endangered Species Act restrict or eliminate certain uses upsetting the balances which multiple use sustained yield seeks to achieve. Other laws and regulations isolate specific tracts for more focused and restricted use within a multiple use area. These would include the Wilderness Act and designation of Areas of Critical Environmental Concern. These designations often upset balanced multiple use applications on surrounding areas.

The impact of the recent surge of public activism in the area of natural resource management must be addressed. Some would contend that the multiple use and sustained yield management system is not sufficiently responsive to public desire. Others argue that accommodation of increased public input has made this system ineffective. They would allow federal land management to be driven by public input. There clearly exists an important role for public input in the planning process for specific management areas. However, this input is typically received from a small vocal minority. It does not represent a public decision about management. It must first be viewed carefully to determine whether it appears to represent a broad cross section of current public opinion. Such input does provide a tool for the resource managers to frame the acceptable range of management alternatives. Multiple use sustained yield management has the capability to accommodate this public input in a proper

relationship with needs of the resource and commitment to the fundamental socio-economic principles.

We have historically recognized that there are certain lands that should be managed solely for protection of a very unique resource value. Other lands must be managed to meet a very specific public need. These categories include national monuments and military reserves. However, efforts to manage vast areas outside of the multiple use principle have been only partially successful. Key examples include Yellowstone National Park, our nation's oldest park, whose ranges have been devastated by uncontrolled elk and buffalo herds. I have personally witnessed the decline in the wilderness characteristics of the Bridger Wilderness in western Wyoming over the past twenty years. This has been caused by the impact of vast increased public use resulting from its Wilderness declaration.

As some would suggest abandonment of the multiple use/ sustained yield principle on federal lands, it is insightful to review management directions on major tracts of private lands in the West. Income production and enhancement of asset value are the dominating considerations driving private land management decisions. Concern for preservation of natural beauty is an important element of asset value. Ranchers are increasingly turning to multiple use sustained yield management to enhance both economic return and stewardship of the land. As a result of unbridled application of this principle, these private lands are often in an improved resource condition over similar public tracts. Individual incomes and dependent rural economies are diversified.

Typical land ownership patterns cannot be ignored. BLM-managed lands typically range from scattered small tracts isolated by private holdings to large areas with scattered private and state inholdings. In the middle lie the "checkerboard" lands created by the railroad land grants. Chaos often results when a single management philosophy is not applied within an allotment or area. This should logically mean deferring to the system used by the majority landowner--federal, state or private. Optimum management results are achieved when all landowners subscribe to the same management theory. Multiple use/sustained yield is the only current system having widespread acceptability.

The case is strong for continued multiple use management of most federal lands. The greatest single threat to its continued application comes from vocal advocates of single use on both the commodity and preservation ends of the spectrum. Our challenge today is to make this management philosophy socially acceptable thereby promoting a renewed public commitment to its underlying principles. The typically portrayed public attitude is expressed as "I must restrict or eliminate your use to protect my use." Agency resource managers too often find it expedient to restrict or eliminate the use of the least politically powerful constituency rather than seek to achieve the delicate balance called for by the multiple use philosophy.

Multiple use/sustained yield is a management philosophy and a tool for decision making by our resource managers. We are lacking a broad social commitment to the practice of multiple use by those publics who utilize these



resources for both commodity (renewable and non-renewable) and non-commodity uses. Let us term this a commitment to *Responsible Shared Use*. This is not a management philosophy. Responsible Shared Use is a user philosophy designed to enhance the application of multiple use sustained yield management. It encompasses a recognition and understanding of all authorized uses of a given tract of land. It demands a respect for all users of the land. It requires that each user discipline their use to accommodate the other uses. It requires acceptance of the moral principle that all must give so that we may all receive. Responsible Shared Use should become a campaign of both resource managers and resource user groups. By achieving its widespread acceptance we can protect multiple use sustained yield as the guiding management philosophy for the vast majority of federal lands into the twenty first century.

**THE IRONY OF THE MULTIPLE USE/SUSTAINED YIELD  
CONCEPT: NOTHING IS SO POWERFUL AS AN IDEA WHOSE  
TIME HAS PASSED<sup>16</sup>**

## INTRODUCTION

Twenty-five years ago, I wrote a paper entitled "The Succotash Syndrome, or Multiple Use: A Heartfelt Approach to Forest Land Management."<sup>17</sup> Some years after that, I produced another that spoke to "Political Popularity and Conceptual Nonsense: The Strange Case of Sustained Yield Forestry."<sup>18</sup> Neither paper was sympathetic to the idea it addressed; neither was greeted with notable enthusiasm by the orthodox among professional foresters; and neither, subsequently, was measurably influential in revolutionizing professional practice or public policy.

At this distance, I am not altogether comfortable with the legacy of those papers, the first in particular (sophomore professors are capable of sophomore writing), but I am yet further astonished at the durability of the multiple use/sustained yield concept. Only now, 32 years after the statutory embodiment of multiple use/sustained yield, is it the focus of a formalized and comprehensive critique. (A conference in Spokane 10 years ago, sponsored by Washington State University and the University of Idaho, sought to clarify the concept of sustained yield, I believe, not to criticize it; the multiple use element was not addressed.)

I am pleased to have another chance to shoot at multiple use and sustained yield, and this time they are flying in tandem. Professional practice and public policy may still be in little jeopardy of quantum change, but another nudge may dent the margin.

## CONTRACTUAL NEGATIVISM

I have been provided a list of seven questions to answer about multiple use and sustained yield. I must, I'm afraid, take a "...negative position in response..." to these questions, if only because I have signed a contract to do so. Prudently, but by no means hypocritically, I will honor that contract.

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<sup>16</sup>Delivered by R.W. Behan, School of Forestry, Northern Arizona University.

<sup>17</sup>"The Succotash Syndrome, or Multiple Use: A Heartfelt Approach to Forest Land Management," *Natural Resources Journal*, Vol. 7, No. 4, October, 1967.

<sup>18</sup>"Political Popularity and Conceptual Nonsense: The Strange Case of Sustained Yield Forestry," in *Environmental Law*, Vol. 8, No. 2, Winter, 1978.

1. *Are the multiple use and sustained yield ideas still valid management concepts?*

No. They are simplistic and obsolete, notably at variance with observable institutional and biophysical realities, and have been politically difficult, if not impossible, to put into practice, honestly, accurately, and reliably.

2. *Why do you think the multiple use/sustained yield concept does not work?*

If the concepts were intended, as I believe they were, to protect and maintain the health, beauty, and productivity of federal land biophysical systems, primarily to serve the general public welfare, they have not worked. They have *been worked*, on the contrary, to provide what Marion Clawson once described as "the private use of public lands," the *de facto* land use policy for the federal estate.

The concepts are delightfully elastic and subject to manipulation, particularly in the historic and chronic shortage of reliable information about inventory, growth, and the biophysical interrelationships among and between resources. Knowledge tends to limit decisions, and in its absence multiple use/sustained yield has always been equal to the political demands for its malleability.

National forest timber has been overcut, and the BLM rangelands have been overgrazed, accordingly. Orville Daniels, Supervisor of the Lolo National Forest, has registered only the most vigorous protest that cutting levels are unsustainable<sup>19</sup>; many of his colleagues agree, and so did the "Gang of Four" report<sup>20</sup>. And according to a recent study, two-thirds of the BLM range land is in unsatisfactory condition.<sup>21</sup>

I believe national forest timber harvests *should* be sustainable, and that public rangelands should be in *good* condition; and I believe the multiple use/sustained yield concept, and certainly the statutes, intended those things.

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<sup>19</sup>"The Lolo Goes Solo," by Jeffrey St. Clair, the story of Supervisor Daniels' apparently unilateral decision to lower the forest's timber harvest by 50%. *Forest Watch*, Vol. 12, No. 3, October 31, 1991.

<sup>20</sup>The "Gang of Four" was a panel of scientists appointed by the House Agriculture and Merchant Marine Committee to investigate and advise on the spotted owl/timber harvest controversy in the Northwest. The scientists were Dr. Jack Ward Thomas, Dr. Jerry Franklin, Dr. K. Norman Johnson, and Dr. John Gordon. See their report to the Committee, entitled "Alternatives for Management of Late-Successional Forests of the Pacific Northwest," dated May, 1991.

<sup>21</sup>See Jack Anderson's column in the *Washington Post*, January 28, 1990 reporting a study by the National Wildlife Federation of published federal agency data.

I do not think the biophysical damage is irreversible or permanent, and the contribution to the economic development of our nation, from overcutting and overgrazing, has not been insignificant. I do think, however, it is time for a major change in this *de facto* land use policy, and will suggest some changes below.

3. *Where does the problem lie; in concept, interpretation, implementation, or something else?*

I believe the problems lie in the concepts of multiple use and sustained yield, and therefore in interpretation and implementation.

There is more to be said, obviously, about the inadequacies of the concepts. But in the parlance of a poker player, let me check the bet for now, and revisit the issue in detail later.

4. *What are the pressures (both internal and external) that make the concept a problem?*

I presume the question refers to pressures "internal" and "external" to the management agencies.

The internal pressures arise from the tension between the obsession with sustained yield as professional dogma, and the managing agencies' anxieties for political health and bureaucratic survival.

Sustained yield is fundamentally a rationing scheme; it appears, in various permutations, in each of the renewable resource professions; and it has provided, historically, a reliable sense of professional security, not to say equanimity. Politically, however, rationing remains vital and viable only until it constrains either personal or corporate incomes, at which time it must be, or at least has been, traded off for the agency's political welfare.

A pressure that straddles the internal/external boundary is the institutional reductionism conspicuous in the public utilization and professional management of "renewable resources" in the U.S. There are separate management professions, and separate interest groups, for each resource.

On the management side are separate and distinct professionals in timber management, range conservation, wildlife biology, hydrology, outdoor recreation, and arguably wilderness management.

Among the user groups are forest products trade associations, livestock groups, federations of rod and gun clubs, water users' associations, and any number of superbly organized recreation groups devoted to highly specialized, highly capitalized pastimes: off-road vehicular travel, high-tech rock climbing, snowmobiling, whitewater boating, "camping" in automotive domiciles, skiing, etc., etc., etc.

Coalitions of single-resource users and single-resource professional managers transform multiple use into an adversarial game of adjacent, single-resource, land use allocations.

The external pressures originate in what I am coming to call "predatory pluralism", the overshoot mode of our peculiar practice, in the U.S., of minority politics. It empowers and encourages single-resource interest groups to play zero-sum games with each other, and to envision public land commodities and services (and the U.S. Treasury) as common pool resources.

Another external pressure, a consequence of the first, is the centralization and professionalization of the policy making process here in Washington, and a striking overemphasis (inevitable, in this town) on centralized, statutory solutions to localized management problems. I have elsewhere referred to this practice as "Potomocentric" resource management<sup>22</sup>. Thus we are likely to get, in the zero-sum games, statutory emphasis on one resource at a time and often to get a budgetary override of sustained yield constraints in the bargain.

Finally, there is a federal budget process that has become a fiscal firestorm, apparently beyond the control of humans; or even superhumans, which is how elected public figures apparently see themselves; or even subhumans, which is how the rest of us are coming to view the elected public figures. This, too, is a consequence of "predatory pluralism." Six years after Gramm-Rudman-Hollings, on precisely its target date for a balanced budget, and one year after the "Deficit Reduction Package," FY 1991 ended with the largest deficit in the history of the republic. "Management by budget" has become common in resource agencies, making a sham of the multiple-use sustained yield idea, in my opinion, in the form of substantive legislation.

5. *How do multiple use and sustained yield affect resource quality, the available land base for commodity and noncommodity production, [and] land planning?*

The MUSY concept, interpreted and implemented for economic or political expedience in the centralized practice of "predatory pluralism," has seriously degraded resource quality on much federal land. I believe a most painful and embarrassing story of the 1990's will reveal, with increasing clarity, how the national forest timber resource was treated as a capital asset and was liquidated, with a virtual cut-out-and-get-out operation, in about 40 years of "practicing" multiple use on a sustained yield basis. A rather sadly damaged landscape has been left behind; the uses on vast areas of land were never multiple, and, we are coming to see, the timber yields could not, cannot, and will not be sustained. There is some evidence, at least some accusations, that the BLM lands have been as seriously overgrazed as the national forests have been overcut; the painful and embarrassing story will be, apparently, repeated there. (These forest and

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<sup>22</sup>"Forests and Plantations and Potomo-Centric Statutory Fixes (But Downhome Forestry Is Here)," in *Forest Perspectives*, Vol. 1, Issue 1, March 1991.

range lands can and will recover, if we replace the concepts of multiple use and sustained yield with superior ideas, I believe.)

The land base has been balkanized; we have, by and large, segregated uses on adjacent patches, and the landscapes show it. We have mined the national forest timber, and the BLM grass; the base for those commodities has diminished, accordingly. And no objective observer will argue we have enhanced the amenities these lands once produced.

The impact of multiple use and sustained yield on land management planning is fascinating and indeed ironic. The professional fixation with sustained yield, in the 1960's, encouraged "intensive forest management," and that meant very high levels of capital investment. In the case of the Bitterroot National Forest, it meant clearcutting, terracing, and planting. That assured a yield of timber products a century in the future, all right, but it simultaneously obliterated all the other resources and services existing on the sites. Perhaps unconsciously, but very clearly the use of multiple resources was preempted by sustaining the yield of just one, and the ensuing political controversy led directly to the National Forest Management Act of 1976.

The obsession with sustaining the yield of timber displaced an honest application of multiple use, and that precipitated the whole program of statutory planning for the national forests.

The irony in this vignette of history is exquisite, and were it not for the colossal squandering of public capital involved, the humor would be, too. But the Grace Commission pegged the costs of national forest planning at \$200 million per year<sup>23</sup>, and now that the plans are written, the agency must continue spending \$150 million per year simply processing the appeals that the plans have generated<sup>24</sup>. Had we invested, or could we now, that much money in the land instead of in administrative processes and paperwork, I suspect the abundance of national forest products and services would be surprising.

6. *Are both concepts (multiple use and sustained yield) applied to all resources, both commodity and noncommodity? Can they be?*

In the reductionism of professional resource management, sustained yield applications have been formulated for each of the renewable commodity resources. Allowable cuts, carrying capacities, and bag limits are all statements of

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<sup>23</sup>President's Private Sector Survey on Cost Control, (The Grace Commission), *Report on the Department of Agriculture*, p. 233.

<sup>24</sup>See *Resource Hotline*, a newsletter published by the American Forestry Association, Vol. 7, No. 18, December 17, 1991. Forest Service Chief Dale Robertson, testifying before the Senate Energy Committee's Subcommittee on Public Lands, National Parks, and Forests said his agency was spending as much as \$150 million a year to cope with its appeals workload. At the start of FY 1986, before the forest plans were completed, the agency was confronted with 163 appeals. At the start of FY 1992 the number had grown to 1.453.

growth-limited harvests. As detailed above, however, I do not believe the formulations have been applied on the ground, at least with respect to timber and range resources: the harvest limitations have been politically overridden.

Sustained yield thinking has been applied less frequently to noncommodity resources, perhaps because it makes little sense to try. And until recently such resources typically have had few professional advocates. Some possible exceptions today might be the profession of landscape architecture, in the case of scenic resources, the advocacy of biodiversity by professional ecologists, and the defense of cultural resources by archaeologists. (But note the continuing reductionism.)

One can speak of the "application" of multiple use to both commodity and noncommodity resources, but only awkwardly, I think. Certainly the managing agencies include both classes of resources in their consideration of the concept, and certainly both agencies "produce" both. But I think it is more worthwhile to speak of the "application" of multiple use in another way.

I believe multiple use has been applied to the several *jurisdictions* as policy, but not to the *land* as a practice.

The legislation and derived policies state, all but explicitly, that anything of value on the federal lands is available for reduction to possession by private parties, for the payment of nominal, some would say phenomenally nominal, fees. In short, multiple use is seen primarily as a *policy*; both national forest and BLM lands will be harvested or used (and have been) for anything deemed to be of value.

The *practice* of multiple use envisioned in the statutes, "harmonious and coordinated management of the various resources, each with the other", until recently has transcended the conceptual and, therefore, the operational capacities of the land managers. The best we could do, as I've said, was to achieve multiplicity by adjacency: a clearcut here, a wilderness across the valley: multiple use overall, perhaps, but damaged and segregated landscapes as a consequence. We failed to achieve multiplicity simultaneously, through "harmonious coordination." Reductionism in professional management and interest group organization, predation in our plural system of politics, and the professionalized centralization of decision making all contributed to the failure, I believe.

7. *What are the pros and cons of continuing management under this philosophy? How can and do these concepts guide management decisions? How can they be implemented, with various environmental protection statutes (e.g. ESA, the Clean Water Act, the Wilderness Act, etc.) restricting managerial discretion?*

I see no advantages in continuing the management of federal lands under the multiple use/sustained yield concept. Massive changes in land use are becoming necessary for any of a number of reasons, but they will have to be phased in gradually and gently, also for a number of reasons.

The necessity for rather massive changes is confirmed by their existence, I believe. The structural change taking place in the forest products industry of the Northern Rockies and the Pacific Northwest is probably the most visible example: completing the cut-out, the industry has begun the get-out. Other massive changes may be less visible, but are equally necessary, as I will argue below.

We will need time, in the short run, to make these changes as decently and as humanely as possible, in order to minimize the social and economic impacts on the real people involved, the loggers, the mill workers, the on-the-ground stockmen. I am less concerned with the impacts on the artificial people, the corporate entities, most of which have salvaged their capital or will be able to do so anyway.

I believe I have already treated the question of guiding management decisions by the multiple use/sustained yield philosophy. Multiple use as a policy has been used to avoid constraints, I believe: anything goes. And sustained yield does justify the unconscionable squandering of public capital. The results are a patchwork of overused landscapes and shameful deficits in management operations. And public-welfare benefits are difficult to discern.

Benefits concentrated on the livestock industry, the forest products industry, the civil construction industry, the mining industry, and the irrigated agriculture industry are altogether another story, of course. For openers, read Marc Reisner's *Cadillac Desert*<sup>25</sup> or Grace Herndon's recent book, *Cut and Run*<sup>26</sup>.

How can multiple use/sustained yield be implemented with various environmental protection statutes (e.g., ESA, the Clean Water Act, the Wilderness Act, etc.) restricting managerial discretion?

This is an interesting question, which again begs some historical analysis. One wonders why resource managers didn't protect wilderness, keep the air and water clean, and nurture endangered species until they were mandated by law to do so. Even in the doctrines of reductionistic professional management there are strong inclinations to do all these things, and more.

I believe we have indulged too much in Potomocentric management: the field managers were encouraged, if not forced, to overproduce commodities from the national forests and BLM lands--through statute, budget, or headquarters directive--at the expense of environmental values. Eventually, in the shifting tides of political power, environmental groups succeeded in counteracting the environmental abuse by enacting laws like the ones cited above.

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<sup>25</sup>Reisner, Marc P. *Cadillac Desert*. New York, Viking, 1986. 582p.

<sup>26</sup>Herndon, Grace. *Cut and Run: Saying Goodbye to the Last Great Forests in the West*. Telluride, Western Eye Press, 1991. 239p.



Left alone with only broad policy guidelines, field managers can do an excellent job of producing commodities and protecting amenities simultaneously. They can broker the necessary compromises and negotiated settlements between competing users at the localized level—the real people engaged in empiric problems of using tangible pieces of wild land.

The congenial rebellion among field people in the Forest Service today supports this conviction, I believe. They don't need to be driven first in one direction and then the other by the "micromanagement" of budget, headquarters directive, or statute. When they are tightly controlled by predatory coalitions of single-resource interest groups and single-resource professionals in Washington, however, working in an environment of oscillating political advantage, we must repeatedly countervail one Potomocentric policy-decision with another one.

## THE CONCEPTUAL DIFFICULTIES WITH MULTIPLE USE AND SUSTAINED YIELD

### Sustained Yield

Sustained yield—the idea of balancing periodic harvest with periodic growth in perpetuity—is nonsense in a dynamic, volatile, changeable biosocial system<sup>27</sup>: the probability of our wanting any particular quantitative amount of a given material forever is statistically zero, and this argument has been articulated and reiterated for at least the last 43 years<sup>28</sup>.

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<sup>27</sup>The term "biosocial system" describes a single system in which societies perceive utilities in their physical environments, and construct institutions to exploit them. The subsets of the system—society and the environment—are interactive, interadaptive, and interdependent. See Thomas M. Bonnicksen, "Managing Biosocial Systems: A Framework to Organize Society-Environmental Relationships," *Journal of Forestry*, Vol. 89, No. 10, October, 1991.

<sup>28</sup>The earliest critique of the sustained yield concept I have unearthed, in a fairly casual search some years ago, is Calvin Stillman, "Economic Relations of the Black Rock Forest," in *Black Rock Forest Papers*, No. 23, 1949. Stillman made a strong case that "...sustained yield simply doesn't make sense in our time." E.M. Gould continued the criticism in "Fifty Years of Management at the Harvard Forest," in the 1960 *Harvard Forest Bulletin*. His colleague, Hugh M. Raup elaborated the theme in "Some Problems in Ecological Theory and Their Relation to Conservation," in 52 *Journal of Ecology*, 19-28 (Supp. 1964). See also Barney Dowdle, "The Role of Economics in Forest Management Decisions," in 1963 *Proceedings of the Society of American Foresters*, 155-157; Thomas Waggener, "Some Economic Implications of Sustained Yield as a Forest Regulation Model," (contribution No. 6, College of Forest Resources, University of Washington, 1969); J. Harry G. Smith, "An Economic View Suggests that the Concept of Sustained Yield Should Have Gone Out with the Crosscut Saw," 45 *Forestry Chronicle*, 167-71 (1969). Sustained yield seems to have been defended (continued...)

Sustained yield is appealing in its simplicity, but, as we have seen, enormously elastic in its interpretation and application, until indeed it can be made to violate its own dictum of perpetuity. I believe our reliance on sustained yield has been counterproductive, even perverse.

Sustained yield presupposes "renewable resources," a concept that has received very little analytical attention. Physical, organic renewability seems to be the standard: range grasses resprout each spring and forests will grow again, and hence both are classed as "renewable resources."

By this simple standard, however, petroleum is clearly "renewable," too—if only people will be sufficiently patient to wait several millions of years. People are not that sufficiently patient, of course, and hence we classify petroleum as a "stock" resource.

It is probably important, therefore, to inject some indicator of "social impatience" into the formulation and definition of "renewability." Happily, we have such an indicator conveniently at hand: interest rates. Insofar as interest rates are determined by market factors, and not by the Federal Reserve Board frantically and perhaps politically hyping a moribund economy, and not by the oligopoly of New York (or Tokyo) banks, they constitute reliable indicators of peoples' "time preference"—which is to say, social impatience.

I propose we classify as "renewable" only those biological resources that demonstrate growth rates equal to or greater than the market rate of interest—the measure of social impatience. Renewable resources should "renew" *quickly enough* to satisfy the time preference of society at large.

Suppose we take the prime rate as "the" market rate. Suppose we compare timber growth to the prime rate—currently at 6.5%, the lowest in decades—to see what sort of resource we have.<sup>28</sup>

After a great deal of stubborn insistence on my part, and scientific qualification (hedging) on theirs, several colleagues of mine agreed on a grossly approximate figure for timber growth, generalized across the United States: 3% per annum. (One was a growth-and-yield mensurationist, and the other a forest

<sup>28</sup>(...continued)

by foresters invoking the classic strategy of zealots, who "...redouble their efforts precisely when the cause is hopeless."

<sup>29</sup>Reviewers of this paper suggested an inflation-adjusted interest rate might be more appropriate as a datum against which to measure renewability, and offered the prime rate less the rate of CPI growth as the proper statistic. My acquaintance with economic analysis is casual and fleeting, but I must demur. As the dollar value of an asset earning, say, 6%, rises due to inflation, the dollar return on that asset will rise, too, *ceteris paribus*. (I have at least learned from economics the use of that conventional hedge.) Inflation, I believe, is reflected in this increased return. An increasing *rate* of return reflects not inflation, it seems to me, but a rising level of social impatience.

ecologist. Both insisted feverishly on anonymity, a request I am bound to honor.)

Clearly, U.S. timber resources so described are not "renewable" *quickly enough* to satisfy the time preference of society at large. (The empirical historical and political evidence to support this allegation is abundant, I believe.)

I propose we distinguish between stock and renewable resources on the basis of social time preference, not on the potential for biophysical resurgence, and fashion resource management strategies, accordingly.

For managing timber as a stock resource, the strategy of sustained yield becomes meaningless. A massively different calculus would be called for. It would include, I imagine, a preeminent concern for other resource services and values that occur simultaneously and coincidentally with the timber, perhaps some landscape reclamation, and accommodating the fact of a finite, one-time opportunity. By definition, there would be no capital-intensive "site-preparation" for a subsequent "crop," the activities mandated by the sustained yield policy that have caused so much economic and political mischief.

### Multiple Use

Multiple use management focusses, by definition, on uses, not resources. As I've said, it has been applied as an open-access policy to agency jurisdictions, not to land as a practice of constrained decisions, and the result has been a landscape mosaic of single-resource uses. We have achieved multiplicity through adjacency, not simultaneity. The social and political costs of doing so, in terms of conflict, controversy, appeals, litigation, and repeated attempts at statutory resolution, have been enormous.

Instead of focussing on uses, I believe we must look instead at the resources, or more accurately, the resource *systems* found on the federal forest and rangelands. I believe we should practice *multiresource* management, not multiple *use* management. We should always take a systems view, and know before we mine a stock resource or harvest a renewable one what the impacts will be on all the others.

We have been delivering multiple *uses* from the public lands for scores of years, and the controversies seem only to escalate. The controversies originate, I think, from the unforeseen impacts of managing a particular use, and its underlying resource, on some or all of the other resources: timber vs. owl, domestic grazing vs. wildlife habitat, surface mining vs. everything else on the surface, and often below.

Instead of sustaining yields, we should have been sustaining, it is becoming clear, the biophysical systems in which they originated. We should indeed have focussed on resources, not uses.

Such a view is emerging today. Multiresource management, in its several manifestations, is much discussed in the professional literature, and in the

political arenas, as a new and better way to manage federal lands. It does indeed begin with the view of the land as a system, and management alternatives are compared on the basis of systemic responses.

Given we can free the field managers to work with their localized constituents, and not continue to impose Potomocentric constraints on their actions, I believe multiresource management is a promising alternative to multiple use/sustained yield.

Planning for constituency-based multiresource management must be strongly decentralized, and it too is most successfully done at the localized level. I have elaborated elsewhere<sup>30</sup> both the rationale and a technique for doing so.

## CONCLUSION

Constituency-based multiresource management makes most sense, in my view, primarily for the next 25 years or so—a respectable estimate for the time it takes to achieve a truly profound shift in public policy.

Most of the multiple uses are *private* uses of public lands, and I believe the time has come to consider, after all, a profound shift. We need to begin emphasizing the *public* uses of public land, and to begin winding down the private uses.

The "privatizers" of the early Reagan/Watt years wanted to privatize the federal lands. Their misguidance was not only political, but intellectual as well: there is little point in privatizing the land when the policies are in place, and have been for decades, to privatize the resources thereon: sale contracts, leases, permits, royalty payments, user fees, and licensing schemes have transferred timber, water, forage, fossil fuels, minerals, and wild creatures from public to private hands, demonstrably without exception at heavily subsidized prices.

These policies—in the aggregate providing for "the private use of public lands" as Clawson described the situation—were the political prices paid years ago to buy support for public land ownership and management in the first place.

The policies finally appealed to the privatizers of the Reagan/Watt years, after all: they eventually realized the only things left to privatize were not the benefits, but the substantial costs of land ownership, and so withdrew their proposal abruptly.

Clearly the time has come for change.

Through almost unrestricted access—encouraged and provided by the multiple use/sustained yield philosophy—we are using the public lands largely,

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<sup>30</sup>See R.W. Behan, "Multiresource Forest Management and National Forest Planning with EZ-IMPACT™ Simulation Models: How to Get By in Style Without a Linear Programming Fix," in review, *Journal of Forestry*.

primarily, for the pursuit, acquisition, and enhancement of private wealth. That could be said to be their preeminent purpose.

The resource-extraction activities occasioned by this practice generate social costs in several dimensions. Timber harvesting, livestock grazing, water development, and mining activities cannot be done without tradeoffs. There is always an irreducible degree of landscape or environmental degradation which has to be considered a social cost. Many of the subsequent processes contribute to social and environmental problems as well: the air and water pollution generated in smelting, coal-burning, paper production, and feedlot operations; downstream problems of global warming and solid waste disposal; even the health hazard attending the overconsumption of red meat.

That last item constitutes an economist's nightmare, an example of consumption in the range of negative marginal returns. Americans clearly would be better off if they ate less red meat. Can the same be said about paper consumption? If we carried groceries home in reusable canvas bags, would the lightened impact on our air, water, and landfills more than compensate the loss of convenience imagined to reside in paper sacks? Are we not overconsuming energy resources as well? Very modest gains in energy efficiencies and conservation would make unnecessary the mining and subsequent burning of western coal. On a net basis, would we be better off? Is the answer not self evident?

If the preeminent purpose of the public lands was the provision of public goods instead of private, the positive net contribution to social welfare would be, I believe, surprising. The protection and "production" of scenic beauty, wildlife habitat, watershed protection, carbon sinking, biodiversity, cultural and historical values, recreation opportunities, and simply unrestricted open space would generate no more than incidental social costs. Nor would they require much in the way of public capital investment.

Social benefits would far exceed costs; and many of the negative net benefits of private, extractive uses, alluded to above, would be avoided. The algebraic sum of large gains and avoided losses could be, as I said, surprising.

The transition from the private use of public lands to the public use of public lands will be long, contentious, and difficult. There is no conspicuous political interest group lobbying for the production of public goods--those indivisible and non-exclusive values that seem chronically to be in short supply.

Some sort of decentralized, constituency-based multiresource management would appear, at least, to provide a good transition from a private-goods to a public-goods emphasis. Such a strategy could accommodate the decent and humane restructuring of institutions I mentioned earlier in this paper, and oversee the biophysical rehabilitation of our damaged federal lands in the process.

But I believe the multiple use/sustained yield concept is an idea whose time has passed.

## IS THE MULTIPLE USE/SUSTAINED YIELD MANAGEMENT PHILOSOPHY STILL APPLICABLE TODAY?<sup>31</sup>

### INTRODUCTION

I have agreed to take the "in-between" or "maybe" position in responding to this question. That is, of course, a classic political straddle. But I will attempt to justify it by focusing on "multiple use/sustained yield"<sup>32</sup> primarily from the standpoint of how it has served to allocate decisionmaking power between the legislative and executive<sup>33</sup>. Specifically, while MUSY may be a "management philosophy" -- a recipe for federal natural resource management -- it is also a device by which Congress has transmitted to the executive branch agencies nearly uncabined power to manage large tracts of federal land. Put a little differently, multiple use came into being, and still retains some political currency, to justify a very large amount of executive branch agency discretion over federal lands.

My thesis is simply that Congress has, in the last three decades or so, grown increasingly dissatisfied with such a broad delegation of power. As a result, it has undermined classical MUSY by steadily reclaiming political jurisdiction over federal land management from the Forest Service and the BLM. Admittedly it has not wholly repudiated the idea of agency discretion and expertise - they still count. But Congress has busily been, in several different ways, revoking the relatively blank check that MUSY gave the executive agencies. It has transferred many millions of acres of formerly MUSY lands to more frankly dominant use management, through such designations as parks, wilderness areas, and national recreation and conservation areas. It has grafted a comprehensive planning process and numerous other procedural and substantive limitations onto MUSY decisionmaking. This is happening for a

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<sup>31</sup>Prepared by John D. Leshy, Professor of Law, Arizona State University.

<sup>32</sup> Most of what I have to say addresses the "multiple use" component, although I offer some thoughts on sustained yield further below. I use the term multiple use in what I believe is its classic (and its legal) sense - as a loose direction to manage federal lands and resources for a wide variety of uses, no one of which having any intrinsic preference or primacy. This is to be contrasted with so-called "dominant use" lands. For example, national park system lands are managed for much more limited number of uses (e.g., recreation, wildlife, watershed, and general environmental preservation, but not hunting, mining or timber harvesting), and the choice among allowable uses is controlled by fairly well-defined management objectives. Thus off-road frolicking by motorized vehicle, while a form of recreation, would generally be very limited in most parks because it conflicts with the dominant management purpose.

<sup>33</sup> Necessarily I will paint with a very broad brush, glossing over exceptions and counter-currents that have always marked the untidy universe of federal land policymaking.

number of political, economic and cultural reasons, and it seems nearly inevitable that it will continue.

In short, classic MUSY is withering away, mostly because of congressional decisions. Eventually Congress may get around to formally replacing it, although that may not happen for several decades. In the meantime, MUSY will linger on, but without masking tensions between the Congress and the agencies.

Although some may decry the trend, it seems to me not only nearly inevitable but for the most part welcome. Choosing among uses of federal land is fundamentally a political process, and as long as the lands remain in federal ownership, the Congress is the most appropriate place to make the fundamental management decisions, rather than simply handing the executive agencies a blank check in the form of classic multiple use.

### MULTIPLE USE/SUSTAINED YIELD AS A DELEGATION OF CONGRESS'S POWER TO THE EXECUTIVE

Perry Hagenstein has provided a good picture of where MUSY came from, but I would like to put a little of my own spin on the story. Although the formal label MUSY did not evolve until much later, it seems to me the core of the idea was sold to the public and the politicians by utilitarians like Gifford Pinchot (building on the legacy of John Wesley Powell). Land and natural resource management is a complex enterprise, Powell, Pinchot and their allies argued. Achieving the greatest good for the greatest number over the long term (these very words come close to a conventional justification for MUSY) requires careful application of scientific principles by experts.

Eventually encapsulated in the brilliant slogan of MUSY, this idea was a persuasive policy stroke on several counts. It seemed to offer both protection to current users and opportunity for new and different interests, based on the premise that choosing among uses was not a zero-sum game (*multiple uses*). It simultaneously promised utilization and sustainability, satisfying present and future generations. At the same time, it was very fuzzy in the details, essentially reposing a large degree of trust in the executive agencies to select and periodically adjust the appropriate management mix, without cluttering up their job with detailed standards or cumbersome processes.

Public choice theorists would, I suppose, characterize the emergence of the idea of agency discretion that later became MUSY as classic nest-feathering and empire building by unaccountable bureaucrats. Certainly there was some of that (Pinchot was an ambitious man) but there is a more noble, public-spirited explanation. Prior to the advent of MUSY, no consistent management philosophy for the federal lands had ever been expressed. For most of the previous century, Congress was preoccupied with an intensive effort to subdue the Indians and settle the west, to stitch together a nation from sea to shining sea. Disposal of federal land was the preeminent tool available. The success of that policy was apparent by the end of the last century, but what would fill the vacuum left by its fulfillment? Surely it was no accident that Turner's

announcement of the end of the frontier (whether that was true or not is beside the point; it was widely believed to be true) was soon followed by Pinchot and his crowd, sowing the seeds that eventually formally flowered into MUSY.

Of course, historical transitions are rarely tidily marked. Disposal of large tracts of federal lands continued through the first few decades of this century under the homestead acts, especially the stock-raising homestead act. Although most of these were "public lands" managed by the Interior Department, several million acres of national forest lands were open to homesteading (either by classification or redrawing forest boundaries) after 1900. But in the main, it is fair to say that MUSY began to flower as a federal land policy as the disposal era was drawing to an end.

I said the progressives sold MUSY to politicians as well as the public. But Congress's approval of the idea was for a long time expressed mostly by acquiescence. As Perry Hagenstein points out, the 1897 Organic Act's reference to a "continuous" supply of timber is a sustained yield concept, made even more explicit in the 1937 O&C legislation and the 1944 Forest Management Act. But Congress did not get around to officially ratifying MUSY as a generic, "permanent" management philosophy for Forest Service lands until 1960, and for BLM lands until 1976.

In the Pinchot era, Congress's acquiescence was grudging indeed. Titanic battles were waged as Capitol Hill sought to recapture some of the management prerogatives the executive branch had seized. Substantively, these struggles were more often than not marked by an exploitation-minded Congress battling an executive that wanted to place some curbs on extraction of federal land resources. The Congress won a few, lost more, and eventually mostly retired from the field. (It must be said, however, that Congress has always held the purse strings relatively tight, resisting for the most part attempts to give federal land management agencies "revolving funds" derived from federal land revenues that bypass the annual appropriations process.)

The adoption of the Pickett Act in 1910 and the Mineral Leasing Act in 1920 may be said to mark Congress's capitulation. Each left the executive branch with a broad discretion - to withdraw federal lands from disposal for "public purposes" and to lease important minerals - when it determined the public interest would be served.<sup>34</sup> In a sense, the New Deal (understood as the delegation of vast authority by Congress to regulatory agencies) came to the public lands a generation earlier than it did to other areas of American life.

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<sup>34</sup> Other legislative pronouncements of that era, such as the Federal Power Act of 1920, were in the same vein, but they applied nationally, rather than simply to federal lands.



## CONGRESS BEGINS TO REASSERT ITSELF (EVEN AS IT ENSHRINES MUSY IN LAW)

Around the same time Congress was acquiescing in the exercise of broad discretion by the executive, it was also beginning to create federal land management systems which rejected classical multiple use, and correspondingly limited executive discretion. The national park system, given an organic act in 1916, was the first major example of this. Significantly, it and other preservation-oriented measures enacted in this era were for the most part opposed by Pinchot and his allies.<sup>35</sup>

It may seem ironic that Congress' first important, explicit embrace of MUSY in 1960 came at about the same time the forces that would undermine it were gathering strength. Some of these forces were demographic - increasing urbanization, particularly in the west; an increasingly mobile population with greater leisure time, spent more and more in outdoor recreation on the federal lands. Some were economic - improved transportation systems merging regional economies into a truly national one, and a decline in the relative economic importance of a number of commodity uses (especially oil and gas and forage) of federal lands. Some were scientific and cultural - growing understanding of natural systems and greater appreciation of environmental values and amenities.

And some were political and institutional. Perhaps the most important of these was the Supreme Court's insistence, beginning in the 1960s, that state legislatures and the House of Representatives follow the one-person/one-vote formula. This significantly enhanced the political power of urban interests at the expense of rural interests throughout the country, and had a particularly important effect where most federal lands subject to MUSY were found, areas with sparse rural populations and rapidly growing cities. To this must be added the post-World War II advent of divided national government (usually, a Democratic Congress and Republican Executive); a decline in party discipline, making generic policy changes more difficult of attainment, and enhancing the opportunity for deal-making within a state's congressional delegation; the rise of a national environmental constituency that made public land management a national rather than simply a regional political issue; and larger congressional staffs allowing increasing legislative oversight.

But the irony in the timing of Congress's formal embrace of MUSY was more apparent than real, as revealed in politics of passage of the MUSY Act in 1960. As Perry Hagenstein properly emphasizes, the Forest Service drafted the bill mainly as a "defensive" strategy, being primarily concerned with "interagency and jurisdictional politics." The idea was to preserve Forest Service discretion by enshrining its long-held philosophy in statute. But the agency did not want to be encumbered with detailed guidance (indeed, as Hagenstein shows, the agency did not want the key terms defined in the statute). Congress went along

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<sup>35</sup> The mineral lands, generally off limits to disposal except under the mining laws, have always been a special case. They were subject to multiple use only within the constraints of the Mining Law of 1872, but were subject to the executive's withdrawal power.

with the general idea (although it insisted on statutory definitions), but the legislation did not quell the increasing congressional unrest with agency discretion.

Congress's adoption of MUSY for the BLM sixteen years later (with a few interesting definitional variations noted by Hagenstein) was not much of an issue - the BLM clearly needed an organic act; Congress had already given it temporary multiple use authority in 1964; MUSY was the closest fit available because BLM lands were managed more like the national forests than any other federal land system; the Public Land Law Review Commission had recommended it; and no one had the will or political clout to develop and sell a different management mandate.

## **MULTIPLE USE/SUSTAINED YIELD IN THE MODERN ERA**

Since 1960, MUSY has undergone enormous change, which might be divided into three somewhat overlapping categories. The first is a change in *coverage* - in the number of acres of federal land officially subject to "true" or "classic" multiple use decisionmaking. The second has been in the *process* by which MUSY decisions are made. The third is found in *restrictions* - mostly environmental and preservationist - imposed on MUSY decisionmaking by generic laws.

Each represents a reclaiming by Congress of authority it had formerly delegated to the Forest Service and the BLM. In the first two categories that effect has been the specific purpose of the changes; in the third the intent of Congress is less focused on federal lands, but the effect is the same. Pinchot utilitarianism and "scientific management" are not gone altogether, but Congress clearly no longer worships so fervently at that altar. Ultimately, Congress is implicitly saying by these changes, federal land management is a political question. Therefore it, the more directly accountable branch of government, is fully justified in asserting itself in these decisions.

### **Shrinking Coverage**

As a management objective MUSY probably still applies to more federal land than any other single management philosophy. But its reach has shrunk, and the pace of retreat seems to have been accelerating. For one thing, the national park system has steadily expanded. Much of this expansion has come, as in the past, from national forest land; e.g., Great Basin National Park. (In that sense, the Forest Service's strategy behind the 1960 Act, to head off the "advocates of single use," as recounted in Hagenstein's paper, failed.) Interestingly, more and more park system additions are coming from BLM land in both the lower 48 states (e.g., Lake Mead and Glen Canyon National Recreation Areas and, on the horizon, new national parks in the California desert) and Alaska (through the Alaska National Interest Lands Conservation Act of 1980).

Equally important is a steady shrinking of true multiple use lands that are still managed by the Forest Service and the BLM. The Wilderness Act of 1964 and, to a lesser extent, the Wild & Scenic Rivers Act of 1968 have restricted the play of multiple uses on large tracts of Forest Service and, increasingly, BLM lands. The wilderness system was launched into law in 1964 with a charter membership of eight million acres; today it contains nearly 100 million acres. Less obvious is the growing number of legislatively designated national recreation areas (NRAs), national conservation areas (NCAs), and other legislative designations that also legally restrict how these agencies manage these lands. Such legislative classifications on national forest and BLM lands were rare before 1964, when Lake Mead NRA was designated. But in just the last few years close to fifty have been created, covering perhaps ten million acres of federal land, and more are being proposed every congressional session. Not all of these are carved out of multiple use lands, but many have been (and will be).

For the most part, these restrictions do not forbid traditional commodity uses like timber, grazing, and mining on these lands. But they generally subordinate (either legally or practicably) such uses to recreation, wildlife, and watershed considerations. Thus they change the management philosophy, in public land jargon, from "multiple" to "dominant" use.<sup>36</sup>

### Changes in the Process of Making MUSY Decisions

Here I have in mind principally the BLM and Forest Service planning systems and the National Environmental Policy Act (NEPA). The days are long since gone when a BLM district manager or Forest ranger could promptly make and implement MUSY decisions on the ground. MUSY decisionmaking has become bureaucratized, open to broad public participation, and must now be done and justified on paper - sometimes lots of paper. Cynics see this as an example of what happens when lawyers get involved, and there is some truth in that. But it is a maxim of politics as well as law that process is often critical - that how something is done can be as important as what is done. Experience in other areas of American life suggests that more procedural regularity may be essential as population grows and society becomes more diverse and complex. The process of MUSY decisionmaking, in other words, has been reformed in many of the same ways that administrative agency decisionmaking in general has been reformed in the past half-century.

At bottom, these procedural reforms also embody important congressional limits on executive branch discretion. They affect not only the speed with which decisions are made, but also their substance - indeed, that is one of their purposes. NEPA was enacted because Congress thought federal agencies were not paying enough attention to environmental impacts in their decisionmaking.

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<sup>36</sup> Executive or legislative "withdrawals" of these lands have also increased over the last several decades, and thus might also be included here. But withdrawals are of a somewhat different character, usually being aimed solely at mining, and generally regarded as a negative "thou shalt not" rather than an affirmative management philosophy.

The federal land planning acts were adopted in part because Congress thought multiple use decisionmaking was not systematic enough, was too informal, and was not open sufficiently to public scrutiny.

Furthermore, the multiple use planning process has often worked in practice to narrow even more the scope of multiple use decisionmaking. The land use inventory and planning processes of both the Forest Service and the BLM have resulted, with increasing frequency, in recommendations that specific tracts of land be formally removed from "true" multiple use. Some may be recommended to Congress for inclusion in the National Wilderness Preservation System. Others may be recommended for congressional designation as national recreation areas or the like. Still others may be taken out of true multiple use by administrative designation, such as with the creation of the Birds of Prey raptor conservation area in Idaho, or designation of "areas of critical environmental concern" (ACECs) by the BLM.

This outcome is, once again, not accidental - it is exactly what Congress anticipated would happen. FLPMA, for example, mandated a review of all BLM lands for possible designation as wilderness, with recommendations to Congress coming at the end of the process.<sup>37</sup> FLPMA also not only created, but mandated that BLM give priority to, ACECs.

In a sense, the Public Land Law Review Commission was prescient in making its then controversial recommendation (mentioned by Hagenstein) that a planning process be adopted to zone some federal lands for "dominant uses," with other, "secondary" uses allowable to the extent compatible with the dominant uses. This proposal was perceived as an assault on wildlife, recreation, and preservation values, and one might say that the Commission failed to anticipate fully the extent to which such values would become popular. But the core change in institutional relationships advocated by the (congressionally-dominated) PLLRC - having Congress direct and encourage a transition from "true" multiple use to dominant use - has come about.

### **Substantive Limitations on Agency Discretion Flowing from General Regulatory Laws**

These encompass a variety of mostly environmental limitations that Congress has adopted. Prominent examples include the pollution control laws (Clean Air and Water Acts, RCRA, etc.), the Surface Mining Reclamation and Control Act of 1977, the historic and archeological resource preservation laws and, finally, the "pit bull" of environmental statutes - the Endangered Species Act (ESA). Also worth mentioning here, even though they are not generic but rather specific to federal lands, are the restrictions on timber harvesting in the National Forest Management Act, the restrictions on federal coal development

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<sup>37</sup> In a tidy illustration of legislative recapture, Congress also mandated that BLM generally manage its roadless areas as wilderness until Congress made final decisions. Interestingly, this is *not* what Congress did twelve years earlier, when it mandated much more limited wilderness reviews in the Wilderness Act.

in the Federal Coal Leasing Act Amendments of 1976, and other similar pieces of legislation.

These statutes impose both procedural and substantive limitations. They are also usually expressed with a degree of specificity that - especially when compared to the glittering generalities of MUSY - seem astonishing. These limitations can rule out particular "multiple" uses on tracts of federal land otherwise open to such uses. Because they can operate to shrink the scope of true multiple use, they could properly be placed in the first category of change discussed above. Sometimes the tracts of federal land involved can be large indeed - witness the potential impact of the spotted owl listing under the ESA on timber harvesting in the Pacific Northwest.

The issue raised by such restrictive legislation can be captured in a microcosm this way: Are national forest lands in spotted owl country subject to true multiple use? A defensible answer is no, because the ESA has made a particular species of wildlife the dominant use of large tracts of these lands.

### Multiple Use and Markets

Another element is assuming increasing influence in the implementation of multiple use - the idea that the federal government should receive fair market value when it makes federal resources available to private users. This has always had a place in multiple use decisionmaking; e.g., the 1960 act said that "consideration [should be] given to the relative values of the various resources" in choosing an appropriate mix. But "values" here were never understood solely as market values. Moreover, a duty to *consider* is not a duty to *achieve*, for the act went on to say that this obligation to consider values was not "necessarily [to result in] the combination of uses that will give the greatest dollar return or the greatest unit output."

Modern times have seen a new emphasis on competition and market pricing for commodities - particularly timber and minerals - sold under the multiple use policy. This results from the confluence of several forces: The growing political power of environmentalists opposed to subsidizing environmental harm; the increasing recognition of the advantages of markets in general; growing pressure from the states that by statute have a share in the federal revenues generated; and growing federal budget deficits. Most revisions of laws that influence multiple use decisionmaking in recent years have reflected that new emphasis; e.g. the National Forest Management Act of 1976, the Federal Coal Leasing Act Amendments of 1976, and the Onshore Oil and Gas Leasing Reform Act of 1986.

Such changes have not displaced the idea that market value is but one of several factors to be considered in the multiple use mix. But mandating that federal resources be sold only through competitive bidding for fair market value necessarily influences multiple use decisionmaking itself. Specifically, it effectively discourages choosing a management strategy that subsidizes commodity users, as was often the case in the past.

This trend has not been uniform. Grazing subsidies, for example, have not been seriously touched. Indeed, the grazing fee formula adopted in the Public Rangeland Improvement Act of 1978 was a retrogression. But opponents of grazing subsidies have made considerable headway in Congress in recent years. So have opponents of so-called "below-cost" sales of federal timber, where the revenue to the federal treasury is less than the Forest Service's cost of administering the sale. The Forest Service defends such sales on multiple use grounds, arguing that the major cost in sale administration - road construction - actually serves other uses such as recreation, and therefore should not be totally allocated to timber. While currently the agency seems to have sufficient legal discretion to allocate costs that way, politically it is on the defensive. Thus there is some likelihood that Congress will place some limits - again, market-oriented limits - on the exercise of the agency's multiple use discretion.

### HOW DOES SUSTAINED YIELD FIT IN THIS ANALYSIS?

Sustained yield has to be thought about somewhat differently. For one thing, sustained yield does not apply to non-renewable resources of the federal lands, principally minerals. Moreover, as Hagenstein shows, for a long time the sustained yield concept was applied only to one of the multiple uses - timber - perhaps because Pinchot and many of the other early multiple use advocates were trained as scientific foresters. But when Congress generically mandated sustained yield for the Forest Service and the BLM in 1960 and 1976, it expressly applied it beyond timber to forage, wildlife, watershed, recreation, and all the other renewable resources found on these lands. (Moreover, the National Forest Management Act of 1976 codified, albeit with a limited escape clause, a conservative definition of sustained yield for national forest timber itself; so-called "non-declining even flow".)

In recent years much more attention is being paid to sustained yield management of these other, non-timber resources. In this sense sustained yield overlaps with, and reinforces, modern concern with protecting the environment in all aspects of federal land management. After all, sustained yield was defined in the 1960 Act as achieving and maintaining outputs "in perpetuity." And to underscore that idea, Congress added the cautionary "without impairment of the productivity of the land."<sup>38</sup>

Although neither multiple use nor sustained yield is a static concept, there is a basic difference between the two. Implementing multiple use seems more fundamentally a political decision (though influenced by science), while implementing sustained yield seems more fundamentally a scientific decision (though influenced by politics). Multiple use decisionmaking changes over time in response to changing societal values and political realities. Sustained yield decisions, on the other hand, ought to be less affected by such subjective factors. Instead, sustained yield decisionmaking should evolve with emerging scientific

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<sup>38</sup> For some reason, FLPMA includes a similar phrase in the definition of multiple use rather than sustained yield, but then incorporates it in the latter by requiring sustained yield to be "consistent with multiple use."

knowledge as to what sustained yield is and what needs to be done to achieve it. This difference may be more theoretical than real, of course, because difficult and at least assumptions and value judgments are an inevitable part of the sustained yield calculation.

Scientific understanding of how forest and rangeland ecosystems work over many generations has undergone considerable refinement in recent decades. And this continues to lead, in turn, to fundamental reworkings of the implementation of sustained yield. We once thought, for example, that we could sustain grizzly bear populations by letting them feed on garbage dumps in some national parks. We now know much more is required for a true "sustained yield" of this species of wildlife. In a larger sense, the idea of biodiversity protection that is gaining considerable political currency is also a product of that reworking.

The grizzly bear and biodiversity issues illustrate another effect of the new focus on sustained yield. It frequently requires the agencies to take account of what happens beyond the boundaries of their management systems. This in turn dramatizes the artificial, even haphazard nature of many of these jurisdictional boundary lines. The result is proposals for more unified management across these boundaries (as in the greater Yellowstone ecosystem), and for some realignment of the boundaries themselves (most frequently used to justify expansion of national parks and other protective management systems). Either way, true multiple use is restricted.

Some (inside and outside the agencies) express considerable hostility to this idea, usually under the banner of opposition to managing MUSY lands as "buffer zones" for nearby more protected lands. But in a broad sense, MUSY lands have always been managed in part to serve the interests of lands outside their borders. Traditionally, the focus was more on serving the needs of important local industries like mineral and timber processing facilities and local ranches. Part of what is happening today is that the assessment of local needs has changed.

Evolving applications of the sustained yield principle need not always spell restrictions on traditional commodity uses of the federal lands. Some have argued, for example, that we can have more timber and more wilderness by intensively managing high-yield federal timber lands (although the Endangered Species Act has something to say about that). The ongoing evolution in agency fire suppression and management policies is perhaps another reflection of refinements in the application of sustained yield. This is made more complicated as the rural west fills up with small rural subdivisions, recreational residences, and the like, but it may lead to more intensive management of, and more resource extraction from, some fire-prone lands.

## **IS CONGRESSIONAL RECAPTURE APPROPRIATE?**

With MUSY evolving through congressional reassertion of control, it is worth asking whether the trend should be applauded. There are a number of

ways to address that question. One is as a matter of constitutional law, and on that score, it is difficult to quibble with what is happening. Article IV of the constitution, after all, gives "[t]he Congress . . . Power to dispose of and make all needful Rules and Regulations respecting the Territory or other Property belong to the United States . . ." Another way to address the matter is from the standpoint of political theory. On this ground too the trend seems unobjectionable: Congress is more directly accountable, and better able to resolve the tension between local and national interests, than unelected officials in the executive branch.

Part of the genius of our government is its complicated system of checks and balances among different centers of power, and from that perspective too, congressional recapture seems to me wise. Surely one reason Congress has been relatively aggressive in restricting the executive branch is that in the post-World War II era, the Congress has usually been Democratic and the Executive controlled by the Republicans. The emergence of a largely conservative Republican federal judiciary has only increased the incentive for Congress to limit agency discretion. In several recent decisions the Supreme Court has, for example, underscored that it will give broad deference to interpretations of laws made by the executive branch agency responsible for administering them. The more discretion Congress leaves to the agencies, in other words, the less the courts will interfere with the agency decision; conversely, congressional specificity can at least partially overcome executive intransigence because the courts must, generally speaking, enforce specific congressional mandates (such as in the Endangered Species Act).

To take another example, many expect the Supreme Court will now seize every available opportunity to expand the constitutional protection of property rights from significant governmental limitation. That should give the Congress (assuming it remains Democratic) ample incentive to limit the creation of private property rights in federal lands. (It can do so because its legislation controls whether and how property rights should be created in federally owned resources like minerals, timber and forage.)

Congressional recapture is not without costs. One result of a narrowing executive discretion is less flexibility to respond to changing circumstances. Another result, flowing particularly from the process reforms mentioned earlier, is red tape, lots of paper-shuffling, delay and expense. Reasonable people can surely differ on whether all this is worth it, but a good case can be made that it is. Our country's founders feared a monolithic, efficient government, believing that it paved the way toward instability and, in the worst case, tyranny. In short, our political tradition tells us that inefficiency in governmental decisionmaking is itself a positive value; it's an important reason why we've managed to survive for two hundred years.

## **THE FUTURE OF MULTIPLE USE/SUSTAINED YIELD**

The disarray in the current status of MUSY may only be temporary. Trend is, to be sure, not destiny. But it will take an unusual confluence of



circumstances for Congress, at least in the near term, to officially abolish the MUSY management philosophy. The safest prediction is thus of a continuation of current trends for some time to come. In substantial part this is simply because there is currently little political pressure for generic, agency-wide reform. Of course timber interests would make timber the dominant use; miners minerals; wildlife advocates wildlife; and so forth. But the current political reality is that no MUSY interest group has a taste for a major fight to overthrow MUSY as a generic managing principle.

The traditional commodity interests are nearly everywhere on the defensive, working mostly to retain a degree of protection for their uses within the general framework of MUSY. Environmentalists and preservation advocates have made considerable inroads on classic MUSY by focusing on specific tracts of land, both inside the agencies (in the federal land planning and related decisionmaking processes) and in Congress (such as in legislative designations as wilderness, national recreation areas, and the like).

What does this mean for the foreseeable future? Well-established dominant use systems like wilderness and wild and scenic rivers will be filled out. (Being basically preservation-oriented, these systems have a limited capacity - it is difficult to make new roadless areas or free-flowing rivers.) Agency jurisdictional boundaries will be adjusted on a piecemeal basis, often to make them better coincide with ecosystems or watersheds. The national park and wildlife refuge systems will continue to expand, although probably not (in terms of acreage) at the same pace as in the last couple of decades. Other dominant use systems of recent creation, like national recreation areas, conservation areas, riparian areas, and so forth, will continue to gain in popularity. Some new dominant use systems may be created. The Forest Service and BLM planning systems will continue to churn out plans that zone their lands for dominant uses.

The result will not always be curtailment of traditional uses like mining, grazing, and timber harvesting. But we are probably kidding ourselves if we think it won't be mostly toward that end. It is not accidental that, when multiple use was in its infancy, some of its strongest advocates were those who thought that the miners and loggers and ranchers had too strong a hold on the federal lands. Today, by contrast, the strongest advocates for classic multiple use are those miners and loggers and ranchers. The slogan still has some political potency; it is a useful rallying cry for their interests, as it was for other interests many decades ago. But barring unexpected change in the dominant values of the country, and the interests of the dominant political institutions, their attempts to restore "true" multiple use and agency discretion will probably not meet with much success.

They will fail not simply because local interests aligned with them will be overwhelmed by the assertion of a national interest in other values. That will sometimes happen, as it did in the aptly named Alaska National Interest Lands Conservation Act of 1980, but it is a very difficult thing to accomplish. They will fail more often because local opinion is profoundly changing in many parts of the west. Some local communities in traditional bastions of multiple use now

rush to support new national parks, recreation areas and the like. It has not escaped notice that some areas in the west with the highest per capita incomes also have some of the highest percentage of designated wilderness. Neither has it escaped notice that, despite the traditional local claim that large federal landholdings stifle their growth possibilities, many areas in the interior west have more private land per capita than most of the rest of the country. Many in the west's burgeoning urban centers are coming to the view that the real value of the federal lands is now for uses other than the traditional commodity ones.

In ten or twenty or perhaps even thirty years, all the trends I have discussed will probably, in the aggregate, have sapped classic MUSY management of its remaining vitality. At that point, when the generic question means relatively little, Congress may then lay it to rest by formally abolishing it, leaving in place the array of dominant use systems (embodied in statutes, plans and administrative orders) that will have largely supplanted it.

And what will the federal lands policy debate look like then? Here one must look really deeply into the crystal ball. Public land management will surely remain controversial. The age-old conflict between the national and local interests will still exist, but what those interests are may have changed radically. Perhaps at that point a strong consensus will have formed in favor of dominant, mostly recreational and preservation-oriented use. And this consensus just might be strongest in the states and local communities where most federal lands are found - the "not in my backyard" syndrome writ large. If these communities become strident in their desire to control their own destinies, they could indeed mount a new sagebrush rebellion and seek more control (perhaps even divestiture) of the federal lands. If that happens, I suspect their ultimate aim of how these lands should be managed will likely be quite different from the sagebrush rebellion that briefly flowered a decade ago.

To this may be added the growing trend toward global economic and social interdependence, and especially international tourism - tourism being what some already claim is the largest sector in the emergent global economy. The challenge for the political system will be to reconcile these competing local, national, and emerging international demands. Perhaps Congress will eventually be persuaded then to move back toward the Pinchot position of agency discretion, with a stronger emphasis on management for locally-determined needs. But that will be for our children and grandchildren to determine.

Whatever the cutting edge issues are then, our grandchildren, if they do look back, could well view their forebears as naive. They may marvel at our lack of appreciation that MUSY was a transitional phase - albeit one that lasted for a century or more - in a continuing saga of learning how to deal with the vast tracts of nature's bounty that we retained in national ownership.

## QUESTIONS AND DISCUSSION: SESSION II<sup>39</sup>

**Question:** I have a comment and then a question. One, it seems to me that we ought to keep in mind that a number of the forest plans and the forest planning process is also in the process of defining multiple use in ways that are perhaps a little bit different from Mr. Leshy's observation. One is that through the plans for management areas, there are different kinds of mixes of uses that are being prescribed on relatively small areas. We don't know what the impacts of those are going to be over time on multiple use, but I think that is again a redefinition of multiple use as it is ongoing at the present time.

Can you describe how you would envision or what you see when you talk about producing commodities and protecting amenities simultaneously? You talk about that in time, you talk about that in same parcels of land; I am trying to envision what this means in terms of your statement.

**Answer (Dr. Behan):** That's a dandy question. I am anticipating some pretty substantial changes in the professional practice. We're reading a lot in the literature today and teaching a lot in some of the more progressive forestry schools -- a little partisanship there -- about the management of a system, and before you do something to the system, anticipating what the systemic response might be. I think we can do that. And there is going to be trade-offs, obviously, but you see the trade-offs ahead of time.

I certainly agree with the gentleman here on emphasizing localized decisionmaking. I think we can do that. We can see what the trade-offs will be and work out localized compromises and bargained settlements on land use that can, indeed, produce commodities and amenities simultaneously.

**Question:** I would like to spark a little discussion between Dr. Behan and Dr. Leshy. Dr. Leshy talks, as some others have, about Congress sort of giving out the blank check and then sort of starting to bring it back. It seems to me that is just one aspect of the Congress sort of serving as the representatives of people. The locally based, constituent-based planning that you talk about, Dick, seems to me to be the people sort of taking back some of that authority through the public participation process at the local level, just not going through their elected representatives in Washington as the way to do it. Would you care to comment on that?

**Answer (Dr. Behan):** Well, I want to be brief again. I'm on record of having a great deal more decision authority to be pushed down to the localized level. The agency has, number one, a mediation role, and then a professional role of predicting biological consequences. I think that's the contribution of the

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<sup>39</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. Because questions were directed to a specific speaker, names are attributed to those who answered questions.

professional manager. He can say to his constituents, if we do this, then this is what is going to happen to the system. Do you like that or not. That's the expertise of the agency and it is critical to the process.

**Answer (Dr. Leshy):** I don't think there is necessarily in the way the political system works a conflict between local control or heavy local influence and congressional action.

On site-specific legislation, the locals, however perceived by their congressional representatives, have an effective veto over that kind of legislation in almost every case. In modern times, I think the Alaska legislation is the only time that a delegation was really steamrolled over its very strong opposition by a national movement. But that's very, very rare; it almost never happens.

So, the agency itself sometimes plays a critical role and sometimes doesn't. There have been sort of deals worked out about land management in a particular State where the agency wasn't part of the process, by choice usually or maybe for other reasons. I agree with Dick; I think it is very important to have the agency there, if they are willing, to be constructive and helpful. But if they aren't, there are ways you can by-pass them in the political process.

But I see a growing nationalization on generic issues like endangered species, for example. I think that's a national issue and it will be worked out at the national level. I don't think there will be many sort of local deals cut as part of the reauthorization of the Endangered Species Act. But on things like parks, wilderness, wild and scenic, recreation areas, conservation areas, that sort of thing, that is very much locally driven or at least subject to a local veto.

**Question:** I think one of the basic problems we have got with the implementation of the multiple use land management philosophy is the fact that we have folks -- and I am going to be a little bit critical of my wilderness advocate friends out there -- who have created a business out of pitting consumers that don't understand where the products they consume come from against the providers of those products.

I am very saddened that Mr. Leshy has announced that he feels that this concept is not going to be around much longer. I would like to have all of the panel comment on where do you think our natural resources are going to come from in the future if that is the case. And I would like to have Jim Magagna respond to that first and then the other panelists, if they so choose.

**Answer (Mr. Magagna):** I think my simple response is that simply isn't going to be the case. As a Nation, we are going to continue to depend on the production from our public resources, private production from our public resources for the public good. I think that's the perspective you have to put that in.

You have a public resource in the natural resource, you've got the private economic sector that has the capability as well as the profit-driven initiative to produce that, but it is produced for a public good. And because the public is the

end beneficiary, they still maintain the control over when it is going to be produced and to what extent it is going to be produced by their demand. There is going to continue to be a demand for housing and for red meat, whether it is healthy for us not, and for mineral production, and this demand is going to drive the continued use of public resources by the private sector.

**Answer (Dr. Leshy):** I guess it is a question maybe directed more at me. I guess I have maybe three or four responses. One is, going to a more dominant use kind of system doesn't mean no commodity production. You can harvest timber and mine for minerals, et cetera in national recreation areas, for example, it is just not the dominant use. You can do it IF the agency makes certain findings that it is going to be in general compatible with the primary purpose of the specific land classification.

Second, if you look especially at the historical figures over time of national commodities and the percentage of them that comes from Federal lands, it has gone down, down, down, and is now quite small. On-shore oil and gas production on Federal lands as a percentage of the national totals 5 percent, or something like that. Now timber is a somewhat separate issue. Red meat, I don't know what the percentage figure is but it is low, 3, 5, 10 percent, something like that. So, where are they going to come from? I suppose we will get our red meat from feed lots in Illinois. I think one feed lot in Illinois will probably produce more red meat than the entire public lands in the State of Arizona, easily.

**Question:** A comment for John Leshy especially. I am not quite so sanguine as you are about the local versus national kinds of conflicts. What I am observing in my own work in rural communities, both in the east and in the west, is a tremendous rural versus urban kind of class warfare going on over public lands. I am just concerned that the battles are getting worse and the intolerance amongst the size of these battles is getting worse rather than better. And I am concerned that we are damaging the political fabric of our society if the current decision mechanisms keep going in the direction they are going.

I wonder if you can address that in terms of your earlier comments about congressional delegations representing local interests.

**Answer (Dr. Leshy):** Well, I certainly know and have been to places where the social fabric has been torn by these kinds of debates over development versus preservation, southern Utah, in particular. But I also have seen a number of towns turn around on this issue with some blood in the street, but they've done it. Which is to say that they have cooperated. I sort of instinctively guess that there are at least as many of the latter as there are the former. I am not saying this is an easy sort of process.

The gentleman earlier raised the question about comparing this to the restructuring of the auto industry in Detroit. Certainly not an easy process and it can be very tough and very difficult for local communities. But I don't think there is anything quantitatively or qualitatively, certainly not quantitatively, different about the process in some of these local communities in the west. I

have seen a number of them change from predominantly commodity oriented to predominantly recreation-tourism oriented successfully.

**Question:** Dr. Leshy, I would like to ask you if, in fact, we're evolving more towards single or dominant use approaches. The question then becomes, "Ought we to encourage single-use administrative arrangements?" Some people have argued that we ought to encourage more devolution of land away from the multiple use agencies to the Park Service or even creating single use advocacy agencies. Other says, no, it is actually better policy to retain that tension within the traditionally multiple use agencies and leave that essentially the way it is.

How would you come down on that?

**Answer (Dr. Leshy):** That's a good question. I guess my instinct is that competition works among agencies. I have been involved in a couple of fights where some environmental groups wanted to take a piece of land away from the BLM and give it to the Park Service. I and others strongly argue that it ought to be left with the BLM because if you want to make a self-fulfilling prophecy out of the Bureau of Livestock and Mining, you take away everything but their livestock and mining lands. I think you can make a fairly decent case for the idea that the BLM and Forest Service competition has been pretty healthy over all. I think it has made both agencies a bit more sensitive and reactive than they otherwise would be if either one was in a kind of monopolistic position.

So I am not troubled by the kind of untidiness and messiness of having all of this going on in different agencies. It doesn't really bother me.

**Question:** You mentioned that the agencies need to play a mediator's role. If that's the case, what is the role for the professionals, the resource managers that are working in those agencies? Do we need them, or is it that all we need are mediators today?

**Answer (Dr. Behan):** No, not at all. I think I addressed that, but if I didn't I will say it now. Understand, I am coming from the perspective and a bias of the manager because that is my business. I am a forestry professor, so I am thinking management pretty much all the time rather than as a user or appreciator. When I say a mediator, I am talking at the localized level. I want to see the Rangers and the supervisors mediate disputes.

What these professional managers can offer to that mediation process is their expertise, which is the behavior of functioning biophysical systems. And as the mediation progresses, as various alternatives are tested and hopefully simulated, the professional can, indeed, predict the consequences to the system, of perturbations to the system, and add that to the dialogue as it goes on.

**Question:** You are describing in your paper the commitment to States for production from Federal lands. Do you see that change in the commitment to States? Do you see that changing, do you think there is less commitment or is the debate more how do we meet that commitment? For example, there is debate now over 25 percent funds from timber receipts and perhaps that should

be changed. I am not sure that is reflecting a loss of that commitment or a change in how we meet it.

**Answer (Mr. Magagna):** I think that in the general public there is an increasing -- partly brought on just by the timeframe as we move further from the time that those commitments were made -- lack of understanding about the inequalities that exist between those heavily Federal landed States versus the majority of States that the lands are largely held by State and private interests.

But in the political arena, I think that there can't be a lessening of that commitment. There are certainly attempts to erode the commitment, and the one you just referred to is a very good example. There are any number of those attempts. But I think the fundamental commitment is a commitment that remains vital to the thread of our Nation. I don't think that commitment could ever totally be broken without really some rather disastrous and divisive consequences in this country, this time on an east-west basis as opposed to the previous one for a different reason on a north-south basis.

So while there will be tinkering and certainly the people in the political arena representing those States have had to become more vocal, more protective, more defensive of the need to maintain that equality, I think that it can only be tinkered with to a certain point before it becomes such a fundamental issue in this nation that the process simply won't go beyond that point.

**Question:** We've all heard the phrase "if it ain't broke, don't fix it", but I think at least from the perspective of the Western Governors you would not get consensus that it is not broke. As they look at the problems and the fragmentation in Congress, the broad range of Federal agencies -- not just BLM and the Forest Service, but EPA, Bureau of Reclamation, Corps of Engineers -- reassessing their missions and, you know, what is their purpose in life, and you look at the unending processes and the money that has to get spent in court in arguing out a lot of these decisions, there is a sense that things really do need fixing.

John, when you say that you see the future is like the same only longer, that sounds a whole lot like continued death by a thousand cuts. I would hope that one of the things that could come out of this conference is we find there are better ways to do business.

**Answer (Dr. Leshy):** Well, let me qualify what I said earlier. In terms of let's say -- I think you're talking maybe mostly about the planning process and the litigation and the spotted owl and the courts and all of that. I think that is, to some extent, transitional. We are really just at the end of the first cycle of these resource management plans as far as Forest Service is concerned and we're sort of half-way through as far as the BLM is concerned, which was a major reorientation in agency policy thinking, and sort of a new ballgame for everybody. I think if you sort of put the spotted owl, endangered species stuff on top of that, you have got kind of a recipe for a lot of controversy.

I think that will diminish over time as both deals are worked out on management of specific types of lands, maybe confirmed by Congress, maybe left in the plans themselves, as the courts tell the agencies more specifically and clearly what they are expected to do and refine and define some ambiguities in the laws. I can see that sort of diminishing. I guess as an analogy I would throw out NEPA. We still have some NEPA litigation, but if you look at the number of cases, and particularly the number of injunctions -- that is, successful law suits -- they have dropped very, very dramatically from the first five to ten years the act existed because everybody got sort of comfortable with it and knew how to deal with it. I think we will see some of that in the planning process.

**Question:** I had another question for John about this changing role of Congress and the agencies. It sounds as if we're headed towards a situation where the agencies are the equivalent of the planning and zoning commission at the local level, making recommendations which Congress, sitting as the board of county commissioners, then accepts or rejects, trying to pay attention to the good of society and what its constituents are telling it. Is that a fair assessment of where we are headed, and, in your opinion, is that good or is that bad?

**Answer (Dr. Leshy):** I've never watched a planning and zoning commission, so I am not totally familiar with what goes with it. I guess to some extent, yes, I suppose, but I think it is much more complicated than sort of what the agency does in this forest and what the Congress thinks back in Washington. There are a lot of sort of intermediaries along the way -- public interest groups, the local affected ranchers, timber operators, et cetera, the local congressional representative certainly has a big role in the process. So I think it is a bit more complicated than that.

If the agency works out the stuff at the local level, then Congress never hears about it. So, it is not that they have to get congressional approval for what they are doing. Congress can sort of override them if things get out of hand; that's kind of the way it really works.

To the extent it is true is it bad that these lands remain in Federal ownership? At some crude level, by keeping them in Federal ownership, we're saying there is a national interest in how they ought to be managed and that means at some basic level that Congress has the final say in how they are managed.

**Question:** I would like to ask anybody on the panel or maybe all of you if it is possible to separate multiple uses from commodity production? I have heard red meat, 2 x 4s, spotted owl when the real use is in tree growing and grazing, and grazing can be used to increase stream flows, improve aesthetics, all sorts of other things other than just red meat.

Is that even possible to separate uses from commodities?

**Answer (Dr. Behan):** I think so. In my paper and some other writing I've done in the past few years, I have been making the case that if we start looking at systems, we can do that. If we look at a range system instead of looking at



grass as a pasture, I think we can do that very well. That is why I would like to see multi-resource management supplant multiple-use management.

## Luncheon Speeches

- I. The Honorable James A. McClure
- II. The Honorable Gaylord Nelson

## LUNCHEON SPEECH

The Honorable James A. McClure<sup>40</sup>

Indeed, it is a pleasure to be here and to be a part of a discussion that is both so timely and so topical and can be so stimulating. It is a little bit like, in many of these areas, the area where I grew up in Idaho, an irrigated farmland. My first job out of college was to become a prosecuting attorney for my county. Now that was no great honor; it just fell to the youngest one in town, partly because of the salary I suspect, because I got the county commissioners to raise my pay from \$1800 to \$2000 a year. A big increase and I was grateful for that.

But the reason I think of that at this particular juncture is that I grew up in an area very rural, the county seat town, was 2,500 people and I was born there, 4,500 when I went back to practice law there. The county had 14,000 people in it and most of them made their living in agriculture or in local government. There were very strong churches. There were even more churches than there were saloons in town during all of its evolution, which tells you something of its background, and they were devout people living close to the soil, which tells you that they are conservative, they are down to earth, they have a very strong sense of values and they live by those values, among which are getting along well.

I will never forget two of my acquaintances who, both living in a smaller community in the county and both being farmers, came in because there was blood in their eyes, literally. One had taken the shovel to the other. They were fighting over water, which I learned very soon was exactly what happened. I could tell within an hour or two when the water hit the ditch in the springtime because within a few hours after that there were these instances of rational, God fearing, decent, law abiding citizens who became totally irrational, fearing nothing except the loss of their water, and with no tolerance or Christian charity towards that other jerk that was taking their water.

Natural resources have a way of stirring our passions. I guess if there is one thing that worries me about the political process today and the society in which we live it is hard to get rational discussions based upon logical dispute based upon good scientific fact. I don't want to put aside emotions; they are important, they motivate, as they did my friends out there who were taking the shovel to each other. Emotions are legitimate bases for actions and I don't want to ever separate the emotions from the human existence. We are after all emotional beings. But I would like to be able to focus on public questions of all kinds a little bit of scientific information and good factual discussions. Unfortunately, we spend more of our time debating the emotions and thinking about the emotions and responding to the emotional input than we do about the factual discussion.

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<sup>40</sup>James A. McClure is President of McClure, Gerard, and Neuenschwander, Inc., Washington, D.C. and is former U.S. Senator (R-ID). The following is the transcript of his luncheon speech given at the Workshop on March 5, 1992.

So I am very pleased to be here and participating in this. It is impossible in twenty minutes to talk about natural resource issues, any very broad portion of them. But I do want to raise one and then set it aside saying it is not the time or place or this is not the discussion where we ought to try to decide who is moral and who isn't moral in these choices that we're trying to make. For many people they try to envelop themselves in the cloak of some kind of special righteousness that says they have the moral position, which means automatically that somebody who disagrees with them is immoral. There ought to be a discussion about that but perhaps not today.

But let me go into it just this much. If I were to say that we shall not interfere -- we, human beings -- shall not interfere with natural processes at all and that it is a moral position, tell that to the parent of a child who is dying of smallpox. We are right now going through kind of an international discussion about shall we take that final step and really obliterate smallpox. Some think we have the capacity to do that because smallpox really resides today, the virus is alive today only in laboratories where it is used for research or medicinal purposes, and it escapes occasionally and causes an infestation in some small locality before it is again corralled and put back into the labs. And there are those who say, well, maybe what we ought to do is go into those labs and kill all those virus and we'll be done with it forever. And there are others who say, let's don't take that step; maybe we ought to keep it alive. Well, I submit to you there may be moral dilemmas in that, but not all of the morality lies on the side of those who say let's don't interfere with nature, let smallpox rage rampant.

Nor will I ever forget what a medical missionary in Southeast Asia told me at one time. He said, "I've been in villages where the air was clean and the water was pure and children were dying from disease and famine and I wasn't very much impressed." Nor will I forget what was said during the national energy crisis of the late 1970s when we were going through the process of trying to develop national energy policy, when the NAACP came out with a statement on energy policy that I will never forget. They said, "We have learned by bitter experience that our people will not do better by taking it away from someone else. That in order for our minority in this society to gain the benefits of a modern society, we must get more out of more, not out of the existing supplies of goods and services. And since energy is essential to the expansion of an economy, we must have a national energy policy that says we will provide enough energy to fuel a modern industrial society that will allow our people to have the opportunity for an expansion of what most of us say are the good things of life."

We have the Third World or the North-South crisis in global terms in which other countries and other societies are struggling to elevate their standard of living and they, like the NAACP, must know that they will be doomed to failure if they expect to elevate their standard of living by lowering ours. Therefore, we must find ways of using the resources that are on this earth so that we can give peoples within our own societies and other peoples outside our societies the opportunities to make progress that our own ancestors made and which we now enjoy.

When we get into the question of resource uses and allocations, and that's really what this subject is, it is denominated in terms of multiple use-sustained yield, but really the question is how do we allocate resources. The use of the terms multiple use and sustained yield only are means by which we attempt to make those allocations.

I am intrigued by an anomaly, and there are lots of anomalies around in all of these discussions, but I am intrigued by some of the anomaly that I see around us in these discussions of allocations. There are those who urge that the laws of natural selection shall be repealed in nature; that is, nothing old shall be allowed to fail, while nothing new may be attempted. And at the same time, in almost the same groups and same portions of our society, they refuse to allow that to social or political forms, saying everything that is old must be discarded, it must be wrong because it is old, and we must try something new always and eternally. Because I believe the laws of natural selection apply to human social forms as much as they do to natural ecosystems.

Much has been said about Americans being restless people, always dissatisfied, always questing about. I think that's the natural condition in which you're always trying something else to see if something else will work, and those things that do work endure and the ones that don't work are cast aside. It took 70 years for us to find that communism as a theory put into practice didn't work. And after 70 years it has been discarded to the ash bin of history. That is one of the natural evolutions at work in human affairs in trying new forms of societal organization designed always to do better things for more people.

Well, as I look at this question of resource allocation, I would like to bring into the discussion some elements that have not in recent years had enough emphasis, as far as I'm concerned. When we're discussing what is natural and, therefore, to be preserved and some would say to be eulogized and put on a pedestal, I want to involve a cultural anthropologist in determining what is natural about the human condition. I am no cultural anthropologist, but I have known some and talked to many. If I recall correctly, when the hunters and gatherers were supplanted by those who cultivated, planted, and harvested it made a stability of society possible in terms of a physical location so that modern cities became possible. Until that change in the natural condition had occurred, it was impossible for us to develop the modern societies or even begin to develop them as we know them today.

If you apply that to the current debates about what is it that's natural and what is not, I submit, again, that change is natural; it is not unnatural. Our struggle as human beings in making that choice is to determine out of that what change we can stimulate which is good and retard which is bad, shape it to our good so that we don't have smallpox epidemics, retard that which is bad so that we can clean up the pollution that we're causing in our communities and around us as city-states grew.

The debate over sustained yield -- I was challenged to go back and look, as many of the papers here pointed out -- was itself the product of change brought

about earlier from earlier discussions. The sustained yield and multiple use policies enacted by the Congress were the expressions of an attempt to define what should our allocation of resources on public lands be. It was not the beginning of the discussion and it is not the end of the discussion, and it doesn't need to be simply discarded in order to broaden the discussion because if we're going to have sustained yield, what are we going to have a sustained yield of.

I cautioned my friends in the timber industry a long while ago that as they went through the old-growth forests of the west, including my State of Idaho, and they changed to a sustained yield basis, one thing the American public would sometime discover was that sustained yield did not mean a constant renewal of the old-growth forests as they had known them. You are not going to go out there anymore and see the park-like stands of ancient Ponderosa pine that are the result of old-growth evolution. Under a sustained yield policy, you'll get that up till it is big enough to cut it and then you cut it, wherever that might be. Somewhere above eight inches in diameter and somewhere below fifteen inches in diameter I suspect is about what was in mind over the last couple of decades as what was meant by sustained yield forestry.

But what is it we're trying to sustain? What yield is it that we want? Sustained yield policy can be and is adaptive to changing societal goals about the allocation of resources. You want to sustain the opportunity for recreation, are we talking only about biological yield? I would suggest we are somewhere between the extremes right now although some people in this room would disagree with that. We're not harvesting all the biological yield of a forest. We're not coming close to the sustained biological yield of a forest as a whole, although some people would tell us we're over-cutting terribly. They are not looking at biological yield; they are looking at the change in the mixture of species and the limitations which they think are desirable on that mixture.

If we look at the ideals, I think the ideal expressed in sustained yield is still correct although we need to have a continuing discussion about what it is that we wish to sustain and what it is we want those resources to yield in terms of the values that are important to us. I almost said human values, but I have recognized that for many that doesn't quite define the values that they seek to have our resources yield.

Let's look at multiple use; what does that mean? Well, again, we're somewhere in the middle of a multiple use argument and I think the argument ought to go on. I've read the papers that have been presented here as well as many others over the years. I think multiple use is an ideal which I support. But what does it mean? What are the uses and which balance of uses will we have? You don't have to abandon the idea of multiple use in order to accept the emergence of an overlying dominant use of a portion of the resources.

I would submit to you under multiple uses it is impossible to assume that you can have multiple use for every acre of the National Forest. For example, there are administrative sites. The Forest Service for some reason doesn't want me pitching my tent in their front yard, and they sure wouldn't want me to pasture my pack string in their pasture. So administrative sites are a single use,

not just a dominant use, they are a single use for some portion of the acreage. Who among us would contend that while a forest harvest operation is going on you would have an equal balance of multiple uses on those acres then being harvested? A clear-cut happens to be a single use for a period of time and is returned to other uses immediately afterwards with a changing mixture of those uses over time. I don't know anyone that would really contend that you get multiple use on an open-pit mine. I can't imagine, aside from standing at the rim of the Kenicott pit outside Salt Lake City, looking down into one of the largest man-made structures on the face of the earth -- something you can see from space, by the way; one of the few human features you can see is the open pit in Bingham -- that aside from whatever that might do for you, there is only one use of that pit at that time and that is mining.

But you can over the body of the forest have a mixture of uses that are multiple in nature. And that's what we have set about doing. I noticed one of the papers suggested that multiple use-sustained yield was really a way for the bureaucracy to tell the Congress to mind your own business, tell us what to do and get out of our way. Well, there were times when I felt like some thought that the Forest Service was incompetent, unable to do their task. But I watch what the Congress does and all I can tell you is the Forest Service looks a lot better by comparison.

Not just because of the choice of uses, but the efficiency by which they do it and the way in which they conduct the work, bringing in soil scientists, water specialists, archaeologists, landscape architects, silviculturalists, fish and game experts, fisheries experts, wildlife experts, melding them together and then saying out of that, under the laws that we have and the management directions that we have from the Congress of the United States, this is what we believe is appropriate.

Having been involved over the last several years in the several statutes that are on the books today and most of them been passed since I came to the Congress, I can tell you what Congress thought would happen and what we thought was the direction that we were giving. One of the things that frustrates me more than anything else is the process is broken. I'm of the old "if it ain't broke, don't fix it" sort of thing; that's where I come from on many of these ideas. But I also believe that if it is clearly broken, then try to fix it. And we have a process for making decisions in multiple use management that doesn't work, not because it is multiple use or single use or sustained yield, whatever that may mean, because the process doesn't work.

We're a democratic republic and we take great pride in the fact that this form of democracy as we practice in this country has brought more blessings to more people over a longer period of time than any other form of government ever attempted. Yet, if I see what we're doing now in the decision-making process where it touches these sensitive, difficult, and often emotional issues, we have erected a process that no longer works. I picked up the "Washington Post" last Sunday. I suspect some of you would have thought I don't even read it. As I matter of fact I do occasionally, it regenerates my conviction that the media is a large part of our problem and that the people are not. But there was an

article in there that was nevertheless instructive as we talk about this. It was talking about a small community in the State of Washington in which there has been a controversy over whether or not there ought to be a ski area put in. It has been eighteen years without a decision. Eighteen years of a process that has failed to come to conclusion. Well, Congress thought we could never pin down exactly what we wanted in resource allocation, we had a general idea of what multiple use meant and should mean and what sustained yield should mean, but we recognized that, indeed, we were not so omnipotent that we could adopt any kind of a plan and leave it in place forever. So we said go through the planning process. That was really what the new statutes governing the Forest Service and the new statutes of governing the BLM were all about. Adopt a planning process, put plans in place, follow them for a period of time, revise them periodically. And we said for the Forest Service very precisely, you are on a fifteen year cycle, you must change the plans at least every fifteen years but not less than ten years, so you have a ten to fifteen year planning cycle. Go through the process, adopt a plan, follow the plan, revise it every ten or fifteen years.

How many forest plans have been adopted and how many are challenged? How many forest plans have been followed even if adopted? Not one. I would defy you to find one forest plan on any forest in the United States and find that the planning process yielded a plan which was permitted to work for ten years without adjustment. Now there is something wrong with a process that cannot yield a result. I am reminded, and I look to John Mickner as my authority on this, reminded by reading his book on Poland where there was one of the earliest attempts at a parliamentary democracy. One of the very earliest of those who threw away a totalitarian government and said the people will rule, and they adopted a parliamentary democracy that didn't last very long because they had involved in it the notion that everything must be done by consensus. If there were any objections, they could take no action. I will submit to you that natural resource planning process is the new Poland of the world today. We cannot make a decision unless there is absolute consensus, and you cannot get absolute consensus on these issues; therefore, no conclusion is ever reached, no process is ever completed, no plan is ever adopted and/or followed. That must be fixed.

Until people across our society, regardless of what their point of view or what their interest is, recognize the need to develop a process which will work, we will not get the Congress of the United States to step in and revise the process. In any revision, there are winners and losers. In any situation, there are winners and losers. For some people, they like a process that doesn't work because they can control the outcome better by the negative results of the failure of the process. So you have to recognize that there are some people who like it the way it is, just as there would be under any circumstance. So the Congress of the United States will not be motivated to bring about a change of process until people across our society rather broadly say this is broken, it needs fixing, this is ludicrous, it cannot be the product of a rational decision-making process when no rational decision-making process is possible under the existing modes created by the Congress as implemented by the administrative agencies.



## LUNCHEON SPEECH

The Honorable Gaylord Nelson<sup>41</sup>

I've never gotten over being nervous and intimidated when I had to appear on a platform with a big city slicker like Jim McClure. Well, I'm serious about that. We didn't have a city in my county that came close to 4,500. In fact, that town of yours is seven times the size of my hometown of Clear Lake, which was 700 people and always remained the same because every time somebody became pregnant, somebody else left town.

We served on the Interior Committee together, and I want to compliment Jim. We were on the opposite side of environmental issues many times and he won every time, which is a great tribute to how clever he is because he never had the merit on his side. I want to say to my friend, Jim, that I have never run into a pro-smallpox environmentalist. I would like to meet one sometime.

While this conference is specifically concerned with issues involving the concept of multiple use and sustained yield relative to Federal public lands, we must recognize that these lands are an integral part of a much larger picture. I hope to fit my remarks within the context of that larger picture.

The larger picture is this. Right now, and in the long haul into the next century, in the centuries thereafter, no other issue is as relevant to the condition of human life as the status of our resource base. This resource base defines the habitat and the limitations for survival of all species, plant and animal, including humankind. In comparison, all other issues are relatively insignificant.

The first and foremost political and economic reality to recognize is that all, every single industrial nation on earth -- every one of them -- are rapidly degrading and dissipating their life sustaining resource base. In short, we are all consuming our capital assets, our wealth, and counting it on the profit side of the ledger. The basic wealth -- the basic wealth -- of the nation is air, water, soil, forests, minerals, rivers, lakes, oceans, scenic beauty, wildlife habitat. Take it away and all that is left is a desert.

Perhaps the most sacred tenet of capitalism is that you do not -- you do not -- consume capital to pay for current expenses. Yet, unwittingly, perhaps witlessly, the captains of industry and the free market entrepreneurs have been depleting the nation's capital resource base for so long that they are unaware that they are sowing the seeds that ultimately will destroy the whole system. Every business enterprise in history that consumed its capital and called it profit went bankrupt. Sovereign nations are no different, it will just take them longer to get there. We ought to learn a lesson by what happened behind the

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<sup>41</sup>Gaylord Nelson is Counselor of The Wilderness Society, Washington, D.C. and is former U.S. Senator (D-WI). The following is the transcript of his luncheon speech given at the Workshop on March 5, 1992.

Iron Curtain, if you want to see bankruptcy that will never be cured, in my judgment.

In the past century, the industrial world has destroyed or degraded a great portion of the capital accumulation on earth by air, river, lake, and ocean pollution, soil erosion, depletion of aquifers, overdrafting of ocean resources, deforestation, and destruction of wildlife habitats and scenic beauty. Now let's take a look at our Federal public lands system, which contains such an important part of our capital which has evolved over the past million years or more on these lands. These lands are unique because of their variety, biodiversity, and vastness. There is nothing remotely comparable on the private lands of this country. Because of the multiple threats that endanger our whole public lands system, there is I think an urgent need for public ventilation of the status of these lands.

To develop a clear picture of what is happening to these lands, it must be approached and evaluated in their totality as a public lands system rather than a divisible bunch of parts and pieces. The Federal public lands are a rare national treasure whether found in the parks, forests, refuges, or BLM lands. It is important to recognize that these lands are a part of an interrelated mosaic, and to understand that any significant degradation of natural areas on these lands is, in fact, an attack on the whole system. Tragically, this priceless heritage is being compromised and degraded bit by bit and is, in fact, at the threshold of a precipitous decline. The whole system is endangered by threats, pressures, intrusions which need to be addressed before it is too late.

While we are all concerned about endangered species, we tend to forget that among the most important endangered species of all is America's unique heritage of wild lands, wilderness, and natural landscapes. Unfortunately, the Endangered Species Act does not apply to these lands as a discreet entity only to the creatures living there. At stake is 610 million acres, almost a million square miles, 25 percent of the total land base of our nation. This remarkable inheritance is found in our National Parks, wildlife refuges, National Forests, and Bureau of Land Management lands. No other country on earth has preserved such a vast estate for public use and enjoyment, for wildlife habitat, scenic beauty, watershed protection, for education and scientific study, for varied and endless opportunities for recreation in a natural setting remote from the intrusions of modern society. Here on these lands are some of the last untouched remnants of nature's works, a million years of evolving landscapes unaltered by human activity.

Only on the public lands have we preserved such vast areas representing every land form, from deserts to grasslands to forests to mountain peaks and valleys. If a significant portion of natural America is to be preserved for this and future generations, it must be here on these lands. All of these lands are being compromised in manifold ways -- soil erosion, air pollution, water pollution, aircraft noise pollution, overcrowding, excessive roading, excessive timbering, excessive grazing, stream siltation, overdevelopment, habitat destruction, scenic degradation, and the disappearance of biological diversity.

Ideally, congressional oversight on some regularized schedule would review and evaluate the impact of all the threats to the public lands system as a whole. But that just doesn't happen. Each agency of the Federal Government managing our Federal public lands tends to interpret the letter of the law and congressional intent to suit its own institutional desires and biases. By the time Congress or the public catches up, it is too late. The U.S. Forest Service is a classic case in point. For example, as one reviews the provisions of the Multiple Use and Sustained Yield Act of 1960 and the National Forest Management Act of 1976, one is struck by the brazen effrontery with which the Forest Service evades, misinterprets, or ignores provisions of the law that do not suit its own bureaucratic purposes. The Multiple Use, Sustained Yield Act of 1960 mandates that the forests shall be "administered for outdoor recreation, range, timber, watershed, and wildlife, and fish purposes". Balanced multiple use is the objective of the statute.

However, in practice the Forest Service considers its timber program as the -- the -- dominant use of the forest, while all other purposes are of secondary importance. Whenever there is a conflict, almost invariably timbering prevails. Repeatedly, the Forest Service has destroyed wildlife habitats, watersheds, and trout and salmon streams in order to subsidize the sale of timber that should have been left alone. The reality is that the Forest Service pays only minimum lip service to the concept of balanced multiple use as intended by Congress. Arbitrarily selected timber goals drive the planning process. Once the goals are selected, whatever is left is considered by the Forest Service to qualify as balanced multiple use. And if some conscientious public servants, like John Mumma, says we can't do it and comply with the law, just fire him, that's all; and that's what they did. When somebody like John Chapman, regional director for the Park Service in the West, makes a proposal that we ought to go a bit farther in protecting the integrity of the Grand Canyon from noise, fire him; and they did. Both of them distinguished public servants.

Probably the Forest Service's most flagrant abuse of common sense and the law is its policy of massive below-cost timber sales. The intent of the law is clear. Section 6(k) of the National Forest Management Act, authored by Senator Bumpers, and I remember the debate and the discussion, provides that "The secretary shall identify lands which are not economically suited for timber production and no timber harvesting shall occur on such lands for a period of ten years." It further provides that such lands shall be reviewed every ten years and shall not be returned to production until it is determined that they have become suitable for timber production economically.

What is meant by "economic suitability" is subject, of course, to interpretation, and the Forest Service contrives to interpret this law in the concept of multiple use in such a way as to justify massive below-cost timber sales. Half of all the National Forests lose money every single year because of below cost timber sales. Currently below cost timber sales are costing the taxpayer \$312 million a year and destroying watersheds and polluting streams and destroying habitat and scenic beauty in the process and we're paying for it.

These are but a few examples of a Forest Service timber program which is out of control.

Another case in point is the National Park System. If, for example, we are going to save our National Parks, then we must more faithfully comply with the clear and specific mandate of the 1916 congressional act that created them. That law provides that the parks shall be managed "to conserve the scenery and the natural and the historic objects and the wildlife therein, and provide for the enjoyment of same in such a manner and by such a means as will leave them unimpaired for the enjoyment of future generations." Slowly but surely that mission is being significantly compromised. Internal and external threats to the Parks have been widely documented by the Park Service itself. Unless they are addressed soon, we will see the end, the very end of the Park System as the Congress conceived it.

It is time, it seems to me, for a comprehensive reevaluation of our public land uses and a clear and unequivocal restatement of their purposes. What kind of a questions should we ask? What kind of public land system do we want? The issues are complicated because the public lands are vast, varied, and complicated, and because each of the four categories of public lands have different missions.

In reexamining the role of the public lands, it is vital to recognize from the start that these lands provide a wide-range of unique experiences, services, amenities, opportunities, and special environments which cannot be supplied by the private sector from private lands because they no longer exist there. Preserving the uniqueness of this huge estate of natural landscapes should be the first priority of our society. If we continue to permit over-use, over-development, excessive and unnecessary commercialization, then, finally, these lands will lose their special character. Once lost, it can never be recovered and there will be nothing left to replace it.

Carrying capacity is the appropriate general standard for measurement of activities permitted on these lands. Those activities that do not significantly degrade the natural quality of the resource base are generally acceptable, and those that do are not. Ironically, current law would generally be adequate to protect this resource base if the land managers consistently resolved conflicts in favor of preserving the integrity of the resource base instead of yielding to pressures from local Congressman, local United States Senators, Governors, and the economic interest groups who want to exploit them for their special benefit.

The uniqueness of the public lands will be destroyed if we are going to duplicate on public lands the goods and services provided by the private sector on private lands. The law did not intend that the National Forest would be used as tree farms or modified theme parks. But that is the direction they are headed. Like the current problem of air tour flights in the Grand Canyon, twenty years from now Congress, too late, will wonder how we got into the theme park business and how to get out of it. The lesson to be learned is that once an activity is permitted within any category of public lands, it becomes difficult if not impossible to control or stop it even though that activity is

seriously degrading the basic resource itself. That happened in the Grand Canyon in 1923. One of the Park people said never allow tour flights over the Grand Canyon, it will destroy it. We did and we have significantly compromised it.

In 1987, Congress belatedly attempted to deal with such a situation in the Grand Canyon with the adoption of some mild palliatives that left the problem mainly unsolved. The problem? Intrusive noise from the air tour flights over the Grand Canyon. In 1985, Governor Bruce Babbitt testified that the noise in the Canyon is equivalent to being in downtown Phoenix at rush hour or listening to an alarm clock go off, and that's not what the National Park is for. That is a far cry from Zane Grey's description of the Canyon in 1906 when he wrote, "One feature of this ever-changing spectacle never changes -- its eternal silence."

Unfortunately, we are now left with almost 50,000 noisy, intrusive air tour flights annually down the Canyon and a sadly diminished Park. I must say, when that distinguished public servant John Chapman recommended something higher than Secretary Hodell wanted, who was meeting down in the Canyon with the air tour people, they arranged to fire him or degrade him so far he quit. So all kinds of this stuff happens from political interference and it has been the worst it has been in my lifetime since 1980. The Grand Canyon debacle is not an isolated accident of history. Rather, it is a quite typical example of an on-going process that is depreciating the unique quality of the whole public land system.

National Parks are being over-pressured by visitations that have risen from 30 million in 1950 to almost 300 million last year; a ten-fold increase in that period. Wildlife refuges are being deprived of water for wetlands and poisoned by selenium and Dieldrin from agriculture run-off. BLM lands continue to be degraded by overgrazing.

It is not my purpose here to compile a compendium of those activities that are dramatically changing, tragically, the character of the public land system in undesirable ways, and doing so without changing the laws, without public discussion, and without congressional debate. Comprehensive, carefully designed congressional hearings would identify the major threats to the public land system as a whole and provide the Congress and the public with a picture of what is happening on these lands. In my view, it is absolutely necessary to have public hearings involving joint hearings, Senate and House, extending over a period of two years to ventilate the whole problem so the public can see what is happening, so the press will understand what is happening, so the Congress, which doesn't yet know what's happening, would finally understand what is happening on this magnificent estate and heritage of public lands.

The end objective would be to secure enough information and stir up enough interest and enough understanding and support to move the Congress and the land managers to design and implement a long-range environmentally sustainable -- and I emphasize long-range environmentally sustainable -- management plan for the public lands. The current combined multiple activities

on the public lands in the lower 48 already exceeds the carrying capacity of these lands. As long as it exceeds the carrying capacity of these lands, it is degrading and destroying them. That level of activity is not sustainable without destroying the essence, the heart, the soul of this magnificent gift of nature.

Without such a plan, this remarkable heritage will be gone in another four or five decades, leaving behind just a mishmash of modified theme parks, outdoor zoos for tame wild animals, clear-cut forests converted to tree farms, destroyed watersheds, traffic jams, concessionaire stands and boutiques to satisfy every whim, full-service trailer parks with swimming pools, and more. All of this is now happening on the public lands. If this sounds like a bit of hyperbole, don't be fooled. The only exaggeration here is my suggestion that it might take four or five decades to get there. We are moving much faster than that. All of the above is happening right now except the swimming pools, and that will happen when the current Forest Service philosophy overcomes the objections that were made to exactly such a development proposal three or four years ago. When I went to see Chief Robertson and told him I thought it was absolutely dangerous and crazy to start full-service camp vehicles and trailers in the Forests, I said would you also permit swimming pools? He said, I wouldn't object to that.

Well, incidently, you get some idea of what these subtle, hardly noticed incremental degradations of the system do by just considering Yosemite National Park for a moment. I visited there for the first time over a half century ago, more specifically 57 years ago when I was an impressionable 18 year-old kid. I was awestruck by the grandeur and beauty of it and still am. However, I am also awestruck by what has happened to the Valley since I first viewed it. Some 7,500 overnight visitors and campers in the Valley, 7,800 at the peak in the summer. As someone aptly described the scene, "After the sun goes down, the Valley looks like downtown Los Angeles at night." What a tragedy, what incredible mismanagement, and what a shame if we sit idly by while the system continues to deteriorate, which we are doing.

Twelve years have passed since the 1980 Yosemite Management Plan was adopted and still no action. Ironically, the timber industry, the ranchers who use the public lands, the salmon industry, sport fishermen, hunters, the recreation industry, and the general welfare of the Nation would be better served if these lands were managed on a sustainable basis. One must hope that sometime soon our most thoughtful environmental leaders in the Congress, those with a long view of history, will take up the cause to preserve this heritage for future generations. For the Members of Congress who successfully take up this cause, history will reserve a seat for them next to John Muir.

## Session III: Visions of the Future: New Concepts for Federal Land Management

- I. A Public/Private Cooperative Paradigm for  
Federal Land Management  
*by Carl Reidel and Jean Richardson, University of  
Vermont*

Questions and Discussion

- II. Prices, Property Rights, and Profits: Market  
Approaches to Federal Land Management  
*by Terry L. Anderson, Montana State University, and  
Political Economy Research Center*

Questions and Discussion

- III. Do We Owe Anything to the Future?  
*by Chris Maser, Consultant*

Questions and Discussion

- IV. Community Governance: An Enduring Institution of  
Democracy  
*by Margaret A. Shannon, State University of New York*

Questions and Discussion

## A PUBLIC/PRIVATE COOPERATIVE PARADIGM FOR FEDERAL LAND MANAGEMENT<sup>42</sup>

### INTRODUCTION

Of all the topics assigned to speakers at this symposium, this is the one I least wanted. If there is a topic that will put my natural resources policy students to sleep, or put my Congressional delegation into a coma, it is "cooperative forest management."

Granted, we are not here today to talk about traditional cooperative forest management programs involving the Federal government, the States, and private landowners, though these incentive programs are an important aspect of the broader federal land management question we are considering. Our assignment is vastly more challenging than reexamining notions of cooperative extension and state and private forestry programs intended to induce small landowners to grow more wood for America.

We're here to debate far more fundamental questions of public land management. Even so, history offers little to excite our interest in such new land management systems. With few exceptions, discussions of public/private cooperative schemes seldom get beyond old proverbs and retreaded versions of the Clark-McNary Act of 1924. Other than the lively debates between Gifford Pinchot and Colonel Greeley in the 1920's, and brief skirmishes with the Sage Brush Rebels and James Watt in the Reagan years, most debates about cooperative land management at the national level have been just plain dull. On the other hand, cooperative schemes at the state and local level involving such tools as land trusts, transferable development rights, and public acquisition of partial rights have at least been academically interesting and reasonably successful on a small scale. Unfortunately, at any meaningful scale, they usually lead to endless negotiations mired down in complex economics and legal entanglements.

It is no exaggeration to say that most attempts at truly public/private cooperation in land and resource management have failed, usually on the threshold of private property rights. In the United States, public is public and private is private and never the twain shall meet except, perhaps, in court or as specified in a timber sales contract or special use permit. Public and private cooperation in the United States is defined as a contract; a legal relationship. It is not defined nor understood as a social contract involving shared rights and responsibilities which strikes a balance between private property and social property.

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<sup>42</sup>Prepared by Carl Reidel, Director of the Environmental Program, the Daniel Clarke Sanders Professor of Environmental Studies, and Professor of Natural Resources and Public Administration, University of Vermont, and by Jean Richardson, Associate Professor of Environmental Studies and Natural Resources, University of Vermont. Carl Reidel presented the paper.



Our constitutions, statutes, and administrative rules all reflect the Ghost of John Locke and his divine notion that Life, Liberty, and Property have been, are, and always must be matters of the private person. For many people, to cooperate with government in matters of land ownership and management is to betray God and Country whenever such consorting infringes on private property rights. It is a basic tenet of American Conservatism that any infringement on private property rights, be it by police power zoning or "resurrection of the concept of the public trust," is a return to feudalism and, thus, antithetical to individual liberty.<sup>43</sup>

Neither the conservative Selectmen of my New England town nor Vermont's liberal Congressional delegation are willing to risk getting caught in that political quagmire, even though they know that our town and the nation are facing very serious land management problems. That remains true even when they come to understand that there are creative ways to deal with land use problems without compromising individual property rights. Likewise, they cringe at the mention of any schemes which tread on the unwritten Public Trust Doctrine by relinquishing partial rights in public lands, even if the tradeoff is economically and ecologically sound. Even worse is to suggest that they consider adoption of any unfamiliar European ideas of public/private cooperation.

On every side we are locked into present perceptions of property rights, creeping timidly into the future only as events force us to change. We can't plan ahead because we can't imagine a future built on anything but present ideas which were forged and institutionalized in the past.

## BACK TO THE FUTURE

The most difficult task before us here today in attempting to shape a new vision of the future for public lands based on a public/private cooperative paradigm is to escape the present, especially the mind set that prevents us from exploring truly new options. If we refuse to ask some tough questions about the limits of both private property rights and the public trust doctrine as regards public land, and will not consider creative land planning and administrative systems used elsewhere in the world, we will simply mire down in incrementalism once again. We will once again be rearranging the deck chairs on the Titanic.

Therefore, our first task, put simply, is to escape the present. As a kid, one of my favorite books was Mark Twain's, *A Connecticut Yankee in King Arthur's Court*. The idea of taking modern ideas and a Colt Revolver back to Medieval England fascinated me. What fun it must have been to invent all those modern gadgets back in the past. That youthful fantasy was revived for me by the *Back-*

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<sup>43</sup>John McClaughry, "Farmers, Freedom, and Feudalism: How to Avoid the Coming Serfdom," *South Dakota Law Review*, vol. 21, no. 3 (Summer) 1976. This article touches on several aspects of property rights and land use management techniques discussed in this paper.

*to-the Future* movie trilogy starring Michael J. Fox, especially the third episode when he goes back to the Old West.

This Summer I took the trip myself! I spent six weeks in the Republic of Buryatia, the homeland of Genghis Khan and, as many anthropologists believe, the ancient homeland of North American Indians. My time machine was a ten-hour flight on Aeroflot from Moscow to Irkutsk, which was as harrowing as Michael J. Fox's ride on the steam train which pulled his time-car back to the future in the third *Back-to-the-Future* episode. Little did I imagine then that only a few weeks after my return to the future the Soviet Union would disappear and Adela Backiel would ask me to talk here today. That trip "back" to Buryatia has turned out to be the key to understanding and coping with both events. The story is brief, but very appropriate to our discussion today. It helped me escape the present in a surprising way.

One of my hosts in Siberia was Oleg Povov,<sup>44</sup> the Deputy Minister of Forestry for Buryatia -- that republic's highest ranking professional forester. Oleg is a bright, affable man about my age who loves his job and the land where he lives. Like most foresters in the world he works and plays hard. He believes, as Dick Behan once described foresters, that we are "omnipotent". He enjoys the fellowship of foresters, good food and good Vodka. We got along famously.

Oleg Popov is the Buryat Republic's equivalent to our Chief of the Forest Service, Dale Robertson, ...and the Directors of the Park Service, Fish and Wildlife Service, and the B.L.M. combined. Popov, and his counterpart in the neighboring Oblast (state) of Irkutsk, are responsible for an area of land about the size of the U.S. National Forest system. The approximately 200 million acres are divided into several hundred forestry districts; and includes several National Parks and wilderness areas, a United Nations Biosphere Reserve, and dozens of smaller nature reserves and wildlife refuges (some a century old). This Siberian forest is truly a *Land of Many Uses*, with extensive timber harvesting and livestock grazing; some of richest mineral deposits and oil, gas, and coal fields on earth; a growing tourist industry; spectacular wilderness; and the watershed of a legendary lake that holds more water than all of the Great Lakes combined. This World-renowned Lake Baikal region contains thousands of rare and endangered plants and animals, most of which occur no where else on earth!

Oleg Popov's management problems are equally immense. Several million acres of his forest burn yearly from man-caused fires, and much of the region is experiencing serious forest decline from air pollution, insects and disease. There is severe over-grazing, widespread game poaching, water pollution from unregulated paper mills and destructive logging and mining practices, and, as he calls them, "wild tourists" starting fires, dumping garbage, and driving ORVs

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<sup>44</sup>Oleg Popov is the Deputy Minister of Forestry, Republic of Buryatia, R.S.F.S.R. The discussions with him and his staff described in this paper include material which is a composite of discussions with other soviet officials in Siberia over several weeks. We expect Oleg would be comfortable with my extension of his remarks and questions.

everywhere.<sup>45</sup> He is short of personnel, money, equipment, and just about everything else. He didn't have an increment borer until I gave him mine. His maps are inadequate and most of the roads in the Republic are barely passable.

The closest analog to Oleg Popov's situation is that of Gifford Pinchot when Congress transferred the Forest Reserves to his little Bureau of Forestry in 1905, with one dramatic difference: all of the land in Buryatia is public, and he is supposed to manage damn near every acre of it outside a few cities like Ulan Ude, the capital! He has the scientific knowledge, technical skill, and personal commitment to manage the area well, but doesn't have the barest essentials in terms of personnel, equipment, and money to do the job. Until very recently he was subject to conflicting orders from Moscow and the local soviet coming through a ponderous bureaucracy dominated by the Communist Party. On top of all that, thousands of people live on these "public" lands, grazing "public" livestock and working for the "public" timber industry which is under the control of a different ministry. The only thing Oleg doesn't have to worry about yet is a Siberian Sierra Club. That too is changing, as David Brower was with us on part of the expedition! But that's another story.

So what has Oleg Popov and his Siberia forest have to do with our quest for a new vision for public lands in the United States -- especially a new vision based on public/private cooperation? As Paul Harvey would say, you need to "know the rest of the story."

Months before my visit, the far-away Republic of Buryatia was feeling the impact of Perestroika. From the party leaders in charge to the peasants in the hinterland, the notion of private land ownership was firing imaginations. Months before the central government collapsed last August, orders were coming down to begin the process of privatization of state lands in rural areas. As the literal "czar" of public lands in Buryatia, forester Oleg Popov was entering a new world he never before imagined.

During my brief visit, Oleg and his staff bombarded me with questions as to how we manage public and private land in the United States. David Brower and other environmentalists had already devised new protective measures for the Lake Baikal watershed, and were advocating substantial enlargement of the national park system and the establishment of a new preservation-oriented agency to administer them. Those citadel park and wilderness ideas were not new to Popov. The Russian Czars had established such reserves on Lake Baikal before Yellowstone was established. But carving more park preserves out of his "national forest" and creating a new agency to administer them is no more popular with him than it was with Gifford Pinchot.

But now he is facing an even greater challenge and threat. To put it in our context, the Sagebrush Rebels were winning the day. Yeltsin ordered an acceleration of the privatization process. The effect on Popov and his staff was to force them to ask questions which they had not imagined a few years ago.

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<sup>45</sup>For Russians in Siberia, any motorized vehicles -- cars, trucks, minivans -- are "ORV's." Most are private or "company" vehicles.

They were being pushed to move rapidly from the status quo of the present into an uncertain future, and to discard overnight the tenets and assumptions of the past several centuries. I'm sure it is both scary and exhilarating. It surely freed them up to ask the right questions -- questions that no one would have dared ask before Glasnost!

The questions ranged from practical to philosophical. How do you survey land, mark boundaries, and transfer ownership? What's a "warranty deed"? Where and how should it be recorded? Like Mark Twain's Connecticut Yankee, I invented lawyers, surveyors, county and town clerks, acid-free deed record books, and survey systems. They laughed at my Jeffersonian township grid survey which ignored the natural landscape, much preferring the older, landscape-sensitive New England Metes and Bounds survey method.

The more penetrating questions dealt with values and rights. How did Americans assign value to land? How did we value old-growth forests and the watershed functions of land? Prime soils? Rare plants and animals? Historic places? Scenery? Clean water and air? I explained markets, and invented appraisers and real estate agents. I didn't get very far explaining discount rates and why we considered well managed land in future to be worth less than at present. I refused to invent economists!

The questions got tougher. "When a person owns private property, what do they really own," they asked? Do they have the right to sell the land, sub-divide it into smaller parcels, change the use, prevent others from walking or hunting on it? Can they borrow money on it? Can they rent it? Can their children inherit it?

After struggling to explain the almost unlimited rights of American fee simple ownership, I realized how much I had forgotten about the evolution of land ownership and tenure through history, and how I had taken for granted the deep roots of English Common Law. I truly perplexed my Siberian colleagues. If, they asked, you grant all these rights to private owners, how do you protect the interests of the society? How do you prevent the private owner from injuring the wider community because of poor management? Can an owner use land in a way harmful to the community, causing problems like we now have with fire, overgrazing and erosion, pollution and inappropriate logging and development?

I tried hard to explain that private ownership gives people pride in their land so that they treat it with respect and care for it properly. Their skepticism at that notion forced me to invent a new court system, the laws of equity, doctrines of nuisance and trespass, zoning and land use planning, clean water and air acts, forest practice and pesticide control laws. To my surprise, I even invented the Cooperative Extension Service and the S.C.S! At that point I had to explain how a property tax system was necessary to pay for all this government intervention into the wonderful free market system. I explained why the state should retain eminent domain powers in case some of the "new" private land was needed later for public purposes, and how in the United States such takings required compensation for the owner.

Finally, just to be safe, I suggested they keep large areas of the land in public ownership in case the planning, regulatory, and cooperative incentive systems I had "invented" didn't control all the evils of private property rights. That led to a discussion of English Common Law and the Public Trust Doctrine, and to how we manage our public lands for Multiple Use and Sustained Yield, modified by the RPA, NFMA, FLPMA and NEPA. At that point we seemed to be back on familiar ground -- only the initials and acronyms of their laws and ours seemed to differ. Thoughts turned to caviar and vodka and we adjourned!

I don't know what Oleg Popov and his colleagues will decide about how to implement a system of private property in Russia, but they certainly asked all the right questions -- questions we need to re-ask back here in the future. Ironically, they have a sort of advantage over us in that this is the first time they have ever faced the prospect of a mixed public/private system. For thousands of years, under the Czars, the Orthodox Church, and Communist dictators, they knew only serfdom in a warped feudal system of land tenure. The glorious promises of the communist Soviet Union proved to be a 70-year political and economic cul-du-sac. In that purely commodity-based system, land, air and water resources had been ravaged. But now they could at least begin with a clean slate, at least in a legal, socio-economic sense if not in terms of the condition of the natural environment.

My fear is that they will not learn from our mistakes. In their reaction to the excesses of our fee simple property rights system and our clumsy attempts to protect the public interest through police power, economic intervention, and public land reservations, I expect they will opt for a model that again resembles feudalism. Rather than devise a fresh, new model of public/private cooperation that builds on the obvious virtues of a strong private property system, I expect they will adopt some form of leases where land holders have limited rights to use, convey, and exclude land as they see fit. The system will likely retain the worst bureaucratic and inflexible features of the old soviet centralized system. Residual public lands may fare better than in the past as some decentralization and consolidation of old commodity-based ministries takes place. Only time will tell. It will surely be an experiment worth watching carefully.

## MEANWHILE, BACK AT THE RANCH

When I returned home last August and began to think about this symposium, I was convinced we had to be at least as bold as the Russian were being forced to be in examining new visions for the future of public lands. And, when it came to considering a public/private cooperative model, we could not avoid examining new visions for private property as well.

Armed with the right questions raised by Oleg Popov and his colleagues, I began to envision the model I would present to this symposium. First, I listed the obvious problems we would face in crafting a new vision, grouping key questions into larger categories. Second, I examined several strategies proposed by others, or which had been attempted in this Country and elsewhere, again grouping them into a few broad categories. Third, I put together an outline of

an eclectic vision that exploited the best of those strategies and that avoided as many of the pitfalls as possible identified in the first step. Most importantly, I tried to identify those aspects of the model that would most influence the primary management paradigm; could the concepts of Multiple Use and Sustained Yield still apply? Finally, I examined my new model as critically as my Siberian friends would, and asked some practical questions about implementation and administration. I assure those on tomorrow's panels that I barely scratched the surface of the tough questions they are charged to explore.

I will take these four topics in the order just outlined and summarize my findings. I must say in advance that I couldn't use a fraction of material we surveyed nor begin to track down all the leads we uncovered. I certainly gained some humility. This notion of public/private cooperation is a profoundly complicated, inter-disciplinary subject. It is also fascinating and exhilarating to explore because of its enormous potential for informing our quest for new ways to manage our public and private land resources.

## SOME FUNDAMENTAL PROBLEMS

There are clearly some formidable problems standing in the road to any new public/private cooperative vision for land management. They are not new to anyone interested in land use planning and management. They constantly plague legislators attempting to level the playing field on which public and private interests contend for some balance between liberty and justice, between private right and social equity. I have grouped these fundamental questions in three categories: land and resource valuation, the Constitutional limits of private property rights, and the public trust role of government.

### Land and Resource Valuation

If you have ever tried to negotiate a public land exchange or acquisition, or served on a local board of assessment, you understand how difficult it is to value land and the resources on, over, and under it. Those tasks pale, however, before the awesome task of valuing individual rights in a landowner's complex bundle of rights for purposes of pricing shared ownership. Any scheme to build a public/private cooperative model of land management that is based on some form of shared ownership using tools such as easements, trusts, or transferable development rights must face up to this difficult problem. It is even more complex if the transaction involves other than cash, such as long-term tax agreements in exchange for certain development rights, and especially when non-priced benefits, such as scenery and wildlife are primary concerns.<sup>46</sup>

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<sup>46</sup>Carl H. Reidel, "Forest Policy and Land Use Planning: Trends in the United States," *Land Use for Agriculture, Forestry, and Rural Development*, (M. Whitby and P. Dawson, ed.s), University of Newcastle upon Tyne, England, 1990. pp.267-274.

If you doubt the seriousness of this valuation problem, my former colleague at Yale, Clark Binkley, can dazzle you with the math involved in attempting to calculate the cost of even a fairly simple and straight forward easement.<sup>47</sup> Others note a similar problem in appraising partial rights in the absence of a market (e.g. scenic easements) or when they are very infrequently traded.<sup>48</sup> While there is some imaginative research underway to better understand economic relationships between various characteristics of land and market prices, we have a long way to go before we can efficiently appraise various rights and use values in complex forest regions.<sup>49</sup>

It is not within the scope of this paper to suggest how we can resolve these valuation problems. I will leave that to the economists; it should provide them with employment for many years to come. However, we cannot ignore these problems when proposing new visions for future public land management. They are at the heart of our debate over multiple use-sustained yield philosophy, be it the controversy over so-called below-cost timber sales or conflicting multiple use objectives -- logs, owls, or water. We'll return to this dilemma later.

In addition to these economic dimensions of land and resources, there are aspects of these valuation problems that might yield to statutory remedies. For example, when we appraise land for tax assessment or to set compensation for a public taking could we, by law, exclude value clearly added because of public investment (or at least consider some shared equity between private owner and the public entity making the original investment in the road or other valued infrastructure)? This would simplify land valuation and greatly alter the costs of land acquisition, exchange, and planning. On the other hand, it gets us into another problem arena -- private property rights -- and is clearly approaching Constitutional issues. But, remember, we do want to consider breaking some new ground.

If that isn't enough, perhaps you'd like to tackle the question of the appropriate use of discount rates in valuing easements, leases, and management

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<sup>47</sup>Clark S. Binkley, "The Cost of an Easement," *Conserving the North Woods*, (Clark S. Binkley and Perry R. Hagenstein, ed.s) Yale School of Forestry and Environmental Studies, Bulletin 96, 1989. pp.40-43.

<sup>48</sup>Robert G. Healy and Preston Bristow, "Shared Ownership of Forestlands: Experience and Prospects," *Conserving the North Woods*, (Clark S. Binkley and Perry R. Hagenstein, ed.s), Yale School of Forestry and Environmental Studies, Bulletin 96, 1989. pp. 141-142.

<sup>49</sup>Robert Turner *etal.*, "Economic Relationships Between Parcel Characteristics and Price in the Market for Vermont Forestland," *Forest Science*, vol. 37, no. 4, 1991, pp. 1150-1162. The author's graduate thesis on which this is based includes a review of related research.

investments for future environmental quality protection.<sup>50</sup> Lester Thurow, Dean of the Sloan School of Management at MIT put it succinctly:

...Capitalism's time horizon is too short. Using discounted net present values to make decisions, no capitalist looks more than 10 years into the future. Capitalism would not have built the awesome pyramids of ancient Egypt, the grandeur of Rome or the great cathedrals of medieval Europe.

Capitalism systematically under invests in the present. It won't invest today to prevent future environmental damage. It won't invest today to build the infrastructure necessary to prevent tomorrow's congestion. It won't invest enough in research and development to insure a dynamic economy in the future.<sup>51</sup>...

### Private Property Rights

From our brief "visit" with Oleg Popov in Siberia, it is obvious that the range of questions raised in any exploration of a public/private cooperative scheme for land management includes a host of critical questions about private property rights. They will have to be answered before any attempt to devise a shared ownership and management scheme for administering existing public lands, or to employ less-than-fee arrangements on private lands to enhance public benefits.

The nature of the questions depend on whether these schemes will simply be contractual, using permits and long-term leases; involve actual shared ownership through various land-trust arrangements; or involve fundamental change in the definition of private property rights.

In the later case, we are probably confronting awesome constitutional issues if we expect any significant change in the near term. The courts have gradually and systematically altered the scope of property rights by upholding various zoning and land use planning laws. But that may be slowed significantly as landowner revolts make such legal inroads into private rights dangerous for planners and politicians alike. As an example, land use planning laws in Maine and Vermont are being seriously weakened as these programs become early targets for state budget cutting -- cuts cheered by fiscal conservatives and freehold landowner groups alike. And few outspoken advocates of strong land use planning laws survived recent state and local elections in the Northeast.

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<sup>50</sup>Colin Price, "Social Discounting: A Game Played with Meaningless Marks on Paper," *Land Use for Agriculture, Forestry, and Rural Development*, (M. Whitby and P. Dawson, ed.s) The University of Newcastle upon Tyne, England, 1990. pp.253-265.

<sup>51</sup>Lester C. Thurow, "Visionless Liberalism," (editorial), *The Boston Globe*, December 24, 1991.



Some changes in basic property rights will be necessary as part of any comprehensive cooperative system, but these changes are more likely to come through compensated regulation and petitioned planning than by police-power zoning and mandatory planning based on constitutionally redefined property rights. That is not to say we should not explore ways to include some form of an "environmental bill of rights" in the Constitution, as Jay Hair, President of the National Wildlife Federation, has advocated. Such a Constitutional amendment would provide a new basis for more stringent limitations on fee simple ownership rights by giving the courts new grounds for upholding zoning, planning, and environmental protection laws. Such a threat of externally-imposed change could be a great incentive for cooperation!

However, if we are interested in more comprehensive change in the near future, it is more likely to come from new forms of leasing, shared ownership, and land use planning that reaffirms freehold property without giving in to a purely private, laissez-faire system. Unlike the folks in Buryatia, we have a rich heritage of real property law, tax and planning systems, and societal commitment to environmental protection. We do not have to accept the simplistic choice between a new feudalism or free-fire Reaganomics. We can do much better with a little imagination and courage.

### **The Role of Government (The Public Trust)**

There are two sides to every cooperative venture. In the case of a public/private scheme for the administration and management of public lands the venture will be complicated as much by the traditions and legal doctrines on the public side of the venture as on the private. In fact, the public dimensions may be more difficult to resolve than the private property issues because they have received less scrutiny by the courts and economic policy analysts. The case law and cost-benefit studies focused on public lands are far less developed than in situations involving private property.

A case in point are some recent applications of the old unwritten Common Law doctrine of The Public Trust. The Vermont Supreme Court recently upheld the right of the State to reclaim, without compensation, valuable waterfront lands that were granted to a railroad a century ago because it was filled land and no longer used for railroad purposes. A lower court, applying the same doctrine and citing the above case, found a state permit to a private developer for a marina invalid because it would invade public waters. These interpretations of The Public Trust Doctrine essentially assert that even the state itself, as represented by the Legislature or Executive, cannot compromise the public's use of public waters. It is unclear whether this interpretation could invalidate all permits for docks and other in-lake facilities, or whether the doctrine could be taken "upstream" to affect any private use in a watershed! If so, it might also be used to prevent any form of cooperation that would "privatize" any rights to public land.

Perhaps even more of an obstacle to a cooperative approach to public lands management is simple tradition. For a growing segment of the public, public lands are sacred lands, our version of the Royal Family. The image of the park

ranger with his cavalry hat, protecting the citadel park from evil doers will not yield easily to a new, far-less romantic vision. Like Oleg Popov, the omnipotent forester will have a hard time joining hands with local government officials, regional planners, politicians, and corporate executives.

Another problem, perhaps more appropriate for consideration in discussions of implementation and administration later, is government's limited ability to enter into long-term fiscal arrangements. While deeds and leases can be negotiated for long periods, binding agreements for annual appropriations seldom last. Cooperative land use planning backed by long-term financial and political commitments is not an American tradition. Private landowners, therefore, are wary of such schemes. Experience with the Conservation Reserve Program and long-term easement programs of USDA offers clear and consistent evidence that landowners are unwilling to tie up their lands for the long term without realistic and guaranteed compensation. This dilemma is related to our first problem category: valuation. Until we are able to value the ownership shares in any cooperative arrangement, it will be impossible to calculate shared annual operational costs or to make realistic comparisons of the relative total costs of a purely public management system versus some cooperative system.

In sum, these fundamental problems of valuation and of private and public rights in an cooperative scheme for land management are formidable. Also, it is obvious that major legal changes, at least in property rights and notions of the public trust, are unlikely in the near term. The task at hand, therefore, is to devise a vision that avoids the main obstacles, if possible. It's usually wiser to go around the mountain than to attempt to move it.

## **SOME INTERESTING STRATEGIES FROM HOME AND ABROAD**

Any examination of the many land management strategies that have been devised to modify the strict separations between private and public land -- between private and social interest in land -- is fraught with limits of time and scope. Much could be learned by examination of past systems and of utopian visions, but time allows neither in this brief paper. Rather, several rather common and, hopefully, practical strategies are examined briefly as building blocks for a new paradigm which will serve the objectives of this symposium. (For further clarity and simplicity, these strategies are grouped into three general categories: Divestiture, Greenlining, and Shared Ownership.)

### **Divestiture**

The complete or partial divestiture of public lands may not appear to be a strategy appropriate to the consideration of possible public/private cooperative paradigms for land management. In and of itself, especially as viewed in an American context, that is true. The notion of divestiture only as the sale or granting of fee simple rights, as in the case of early United State transfers of the public domain to private ownership in the 19th Century, is not of interest here. Rather, we will consider briefly an example of where public land divestiture served a comprehensive national purpose and was in the context of an

integrated land use planning and environmental protection system already in place nationally.

New Zealand is an interesting case study too complicated to examine in detail here, but which never-the-less provides a general outline of how divestiture might be used to build a cooperative model. The setting was a dramatic restructuring of government in 1987, not limited to considerations of public land management. The extent of these reforms is suggested by government documents from the period which begin with remarkably philosophical discussions of, for example, the "role and limits of government" and the "role of private property."<sup>62</sup>

To understand New Zealand's reallocation of public lands in 1987, one must understand the overall economic and social setting to some extent. In the 1970's and 1980's, there was a growing recognition of the need to respond to international economic pressures by moving to a stronger market system, and to diversify agricultural systems in a country economically dependent on forestry and agriculture. At the same time there was growing public concern over serious overgrazing and erosion on public and private lands in a nation with a remarkably fragile island ecosystem. Thus, two seemingly contradictory forces - concern for environmental protection and a conservative movement for privatization - made major land reform a political possibility.<sup>63</sup>

This reallocation of public lands was complicated, with former state forests administered by the Forest Service divided among a new quasi-private Forestry Corporation and a new Department of Conservation. Commercial forest lands were sold to the Forestry Corporation and titles transferred. Non-commercial state forest lands were transferred to the Department of Conservation and designated as reserves or national parks. Former reserves and national parks and portions of Crown Lands (public domain) suitable for reserves were also reallocated to the Department of Conservation. Most remaining Crown lands were sold to a quasi-private Land Corporation, with a small area placed under the jurisdiction of a reshaped Department of Lands.<sup>64</sup> The objective was to separate the commercial farming and land management activities of the previous

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<sup>62</sup>Government of New Zealand, The Treasury, *Government Management Brief to the Incoming Government*, Government Printing Office, Wellington, 1987. This publication provides a detailed discussion of the issues and problems of government management in New Zealand as a background for the state forest divestiture policy.

<sup>63</sup>Jean Richardson, "Comparative International Trends in Integrated Land Use Planning," *Land Use for Agriculture, Forestry, and Rural Development*, (M. Whitty and P. Dawson, ed.s), University of Newcastle upon Tyne, England, 1990. pp.63-70.

<sup>64</sup>Government of New Zealand, Department of Statistics, *New Zealand Official Yearbook, 1987-88*, Government Printing Office, Wellington. 1988. pp.384-407.

Department of Lands and Surveys (e.g. U.S. Department of the Interior) and to put them in a business-oriented agency free to operate in a commercial manner.

The impact on land management was to move dramatically from a multiple-use paradigm to a dominant use system based on zoned categories of land, with public agencies managing reserves, national parks, and other protected areas, and the new land corporations managing all commercial forestry, grazing, and farming areas. It is very important to note that all of these land management reforms took place within an existing framework of strong local, regional, and national environmental and resource management and planning controls established by the New Zealand Town and Country Planning Act of 1977, which was modeled after similar laws in England.

Thus, public land divestiture in New Zealand was in the context of fundamental government reforms and well-established national land use planning systems. It is far from clear whether the land reforms are working as intended, or whether the framework Town and Country Planning Act of 1977 will survive current criticism of its social justification and economic cost-effectiveness. It is clear, however, that these structural and organizational changes have had a profound effect on the nature of natural resources and land management.

A similar divestiture movement is gaining support in Great Britain where the Forestry Commission owns 5 percent of Britain's land and regulates another 5 percent. A current proposal is to auction off commercial forest lands, with transfer of conservation areas to local and regional agencies. Another version proposes the selling as well of some Nature Reserves owned by the Nature Conservancy Council (a public agency). Again, these changes in ownership would be in the context of very strict Town and Country planning laws at all levels of government.<sup>56</sup>

Given the relatively weak and fragmented land-use planning authority in the U.S. federal system of local, state, and national government, divestiture of public lands such as done in New Zealand and proposed in Great Britain is likely to be very unpopular as well as environmentally risky. That was evident in the extreme public reaction to James Watt's foray into privatization a decade or so ago. It is, never-the-less, a strategy that may have a place in a different overall model, like greenline reserves where planning and environmental protection frameworks could be better defined and more comprehensive in scope than in the nation as a whole.

### Greenlining

"Greenlining" is a broad term for a variety land management approaches involving the designation of a significant landscape region in which management and protection is an intergovernmental, public and private enterprise. It is an approach with less emphasis on fee acquisition and direct government

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<sup>56</sup>For a continuing discussion of these proposals see regular news reports in the weekly news magazine, *The Economist*, over the past several years.

management than is usual in a U.S. National Forest or Park, employing a variety of land protection, planning, and management techniques. In most greenline applications there is far less displacement of people, private ownership, and traditional land uses than in U.S. "citadel" parks, forests, and other traditional public reserves.<sup>66</sup>

### ***The English National Park***

The greenline approach to public/private cooperation in the protection and management of special land regions has its most advanced expression in the National Parks of Great Britain. The *National Parks and Access to the Countryside Act of 1949* established a national commission to designate areas in England and Wales with significant historic and scenic values as "National Parks." While a new national program at that time, the general concept had been applied in a wide variety of local planning districts in England long before the establishment of the National Parks, most notably in urban green belt areas and rural regions of special natural and historic significance.

It is this English application of greenlining that is of most interest in our discussions of new models and paradigms for public lands management in the United States, because of both the historic and well-established comprehensiveness of Town and Country planning and national rural development programs. Planned economic growth and concern for community viability are as integral to the English greenline park as is conservation of natural and historic landscapes. It is very important to note here that in U.S. adaptations of English greenlining systems these essential planning and rural development aspects have usually been de-emphasized or lost entirely in actual practice, though often stated as important goals. U.S. greenlining is most often associated with natural area protection and recreation with emphasis on intergovernmental cooperation, rather than on overall land management through private/public cooperation.

The administrative systems and structures of the English National Parks also offer some interesting models for cooperative public/private land management, although they are unlikely to be readily transferable to the New World. The English mindset, unlike that of their American relatives, puts the public interest clearly ahead of private rights, as reflected in the organizational structure of a typical National Park.<sup>67</sup>

The *National Park Authority (NPA)* for the Lake District National Park in Cumbria, for example, consists of thirty members from the Cumbria County

<sup>66</sup>Cecily C. Kihn, "The Greenline Concept," *American Land Forum*, 3(1), Winter, 1982. This article and the accompanying "Policy Forum" provides a good summary review of the Greenline concept.

<sup>67</sup>*The Lake District National Park Plan*, Lake District National Park Authority, Cumbria, England, 1986. see especially Chapter 1, "Introducing the Lake District National Park," and Appendices 2 & 3: "NPA Committee Structure" and "Organization Structure."

region, appointed by the national Secretary of State (10), the County Council (16), and the local District Councils (4). Within the National Park the NPA carries out all of the planning functions which would otherwise be the jurisdiction of the County and District Councils (roughly, U.S. state and county level government). This includes review and preparation of local land use plans, regulation of development, and statutory responsibility for all aspects of national park designation under the *National Parks and Access to the Countryside Act of 1949*, the *Countryside Act of 1968*, and the *Wildlife and Countryside Act of 1981*. This includes securing public access to private lands, provision of recreation facilities, enactment and enforcement of statutes and regulations for land and water resource management (including forestry, agriculture, mining, historic preservation, and nature protection areas), and cooperation with a wide range of government agencies in such areas as housing, economic development, highways, and education. And all this in a National Park where almost all the land is privately owned!

The administration of these responsibilities is under the National Park Officer, with organizational divisions for Planning and Land Use, Visitor Services, Park Management, Administration, and Legal Services.

Funds from the national government account for over 75 percent of the NPA's budget, with the remainder coming from County Councils (which derive a substantial part of their budgets from national sources). In addition to the usual administrative functions, a substantial portion of the NPA budget is dedicated to compensation programs for landowners for public facilities on their lands and to support traditional land uses and historic structures (homes, barns, roads, walls, etc.), and for public education, information programs, and technical training programs.

Unlike most governmental institutions in the United States, the NPA is a truly public/private cooperative organization, known in England as a "QUANGO" -- Quasi-autonomous/non-governmental organization. Suffice it to say that it is built on notions of populist government and public participation that would warm the cockles of Maggie Shannon's heart!

### *The Adirondack Park*

The U.S. variant on the English greenline concept is most conspicuously seen in the New York Adirondack Park Agency established under a State law passed in 1971, and amended by the Adirondack Park Land Use and Development Plan of 1973. While there are other innovative examples of smaller, existing and proposed, greenlining areas in the United States<sup>58</sup>, the Adirondack Park Agency (APA) approach is probably the best known and most controversial. The amended APA Act established land use controls on private lands within the Park greenline (in this case, known as the "Blue Line") and, in cooperation with the New York Department of Environmental Conservation, called for creation of a State Land Master Plan which would zone public land

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<sup>58</sup>For example, the New Jersey Pine Barrens, Columbia River Gorge, and the Delaware Water Gap.

(within the strict constraints of the historic 1893 State Constitution provision that all public land in the Park must remain "forever wild.")<sup>59</sup>

Since establishment in 1971, the APA has been embroiled in bitter controversy for a variety of complex reasons, including overlapping and conflicting agency jurisdictions and difficulties in implementing plans and sustaining a long-range planning process. Most conflict has been with local communities and developers over land use controls on private lands, which was intensified dramatically with release in 1990 of a report by a special state commission charged to review the APA and make recommendations, *The Adirondack Park in the Twenty-First Century*.<sup>60</sup> While the report criticized state agencies and cited the need for better coordination, most area residents saw the recommendations mainly as a call for more restrictive land use controls and accelerated public land acquisition which they believed would lead to further loss of local control and further erosion of the economic viability of their communities.

It is clearly not in the scope of this paper to evaluate the APA nor the newly released report. However, as a possible model for public/private cooperation, some observations seem essential -- observations that will not be shared by some of those involved in the immediate controversy.<sup>61</sup>

Since the creation of the Forest Preserve in the 19th Century to the most recent commission report, the primary focus of land management policy and administration in the APA has been preservation. Almost three times the size of Yellowstone with spectacular lakes and wilderness, this is a unique park in North America in that a third of the land is owned by people living within the blue line -- people who are becoming increasingly alienated from the goals of the APA planners and managers. While I agree with the 21st Century Commission report that New York "can set an example of common stewardship to the nation and the world," the facts are all too clear that the APA has failed to address adequately the social, cultural, educational, and economic development issues critical to the success of a truly public/private cooperative system. That is not to suggest that preservation of the natural character of this spectacular region ought not be the primary goal of the APA. If so, however, it is not an example of "common stewardship." It is simply a region in transition toward another

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<sup>59</sup>Richard C. Booth, "Developing Institutions for Regional Land Use Planning and Control -- The Adirondack Experience," a reprint from the *Buffalo Law Review*, vol. 28, no.4, 1980. This article is an excellent description of the complex institutional structures of the APA, with extensive supporting notes.

<sup>60</sup>State of New York, The Commission on the Adirondacks in the Twenty-First Century, *The Adirondacks in the Twenty-First Century*, April, 1990.

<sup>61</sup>The author was an advisor to the 21st Century Commission and has been an observer of the APA since he moved to within a few miles of the "Blue Line" in 1969. He has not done systematic research on the APA, but has been associated with many who have.

traditional American-style citadel National Park -- a goal openly espoused by some conservation organizations who endorse the A.P.A. and the 21st Century Report.

It is my belief that the English National Park model is a better model for the purposes of this symposium. With its inherent commitment to maintaining diverse land uses, rural economic viability, and conservation within a broad-based and comprehensive economic development and land-use planning context with institutionalized public involvement, it offers a truly public/private cooperative vision.

### *The Northern Forest of New England*

While it is too early to cite as a viable model of greenlining in the United States with some of the most important aspects of the English National Park, the Northern Forest project in New England is an innovative experiment-in-the-making well worth watching.

Shocked by unexpected changes in the ownership of large tracts of forest industry lands in northern New England and New York between 1982 and 1988, citizen conservation organizations moved rapidly on several fronts. Working through their influential U.S. Senate delegation, including Leahy, Rudman, Mitchell, and Moynihan, special funding was acquired for a study by the U.S. Forest Service of the situation and possible alternative strategies. The Governors of New York, Vermont, New Hampshire, and Maine quickly responded by appointing a special task force to work with the Forest Service team, and conservation organizations organized a broad-based consortium of non-profit organizations. In one of the quickest and most cooperative responses by the New England states since the Revolutionary War, the Northern Forest was "born."

Spread over twenty-five million acres the Northern Forest is larger in area than all the National Parks in the lower 48 states, reaching from Maine's most easterly coast, through northern New Hampshire and Vermont, across Lake Champlain, and including the Adirondack Park region of New York.

Primed by a seminal report of the New England Natural Resources Council in 1987<sup>62</sup> the Forest Service's Northern Forest Lands Study team, in cooperation with the Governor's Task Force on Northern Forest Lands, began an innovative exploration of new models of land management for the region. While several environmental organizations initially advocated creation of new National Parks and extensions of existing National Forests, the Study Team and Task Force were committed to another agenda:

The current land ownership and management patterns have served the people and forests of the region well. We are seeking reinforcement

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<sup>62</sup>Perry Hagenstein, *A Challenge for New England: Changes in Large Forest Land Holdings*, a report of the New England Natural Resources Center, Boston, 1987.



rather than replacement of the patterns of ownership and use that have characterized these lands.<sup>63</sup>

The subsequent research reports<sup>64</sup>, symposium proceedings<sup>65</sup>, and the final reports of the Forest Service<sup>66</sup> and the Governor's Task Force<sup>67</sup> were in remarkable agreement on the broad objectives and strategies for the region. Central to these recommendation was the idea of a "greenline" concept, although use of that specific term continues to be controversial with some landowner groups who do not want to be "in some new-fangled reservation." Industrial landowners and several state agencies are wary also of a new regional commission which might erode local and state authority and private property rights. Never-the-less, there remains a remarkably strong commitment by diverse constituents to continue to cooperate on a regional basis.<sup>68</sup>

Whether or not this foray into an alternative, cooperative model for regional land management and planning will succeed is impossible to judge. But it is clearly an exciting experiment which encompasses some of the best components of the English greenline National Parks and the lessons learned from the Adirondack Park experience. From the very beginning there has been a balanced commitment to regional development, protection of community heritage, and natural resource conservation -- commitments that have been sustained in the midst of debate to the present. It is an exciting experiment also because of the willingness of participants to consider a wide range of innovative shared ownership strategies, of which public acquisition of fee rights is only one small component. It is truly the framework of a possible public/private

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<sup>63</sup>A portion of a letter written to the Chief of the Forest Service on October 4, 1988 by Senators Patrick Leahy of Vermont and Warren Rudman of New Hampshire, later endorsed fully by the Governors of the four states through their Task Force appointees.

<sup>64</sup>Robert Yaro, *The Northern Forest Lands: Greenline and Regional Planning Alternatives*, Center for Rural Massachusetts, University of Massachusetts-Amherst, July, 1989. This is one example of several commissioned studies.

<sup>65</sup>Clark Binkley and Perry Hagenstein (ed.s), *Conserving the North Woods*, Yale School of Forestry and Environmental Studies, 1989.

<sup>66</sup>Stephen C. Harper, Laura L. Falk, and Edward W. Rankin, *The Northern Forest Lands Study of New England and New York*, Forest Service, U.S. Department of Agriculture, 1990.

<sup>67</sup>Governor's Task Force on Northern Forest Lands, *The Northern Forests: A Strategy for their Future*. 1990.

<sup>68</sup>*Saving the Northern Forest: An Issue of National Importance*, a joint policy statement of the National Audubon Society, The National Wildlife Federation, The Sierra Club, and The Wilderness Society (an unpublished white paper), October 22, 1991.

cooperative vision for the nation. As this author stated elsewhere, "It's a tale still unfolding..."

Many a tall tale has come out of the great north woods of New England and New York. But this one's for real. Even the tales of Paul Bunyan are tame by comparison. This is a true story of yuppie robber barons, an English knight, governors and senators, scientific studies, and riotous hearings where "Mr. Cougar" and "Ms. Owl" testify alongside corporate officers.

It's a tale still unfolding, with the ending up in the air. And though it's a story of a northern forest with colorful names recalling another time, it is truly every forest's story. The answers to the tough choices now being debated in [the Northern Forest] may well reshape our thinking and laws about forests nationwide for a long time to come.<sup>69</sup>

### Shared Ownership

While divestiture of public lands and the greenlining of special landscapes, as discussed above, involve comprehensive changes in institutional and legal frameworks on a scale from national (e.g. New Zealand and Great Britain) to a significant region (e.g. The Adirondacks), a host of creative arrangements can be employed for sharing land ownership among multiple parties on a very small scale or as part of a more comprehensive strategy.

Most of these institutional and legal arrangements for shared ownership of land have a long history in law and tradition, adapted in recent decades to serve rural land management needs.<sup>70</sup> Likewise, new forms of shared rural land ownership have been borrowed from financial market arrangements, such as limited partnerships, participating mortgages, and condominium ownership.

Of particular interest to this discussion are forms of shared ownership that might be used in a public/private cooperative model. These include various types of easements, transferrable development rights, variations of community land trusts, and intergovernmental ownership sharing arrangements.<sup>71</sup>

While many of these techniques can be very creatively employed in a greenlining context, they are often fraught with complex valuation and legal

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<sup>69</sup>Carl Reidel, "The Northern Forest: Our Last Best Chance," *American Forests*, vol. 96, nos. 5-6, May/June 1990.

<sup>70</sup>William Whyte, *The Last Landscape*, Doubleday, New York, 1968.

<sup>71</sup>Robert G. Healy and Preston Bristow, "Shared Ownership of Forestlands: Experience and Prospects," *Conserving the North Woods*, (Clark S. Binkley and Perry R. Hagenstein, eds.) Yale School of Forestry and Environmental Studies, Bulletin 96, 1989. This article provides an excellent overview of these various techniques.

problems, as discussed earlier. A possible route "around the mountain" is land banking, a popular technique in Europe but infrequently considered in the United States. This involves public acquisition of a substantial fraction of the land in a region for purposes of controlling future development. The land acquired is not committed to a designated use at the time of purchase or condemnation, but is reserved, leased, or resold later with various use restrictions in accordance with a regional plan.<sup>72</sup>

Private land trusts like The Nature Conservancy often use a variation of land banking, usually involving purchase of a single ownership where the trust is seeking to protect part of the tract. Other portions of the tract are sold, with protective covenants, to finance the original tract purchase. Governments in the land banking are essentially in the real estate business, using the market rather than police-power regulation to shape ownership and land use patterns. It can be a creative way to employ such tools as easements, TDR's, and other shared ownership techniques, and a lucrative source of funds for the government agency involved.

While not explicitly shared ownership, other forms of public/private land use sharing deserve consideration as part of a comprehensive model, including existing types of grazing leases, special use permits, and purchase-and-lease-back arrangements for scenic area protection. Long-term timber leases, such as those in Canada and by the U.S. Forest Service in Washington under the Cooperative Sustained Yield Law of 1944 are other approaches, as are innovative variations of traditional leases to overcome the shortcomings of long-term leases.<sup>73</sup>

The tool box of shared ownership and use strategies is enormous, with new techniques added regularly from past experience and creative imagination. In the framework of a comprehensive regional model, these management tools have a synergistic potential for creating exciting new visions for the future of public and private lands alike.

## THEREFORE, WHAT?

Depending on your age, you may remember when you were given your first Erector set or Lego kit. The box cover promised instant success as a civil engineer by just following the simple instructions enclosed. In spite of my best efforts, the double ferris wheel depicted on my Erector Set box ended up looking like the crash site of the Starship Enterprise. It was about then I decided to be a forester instead of a civil engineer.

I feel a bit the same at this point in this paper, having dragged out all the pieces that might be necessary to construct some wholly new model of public

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<sup>72</sup>John McClaughry, "Farmers, Freedom, and Feudalism: How to Avoid the Coming Serfdom," *South Dakota Law Review*, vol.21, no. 3, Summer, 1976.

<sup>73</sup>Marion Clawson, *The Federal Lands Revisited*, Resources for the Future, Washington, 1983. see especially chapter 6 - "Future Directions."

land management in the United States. The difficult part is that this Lego set comes without instructions. On the other hand, we are also free to be as creative as we are able with the pieces we have. How to begin?!

We could begin by describing some important attributes of the new model by simply examining the parts at hand, based on the discussion of them earlier in this paper. That will tell us a lot about how the final model might work, and whether or not we want to bother with the actual construction. Three attributes seem obvious:

First, the new model will, *ipso facto*, be a more private, market-driven system of land management than one based on our traditional Multiple Use - Sustained Yield paradigm. That is not to suggest it is as market driven as a purely private model, but with its emphasis on public/private cooperation and a commitment to retaining traditional land uses, it must be more market responsive. Suffice it to say at this point that the new vision will not accommodate a sustained yield paradigm with a strict non-declining even-flow constraint. For many forest policy analysts, this might be considered a major improvement over the present National Forest management model, and far more economically efficient and consistent with the Multiple Use - Sustained Yield philosophy embodied in the law.<sup>74</sup> I would suggest that this would allow us to also redefine "Sustained Yield" as a more ecosystem-based paradigm, updating this venerable proverb in terms of contemporary ideas of forest sustainability.

Second, given that the new model will likely rely heavily on strict zoning for the regulation of land uses on public and private lands, especially in any greenline system, Multiple Use as now applied on National Forest lands will not be applicable. Greenline zoning requires a strict definition of uses and management objectives; it is a Dominant Use paradigm. That is not to suggest that a multiple-use approach might not be applicable within specific zones, as was the case in pre-RPA/NFMA multiple use planning on the National Forests, but it can not be the overriding management paradigm in a public/private model employing greenlining. This is vividly seen in all of the case examples discussed earlier in New Zealand, England, and the Adirondacks of New York. These examples suggest clearly that the role of land-use planning is crucial - on public *and* private lands - and that this planning must be driven by local objectives and local institutions within a strong national planning context.

Third, the new model assumes new categories of shared land ownership which will conflict with many of the rigid boundaries between private land and existing citadel parks and forests. Failure to accept this, as in the case of the "forever wild" designations in the Adirondack Park, will cripple any public/private model at birth. If we are serious about building a new cooperative model, we must be open to some ownership changes in public lands, at least on a shared ownership basis and including most of the current categories of public lands. The new management model will mean some radical institutional changes as well. More on that later.

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<sup>74</sup>J. Krutilla and J. Haigh, *An Integrated Approach to National Forest Management*, Resources for the Future Reprint #156, c.1980.

Given that our new model will of necessity include these three volatile pieces, we are confronted with many of the hard choices Oleg Popov faces in Siberia! Everything is on the table, almost. However, it would be naive to propose such a new model on a national scale, unless the United States was in the throes of overall government reform on the scale that faced New Zealand in the 1980's and is now being faced by the remnants of the Soviet Union. We are not. And we cannot expect such change on a scale that will provide the planning and regulatory contexts necessary for sustaining the new model on a national scale. Even in the depths of the Great Depression, the Tennessee Valley Authority experiment failed to gain full support for a genuine "test flight" of its regional planning components.

Therefore, we must limit further model building to a test model. This suggests strongly a greenling approach where we can seek authorization for special incentives and controls in a limited area that will insure an institutional context capable of grappling with the various problems and potential innovations discussed earlier. The selection of a suitable test area is a critical step, a decision that is beyond the scope of this paper. If, however, we are primarily interested in testing a new public land management paradigm, the greenline region ought to include a substantial area of significant public lands, including those with good potential for commodity production and with important attributes requiring preservation. An alternative would be an area like the Northern Forest of New England and New York where new categories of public land, in fee and shared public ownership, could be created anew and the trauma of attempting divestiture of existing public lands avoided. That alternative may be a necessary evolutionary step, but it clearly falls short of our objective of forging a new vision for existing public lands.

If we accept at this point that a test region is appropriate, and that we will employ as many of our management tools as possible, we will also need to establish a regionwide land bank with authority to acquire *both public and private lands* through purchase and, in special cases, through condemnation. That means that the ugly notion of public land divestiture must be included in the greenline authority. Why such a radical demand? I guess the best metaphor is again my old Erector set. The construction of the double ferris wheel on the box cover required *all of the pieces in the box*. We can build smaller models with less pieces, but then we are back to the Adirondacks and some of the smaller experiments with greenling that have made very little difference outside a local area.

It is essential to recall here the earlier discussion of a land bank. It does two critical things in our new vision that are nearly impossible without it. First, it permits effective use of such creative tools as easements and other forms of shared ownership, with or without compensated regulations, and the establishment of the essential conditions for operating a transferrable development rights system. A land bank is one of the few ways to get around the obstacles of valuation and private property rights without doing violence to sound economics or Constitutional rights. It is the only effective way to create growth, no-growth, and TDR receiving zones necessary to an effective regional land use planning system. And, if the land bank is to operate in a regional

environment where there is already a high percentage of the land in public ownership, it must have access to those lands by purchase and condemnation.

Secondly, a government land bank is probably the only way that a truly effective greenline cooperative system can be financed under current economic conditions. While long-term bonding may be possible to initially finance the necessary land right acquisitions and to support some level of compensated regulation and tax relief to encourage desired land use investment, the land bank is the only feasible source of continued funding and bond repayment. Public land banking could capture some of the profit and, thus, the financial resources that now drive the private speculative land development market. In a genuine greenline reserve equity growth in land will belong, at least in part, to the region.

By its very existence, a land bank can be an effective constraint on undesirable development even if it doesn't acquire a majority of the land. By only acquiring rights of first refusal, the land bank can provide large landowners with a sort of James Bond "poison pill" they can threaten to use in the face of hostile takeovers. The government land bank as part of a greenline region is as essential a "federal reserve" for stable land management as the Federal Reserve Bank system is to a stable economy.

The above is far from a complete description of the new vision, but I believe it is enough to sustain our discussions for some time to come. Better that we engage other budding "engineers" at this point than for one person to draw a blue (or green) print. However, a few thoughts on implementation and administration of our "federal greenline reserve" might be an appropriate conclusion to an already lengthy paper.

## LIFE IN THE GREEN RESERVE

Obviously, implementation of this public/private cooperative vision will be extremely difficult within our traditions of local control and state's rights, and Constitutional prohibitions against inter-state regional government without agreement by all participants. I will leave that dilemma to the congressional experts here and the later panels at this symposium. There are lessons to be learned from the T.V.A. experience, the Adirondack Park Agency, and other types of regional authorities. And we need only look to the early days of the establishment of the National Forests and their expansion under the Weeks and Clarke-McNary Acts to find some encouragement that radical new forms are possible if the need is clearly understood.

As for how a "federal greenline reserve" might actually work, there is much to learn again -- good and bad -- from the Adirondack Park and other U.S. greenlining experiments. There is much to learn also from England's administration of town and country planning programs and national parks -- a complex system which rests solidly on active public participation in local and regional governance within a comprehensive national planning system linked

through various agricultural support programs to the European Economic Community.

The important lesson in all these examples is the need for comprehensive objectives and integrated administration, suggesting perhaps that our first task is to deal with our fragmented public land management establishment at the state and national levels. I don't have much hope for a greenline region which includes public lands administered by a dozen agencies and several departments. Perhaps it is time for a U.S. Department of Environment and consolidation of land management agencies.

At a minimum, a new greenline reserve test model will require an independent management authority which either replaces existing land management agencies or has clear authority over them within the greenline, as in English National Parks. The problem of fragmented and overlapping jurisdictions in the Adirondack Park proves the need for such reorganization; a new model is needed.

Perhaps the current national dialogue about sustainable forests, how they can be defined and designed, will prove to be the key to realizing the vision. The resoundingly clear message is that sustainability must rest on a holistic, ecosystem approach which operates on landscape spatial scales; bio-regions with ecologically-rational boundaries and integrated organizational systems that can cope with cumulative environmental impacts. Sustainability as a practical concept cannot function in the fragmented environment of multi-agency, site-specific land management systems based on out-dated political boundaries and Pinchot-era forestry.

Perhaps the feasibility of this expansive greenline vision all boils down to the question of whether or not our present resource agencies, and their "omnipotent foresters" and similar chauvinistic professions, are capable of the collaboration that this cooperative model will require. Early hopes for such collaborative efforts in the establishment of the Taylor Grazing Districts and Soil Conservation Districts were dashed on the rocks of local control and the arrogance of natural resource professionals. Given that I am one of the chosen few that have trained these folks for the last several decades, I had better not pursue this issue much further, other than to say that I believe we can adapt to new cooperative, system-sensitive modes of administration with some thoughtful changes in professional education and agency missions.<sup>75</sup>

Life in the Green Reserve will not be easy. But drawing the landscape lines, shaping shared ownerships, defining sustainability and discount rates, land banking large tracts, strengthening environmental regulations, and implementing Maggie Shannon's populist notions will make it exciting. I can't wait to show it all to Oleg Popov some day and compare notes on what the new redline areas are like in the independent Republic of Buryatia.

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<sup>75</sup>Carl Reidel, *If Forestry is the Answer, What's the Question?* William P. Thompson Memorial Lecture Series, XV, School of Forestry, Northern Arizona University, 1991.

## QUESTIONS AND DISCUSSION: SESSION III, VISION I<sup>76</sup>

**Question:** Under this paradigm, what do the environmentalists get and what do those industries who now rely on the public lands for commodities get that they don't get under the present system?

**Answer:** I guess they get the chance to argue from reason, new ideas, and enthusiasm instead of tired old boundaries, entrenched bureaucracies. It is a free fire zone. What is there is the opportunity to be cooperative. I guess when the question was raised this morning of can we as a Nation actually function on a cooperative basis if we have a sort of trained incapacity to do that, our organization is the ones that will argue that we can. Next week we'll have more people throwing rocks at us I guess.

I've watched the Park authorities in England function and it is a foreign system to us in many ways. It is a broadly based panel that has to make very specific decisions. I argue that what you get is a chance to argue over real things and not theoretically. Will Mrs. McGillicuty get so much for the stone fence or not? I once described American environmentalists and business people as people who lay awake at night trying to think if what really happened today is theoretically possible.

I guess it will mean you will have to sit down with your neighbor and argue over the stone wall -- the stone wall keeps the sheep out, but it is also where the hedgehogs live. So that there is also an environmental benefit. That's how it gets down to that detail. Maybe it is magic, but we share the responsibility on either side of the fence, even though one side may be the Duke of Northumberland's and the other side may be Mrs. McGillicuty's.

**Question:** Carl, I've done some research in three areas in the U.S. which were greenlined; I won't identify them at the moment. One of the problems that I have observed in watching the conflicts that emerged in two of them were huge cultural differences between the Federal management agency that had primary responsibility for implementing national legislation and the culture of local communities with a home rule kind of an ethic. So, one of the things that my research suggests is that we really do need to dismantle the current social arrangements because if you try to take the current arrangements and simply push them together, you have structural barriers that just aren't going to work.

**Answer:** Absolutely. Those are not greenlines by my definition, and that's why my paper is important to read. You cannot have a Federal presence that dominates. The Adirondack Park is your best example, and I think there are enough people from there to testify that it is the model of "here's the way we're

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<sup>76</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. All questions were directed to and answered by the author of the paper.



going to do it folks, now would you like to talk about it". It is not a greenline in a sense that I'm describing.

Somebody else's paper to be presented here compares the political versus the participatory approach. Well, you can't impose this model on your old ideas. If we're going to create a greenline experimental area, whether it is in northern New England or on a particular National Forest, there must be an authority there that makes the decision, sure, within some broad legislative context, but you can't have the Forest Service, the Park Service, BLM as participants in this. They go, just like Oleg Popov is going to go. That's why I think the Siberian story is so appropriate if you want to try something different.

**Question:** These are some very intriguing ideas here, Carl. Maybe there is a dichotomy between the private land part of the world that you live in and the public land and the multiple use act in the west where I'm from and some of the rest of us are, too. So I want to quarrel with you a little bit. If I'm talking about the public lands in the west and how they're managed, which is what we talked about this morning, if I wanted to log the forest or I wanted to mine minerals or drill for oil or have grazing, I would want local decisions made by local people and I would want it done by basically resource professionals. That's been the whole paradigm for a long time and that's the whole reason why environmentalists have sought to nationalize the issues because we felt we were getting no redress for the ecological concerns we saw on the land for that reason. So there we are.

That gets to the question of control. You said a land management authority. If we have greenlines and really, truly constituted land management authorities on the British model, or whatever model it was, who would make the decisions and how would folks who live let's say in Boston have something to say about the north woods in Maine, for example? This is an emerging issue and I'd be interested in your thoughts on that. How are all the people going to be represented?

**Answer:** You raise some crucial questions. I should point out I've spent much time in the west, I was a District Ranger at Lake Tahoe and helped set up the Lake Tahoe Area Commission, so I appreciate what you're saying. You have got to nationalize it before you can localize it in the English model. They made a commitment to nationwide town and country planning which was a step-down system finally ending up at the local area. The magic of it was -- and I wish my wife were here because she lived through it -- as the national planning context was established, it was dismantled to a regional level, and that was basically dismantled down to the county and regional level within the context of the national and regional commitments and decisions that were being made.

Kind of like national forest planning. But by the time it got to the Ranger District, you could get rid of the Washington office. That kind of notion instead of second-guessing it with budget and decisions of appeals.

So you have got to trust the national consensus. In this country, it may have to be regional; maybe we can't come to a national consensus. But this

model presupposes a commitment to national planning that allows the nation to make broad decisions about social goals. How do you get people to do that? You protect private property in that notion through the greenline. You say we're not going to take away property rights by zoning and regulation; we're going to do it by land banking if necessary, we'll buy your rights.

Finally, when it gets down to the National Park scale, there is a National Park Authority and that is made up of a mixture of local governance and private parties. That's where the final decisions are made about hedgehogs versus sheep versus fences.

**Question:** I'm intrigued by your land banking concept. Did you give any thought in your exploration of that idea to the interrelationship of land banks with other land banks and the possibility of Federal lands working under the concept of like the Federal Reserve and actually allowing free market forces to exchange environmental values? Did you give any thought to that?

**Answer:** I use that phrase in the paper. This will become the new Federal Reserve. If I hear what you are saying, the land bank might well acquire Federal national forest lands, put strict controls over the type of development, and lease them or sell them to private property. Yes, that's part of the structure. It means you will divest some lands.

Look at the New Zealand model because they did do that with the idea that they created new private-public quasi corporations to do the timber management. I am nervous about this but was hired to talk about it. I just wanted to get you wound up.

**Question:** I am interested in the paradigm and what sort of assumptions or elements are necessary in public education to make this workable? I am always concerned about "educating the public" because it implies that we're imposing a view. But what sort of public information regarding the valuation, et cetera, needs to be incorporated?

**Answer:** You've hit on what I think is the most important element that makes the transferability of the English model to the United States problematic. I would argue that, except for parts of New England, the United States has lost the ability of local people to cooperate in a town meeting system. I think that has happened because we've allowed the local fabric of leadership to erode in many places. Institutions like the Grange, the church, the Boy Scouts -- go down the list -- taught people how to participate cooperatively and we lost that somehow. The legislature is not a good analogy to that.

In fact, I have just received a multimillion grant from the Kellogg Foundation which we described as trying to reweave the local fabric of leadership. We're going to pass through all the dollars right to local communities to try to revive some institutions or create new ones to teach people, for example, how to value land. In England, school kids go out from the third grade on and they map the town every single year, every single field, every single ditch. They have to record what is growing on it and then they have to

go look up how much it is a bushel, how much the EEC is subsidizing it. They know more about the town context by the time they're out of grammar school than most of you do, certainly more than I did as a District Ranger because they transferred me every time I figured that out.

**PRICES, PROPERTY RIGHTS, AND PROFITS:  
MARKET APPROACHES TO FEDERAL LAND MANAGEMENT<sup>77</sup>**

**INTRODUCTION**

In the early years of the republic, the United States Government pursued a policy of disposal of the public domain into private ownership. Not only did this policy generate revenues which eventually helped retire the federal debt in the 1830s, it promoted a nation of Jeffersonian farmers and a legacy of private property consistent with the principles of the Constitution.<sup>78</sup>

By the last quarter of the nineteenth century, however, the policy changed from one of disposal to one of retention. Allegation of "rape and ruin" of vast forest areas led reformers like Gifford Pinchot to argue that an elite corps of professional foresters could manage the forest lands more efficiently than private owners.<sup>79</sup>

Today the arguments for federal ownership and management of more than one-third of the nation's land have come a long way from the elite corps of professionals envisioned by Pinchot. Instead of concerns that the nation will run out of timber, today's justification for governmental control centers more on the pervasiveness of externalities and free-rider problems. Public control of land is supposed to internalize all costs, private and social, so that third-party effects will be minimized. Where individuals cannot be excluded from enjoying the amenities and hence can enjoy a free ride, public land management is supposed to raise the level of amenity production toward the optimum.

After more than a century experiment with land management in the political sector,<sup>80</sup> it is appropriate to consider whether the political management is more efficient than private management and whether market failure is as pervasive as alleged. This paper argues that politics is the art of diffusing costs and concentrating the benefits, precisely the economic definition of an externality. Therefore if externalities result in too much pollution from a laissez faire economy, the externalities (more popularly known as subsidies) of politics result in excessive demands for everything from timber production to

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<sup>77</sup>Prepared by Terry L. Anderson, Professor of Economics, Montana State University and Senior Associate, Political Economy Research Center.

<sup>78</sup>For a more complete discussion of the disposal era see Anderson, 1987.

<sup>79</sup>For a more complete discussion of the alleged problems in the nineteenth century see Anderson and Leal, 1991, Chapter 3.

<sup>80</sup>Note that I use the terms "political sector" and "political land" because management is ultimately governed by politics. The terms "public sector" and "public land" conjure up visions of friendly town meetings where the citizens come to a consensus on how land should be used. Nothing could be farther from reality in the modern world of federal land management.

wilderness. It is also argued that the free-rider problem is over stated for most goods produced on public lands because the cost of excluding non-payers from national parks and hiking trails, for example, is not prohibitive. Moreover, to promote political land management on the grounds that nonuse values are real and significant may exaggerate the magnitude of the problem and ignore the potential for entrepreneurs who devise ways of charging these free riders.

This paper proceeds by stipulating that the real problem for multiple-use management is one of information. Multiple-use management in a political setting requires that experts have sufficient knowledge of resource endowments and human values so that "the special knowledge of the few [i.e. an elite professionals]" can be "used to guide the actions of the many" (Sowell, 46). In contrast this analysis follows the work of Nobel Laureate Frederick Hayek by assuming that knowledge cannot be "given to a single mind" (Hayek, 519) or even to the collective "mind" of a federal agency which can then solve optimization (multiple-use) problems on an aggregate level. Rather the problem that both private and political allocative institutions must confront is how to best use resources when the values in different uses are necessarily subjective values held by diffuse and diverse individuals. In this conception of knowledge, the only possible system for achieving an efficient multiple-use plan is one that depends on "prices, property rights, and profits." The argument proceeds (section II) by questioning whether market failure requires political control of land or whether we simply have a failure to use markets. In this setting the problem is not merely one of getting the right prices but one of getting prices at all (section III). Section IV argues that in order for prices to truly reflect values in alternative uses, a system of tradeable property rights is necessary. Without such property rights, rent seeking, a negative-sum game, is substituted for profit seeking, a positive-sum game (section V). The conclusion discusses how we might get from here to there.

## MARKET FAILURE OR FAILURE TO USE MARKETS

The main positive arguments for political control of land center around alleged market failures. Such failures result if (1) private landowners impose costs on third-parties without their consent, i.e. generate externalities; (2) non-payers who enjoy benefits from land use cannot be excluded, i.e. the free-rider problem exists<sup>81</sup>; and (3) private decision makers are short sighted, discounting the future "too" highly. Consider each in turn.

Economists have been quick to assert that "Whenever there are externalities, a strong case can be made for supplanting complete individualism by some kind of group action. . . . The reader can think of countless . . . externalities where economics would suggest some limitations on individual

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<sup>81</sup>Upon close examination, externality and free-rider problems are no different. To impose a cost on another without his consent as in the case of pollution is the equivalent of obtaining a free ride on another's resource. Of course, if property rights were clearly defined and enforced, both problems would disappear.

freedom in the interest of all (Samuelson, 1980, 450). In the case of air, such an assertion may not be far off, but we should use caution not to create and perpetuate a fable of externalities when it comes to land.<sup>82</sup> If land is privately owned most actions regarding land use remain internal to the landowner. Mining soil nutrients and clear cutting forests have private costs that manifest themselves in lower land values. Externalities may result if eroded soil is blown onto neighboring property or deposited in streams, but even in these cases we must ask how pervasive is the externality. If rights to fishing are privately owned, much of the water externality disappears because the damaged party can internalize the costs. In England where fishing rights are privately owned, for example, the Anglers' Cooperative Association has handled more than fifteen hundred cases of pollution and recovered damages or obtained injunctions from thermal pollution caused by electrical generation, sewage discharged by municipalities, and siltation created by poor farming practices (Anderson and Leal, 1991, 148). Clear cutting may create negative externalities in the form of "visual pollution," but the same clear cutting creates positive externalities in the form of lower forest fire suppression costs. Hence land externalities go in both directions making it impossible to assert *a priori* that markets produce too much or too little clear cutting. Moreover, even if soil erosion or visual blights generate externalities, the remedy is not necessarily political ownership; regulation of some aspects of land use would be a far less draconian solution.

A second market failure argument is that the free-rider problem exists if, in providing an output from land, a private owner cannot exclude non-paying consumers who enjoy the benefits from that output. Under this circumstance, the private owner will not have an incentive to provide enough of the good. Again the advantages of fire suppression associated with logging provide one example. Another example often used by environmentalists is what are called existence values associated with wilderness land. If individuals get satisfaction (utility) from simply knowing that wilderness exists without ever visiting the wilderness, it will be impossible to exclude non-payers from getting this satisfaction. Revenues collected by the private owner would understate the true value of wilderness and too little would be set aside.

The free-rider argument with respect to federal lands ignores two important points. First, excluding non-payers is not as cost-prohibitive as alleged. Recreationists could be charged for hiking, fishing, hunting, and other activities by requiring some visible pass or by establishing toll booths at popular access points. Of course, collection of tolls would not be without costs and some individuals would undoubtedly find ways to avoid paying, but surely it would be possible to eliminate most of the free-rider problem with respect to direct "consumptive" uses.<sup>83</sup>

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<sup>82</sup>For discussions of how economists' assertions about market failure do not hold up in the classic cases of positive externalities created by bees pollinating apples and of public goods generated by lighthouses see Cheung and Coase, respectively.

<sup>83</sup>As will be seen below, private companies are beginning to profitably produce many recreational amenities by charging users.

Second, the standard free-rider argument ignores the role of the entrepreneur who can find a way of getting the non-payers to ante up, thus profiting from provision of the good. Thought of in another way, free riders offer a market in which entrepreneurs can capitalize if they can devise a way to make the free riders pay. The potential for this in the environment is illustrated by the fact that the top twelve environmental groups collect nearly \$500 million per year from would-be free riders. While a majority of these contributions is used to express environmental demands in the political arena, groups such as The Nature Conservancy use funds to directly influence resource allocation through the purchase of land and conservation easements. This is not to say that the free-rider problem is being completely overcome through environmental entrepreneurship, but only to suggest that it may not be as significant as hypothesized.<sup>84</sup>

The third market failure argument centers around the short-sightedness of profit maximizing owners who care only about near-term profits and thus discount future values too highly. Accordingly, land stewardship by private owners allegedly falls short of maximizing long-term social values. As an example, proponents of this argument put forth the nineteenth-century "rape and ruin" of native mid-western timber stands.<sup>85</sup>

If private owners care only about immediate profits, this argument might be correct; but *wealth* maximization (as opposed to simple profit maximization) requires tradeoffs between present and future profits. Hence future values are not ignored in private decisions, though they will be discounted. This is not to say that private owners will have perfect information about the future; certainly they, as well as bureaucrats, must make their decisions under uncertainty. The issue is whether private owners have an incentive to consider future wealth in current decisions.

Examples of wealth maximizing decisions looking forward to the future abound in the private sector. Timber companies plant trees with 30 to 50 year rotation rates, incurring costs for fire protection, disease prevention, and silviculture in the mean time. If a company can offset the short-term costs with other revenue sources during the growing period, the long-term value of the resource will be enhanced. International Paper, has done this by marketing recreational and environmental amenities while trees are reaching maturity (Killian). Even in the late nineteenth century when companies were liquidating

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<sup>84</sup>Reviews of an early draft of this manuscript noted that "the free-rider problem is undoubtedly real because it results from nonuse values which are *very real*, although some have discovered a way of overcoming a *small* portion of it at the margin" and that the revenues of environmental groups represent only "a *mere fraction*" of existence values (emphasis added). However, since such values are unobservable, it is impossible to know how "real" they are or whether only a "small" or "mere" portion of the problem has been overcome. Given the \$500 million per year, however, we can say that the ride is cheap rather than free.

<sup>85</sup>For counter evidence see Anderson and Leal, 1991, Chapter 4.

a timber stock that was beyond maturity, some individuals were considering amenity values. Ravenna Park in Seattle, Washington was established privately by Mr. and Mrs. W. W. Beck in 1887. They bought several parcels of land with giant fir trees reaching 400 feet in height and 20 feet in diameter. The Becks built a pavilion for concerts and nature lectures and added paths, benches, and totem poles. Ravenna Park soon became immensely popular. Visitors paid 25 cents a day or \$5 a year (\$3 and \$60 in 1990 dollars) to enter the park. Even with the fees, 8,000 to 10,000 people visited the park on a busy day. It was farsighted, wealth maximization on the part of the Becks that initially preserved the beautiful trees. As we shall see below, however, political management of the park was not so farsighted.<sup>86</sup>

Against each of these are counter arguments that political provision does little to improve resource allocation. If externalities and free-rides results in too little private provision of amenity values, "free lunches" in the political sector result in too much. Politics is the art of *concentrating benefits* on well identified special interest groups and *diffusing costs* over the silent majority. Environmentalists are quick to point out that this process generates too much timber harvesting or too much mining on political lands. But by the same reasoning, zero pricing of wilderness amenities surely generates excessive demand. In contrast to the free rider problem where too little is provided, the "free lunch problem" results in too much provided, and economic theory cannot allow us to chose, *a priori*, one over the other.

Turning to the short-sightedness problem, economic theory would predict that the problem would be worse in the political arena where politicians are elected every two to six years. This immediately truncates the potential for politicians to capitalize on future returns since they depend on current voters for reelection. The problem is stated well by hydrologist Luna Leopold: "The average politician has a time horizon of around four year. The agencies are tuned into Congress, so theirs is about the same" (quoted in Reisner, 493). While private owners can capitalize on increases in future asset values (wealth maximization), there is no counter-part for political decision makers. Providing future value in the political sector will do little for the vote maximizing politician given that future generations cannot vote in current elections. Only if current voters are altruistic toward future generations, is there an incentive for politicians to tradeoff present for future consumption.

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<sup>86</sup>For a more complete discussion of the Ravenna Park example, see Anderson and Shaw. My current research also indicates that it was the railroads who lobbied for the establishment of Yellowstone National Park in the 1870s because they were in a position to capitalize on the tourist traffic. As one railroad employee put it, "We do not want to see the Falls of the Yellowstone driving the looms of a cotton factory, or the great geysers boiling pork for some gigantic packing-house, but in all the native majesty and grandeur in which they appear to-day, without, as yet, a single trace of that adornment which is desecration, that improvement which is equivalent to ruin, or that utilization which means utter destruction" (quoted in Runte, 23).



Returning to the story of Ravenna Park, we find that political management led to the destruction of the values that the Becks tried to preserve privately. As Seattle grew and the conservationist sentiment developed, residents began to lobby for acquiring more public parklands, including Ravenna. In 1911, the city bought Ravenna Park from the Becks for \$135,663 following condemnation proceedings. Shortly after the city's acquisition, according to newspaper accounts, the giant firs began disappearing. The Seattle Federation of Women's Clubs confronted Park Superintendent J. W. Thompson with reports of tree cutting. He acknowledged that the large "Roosevelt Tree" (so named after Teddy Roosevelt visited the private park) had been cut down because it has posed a "threat to public safety." It had been cut into cordwood and sold, Thompson conceded, but only to facilitate its removal and to defray costs. The federation asked a University of Washington forestry professor to investigate. When the women brought the professor's finding that a number of trees had been cut to the attention of the Park Board, the board expressed regret and promised that the cutting would stop. By 1925, however, all the giant fir trees in Ravenna had disappeared. Park Department records charge Superintendent Thompson with abuse of public funds, equipment, and personnel, plus the unauthorized sale of park property. It was under political management that the trees were cut for firewood and sold for short-term profits.

The Ravenna problem can be thought of as a principal-agent problem wherein the park superintendent, the agent, was able to take actions not desired by the voters, the principals. Of course this does not mean that all political officials are bad people willing to take advantage of their position or that private ownership is without agency problems. Certainly, examples can be found where political officials act "for the good of society" and where private managers reduced the long-term value of a company in order to enhance their personal profits. The point here is to emphasize that when future values cannot be captured by decision makers and when agents cannot be easily monitored, short-sighted decisions are more likely. Private ownership allows future values to be captured in current prices and these prices provide some measure of whether agents are doing their job. Neither of these exist in the political sector where what counts is votes for politicians and budgets for bureaucrats. Alston Chase's account of *Playing God in Yellowstone* suggests that this problem has not disappeared in modern times. Unless present generations and their political representatives are altruistic toward future generations, political allocation has a built in bias toward the short term.<sup>87</sup>

These arguments raise some fundamental questions about whether market failure is an adequate justification for political provision and whether political processes simply fail to use markets. Using markets takes control away from

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<sup>87</sup>In comparing maintenance of privately and publicly owned buses, a NCPA Task Force Report provides additional evidence for this hypothesis. The task force found that privately owned buses had higher resale values because they were better maintained. Private owners could capture the value of long-term investments by selling the better maintained vehicles. The inference from this evidence is that long-term investments by private land owners can also be captured in ways that are not available to the politician.

politicians and bureaucrats, reduces budgets, and provides a direct measure of efficiency in the form of profits. None of these helps the politician who brings home the pork. Hence we should not be surprised to find little political support for "prices, property rights, and profits." Land management may be an effective tool for redistributing wealth, but this is a very different argument than market failure as a justification for federal retention and management of land. Rather than being a tool to correct market failure, federal land policy is really a failure to use markets.

## GETTING THE PRICES RIGHT OR GETTING THE RIGHT PRICES

Much of the current rhetoric regarding market incentives for the environment involves using government to get the prices right. In the case of pollution, for example, tradeable permits can provide market incentives to reduce pollution (see Wirth and Heinz). While it is easy to accept that pollution prices are more effective than command and control at reducing pollution, it is not so easy to know what the price should be. The notion that government can set a price for pollution thus generating the optimal level of pollution stems from what can be called "bliss point economics." This approach argues that there is an optimal amount of pollution where the incremental benefit from more pollution is just equal to the incremental cost that pollution imposes on individuals. If we know what this optimal amount is, getting it is a trivial problem with either command and control or prices. But getting to the bliss point assumes that we know what the benefits and costs are which beg the knowledge question raised at the outset.

The problem is further illustrated in the case of grazing on political lands. What is the right price to charge? Environmentalists argue that it is more than the current price because federal grazing prices are below prices on "comparable" private land. Grazers, on the other hand, argue that private land is not comparable because it usually is fenced, has water, and is closer to home ranches. If the problem were simply one of setting the right price, federal grazing policy might work well. Unfortunately, in the absence of a market for grazing permits, we cannot know what the right price is because of the time and place specific nature of resource values. This is especially true when we recognize that amenity production may provide a higher valued use for grazing land. "Right prices" result from market transactions where willing buyers and willing sellers reveal their subject, time and place specific values.

The difference between a price set by government fiat and a price determined through a market exchange is that with the latter, individuals must compare the subjective value of what they are giving up to the value of what they are getting. As property rights are exchanged in the market process, individuals involved are trading off one set of circumstances for another. The exchange occurs if, and only if, the value being obtained is greater than the value being given up. The *property rights* being exchanged are a bundle of sticks that dictate what rights the individual holds vis-a-vis a physical asset, in this case land. The *willingness* of buyers and sellers to trade implies that they have a choice; if the terms of trade are not what they want, they can reject the

exchange. Thought of in this way, prices are neither right or wrong; they are simply a reflection of the subjective values (which all values are) that the traders place on their property rights. In the absence of the exchange of property rights, there is no way of knowing whether resources are being moved to higher and better uses.

Consider the example of The Nature Conservancy (TNC) deciding whether to trade one piece of property for another. In Wisconsin TNC wanted to preserve an entire watershed because of its potential as endangered species habitat.<sup>88</sup> It had obtained all but one parcel in the watershed and was having little success negotiating for the last piece when it was donated a pristine beach on St. Croix in the Virgin Islands. After an inventory of the St. Croix property, TNC offered an exchange with the Wisconsin farmer who owned the last piece in the watershed. Anyone seeing pictures of the two parcels would think that TNC was crazy to make the exchange, but the subjective values revealed by the two parties suggest that both were better off. While outsiders might consider the price received by TNC to be too low, TNC had to carefully weight the alternative values. Only through the process of exchanging property rights, i.e., through the market process, is there a weighing of subjective values that translates into a "right price." Attempting to establish this price through government fiat is impossible given the time and place, subjective nature of values.

Meaningful multiple-use management in the political process is impossible because of the lack of prices. Indeed to the extent that multiple-use management means efficiently allocating resources among a variety of uses in the absence of markets, the exercise becomes "economics without prices." That is to say, multiple-use management is an effort to make the tradeoffs made by willing buyers and sellers but without price information as a guide. Under such circumstances not only will perverse political incentives (discussed in section II) hinder efficient management, the lack of realistic price information will make multiple use as an efficiency enhancing tool a charade.

## POLITICAL RIGHTS OR PROPERTY RIGHTS

In order for prices to reflect subjective values through the process of exchange, property rights must be secure and transferable. Security is important because it gives the owner the incentive to consider both present and future values. In the absence of transferability, however, the owner will only have an incentive to consider his personal values. If the property rights can be sold to other users, the owner is forced to consider their values because refusal of offers to purchase the asset becomes a cost to the owner.

The importance of security and transferability can be understood in the context of grazing rights. If the holder of a grazing permit expects that she will

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<sup>88</sup>Of course, if TNC could establish a property right to a specific endangered species much like an inventor holds a patent, it would not have to control all the land. Any action by an adjacent landowner that would adversely affect the claimed species would be cause for damages.

hold the permit in perpetuity, overgrazing the land will have a direct future cost to the user. However, if she expects to lose the permit in the near future, longer-term grazing values will be ignored. Similarly, if the permit is transferable, the owner will have to consider what value other potential users place on the permit. Currently some permits are transferable to other grazers with the sale of base units. Since the value of permits is capitalized into the value of the base unit land values, these values cannot be ignored by the land owner.

But suppose that an environmental group was willing to pay more to simply retire the permit and preserve the habitat for a wild species or eliminate potential conflicts between livestock and predators. Because the permits are not transferable to non-grazers, this environmental value will be ignored by the grazer; it simply is not an opportunity cost if it cannot be sold.

Similarly, prior appropriation water rights have been subject to the "use it or lose it" principle. As long as the owner is diverting water, title is secure and has value. Moreover, since water rights can be transferred to other diverters, owners must consider their values vis-a-vis others. Again, however, diversion rights generally cannot be converted to an environmental use such as instream flow preservation because private use of water for instream flows is not considered a beneficial use. Even if an environmental group were willing to pay to retire the existing diversion, most states do not allow the transfer. As with grazing permits, the lack of transferability means that the owner will ignore other values.

Unfortunately, political rights often are neither secure nor transferable. Cries of "no moo in 92" or "cattle free in 93" make the future of grazing permits uncertain. To the extent that national forest managers depend on timber harvest to increase their budgets, threats to reduce future allowable cut are threats to security in the political sector. If political land managers are interested in promoting oil or mineral development and there is a prospect that the land will be designated wilderness in the future, the incentive is no different than it would be for the private owner; explore and develop now while there is some security of tenure. Finally, if endangered species are discovered on private or political land, the security of property rights is immediately called into question. Recent cases of dead spotted owls hanging from road signs in the Pacific Northwest illustrate the consequences.

Without the possibility of transferring rights to other users and "profiting" from such a transfer, it is difficult to see how multiple-use management can encourage efficiency enhancing reallocation. Neither the national forest manager nor the grazing permit holder has much ability to gain from transferring the grazing claim to a higher valued use. Prior to recent legislation in Montana allowing the Department of Fish, Wildlife, and Parks to lease water for instream flows, there was no mechanism to transfer secure water rights to what may be a higher valued use.<sup>89</sup> Simply easing restrictions on transferability of existing political rights could take political management a long way toward more

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<sup>89</sup>For a more complete discussion of the potential for instream flow rights, see Anderson and Leal (1988 and 1989).

efficient and more environmentally sound resource use. If the rights to use federal lands for grazing, timber production, mineral development, recreation, and environmental amenities were made secure and transferable, federal agencies and existing permittees would have an incentive to consider alternative values through cooperation in a market process rather than through the acrimony of politics.

## RENT SEEKING OR PROFIT SEEKING

New Zealanders describe politics as a "lolly scramble," a term that derives from a childrens' game wherein candy is thrown on the floor and the children scramble to get what they can. The rights to derive value from the federal lands are the political "lollies" strewn on the floor of Congress and scrambled for by the special interest groups, development and environmental alike.

Economists refer to this lolly scramble as *rent seeking* meaning that the economic rent associated with federally controlled lands is up for grabs. Suppose for example that the rights to develop oil on federal lands are worth \$10 million and that Congress will make the decision regarding development. For simplicity, further suppose that environmental groups oppose the development because they feel the area has important amenity values worth \$10 million. Both groups have an incentive to expend up to the expected value \$10 million in convincing Congress that the decision should go their way. At some point a decision will be made and the resource will be allocated to one purpose or another. Since one party's loss is the other's gain, the process would appear to be zero sum. But when the money and time expended in the process is added to the balance sheet, the rent-seeking game becomes negative sum.

This example aptly describes the scramble for the resources of the Arctic National Wildlife Refuge. Oil companies which think that the region contains valuable petroleum reserves have spent enormous resources trying to convince Congress and the general public that it is in the "national interest" to allow exploration. Environmentalists have done the same on the other side of the issue. While it is easy to condemn the oil companies on the grounds that they are motivated by greed for profits, the bottom line of self interest is the same for both. Important values will be allocated in the political lolly scramble and valuable resources will be expended by both sides trying to affect the decision.

Contrast this with the examples of oil exploration on wildlife preserves owned by the Audubon Society. On both the Rainey Wildlife Sanctuary in Louisiana and the Big Marsh Sanctuary in Michigan, the Audubon Society was approached by oil and gas companies desiring to explore under Audubon lands. In both cases the Society was reluctant, but it had to consider the cost of foregone royalties if development did not occur. Eventually agreements were struck and oil and gas wells were developed within the sanctuaries. In both cases the Audubon Society succumbed to profit seeking but on Audubon terms meaning they required special drilling and production techniques. In conversation with Audubon's David Reed, manager of Big Marsh, writer John Mitchell (16-17) captured how thinking changed:

We talked into the evening, Reed and I. He said he had come a far piece from Earth Day. I said, so had I. Once in an unguarded moment, he allowed as how he liked the idea of cooperating with industry in a situation where it was likely there would be no adverse impact on the biotic community. And I said that maybe if that kind of situation wasn't on the scarcer side of rare--well, then probably we would find more preservationists behaving like pragmatists. Or at least beginning to think that way.

It was secure and transferable rights coupled with profit seeking by both sides to the transaction that can make this situation a little less rare.

Unfortunately, with energy resources controlled by politics, examples of such harmony are difficult to find. Environmental groups use confrontational tactics to stop development on federal lands rather than "cooperating with industry." Energy developers inflate the potential for energy discoveries and exaggerate the potential for crisis if America becomes dependent on foreign oil. The rhetoric runs high as both sides battle for the spoils of political allocation.

The problem for political resource managers is that it is difficult to know what values are being traded off in the absence of markets. Basically, the federal lands (on or offshore) produce two categories of goods: (1) commodities, such as timber, forage, oil, gas, coal, minerals, and commercial fish, and (2) amenities, such as wilderness, free-flowing rivers, endangered species habitat, and marine sanctuaries. For the onshore estate the Federal Land Policy and Management Act and the National Forest Management Act require that land other than official wilderness be managed for multiple use. Maximization of multiple-use values necessitates equating the additional value from one use to another. The implementation of this "equi-marginal" principle, however, requires that decision makers have information on the value of alternative uses. For the Audubon Society and oil companies making this decision on privately owned lands, each entity must make value judgements in the face of uncertainty and decide whether it is willing to accept the terms of trade offered by the other. In the absence of market transactions, however, such value information is very difficult to obtain. Hence, federal statutes requiring multiple-use management and regulation can only be implemented through a costly rent-seeking process.

Obtaining better information about competing values requires policies that focus on market mechanisms involving secure and transferable property rights. Short of privatizing federal lands, we could move in the direction of market mechanisms by making existing permits transferable and by allowing all uses to compete in bidding for property rights. If environmental groups could use some of their financial resources to bid against timber companies for spotted owl habitat or purchase oil drilling rights in the Arctic National Wildlife Refuge, both sides would have more incentive to cooperate in positive-sum games.

## GETTING FROM HERE TO THERE

In the early 1980s there was hope in some quarters that the Government would privatize some of the federal estate thus moving us from a regime of political rights to one of property rights. In the final analysis, however, few policy makers including Reagan's Secretary of Interior, Jim Watt, favored this approach. Instead, the political estate at all level of government has continued to grow.

While an argument can be made that privatization is the only strategy that will work (see Anderson and Leal, 1991), there are some measures short of full privatization that can mimic prices, property rights, and profits. When the New Zealand Government decided to liberalize its approach to asset management, it began by "corporatizing" many governmental functions (see Fischman and Nagle). Corporatization meant that quasi-governmental companies were charged with making a profit from the assets under their control. For example, Electricity Corporation (now fully privatized) was given the electrical generating and transmission facilities, Forest Corp was given the commodity producing forests, and Land Corp was given governmental lands mostly in agricultural and urban areas.

We can imagine how this might work in the case of the national forests. Ranked by the value of assets under its jurisdiction, the U.S. Forest Service would be one of the largest companies in the United States. Yet the Forest Service continually runs a deficit costing the taxpayers millions of dollars. For example, the national forests surrounding Yellowstone National Park had losses from their timber programs ranging from \$241,000 to \$2.2 million per year from 1979 through 1984. According to Forest Service budgets, all seven national forest had losses in the fiscal year 1988 totalling \$7.15 million.<sup>90</sup> While one can argue that the free-rider problem makes it difficult to charge for some services on Forest Service lands, most would acknowledge that current policies are redistributing wealth to timber companies, backpackers, hunters, and all other who get a below-cost ride at the expense of the general treasury.

If the U.S. Forest Service was forced to market its assets and generate operating revenues from its assets, political managers would be forced to consider the true opportunity cost of their decisions. The story of below-cost timber sales is familiar to nearly everyone and is assumed to be the biggest money loser for the agency (see O'Toole). Moreover, it is easy to point the finger at large companies that cut and process the timber and conclude that they can afford to pay more. However, it does not necessarily follow that the companies bidding on timber sales are earning above-normal profits.<sup>91</sup> Similarly for minerals under the federal estate it is common to assume that simply because royalties are not paid that the companies are being "subsidized." But again, once

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<sup>90</sup>For further discussion of "subsidized destruction of the environment" see Anderson and Leal, 1991, Chapter 5.

<sup>91</sup>For an excellent discussion of the below-cost timber sale issue see Beuter, 1990.

costs of exploration including the likelihood that companies are willing to invest in premature exploration to establish their claims (Anderson and Hill, 1990) are taken into account, there may be no subsidies or above-normal profits.

Though timber and mineral development are assumed to be the big recipients of subsidies from federal lands, it is below-cost recreation that often costs taxpayers the most. For example, on the Gallatin National Forest, alone, recreational expenditures surpassed receipts in fiscal year 1988 by nearly \$2 million, approximately twice the deficit from timber production. If the value of recreation and amenities are as high as it is often argued, the total subsidies may even be greater than the deficits suggest because backpackers, campers, hunters, and wilderness users are capturing the surplus value over and above the fees they pay.

Requiring that revenues be generated from the commodities and services produced from Forest Service assets would establish an incentive for the agency to use prices and to consider opportunity costs since its budgets would depend on profits. The drain on the federal treasury could be reduced as various users would compete for the attention of the Forest Service on the basis of their willingness to pay.

This approach immediately raises two questions, especially for demanders of recreational and environmental amenities. First, what assurance is there that recreational and environmental interests will be able to compete with commodity interests. To this there are four responses.

- Users of federal lands already compete through rent seeking which is costly. Environmental organizations are not poor, but much of their income is spent on lobbying (see Stroup). In this rent-seeking game, there is no assurance that recreational and environmental demands will win.
- In the context of multiple-use management, it is not necessary for one use to out bid others on all margins. There certainly will be some lands, such as those in the Pacific Northwest, where timber production will out compete recreational and environmental demands. On lands with unique scenic qualities, low timber potential, or close proximity to population centers, however, timber could be easily out bid.
- Given the large number of people who demand recreational and environmental amenities from federal lands even small fees can generate substantial revenues. Randal O'Toole (191) estimated that "Most forests could produce fees averaging \$3 per visitor day. . . . At this rate, recreation would be the main source of national forest income throughout the Rocky Mountain and Intermountain regions. . . . At \$3 per visitor day, total income for recreation will exceed \$900 million in 1990."



- The free-rider problem aside, if one demand cannot out compete the other in a market process, the message is that one use is not worth as much as the other. Killing the messenger by not using prices and competition among uses to determine multiple-use management simply results in inefficient allocation of federal lands.

Putting the free-rider problem back into the equation raises a second objection; how will public goods be accounted for in a competitive process. To the extent that this is a problem, an "environmental tax" could be placed on forest service profits. The rationale for this tax is that some amenity values (not recreation) like preservation of endangered species habitat may be subject to the free-rider problem. The proceeds from the tax could be used to finance an organization patterned after the National Science Foundation. Environmental groups could apply for grants to compete for rights to National Forest assets. For example, if saving spotted owl habitat is a high priority for environmentalists, they could seek funding to bid on old growth timber in the Pacific Northwest.

Such a funding system would help in several ways. First, it would substitute profit seeking for rent seeking. Second, price competition among users would generate important information about the relative values of National Forest assets. Third, environmental groups and the NSF type agency allocating the grants would have to prioritize the demands for amenities. If preservation of spotted owl habitat were more valuable than wilderness in Montana, this tradeoff would have to be faced. There would be no free lunch.

The above proposal is not meant to be complete or politically feasible but rather to suggest how prices, profits, and property rights might be brought to bear on the existing structure. Even though complete privatization would be preferable in many ways, this proposal illustrates that it is possible to improve the incentives for multiple-use management without transferring land out of the federal estate.

Getting from here to any system that uses prices, however, will not be easy, but pressures for change are coming simply because of fiscal constraints. This has happened with water, and it is happening with some commodity production on federal lands. The spotted owl controversy has made people more aware of the cost of endangered species preservation. Since there are no free lunches and since the cost of politically provided lunches are becoming more apparent, there will be pressure to find alternative ways to pay for the provision of commodities and amenities.

On the other hand, moving in the direction of prices, property rights and profits removes discretion from politicians who attempt to provide free or cheap lunches for their constituents. Groups that now get recreation for low or no fees will perceive that their politicians are not delivering the goods, making it even harder to overcome political resistance to a market approach.

Nonetheless, forming coalitions based on fiscal and environmental pragmatism is not impossible. When environmental interests teamed up with

fiscal conservatives to defeat the Peripheral Canal initiative in California in 1982, Tom Graff, general counsel for the Environmental Defense Fund, asked, "Has all future water-project development been choked off by the new conservationist-conservative alliance...?" Certainly not "all" water development has been choked off, but fiscal and environmental pragmatism have changed the western water scene.

We have farther to go with federal lands, but the same fiscal and environmental constraints exist. Eliminating subsidies that encourage commodity production makes good sense because it reduces deficit spending as well as subsidized destruction of the environment. By the same token, eliminating free provision of recreational and environmental amenities can reduce the drain on the treasury and promote more reasonable constraints on development. Taking the prices, property rights, and profits approach gets the incentives right for both demanders and suppliers because both have to ask, "Is it worth it?"

After a century of managing trying to balance uses of the federal estate in the political process, it is time to consider an alternative that can reduce conflicts and encourage effective multiple-use. As the demands for amenity values grow and compete with traditional land uses, the number and intensity of conflicts will increase. Like it or not, land management on command and control mechanisms is faced with the same problems that eventually did in the governments of Eastern Europe. Simply substituting a democratic form of command and control does not eliminate the conflicts and potential inefficiency. Just as Eastern Europeans are experimenting with market mechanisms, some of the more progressive environmental groups are finding markets a more expedient way of achieving their goals. While complete privatization may be a greater leap than most are willing to take, incorporating prices, property rights, and profits into the current ownership structure is a good starting point. In short, we can do more to balance traditional land uses and amenity values by lending the environment an invisible hand than we can by continuing to employ a heavy hand.

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## QUESTIONS AND DISCUSSION: SESSION III, VISION II<sup>92</sup>

**Question:** If you start fooling around at the margins, as you say, with the marketplace and start pricing things at their real value, the west is a very heavily subsidized society -- water, energy, fish, mining, timber -- aren't you going to risk threatening some of those folks, those interests who are receiving those subsidies in a major way, even though you're just fooling around at the margins?

**Answer:** I thought you were going to include universities for a minute. Of course you are. There is no question that the people who have been getting the lunches at least at below cost are not going to like some of these proposals. One of those groups, the one that I'm in, is the recreation group. We've been getting some fairly inexpensive lunches. We don't pay a full fare and, if we change it in this direction, the answer is emphatically, yes, it will cost us more. But my point to the recreational people that I deal with is if we can pay and we can keep those dollars that we pay dangled in front of that Forest Service decision-maker, we're going to get a lot more attention.

I'll just note, I lectured to a group of forest supervisors from Montana and Idaho a couple of years ago and I talked about this very issue. I thought it was very interesting to listen to the response of those people and see the response of those people. You could almost draw the line based on age, and I suspect that part of it was that people who had been involved in Forest Service decisions before, who really were professional managers who used to have a chance to manage professionally, couldn't see any need for this. They just kept saying, "We can do this. We know how to make these trade-offs. We can make them." But the younger people who had been involved in the political process that it now goes through came up to me and you could just see their minds were turning, they said, "If people paid a fee for hiking, I could do something with that parking area up the North Fork, and we've got a terrible pollution problem from the outhouse and if I just had a little more revenue that I could earmark, a lot more could be done."

So, yes, it will affect things even at the margins, and much broader than just the margins. It will affect the subsidies that all of us get. But I think it will affect something else; it will affect the total product that we get and I think that's what has to be sold.

**Question:** I don't think it's so much a question, as it's something that I really feel needs to be said, and it needs to be said in the context of what you said about if we can pay. There is, I don't think, probably no one in this room who couldn't afford to go to a National Park, but there are a hell of a lot of

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<sup>92</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. All questions were directed to and answered by the author of the paper.

people out there who have the majority of the vote who could not afford to go to a National Park now, let alone if it were value priced. And how long would we retain any sort of public land or political land, as you prefer to call it, if the majority of the voters saw no value to them in it because they couldn't participate in it?

The educational value, the intrinsic value, as you say, of the park there for the future also has to be figured into that cost. And it would seem to me that when we start valuing some of this we have to consider the fact that there are many people who are the owners of that park now and in the future who do have some rights.

**Answer:** Yes. I'll give two responses. I started to hear one question and then I'm not sure I heard it. But, even if I didn't, I'm going to answer it. But I'll answer the one I think I heard at the end, which is basically one of what do we do if it turns out that somehow this pay system doesn't support it. What if it turns out people say, "Hell, it's \$6.00 a day, I really don't want to see Yellowstone." Well, again, as an economist, my response to that is that tells us a lot about how much value we really place on it. I don't think that's really going to happen, though, in Yellowstone's case, for sure. But I do have to question whether that's what the consumers are reflecting, whether we have the institutions or the wherewithal within those institutions to really understand what the total value of these resources is in some other aggregated process. Perhaps we do and perhaps in those cases we'd want to preserve it. But I don't see any reason on the basis of this argument to argue that relatively wealthy people, like the people in this room, should get a subsidy from the rest of the population when we do enjoy the consumption of that resource.

The second question is the one I thought you were going to ask. Now, if the issue is "Well, yeah, we can enjoy it, but what about the other people? What about the poor people who can't?", then the question is simply answered. First, as it turns out, even at virtually zero prices, it is not poor people who enjoy most of these resources. Second, even if it is, I do not advocate eliminating Food Stamps and letting people starve. I never have and never will. And if we can issue Food Stamps and if we really have a program that works to take care of that problem, and I wouldn't want to argue that it works perfectly by any means, but if it moves us in the direction of solving that problem, then I would have absolutely no qualms of issuing park stamps or other recreational stamps that take care of the poor problem.

So again, I thought there were two questions. The poverty one is simply solved in this situation. And we can't justify, in my opinion, morally or economically, subsidizing people like me to visit Yellowstone at the expense of the poor people who live elsewhere or the middle class who live elsewhere and don't enjoy it simply on the grounds that, gee, poor people couldn't enjoy it. I'm not poor, I should have to pay as everybody else in this room, in my opinion.

**Question:** I've been trying to figure out who to ask this question of, so I'm going to ask it of you because we're getting close to the end of the day. These resources have to come from someplace. In fact, the question was asked

earlier where are these resources going to come from if they don't come from the public land. Well, the answer was they are going to come from the private land that produces timber as opposed to the public land.

I just got a call the other day from a person in the oil industry that told me something that I found very alarming. That the oil industry has abandoned their oil exploration in this country. Because of the political climate in this country, they are no longer going to seek oil reserves in this country. We're going to become more dependent on foreign oil than we are already as a result of that decision. I would hate to see us forced into a situation where we had to depend on foreign countries for our timber, for our agricultural products, and everything.

The things you're talking about -- so maybe it's appropriate for me to ask this question of you -- you're saying that maybe the recreationists should pay for these recreational amenities and displace these industries. But we're still faced with the question, where are those resources going to come from. I think that this country is better able to produce those resources in a responsible manner than a lot of the countries that these industries are liable to be forced into.

**Answer:** Well, private lands must be saved for the next conference. For this conference, I did not mean to say that recreation should displace whatever is the thing that might possibly be displaced. I think there is a place for multiple use management. The problem is that right now the system is structured such that, as Senator Nelson pointed out, a lot more attention is given to those people who do pay.

I think if recreation paid it wouldn't necessarily displace. I think it would, for example, give that forest supervisor a lot of incentive to say, "Could I somehow manage the hiking trails in this area and the logging in this area and the cattle manure in this area in such a way that we can have some backpacking, get some revenue from it, give them what they want, and at the same time cut some trees and graze some cattle.

I think it has to move in that direction. I'll close with this. If we continue to leave it in the current process which is totally one of acrimony and displacement, then I think we will get one or the other, all or nothing, and the result will be that not only will we have acrimony that tears at the social fabric, we'll have a whole lot less of everything ultimately. So, I think what I'm suggesting is a vision for the future that can help us balance so that we don't have to have single, crowded out kinds of alternatives.

**DO WE OWE ANYTHING TO THE FUTURE?<sup>93</sup>****INTRODUCTION**

We and our leaders must now address a moral question: do those living today owe anything to the future? If our answer is "No," then we surely are on course, because we are consuming resources and polluting the Earth as if there were no tomorrow. If, on the other hand, the answer is "Yes, we have an obligation to the future," then we must soon determine what and how much we owe, because our present, irresponsible course is rapidly destroying the environmental options for generations to come. Meeting this obligation will require a renewed sense of morality--to be "other centered" in doing unto those-to-come as we wish those before us had done unto us.

To change anything, we must reach beyond where we are, beyond where we feel safe. We must dare to move ahead, even if we don't fully understand where we are going, because we'll never have perfect knowledge. We must ask innovative, future-oriented questions in order to make necessary changes for the better.

True progress toward an ecologically-sound environment and an equitable, world society will be expensive in both money and effort. The longer we wait, however, the more disastrous becomes the environmental condition and the more expensive and difficult become the necessary, social changes. No biological short-cuts, technological quick-fixes, or political hype can mend what is broken. Dramatic, fundamental change, both frightening and painful, is necessary if we're really concerned with bettering the quality of future life. It's really not a question of can we or can't we change, but one of human morality--will we or won't we change. It's a sad fact that from world leaders down, we have chosen "WON'T."

I purposely avoided using the commonly-accepted, bureaucratic buzzword "ecosystem management," because I am not so arrogant to think that we "manage" or "control" ecosystems. We "treat" ecosystems in one way or another, and they respond accordingly. Nature controls us. We don't control of Nature. We only exist at Nature's forbearance.

**THE QUESTIONS WE ASK**

Each question is a key that opens a door to a room filled with mirrors, each one a facet of the answer. Only one answer, however, is reflected in all of the mirrors in the room. If we want a new answer, we must ask a new question--open a new room with a new key.

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<sup>93</sup>Prepared by Chris Maser, Consultant, Las Vegas, Nevada.



We keep asking the same old questions--opening the same old door and looking at the same old reflections in the same old mirrors. We may polish the old mirrors and hope thereby to find a new and different meaning from the old answer to the same old question. Or we might think we can pick a lock and steal a mirror from a new and different room with the hope of stumbling on a new, workable answer to the same old question.

The old questions and the old answers have led us into the mess we are in today and are leading us toward the even greater mess we will be in tomorrow. We must therefore look long and hard at where we're headed with respect to the quality of the world we leave as a legacy. Only when we are willing to risk asking really new questions can we find really new answers.

Heretofore we have been more concerned with getting politically-right answers than we have been with asking moral questions. Politically-right answers validate our preconceived, economic/political desires. Moral questions would lead us toward a future where environmental options are left open, so that generations to come may define their own ideas of a "quality environment" from an array of possibilities.

A good question--one that may be valid for a century or more--is a bridge of continuity among generations. We may develop a different answer every decade, but the answer does the only thing an answer can do, brings a greater understanding of the question. An answer cannot exist without a question, so the answer depends on the question we ask, not on the information we derive as illusion of having answered the question.

In the final analysis, the questions we ask guide the evolution of humanity and its society, and it's the questions we ask--not the answers we derive--that determine the options we bequeath to the future. Answers are fleeting, here today and gone tomorrow, but questions may be valid for a century or more. Questions are flexible and open-ended, whereas answers are rigid, illusionary cul-de-sacs. The future, therefore, is a question to be defined by questions.

Among the most important questions to be asked are: (1) Lifestyle--what quality of lifestyle do we want to have and want our children to be able to have? (2) Sustainability--can the Earth support our desired lifestyle? and (3) Cultural capacity--if it appears the Earth can support our desired lifestyle, how must we behave to help ensure that the Earth can continue to maintain our chosen lifestyle?

### **Lifestyle and Mythology**

Lifestyle is commonly defined as an internally consistent way of life or style of living that reflects the values and attitudes of an individual or a culture. We in western civilization have made lifestyle synonymous with "standard of living," which we practice as a search for ever-increasing material prosperity. If, however, we are to have a viable, sustainable environment as we know it and value it, we must reach beyond the strictly material and see lifestyle as a sense of inner wholeness and harmony derived by living in such a way that the

spiritual, environmental, and material aspects of our lives are in balance with the capacity of the land to produce the necessities for that lifestyle.

The underpinnings of social values and therefore chosen lifestyles are rooted in cultural myths. A people's thoughts and values, which are based on their cultural myths, translate into their lifestyles, and it is the cultural underpinnings of their chosen lifestyles that ultimately affect the land they inhabit.

Most Native North Americans, for example, survived largely by hunting and killing. They lived in a world where life was always balanced on a fine line between earthly existence and non-existence—the hunter and the hunted. To survive in such an unpredictable world, they reconciled themselves with Creation through their myths and rituals—their metaphors of Creation—and through their spiritual connection with the Creator of which they were but a manifestation. Simply put, their lifestyles were spiritual Creation, because they lived their myths through enacted rituals that remained to a large degree in harmony with their changing environment.

Another set of cultural myths was brought to this country by our ancestors, largely from the pastoral scenes of Europe. When our ancestors arrived in the New World, they saw not a land to be understood, adapted to, and nurtured but a wild, untamed continent to be conquered. Why? Because they came from "civilized" countries with "civilized" myths and lifestyles and felt that they were being rudely thrust into an "uncivilized" continent inhabited by "savages" and wild beasts, the conquest of which was their duty.

What our ancestors did not understand, however, was that their myths and lifestyles belonged to another place and another time in the evolution of human society and were not compatible with those of the indigenous peoples of the New World, or with the New World itself for that matter. The myths and lifestyles of the Native North Americans belonged to the land they inhabited; whereas those of our ancestors belonged to a land half-way around the world. But in line with a perfectly human tendency, our ancestors' first inclination was to survive in the wild, unknown continent and then to seek that which was familiar and comfortable by trying to force their myths and lifestyles from an "old," known world onto a "new," unknown world.

At best, our European, ancestral myths and lifestyles became rigid through a long tradition of ecological exploitation and so were not compatible with the land, with the indigenous peoples, and with the reality of constant change. At worst, they were on a collision course with the survival of human society as we know it.

Native North Americans, in keeping with their myths, lived with the land and considered themselves to be an inseparable part of its spiritual harmony—something that could not be owned. The Europeans, in keeping with their myths, sought to conquer, harness, subdue, and own the land. With a few exceptions, they probably neither understood nor cared about the values or points of view of the Native North Americans. Why? Because, according to

Genesis, humans are given dominion over the world, and the "savages" were seen as little more than wild beasts.

This idea is not simply a characteristic of modern Americans. It is the biblical condemnation of nature, which our forebears inherited from their own religion and brought with them, mainly from England. God and humanity are separate from nature and so Nature is seen as being here to be exploited. In such a belief, we are here to master Nature and, as masters, to improve Nature's ability to function.

Native North Americans, on the other hand, had lived on and with the land more than 10,000 years. They viewed the land and all it contained as a "Thou," which is holy and is to be revered; whereas our European ancestors viewed the same land and all it contained—including the indigenous people—as an "it," which was simply an object to be exploited for their own, short-term, private gains. So they dominated the land, squandered its resources, slaughtered its indigenous people and its commercially-exploitable wild animals, and polluted its soil, water, and air in less than 400 years, because they lacked a spiritual connection with Nature. Their connection was only with the economic commodities it produced.

Our sturdy forebears brought their European science and technology to the New World and relied on them, as they had in the past, to solve their social problems. What they failed to understand—and we still fail to understand—is that science and technology are human tools, and as such are only as constructive or destructive, as conservative or exploitive as are their users.

Science and technology have no sensitivity, no experience, no morals, and no conscience. Neither scientific endeavors nor technological advances affect the land and its people. What ultimately affects the land are the thoughts and values of the people who create and use the tools, because their thoughts and values, based on their cultural myths, translate into their lifestyles. The great irony is that our view of the land after more than 300 years is little different from that of our European ancestors.

### **Sustainability**

Before we can effectively discuss the impact of lifestyle on the environment, we must consider the idea of "sustainable development" as outlined in the 1987 report of the World Commission on Environment and Development, which calls for juxtaposing two mutually exclusive concepts—that of "sustainability" and that of "development." Sustainability is the language of balance and limits. Development is the language of expansion, of expecting ever more in limitless fashion.

In the short term, sustainable development seems like a viable concept, but in the long term, sustainability and development will prove to be mutually exclusive, because continual development, as sustainable development would be practiced, must ultimately exhaust the land and its resources. To understand how this works, one has only to witness the British drive for colonial expansion, which came about because their continual development was not

ecologically-sustainable within the limited confines of the British Isles. To continue development beyond the ecological exhaustion for their land, the British had to subjugate other cultures and steal their resources.

Like England, the Earth is an island, and development is no more sustainable globally over the long run than it was in Britain. If we in the United States insist on practicing sustainable development so we don't have to change our economic values, the time will come when we, like the British, must subjugate other peoples or other planets and steal their resources.

Sustainability, on the other hand, demands that continually increasing development, which exhausts one resource after another, cease if a global human society is to be sustainable. While sustainability does not exclude the extractive use of resources, it does demand a balanced approach to their extraction and use. This means that the economic divestment of resources from any ecosystem must be at least balanced by the biological reinvestment of resources in that selfsame system, regardless of the economic impact on the profit margin, something which is not now happening.

If, for example, we imagine sustaining our current, expansionist approach to economics (continually-increasing development) into the future, we soon bump into environmental crises, and see the need to re-frame the old economic paradigm--that continued growth (development) can solve all social problems. The old question--"How do we balance development and conservation?"--is replaced with the new question--"Can we have the one without the other?" The new question is critical, because conservation implies duration over time through wise use, i.e., the sustainability of that which is being conserved.

The current assumption of any strategy to raise material prosperity is that ever-expanding development is necessarily and ethically good, because it presents more material goods, which makes life "better" than it presently is. But if the importance of development is only to allow us to achieve ever-higher levels of material prosperity, then sustaining environmental degradation only to accommodate development is unethical. If, however, a whole and harmonious lifestyle is important, then engaging in a mode of development that is anything less than ecologically sustainable is hypocritical and immoral. The moral obligation embodied in our choice of lifestyle must be an option not only throughout our own lives but also throughout the lives our children and theirs.

### **Cultural Capacity**

Whether a given lifestyle is even possible depends on "cultural capacity," an analogue of "carrying capacity," which is the number of animals that can live in and use a particular landscape without impairing its ability to function in an ecologically-specific way. If we want human society to survive the 21st century in any sort of dignified manner, we must have the humility to view our own population in terms of local, regional, national, and global carrying capacities, because the quality of life declines in direct proportion to which the habitat is overpopulated.

If we substitute for "carrying capacity" the idea of "cultural capacity," we have a workable proposition for society. Cultural capacity is a chosen quality of life, which can be sustained without endangering the environment's productive ability. For example, the more materially oriented the desired lifestyle of an individual or a society, the more resources are needed to sustain it and the smaller the human population must be per unit area of landscape. Cultural capacity then is a balance between how we want to live, the real quality of our lifestyles and of our society, and how many people an area can support in that lifestyle on a sustainable basis. Cultural capacity of any area will be less than its carrying capacity in the biological sense.

We can predetermine local and regional cultural capacity and adjust our population growth accordingly. If we choose not to balance our desires with the land's capabilities, the depletion of the land will determine the quality of our cultural/social experience and our lifestyles. So far, we have chosen not to balance our desires with the capabilities of the land, because we have equated "desire, need, and demand" as synonyms with every itch of "want." We have lost sight of ecological reality.

If we desire to maintain a predetermined lifestyle, we must ask new questions: (1) How much of any given resource is necessary for us to use if we are to live in the lifestyle of our choice? (2) How much of any given resource is necessary to leave intact as a biological reinvestment in the health and continued productivity of the ecosystem? and (3) Do sufficient resources remain, after biological reinvestment, to support our lifestyles of choice or must we modify our proposed lifestyles to meet what the land is capable of sustaining?

"Necessity" is a very different proposition from the collective "desire, want, need, demand" syndrome, so arguments about the proper cultural capacity revolve not only around what we think we want in a materialistic/spiritual sense but also around what the land can produce in an environmentally-sustainable sense. Cultural capacity is a conservative concept given finite resources and defined values. By first determining what we want in terms of lifestyle, we may be able to determine not only if the Earth can support our desired lifestyle but also how we must behave with respect to the environment if we are to maintain our desired lifestyle.

## **THE CORNERSTONES OF A CULTURALLY SUSTAINABLE ENVIRONMENT**

The foregoing discussion has been necessary to set the stage for another discussion--how we can create and maintain a culturally sustainable environment as a legacy for the future. Such a legacy requires a solid foundation, which in turn must rest on the following four cornerstones: (1) the choice of introductions, (2) policy, (3) biodiversity, and (4) patterns across the landscape.

## The Choice of Introductions

We introduce thoughts, practices, substances, and technologies into the environment. Such introductions usually are thought of in terms of development. Therefore, development of any kind is the collective introduction of thoughts, practices, substances, and technologies in a commercial strategy to use or extract a given resource, which consequently determines how the environment will respond to our presence and to our cultural necessities. It is therefore to our social benefit to pay close attention to what we introduce.

Introduction of a foreign substance, process, or technology has a much greater impact on an ecosystem's ability to function than does taking something away. Consider the impacts of some of the things we have introduced into the environment, because they represent both our sense of values and our behavior. Our initial introduction is our pattern of thought, which determines how we perceive the Earth and how we act towards it—either as something sacred to be nurtured or only as a commodity to be converted into money. Because our pattern of thought determines the value we place on various components of an ecosystem, it's our sense of values that determines how we treat those components and through them the ecosystem as a whole.

In our linear, product-oriented thinking, an old-growth forest is an economic waste if its "conversion potential" is not realized, i.e, the only value the old-growth trees have is their potential of being converted into money. Such notions stimulated Garrett Hardin to observe that "Economics, the handmaiden of business, is daily concerned with 'discounting the future,' a mathematical operation, that under high rates of interest, has the effect of making the future beyond a very few years essentially disappear from rational calculation." Unfortunately, he is correct. Conversion potential of resources counts so heavily, because the economically effective horizon in most economic planning is only five years away. Thus, in our traditional, linear, economic thinking, any merchantable, old tree that falls over and reinvests its nutrient capital into the soil is an economic waste," because its potential was not converted into money.

New equipment is therefore constantly being devised to make harvesting resources, such as trees, ever-more efficient. The chain saw, for example, greatly speeded the liquidation of old-growth forests world wide. Possessed by this new tool, the timber industry and the forestry profession lost all sense of restraint and began cutting forests faster than they could regrow. Further, no forested ecosystem has yet evolved to cope ecologically with the massive, systematic, and continuous clearcutting made possible by the chain saw and the purely economic thinking behind it.

In our search for "national security" and cheap energy, concentrated nuclear waste is being introduced into many ecosystems, the impact of which is both global in scale and complex in the extreme. And there is no safe way to introduce the concentrations we are creating. The melt-down of the nuclear reactor at Chernobyl was not potentially so dangerous as was the buried nuclear dump that blew up near Chelyabinsk, in the southern Ural Mountains in late

1957 or early 1958. The land was dead, perhaps for centuries, over an area of roughly 1,000 square kilometers. All that was left standing were chimneys.

We have not the slightest idea of how to deal safely with the concentrations of nuclear wastes we are introducing into the world. Yet instead of committing our efforts to producing safe, clean solar and wind energy, we cling steadfastly to unsafe, dirty nuclear energy and create thousands of tons of nuclear waste annually through the military-industrial complex and peacetime technology. If we continue this course, the biosphere will eventually adapt to high, generalized concentrations of radioactivity, but most life as we know it will not be here to see that adaptation take place.

Our management of the world's resources is always to maximize the output of material products, the "conversion potential." In so doing, we not only deplete the resource base but also produce unmanaged and unmanageable "by-products," often in the form of hazardous "wastes." In unforeseen ways, these "by-products" are altering how our biosphere functions. In reality, there is no such thing as a "by-product;" there is only an unintended product, which more often than not is undesirable.

Because of unforeseen and usually undesirable impacts from introductions, such as domestic livestock and the suppression of fire, we must shift our thinking from managing for particular, short-term products to managing for a desired, long-term condition on the landscape, an overall, desired outcome of our decisions and actions. For example, only now, decades after the instigation of livestock grazing and fire suppression into northern Arizona and eastern Oregon, has the significance of the changes in the structure and composition of forests in many areas become evident.

To illustrate, the ecological degradation of the ponderosa pine forests in northern Arizona and eastern Oregon in recent times is because of *too many* trees. This increase in the density of trees was caused by the introduction of livestock grazing and the suppression of fire, which have shifted the open, parklike, presettlement forests of huge, old, stately trees to dense, closed-canopy stands of less vigorous, young trees--an entirely different forest ecologically.

During the last 80 to 100 years, there has been a general increase in the number of trees and a corresponding increase in the amount of woody fuels on the floor of the forest. There also has been a decrease in the extent of quaking aspen, which often resprouts from roots following fire, and an increase in those species of trees that are more tolerant of the shaded conditions in closed-canopy forests.

Intensive study of historical fires has failed to document any cases where stand-replacing, crown fires (those fires that kill the forest by burning through the tops of the trees) occurred in the forests of ponderosa pine of the southwestern United States prior to 1900. In contrast, however, there have been numerous fires since 1950 that have exceeded 5,000 acres and that have totally razed the forests down to mineral soil. The intensity of these fires is attributed to the amount of woody fuels on the floor of the forests and to the

dense stands of young trees within the forests—both of which have become established since 1900.

Some of the trees in these dense thickets, which may include trees of differing ages, have grown into the canopy and form a ladder up which a fire can bum from near the ground into the crowns of the larger trees. Although it is possible that climatic change could account for the increased numbers of large fires, ironically, the changes in the forests brought about by more than 70 years of fire suppression is the most likely cause of an increasing incidence of large "wildfires."

Thus, to accomplish a desired, long-term condition on the landscape, we must be innovative and daring, and we must focus on controlling the type and amount of processes, substances, and technologies that we introduce into an ecosystem to effect a particular outcome. With prudence in our decisions of what to introduce into an ecosystem and how, we can have a quality environment, which produces a good mix of products and amenities on an ecologically-sustainable basis and is supportive of a desired lifestyle.

If, for example, we ensure that any materials we introduce into the environment are biodegradable as food for such organisms as bacteria, fungi, and insects, our "waste" would be their nutriment. In addition, if we use solar- and wind-based energy instead of fossil fuels and if we recycle all nonrenewable resources in perpetuity, we will be shifting our pattern of thought from one that is ecologically exploitive to one that is ecologically friendly and sustainable. This, of course, will require new policies.

## Policy

Laws and legal mandates contain inherently conflicting language as to what may and may not be allowed in the name of management, although the intent of the law usually is abundantly clear. But agencies, either because of tradition or because of the instruction of a political administration, all too often use the interpretation of a specific policy to get around a given law and its mandates, even one with clear intent. Policy is thus used to meet corporate/political desires rather than to meet the ecological necessities of the environment for which the law was originally intended—witness the current struggle over the Endangered Species Act.

Policy is therefore a seriously weak link within agencies, because values cannot be legislated or mandated by law. So, despite the best intentions of public law, policy is used by those with vested economic/political interests to "legally" circumvent the law.

Then, to fix the problems of such immoral uses of policy, policy is used to justify rewarding or subsidizing agency personnel, industrialists, and politicians to cause them to fulfill not only their legal duties but also their moral obligations to the public, present and future. Such incentives are moral bribes,



If we are to remain within our cultural capacity, we must manage for a desired condition on the landscape, which means that policy must reflect—in letter and spirit—the law and its mandates. Therefore, if we are to have an environmental policy that is commensurate with ecological sustainability and cultural capacity, it must be achieved by a consensus of the people, not the self-serving agendas of the agencies, which are at the mercy of the self-serving agendas of Congress, the Presidential Administration, and private industry. For an environmental policy to be authentic and workable, we also must achieve consensus on a policy that protects the ecological integrity of the environment and its cultural capacity from the negative, irreversible aspects of development.

To create and accept sound policies on environment and development, we must first agree that the long-term health of the environment takes precedence over the short-term profits to be made through careless or continual development. Then we must agree that ecological sustainability is primarily an issue of managing *ourselves* in terms of cultural capacity and secondarily an issue of managing our environment. Thus we come to a different kind of distinction about sustainability: nothing can or will be sustained without our first deciding what we choose to sustain and develop, and why, and what we choose not to sustain or develop, and why.

Converting Nature's landscape toward a culturally-oriented landscape requires a balance between those paths of development that are sustained and those that are not. There are situations in which development is consistent with creating an enjoyable, productive, and sustainable, culturally-oriented landscape—cultural capacity. But everything that is sustained or developed in a finite world is chosen selectively. Only in a constantly-expanding world, could we avoid the choices of what to sustain and develop and where, how, and why—or what not to.

The path of development that we choose is based on and controlled by policies, stated and unstated. Each policy is either a true or a false reflection of public law; in that sense, the path of development may be more or less cooperative and environmentally benign or more or less competitive and environmentally malignant. But whichever path we choose, that choice is ours. We cannot escape it.

This brings us back to the question of sustainability. We cannot manage sustainability for its own, because sustainability most often is regarded in terms of some one thing, corn, salmon, water, cattle, trees, etc. Beyond that, every ecosystem inevitably evolves toward a critical state in which a minor event sooner or later leads to a catastrophic event, which alters the ecosystem in some way.

For example, as a young Douglas-fir forest grows to old-growth, it converts energy from the sun to living tissue, which ultimately dies and accumulates as organic debris on the floor of the forest. Here, through decomposition, the organic debris releases the energy stored in its dead tissue. A forest, therefore, is a dissipative system in that energy acquired from the sun is dissipated gradually through decomposition or rapidly through fire.

Rates of decomposition vary. A leaf rots quickly and releases its stored energy rapidly. Woody material, on the other hand, rots much more slowly, often over centuries. As the woody material accumulates, so does the energy stored in its fibers. Prior to their suppression, fires burned frequently enough to generally control the amount of energy stored in the accumulating woody debris by burning it up and thus protected the forest for decades, even centuries, from a catastrophic fire that killed the forest.

Over time, however, a forest eventually built up enough woody debris to fuel a catastrophic fire. Once available, the fuel needed only one or two very dry, hot years with lightening storms to ignite such a fire, which killed the forest and set it back in succession to the earliest stage of grasses and forbs. From this stage, a new forest again evolved toward the old-growth stage, again accumulating stored energy in dead wood, again organizing itself toward the next critical state, a catastrophic fire, which would started the cycle over.

After a fire, an earth quake, a volcanic eruption, a flood, or a landslide, a biological system eventually may be able to approximate what it was through resilience--the ability of the system to retain the integrity of its basic relationships. Thus, a 700-hundred year old forest that burned could be replaced by another, albeit different, 700-hundred-year-old forest on the same acres. In this way, a forest ecosystem could remain a forest ecosystem following each catastrophic fire. In this sense, the old-growth forests of western North America have been evolving from one catastrophic fire to the next, from one critical state to the next.

Because of the dynamic nature of the evolving ecosystems and because each is constantly organizing itself from one critical state to another, we can only "manage" an ecosystem for its possible evolution--not for a sustained yield of products. Therefore, the only sustainability for which we can manage is that which ensures an ecosystem's ability to adapt to evolutionary change (such as warming of the global climate) in a way that may be favorable for us. In other words, we need to manage for choice, which is synonymous with biodiversity, which, in turn, is an ecological insurance policy for the flexibility of future choice.

## **Biodiversity**

Every ecosystem adapts in some way, with or without the human hand. Our heavy-handedness precludes our ability to guess, much less to know, what kind of adaptations will emerge. Thus, we must pay particular attention to ecological redundancy, of which biodiversity is the "nuts and bolts."

Each ecosystem contains built-in redundancies, which means it contains more than one species that can perform similar functions. Such redundancies give an ecosystem the resilience either to resist change or to bounce back after disturbance. But we have little knowledge about which species do what and how. So when we tinker willy nilly with an ecosystem's structure to suit our short term, economic desires, we lose species to extinction, and thus reduce the ecosystem's biodiversity. With decreased biodiversity, we lose choices for

management, which directly affects the Earth's cultural capacity and therefore our lifestyles. The loss of biodiversity may so alter the ecosystem that it no longer can produce that for which we valued it in the first place—a desired lifestyle.

If we want to choose the quality of our lifestyle by determining the cultural capacity of the land over time, we must abandon the cherished, mechanical notion of sustained yield. We must instead shift our attention to managing for a sustainable array of choices, which means we must afford the maximum protection to the existing biodiversity, regardless of the apparent, short-term, economic and political costs.

To those who insist that we can't convert capitalism to an ecologically-friendly form quickly enough to protect existing biodiversity, I point out that our entire economy was transformed to a wartime basis in a matter of a year or so at the beginning of World War II. And it was changed back again to a peacetime economy in a similarly short time at the end of the war. The mechanism that allowed the shift to the wartime economy and back again was simply a choice of priorities. Similarly, a shift to an ecologically-friendly economy today, which also will serve for tomorrow, is a choice of industrial/political priorities.

We must make the only viable choice we can, to consciously convert our society to an ecologically-friendly version of capitalism as quickly as possible through the purposeful protection of biodiversity as our major source of renewable energy and the novelty of environmental adaptation. After all, what to sustain and what not to sustain in our capitalistic system is a choice of priorities in economic allocation—of wants, desires, needs, and demands as opposed to necessities.

Long-term, ecological wholeness and biological richness of the landscape must become the measure of economic health. We must therefore do our best to care first and foremost for land if we want the land to be able to provide for us, and this brings us to the patterns we create across the landscape.

### **Patterns Across the Landscape**

The spatial patterns observed on landscapes result from complex interactions among physical, biological, and social forces. Most landscapes also have been influenced by the cultural patterns of human use, so the resulting landscape is an ever-changing mosaic of unmanaged and managed patches of habitat, which vary in size, shape, and arrangement.

The pattern of changes in the North American forest prior to European settlement was closely related to topography and to the pattern of Nature's disturbances, especially fire. Subsequent human disturbances (introductions), such as livestock grazing and the suppression of fire, have been selective in changing the patterns of our forests and ranges, because they accompanied human settlement and the consequent exploitation the land.

A disturbance is any relatively discrete event that disrupts the structure of a population and/or community of plants and animals, or disrupts the ecosystem as a whole and thereby changes the availability of resources and/or restructures the physical environment. Regimes of ecological disturbance, ranging from small grass fires to major hurricanes, can be characterized by distribution in space, size of disturbance, frequency, duration, intensity, severity, synergism, and predictability.

In the Pacific Northwest, for example, originally-vast areas of unbroken forest, then our National Forest System, have been fragmented by clearcutting and rendered homogeneous by cutting small patches of old-growth timber, by converting these patches into plantations of genetically-selected nursery stock, and by leaving small, uncut patches between the clearcuts. This "staggered-setting system" required an extensive network of roads. Thus, before half the land area was cut, the cumulative effect was that almost every watercatchment was roaded. And the whole of the National Forest System became an all-of-a-piece patchwork quilt with few, if any, forested areas large enough to support those species of birds and mammals that required the interior of the forest as habitat.

Such rendering of a formerly diverse landscape into a cookie-cutter sameness has profound implications. The spread of Nature's disturbances, such as fires, floods, windstorms, and outbreaks of insects, coupled with the disturbances of human society, such as urbanization and pollution, are important ecological processes across the landscape. And those processes are influenced by the diversity of the existing landscape pattern.

Disturbances vary in character and often are controlled by physical features and patterns of vegetation. The variability of disturbance, along with an area's previous history and its particular soil, leads to the existing vegetational mosaic.

The greatest, single disturbance to the ecosystem is human disruption--introductions of practices, substances, and technologies. These disruptions most often result from our attempts to control the size--minimize the scale--of the various regimes of Nature's disturbance with which the ecosystem has evolved and to which it has become adapted. Among the most obvious (and well intentioned) is the suppression of fire.

As we have struggled and are struggling to minimize the scale of Nature's disturbances in the ecosystem, we have altered and are altering the system's ability to resist or to cope with the multitude of invisible stresses to which the system is adapted and is adapting through the existence and dynamics of the very regime of disturbance that we "control." Today's forest fires, for example, are more intense and more extensive than in the past due to the buildup of fuels since the onset of fire suppression. Many forested areas are primed for catastrophic fire. Outbreaks of plant-damaging insects and diseases spread more rapidly over areas of forest and rangeland stressed through the removal of Nature's disturbances to which they are adapted and which control the insects and diseases.

The precise mechanisms whereby ecosystems cope with stress vary, but one is closely tied to the genetic selectivity of its species. Thus, as an ecosystem changes and is influenced by increasing magnitudes of stresses, the replacement of a stress-sensitive species with a functionally similar but more stress-resistant species preserves the ecosystem's overall productivity. Such replacements of species--redundancy--can result only from the within the existing pool of biodiversity.

Human-introduced disturbances, especially fragmentation of habitat, impose stresses with which the ecosystem is ill adapted to cope. Biogeographical studies show that connectivity of the landscape is of prime importance to the persistence of plants and animals in viable numbers in their respective habitats, again a matter of biodiversity. In this sense, the landscape must be considered as a mosaic of interconnected patches of habitat, such as vegetated fencerows, which act as corridors or routes of travel between patches of farm forest, livestock allotments, or other suitable habitat.

The survival of populations of plants and animals in a landscape depends on the rate of local extinctions from a patch of habitat and on the rate with which an organism can move among patches of habitat. Therefore, those species living in habitat isolated as a result of fragmentation have a lower probability of persistence. Fragmentation of habitat, the most serious threat to biological diversity, is the primary cause of the present, global crisis in the rate of biological extinctions. On public lands much, if not most, of the fragmentation of the habitat is a "side effect" of management policies that stress the short-term production of commodities at the long-term expense of the environment. There are, however, no "side effects"--only unintentional effects!

Modifications of the connectivity among patches of habitat strongly influence the abundance of species and their patterns of movement. The size, shape, and diversity of patches also influence the patterns of species abundance, and the shape of a patch may determine which species can use it as habitat. The interaction between the processes of dispersal and the pattern of a landscape determines the temporal dynamics of its populations. Local populations of organisms, which can disperse great distances, may not be as strongly affected by the spatial arrangement of patches of habitat as are more sedentary species.

Our responsibility now is to make decisions about patterns across the landscape while considering the consequences of our decisions on the potential cultural capacity of the generations of the future. The decisions are up to us, but one thing is clear: although the current trend toward homogenizing the landscape may help maximize short-term, money profits, it devastates the long-term, biological sustainability and adaptability of the land and thus devastates the long-term, cultural capacity.

The relationship of pattern, rather than of numbers, confers stability on ecosystems. Stability flows from the patterns of relationship that have evolved among the various species. A stable, culturally-oriented system, even a very

diverse one, that does not support these co-evolved relationships has little chance of being sustainable.

To create viable, culturally oriented landscapes, we must stop managing for fragmentation by focusing on such commodity-producing artifacts as forest clearcuts, agricultural fields, and livestock-grazing allotments. Ecological sustainability and adaptability depend on the connectivity of the landscape, so culturally-designed landscapes must be grounded within and take advantage of Nature's evolved patterns if we are to have a chance of creating a quality environment that is both pleasing to our cultural senses and ecologically adaptable.

We must move toward connectivity of the landscape. If we are to have adaptable landscapes with desirable cultural capacities to pass to our heirs, we must focus on two primary things: (1) caring for and "managing" for a sustainable connectivity and biological richness of those areas between such artifacts as forest clearcuts, agricultural fields, and livestock-grazing allotments within the context of the landscape as a whole, and (2) protecting existing biodiversity—including habitats—at any price. We must garden the Earth for the long-term sustainability of the ecological wholeness and the biological richness of the patterns we create across its landscapes.

## CONCLUSIONS

Do we owe anything to the future? If so, we must understand and accept that there are no external fixes for internal, moral imperatives; there are only internal shifts of consciousness and moral intentions and behaviors. We also must understand and accept that all we can bequeath to the generations of the future is options—the right to choose as we have done.

To protect that right of choice, we must ask new, moral, future-oriented questions, questions that determine the quality of lifestyle we wish to have and that we wish our children to be able to have. We need to determine first and foremost how much of a given resource is necessary to leave intact in the environment as a biological reinvestment in the health and continued productivity of the ecosystem. We must view the environment from the standpoint of cultural necessities as opposed to limitless wants, desires, needs, and demands, and, if necessary, alter our lifestyles to reflect what the ecosystem can in fact sustainably support.

We must account for the intrinsic, ecological value of all natural resources as well as for their conversion potential into money, and we must accept that the long-term health of the environment takes precedence over the short-term profits to be made through exploitation and continual development. Concurrently, we must convert our society—immediately, rapidly, consciously, and unconditionally—to a version of capitalism that views long-term, ecological wholeness and biological richness of the environment as the measure of long-term economic health.

To this end, it is imperative that we pass clearly stated, precisely worded, unambiguous laws in which the intent is so simply stated that it cannot be distorted and hidden by bureaucratic policy. We must create environmental policy that is commensurate with ecological sustainability and cultural capacity, and we must simultaneously create policy that protects the ecological integrity of the environment and cultural capacity from the negative, irreversible aspects of continual development. Such policies are to be achieved by popular consensus to protect them from the self-serving agendas of the agencies, which are at the mercy of self-serving agendas of Congress, the Presidential Administration, and private industry.

We also must accept that the only sustainability for which we can manage is one which ensures the ability of an ecosystem to adapt to evolutionary change, which means we must manage for choice-maximum biodiversity--regardless of the economic and political costs. In time, biodiversity can be protected only by managing for a desired condition on the landscape and by abandoning our cherished, unworkable notion of "sustained" ever-increasing yield of industrial resources. To achieve such a desired condition, we must stop today's practice of managing for fragmentation of the landscape by focusing only on commodity-producing resources. We must instead focus on and manage for the connectivity of habitats to help ensure the ecological wholeness and the biological richness of the patterns we create across the landscape.

Finally, if we are to be successful guardians of the future's right of choice, we must unfailingly manage the only thing we really can manage--ourselves--in such a way that we conscientiously live within the ecologically-moral confines of our cultural capacity. The importance of living within our cultural capacity cannot be overemphasized, because when all is said and done, the great and only gift we can give to our children is the right of choice and something of value from which to choose.

We the people are the trustees of the future's options; we must therefore find and test our moral and political courage. The body politic must act in the following manner, regardless of any ensuing short-term, economic hardships and political uncertainties.

### **The Questions We Ask**

- Ask genuinely new, moral questions.

### **The Lifestyle We Choose**

- Determine the quality of lifestyle we wish and that we want our children to be able to have;
- Determine how much of any given resource is necessary for us to use if we are to live in the lifestyle of our choice;

- Determine how much of any given resource must necessarily be left intact as a biological reinvestment in the health and continued productivity of the ecosystem;
- Compare the necessities of the land with the necessities of our desired lifestyle and the cultural capacity of the Earth, locally and globally. If the land is capable of supporting our chosen lifestyle, then determine how we need to behave towards the environment to help ensure that the land can continue to maintain the option for such a lifestyle. If the land cannot support our chosen lifestyle, determine how we must adjust our lifestyle to *meet* what the land is ecologically capable of sustaining;
- Accept that ecological sustainability is primarily an issue of managing *ourselves* in terms of cultural capacity and secondarily an issue of managing our environment; and
- Decide in terms of cultural capacity what to sustain and develop and why, and what not to sustain and develop and why.

### **The Economics We Employ**

- Account for the intrinsic, ecological value of natural resources as well as for their conversion potential into money;
- Accept that the long-term health of the environment must take precedence over the short-term profits to be made through exploitation; and
- Convert our society (immediately, rapidly, consciously, and unconditionally) to a version of capitalism that views long-term, ecological wholeness and biological richness of the landscape as the measure of economic health.

### **The Policy Under Which We Manage**

- Pass clearly stated, precisely worded, unambiguous laws in which the intent is so simply spelled out that it cannot be obfuscated by bureaucratic policy; and
- Create environmental policy that is commensurate with ecological sustainability and cultural capacity. Create policy that protects the ecological integrity of the environment and cultural capacity from the negative, irreversible aspects of over-development, such policy to be achieved by popular consensus.

### **The Landscape Patterns We Create**

- Accept that the only sustainability for which we can manage is that which ensures the ability of an ecosystem to adapt to evolutionary



change. Therefore, we must manage for choice-maximum biodiversity--regardless of the economic and political costs;

- Manage for a desired condition of the landscape and abandon our cherished, unworkable notion of "sustained" ever increasing yield of industrial resources; and
- Manage for the connectivity of habitats to help ensure the ecological wholeness and the biological richness--biodiversity--of the patterns we create across the landscape. Thus, we must give up today's practice of managing for fragmentation of the landscape by focusing only on commodity-producing resources.

We already have most of the laws and mandates necessary to give us license to manage our environment in an ecologically-sound manner, i.e., to comply with the above. Now we must find the moral courage and the political will to follow both the intent and the spirit of those laws--regardless of the short-term, economic costs and the political uncertainties--for the long-term good of the people, present and future. If current laws are not morally sound, better ones can be passed as necessary. The choice is ours--a choice of morality.

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## QUESTIONS AND DISCUSSION: SESSION III, VISION III<sup>94</sup>

**Question:** It seems what you are saying, Chris, is that -- and I want to put this in the context of the seminar -- that the failure or the barrenness or the weakness of multiple use and sustained yield as land management policies is they do not take into account the ecosystems to which they apply, like ecological succession. They are largely legal concepts, they are institutional concepts that are coming from the user's standpoint not from the biological standpoint.

**Answer:** Yes. I would go one step further. I would suggest that science is at fault here, too, and I played scientist for twenty years. The thing that always frustrated me was I was never allowed to ask a free question. We're not asking the right questions. We have to ask questions that deal with time scales, that deal with how systems function without the product commodity part of it so we understand the dynamics. We were never allowed to do that. We had to practice what was called "applied science" and this was very carefully controlled by the allocation of funds for grants. People don't understand this. But the questions that are asked are determined by where the money comes from. So the dogma that was originated to protect the economic "lie" of forestry is perpetuated through the dogma which is very carefully controlled by where the money comes from, for example, in order to make the various studies.

It was the same with crested wheat seedlings in the rangelands of Oregon. That was a very carefully protected holy cow at BLM, and I worked for BLM. Whenever I challenged the validity of rehabilitating land with crested wheat seedlings, I got trounced on thoroughly. But if you had looked at the simple way it was put in -- the sun in the summer swings across the southern skies, most of the plantations ran north and south, so as the sun swung, it got so hot between those rows that nothing else would grow. How is that going to help soil erosion? If they did one simple thing and ran them east and west, you would have the bunch grass coming up and at least creating shade which would do something. It was put in solely for one purpose -- to increase livestock grazing.

These are the kinds of questions that we were not allowed to ask because somebody didn't want to hear those answers. My last big scientific publication, a group of fifteen of us looked at rotting wood, dead wood on the floor of the forests and the streams and rivers and in the open ocean. We called it "From the Forest to the Sea: A Story of Fallen Trees". BLM Washington office tried to squash that for three years because it was going to have an impact on the allowable cut, and they told me that. They also told me they would get my job and they put us through the wringer. When they said you have to compromise or you've got to shut up, you can't publish this if you're going to stay, I

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<sup>94</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. All questions were directed to and answered by the author of the paper.

resigned. That's the problem. We don't want the answers so we do not ask the right questions.

**Question:** I was struck by what you said earlier that there isn't such a thing as balance of nature and when you stress a system a lot it doesn't really come back completely in the same way. I wanted to ask your opinion, therefore, about a real life situation I know you know about and we are all wrestling with now, what the papers are calling the "ecological catastrophe in the Blue Mountains" in northeast Oregon, where, as you commented earlier, fire suppression, high-grading, livestock grazing, so on has not led to, as you said, too many trees. What if society decided we would like to try to get back the original ecosystems of say fifty or one hundred years ago with the big Ponderosa park-like stands and so on? Could that be done? What would be your prescription if we did that? Or can it be done given what you just said?

**Answer:** Yes, it can be done. The thing society has to decide, first of all, is whether or not it is willing to pay the price in patience and the time involved. The second thing is we know enough about the systems and how they function that while it wouldn't be pretty to a lot of people, I wasn't beautiful when I was born either but look at me now.

An area which has just burned to many people is ugly. But if it produces a beautiful state-like forest, the beauty is in the process not only in the product. Yes, we could go back to that. The question is whether we want to and whether we'll make the time commitment.

And what I hear over and over and over again is we can't commit our successors. Why can't we? All we have to give the future is options, choices, and something of value from which to choose. If we want to go back to that kind of a forest, that is a choice we can definitely make. It would require severe burning and then it will require probably helping it along with some planting, and then reinstitute or let fire take its role or help fire to play a role. That, too, is okay.

But the point I am getting at is our charge to the future is to save the options, as many as possible. It is not our moral responsibility to judge how the future spends those options. That's their responsibility to the next generation. Our responsibility is to the generation following us. That generation's responsibility is to one following it. We can start the process. That's the gift we have to give. We cannot coerce them into following that process all the way through. But if society wants an old-growth forest, yes, they can grow it. But once we destroy all the connectivity of the soil, the production of the soil which has gone on for millennia, that, folks, is when we have destroyed the forest. We're cutting old-growth forests. We destroy the ancient forests and its ability to grow when we destroy the soil. And that is not something we look at. We fight over the trees; we're losing the forest. Spotted owl isn't the issue. Sustainability of forest is the issue and that has never come out.

**Question:** In your perfect world where we manage primarily for ecological sustainability, what would we all have less of, more of -- wildlife, recreation, oil, wood products, et cetera?

**Answer:** I have to preface this by saying that unless we manage first and foremost for the stage in which the human drama is enacted, which is ecological sustainability, everything else is moot over time. If it were not taking the time scale into account, what we would have less of or more of depends on what we want out there, which is not the way we look at the universe. We look at the products, not the processes. If we want a quality lifestyle, we have to determine what that is, then see what the landscape requires or the processes as a necessity to function in that manner, ask that question, and then we will find out what we will have more of or less of.

But let's say do we want to maximize timber production, we will have less of wildlife, we will have less of soil, we will have less of water over time. If we are going to maximize the health of the system, we will initially have less of some of those things but we will be able to level some of it out and have it sustainable ultimately at a higher level than we will in the future if we continue the way we are today.

## COMMUNITY GOVERNANCE: AN ENDURING INSTITUTION OF DEMOCRACY<sup>96</sup>

His words climbed as he threw his head back to outspoke a gust that rattled his pages, to send his voice higher, stronger. Language is the light that comes out of us. Imagine the words as if they are our way of creating earthlight, as if what is being spoken by this man in a windswept dawn is going to carry everlastingly upward, the way starshine is pulsing constantly across the sky of time to us. Up through the black canyons of space, the sparks we utter; motes of wordfire that we glimpse leaving on their constellating flight, and call history. (Doig 1990)

### DEFINING CITIZENSHIP: VOICE AND RESPONSIBILITY

Invent the printing press and democracy is inevitable. (Carlyle)

The essential need, in other words, is the improvement of the methods and conditions of debate, discussion, and persuasion. That is the problem of the public. (Dewey 1927)

"The Public" are no longer consumers at the public land store. People are demanding their rightful place as citizens with governance responsibilities. Institutions must change, administrators must fulfill their obligations as professional citizens, we must use the forest to see our future, and then we must join together in community to make it happen. John Dewey's challenge to "know thyself" to "the Public" is being realized in the deliberations over the future conditions of our nation's forests and rangelands, but our organizations still resist the change. We must reorganize public land management and administration so as to improve the quality of debate, to enhance the conditions of discussion, and to persuade those unmoved by the imperative need to pay attention to the quality and condition of the ecosocial community of a national forest.

When change is so urgently needed, why is it so slow in coming? The very nature of administration, pulled between serving as an arm of the executive and yet receiving authority and budgets from the legislative, accounts for the basic conservative nature of administrative actions and the propensity for agencies to develop close relationships with those whose activities it affects or governs. Today the role of the courts in administration also contributes to these tugs and pulls; wherein sometimes the courts will force attention and responsiveness to policies contrary to the agenda of the executive (O'Leary forthcoming; Rosenbloom 1983), and sometimes the courts will call back agencies which

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<sup>96</sup>Prepared by Margaret A. Shannon. Corkay Professor of Forest Resources, and Associate Professor of Forest Policy and Law, College of Forest Resources, University of Washington.

extend too far beyond the letter of their authority (*West Virginia Division of the Izaak Walton League of America, Inc. v. Butz*, 522 F.2d 945; August 21, 1975). The challenge, then, of executive administrative agencies is to continually balance the countervailing forces for *accountability* to received authority and *responsiveness* to public sentiment, science and information (Friedrich 1974).

Achieving balance between responsiveness and accountability requires an agency to discern when change from past actions is both necessary and justified, obviously not a straightforward task. Frequently, the wrong choice is made, and an agency commits either the *error of formalism* (staying with past practice when change was warranted) or the *error of opportunism* (straying from past practice when it was unwarranted) (Nonet 1980).<sup>96</sup>

One purpose of *public participation* is to enhance the ability of an agency to discern when change from past policy and practice is required, and when it is not. Using the squeaky wheel approach as the method for deciding when change is appropriate is not likely to serve an agency well over the long term, for such a strategy is far more easily manipulated by powerful "insider" groups than controlled by the agency. Thus, the "information" received from periodic protest from particular advocacy groups is "misinformation" when used to choose when an issue requires a change from past policy and when it does not. Political pressure is not political debate and deliberation amongst the citizenry; it is merely the politics of money and hype.

Herein lies the dilemma of administration, and the crux of the problem of policy symbols like Multiple Use and Sustained Yield. What is often called administrative discretion can be usefully thought of as processes of deciding what kind of problem a given situation fits, what kinds of solutions are generally applied to that kind of problem, and what information is applicable to choosing the appropriate solution. Like the formation of the common law, on which this general process is based, the strong tendency is to follow precedent. However, over time and across diverse situations this simple rule leads toward administrative domination in that the uniqueness of a situation and the fullness of its context are rendered invisible by the very act of categorization into expected types of problems and issues.<sup>97</sup> As a result, the voices of people

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<sup>96</sup>Those with scientific training will recognize these as Type I and Type II errors.

<sup>97</sup>Thorsten Veblen is often credited with inventing the term "trained incapacity" to describe how an individual or organization comes to classify problems based on education, experience and organizational culture. The classic essay on the Forest Service of the 1950's, "The Forest Ranger", by Herbert Kaufman depicts beautifully this aspect of that agency. While much has changed over the last thirty years, the general problem of categorizing problems based upon received agency policy and the constraints of a functional organization structure which is defined by the dual characteristics of scientific discipline and agency program area remains strong. However, it is the failure of this organizational arrangement as an early warning system that makes necessary the ongoing critique on how to reorient and reorganize the agency.

interested and concerned with a specific problem are also forced into categories which both stereotype their interest and dissect their claims into elements which can be differentially satisfied, or ignored.

This paper will begin by examining why policy processes tend to ignore the voices not recognized as the current structure of interests and prices. To fully discuss this problem is far beyond the scope of this paper; however, by deconstructing one concept, I will illustrate how innocent words can mask insidious purpose. The next section takes up the issue of the public and why responsibility for self-governance is frequently viewed with skepticism. Finally, I will argue that the lack of a civic republican model of governance is because of our shackling of the public as discrete interests who simply seek to influence expertise to achieve narrow ends. These reasons are not the full cause of administrative failure. They are, however, arenas where a subtle shift in perspective can have substantial effects on practice.

The first problem is the separation of Nature from Society. This separation is returning to haunt us in the form of "ecopolity," or policy principles derived from "natural" science and "natural" ecosystem processes, principles used to justify social control without consent or voice. The second problem is the concept of the "public," a concept constrained in political theory and administration in order to serve and protect the economic order and current class structure. And the third problem is the lack of institutions for effective community governance, and thus the easy domination of experts over the domain of public life.

While not intended to be exhaustive, these sections are intended to be provocative and to invite the reader to consider other all too familiar concepts in public land and resource management. Such self-reflection is the purpose of this conference on Multiple Use and Sustained Yield, and certainly preoccupies those faced with daily pressures to "go out and do good on the public lands."

### **Voices: Heeded and Unheeded, Heard and Unheard**

By ideology, I mean ... To construct (or represent unknowingly) an ideology is to participate uncritically in the mobilization of ideas for the purpose of social control on behalf of an interest group whose privileges are rendered morally credible by means of the deployment of ideas in a manner appropriate to this outcome. (Stanley 1983:885)

All science, all policy, all organization represents a structure of attention which recognizes some qualities, features, and relationships, but not others. In science the tendency, all too frequently and uncritically, is to reify models based on postulates about how a part of the "world" works by claiming that those models reveal only that which is "really there." Thus, the weakness of the theories and models, according to their authors, is simply that they are partial, not that they can be questioned regarding their fidelity to what might be happening in "the world." While critiques of science may question this claim and ask for greater humility regarding scientific knowledge, scientific language reveals the arrogance of science as namer of that which is to be "real." In this



way, science can become an ideology which serves best the interests of science and expertise in a technological society (Stanley 1978).

Take, for example, the word *natural*. Whether used for "natural science," "natural ecosystems," or "natural disturbance regimes," the term *natural* stands as for a concept of nature which is marked off from human life and institutions.<sup>98</sup> Why? Whose interests are at stake? What powers are at play? Why is the separation important enough to require the separation of scientific disciplines, the separation of scientific education, the separation of scientists, the vilification of "non-natural" science and scientists, and now the raising of "natural" as an untainted standard for policy and administration of public lands? These questions suggest how some voices are unheard and why they are unheeded in the complex policy and administration of public forests and rangelands.

First, *natural* is a very ambiguous standard, as any silviculturalist will readily admit. As a frequently employed example goes, in some forest types forces may combine to suggest "even-age" transformations as the way the forest reproduces itself. Elsewhere change may come in a more scattershot pattern as individual grandmother trees lie down to serve as nurseries for the multitudes. So, "what is *natural*" varies with place, time and circumstance and cannot serve as an mechanistic standard for choice.

Second, because of the fundamental ambiguity of "natural," the social context implied by the term is implicit, and thus ignored. For example, if a forest functioning according to "natural" processes would normally change through fairly large scale disturbances (i.e., fire, windthrow, disease): what is the place of human society in this evolutionary process? Recent archeological research (find citation) suggests that humans have played a major role in shaping the forests west of the Mississippi for thousands of years. Is this long enough to wonder whether the role of human lifeways are integral to the evolutionary processes of plants and animals? And what happens when sudden societal change (say over one to two hundred years) dramatically alters that ecosocial regime; how will the forests respond? The word "natural" hides these questions from our minds.

Third, there are times when "natural" does extend somewhat to human life and that is when a hunter-gatherer or swidden agriculture society is superseded by a society based upon permanent agricultural, colonial extractive, or energy-based industrial economic and social organization. Here the moral content of "natural" peeks through as the past stands in mythic relationship to the present, and can be called upon to chastise people living today based upon the cosmology and values of those who preceded them. This relationship is

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<sup>98</sup>William Burch in his classic work *Daydreams and Nightmares: A Sociological Essay on the American Environment* (Harper and Row 1971) examines the transformation of nature from that which humans could influence like they influence other people (they could talk to it, plead with it, threaten it, thank it) to that which is the source of specific causes for each effect, and thus the basis of modern science.

frequently seen in the United States when the Native American societies are elevated as sources of moral order, and used to critique the moral fall of modern life.

Taken as an example of how voices are attended and ignored, used and abused, this concept of natural falls close to the heart of those who administer the public forests and rangelands. If allowed to stand as the measure of enfranchisement, it defines us as alien, our society as exploitive, our lifeways as imprudent, and the moral simplicity of the past as the ultimate good from which our fall dooms us to damnation. Why do we not usually see this moral language in our discussions of "natural ecosystems," "natural disturbances?" Why, even as you read these words, do you wonder how I could "misunderstand" something so perfectly obvious. *Quod erat demonstrandum* .

### **Responsibility: To Whom, For What, and If Not, Why?**

A class of experts is inevitably so removed from common interests as to become a class with private interests and private knowledge, which in social matters is not knowledge at all. (Dewey 1927:206)

The framing of the concept of "public" mirrors the fate of "natural." Whereas "Natural" defines the moral quality of an ecosystem, so "Public" defines the moral capacity of those who form a society. For John Dewey, public takes meaning in contrast to matters of private interest and private effect. Political theorists like E.E. Schattschneider (1960) follow this approach in arguments about the organization of "the Public" as a mode for effecting choices when their scope reaches beyond the private sphere.

Public ... the people as a whole; a group of people having common interests or characteristics; of or relating to business or community interests as opposed to private affairs; devoted to the general or national welfare. (Websters Dictionary)

Yet, political theory generally reduces the idea of "the Public" to a set of aggregated individuals, rather than understanding that the concept of "the Public" is a plural concept by definition (as *Webster's Dictionary* affirms). This error is repeated in administration when claims for governance are reduced to claims for influence on the administrative decisionmaking process. In this way it is possible to think of *public* participation and mean only that individuals should have the opportunity to attend meetings, come to "public" hearings to listen to administrators talk about what they intend to do, and to spend time writing "memos" to administrators expressing individual opinions regarding the desirability or warrantedness of those plans. This is an odd, and clever, twist of language. For if "the Public" can be reduced to mere collections of individuals, then, unless there is a single viewpoint or interest to which each one subscribes, how can a reasonable public administrator respond to a multitude of viewpoints and interests without seeming to be arbitrary and capricious? Yet, conventional political theories allow administrators to act *as if* their concern is individual choice and liberty, thereby making the very idea of the collective nature of "the Public" unpalatable in a pluralist, liberal society.

So, as Manfred Stanley cogently describes, modern liberal political thought equilibrates politics and markets by using the utilitarian based principles of markets to define "the Public" in the political sphere. Each of the five main categories of "public" start from an aggregate of individuals and then relate them to the political life of society.

One modern sense of the public is an aggregate of individuals and their preferences. These preferences are made known in reciprocal relations of utility exchange. We may call this *the public as market players*. Insofar as the market principle is trusted, the state is regarded as existing only for minimal purposes of common defense, subsistence welfare, and educational preparation for market competition.

A second sense of the public is an aggregate of organized interest groups which importune those who control the mechanisms of social distribution (especially the state) to favor them. We may call this *the public as client*. Insofar as expressed preferences are the criteria of political discourse, this is a variant of the market principle but with a stronger emphasis on groups and on the central mechanisms of social distribution. Hence, this view of the public is more compatible than is the first with the positive principle of a general welfare state. This is the public of "interest group liberalism."

A third sense of public is aggregates of persons or groups that are constituted as publics by way of common effects arising from policies made by decision-makers that have an important impact upon the lives of such aggregates. Thus, for every major decision that has important effects upon an aggregate of persons or groups, these effects make a public out of such an aggregate. We may call this *the public as patient*.

A fourth sense of public stresses consumption, an interest that supposedly binds together all persons however otherwise diverse. We may call this *the public as consumer*. This view at first seems the same as the public defined as market players, but in recent years criticisms of the market mechanism's performance have stressed the disjunction between market behavior and consumer interest.

The fifth sense of the public stresses another supposedly common interest, that of producers. At its most extreme, the image of society appropriate to this perspective shifts from a market to a factory. In this case, corporate principles of efficient management in both state and society become the paramount standard of rational action. ... We may call people in this model *the public as functionaries*. (I use this term rather than the more benign word "producers" because the institutional reality of this perspective is that people are in fact managed, coordinated, and occasionally coerced into performing functions that are designed not by them but by experts in industrial engineering and management.) (Stanley 1983: 858-860)

Stanley goes on to ask what each of these five concepts of public have in common and concludes that it is their divisiveness.

All these conceptions divide people from each other (i.e., variability of preferences, interests or victimage) or within themselves (i.e., commonality only by virtue of a one-dimensional identity -- consumer or producer). *In none of these perspectives is the public defined as comprising whole persons who share an identity which is superordinate to whatever else divides them.* (Id:860)

Like the standard critique of economics, willingly acknowledged by economists, these conceptions of "the Public" maintain the status quo and do not provide critique of the current distribution of wealth or power, class or status. Indeed, it is all too easy to maintain these differences by simply stereotyping individuals or groups on the basis of an interest or preference or position in the social division of labor. Think, for a moment, on the differences in how the "opinion" of the logger is regarded next to the Chamber of Commerce, the mother next to the environmentalist, the birdwatcher next to the elk hunter, and so on and on. How quickly each of these categories calls up an expected image of an individual based on a minute aspect of their whole self. Should we not be troubled when such partial and inadequate stereotypes channel attention away from "public" or shared, common interests and toward individual or group specific concerns with the use and investment of societal (public) resources? Yet, as we all know, not only does this characterization accurately describe what happens in the administrative policy and decisionmaking processes, but it also fits more generally accepted notions about the place of public participation in administrative decisionmaking. What is frightening about the fragmentation of "the Public" into interest specific claims to specific outputs or uses of the public lands is that these specialized claims are connected to the legitimacy of the interest, and thus serve to limit enfranchisement of interests based upon who is doing the stereotyping and valuing.

Few debates are waged as stridently as those surrounding the role of public participation in executive administrative agencies, and nowhere are these debates more rancorous than in the instance of national forest planning and management. The view of "the Public" as merely aggregations of preferences, interests, opinions, and willingness-to-pay was most strongly stated by Krutilla and Haigh in a well-known article in 1978 in which their primary argument centered around the claim that the purpose of national forest management was economic efficiency. However, they also took up the question of the role of public participation in administration.

Once the basic legislation is enacted and a general framework established, a body of regulations is needed which translates the general directives into management policies and practices. Provisions of the RPA encourage the recruitment of talent and specialized expertise from outside the Forest Service to assist with this extremely important task. Use of expertise from the public could also be a feature of public involvement at the individual forest land use planning level, but in this case we maintain that professional expertise

is called for rather than personalized opinions about the objectives, criteria, or planning results.

Nevertheless, personal opinions in terms of the preferences of *relevant consumers* of forest and rangeland resource services are required. Indeed, they are necessary for estimating the demand for goods and services not provided through market processes. Efficient planning and management demand that the planners allocate resources to maximize the collective benefits; this cannot be done without obtaining information on consumer preferences for nonpriced goods under the same terms as for marketed services. This requires a mechanism that will obtain an expression of demand for services, constrained by income and price considerations, that is no different from the demand expressed for marketed commodities of forest lands. ... In the case of some public goods, however, such as *option* and *existence* values, which represent a special class which is difficult, if not impossible to measure, there will be a gap between what can be imputed by means of a utilitarian framework and the sum of the values of public goods. Here the public is involved through the actions of officials participating in the budgetary process who are responding to the interests of national constituencies. In no case, however, should issues of national interest be subject to veto by parochial interests at the local level. (Krutilla and Haigh 1978:414-415)<sup>99</sup>

Consumer. Preference holder. Interest. Nowhere in these concepts of public is there responsibility for the outcome. Just as the market places no blame on the buyer of products which exploit people and the productive capacity of the resource base, so market models of liberal politics require little accountability of individuals for the consequences of their preferences on the commons (Landy and Plotkin 1982). Thus, while such concepts of "the Public" seem to manifest individual liberty and choice, they also maintain institutional domination and exploitation. Simply put, this is because when they use the argument that there is no responsibility for the outcome, analysts like Krutilla can comfortably reserve the final choice to the expert. However, expertise is simply another form of limited attention and is subject to large, impersonal forces. It is not a substitute for public deliberation of alternative policies and management regimes, whether at the national level or at the local level. To argue that local interests are merely parochial, is with a sleight of hand to turn the ideals of democracy into matters of personality and unequal access to education.

The reason for the constrained and individualized vision of "the Public," says Manfred Stanley, is because of what is missing. In his view, what is missing is the use of the term *public* which stresses "the Public" as persons who are adherents to a constitution (written or not) that makes citizens of a population (Stanley 1983).

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<sup>99</sup>I used a somewhat lengthy excerpt from Krutilla and Haigh to allow the reader to listen closely to the language and the formulation of the argument.

This is *the public as citizenry*. ... The broad core of the classical approach to citizenship stresses a shared constitution that embodies not only rules but a founding myth, a sense of collective moral history, a common-law tradition, and some conception of a good way of life. The principle of public integration is "*civic friendship*," a concept designed to call attention to bounds transcending mere commercial or military utility. In this sense of public, policies are designed to affect the fortunes of the commons in a particular, historically contingent, moment of its moral development. That is to say, public policies are initiated and evaluated in light of a mythic vision of ... a good society. (Stanley 1983:861)

Responsibility becomes less and less a part of our institutional framework the more the modern "market-place" conceptions of "the Public" are embraced. What is the responsibility of the snowmobilers to the cross-country skiers who seek quiet and feel threatened by them? The concept of "the Public" as these kinds of specialized, functional interest groups should strike us all as woefully limited, given the choices at hand. Pitting interests against each other and waiting for the mailroom to fill with letters so as to see which interest should win is clearly not a political institution which improves the quality of debate, enhances the conditions for discussion, or requires the expression of civic responsibility.

### **Governance: Voice With Responsibility**

Unless local communal life can be restored, the public cannot adequately resolve its most urgent problem: to find and identify itself. (Dewey 1927:216)

The challenge, as expressed by Dewey sixty-five years ago, is to restore local communal life and thereby to allow "the Public" to find and identify itself as a civic enterprise organized and defined by governance. The concept of citizen government depends upon *civic literacy*: "citizens must possess the skills and dispositions to act as rulers and to know when this obligation is required" (Stanley 1983: 862). *Citizens must know when the civic good is at stake*.

As classical and modern political theorists from Aristotle to Reich have argued, civic literacy and civic friendship are formed through the practice of citizenship. Citizenship is not an abstract quality of an individual action, rather it is the quality of a sequence of actions whose meaning arises from what might be called their ritual practice. A ritual refers to events which come in regular sequences and acquire meaning from relation to others in the sequence (Douglas 1966:80). Citizenship is not something we can experience outside of the rituals of public deliberation and discourse. As Mary Douglas reminds us, outside their full sequence, individual elements become lost, their existence imperceptible, and their meaning opaque. Her favorite example uses the days of the week to suggest that the meaning of each one comes only from its relationship to the others.

Citizenship takes meaning as a sequence of events which together comprise governance by the citizenry. Our current political institutions, however, have weakened many of the forums and events necessary for citizenship. The low turnouts in national elections are frequently used to indicate a loss of politics and lack of interest in political participation. The inability of citizens to join together and change budgetary commitments which devalue education, environmental quality, family stability, health, or labor is frequently cited as evidence of alienation from politics. None of these views, however, ask how existing institutions structure political forums to achieve these outcomes! In the administrative context, the question is seldom refocused: whose interests are protected by pitting environmentalists against industrialists, workers against owls, livestock against wildlife, ranchers against instream water rights, and so on? Surely, one would respond, the interests of power, wealth and those who benefit from the current distribution of public largess. Surely, one would see that these "conflicts" are conflicts between existing program commitments, including those who directly benefit from the program (both agency personnel and private users), and a conception of the ecosocial community which extends beyond private claims. "The Public" does stand in superordinate position as the ecosocial community, and must be engaged in thoughtful, reasoned deliberation if the "conflicts" listed above are to be resolved in the near term, and avoided in the far term.

Paying for things not now marketed will only aggravate the crisis of politics. The problem is the institutions supporting political life and how they have alienated us as citizens from our whole selves; how they segment us into pieces to be taken care of by specialized agencies; how they ask for an opinion in order to demonstrate why it is reasonable to ignore it. The solution to the problem of "the Public," and the problem of public participation in administrative decisionmaking, lies in the necessity to create, empower, and use political institutions which are based on and require *citizenship*. To some extent, the necessary institutional changes for effective community resource management were once common practice: why were they lost and do we want to regain them?

To a much larger extent, the World is changing, and changes in federal public land management are merely a microcosm of the changes in democratic practice and expectations sweeping the globe. The debates underway challenge our basic concepts of "natural resources," "public," "community," and "interest," these must be wrested away from market-based political theory. The challenge is also directed to accepted processes for making complex social choices, like "rational decision making," "public participation," and "planning." While it is beyond the scope of this paper to fully examine these debates, in order to develop a reformulation of community governance within an administrative and federal context, these concepts must be reclaimed and redefined. I will provide such new perspectives as necessary to the argument in hopes that the reader will look more deeply into these ongoing arguments as essential to understanding the challenges of Multiple Use And Sustained Yield.

## STATE-BASED RESOURCE CONTROL: A CRITIQUE

Leopards break into the temple and drink the sacrificial chalices dry; this occurs repeatedly, again and again; finally it can be reckoned on beforehand and becomes part of the ceremony. (Franz Kafka, "Great Wall of China")

### State-Based Resource Control: Marketplace Politics and the Bureaucracy

... just as rationality can provide a rhetoric for legitimizing past conduct ..., so it can be employed as a *prospective* rhetoric for closing off unwanted alternatives and advancing one's own agenda. Moreover, by focusing discourse on the efficiency of alternative means, instrumental reason displaces attention from the appropriateness of pregiven ends and the class interests that they serve. (Brown 1978:371)

Formal systems of property rights in land and resources seldom protect the individual when her interests conflict with the purposes of the Nation-State (hereafter the State).<sup>100</sup> Most systems of administration of property rights in land and resources are consistent with individual or community uses only when they do not conflict.<sup>101</sup> While frequently cited, the (in)famous Wilson/Pinchot letter of 1905 is especially notable in the protection of local and community rights over the interests of the State. The idea of "the homebuilder first of all" and "those whose livelihood depends on these lands" reflected "real politics" in the sense that it addressed adversaries of the federal forest reserves who feared the loss of their rights to use the lands and resources for profit and subsistence. However, even in retrospect, these words are not empty rhetoric, but symbolize the inherent conflict of interest between the State and the community.

In the management of public lands, this issue frames the dilemma of hierarchy within society and is reflected in the organization of public land administration. The usual problem is: how to respond to local interests when managing national forests? This definition of interest assumes a direct connection in the same sense as the concept of preference in economic theory.

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<sup>100</sup>The use of the term State can easily become confusing in the U.S. context. When referring to the State, I mean to focus on the organized Nation-State as it has emerged in the last two hundred years. The purpose of the Nation-State is to control lands, resources, people, and business in such a way as to benefit the State. Of course, in most States, political rhetoric claims that the purposes of the State are those of the people, or at least are in their collective interest. By totalitarian regimes, we usually mean a State with no need for such public spirited rhetoric.

<sup>101</sup>Louise Fortmann and John W. Bruce present a variety of case studies from around the world which illustrate this general idea. *Whose Trees? Proprietary Dimensions of Forestry*. John W. Bruce, ed., Boulder, CO, Westview Press, 1988.



As such, it focuses attention on the individual and not on the societal organization found, for example, in patterns of resource use, organized political advocacy groups, or integrated trade patterns amongst local markets (Shannon 1981). When individuals are located within their institutional contexts, then the question of local versus national interests can be reframed: how is a pattern of resource use, organization, and exchange embodied in a societal institution with a particular history, culture, knowledge, values, expectations, and place in the social structure? The implication of this reframing is not that some institutions can be sacrificed, but rather that the instruments of policy should fit the institutional context.

Think, for instance, of grazing as a resource use pattern. If one focuses on the individual rancher as a "claimant for so many units of public range," then a conflict between that rancher's claim and other interests in the commons may indeed be irreconcilable on a site-specific basis.<sup>102</sup> Most forest plans aggregated ranchers and claims for grazing allotments into a total number to represent "demand" (actually, this is potential consumption) for grazing. Even with aggregation the dilemma remains because the question still asks: what do you want, how much, where and when? So you may wonder, what questions are missing? One missing question is, of course, whether grazing should occur? Another is, if so, where and under what conditions? One would expect planners to address such issues, but again most forest plans show little attention to questions of whether and why.

Much more fundamentally, what is missing is a recognition of the interdependence of the private claim for public grass and the administrative definition of the "grazing resource," for the grass to be a resource of value in a marketplace politics, it must be used. No use, no claimants, no value, no budgets: so goes the argument, now with the addition of, "if not paid for, then no value." Thus, the grazing resource defines an institution.

... an institution is a pattern of expected action of individuals or groups enforced by social sanctions, both positive and negative. ... Institutions are normative patterns embedded in and enforced by laws and mores (informal customs and practices). (Bellah 1991:10-11)

When we take an institutional view, many questions emerge which are hidden by focusing on the individual, her claims, her willingness-to-pay, or how her use conflicts with or complements other claimants uses and values. With an institutional view, one might ask about the public-private relationship, about the organization of the ranching business as a result of policies regarding public range, or even about how to commingle actual consequences of grazing with a multiplicity of ecosocial relationships. (Like, for example, the use of grazing to maintain the desired grass species when the loss of the buffalo and elimination of fire have doomed a grassland ecosystem to transformation to another type,

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<sup>102</sup>Grazing is leased by the federal government to individual ranchers on the basis of "animal unit months." One animal unit month is equal to the amount of grass required for one domestic animal (usually cattle or sheep) for one month.

with all the concomitant results in terms of wildlife habitat.) However, the reductionist approach (asking only, how much?) serves well the forces of inertia and resistance to change.

This problem illustrates the double-edge nature of the question. If taken as a statement of individual rights to graze livestock on the public range, then the limitation of administrative questions of when, how many, and where is appropriate. The job of administration is simply one of allocation and scheduling. In this formulation, the implied criteria for management is the efficient provision of a good and service. However, the reformulation might consider the nature of the institution of private grazing on public lands, ask whether it should be maintained by reflecting upon its consistency with the overall purposes of the public lands commons. Immediately, the implications of power are evident in these questions. Those whose livelihood depends on private use of the public domain keep the questions focused on the allocation and scheduling level. Others may question this disposition of public largess.

Returning to the issues of "local (parochial)" versus "national," the question of whether individual grazing allotments are rights or whether the institution of grazing on public lands is to be weighed against other institutional commitments changes both the analysis and its outcome. It also changes what is meant by Multiple Use (MU) and Sustained Yield (SY) (or, if considered jointly, MU/SY). If MU/SY means that multiple claims to specific resource uses (rights) should be maintained across the public lands and over time, then analysis should focus on the consequences of interdependent production functions and the outcome should be an equitable distribution of resource claims over the long term. If, however, MU/SY shifts to an institutional focus, then the changes in, for example, the demographic structure and distribution of society, the development of new knowledge on the interconnectedness of global systems, the transformation of the global economy, and the implications for all these broad forces for change at the local level would focus the analysis, and the outcomes would seek intergenerational fairness from the most local to global level.

Analysts may throw up their hands at the impossibility of definitive analysis of these institutional questions. But is that the limiting factor for why these questions are not those that drive administrative decisionmaking in public land management and regulation agencies? Certainly not. Rather, it is that the current organizational structure and current policy and programs are supported by the questions framed as private claims to public resources. The role of the State is defined as distributor of public largess. The MU/SY serves to legitimate some distributions of public resources, and not others. Thus, MU/SY serves, like most standards for natural resource management, to avoid grossly unequal distributions of resources, and grossly unfair consumption of the productive capacity of the land by this generation.

Like any policy standard which "stands against rather than for" a specific outcome, MU/SY is subject to capture by popular ideas; ideas usually supported by expertise, wealth, and political power. So, the "timber program" was explicitly defined for decades as the optimal MU/SY option, because all other

"resources" were considered enhanced when the forest was managed to achieve the highest productivity of timber. Today, many resource managers believe in the necessity of using the annual "product" of the forest -- to not use it is to waste it. Thus, to these managers, current attempts to redefine MU/SY are considered anti-social, and simply as ploys to "lock up" the land and resources (as opposed to using them for social benefit).

It is the intertwining of administrative policy, professional norms, agency culture, education and training, experience, and organizational structure that together depend upon an individualized conception of "the Public." By understanding "the Public" as an aggregation, it is possible to play off one "aggregation" against another, and to so structure this process as to have it appear that the conflicts exist outside of the relationships which define use-resource. One simple example of how this conception of "the Public" serves the interests of the State is the bafflement of production-oriented resource managers about "the logger who is a member of the Sierra Club." The obvious complexity of people as filled with numerous values, preferences, views, opinions, hopes and dreams is rendered invisible by the analysts assumption that people have rational preference structures and can unambiguously use them in making difficult choices.<sup>103</sup>

Public land management affects one-third of our nation's lands, and holds the hopes and dreams for citizens of the U.S. as well as citizens of the global community. As such, the public lands symbolize the search for the Good, the True and the Beautiful. Like the public interest, it is the search which defines "the Public," and nowhere is that search more focused than on the lands which stand as symbol of popular sovereignty. Our task is to reorganize the governance and administration of the public lands so as to meet this challenge of democracy, rather than allow public land management to serve the oligarchy of the Nation-State.

### **COMMUNITY-BASED RESOURCE CONTROL: PUBLIC LAND MANAGERS AS CIVIC ENTREPRENEURS**

"Rationality," "legitimacy," "authority" are structures of consciousness as well as features of face-to-face settings; as such, their construction can be reinterpreted phenomenologically as the praxiological foundations of organizational life, the organizing out of which organizations are constituted. (Brown 1978:365)

#### **Community: An Institution Defined by Governance**

Indeed, the great classic criteria of a good society -- peace, prosperity, freedom, justice -- all depend today on a new experiment in

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<sup>103</sup>"Rational decision making" is usually defined as "a set of limitations on the nature of the value ordering" (Boulding 1964:B162). The requirements for rationality include, but are not limited to, perfect knowledge, an intransitive value ordering, clear alternatives, and a clear objective.

democracy, a newly extended and enhanced set of democratic institutions, within which we citizens can better discern what we really want and what we ought to want to sustain a good life on this planet for ourselves and the generations to come. (Bellah et al. 1991:9)

"Govern" is a verb; action is required. Passive reception of policy is not government. *Webster's Dictionary* defines *govern* as "to exercise continuous sovereign authority over; to control and direct the making and administration of policy."

*Government* is defined as the "act or process of governing; authoritative discretion or control; the organization, machinery, or agency through which a political unit exercises authority and performs functions and which is usually classified according to the distribution of power within it; the complex of political institutions, laws, and customs through which the function of governing is carried out in a specific political unit; the body of persons that constitutes the governing authority of a political unit or organization; the officials comprising the governing body of a political unit and constituting the organization as an active agency." (*Webster's Dictionary*)

The call for public participation is a call for *participatory government*. Few would disagree with this statement; nevertheless, it seems an evermore illusive challenge. One of the central problems of this decade and the coming new century is the apparent inability of current forms of political organization to address and solve important social problems. If we look at the overall federalist structure of government in the United States, we see a general loss of the governing community.

By governing community, I mean a self-consciously organized group of people whose everyday conversation includes political discussion and debate, who are organized to make choices about use and control of shared resources, and who take responsibility for social control and enforcement. The obvious ingredient for such community is real control over shared resources.<sup>104</sup> This is the element most often missing in the federalist structure of government, although it may be reclaimed through local protest (Fortmann 1986).

Even though local governments have significant land use authority, the locality frequently is merely a cog in a broader structure of policy and control. Thinking most specifically of the kinds of rural, sparsely populated regions where national forests, public rangelands, and wildlife refuges are located, these places are torn between two competing elements in industrial and post-industrial society. On the one hand, they are viewed as empty spaces, and

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<sup>104</sup>Louise Fortmann's work on northern California is of interest here. She has examined the role of protest in securing de facto, if not de jure, control over local resources, even when they are controlled by the state or federal government. In addition, she has described the forms of customary law which serve as local community resource management regimes.

therefore available for waste disposal, ranging from mega-landfills to nuclear wastes. However, still viewed as empty spaces, urban people see them as retreats from modern life. Both views overlook the meaning these places have for those who live there now, and those who have come before.

In many instances, the public lands are intertwined with the immigration of Europeans whose settlement left a history of resource extraction within colonial economies. Whether trapping, mining, timber, water, or agriculture, the products extracted from a natural resource-based economy supported life and needs far away from their sources. Communities grew up around these different natural resource economies, each with its distinctive character. Historically many of the arrangements for use and control of resources gradually became custom, and then law (Gates 1968; Hurst 1956).

Today, as many of these communities face the loss of these defining economies with the transformation to a post-industrial society, the locality must once more become explicitly self-conscious of its political role in governance. All too frequently, however, communities discover their helplessness against the power of the state and federal levels of government. They learn that their social and biophysical characteristics are being categorized and dissected by computer programs designed to find a place for the garbage as far from where lots of people live as possible -- and those places are where they live (Myers 1991).

These dilemmas of top-down government are neither new nor unique to the United States. Rather, this is the set of forces against which the "new world order" is emerging. This is the problem around which new models of community resource management are being built in countries around the world. And, this is the hope for reawakening the capacity for self-governance in the U.S.

Communities are institutions defined by governance. Governance is the act of living together, finding mutually acceptable uses for land and resources, and engaging in ongoing debate and dialogue to define and resolve mutual problems. While communities develop a way of life, an identity, and have an economy, their role first and foremost is governance. This role is frequently overridden by the State. While protest can call attention to specific instances of imbalances, it is not an affirmative model of democratic governance (Aikman 1991; Fortman 1986).

However, the governance challenge facing public land administration extends beyond the necessity of enhancing and protecting local democratic forums. The federalist system itself must be reconsidered and reformed. Here is where the concepts of "natural resources," "rationality," and "expertise" must be examined and purged of that element of their meaning which effectively closes off debate and dialogue among the citizenry. This is the subject of the next part, and then a reconfigured model of administrative governance will be presented in the final part of this section.

## Community-Based Resource Control: An Old Idea

The most profound decisions about justice are not made by individuals as such, but by individuals thinking within and on behalf of institutions. (Douglas 1986:124)

Who defines *natural resources*? What distinguishes *natural resources* from other parts of the "blooming, buzzing confusion," to use William James' phrase? When you go to the forest to hike, or sit by a streamside to meditate, or stand for hours on the greenchain, or go down into the depths of a coal mine, are you defining natural resources? No, you are hiking, sitting, working and enduring. The concept of natural resources is not produced by people living, working, playing and loving.

The Nation-State defines *natural resources* as those elements which sustain the Nation-State and its economy. The Nation-State develops and protects those institutions which produce a stable flow of natural resources, and efficiently transform them into mobile capital available for maintenance of the Nation-State (Hurst 1956). The Economy is also an instrument of the Nation-State, not a necessity of human life. If the Economy were defined by merely the exchange relationships among people differently situated in the division of labor, it would not necessarily serve the interests of Capital. It is a mistake to conceive of the Nation-State as equivalent to a "federal" or "national" level of political organization. Rather, the Nation-State is revealed by the *purposes* toward which institutions are oriented, it is located in the structure of outcomes across institutions which are produced by the interaction amongst institutions, not the working principles of any single institution (Thompson and Schwarz 1990).

These statements are neither new nor radical. For example, Charles Hardin (1967) demonstrated that the primary contribution of the Soil Conservation Service had been to increase productivity, not control erosion (Burch 1971:122). All too frequently, "national conservation goals and needs soon become subordinated to maintaining the prevailing local stratification system rather than soils" (Id:123). William Burch (1971), citing Philip Selznick (1966), Phillip Foss (1960) and Richard Cooley (1963), argues convincingly that local politics when reduced to liberal politics of tradeoffs amongst beneficiaries will nearly always maintain the current stratification of class and power. Thus he cites Philip Selznick's famous dictum:

For the things which are important in the analysis of democracy are those which bind the hands of good men. We then learn that something more than virtue is necessary in the realm of circumstance and power. (Selznick 1966:266)

Recognition that governance requires institutions which are based upon civic literacy (recall this means that citizens must possess the skills and dispositions to act as rulers and know when this obligation is required), means that current political institutions which reward interest-driven behavior on the hunch that the greatest social good will result must be redesigned so as to

require civic conversation when the civic good is at stake. They must also shape that vision, that symbolic destiny in which civic literacy is realized and civic responsibility is exercised.

An effect cannot be restrained nor removed unless by an opposed and stronger affect.

No effect can be restrained by the true knowledge of good and evil insofar as it is true, but only insofar as it is considered as an affect. (Spinoza *Ethics*, Part IV, Prop. 14)

The civic good is most assuredly at stake in the use, management and protection of the bounty and productivity of the earth. The question is how to release the passion of concern and extend the logic and limits of care to redesign the economic and political institutions organized to maximize the production of natural resource outputs.

The problem lies in pulling the knowledge and practice of conservation into reshaping these institutions. However, this problem is very much a product of liberal political organization and capitalistic economics. A range of institutional arrangements for conservation can be identified, many of which are in use today and some are historical antecedents to current institutions. On one end of this spectrum are highly localized institutions in which the users and managers are the same set and local social enforcement, as in the Medieval setting described below, is adequate to define and constrain the limits of individual behavior. On the other end lie reconfigured administrative structures based upon concepts of community resources management, communities of inquiry, and designed to explicitly serve as democratic forums for participatory governance.

One reason why these options are not usually connected to administration is that, to some extent, the concept of community resources management flies in the face of the very definition of natural resources as instruments of the State, and the Economy as the instrumentality of the State. While State control of land and natural resources is ancient (extending back to the Neolithic era and the emergence of cities) (Perlin 1989), modern administrative management extended control of the State beyond historical precedent. Indeed, the very idea of public administration was to extend State control throughout society; a goal achieved well beyond the expectations of its early advocates.

### Lessons from Medieval England

For comparison, let us look a moment at resource management and regulation in the Medieval period in Europe, a comparison useful because these were the institutions brought by colonists to America. Most resource regulation and management occurred at the local level of the village, even though the village was in a dependent relationship to the baron or King.

In the large part of England where the system of open field or "champion" agriculture was practiced, for example, most regulations

were made in the town or village. This unit of society decided which crops would be planted, in which fields, on what schedule, how they would be harvested, by whom, how they could be transported, stored, and sold, where and when livestock would be allowed to graze, how much labor would be provided by each type of citizen, how fields would be fenced, where roads and paths would run, and virtually all other questions of resource use in which the village had a general interest (e.g., Ault 1965; Steinfeld ).

These regulatory policies were "made" in a complex way. At the most basic level, it seems fair to say they were negotiated on the basis of shared understandings of behavior appropriate to the circumstances. Thus, for example, a citizen's obligation not to accept undertenants, to mend paths and lanes in his area, to keep sheep out of bean fields during certain periods, to clean drainage ditches according to the proportion of his land holdings, not to keep cattle in highways or "in other place to hurt his neighbors," not to keep more than the customary number of sheep, to gather firewood only in certain places and at certain times, and so on, can all be taken to reflect common understandings of acceptable behavior in the village of Great Horwood, Bucks in 1583 (Ault 1965:89-90).

Exactly how these regulations were worked out is well beyond the scope of this study. But it is useful to say a bit about how they were not worked out. First, they were not voted upon and were not based upon a principle of political equality. ... Second, and conversely, it is equally true that regulations were not simply dictated or imposed by officials. Whether or not the lord of the manor could in principle set the rules under which the manor and village operated, it is clear that he did not do so for most natural resource regulations. These were more typically worked out by the citizens and sometimes ratified by the lord. Depending on the village of origin they might be described as ordained "by the whole homage and by the freeman," "by the whole township," "by the community of the town," ....(Ault 1965:41)

For the most part village regulations were promulgated as rules of common behavior ... generally accompanied by set fines, ... some or all of the fines when to the village church. In many villages, tenants, citizens, and parishioners were the same group of people, a group that was accepting growing responsibility for poor relief and other community services. Finally, it was not uncommon for some portion of the fine to go to a citizen enforcer. (Meidinger forthcoming)

### Lessons from USA Today

Is this an idyllic past no longer possible in modern industrial society and global economies? Stanley Crawford in *Mayordomo* (1988) describes much the same model of village resource control in New Mexico on a "ditch" which irrigates a few dozen properties. All across the southwest similar "ditch associations" are organized to dig and clean the ditch, maintain it with the labo



of those who depend upon its water, and allocate water in times of scarcity based upon accepted community principles. These organizations also enforce these commitments and regulate the quantities of water due each user based upon locally developed criteria. The reason Crawford wrote his book was the imminent threat of creating private water rights where each user received a legally set quantity of water, a quantity not flexible when flows were low or needs varied.

Louise Fortmann in her recent studies of Northern California writes of the extensive set of customary laws which define and regulate local resource use. She shows how these customary arrangements are very much like similar arrangements in other societies. However, they are frequently at odds with federal administrative control and may not serve the interests of Capital and the Nation-State.

The failure of centrally planned societies comes as no surprise to most Americans. Somehow that lesson is not often extended to public land management, except by the "Far Right" which wants to extend the libertarian model of rights and swallow the public commons into private use. If, however, one looks at the complexity of knowledge required for natural resource management and regulation, then the inability of single organizations with constrained budgets and limited personnel to encompass the vast richness of detail and knowledge is simply to be expected.

The role of community governance is to bring into the use and protection, management and regulation of land and resources the wealth of knowledge located in social organization. For example, to return to the grazing example of before, whenever one wants to cite an arrangement which works on federal rangelands, it is always the grasslands within the national forest system. The cooperative management and control of those lands, the return of investment to the land, and the empowerment of those whose lives are deeply shaped by the land as the knowledge used for management stands as a shining example of what is possible.

Thus, community level governance of common public lands is not inherently "too localized, too parochial, to selfish." If the local community is pitted against wealthy national advocacy groups or powerful, unfeeling international corporations, then, yes, strong and rancorous local protest is the likely result. But when the rich local knowledge of the people whose lives define, shape and value the bounty of the land are part of the governance for the commons, then the complexity of knowledge can more easily match the complexity of that which is to be known and understood: the ecosocial community of the public lands.

With some general idea of what community governance might entail and which dangers must be overcome, I will turn to a specific model for public administration based upon a community management model.

## POLICY COMMUNITIES: A NEW MODEL OF PUBLIC LAND MANAGEMENT AND ADMINISTRATION

Mobility may in the end supply the means by which the spoils of remote and indirect interaction and interdependence flow back into local life, keeping it flexible, preventing the stagnancy which has attended stability in the past, and furnishing it with the elements of a variegated and many-hued experience. Organization may cease to be taken as an end in itself. ... Organization as a means to an end would re-enforce individuality and enable it to be securely itself by enduing it with resources beyond its unaided reach. (Dewey 1927:216)

This section begins by developing a critique of how policy issues are framed and discussed within the administrative context. To locate this current model and to develop my proposed model, I have drawn upon a formulation of the liberal forum and the democratic forum for policy deliberation developed by Manfred Stanley (1990) to complement his work on citizenship cited earlier. The first section examines the organization of the liberal forum, and uses it to critique current practice. The second section takes up the democratic forum model and uses it to help organize the presentation of the policy community concept of public administration which is the centerpiece of this paper.

### Critique of the Liberal Forum Model of Policy Debate

Policy communities are formed when governance questions are asked. These policy communities can be organized primarily as *liberal forums* or *democratic forums* (Stanley 1990). Conceived as liberal forums, the purpose of debate is *policy education* when scarcity creates the necessity of hard choices.

The forum exists to educate people in the range of alternative policies of the sort debated by thoughtful policy elites, and to enlist the citizenry in these deliberations. The range of policies is constrained by the imperatives of the market economy, including the morale of the business classes (Stanley 1990:242).

To engage the public in this educational process, "issues must be phrased so as to illuminate relative trade-offs between morally plausible and politically practicable policy orientations" (Id:243). As values are clarified, consensus can be sought. Thus, consensus on a policy commitment is ideally based upon value-orientations consisting of multiple preferences for multiple needs and wants. The language of debate is that of trade-offs, costs and benefits, and the will to endure the pain of deprivation. To this forum come participants conceived as capable of having infinite needs and wants, and thus who must reconcile themselves to the limits on both.

The liberal forum conception of the policy community was clearly illustrated in recent struggles over the future regulation and administration of the Adirondack Park in northern New York. The governor appointed a commission of powerful policy elites to determine a new consensus, a vision, for use and regulation of private land in the Adirondack Park. The basic principles

underlying the organization and operation of the commission were exclusive access to the process, executive control of the process, secrecy of information, and assumption of legitimacy based on executive power. While public hearings were held across the region and state, they were simply events for recording preferences as individual after individual stood up and said what they wanted the park to be like relative to their station in life. The commission never became a liberal forum in which empathy could breed consensus as individual's values became clarified in terms of both the actual consequences on the land and society and in terms of the costs to the needs and wants of others (the educative function of the liberal forum). The result was the failure of the commission to create a new vision of the Park which could authorize continued use and management of the natural resources. The politics now is the politics of protest, a politics designed to stop action.

The processes of land and resource planning in the federal agencies differ little from the experience of the Adirondack commission. The purpose of federal administration is to control the use of the public lands. Thus, to the extent that any kind of policy forum emerges, it is limited to alternatives consistent with the interests of the Nation-State and its Economy. The liberal forum language is evident in the conception of the process as beginning with ideas from experts, moving to debates about trade-offs amongst alternatives defined by these elites, deriving legitimacy from discussions with interest groups and individuals, and ultimately seeking consensus based on economic realities and political practicalities. In other words, throughout the process the interests of the Nation-State a first and foremost in that they limit the terms of the debate.

Clearly, the concept of *multiple use* derives from the liberal forum model of policy development. While certain trade-offs must be accepted, some range of diversity of uses is possible to the extent that they "do not conflict and can live with each other." The concept of *sustained yield* similarly support the interests of the Nation-State in that it focuses policy attention on the continuation of business and therein the necessity of an adequate, sustained input of required natural resources into the production process. Taken together MU/SY encodes the limits on debate necessary to force a perceived consensus amongst losers that their sacrifice is for the greater good. However, this consensus has diminished as localized policy deliberations throughout the planning processes have revealed the constraints on policy options imposed by federal administrators determined to serve the interests of capital in the immediate term rather than maintain the integrity of ecosystem processes in the longer term.

Public administration as a government form is in fundamental conflict with community governance. Public administration is an instrument of the Nation-State and as such was established to ensure that individuals and businesses continued to serve the interests of the Nation-State and its Economy. Public administration emerged within the conception of a national community and national economy at the turn of this century. Within the context of national community, how could citizens, located in towns and cities separated by both geography and culture, develop policies to sustain the Nation-State? Predictably, as a more centralized government based on the proliferation of

public administrative agencies grew so did increased demands for popular sovereignty. The popular referendum and the extension of voting rights, for example, both occurred within the first few decades of the 20th century. Whereas these examples represent pressures to increase citizen control, the administrative agencies emerged to control citizens and natural resources.

We all recall that in 1907 the first task of the newly formed Forest Service was to establish its clear authority to regulate all users of the forest reserves. This authority ratified, the Service organized itself as an arm of the Nation-State with the purpose of efficient resource allocation within the context of reasonable equity of distribution in the long as well as short term. But soon the focus on efficiency and productive use pulled the Service toward the interests of the Nation-State, maintenance of its Economy and contribution to the increase of Capital. The debates across the rest of the century illustrate the tensions wrought first at the local level when local interests "lost" as the purpose of efficiency caused shifts in the allocation of resources, and now at the national level as a "green political economy" affects the distribution of resources.

This historical march is interrupted only by the Depression and pre-War era when several mixed models of public-private cooperation were begun, but found contrary to the interests of the Nation-State and declared unconstitutional.<sup>105</sup> After World War II, the interests of the Nation-State shifted to that of primary consumer and the tentacles of the thousands of paths of consumption of both raw materials as well as manufactured goods reached from the U.S. to every part of the Globe. The purposes of administration are strained by this system for, in the instance of national forests, they must serve both the limitless consumptive needs of the U.S. economy, and the drive for increased materials for trade to purchase TVs, stereos, VCRs, clothes, shoes, air conditioners, cars, and all the other things imported to the U.S.

Within this frame, with all this complexity of trade relationships, economic dependency, and concerns for efficiency, centralized administration by highly trained experts is clearly the only mechanism capable of controlling the factors of production. And this is the conclusion we are supposed to draw -- throw up our hands, say "how can I deal with all this," and abdicate our obligation to the experts. However, there is another answer.

### **The Democratic Forum: Integrating Policy Communities Into Public Administration**

... it becomes clear that formal organizations are essentially processes of organizing enacted by persons. Given this view, the factors by which the organization is analyzed, such as power, authority, or technology, can be translated into actions that people

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<sup>105</sup>What was radical in the 1930s -- that business should define effective rules of corporate conduct and contribute to enforcing them -- is now the emergent model of environmental regulation (emissions trading in air pollution markets) and the defining quality of land use control in privatized landscapes like the Northern Forest Lands of the Northeast.

engage in order to generate and maintain various features of the situation. (Brown 1978:371)

In contrast to the liberal forum model stands the idea of the democratic forum. The working principles of the democratic forum can be described in terms parallel to the liberal forum (Stanley 1990:246). First, the purpose of the forum is civic (rather than policy) education. While policy issues are the subject of discussion like in the liberal model, the difference is that the purpose of discussion is to question how society works, how the economy is structured, what interests are served or not served by different policy options, and so on.

In other words, democratic forum pedagogy would reveal to citizens the ways in which they not only influence policy makers but *are* policy makers, consciously or not, through means that range from how they use their language to the institutional practices in which they daily engage (Id:247).

The purpose of deliberation is to reveal the structure and workings of society and economy, and therein to achieve better understanding of their organization and workings. From this enhanced understanding can emerge a collective commitment to a shared vision, to the maintenance of community institutions, to support social life. Thus, the empathy built from dialogue begins with understanding the multiple social worlds -- worlds our friends and neighbors inhabit -- and is followed by the ability to move across them in the course of daily life, or administration.

Stanley uses the analogy of immigration to illustrate this process (Id:250). First, one must crystallize one's own experience by articulating it and presenting it to others in ways they can understand. Second, one must come to terms with the emotional costs of social change in one's life, a process Stanley calls "griefwork." Third, one must critique received stereotypes which are encoded in organizations, and thus seem as "natural" givens in the order of people and things. Fourth, and finally, one must have hope, and believe that this process leads to the reconstruction of institutions and the betterment of society.

To undertake this work, participants must recognize, and be recognized, as complex social beings whose identities are composed of memberships, memories, mythic themes, work, family, and place. As deliberation progresses on policy issues, citizens will learn about the multiple social worlds they and others inhabit, they will become aware of the everyday processes of migration across worlds as they talk to their children, go to the store, go to work, go to church, and go for a walk in the woods. Navigating these social worlds is fundamental to policy discourse and to administration.

If public administration were organized more along the lines of a democratic policy forum, rather than a liberal policy forum, how might it be organized differently? Six features will be used to present the outlines of a new model of public administration based upon the principles of a democratic forum. These features include: interest, information, fairness, values, permeability, and interdependence.

To have an *interest* in a political sense is to have a connection either recognized or unrecognized. Many political scientists frequently substitute the term "stakeholder" for interest to more explicitly call attention to the existence of a connection. The mistake common to nearly every instance of organized policy debate is to assume that interest -- that which connects individuals and groups to the policy issue -- is the limit of participation. Thus, one generally sees the modifier of "special interest" to denote that not only does she have a connection, but it is a private, or thereby limited, connection. This conception of interest fits well with liberal models of politics as all the interests are simply pitted against one another and the survivor takes all (a model one cannot help comparing to the Roman coliseum).

Within a democratic forum model, however, interest is simply what brings you there. The connection establishes individuals and groups as necessary participants at the table. Once at the table, however, migration across social worlds allows for political discussion which creates from empathy, a greater understanding of the issue and alternative policy responses. From a policy design perspective, the presence of multiple social worlds leads to questioning and opens new options for policies. Thus, while interest helps structure the membership of policy communities, once at the table it is the multiple social worlds which support a democratic forum for policy deliberation.

*Information* is crucial to policy discussions, however, it is usually assumed to encompass either technical analysis of scientifically generated data, or political feasibility of alternative policy options. Information is frequently viewed as "neutral," in the sense of being a "true" representation of recognized or unrecognized interests. It is viewed as neutral in another way as well, in the sense that it is not subjectively framed, but stands in objective relationship to multiple subjective perceptions.

In the democratic forum model, information emerges as borders between worlds are crossed, as intersubjective understanding frames the relationship between interests and situation, ideology and culture, and knowledge and action. Information is created through deliberation. Its meaning requires negotiation of multiple world views. To analyze data requires placing the data within multiple subjective frames, reconstructing identities, interpreting the consequences from multiple positions, and evaluating the potential choices across multiple frames of reference and criteria. To say that one values diversity, is to say that the value of this intersubjective policy deliberation is essential to intelligent policy making.

*Fairness* within this deliberative context is more than a simple model of due process, or even a more extended model of intergenerational fairness. The multipositional quality of the participants clearly requires situated criteria for fairness and a conditional application of criteria to circumstance. The process of deliberation will test and play with the languages of justice as spoken by each different voice. From these conversations, a new language which blends the others may slowly develop as each citizen learns to hear the different voices and how to incorporate new ideas into her own understanding. Whenever one moves

across any social boundaries, this process always occurs until one slowly feels less a stranger and more a member.

Policy communities are organized for political discussion and governance. As such there are several features of organization which make them policy communities and not simply neighborhoods. First, developing the language of fairness is the primary work of the community. Second, this language emerges across problems and over time because members of the policy community are jointly related to many specific problems within a policy issue. This means that different members of the community are likely to be differently affected in the context of each specific problem.

Like John Rawls theory of justice where one does not know what generation one might be born into when making up the rules for intergenerational fairness, so policy community members are sometimes greatly affected by a problem, sometimes less. To illustrate, take the negotiation of rules for assessing contributor damages in toxic waste dumps. A relatively small number of know "dumpers" contributed to the many sites around the Northeastern region. For any one dump, one company might be a major contributor or a minor one. The rules of fairness that have emerged as these companies negotiated how to assess themselves to pay for cleanup take into account both the differences in size and resources of the different companies, and, most importantly, are viewed as fair whether a company is a small or large contributor to a specific dump.

The ongoing nature of the community and the development of rules of fairness, lead also to the encouragement for individuals to build trust in their personal capacity for empathy, for their personal fairness, and for their reliability. These qualities are frequently cited in politics, as for instance in accounting for why someone is a "good" lobbyist. Here the consequence is that no one person can "go for broke" on one problem, because next time they may need the empathy of the others. This personal side to the culture of fairness and open deliberation can be more readily destroyed by administrators than enhanced.

*Values* are the next aspect of the policy community which sets it apart from other forms of social organization. From the on-going nature of the relationships and the development of a shared language, comes also a recognition of the importance of diversity. Value diversity is what sustains the deliberative conversation. The purpose of public deliberation is not to achieve sameness, but rather to recognize and value difference. The deliberative conversation sustains the multiple layers of social life, and therein lies the next feature: the conversation must remain *permeable* to new voices and not become a closed conversation. Thus, exit and entry must be possible, even though considerable work will be entailed each time someone enters, and to a lesser extent, when someone leaves.

The last feature is *interdependence*. No policy community is an island unto itself. All policy issues have webs of connection to other issues and the

consequences of one policy reverberate across others. With this feature we come to the essence of a deliberative model of a public administration.

### **COMMUNITY GOVERNANCE: RETURNING DEMOCRACY TO ADMINISTRATION**

The collective power of the ditch crew of twenty or thirty men can often be felt as threatening or dangerous, but what holds it in restraint are the conventions and traditions that have evolved out of hundreds of years of maintaining acequias -- a complex social fabric binds a ditch crew together far more than the character of a mayordomo or the commissioners, recalling it to a sense of common purpose and preventing the inevitable disputes from flaring into political divisiveness or even physical violence. ... Ditch-cleanings are all very much the same, and in this they often feel more like ritual than work. (Crawford 1988:223-4)

Public administration can become much more a democratic forum and much less an effort of centralized social control. By providing forums for deliberation amongst policy communities, public administration can be transformed into an information organization which traces the webs of interdependence of interest and value. Policy communities overlap and blend one with the other. Part of the deliberative process is to span these multiple policy communities with extended networks of relationships. This is the place and role for public administrators.

Public administration as a top-down, centralized organization of authority emerged at a historical moment where security and stability were overriding social concerns of the day. The structure of formal organization as a pyramid of authority and expertise was an information organization in "non-information age." Without telephone or computers, formal organizations transmitted information about consistent interpretation of policy of time and place. Today in the information age when digital information threatens to overwhelm our waking hours, the kind of organization needed for public land management is different.

Today the problem is organizing, analyzing and evaluating information. The networks of informational relationships span the continent as if space were collapsed into time. Public administration can become a information organization, where the principles of organization are the principles of information. Information is freely shared; the more it is shared, the more valuable and useful it becomes. Unlike authority which is diminished as it is shared, information is expanded as it is shared.

Thus, the logic of administration is precisely the opposite of today. The greater the deliberation across democratic forums, the more expansive the range of authority and action of the administrators. However, to realize this extended social role, public administrators must become teachers and guides for public deliberation. They must come to the table, with their charts, graphs and maps.



They must open the questions which reveal the inner workings of institutions. They must realize the role of professional citizen.

When the multiple policy communities are joined, not divided to be more easily conquered and controlled, then the leadership potential of public administration can be realized. By sustaining the multiple layers of social life, the diversity of social worlds necessary to full and substantial public deliberation can be sustained and enhanced.

## QUESTIONS AND DISCUSSION: SESSION III, VISION IV<sup>106</sup>

**Question:** How do we deal with current economic and political power relationships to get from where we are now to where you are talking about? What are the practical steps we need to take to get there?

**Answer:** Well, I think the first step we have to take is recognizing that we're not dupes of natural resources, that natural resources are things that have been defined by an international economy, and that when we talk about natural resource policy we're usually talking about features of extractive relationships and that we have to think hard about that. And as we think about that, realize how much that has constrained the conversation. So in terms of practical steps, it should simply be self-critical and to look at what it is and to realize that we're not necessarily trying to maintain the economy of a Nation-State, that really isn't necessarily what we had in mind. We maybe had something else in mind, which I won't try to answer.

**Question:** My question is that you talk about moving to essentially a situation where we have public deliberation that expands understanding, that incorporates this diverse perspective, that ultimately builds trust. Do you have anything from your theory in sociology or your empirical work that would give us an idea at what level? Will it work better at one particular level than another level? I mean are we more likely to get that at the community than at the global level?

**Answer:** I think so, yes. I called this community governance because I think this is where one can locate responsibility. Any lower than that, at the neighborhood level, it would be a systems thing, there are simply too many things that are outside the system. The system is too open and as long as the things that affect the neighborhood are outside of the neighborhood, it's not going to be a good location for governance.

The community level can internalize much of that discussion. Now, recognize, of course, it's within this relationship -- and that's why I say I think this is the right one -- because then we can be fairly critical of that relationship within a Nation-State and think about the Nation-State structuring. I mean, they're such a new thing. It may seem crazy or radical that I'm critiquing that, but we're talking about something that is in the history of people brand new.

**Question:** In National Forest planning, the Forest Service first lays out its ideas for the plan. NEPA and NFMA, the advisory committee act, try to mitigate against this, but we seem to be in an adversarial situation which was forced upon us by these kinds of laws. I find in my own work that you have to

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<sup>106</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. All questions were directed to and answered by the author of the paper.

sort of get over the mindsets that people have or the laws themselves. Can you address that? Are changes needed in this kind of legislation that would get us over this that would make it easier to do what you have so eloquently laid out there?

**Answer:** I guess I don't think that we need very many changes in the legislation itself. Now, I might read more closely and discover I mispeak there. It seems to me what has happened is it's just in the debate we hear today about the preservationists as compared to the developers. Now if there was ever a sillier kind of duality, I don't know what it would be. And so I have to ask, who's interest does it serve? And the only interest I can see that it serves are the interests of not having any kind of responsibility, not having any kind of bringing together of those loops of what are the implications of choice for other choices.

So it seems to me that where we need to be looking at is getting away from things that we have created, structures that essentially allow inaction.

**Question:** I'm curious as to the incentive system that's going to be used to make these allocations among the multiplicity of uses that are possible. You've got to take the top one or the middle one. What incentive is there for these people to agree?

**Answer:** We're all in this together. There's no out. I think that is the same thing that brought people to this conference today. There's no out. One of the things I talked about in the paper is that, taking an example from a friend of mine who's an environmental lawyer, in this whole structure looking at different toxic dumps and asking the questions of liability, you have to ask the relative dumpers to figure out relative liability. An interesting feature that developed from those ongoing discussions is that in any particular region they tend to be all the same actors. And so you have all these lawyers representing the same companies, only what you don't know is, in any particular dump, if your likely to be a major contributor or a minor contributor. So you struggle for rules of fairness that are okay depending on which one you are. And you also develop relationships of trust.

Why can't we begin to look in that direction? Instead of this lose-lose model, why can't we see more about developing a set of norms of fairness that no matter where we might lie, we would all agree that the outcome is fair. I guess I see us having to really restructure how we think about these questions in general.

**Question:** I guess the word is "hope" when I see this model, it is inspiring in that sense. I asked Carl Reidel earlier what was needed in terms of the public understanding greenlining. He provided an answer and you expanded on it, talking about basic citizenship, civic responsibility, which does bring hope. But are there some limits to civic responsibility and citizenship regarding the way we view diverse cultures and the way we operate within diverse cultures, within the cultural diversity in the United States? I'm thinking that if one is to have civic responsibility, one has to feel the full rights of citizenship. Many people

do not feel that way, and until people feel the full rights of citizenship, you're not going to be able to come to the point where you can act on civic responsibility.

**Answer:** There are many elements of society and many of voices that are disenfranchised. That's why I began this paper with the voices unheard and unheeded, because I think if one takes a close analysis of natural resources and environmental policy, you can always analyze anything by asking what voices were unheard and what voices were unheeded. Usually, there are structural institutional reasons for that, and I think we do have to become much, much more critical and much, much more inclusive.

Where the enfranchisement comes from, I'm not so sure other than we simply one by one and then collectively start doing it.

**Question:** What is there in the incentive system to compel people to be fair? This is a society that has a lot of people who won't play fair. There are a lot of people in this room that feel "the other side" doesn't play fair. And that's a real problem that we have. So how are you going to get people to play fair? This is not a sandbox.

**Answer:** Sandboxes aren't particularly fair either. In my family, my husband wanted to build one small sandbox. We have two children. I said, no, two very big sandboxes. That has been our typical answer, right? Let's create abundance, we don't have to fight.

I think that the question that you're asking, and which I don't have an answer for, is how do we achieve fairness. I can suggest things, and I have been most intrigued by the example I gave in terms of the rules of fairness that have merged in these very tight knit negotiating groups over the position. But that's so consistent with John Rawls, who would say that fairness is something that comes. The idea is that if you don't know what generation you would be born into in the history of time, what rules would you want to have not knowing where you would end up? In a sense, that process has come very close to that kind of a set of rules.

I think that those kinds of rules are likely to continue to emerge even in the very contentious natural resources debates because there isn't someplace else to go. We have to figure out how to learn to live together. Somehow that means that our notions of civility really do have to change and that includes all of us. And those that don't change, those that become less civil, are likely to become purged out of the group. I think that we are seeing that happen in a number of circumstances. So there is a downside. I agree.

**Question:** The problem is there is a place to go for those that don't want to play fair. It is the courts. That is happening in a lot of the negotiations where everybody participates in a dialogue, if one player doesn't like what happened -- they go to court.

**Answer:** I think that is a very critical comment. We heard earlier today that the idea that institutions are separated and autonomous is a false idea, that there is somehow public administration here, there's somehow the courts here, the legislature here is not right. There is a continuous interplay amongst them and between them over time. Each one of them embodies different principles for making decisions. So the times when we see people go from one context of discussion into another arena, they are calling upon a different set of working principles which then come back and constrain that arena.

So while I understand this specific -- I mean, here you are at a moment in time and this is happening, if one takes a longer view, you see this constant iteration back and forth. I think we have to ask whether that is how we want to continue? If there are principles we think ought to be applied differently, should we be asking questions about that sort of global nation-state level that is this constant iteration?

## Session IV: Response Panels

### I. Economics Panel

Peter M. Emerson, Environmental Defense Fund  
Ann Hanus, Oregon Department of Forestry  
Richard M. Alston, Weber State University

Questions and Discussion

### II. Planning and Management Panel

Hanna J. Cortner, University of Arizona  
Derrick A. Crandall, American Recreation Coalition  
Karin P. Sheldon, The Wilderness Society  
James L. Matson, Kaibab Forest Products Company

Questions and Discussion

### III. Resources Panel

Williard I. Hamilton, Consultant  
Johanna Wald, Natural Resources Defense Council  
Kenneth D. Hubbard, Holland and Hart  
Laurence R. Jahn, Conservationist/Biologist

Questions and Discussion

**ECONOMICS RESPONSE PANEL****Comments of Peter M. Emerson**

Good morning to everyone. It is great to be here. This has been a very interesting and challenging conference.

As Terry Anderson said at the beginning of his talk, economists don't always get a positive reaction from their audiences, so I will follow Terry's good example and start out with a bit of a light story.

My story is about the definition of "inefficiency" as told to me by a lawyer. According to my lawyer friend, the definition of inefficiency is a bus load of economists driving off a cliff with one empty seat!

I was asked by Ross to talk about the strengths and weaknesses of the four Vision Papers. I want to congratulate the authors of the papers. They have produced very readable papers and have synthesized a lot of complex information. These papers are full of really excellent ideas. I just want to say "thank you" for doing such a nice job in terms of getting out the product and setting the stage for this meeting.

I don't have enough time -- Ross has just told me that I have about eight minutes or so -- even to list some of the great ideas that I think are in the papers.

Instead, I will use my time to raise a couple of criticisms and challenges that will stimulate us all to think a little bit more and to pursue some of the ideas that are being developed.

My first criticism basically is that the authors are too nice; they are just too nice. If you sit back and evaluate in terms of today's needs the multiple use-sustained yield philosophy in particular, and if you evaluate public land natural resource law in general, I think you have to conclude that it makes very little overall sense with respect to geographical issues, economic issues, ecological issues, or legal issues. And I am sure there are scholars, some of whom are present today in this room, who can develop the details that would basically support the strong statement that I just made.

Instead of me trying in too short a period of time to get into those kinds of details, I want just to call your attention to two pieces of evidence that you all heard and participated in at the luncheon discussions yesterday. Yesterday at lunch, we heard from two very distinguished and successful political leaders; there is no question about it. Both have been leaders at the state and the national level. There is absolutely no question that Senators McClure and Nelson are distinguished, accomplished, successful political leaders. And in what I am about to say, I want to make it clear that I like politicians and people who do political work -- it is a very important part of our life.

Now, let me tell you the two most important things that our luncheon speakers said yesterday. First, we heard from Senator McClure: "In the political process, it is hard to get a rational discussion." Second, from Senator Nelson: "Once something gets started in the public sector, it is virtually impossible to stop." Those statements are a short and elegant defense of my conclusion that much of our public land natural resource law doesn't make sense with respect to geography, economics, ecology, or law. I think the authors of our Vision Papers, when they revise their work, should be a little more aggressive in making that point.

My second criticism, and I want to spend just a little more time on this, is that the authors didn't give enough attention to the strategy and the details of how to get off the status quo. Now in fairness, Matt Carroll did in his response to questions, and other people did start to talk about it. But overall, these papers have relatively few ideas on the transition process. That is something that really needs to be worked on.

We need to create a whole lot of experiments. I think some of this is going on. I think the Forest Service with the New Perspectives Program, and perhaps the BLM in programs that I don't know about, are doing some of this. My feeling is that we need to do a lot more of it, and we need to have people doing comparative studies of the experiments.

I have a bias of my own in terms of a vision which ties together and builds upon a lot of the ideas that were raised by the authors of the four papers. My idea in the public land management area is that we need to decentralize, that we really need to work on getting incentives and market signals right, and then we need to create the framework within which people and their meaningful communities, as described by Margaret Shannon can go about solving their own problems.

It is certainly a lot easier to make this recommendation than it is to get it into place, and I'm the first one to recognize this. However, I would offer up a couple ideas. First, there is a very important role for government in all of this. Government needs to set environmental baselines. Government must do this job and must lay out the rules of the game. Furthermore, as environmental baselines are developed, we should recognize that it is a cultural, social, political process. That is very important. It is not solely a scientific process, an economically rational process, or one that uses the best principles of public administration.

Once environmental baselines are in place, we need Government policies that in my view really take full advantage of property rights and market-based incentives and really reward success or penalize failure at the point of the management decision. I think that this kind of approach will give us both traditional goods and services and environmental outputs in an efficient and equitable fashion. I think it is the kind of approach that will promote cooperation; it depends on voluntary transactions. It helps to reduce conflict, and, in turn, tends to build empathy and the best social aspects of community that people are striving to achieve.



I also think that it is *very* important for you to recognize that this approach will lead to the development of companion markets in conservation, environmental protection, and preservation. These companion markets can be thought of as running parallel to our traditional markets for goods and services. They reward people for being good conservationists.

Companion markets are going to manifest themselves in terms of transferable development rights, in terms of land banking, in terms of emissions trading, in terms of deposit refund systems, in terms of land trusts, and so on. This is *very, very* important. This is the only way that I can think of that we can break down the dichotomy of the environment versus the economy. Furthermore, this process is going to generate a lot of useful information and such information is key to leaning how to do better environmental protection.

### Comments of Ann Hanus

Gifford Pinchot, patron saint of the Forest Service, said:

Conservation is the foresighted utilization, preservation, and/or renewal of forests, waters, lands, and minerals, for the greatest good of the greatest number for the longest time.

Nevertheless, we are here, nearly a century later, still trying to figure out how these words should be transformed into practical and far-sighted federal land management. And, we are adding to his commodity oriented statement other non-market values such as fish and wildlife, aesthetics, and recreation.

I have spent almost seven years working on federal forest and spotted owl issues in Oregon -- so many of my comments will be based on that experience. In Oregon, trying to transform this philosophy has resulted in a difficult, painful, and bitter time. It is a time that is forcing us to re-think our approach to federal land management. The spotted owl has brought the debate to the forefront because it hits the heart of multiple use. The spotted owl itself, is becoming a dominant use of the forest land. Furthermore, the "Gang of Four" report struck a blow at the federal forest plans by assigning to the current forest plans low or very low risk ratings for viable spotted owl populations and habitat for marbled murrelets, other LS/OG species, and sensitive fish species/stocks.

I believe that Carl Reidel and Jean Richardson are correct. We must break out of our current mode of thinking. Our present path has led us to a highly divisive, bitter debate. Changing demographics due to higher population growth particularly in urban centers and changing values combined with polarizing politics have contributed to today's entrenched, highly charged situation.

As Reidel and Richardson looked to Russia to help them reframe the issue, I looked to Europe for some inspiration. Several years ago, a Danish forester, Dr. Niels Elers Koch, visited Oregon and compared our concept of sustainable forestry with Europe's. I feel that his comments were particularly revealing.

Dr. Koch observed that the battles over the Forest Planning process are fought on a "last stand" basis, because the planning process takes place very seldom, and each time with a new Forest Service line officer. There is little opportunity for ongoing negotiation and allowance for evolving, dynamic management. In Denmark, the Forest Service line officers are seldom moved after they have been appointed at the age of 30 to 40 years. This allows for repeated negotiations and cooperation over time between the public and the line officers.

In our country, we have tried to resolve our land management conflicts by simply "slicing up the pie". Dr. Koch noted, "This is probably a logical reaction in a country with an abundance of natural resources and areas." Much to our dismay, the size of the pie is not infinite. (We have reached the Pacific Ocean.) He was amazed that the U.S., in spite of our large forest resources, only produces 85 percent of our domestic wood consumption (1989). We, like Europe, must import forest products from other countries. He asks, "Is our country so wealthy that it may import wood, and export some of (our) forest environmental problems?"

Europeans have approached the same forest interest conflicts but from the opposite side (not from an abundance of forest resources but from a severe shortage of forests).

Perhaps, we need to take a different view of multiple use. Perhaps, we should abandon the approach of dividing the pie into large scale segregated pieces and should move toward more complete integration. "New Forestry" is a step in the right direction, but it must encompass much more than that. We need to realize that not only is our ecological landscape dynamic, but so are the demands for forest resources and amenities. If "New Forestry" were to become more integrated it would also need to incorporate recreation, scenic and cultural values.

In the state of Oregon's analysis of the national forest plans, we took a position that multiple uses should be encouraged in several management areas. This position, however, differed from the Multiple Use Act in that we recommended a *primary* use accompanied by *secondary* uses. The reasoning for this was to get the Forest Service away from its past thinking of single use management. It also allowed for timber production on sites which had dominant resource values other than timber but still allowed some harvesting.

We need to pull on the best of our market based systems to approach our land management problems as well.

Let's take a close look at multiple use/sustained yield and the economic problems that we are facing. I will focus my comments on recreation, timber production, and fish and wildlife.

Currently, timber sales are subsidizing recreation with recreationists receiving a free ride.

Recreation tends to be concentrated in a few areas, leading to degradation and conflicts. Many of our popular Wilderness areas have been loved to death because there is no mechanism and little incentive for rationing and limiting access. When population growth in Oregon was static, the problem was not so severe. Today, however, population growth is rapid and is concentrated in urban areas which, in turn, places pressure on the adjacent national forests.

Lack of a self-funding base limits the amount and quality of recreation facilities and trails. This was brought out well by Terry Anderson.

The public places a high, non-market value on recreation but has not been asked to pay for it.

Private timber owners are increasing the placing of gates across their property because they fear the legal liability or misuse and abuse of their lands. They have little incentive to relieve the pressure on federal lands. In addition, it is difficult for landowners to charge for recreation when it is free on adjacent or nearby federal lands.

Since local governments receive the vast majority of their federal receipts from timber sales, and very little (directly) from recreation, they generally do not support trading land designated for timber harvesting for recreation or other non-market activities. Transforming recreation into a money-making proposition would make it more palatable to hard-pressed communities. Except for revenues from resorts, recreation is unlikely to generate as much revenue as timber harvesting, however.

The land available for timber harvesting on federal lands in Oregon has decreased from 12.0 million acres in 1970 to 7.9 million acres in 1990, or 34 percent. This reduction does not include partial reserves or set-asides.

We should be aware of "unintended effects" when we turn the spigot off. Will this result in heavy overcutting on private lands? Will private lands become so valuable that leveraged buyouts result in large scale liquidation of timber stands -- a situation that is as destabilizing to the environment as it is to communities? We are rapidly moving toward a forest that will be young (80 years or less) or very old (over 200 years) but little forest aged 80 to 200 years old.

Supply is an important factor, but in economics the equation includes the demand side. Learning to be responsible consumers and providing incentives for conservation will be a challenge for our society.

Denmark produces 63 cubic feet/per year/per acre compared to Oregon's 56 cubic feet despite Oregon having much more productive soils. Yet, in Denmark they focus much more attention on their forests. The average acre per forest graduate in Denmark is 2,000. In Oregon, it is ten times the amount. Are we willing to make a comparable investment? We will need much more focused work if we truly want to move toward a more integrated approach.

Given our "checkerboard" pattern of ownership, forests that transcend political boundaries, and varying state and federal laws, how do we begin to think of our forests and to manage them as one forest? Some of Carl Reidel's ideas on greenlining could hold promise to manage better across ownerships, but incentives will be necessary.

How do we build incentives for federal land managers to manage for other resources rather than being judged on how well they meet timber production targets? Managers should be judged based on desired forest conditions rather than production alone. I agree with Randy O'Toole that until we reward land managers for being stewards of our lands, we will not see real change.

Suppose we paid foresters based on the quality of the forests. If they are paid according to an inventory of their standing timber, they would naturally try to maximize their growing stock. They could also receive compensation based on provision of recreation and fish and wildlife habitat, for example.

This means that we would have to quantify the general health and productivity of our forests. We will need more research to determine these values and allow for a managed approach.

The spotted owl recovery team recognized that in order to have landowners participate beyond simply meeting "take" guidelines, they needed to have flexibility and incentives. I am intrigued by Terry Anderson's ideas on secure and transferable rights and Carl Reidel's thoughts on land banking as ways to provide some flexibility and even to establish a market mechanism that would result in a higher degree of protection while providing some compensation for landowners.

We see that landowners really want to contribute toward wildlife protection; however, it can become particularly onerous for a small woodlot owner. If a spotted owl circle encompasses three-fourths of the landowner's property and the landowner was counting on this for retirement or payment of medical or college expenses, the landowner may lose an investment that has been worked on for years. But if the landowner can contribute without losing an investment, the landowner may be more willing to participate.

Let me close with a passage from *Alice in Wonderland*. Alice is wandering down a path and is unsure where she is when she encounters the Chesire Cat:

Would you tell me please, which way I ought to go from here [said Alice]?

That depends a good deal on where you want to get to [said the Cat].

I don't much care where [said Alice].

Then it doesn't matter which way you go [said the Cat].

In the annotated version of *Alice in Wonderland* (Introduction and Notes by Martin Gardner, Clarkson N. Potter, New York, 1960) it states

The Cat's answer expresses very precisely the eternal cleavage between science and ethics. Science cannot tell us where to go, but after this decision is made on their grounds, it *can* tell us the best way to get there.

Before we make major changes, let us be sure we know where we are going and how we can use science to tell us the best way to get there.

### Comments of Richard M. Alston

We started off this morning with some questions left over from yesterday and one of them was not fully addressed. The question was, "What would we have more of and what would we have less of if we pursued ecosystem-based management?" Richard Behan gave us the answer to "what we'd have more of"; we would have more public goods. Perry Hagenstein gave us the answer to "what we would have less of" at the "Defining Sustainable Forestry" meeting held here in Washington, D.C. about three weeks ago; we would have fewer management bromides. And I think Perry is right in that.

The charge to the response panels was to provide alternative perspectives on the mechanics, philosophical underpinnings, and pros and cons of the various Vision Papers. Within that overall charge, this response panel was asked to specifically discuss financial, budget, and economic issues raised by those Vision Papers. How do financial considerations enter into multiple use and sustained yield management? How do they fit into ecosystem management? How should budget levels be set and allocated? What type and use of incentives should we have?

The trouble is we can't answer those questions without first dealing with the broader question raised by the papers that preceded the Vision Papers. It all comes down to this: Is the current multiple use-sustained yield policy broken? If it is not broken, we don't have to fix it.

Well, in spite of Magagna's and Leshy's attempts to suggest otherwise, it is broken. It was broken from the very beginning, as Perry Hagenstein reminded us. The concept of multiple use was not a scientific one. It gave little or no direction in terms of what should be done on the land. In spite of obtaining legal authority to manage public lands for multiple outputs -- fish and wildlife, outdoor recreation, range, environmental amenities, soil and water, timber -- the Forest Service responded from a professional forestry bias. The agency saw "over mature" stands of old growth as unused wood; standing timber that served no purpose. Given the bureaucratic and budgetary incentives it faced, it could never move away from timber primacy because that's where the incentives led it.

Hidden in the *sustained yield* language, in contrast to *multiple use* language of both forestry lore and legislation, was the promise that the Federal lands, whatever they produced, would be managed in such a way that there would be no permanent -- to use the additional word from the Federal Land Policy and Management Act (FLPMA) -- impairment of the productivity of the land. And, as Perry Hagenstein reminded us, that element of multiple use-sustained yield simply was ignored. The idea of no impairment to productivity wasn't understood and was language that the Forest Service surely didn't want defined. Nevertheless, this conference and others like it are starting to define precisely the meaning of that term.

Perry concluded that the multiple use principle failed in its purpose to prevent dominant use management, and, correctly in my view, he suggested that if we're going to have dominant use management, then timber lands should be divested to the private sector, recreation lands should go to the Park Service, and wildlife reserves should go to the Fish and Wildlife Service. But nobody in this room, except perhaps Terry Anderson, seriously would suggest such a move.

As Richard Behan pointed out, the Federal lands can be turned around to serve the public interest by dumping the flawed concepts outright. He argued, and I would assert that Chris Maser would agree, that we must move away from a focus on the flow of outputs to a focus on the forest as an integrated biological system.

And, for this reason I must say to Ann Hanus, that's why I think the incentives that you suggested at the end of your comments are wrong, or at least ill-advised. Several incentives that Ann mentioned were output incentives designed to get forest managers to behave in a particular way with respect to a specified output. "Give the Ranger more money if the Ranger produces more recreation." "Give the Ranger more money if the Ranger provides more wildlife habitat." In this view, public forests are an alternative to private forests. But public forests are not, and ought not be, a clone of private forests. We didn't create the public forest to fill the gaps of private outputs, in spite of David Mason's desire that we do so in 1937.

Matt Carroll and Steve Daniels identified four vectors of change and laid out six challenges to the Vision Papers. They warned us against techno-fixes. For the person who thinks alternative economics and the Randy O'Toole type incentive system, alluded to by Ann Hanus, is an alternative, let me suggest it is just another techno-fix. I'll come back to that point in a minute. I believe Ann Hanus recognized this point when she stated that we are going to need a whole lot more cooperation and different ways of thinking, if we are going to pay foresters based on the quality of the forest and their general health and productivity. The one thing that we can't quantify now is if the forest is healthy and managed well. Even those incentive systems that come under the guise of ecosystem-based management could easily become a techno-fix, and I think that's why Chris Maser carefully avoided the use of the term "ecosystem-based management".

Let me turn now to the Vision Papers. Chris Maser asked the question, Do we owe anything to the future? He suggested the answer was, "Yes". The response panel is supposed to basically ask what is the philosophical underpinning of that assertion. Many would argue with Chris. There is no automatic yes to his question. If growth, continued per-capita growth, and serving the wants of people continue as the three dominant goals of our capitalistic system, then there is very little reason for the relatively poor of the present to forego current satisfaction in order to allow what will be the relatively rich people in the future to have more options. It is nice that we can look back, as did Margaret Shannon, to the medieval period and to the Industrial Revolution, and be thankful for all of those very generous people. But had they known what we were going to do with that largess, they might have rethought their willingness to give up options to us in the future.

Behind such inter-generational largess is Richard Behan's notion that we need fewer private goods and more socially redeeming public goods, although I'm sure he and I would not agree on what the latter are. If we owe anything to the future it is precisely what the MU-SY Act said - a forested landscape with undiminished productivity for *all* of the outputs, including non-commodity outputs and amenities.

Let me turn now to Terry Anderson. If you didn't read his paper, I strongly urge you to do so. Read his paper because what he talked about yesterday had little to do with what his paper actually says. Who can argue with his point that we ought to have user fees imposed upon rich people using the public forests for recreation purposes. But that's not what his paper is about. As Paul Harvey suggests, we need to get the rest of the story.

Terry Anderson has three premises in his paper: two are absolutely wrong; one is simply misguided.

Premise one: Terry argues that wealth maximization (as opposed to income maximization) leads private owners to serve the public interest in the sense that they take future generations into account when making decisions concerning forest land management.

Let's just test that proposition.

Take out your calculator, plug in \$1 million in revenue earned following a 100-year timber harvest rotation. Using a 5 percent interest rate, calculate the net present value, or, in technical terms, the site expectation value. We figure out that it is worth about \$7,604 today investing in a forest resource to get \$1 million 100 years from now.

Now, what if we managed that forest in such a way to slick off the timber after 100 years and immediately thereafter let all the soil slide into the ocean? All future timber harvests after the first rotation are lost forever. How is that going to affect the present value of our forest asset today? The answer is the value of the second rotation that we lost is worth \$57.83 -- \$57.83. The third and fourth rotations lost are worth less than \$1.00 today. Terry, that is not

going to affect anyone's behavior with respect to the future. And it certainly won't make them avoid permanent damage to the productivity of the land.

Premise two: Incentives matter. Terry Anderson absolutely is correct: incentives matter. We should have user fees. But to suggest that we ought to have user fees, in either Terry's sense or Randy O'Toole's sense, given back to the public land managers as a guide to their appropriate behavior is a guarantee that they will do just exactly what Richard Behan has suggested they've done all along. Public foresters follow incentives that lead them to the provision of private goods (e.g. timber, recreation, and cattle/sheep range habitat), and that is not what those public forest lands are about. Yes, we can get public land managers to provide more recreation. Let them impose fees and keep the revenues in their budget. Yes, we can get public land managers to provide more wildlife habitat. Place a dollar value on wildlife habitat and let them keep the pseudo revenues from increased habitat in their budget. What we need to find out is a set of incentives for public land managers that lead them to produce and manage healthy forests. If you want clones of the private sector, let's go back and divvy it out to people who can do it more efficiently.

Terry's third premise went unstated but is, nevertheless, pervasive throughout all of his analysis. In his verbal presentation, he jokingly threw up the indifference curves and social welfare functions and seemingly dismissed them out of hand. But they are indeed an integral element in his analysis and proposals. Implicit in the neoclassical economics of the market, on which he relies, is the normative assumption that only individuals act and only individuals have interests. There is no public interest in the neoclassical paradigm beyond the summation of individual interests. I would argue that this is wrong. And that is why Carl Reidel and Jean Richardson and Maggie Shannon are so important to us, because they are trying to discover a way to find what that public interest beyond the summation of individual interests is. The market serves the private interest. It can hardly serve the public interest if its existence is denied from the start.



**QUESTIONS AND DISCUSSION:  
SESSION IV, ECONOMICS PANEL<sup>107</sup>**

**Question:** I think that Dick Alston is a natural provocateur. You got me really churning there with a lot of things you were saying, and they are really very good. I am glad someone at last mentioned Terry Anderson again. Yesterday, I thought all he was talking about was recreation and all the stuff these recreationists were getting, and only if recreation paid its way, the world would be better. I'm glad someone finally brought out the fact that there are other subsidies out there as well.

So, as you were talking, Dick, I was thinking, okay, I'll make a deal. I bet we could get some groups to say we agree to pay full freight recreation fee, whatever it is, if our friends in the mining industry will pay royalties just like they pay in Canada and about every other country in the world, if our timber people will give up all the subsidies they get for below cost timber sales and logging roads built with \$200 million a year of appropriated funds every year, and if our grazing people will pay full market value, too. We will make a deal and I bet the deal will not be taken. I only wish that was mentioned yesterday as well, because there are lots of subsidies out there. I think we ought to remove them all in some way or other.

But the most important thing, at least in my mind, I wanted to bring up right now is when Dick said no one else in the room would ever raise the idea that maybe we ought to split these functions up from the Forest Service, I testified in 1989 before the Senate Agriculture Committee on an oversight hearing of the National Forest, Dick, suggesting we consider and follow the New Zealand model. As you know, they had a forest service like ours; it became a logging agency only, just like ours basically has become; the other people were very unhappy with it, just as our people basically are; but there the parliament took action in 1987 to split it up into basically a logging agency which got the plantations, a quasi-public-private agency, and the rest of it went to a stewardship function which was the New Zealand Department of Conservation. I would like your reaction to all that because I think that is an idea that ought to be on the table. If it is broke, and I think we agree that it is broke, let's fix it that way.

**Answer (Dr. Emerson):** That's a great question. I want to point out to everyone whether you represent an environmental interest, or a commodity interest, that there is a legislative agency that wants to help you with this serious subsidy problem: that is the U.S. Congressional Budget Office (CBO).

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<sup>107</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. Because questions were directed to a specific speaker, names are attributed to those who answered questions.

Each year CBO produces a document, one of the most important documents done in our government, called "Reducing the Deficit". Take a look at this document. You will find out why a responsible fiscal policy is a good thing in terms of economic growth, jobs, and environmental protection. CBO describes every one of the destructive subsidies mentioned here and more.

**Question:** The change that we're talking about here is a political process. One of the realities of the current situation is since most of the public lands we're talking about are in the west, the west is owned by the commercial interests. They own the politics of the States -- the senators, particularly. Until that reality is changed, all these vectors, all these models, all these visions remain just that, just vectors and visions. So the reality is that there has to be a change of the ownership of the west politically.

**Answer (Dr. Emerson):** Just one quick comment on that. I think that's a very accurate statement. I would say that the demographics of the west are changing, and that is having an influence. I really get concerned when Matt Carroll talks about what he sees as a very serious rural-urban conflict, and I think that's got something to do with the new demographics.

The other thing is that environmental issues have focused attention on the federal public lands from people all over the United States and, in fact in some sense, from all over the world. So that changes the situation. Your point is well taken.

**Question:** The issue of income distribution is one which has been brought up several times and no one really has specifically addressed it. So I am going to give you an opportunity to address it at this time. I guess I am going to focus on Pete. He gave three remedies by which we should reform public land policy - the need to decentralize, the need to get the incentives and the market signals, and the need to develop good social institutions.

My question is, do you have any suggestions in terms of public policy as to income distribution?

**Answer (Dr. Emerson):** My basic suggestion with respect to income distribution and equity is to act like people matter. Everybody, from all sides of the land management issue should realize that there are people involved in these transitions and adjustment and the Government has an important role to play in education and income assistance and other things that are associated with the transition process. So the first thing is to act like people matter.

A second thing to note is that the market-based strategies that I prefer are more equitable than you might think at first glance. I recently have been working on management of the Edwards Aquifer in central Texas. This problem has important income distribution consequences.

If you move in a direction of a more market-based approach that I advocate to solve a conflict between water for endangered species and water for urban users, one possibility is that you're going to raise the price of water to some very

low-income people. Fortunately, there are ways to get around this problem without the efficiency gains of marginal cost pricing. We have suggested a two-tier pricing system and discount coupons for urban water users. So, there are ways to deal with the important issue of income distribution.

**Question:** With respect to market-driven approaches, I think a lot of the discussion has focused on forest lands. I want to shift for a moment and ask for some comment in terms of how this would work on range lands. I want to use as an example the situation of grazing in hot deserts. There is a recent GAO report which confirms I think a lot of what people who have dealt with that area recognize: (1) that public lands grazing in the hot desert areas of southern California, Arizona, and southern New Mexico has been tremendously environmentally damaging, and in some cases permanent. It also economically makes absolutely no sense; it is some fraction of 1 percent of the economy in any of those areas. What it basically boils down to is taxpayers subsidizing a lifestyle for a fairly small number of ranchers who have base property and who graze the public lands, and then taxpayers again paying for trying to reclaim the environmental damage, to the extent that is even possible. It is a tremendous dilemma over literally millions of acres. I don't quite see how a market-driven approach is going to address that.

**Answer (Dr. Alston):** Let me answer it so that I don't get mislabeled, okay. Pete Emerson and Terry Anderson have a very simple answer, and it is the correct answer. Make those grazing permits transferrable, and the people and those of us who feel that the land would be better served *would* be better served by getting the cattle off the land. Let us buy those transferrable permits without having to buy the ranch. We can make it in the interest of the rancher to give up the cattle, take the cattle off, and we just buy the permits.

The problem that we have right now, much as the water problem in the inter-mountain area, is that the water goes with the land, the property rights go with the land, you can't separate them, you can't transfer them. They become a political property as opposed to a market property. If we separate that, the problem will take care of itself because in fact we're willing to pay more than enough to get those property rights away from those ranchers.

**Question:** I wanted to ask this question to several of you. We need to come up with some incentives which will reward the administering agencies and I would add presumably the user, the people who use these resources, to define success as having to do with the health of the ecosystem. We need to do that, but you really haven't characterized very sharply how to link incentives to the ecosystem. I assume that means that we need to do some work on that, some research. And I wonder how you would characterize some of the components of a research program. How would you state this as a series of research undertakings to close the information gap that you're suggesting we have?

**Answer (Ms. Hanus):** First of all, I would like to say I think the incentives have to go beyond just what they get in their budget. Those incentives have to go to the very basis of why people get promotions and even perhaps how much they receive in their paycheck. That then gives them a personal incentive above

and beyond also the incentives that they have to do good and to do what is scientifically correct. There are some areas for example that we know very little about that would be important to understand how to help managers out. For example, we're trying to do a cumulative effects study in Oregon and we're finding that we really don't have a lot of the data on a long enough time series to look at those cumulative effects. That, of course, is going to take a long time and I don't want to wait to have a solution till we see all of the data on a 100 time series. But there are a lot of areas, particularly in soil productivity, how we judge our ecosystem with the fish and wildlife, what kind of incentives we want to use in terms of looking at the health of the forest. For example, the eastern forests of Oregon are in terrible condition, and we've got to figure out ways to be able to restore them in a sound way.

**Answer (Dr. Emerson):** I agree with all of that. That is tremendous advice. Let me raise one slightly different way of thinking of this, and it might lead other people to the kind of research that you're interested in.

One way to think of the issue and the problem here is that we have traditional markets which provide us with things like timber, water, automobiles, and all those things that we need and we're going to be providing for society. Now with each of those traditional markets, could we create a companion market in conservation and stewardship? You probably can't do this in every case, but in many situations you can. We are able to do it in solving the water problem in the San Antonio area by creating something called a discount coupon for municipal water users. The discount coupons take on a market value of their own. If you are frugal in the use of water and save your coupons, then you can sell them. The same kind of concept underlies SO<sub>2</sub> emissions trading in the Clean Air Act.

**Question:** You have in Oregon a law which provides that in the event of transfers from traditional water rights into new water rights, new uses, that the State is capturing up to 25 percent of the water for public purposes. Would that be an example?

**Answer (Dr. Emerson):** I think that's a possibility. The concept I've been trying to think about is this idea of building companion markets which cause the person or business doing what you think of as the traditional entrepreneurial activity to become good environmentalists. If you could just do that, create companion markets in the environment, then you can break down the problem of the economy versus the environment.

**Answer (Dr. Alston):** I agree with that. I think one thing we have to be careful about in the companion market is that we don't fall into the indicator specie index problem. Let me tell you what I mean by that. We need some index of environmental health that we can get these tradable permits in. But what we saw in the case of the spotted owl -- which was never the issue, the issue was habitat and ecosystems -- was that all of a sudden the owl became the indicator species and we'd start getting people responding to numbers of owls or placement of owls as opposed to ecosystem health. I think this research has to be aimed at something that prevents resource managers from doing exactly

what we know they'll do. You tell me that I'm going to get rewarded based on owls, and I'll give you owls, the ecosystem be damned.

**Question:** There has been a lot of discussion about public goods in the ecological and economic context. Most of the discussion assumes that the public goods are good things. I would submit to you that there are changing uses of the public lands that some of you might not consider to be good things. I would like to get your reaction to the concept of changing needs identified by the public for large-scale energy development, for waste disposal, for large-scale communications, transportation. How are those decisions to be made at the local level, and how are those benefits to be distributed?

**Answer (Dr. Alston):** Let me try to respond first. One of the things that we haven't mentioned but I think needs mentioning in this context is the fact that the focus of our discussion has been on the public lands. One of the great things about our society, I feel, is that we figured out long ago that nobody, economist included, has all of the answers. But one answer is this: we've tended to put about one-third of our forest land in the hands of corporate managers who will do everything Terry Anderson asks, we've put about one-third of our lands into little mom and pop non-industrial private ownership and they pursue, after years of surveys, what, and then about one-third of the lands in the public ownership. Basically, that allows us to avoid putting all of our eggs in the same basket. We know they are all going to screw up in spite of models that suggest each can be perfect. But at least we're not having failure across all of them in the same direction.

Now, to put that into the perspective of your question. We know our consumptive society is generating all kinds of wastes and we've got to dispose of those wastes. Hopefully we can cut down, but that's something that can be handled in the private sector if we allow it to be. In contrast, what is happening on the public lands was contained in Dick Behan's paper. We are seeing increased private use of the public lands. We're taking the private sector wastes and imposing them on the public sector lands. It would seem to me the appropriate thing to do is get private generators of waste to pay their way on the private lands. Don't subsidize the disposal of waste. Don't allow -- I'm from the West you have to understand -- don't allow you guys in the East to send your waste out to me without full compensation.

So I think there are market solutions to that part of the problem, too. But you're right, the private use of the public lands may not be the appropriate way to deal with it.

**Question:** I wanted to challenge Pete Emerson to in fact do what you suggested the Vision Papers had perhaps failed to do, and that is be usefully specific about the transition process. Your general point is correct, by the way, and your remarks certainly cut in the right direction. But I wondered whether you could take a couple minutes more and give us perhaps three suggestions as to changes that could be made here, should be made here, now, at the national policy process level perhaps by Congress, who knows, to move things along in the directions that you see as being indicated and promising solutions.

**Answer (Dr. Emerson):** Two or three quick ideas come to mind. First, there are things that you can do within the public land management regime today that will help to get the incentives right. Let's get rid of the obsolete subsidies. All of these subsidies are there, they were somebody's good idea at one time or another, but time passes by. Let's work for their elimination and try to get the incentives right. Let's break linkages that encourage people to maximize gross timber receipts, for example, at the expense of net value, and things like that. That's one area.

Second, from the environmental community, let's remember that as we pursue our important environmental goals and we're asking people to change the way they are doing business or thought they were going to be able to do business, that there is a human resource adjustment process. We must work with people on the development of alternative enterprises such as community diversification.

And the third thing is to get a process going to foster more experiments in land use and management. However you do it, localize the experiments. Convince the Forest Service and others who have this kind of responsibility to put together a task force and figure out how to do this.

## PLANNING AND MANAGEMENT RESPONSE PANEL

## Comments of Hanna J. Cortner

To order my comments, I am going to borrow a typology developed by political scientists John Dryzek and James Lester (authors of "Alternative Views of the Environmental Problematic" in *Environmental Politics and Policy Theory and Evidence*), and place each of the visions in comparative perspective.

Basically the typology demonstrates that different prescriptions for policy reaffirmation or reform can be tracked to the underlying intellectual and political preferences and values of the proposers. There is, in other words, a history and a body of thought framing our discussions. The typology first looks at whether people philosophically focus more on the individual or more on the community. Because our focus on natural resources includes the biological as well as the human community, the community category is further divided to reflect this.

The typology then divides our thinkers into two categories: whether they favor centralized or decentralized solutions to natural resource problems. Centralization relies heavily on governmental institutions, while decentralization implies skepticism about coordinated governmental action.

I will place three of the four vision papers in the bottom row. I will place the other fourth vision paper in a cell in the top row, as well as say something about the other two cells, because I think we might also pause to reflect upon why there were no vision papers presented from those perspectives.

The Anderson paper, of course, represents the free marketeers, who are united in their reverence for the rationality of self-regulating market systems. In this worldview the good people are sterling and no one would do something untoward because of their respect for property rights. Government agencies, administrative rules and policies, and politics are diagnosed as a major part of the problem. The new resource economists often juxtapose the evils of government versus the goodness of the market, overstating the argument against the former and in support of the latter. Anderson did this in his paper. He defined politics as the art of diffusing costs and concentrating benefits, and made clear that politics was, by definition, an undesirable externality in the course of human affairs.

Another criticism of the free-market conservatives that bears repeating is that their philosophy and solutions do not adequately account for equity considerations, or efforts to protect and advance political equality. These are fundamental values we have designed into our social and governmental institutions. With purpose we tolerate inefficiencies in government and bureaucracies, precisely because we have political values that transcend the creation of efficient markets. I think the free marketeers also often sidestep the fact that markets are themselves political institutions.

Thus said, some of the arguments of the free-market economists have had their effect and will probably continue to do so. Increasingly, market factors are being incorporated into public lands management; however, not to the extent advocated by Anderson and his intellectual colleagues.

Moreover, the real cutting edge in economics these days appears to be in ecological economics. Ecological economics has the potential to move away from an adherence on individual tastes and preferences as the primary focus, toward a community-based approach. Ecological economics challenges the assumption that only private ownership can preserve resources. I suspect this is where the real visionaries in economics may be working these days.

Reform ecologists essentially represent the mainstream of American environmentalism. Working for reform within our existing political system, they essentially want our administrative policies and managerial practices to pay more attention to ecological values. We do not have a vision paper I would label as representative of that school of thought.

A chief criticism of the reform ecologists is that because most of the writers typically come out of the natural science fields, they tend to be inattentive to social, economic, and political factors. But if that can be said for the reform ecologists, it can be said twice over for the deep ecologists, with which I am identifying the Maser paper.

Like the free-market conservatives, deep ecologists retreat from politics. No less than a moral and social revolution is needed. The decentralized organizations and democratic social structures they call for are first and foremost for nature's sake.

Maser begins by challenging us to "ask genuinely new, moral questions," but the following steps discount the possibility that society will find moral answers that differ from his own. He seems to preclude the moral choice that says, "we want as much as we can get, *now*." As Dick Alston also pointed out, Maser assumes society will decide in favor of intergenerational equity. At first blush the themes of cultural carrying capacity and policy by popular consensus appear to give his paper an anthropocentric cast. In actuality, however, he precludes that society's values are or should be anything other than his own, i.e., ecosystem sustainability, choice-maximizing biodiversity, and radically revised economics. Moreover, these values should be pursued for the sake of the biotic community *no matter* the social, political, or cultural costs. The one true faith says we will all be better off. The tendency toward unsubstantiated strictures is typical of radical schools of thought, but is somewhat at odds with their purported adherence to "popular consensus" as a means of achieving their goals.

Social ecologists prefer communal cooperation to competition, and decentralization as opposed to hierarchical and centralized institutions. Some social ecologists talk of the "reharmonization of nature and humanity through a rehumanization of human with human" (Bookchin 1982 quoted in Dryzek and Lester). Social ecologists believe ecological values will fare much better in processes built on the free discourse among equals. The language of their



worldview speaks of communicative rationality and discursive democracy. In their vision, various political interests come together for joint analysis and cooperative action to deliberate both normative and empirical issues. This results in comprehensive policy arguments. The role of analysts and institutions is to provide the setting for free discourse, and development of social and political relationships within and between communities. It is with the language and perspective of this worldview that I identify the Shannon paper.

Because I share many of these values, I found the Shannon paper appealing philosophically. I particularly liked her summary of the political theory surrounding the concepts of the public and citizenship.

There is considerable appeal and logic to the argument about the need to provide forums for deliberation among policy communities. However, we are still short—some 60 plus years after Dewey wrote *The Public and Its Problems*--on converting political theory to political activity. Just how to do it? Here is where the argument falls short.

I have also always suspected that many advocates of public participation favor participating forums because they also make the fundamental assumption that participation will result in more environmentally sensitive decisions--decisions consistent with their own preferred policy outcomes.

We have no visionary *guardians* represented (although James Magagna did echo some of these themes in his paper). This school of thought essentially sees administration and management, and hence political power, conferred by scientific expertise and knowledge. Forestry in this country was founded on the principles of scientific management, but we now increasingly trace many of forestry's troubles to acceptance of this worldview in policy design and administrative practices. But the guardian perspective still deserves mentioning, because a few writers, especially those who call for a vanguard of environmental prophets, are representative of this school of thought. While forestry has almost totally dismissed the guardian worldview intellectually, I can't help wondering if somewhere down the road we might see a reformulated intellectual rebirth.

I have left the "Hobbesians and Structural Reformers" for last. Here is where I placed the Reidel and Richardson paper. Breaking the rules somewhat I also want to call the Leshy paper a vision paper and place it here too. The Hobbesians aside, who see political centralization in the person of an all-powerful sovereign, structural reformers are looking to relatively incremental--as opposed to radical--changes in laws and social institutions. Structural tinkerers also see roles for private corporations and private interests in working out coordinated policies. Structural tinkerers on the whole remain wedded to our overall traditional political structures, while calling for refinements and extension of current social and political traditions.

Partnership themes as represented by Reidel and Richardson fit in well here. Reidel and Richardson combine their centralized umbrella agency with decentralized implementation characterized by policy prescriptions pinched from the market and public participation advocates. They also recognize that getting

from here to there will require significant hurdles and changes in our economic and political system (e.g., discount rates, changes in our view of property rights, and in the role of public/private responsibilities).

Most political scientists would fall into the category of structural reformers, because they believe more in the efficacy of well designed institutions and processes than in the tenets of deep ecology or unfettered free markets. Because that is my disciplinary background, perhaps that is why I found the Leshy paper the most realistic vision of all. Unlike Maser or Anderson, Leshy reminded us that politics and political institutions can be part of the solution, acting as positive forces for change rather than as totally self-serving agents. He offered the most realistic depictions of the kinds of incremental changes and trends we are actually likely to see in the future. His paper reminded us that Congress has a legitimate public interest and responsibility in the administration, planning and management of the national forests, and that congressional actions and trends in public lands policy may not be so random or irrational as some portray.

In sum, we can generally see the trend in public lands management toward decentralization as the preferred locus of solution reflected in all these vision papers. To a lesser degree we can also see the increased emphasis being placed on community values. Most of the issues we now face are not new either in political theory or in resource management. Multiple use has been controversial and subject to criticism from the outset.

Visions reflect distant stars that we may want to visit. And, I don't want to diminish the importance of gazing at those stars. However, in the meantime, down on earth, actual decisionmaking and change will continue to be characterized by incremental--not radical--adjustments and change that reflect the diversity of interests and values within our pluralistic society.

#### Comments of Derrick A. Crandall

I'm sure as several of the people on this panel and on other panels have done, I started to develop my comments several times and each time ended up wadding them into a ball and throwing them away until finally, last night I looked in the mirror and said, what can I add to this gathering?

It's certainly not vision. We have four outstanding vision documents, all different but with some wonderful ideas. Not passion. We got a full dose of small pox and pillows in Yosemite Valley over lunch yesterday. Both of which are new topics in the multiple use-sustained yield debate, I believe, not even a new philosophical bent offering grand designs for solutions to our natural resource delimmas.

I listened with great interest back in the early 1970s as Hubert Humphrey and others described the RPA Act and what it would do, the philosophy of growing the pie so that our forest and range lands could meet all of the needs that we could identify. All that brings to mind H.L. Menken's warning that for

every problem there is a neat, simple solution (neat, simple, and wrong). I cannot even offer a "mini-solution" based upon the pragmatic efforts of the recreation community to work harmoniously. We have yet to learn how to share a trail corridor and put together hikers and bikers or cross country skiers and snow mobilers. So I can't offer you a lot of expertise that's very practical and pragmatic.

But I have committed to responding to the papers that have been presented and by my watch I have about eight minutes more to talk, so I think what we'll do is give you some Derrick Crandall philosophy and some views.

I start with the belief that the multiple use-sustained yield debate is a two theater war. On one level, it's an intense debate over a very specific concept affecting hundreds of millions of acres of publicly managed lands, a debate actively involving a relatively small range of interest clustered in two camps labeled as environmentalists and as industry.

Now, I know that none of us in this room would ever be so simplistic, but there are some in these two camps who define the term multiple use-sustained yield in radically different ways. To the rabid protector of our air and water and our scenic beauty, multiple use-sustained yield means rape and plunder. To the equally rabid defender of industry, multiple use means turning the calendar back to a time when things were right (or at least they *remember* things as being right).

No wonder there is emotion flowing! This is a black and a white debate and your perspective depends on where you're standing. But to me, it's always seemed that the public policy debate has been very one dimensional, resembling a see-saw.

When Cecil Andrus is the Secretary of the Interior, one side rides high. With Jim Watt in the seat, the other side rides high. And then there are the rest of us on the beam between the two camps, running back and forth to climb to the high side, whichever that might be, and really getting very little change in our elevation.

On a broader level though, a much larger percentage of the public is involved in the debate and has little interest in the intricacies of wording of laws governing multiple use and sustained yield. They really haven't thought about the difference between different dominant uses of adjacent tracks of land or harmonious shared use of the same lands at the same time. They want our forests and public lands to supply their own personal needs, needs which are largely recreational in scope.

If their needs are being met reasonably well, they tend to trust the managing agency to cut some wood, raise some livestock, drill and dig a little for natural resources. I think we're close to getting activism on the multiple use-sustained yield issue out of this broad constituency because they are concerned with what they see.

I also believe that "multiple use and sustained yield" is in deep trouble because our focus in land use decisions since the 1970s has focused on process management, which is no substitute for leadership in managing our resources. RPA, NFMA, FLPMA, and plans -- piles of papers and computer programs have dominated our efforts. Millions of words and pages and pages of numbers obscure real issues in too many of these exercises. The process has proven that words can be the enemy of communications. The processes taught many of us to become very strident in touting our own specific interests and ignoring broad management issues.

How much do we lose if the term "multiple use-sustained yield" disappears forever, perhaps in favor of "responsible shared use" or "multiple values management" or some other clever term? It's relatively true that some concepts in this country are worth fighting for and about -- freedom of speech, freedom of religion, and of course, pursuit of happiness. As the recreation spokesperson, I have to throw that in.

Now, does multiple use-sustained yield fall into that category? I really doubt it. Some issues change over time. A new public consensus must be crafted, and I tend to believe that multiple use-sustained yield has become a label with no clear meaning and no public consensus behind it.

One of the very interesting issues discussed at this conference and in the papers submitted involves national versus local interest in public land management. I agree that this is central to the successful solution of the debate over appropriate allocation decisions regarding timber and forage, coal and oil, and even developed site recreation activities -- skiing, camp grounds, beaches and others.

Let me hasten to reassure Senator Nelson that we don't foresee any new Busch Gardens or Disney Worlds on the public lands, his modified theme parks notwithstanding, but we certainly do see a need to think about how we decide on the allocation of public lands among competing uses, including recreation. As I see the truth, our forests and public lands are important shared legacies for all Americans and any uses of these lands which permanently preclude most other uses need to be carefully considered as we evaluate alternative uses.

Two closing points. I believe that the new national consensus about management of our public lands should be built largely by those we hire to manage those lands. It's time to challenge the professionals in the agencies to eschew listening sessions for a more activist role, to be leaders in crafting "win, win, win, win" solutions; as many wins as you want to put in there; all of the different audiences, the difference stakeholders, and building an understanding of those options, encouraging them to take risks and to experiment more.

Ann recalled the words from the rabbit and Alice in Wonderland. The same kind of philosophy is reflected in political science by the practice labeled by Charles Lindbloom as "disjointed incrementalism". You don't get anywhere bold

and exciting by simply pursuing whatever happens to be the next convenient step in a journey that has no goals.

I think we need to look clearly at defining the goals that we have for our public lands and find ways to quantify and to define measures of quality so that we can, in fact, hold out some yard sticks that make sense that include both measurements of outputs as well as measurements of environmental health. And there certainly can and should be more done on that. We can't expect either agency to perform well unless we give the agencies and their managers some clearer assignments.

Both the Forest Service and the BLM have taken important steps in this direction over the last four years and deserve praise for their initiatives. Now they deserve our help and support in tackling the task of gaining broad public consensus on how we maximize the benefits, long term and short term, from our Nation's shared natural resources.

A couple more comments. We were talking about trends and a lot of our focus has focused on the relatively undeveloped lands of this country. I think that certainly the papers that have talked about some of the trends are instructive. But one thing I would emphasize is that the real need for focus in terms of the conflicts between many human needs is not in the distant backcountry areas but rather in what we would describe as the front country.

And there are some very interesting techniques that have been adopted recently, including some visual corridor management techniques which allow selective harvesting of timber but also protect the corridor for scenic byways and other kinds of uses. In fact, in some cases, harvesting has opened up the vistas and has enhanced the driving experiences.

Those are the kinds of things that I think we need to focus on, to encourage, and I look forward to working with all of the other interests in this room in defining goals for the American lands under the stewardship of BLM and the Forest Service.

### **Comments of Karin P. Sheldon**

I must say it was a struggle to prepare this talk. The one thing that you should not do to visionaries it seems to me, is to have a session trashing what they have so creatively thought about. We have very few visionaries in this country. They need all the support and help they can get. My task was to filter the four visions through my experience with multiple use administration, planning, and management. In the short time that we have, all I can do is make some comments that will be simplistic in the extreme and certainly not what these papers deserve. I hope you will forgive me for hitting the highlights of the papers and missing a lot of the complexity.

My experience with multiple use-sustained yield is as a lawyer endeavoring to use law to compel Federal land managing agencies to protect the commodity

resources of the public lands. As I thought about this, I realized that I have not relied on the multiple use-sustained yield concept to do that. I have used the more concrete requirements of the statutes in which multiple use is expressed as the planning principal in order to change agency decisions and protect public resources.

In realizing that, I have come to conclude that multiple use-sustained yield is a wonderful talisman. It is a grand concept for planning, but not a terribly good decision-making tool. Congress directed the Forest Service and the Bureau of Land Management to manage the public lands for various purposes and uses, some of which are extractive and many of which are not. That was an extremely valuable thing for Congress to do because it recognized in statutory law that the public lands are valuable for a variety of uses beyond commodity extraction. Unfortunately, often recognizing these uses, Congress did not provide a framework for multiple use decision-making. Rather it said go forth and accomplish multiple use through a planning process that involves identification and examination of all the resources of the public lands. The goal is laudable. Its achievement problematic. That's a little like saying go forth and do good.

The multiple-use concept does not provide sufficient criteria for measuring or directing agency conduct. That's clear from the fact that the land managing agencies have either refused to comply with it or cannot comply with it and have gone on making single use decisions. As a result, some uses of the public lands, principally extractive activities, have become predominant.

With those comments as a background, you can understand my reactions to the Vision Papers. The Vision Papers offer new process but no new decision-making principals. They do not provide any substitutes for multiple use or even break the concept into meaningful guideposts. More important, they do not reflect the fundamental characteristics of the lands to which multiple use applies. Multiple use is the management principle for western lands that are for the most part arid and that constrain their uses because of their fundamental natural characteristics. No management designed in the abstract process will be successful unless it recognizes and reflects the nature of the lands to which it will apply.

The Reidel public-private cooperative paradigm has some marvelous ideas in it. The principal of a commitment to diverse land uses as a way to achieve rural economic stability and conservation is absolutely necessary for future land management successes everywhere across the country because it represents an investment by all of the interested parties in achieving good land management.

Greenlining, however, is unlikely to work very well in the west because certain elements critical to its success are not found there. The first of those elements is a significant mix of public and private lands. When we look at the areas where greenlining has been successful, the Adirondacks, suburban and rural England and so on, we find that there is a significant mix of private and public lands, not the vast Federal estate that we have in the west.

The second critical element that is missing in the west is water. You would be surprised at the extent to which the availability of water ameliorates conflict over land use. You can plan for land uses when you have water. When you don't have water, some things that may be possible elsewhere just cannot be done.

Greenlining depends too on a tradition of the town meeting, a tradition of shared discourse and decision-making based on shared values that is missing in the West. Local communities generally are not equipped to decide what should happen on the Federal lands where those communities are.

Finally, and I think very important, greenlining seems to work best where you have one layer of government. It can be done at the State level of government, but it is more difficult to accomplish it with the Federal gorilla in the State sandbox, that is with two very different levels of responsibility and authority.

Reidel's idea of land banking already has been done. The public lands are our land bank leftover from the era of disposal in the 1800's. Now what we need to do is figure out how we're going to manage them for all of their values.

For this we need some new principals of the kind articulated in Chris Maser's paper. We need to have an increased understanding of ecological principals, the constraints imposed on lands by the underlying ecological relationships, and we must make our decisions less on human wants and more on what is required to support and maintain ecological processes.

The Anderson paper, "Market Approaches to Federal Land Management", offers a formula that can be used to some extent for Federal land management, but not for Federal land protection. We have to remember that a large portion of the lands that we're talking about were left over from privatization efforts. They are lands that no one could put profitably to private enterprise because there was not sufficient water or other environmental conditions to support private enterprise, and yet have tremendous ecological values.

Economics to date has not done well in capturing future markets or internalizing all the relevant externalities. It focuses on the present, which is a major limitation of economic models. I don't mind at all nibbling at the edges. I am perfectly willing to pay more to go into a National Park but we're talking here about lands in which we have a national interest. We must protect them for the future and for values that are very hard to put a price on. So I see this as a constrained model that will not offer us a process for making decisions.

Finally, Maggie Shannon proposed a new process for decision-making that identified different roles for land managers and called for the growth of an effective citizenry. I suggest that her vision will work very well at the local level where there is general agreement and the stakes are small. And it will work very well at a high level in a situation of environmental crisis, when there really is no other option but to get together and get something done. For the in-between, where most land management decisions occur, it is going to be much

harder to employ her model. One of the major reasons is that it does not include everybody who has an interest in the outcome of a decision. If only local people are involved in a western public lands decision, people who are far removed from the physical locality of those lands but who are very interested in their protection are eliminated.

What we need in the public discourse is to cross the community lines that Maggie identified, and bring together all of the individuals who are interested and responsible. Her point about public managers getting out the maps and charts and being the guides is a very good one because land planning works best when that happens, when there is a shared discourse among all the people affected.

That brings me to Chris Maser's paper. I learned a lot yesterday. One of the major benefits from a program like this is a chance to come together with people who are thinking about these problems.

My reaction to Chris' paper was that, at last, someone is asking the right questions. Someone is making us face the consequences of what we are doing.

It seems that there is such an enormous gap between what we understand, and how we approach land management with our current institutions.

There is some glimmer of hope that we can budge the gap. Consider what's happening with the ancient forest debate. Currently in the Congress and among the land managing agencies, you see the beginnings of a realization that we have to integrate ecological principles into our decision-making criteria. If we ever do have ancient forest protection legislation, I feel certain that it will integrate a recognition of the limits of these systems and how they interact. New principles will apply.

I'm not suggesting that we throw out the multiple use concept entirely, but we do have to include in it criteria that are based on recognition of the ecological principals at work, the relationships that we are a part of as human beings. If we base our decisions for the western Federal lands on those principals, I think the decisions will be able to accommodate the needs and wants of human beings over a long period of time, which is, after all, what we're after.

We sit in this room today trying to devise institutions and laws and principals for ourselves but also for the future. We cannot forget that because otherwise we will leave the planet on which we live a much more barren place than it is.

In sum, I would say we have had some interesting visions of new processes, but what we really need to do is examine the underlying principal of multiple use-sustained yield and change it so that whatever process we choose, we arrive at good decisions at the end of it.



**Comments of James L. Matson**

I've got a few comments first and then we'll move into the slides. Thank you all and good morning. I just now was reflecting on being here and on this program and I want to thank you all very much.

One of these days, I'd like to be a real forester. Just think about it, say a quarter million acres of area in North America somewhere, preferably in the west, maybe inland. I've been thinking about the greatest good for the greatest number -- multiple use and sustained yield.

So first, is multiple use working as intended? Is sustained yield working as intended? In my view, notable questions. Multiple use and sustained yield nonetheless, though, has been a beacon of hope and major guide for us in our kind of business for the present and hopefully for the future.

Now, you all heard yesterday about the term and concept of responsible shared use, which Magagna mentioned. I can tell you now that I feel an appreciation for certain displaced peoples as changes occur both socially and politically and directions and changes in direction from 120 to 180 degrees or so. So here come the eco-urbanites. Welcome. And I think welcome to a changing landscape.

Now, let's go to work on responsible shared use. I think that could help us all. If multiple use-sustained yield was a pacification program intended to maintain the status of Federal agencies and certain industries, it's not had that effect, I assure you. Unfortunate? Well, maybe, maybe not. Shakeouts, while painful, I still think help ensure the viability and sustainability of our systems both in policy and uses. Until recently, the sustainability of our company had been dependent upon how well we satisfied our customers' needs by being a responsible low cost provider of goods and services. And part of the responsibility was to the needs of the raw materials supplier that we depend upon, you all right here in this room and elsewhere.

The role of our industry is to facilitate the needs of the land and land owners. I think we're seeing a transition in our industry where we're going from one of pure extraction and the view of benefiting and profit sharing to one of services to the land and the land owner. I think we can pay our own way, and I think it would be a good step in the right direction to make those kind of agreements.

We are practicing dominate and single use management today. There is no doubt about it in my experience. However, I don't ever recall thinking that this dominant use approach included the dominance of timber management as a means of assuming a supply of raw materials for the exclusive use of our company. Under the notions and principals of sustained yield, we have not been assured a predictable supply of timber for our dependant communities in our mills. There are simply too many complexities and resulting strategies to destabilize such a design.

We've been competing with all the other uses of the forest and including the preferences of the agency for as long as I can recall. This is the way it should be otherwise what is the value of a timber converter, both to this society and to the land.

Now, sustained yield isn't really occurring in the biophysical world either in my view, particularly the world of the forests, as we might expect or hope. In approaching this panel's assignments in administration and in management and planning, there are certain realities and I think yesterday's panelists did a good job with the Vision Papers and other comments and touched on a number of these realities.

I think in addition, I'd like to offer here today a view of some of this by looking at today's resource situation; comparing today's snapshots that we take to the recent past beginning with the forest in the southwest from the 1900s to the 1920s to the present.

Now, as you look at these slides, look for the sustainability paradigm and think about securing limited or, hopefully, major agreements about what we should be doing in the realms of planning, managing, and administering, particularly of resources programs towards sustainable ecosystems. We must first understand and know the land and its biota.

These first two slides on the Kaibab plateau. North Kaibab again on a major forest road.

A forested scene taking on the Colorado plateau near Flagstaff, not necessarily a natural stand, altered, changed, very different. Fuel ladders all too often since 1950 resulting in this kind of result; the subdued fire from about three summers ago on the [Moogian] rim; same kind of conditions, the situation has changed drastically.

Chris Maser talked yesterday about the pre-settlement, pre-European ecosystems in the southwest. This too in unnatural resulting in losses and changes of this sort. These are very real.

Harvesting is taking place here, no fire protection. I mean, fire protection has changed the scene forever and I ended up with scenes and landscapes that look like this. This is what happens with protection, preservation, and little activity.

Two to three inches of sheet erosion shoved a bunch of soil off into Roosevelt Lake after this fire. I could make the case, somewhat seriously, that unmanaged forests in my view are in violation of the Clean Water Act. They have an unintended consequence.

So when the process started at the turn of the century as we started to develop our country, these guys like this had a major role in starting the harvesting processes. We've evolved from this kind of economy with timber sales and all to a point now to where the questions are, what are we going to do

about this guy? Are we going to work with him, work around him, accommodate him, fix things up? We might even focus on the ecosystem while we're trying to deal with these kinds of issues. What's going to happen to these guys?

A forested scene taken in the 1900s, a savannah looking area, a savannah type forest on the Kaibab plateau. Previous to our involvement and the Forest Service's policy are the fire suppression. This was the agent that changed our forest in the southwest, had low intensity, very frequent fires every three to five years.

Our southwestern forests at that time were relatively fire resistance and fire was the catastrophic agent that made those changes. I suppose in patches and places it had a factor as far as fragmentation of some sort. I don't know if we understand that or know that today.

I have a series of photos that are taken in time from 1909 through the 1920s to the present. There are three different sets. These come from the Fort Valley experiment station outside of Flagstaff. Fort Valley was the Forest Service's first experiment station and, as I recall, it was set up by Gus Pearson and others for the primary purpose of determining, if they could, why there was such a lack of pine regeneration in the southwest; that coupled with other issues such as grazing and all.

Take a look at where the tree is that the foresters are standing next to. This area had a selective harvest in a brush pile, 1909. Same tree after the 1919 phenomenal seed year and resulting regeneration; lots and lots of trees. This photo was taken in the mid 1920s.

Same site, same place, looking in the same direction, completely changed and altered landscape, much different. Same kind of place, same thing. Watch the log, the fallen log on the left. Notice the height of the grass. In about 1930, same log, addition of a fence now. No person. Log and fence.

Things persist and hang around in the southwest because of our moisture regimes and all a lot differently than they do in the northwest. Radically changed. Same kind of scene; an open, forested area of the southwest. Now, the addition of a fence, the 1919 regeneration in the back and those conditions today.

I guess this is what this is all about. This is how I view what we're trying to do and that's to produce healthy forests that regenerate and move ahead.

**QUESTIONS AND DISCUSSION:  
SESSION IV, PLANNING AND MANAGEMENT RESPONSE  
PANEL<sup>108</sup>**

**Question:** I've been waiting for this one and I'll say this as much from the standpoint of having spent the first 12 years of my career in congressional agencies as a wildlife biologist, the last four in forestry.

I want to go back to something that was mentioned in the previous panel about incentives and then link it up with the planning here, and this deals with professional land managers. I think the flip side in providing incentives for professional land managers to make some of these things succeed is real key to resolving a huge problem in planning and that flip side is to remove an impediment. A very key impediment is inappropriate, one-sided political interference in the planning process. Politics has a rule that its inferring in the planning process right now in a way that's totally inappropriate. And I have some suggestions that I haven't heard made, so I'll make them for whatever they're worth in terms of how I think this could be improved because it is, in my view, precluding professional management, it's precluding a contribution of professional leadership which underlies what Maggie Shannon is suggesting. It's precluding meaningful dialogue, it's precluding trust that is essential to resolving some of these problems.

And my first suggestion would be to name things Congress could do because the Administration is not going to do them. The first is to abolish the Senior Executive Service. I think that was a great idea when Carter suggested it, that it's fundamentally failed, and it's produced a lot of yes people who are operating in fear of losing their jobs if they fail to tow the correct political line. And I don't care what administration is in power, it operated too much that way.

Second, I think there is a need to have career professionals in charge of agencies and somehow they need to be insulated from getting fired if they don't tow the political line. We have a professional in charge of the Forest Service but he is still at the mercy of being fired for political reasons.

So then you need to take the next step of somehow insulating the professionals from that type of political interference and we haven't taken that step yet and we need to figure out how to do that. And I think Congress is going to figure out how to do that because I don't think agencies can or will.

There have to be ways to insulate the professional and encourage them, in fact, down in the lower ranks to speak up when the emperor doesn't have any clothes and say, hey emperor, you know, you don't have any clothes, instead of

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<sup>108</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. Because questions were directed to a specific speaker, names are attributed to those who answered questions.

being encouraged to sit down and shut up, to find themselves reassigned somewhere else or, in the case of some of us, to be encouraged to salvage our careers by demonstrating our loyalty to the agency. That was the point at which I resigned.

And I think that Dr. Maser talked to this yesterday in terms of not being allowed to ask the right questions. I think professionals have got to be allowed to ask the right questions.

I could go on and on and on, but I think these have not been addressed and I think they are part of the problem. They are a critical part of the problem and I don't know whether anybody on the panel wants to talk about that.

**Answer (Mr. Crandall):** I fundamentally agree with the several points you made, but one thing I would say is that in the absence of leadership coming from the land managing agencies, other people have readily jumped into the vacuum. I think what we've seen in many cases has been an intervention, whether it's congressional members or other forces, when the agency itself has not been charting a clear course and creating that public consensus.

So I think you're right. I think we need to encourage people to take risks, to experiment, to be bold, to do what they think is right, but then we live in a real world, too. There are always bosses and there are always checks on each one of us. So I think we have to be a little realistic about that.

**Comment:** One of the paradoxes is that right now it's exactly where there are the biggest failures in land management that we're seeing some of the most creative kinds of solutions coming forward. It gets back to a comment on disjointed incrementalism.

And one of the things that I think it's important for Congress to do and agencies, in a way, is to get out of the way and let those local initiatives where people, in fact, are filling the vacuum and are doing it in some really terrific ways, let those go forward because sometimes those efforts, with very little resources, have major obstacles that are just left over junk as much as anything that they've got to overcome.

**Question:** This may apply to the previous panel but I think it also applies to the planning and administration panel. It seems that we've heard over the last day and a half a good deal of delineation between public and private. Perhaps the multiple use-sustained yield act leads us in that direction.

But when we talk about what is a public good and what is a private good, it seems that we are implying that they are indeed separate and perhaps that the public good is counter to the private good. It appears that many of the public goods we've been talking about transcend public and private and are baseline goods.

So that the continual delineation between public and private seems to lead us away, whether it be administratively or economically, from ever being able

to attain some of the models we've discussed here. And I just wonder if there is a shared concern with that? It seems to me that we've got to be able to go both ways and have a fabric of public and private, not what is public and what is private.

**Answer (Ms. Sheldon):** I agree. I think that there is an environmental good or an ecologic good, whatever, that transcends the "public" and "private" goods as we've traditionally defined them and that that's what the public lands are for.

My concern is that we recognize that it is important to preserve and protect these lands even if human beings don't use them. I don't measure their value in terms of human use always. Obviously they are important for hosts of human activities, but if we are forever defining them in terms of private goods, private enterprise, or even the public good, we miss that element that can perhaps bridge the two. That is where the future comes in, where sustainability over time can take place because we have transcended the limitations that are imposed by the definitions of public and private good.

**Question:** It seems to me, one of the things I've heard is that we lack a shared vision and we don't have the appropriate processes yet in place for finding a shared vision. In addition to that, we lack information as to how we would get to this shared vision even if we had it. I wonder if this panel or anybody else could respond to the kind of incentives that would have to be put in place in order to develop the information that would be necessary to give to these visions?

**Answer (Ms. Sheldon):** It seems to me the biggest incentive is going to be the realization that we're running out of the resources that sustain us and that we're getting closer and closer to the edge. That is a scary prospect, but it seems, as a species, we react when we get to the point where we have to. This is one of the reasons that a number of the models will work in times of big crises, but are less effective before that time.

I would hope that we could do better in terms of defining incentives for gathering information rather than waiting for the crisis. I don't know what the answer is. The legal framework should be prompting this. The planning process should be prompting this. The requirements that are in the regulations for materials on which to make decisions should be fostering this. Yet here we sit and talk about what we need to do to even get started.

**Question:** I don't think the workshop has addressed the concern of biological diversity conservation very well and I think the reason is that the environmental community in particular doesn't like to consider very seriously the prospect of trading off existing public lands for other lands that might have more value for the conservation of biological diversity.

And the people that own private lands would rather not know that they, in fact, are the hosts of endangered species at which point their options would be constrained as to how they use their private land.

So there are two forces at work, two processes at work. One is almost accepting as a given the existing boundaries of public land and private land and talking about producing public goods on public land and private goods on private land and finding some coordination there.

Then we have the habitat gap analysis. We are underway State by State in Hawaii, Oregon, California, Idaho and other States, that's showing that we have an abundance of protection for some planned communities and absolutely none for more. That is, perhaps we have a minority of planned communities in the United States that are protected. And if we are serious about protecting biological diversity, some protection needs to be afforded to as many different planned communities and multiple representations of those planned communities as possible.

Now, we've addressed this problem by proposing landscape linkages or wildlife travel corridors. For example, in private land or land to be acquired, the areas that link parks and preserves and wilderness areas and other places for wildlife habitat would be protected.

But, how can we add that dimension to this discussion? Is there some flexibility that can be shown on both sides? Is there a potential for some movement of adding a critically important habitat to a public domain by either fee simple or some sort of development rights that are transferred to the public domain and giving up some habitat that we have in abundance from a biological standpoint? It's sort of a clash between recreational interests and biological interests in an over simplified way. How do we address that?

**Answer (Ms. Sheldon):** There is no reason why we can't do that. I'm not sure that the concerns that you've identified, either in the environmental community about public lands and private lands are as fixed as you suggest.

It seems to me for the future, one of the most important things we have to do it to look across the landscape and identify where we have our most important environmental resources, ecological communities, and so on, and we may have to do some changing around so that we capture those better than we are now and it will involve some giving up. I'm not opposed to that at all.

It's hard to do but I think we should get started with it and reorganize the pattern of public lands. We need to do a lot more in the east and that's one of the things about the northern forest land study that does appeal to me is that it's a chance to capture some of those resources in a way that we haven't before. And those won't be public lands, it will be a mixture of ownerships and a sharing of rights. So we have to be more creative.

The problem is that in the debate now we hang on for dear life to what we have because it looks as if we're losing it so fast and we have so little compared to what we did have before. So we have to be convinced, speaking as an environmental community person now, we have to be convinced that there will be a benefit to the environment as a result of whatever it is we are being asked to give up.

**Answer (Mr. Crandall):** First of all, I think the suggestion is really important. I think that's an area where there could be constructive debate and perhaps a national consensus developed. As you look at the portion of Nevada, for example, which is immensely public land-rich, some of the BLM lands near urban sites are for all intents and purposes abandoned. These are lands that are urban, right near Las Vegas, which are very valuable.

BLM doesn't have the staff to use or even police these sites. No disrespect to BLM, but I start thinking then about some alternative allocations of that wealth, reinvesting that public wealth in some of the public land poorer areas of the east and around our urban cores. I think there is a potential for a win-win for both biodiversity and recreation and many other purposes.

**Question:** I think one of the things people keep calling for is leadership in the professional land manager, you know, on the local basis making decisions. And then, also, people have harped upon the basic breakdown in the process of land managing. And one of the questions I'd just like to kind of throw out is the area of litigation. I've heard the solicitor of USDI talk about I think it's upwards of 800 cases that are on the docket right now with USDI

What I'd like to maybe see and just throw out is possible avenues or incentives or new processes that will negate the litigation that kind of stymies the process and just see where there are avenues to perhaps give the professional land manager the leadership and the capability of speaking out without the fear of his or her decision being slammed into court. I mean, I think this is something we need to kind of talk about.

**Answer (Dr. Cortner):** I think it's an error to assume that the court activity is somewhat an aberration of our society. De Tocqueville, when he visited this country, made the observation that essentially in America most questions end up in court. I think we have to keep in perspective who is using the courts and why, and that this is not an aberration.

And I sense from some of the comments here that those people now who are being very critical of the courts are the ones who aren't being advantaged by court decisions. When groups have been disadvantaged, whether it be in civil liberties to get civil rights or environmental rights, if they feel that they are not being heard in one forum, they will go to the courts. And so disadvantaged groups like the environmentalists have sought the courts.

Those who feel disadvantaged all of a sudden say, well, this isn't fair. The last I knew, the courts were still part of the political system, presenting options and access for folks. Those folks who want to have professionals in control think that their interests will be better served in this way.

After all, when I'm president and get to appoint my Secretary of the Interior or Agriculture and I make the political appointment of the Forest Service, I think I can make some significant change in the direction of how that agency works. Basically, isn't that why we elect presidents, to pursue our policy agenda? And so, I think that some of the push and pull concerning which



forums people are pursuing basically goes back to what they see as the preferred policy outcomes.

**Answer (Dr. Crandall):** I also say that the litigation is a direct result of the process fixation we have had in public land management. If you work toward a consensus at the local and national level, then I think litigation is less likely to be intrusive in terms of the decision-making, the implementation of the decision.

**Answer (Ms. Sheldon):** Well, it's no surprise that I think litigation is terrific. I'm a lawyer. I represent environmental groups and we have sought to use the courts because that is the best way we know to assure that the land managing agencies comply with the law.

I'm always struck by the notion that litigation is somehow nasty, that it's something we ought not to do. When you think about it, litigation reflects a commitment to the rule of law which is really remarkable and is one of the best features of our system of Government. Regardless of the size of your resources, your power or your money or whatever, in court, both sides are relatively equal. When a decision is made both sides generally abide by it and we go forward. This is a better way of progressing than having duels or resorting to violence as a way of solving problems.

To me, litigation is one of the best creations of human kind. The fact is that it has been due to court decisions, the application of law to land management, that we have made the environmental progress we have. What's causing some people unhappiness is that they haven't won, and we have and are likely to continue to do so. I do not mean to be a smart aleck in my earlier comments. Litigation is an appropriate tool. It comes last and should not displace land management processes in which everyone participates.

**Answer (Mr. Matson):** You know, I think litigation adds one extra dimension that is utilized or used to try to bring maybe some sanity or balance to the process. At least it tends to sharpen up the folks who are the defendants.

But it's also very expensive and in so doing, I think it just paralyzes processes and if the intent is to wind things down to nothing, it's a good strategy. But I think there is a better way to go about this and to be litigants all of the time isn't the way.

**RESOURCES RESPONSE PANEL****Comments of Williard I. Hamilton**

Judging from the questions yesterday about who is from the west, I can honestly say I'm really from the west. I live on an island 25 miles off the coast of the State of Washington. Although my background is principally from the forest products industry, like the Forest Service. I can honestly say I have a "new perspective".

I've got to share with you what my real life is like. My real life does not have a tie on. My real life is that I live in a forest. My real life is that it is unusual for me when I wake up in the morning not to have deer in my front forest. My real life is that it is unusual for me when I come home in the evening not to have raccoons waiting for me on my porch.

My real life it that it is unusual for me not to see bald eagles on my drive into town and it's unusual for me not to see a pod of killer whales. And by the way, it's also unusual for me not to see a logging truck on San Juan Island.

So, what I have to say is important; I do have a new perspective. And the other thing I might add is, aside from Chris Maser and Bob Wolf who is ostensibly retired, I think the three of us are the only ones speaking today who are not on somebody's payroll.

Going back to the paper that Steve and Matt presented, and I thought that it was quite good. I'm going to continue with their baseball analogy. I view our role here on the panel as one of being a baseball umpire and coach. Overall, I'm a little disappointed in the vision papers because I still think they are in the minor leagues.

With regard to the proper evaluation of multiple use and sustained yield, I am not ready to pronounce MUSY as being threatened or endangered but I think it's fair to say it should be placed on the "sensitive" list.

Getting back to Steve and Matt's paper in their four headless vectors of change, they acknowledge that change is occurring but they are not sure in which direction. Those changes include the changing social composition. I think this is very real. I think we are seeing the re-rise, if you will, of the city-state in our country; growing distrust of government, the rise of environmentalism and the information age and a changed world economy. I think that's very important. So as we have our vision batter step up to the plate, I think there are no grease balls in the pitches that Steve and Matt have sent our way.

The one comment I might offer on Steve and Matt's paper is that I think they downplayed what I consider to be the disenfranchising of rural America. I've lived half my life in rural America and the other half in urban America.

What I see in the faces and in the families of the folks I interrelate with in rural America is very troubling. So I would encourage Matt and Steve to work on that aspect of their paper.

Also, as umpire, I think we get to define the strike zone which has four corners. The first is psychological. The second is philosophical. The third is futurist, and the fourth is leadership. Let me come back and define what that strike zone is.

With regards to the psychological, if we are truly vision setting, I think we've got to relate to so-called Gestalt psychology. Gestalt psychology includes the entire process whereby you create a world of possibilities individually in your own mind. Those have to be real, and they have to be achievable. You go through the difficult psychological process of trying to bring about a desired future result.

With regards to the philosophical, I think the theories of Abraham Maslow and his hierarchy of needs is appropriate and very fitting. I think it fits well with the so-called uncoupling that we discussed earlier, particularly with regards to natural resource industries. Natural resource industries are at the basic fundamental level of Maslow's hierarchy, that being food, clothing and shelter. As our society moves further up that hierarchy, we become more unconnected with its very fundamental underpinnings.

The futurist side I think comes more from Jack Welsh who is the CEO of General Electric. In a speech last year, he said that the decade of the '90's will be marked by three things: speed, simplicity and self confidence.

The last part of the strike zone is leadership. We have an opportunity in our country because we have the social, political, economic and environmental infrastructure that is unequaled of in the history of mankind. And in that opportunity lies a pseudo moral responsibility to lead for the rest of the world and so I think that's an important concept.

I would suggest that their papers were not necessarily visionary but perhaps futurist in their orientation. As coach, I would bring our vision-batters up to the plate in the following order. First to bat would be Chris Maser. I think he gets on base with the concepts that our view of natural resources should be cyclical and not linear, that change is a part of vision, that nature shifts and is not balanced.

Second to bat would be Maggie Shannon. I think she gets on base with defining multiple use as how we live together and sustained yield as "live long and prosper". Her Spock-like logic leads us to the concept of the democratic forum. I struggled a little bit with Maggie's paper because it needs to be simplified in the context that the average layperson can understand.

Terry Anderson gets on base with his concepts of bliss-point economics, externalities, and decentralization leading to privatization. But I think he's suggesting, and if he's not I will suggest, privatization in a new concept.

Last, and it's bottom of the ninth, I think we bring up Carl Reidel. I think Carl gets us home, particularly with his land banking concept. And if Carl doesn't get us home, I think the options suggested by Pete Emerson on the panel this morning do. He could stand in as a designated hitter with his concept of companion markets.

Let me give you an example. The county I live in is San Juan County. We have the first and only land bank in the State of Washington. The capital for that comes from an excise tax on the sale of real property within the county. It is decentralized, it is locally controlled and it's mission is to acquire a variety of private property rights to protect and preserve the values that all of us that live on the island value.

So I think there is a great opportunity and, certainly, the San Juan County experiment may hold some key for the future in terms of what these new companion markets might be or how we might look at land banking.

Perhaps inadvertently, I think Hanna Cortner shows us how to really step up to the big league visions. Her graph on the locus of values compartmentalizes social ecologists, deep ecologists, reform ecologists, and guardians.

The concept that is important in her graph is there is a point on that graph where all those disciplines or ideals come together. I think it's precisely at the point -- she entitled her graph the locus of values -- I think it's precisely at that point wherein lies the *locus of vision*. And at that point, we need to explode it into the realm of possibilities that truly is vision setting.

I want to come back to morality and Chris Maser's question, "Do we owe something to the future? Not only an affirmative "Yes" but "Hell, Yes". With my own personal experience, I have grown and planted tens of millions of trees, many millions of which are on Federal lands. Although it is a profit making enterprise, my partners and I would continue to do this even if we made no profit because we fundamentally believe it is the morally responsible thing to do. So let's not lose hope in our faith in humanity to do the right things.

Finally (and Ann Hanus posed a perplexing problem that she identified in terms of what path do we take and how she searched to Alice in Wonderland for the answer), I think there is, perhaps, another answer to that question. When Carlos Castanaeda posed this same question to Don Juan, the Yacci Indian, he answered that all paths are the same because they all lead to the same place, just choose the path with the heart.

I think the heart of vision includes the auricle of economics and the ventricle of ecology. So, since we are all going to get to the same place, let's just do it together.

### Comments of Johanna Wald

Thanks to everybody here for giving me the opportunity to step back from my daily professional life and think about public lands and public land management concepts in a whole new framework and a whole new way. It has been a great experience.

The first question I was asked to answer is "Is multiple use and sustained yield working for resources?" And my answer, based on approximately 15 years of advocacy experience, is definitely not. And because I have the sense, based on some questions yesterday, that some of you will not take my word for it, I want to use part of my limited time to talk about some of the evidence on which I base that conclusion. I want to do it in terms of Federal rangelands to which, as Nancy Green pointed out this morning, we haven't paid much attention so far in this workshop.

What evidence is there that Federal range lands and their resources are not benefiting from management under the multiple use and sustained yield concept? Among other documents there are GAO reports. You can look at the report referred to earlier on desert grazing. You can look at the 1988 report on riparian areas on both BLM and U.S. Forest Service administered rangelands.

You can look at their 1988 report on overstocked allotments on both BLM and U.S. Forest Service lands. You can look at their 1991 report on the treatment of wildlife by both agencies in budgeting, planning, and plan implementation, and you can look at a host of other reports that have appeared over the past decade. All of these reports document ways in which the agencies shortchanged wildlife riparian areas and public values while condoning harmful grazing practices.

In addition to GAO reports, you also can look at the agencies' own documents to learn what's happening to resources under their "multiple use" management of public rangelands. Take, for example, their environmental impact statements. If you look at BLM Environmental Impact Statements, you'll find that the effects of livestock raising as currently authorized by that agency include soil erosion in the San Juan, Utah, Resource Area, soil compaction in Pocatello, Idaho, the spread of noxious weeds in Lemhi, Idaho and the degradation of riparian areas and wildlife habitats in numerous areas, including Shoshone-Eureka-Walker Resource Areas, in Nevada, the Kemmerer and Pinedale areas in Wyoming, and the Bishop resource area in my own State of California.

The Forest Service EIS's reveal similar kinds of rangeland degradation. If you get a chance, you might want to look at the EIS's for the Tonto, Prescott and Toiyabe National Forest in Nevada.

This grim picture is repeated in documents that address public land grazing management at the allotment level. You can look, for example, at the Forest Service EIS's on the Stanley Basin allotment in the Sawtooth National Forest

of Idaho and the Upper Ruby allotment in Montana's Beaverhead National Forest, both of which reveal declining site productivity, increased soil loss, and diminishing wildlife populations.

You also can look at BLM allotment evaluations. You can look, for example, at the evaluation for the Paiute Meadows allotment in Winnemucca, Nevada where you will find that, seven years after the land use plan was completed, there is severe over utilization of forage on upland and riparian areas resulting from overgrazing by both livestock and wild horses.

You can look at the evaluation for the Bureau's San Felipe allotment in Challis, Idaho. There you'll see that some ten years after the land use plan was completed, livestock numbers are way above the levels established in the plan. "Nearly all" riparian areas are in a degraded condition, and key plan objectives are not being met. Again quoting, "the single most important fact contributing to the failure in meeting land use plan objectives is" -- you may have guessed it - - "poorly managed livestock grazing."

I could go on but I won't. I will now turn to the second question that I was asked to address and that is, "From the point of view of resources, will things get any better under the new visions that we've heard presented?"

Starting with privatization, let me say and say quite loudly that tinkering at the edges of this concept, as someone said yesterday, has a lot of appeal to me. I'm all for unsubsidized grazing fees as some people in this room already know. What's more, I'm all for allowing grazing privileges to be transferred to people who don't want to graze livestock and for allowing Federal grazing permittees to be in an indefinite non-use category.

But the fact is, that's not what privatization is really about. As I've indicated, I would agree that we're trashing our commons. We are trashing the public range lands. We are trashing the ozone layer. We are trashing our national forests. But I wouldn't agree that private ownership is the solution to these problems.

As for evidence that private ownership is no panacea, I first would cite an EPA report that was published July 1990 that revealed that riparian areas on private lands were in as bad shape as riparian areas on public lands. In fact, what the report said was "throughout much of the west, riparian areas are in the worst condition in history."

Of course, it's not just public forests that are suffering. You can look at what the Plum Creek Timber Company is doing and what Maxxam is doing in California. You can look at soil conservation to see that private forest ownership certainly does not necessarily mean good forest management. From Forest Service data and data from the National Resource Inventory regarding conservation needs on non-federal rangelands, you will see that private ownership of rangelands is no guarantee that the environment will be protected.

Turning to "new partnerships", I was struck by Carl Reidel's answer yesterday to David the question about what do we get out of these new partnerships? Professor Reidel said, "We get the opportunity to cooperate and talk about real things."

That answer struck me because I realized that we don't have to look to foreign countries or even to the eastern part of the United States to see what happens when we try to cooperate and talk about real things. We've actually had extensive experience doing that in the west. We've experimented with the Experimental Stewardship Program, ESP; the Technical Review Teams, TRT; and the Coordinated Resource Management Planning Process, or CRMP.

Under all of these no longer new partnerships, we have had multi-agency, multi-interest participation and essentially an abdication of Federal authority. We have spent uncounted hours and thousands, if not millions, of Federal dollars. We have improved interpersonal relationships. However, we have not gotten one iota of documented improvement in on the ground conditions.

Turning to Professor Shannon's paper, as I understand it, I think it's possible that improved resource conditions could result from the process that she has envisioned because participants would be making better decisions. I agree with the point made this morning, however, that it will take a long time. The question to me then is, "What happens to the resources in the meantime?" If the present is any view of what happens to the resources in the meantime, it's that they continue to be abused and trashed and to suffer. And we will lose options and we will lose redundancies and we will lose diversity.

Which, of course, brings me to Chris Maser's approach. From the point of view of resources as an environmentalist, I think this is the approach that makes the most sense. It's the only approach that demands that we look first at the resources and their limits before we decide whether or not we can meet the wants and the demands that are being made of them.

This is, in fact, potentially the most revolutionary of all the visions that have been presented here, because if you really wanted to implement it, you wouldn't only change the questions that were being asked, you would dramatically change the institutions that were asking those questions. Our land managing institutions are not organized on any ecosystem basis either within the agencies themselves or on the ground.

I agree with Chris Maser that we can do this if we want to. At the risk of ending on a pessimistic note, I want to say that I think that this approach also has the most danger inherent in it. The danger is that the agencies will capture the concept but not change their ways. Whether or not you call this a fear that the Maser approach is a techno-fix, a bromide, or a mere slogan, really does not matter. There is a real possibility that we may end up with a situation in which we still are not asking the right questions and for the same reason. Namely, we don't want to know the answers. We will have just changed the language that we use to talk about these issues, while maintaining the same uses and the same practices that are abusing the resources that we care about.

### Comments of Kenneth D. Hubbard

I've had several people ask me, in effect, what are you doing here and I've asked myself that same question. What is an attorney from the private sector doing in the midst of all you professors, economists, scientists, representatives of environmental groups, entrepreneurs and so forth.

I thought first that this was my Andy Worhal 15 minutes, but then I was reminded that if I took more than ten I was going to be in trouble. So I'm here in a sense to represent the mining industry as I am the Vice Chair of Public Lands for the Colorado Mining Association. But there are people here from American Mining Congress (AMC) who can probably more ably represent that viewpoint.

Now, it is true I represent a lot of mining companies but I really shouldn't try to speak for them. So let's just say I'm here speaking as a private attorney who has spent a lot of his career dealing with public lands legal issues.

I used to represent a lot of oil and gas companies involved in Federal oil and gas leasing, but as you heard someone say yesterday, most of them have left the public domain to go overseas. I think the same thing could happen to the mining industry if mining law reform is not handled properly and I don't want to see that happen, not only because of the effect it would have on my practice but because I think that it would be bad for the United States to add reliance to minerals, reliance on minerals produced elsewhere, to reliance on oil and gas produced elsewhere.

As a response panelist, I view my role as similar to that which I have as a principally non-litigating transactional attorney. I heard what was said about that empty seat on the bus full of economists, and I also heard the story about the attorney who is sent to the barn and the pig and the cow come to the door and say we can't have that. But at any rate, I view myself as a problem solver.

My client's first question is almost always "Can we do it?", and I almost always have to say "Yes, but" and then talk about all the conditions and caveats that they face. And they want, understandably, to know "Well, what are they, and how much time and how much money will they cost us?"

I think I should raise some of these same caveats and conditions concerning the four wonderful vision papers which were summarized for us yesterday. And I think they were wonderful in a sense that they really do make us stretch our thinking and ask ourselves, "Well, would this work, and what could I do to help make it work?"

Starting with Carl's paper, I told him last evening I would really like to see some more experiments with greenlining, and we discussed some that are already going on. When he pointed out in his paper and in his presentation yesterday that the process involves a kind of strict zoning dominant use approach as opposed to a multiple use approach, my first thought was, "Well,



how can you zone land for mining when that whole process involved trying to find mineral deposits, and you have no idea where they may be found?"

But it occurs to me that even if a dominant use approach were what we were facing, if it were structured to allow exploration and to allow, in the event of a discovery, a reasonable chance of being able to successfully argue that mining should be the more appropriate dominant use, maybe it would work.

It would certainly be interesting to work with the new property rights concepts that were outlined by Carl. I know that my clients are not so concerned with what we call their rights as they are with the question of "Can they do what they need to do with the rights they have without inordinate delay, and will they be justly compensated if these rights are taken from them?" Carl covers those points in his paper.

Turning to Chris Maser's paper and what I would describe as an impact analysis approach, with which I agree, the only problem I have with it involves this question of whether we always know the impact. For example, did we really know what effect hydrofluorocarbons would have on the ozone layer until fairly recently? Are we really sure of the effect of continued burning of fossil fuels on global warming? I think I know the answer but I don't know for sure and I'm just raising the question.

And that's the kind of approach my clients take, too. I think if they could be convinced, perhaps they would voluntarily tend to concentrate on other alternatives. My experience has been that they just want to know what the rules are and be given some assurance that the rules won't drastically change so they can run the numbers and decide whether the risks are really worth the effort and the expenditures.

Which leads me to Terry Anderson's paper which immediately raises in your minds, I'm sure, whether the mining industry is paying enough for its use of the political lands, as Terry describes them. And I am on record, saying maybe not.

And as a matter of fact, so is the AMC and I quote from one of their publications: "The mining industry would not object to paying fair market value for the surface estate of a mining claim based on the highest non-mining use of the land. The industry also has no objection to holders of mining claims being given the option of paying an annual holding fee or performing annual assessment work. This will assure claims are not held for speculative purposes."

Now, granted we're not talking there about royalty, which I think is a different question. I think that if we are going to talk about royalties that we ought to talk about some sort of a net profits royalty or net smelter return royalty, which is the kind of thing the mining industry lives with on fee lands. And I would point out that there is this study that Davis, Graham, and Stubbs and Coopers and Lybrand have prepared called *The Economic Impact of Mining Law Reform*, which gets into these issues. I'm also on record as saying that we

have to take a serious look at the economic impacts of what we're proposing whenever we talk about changing the law.

What about Margaret Shannon's paper? Well, in closing, it seems to me that this conference is a good example of the type of public deliberation she's calling for. I, for one, feel that we are expanding our understanding. We are certainly incorporating diverse perspectives and seeing how our interests are shaped as the consequences are clarified. I think that's a fairly accurate quote of what you were saying yesterday. I can only hope that in the process that we are also building some trust.

### **Comments of Laurence R. Jahn**

It's a pleasure to be here. And I guess beyond what was given as background, I'm going to have to identify the fact that I have participated in boards of education; I've chaired those and provided the leadership spoken to. I've served as a witness in Federal court, State court. And I've also been a community contributor where ever we've lived, whether it be church or other organizational units.

So my perspective is going to be a little bit different. I'm tempted to dive into some of the details but I'm going to avoid that because others have ably covered that.

First of all, the perspective on multiple use and sustained yield; there is no question that a historical back drop is necessary for you to appreciate it. Remember, there was a time when recreation, fish, wildlife and some other values were not recognized officially. That was a major step and if you don't believe so, then you should have been involved back in the 1950's that led to the 1960 Act or for better than 25 years was involved in the political arena in order to get the organic act for BLM that came into being in 1976. That's participation in Government and anyone who has never gone that route in full tilt ought to experience it because it's extremely invigorating.

As I heard one person in the audience say the other day, my juices got rolling when I heard some of these speakers. That's exactly what happens because if you truly are an American and want to contribute and develop trust in Government, you're going to participate full tilt all the time. That's required.

There is nothing wrong with multiple use and sustained yield except remember the historical context in which it was delivered. We have got to realign it and improve it and that's the challenge to us collectively.

Is there a need for it in the future? I don't think there is any question about that. The answer is yes because we've got more total demands coming under the resource base, whether it's public lands, private lands or a combination thereof. We must have that option for a concept, a philosophy and finally develop the procedures to deliver accomplishments that are much better than what we have delivered to date.

The focus has got to be more on things other than products and uses. A number of speakers commented on this, but it's a terribly important point. It must focus first on the resource base. The resource base has unique characteristics.

Let me just walk you into a Ponderosa pine stand. It's park like. It's extremely pleasant. I'll take you into an old growth forest and if the majesty of that setting doesn't grip you, than you haven't had real contact with a resource base.

And it's those unique characteristics of the plant communities that are setting over the landscape as a whole that we should recognize. And Chris Maser spoke to the point that these particular characteristics determine what we do and can do without causing adverse impacts over long periods of time as well as short periods of time.

It is terribly important to get that concept in mind. Any of you that have ever had a lot on which your house is built -- and I put it that way because you can see it happen -- you take the bulldozers and remove the material and build a house. And people say, my God, this is a disaster. No, it isn't. It's a stage.

That particular lot can become a very attractive, if you apply the right types of vegetation and the right patterns and let them develop over time. Subdivisions change continuously. So do forest tracks, so do range lands and so do other areas. That whole idea of dynamics of the situation has got to come through loud and clear.

We need to set, if you will, those characteristics in that basic ecological framework. Those distinct characteristics and the renewable characteristics have got to come through. Because we've got an abused situation as described in the range lands today, that does not mean that it has to be continued into the future. It can be changed.

Any of you that have ever been in the State of Oregon and looked at some of the riparian areas that, under proper treatment and management, have recovered. There is no question about it, but it takes that management and treatment.

Sustainability is the thing that's missing in multiple use and sustained yield as it's now structured. The point is that it can be added. It is my judgement that if we take the accumulated laws and look at the total effect, I don't think we need more legal authorities, we need more desire to move forward under those authorities to include sustainability. If we do that, then we've got to understand what it means very broadly and build the foundation to improve multiple use and sustained yield.

Let me move on with a couple of other points that I think our terribly important for you to recognize. First, the elements of ecology should be accepted as a foundation for the framework. I just think that that's terribly

important. There is no question about it. The fact that we've been slow in reaching that point may reflect the youthfulness of the whole science of ecology.

The economics, particularly the calculation procedures, some advanced by Terry Anderson but certainly well known to most of you in this audience, are simply inadequate to represent everything valued in the landscape systems and they must be realigned. We have values that are beyond our expression.

Now, you can use the economist term, externalities, but remember, the procedure to handle them is to put them in a bag and set the bag over there on the table and forget them. But don't you ever forget the fact that those values are still in that bag. It's simply that calculation procedures have not been able to capture them. Well, the point is, we can't be bagging those values anymore. We've got to recognize them, take them into consideration and recognize that economic procedures are simply inadequate.

Let me recommend for your reading, and it fits in with Maggie Shannon's description of national values and community values and their recognition through public participation. A book has been issued recently, and I think the title is especially pertinent to this discussion. It's title is, *The Common Good: Redirecting the Economy Toward Community, the Environment, and a Sustainable Future*. And if you haven't taken that book and really sat down and digested it, I recommend it to you highly. One of the authors came from Louisiana State University. That individual is now at the World Bank, and we are changing the entire way in which we are adding and giving aid to foreign nations. If we can do it to foreign nations, then we ought to be able to apply the same principals, the same procedures right here in this country on public lands, private lands and combinations thereof. I recommend that to you very highly.

Because the landscape units consist of lands and waters under a variety of public and private ownerships, there is no question about the point Carl Reidel and his co-author made, that we need public and private cooperative approaches to manage various units of the landscape. There is no question about it. Is it new? The answer is no. Max Nicholson did some work in England years ago on this. The point is that they moved forward using imaginative approaches and applied them. Greenlining was described here but there other approaches as well. This started post-World War II in the 1940's. Well, North America's been awakening, and the United States and Canada are included. Mexico also is included, but to a lesser extent.

My contention is, when we talk about the experiments, the case histories and the individual situations, we have a number of accumulated experiences over decades that could provide us with the insights that we are seeking to improve the management of public lands. We've got regional planning commissions. We've got them in the northeast, we've got them in the midwest, we've got them in the far west and most recently, and you're seeing in great volumes of publicity, the greater Yellowstone ecosystem.

I suggest that what we need to do is make an investment in some well qualified people to make the evaluations of what we learned from those experiences in incentives -- and you heard one of the prior speakers from the State of Washington describe an innovative technique applied in that particular area -- in the best interest of the community and would think also in the best interest of the nation.

That's the type of approach we need. There are limits on what we, as human beings, can carry out in our activities. We must recognize those limits and put them in our institutional arrangements.

Now, let me close before I'm tapped gently or hit with the microphone. I've sensed that there was a lack of one thing discussed and some of my friends in this particular audience know that I feel strongly about this.

We talk about public participation. Well, I'm going to talk about professionals participating directly in the political process. That's democracy in action. There is nothing dirty, as one person inferred the other day, about participating in the political arena. It's our obligation as citizens in this county and we ought to do it and do it more forcibly.

**QUESTIONS AND DISCUSSION:  
SESSION IV, RESOURCES PANEL<sup>109</sup>**

**Question:** Will you expand on the issue of disenfranchisement within rural America?

**Answer (Mr. Hamilton):** I'm not a social scientist. If I were I'd probably be a social rocket scientist with re-entry problems. But all I can relate to is my own human experience and what I see, in particular, in the timber dependent communities in the western states. I spent quite a bit of time, of course, in the State of Idaho which is, in large part, controlled by the Federal Government. And people there, my friends, feel oppressed, they feel disenfranchised. They feel bitter and it's creating, perhaps it's appropriate to use the term, potential class war.

How I would go about studying that? I would simply go out and chat with them. I mean, do a study. Measure the value differences between say, urban America and rural America and then at least get those out on the table. My own personal judgement without any science is that this disenfranchisement is very real.

**Question:** You seem to be saying that the multiple use and sustained yield principals can be made more effective by including an ecological component. I just mention this as an example because I heard it, adding biological diversity as one of the resources by which in the multiple use scheme of things would be adding some kind of "sustaining the ecosystem constraint" to the sustained yield definition in the multiple use and sustained yield Act, something like that. Now, my question is, if this is true, do you have some specific examples how it might be done?

**Answer (Dr. Jahn):** Sure. We've talked about the Soviet Union, and I use that term historically before the 15 units have been broken up. I'm not going to use the term biodiversity because it cuts layers. I want to use the term I think I presented to you and that's sustainability.

We are dealing with processes. We are dealing with products. We are dealing with services and values and benefits and it's a constant stream. I might add, if you treat the resource base properly, that it's dollar free, okay? That element of sustainability must be incorporated.

Now, other examples before we move forward with this. Let me try one in the Soviet Union for you. If you take the Baltic and the Caspian Sea area, here was, in effect, free market economy that operated by and large, with few

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<sup>109</sup>Questions and answers in the Discussion session are edited for clarity from the Workshop transcript. Names and affiliations of the persons asking the questions or making comments are not included to preserve their anonymity, as promised at the Workshop. Because questions were directed to a specific speaker, names are attributed to those who answered questions.

exceptions. That area is an absolute disaster today. The reason being, externalities were simply disregarded and the people there are finding themselves with deformed babies there and what have you because development and growth took place without limitations. That's one example.

Now, the other, if you take this country, going back in to the '50's and coming through to now -- in other words, we've got roughly four decades of experience -- take a look at what's accomplished in terms of flood plain and shore land management through zoning. Here we recognize these unique areas and the reason for applying it -- interesting enough in the first strong incident was in terms of economics -- it was to reduce the load on the tax payer.

Whether it's a river system or a lake system or Ponderosa Pine stand or what have you, it's terribly important. What is it's characteristics over time and that brings you to sustainability.

**Question:** You've indicated that you're not much in favor of privatization of what are now public lands and you've also indicated that present management by public agencies of the public lands is terrible, if not focusless, I would like to see what your vision of the future is? What would be good from your standpoint?

**Answer (Ms. Wald):** It would be quite similar to the vision that Chris Maser enunciated. As I understand it, this vision is that we must start looking at the resources that we are dealing with and the limits of those resources before we even begin to decide what they should produce, at what level and what demands can be met from them. I do think that is something that's very different than what we do now. It's certainly very different from what the BLM does when they decide how to manage the rangelands under their jurisdiction. It's very different from what the Forest Service does when it makes management decisions. It seems to me that, in fact, they must change the questions that they ask about our resources if those resources are to be protected adequately.

**Question:** I have a two part question for Will Hamilton. The first part regards your beautiful island that you live on. Can you tell us whether your island is a net importer or exporter of all the things that people need to survive on that island?

And the second part, I'm intrigued with the land bank situation that you described. Will that land bank and the growth of that land bank have any effect on whether you are a net importer or exporter?

**Answer (Mr. Hamilton):** Thanks for asking that. I have not done a balance of trade for San Juan Island. I can tell you we are a net exporter of timber. We are a net export of minerals. We are a heck of a net importer of tourists. So it's hard to say. I would say certainly with regards to groceries, we probably are a net importer.

Addressing your question with regards to land banks -- and I'm going to throw this answer out as more of a challenge -- this is my own vision. Imagine, if we will, without scotomas or blind spots, a world where we have a series of community-based land banks throughout the world; where we have a currency that's not necessarily money but some form of script that has value in addition to value in exchange such as we have money.

One of my favorite bumper stickers is, you know, "Think globally, Act locally". Increasingly, our world is becoming a smaller place but to what extent can we harness the free market process?

And capitalism, which is a very powerful force, could be harnessed in pursuit of the protection and enhancement of environmental values on a world-wide level. I mean, I think that's a new dimension of the new world order.

That's my vision. Now, that's not going to occur in my life time but I think it's that type of thinking that is required. And I would challenge those of you who reside in universities and have the time to explore this potential.

**Question:** I was intrigued by Ms. Wald using a lot of Idaho examples. One of the examples you used I happen to be personally familiar with, the Experimental Stewardship Program (ESP) on the Challis National Forest. I also happen to know also that the local environmental community has participated quite actively in that program.

I think that a lot of the national environmental organizations are, in fact, too much like T.V. evangelists; send me your money and I'll save you. And I happen to know that the NRDC has challenged that program, has indicated that they do not think that that's a good program in spite of the fact that local environmental organizations have participated actively in it. Where do you think those decisions should be made?

**Answer (Ms. Wald):** I have said that decisions should not be made at the local level, and, in fact, I have not objected to the Challis ESP program on the ground that it was a local program. I cited the program today because it does prove that environmentalists as well as other interests have been involved in cooperative efforts to improve management and to restore resource health. The issue is not where these decisions should be made, but whether the resources have benefitted. The problem with the ESP program generally and with the Challis program is that they have not done anything for the resources.

The ESP experiment has been going on for ten years. There is no documented evidence that it has made one bit of difference despite all of the time of all the participants that went into it, all of the money that was spent, and the virtual abdication of Federal management decision-making authority. They turned the matter over to the ESP participants and said come up with something. The participants didn't come up with anything that made a difference from the point of view of the resources.



**Question:** I've got a comment that I'd like to get a response from the panel. I'm very troubled in this debate by the use of the word subsidy. It's almost authoritative. I was troubled by this in the early '80's when the radical free market folks were very prominent and they were talking about wilderness as a subsidy to the wealthy element of society who owned backpacks and gortex underwear and the like.

I'm equally troubled by people who today argue that other use of the public lands, commodity uses of public lands are subsidies to particular groups. It seems to me that when we talk about, when we use the term subsidy in this context, we are not really dealing with the issue that we are most concerned about. We are most concerned about the effect on the ecosystem and our use of the term as a pejorative, our use of the term subsidy is an indirect approach to that issue, just as the spotted owl is the indirect approach to the ecosystem in the Pacific northwest.

It seems to me we ought to be thinking in terms of the objectives we want to reach with respect to our public lands and the incentives that we can build into the system to reach those objectives rather than dealing in a negative sense with the notion of this is a subsidy to this particular group or to that particular group.

Let's talk about the real issues and what we want to do with the land and the impacts of that rather than engaging in a discussion of who is being subsidized and who is not being subsidized.

**Answer (Mr. Jahn):** Well, in the field of agriculture, we've had things that have been labeled subsidies as well as things that have been labeled incentives. Sort of disrobe the words and what it amounts to is exchange of wealth among parties of the society.

The point is that, if it's cast in a positive vein in the connotation of the word incentive that's one thing. But to the people that use the term subsidy frequently in a negative sense, they are saying that it's not achieving a public good. It's to reduce the cost of carrying on a private operation. That's about where it comes and I realize I'm treading on a thin lake generalizing but that's the concept frequently.

Your subtle suggestion, and I would agree with it, is we ought to take subsidies and convert them over to incentives. We may still have to pay some but not necessarily all of what was formerly subsidies, no question about it. But what that does, remember, is change institutions and the guidelines for the game.

**Question:** Let me follow up just a little bit. Let's take a below cost timber sale that's perhaps almost, but not below, cost. In today's market, it might be a below cost timber sale by some calculus. In tomorrow's market it might not be. Let's talk about whether we want to harvest that timber or not on that piece of public land and get away from the issue of whether today it's below cost

and tomorrow it isn't. That seems to be not really the issue. The issues is what we are going to do with that forest.

**Answer (Ms. Wald):** I can respond in terms of below market value subsidized grazing fees. The problem is you can't separate the subsidy from the effect because we have fees that are so far below market value that the agencies don't have the wherewithal to cover the costs of administration and grazing management. Moreover, they don't have the wherewithal to do the range rehabilitation that is necessary. They have to deal with demands that they wouldn't have to deal with otherwise for a resource that is in limited supply because the price is so low. You can't separate the fact of the subsidy from its environmental impacts.

**Question:** I thought I heard yesterday that the cattle can be used to achieve certain ecological conditions if they are used, perhaps, in a different way than they are used typically.

**Answer (Ms. Wald):** One of the things that's preventing us from using them in that way is the reality of the way public range lands are managed. I've been hearing for almost twenty years that we can use cattle to produce this, that or the other environmental benefit. The question is "When are they going to start doing it?", and the other question is "Why aren't they doing it?"

**Question:** How are you going to approach it though? Why don't you approach it in terms of ecological effects? That's a more direct approach.

**Answer (Ms. Wald):** We know what the effects are. It is not making any difference.

**Comment:** One of the most important effects of a subsidy such as low grazing fees is a very power political effect. It comes from permit value, the fact that the fee is so low that banks now recognize that the Federal grazing permit has a high value. So then you can go to the bank and borrow money on what is a public lending for private property.

And then, when you reduce, when the Forest Service or BLM (and I'm likely to think that BLM never tried to reduce the numbers of cows, it has a direct effect on the market value on the ranch. And if you are a banker and you just loaned this guy \$100,000 on these cattle, and now the number of cattle is going to be decreased by half, your loan is at risk.

So, not only do you have the Senator defending the rancher for his own obscure reasons, you also have the banker. So the subsidy has perverted almost completely the opportunity for ever arriving at any rational, biological decision and that's the worst thing that subsidies do and that's why we have to be concerned with them up front before almost anything else is done. If you don't do that, you're wasting your time.

It seems to me that a couple things have been accomplished here. One is that we have looked maybe at whether the imperfection of what we see out

there has to do with a theory or whether it has to do with a practice, what we're doing.

One of the problems that I would submit that we still haven't resolved in the use of public lands is that we are producing a combination of free goods and market goods. And for all the time that I've been involved in trying to get budget numbers, it's very difficult to go to OMB and get money for something that doesn't bring any money into the Treasury and that's a fact whether you admit it or not.

So one of the questions that we have is, if we don't know of any way to make certain things economic today and the market just from these externalities, whatever we use is a proxy.

The second thing is that with this mix of uses, it seems to me that one of the things that's happened during my life is the increased tendency of one group trying to throw another group off of public lands. In a time when we probably should be talking about responsible sustainable shared use, responsible sustainable shared use, we tend to be talking about whether my use is somewhere superior to yours and I ought to throw you off. So it reminds me of 12 husky football players who are trying to throw each other off.

Finally, the most rapidly rising theory on private land is trying to get multiple use of private land. You might think of that to the wetlands program or the farm bill, and the conversation reserve program. The northern forest land study is an attempt to try to get multiple use of private land.

It is interesting to consider that we quickly are trying to increase the multiple use of private land and whether doing so is in the public interest.

**Question:** I think that we're losing track of a point that is very important. If you go back through history in public lands. At least as I remember them, they were created in the early laws, even up through the Weeks law in the 1930's, to achieve a lot of social objectives. And I don't call the public objectives or private objectives. They were the broader objectives of society.

When you look at the creation of the Forest reserves in the United States, they had multiple objectives. Some of them were environmental objectives to repair the land but a lot of them were social objectives to actually ease human suffering and poverty at the time.

And I think we ought to keep track of that. It seems to me that we are getting bogged down in subsidies and incentives and who does this on individuals without really looking at some of the opportunities there are for win, win situations that just don't deal with environmental objectives but also to achieve some social objectives. We are getting down into this tussle with the football players, as it has been said.

So I just want to make that point, that we ought to look at what the social objectives are that we want to achieve.

**Answer (Ms. Wald):** It's interesting that you separate environmental values from social values. Today, environmental values are, in fact, social values. I think one of the things that we are seeing is another change in social values. One of the reasons why we're all here is because we are trying to grapple with the on the ground human implications of the changes in values in this country. As someone said this morning, we didn't yet have a consensus. Although, I think that we are moving towards one. However, it is going to be very difficult. It is, in fact, going to take time and there aren't going to be any panaceas for the agencies or the people or the resources.

**Answer (Mr. Hubbard):** I think that in a sense both of you are right. I keep coming back to what was said yesterday that ultimately it's Congress that is going to have to make these decisions and I think back to the days when they gave land away to the railroads for westward expansion. But I don't think you'd ever find anybody wanting to do anything like that today.

I think that we have to bring the environmental values more to their attention somehow to get them to make the kinds of decisions that need to be made in this day and age.

**Comment (Dr. Reidel):** I just want to follow up on this point of the social responsibility. There was one thing in my vision paper I wish people would remember -- that the context of the greenlining examples and everything I gave and the examples of the ones that failed rested on this notion of social and economic sustainability. And I don't see it separate from environmental sustainability but if you don't start with community and social sustainability and recognize the foundation that is ecological sustainability, we are really rearranging deck chairs on the Titanic again.

I predict that at least half of the people in most of the institutions in this room are already an anachronism to the world we live in because of the failure to recognize that regarding the statement that rural communities are alienated, there are voting districts in our urban areas that there are more guns sold annually than goat's calves. I say this with the experience of being in the Soviet Union when the entire thing caved in to center around environmental values that people interpreted as having so eroded the social community there was nothing left. And I remember at a meeting just like this at the Supreme Soviet in Moscow, the environmental committee, the only difference from this group is there were no women. The age structure was about the same though. In the middle of the meeting, somebody got up -- and I think it was the head of their Forest Service -- and threw his briefcase on the top of the table and through an interpreter said that the entire world is falling apart, and we are sitting here talking about multiple use.

Every one of those points are valid but we've all come with our own map. And that was another problem. None of the maps showed that a bridge is working because the American's were going to come blow them up.

And we are like that. Everyone of us has a map whether we are in the mining industry or the livestock or NRDC and when we get out on the

landscape, lay the map down and the map doesn't agree with the landscape, we blame the landscape.

**Question:** It was said that the problem in the grazing situation is that we aren't making enough money to pay for the improvements or the protection of the land values. I think that is missing the point. At least in the case of the Forest Service, the receipts that the commodity producers give for the things that they buy, via timber or grazing, doesn't go back to the specific forest or the location where they've been working. It goes to the Federal Treasury.

What's missing is some assurance that we get appropriations to carry out these management programs on the ground and that's the point that Senator McClure made yesterday. And in order to make the multiple use, sustained yield concept work, and I think we can make it work, once we've defined our goals and the things that are needed, we need to ensure that we provide the funding either through user fees and through payments for the commodities or through appropriations. But we've got to have the funding to allow the agencies to do their job.

**Answer (Ms. Wald):** I certainly would agree that they don't have enough funds to do the job. I did raise that point. However, I want first to say that this is not a matter of throwing money at the problem. It is a matter of will, as Chris Maser said yesterday.

I also want to point out that in the grazing situation, there is no problem of the fees not going back to the local area because a significant proportion of grazing fees do go back to the area where they were generated. These sums are just not enough. They are trivial amounts when compared to the cost of meeting the documented need for rehabilitation. Their cost is so high because we always forgot that if you don't rehabilitate today, it will cost more to do it tomorrow.

**Answer (Mr. Hamilton):** A couple years ago, the Administration proposed a 12-forest below-cost sale test that never made it through. What I would like to propose is a forest plan implementation test. Let's take 12 national forests throughout the country and fully fund those plans. You hear from the Forest Service that they don't get enough money for range and that they don't get enough money for recreation. Let's take 12 national forests, and say for a two or three year test, we are going fully to fund forest plan implementation for *all the resources*, not just timber and not just water and wildlife, the whole smear. Now, how are we going to pay for that? There are excess dollars available in the KV fund. Let's go ahead and see what happens.

So I'd like to at least throw that out there as an idea for those of you who are lobbyists in here in this town. Let's put up or shut up.

## Session V: Summary

- I. Frank Gregg, Professor Emeritus, University of Arizona
- II. Ross S. Whaley, President, College of Environmental Science and Forestry, State University of New York

Questions and Discussion

**SUMMARY****Frank Gregg**

Well, there was one moment today when I was quite sure about what I was doing.

What I am going to do is to recapture quickly what I've heard about natural resource policy problems and then talk a little bit about the nature of solutions to be applied. I will not attribute anything to any individuals.

We're talking here about resources which are highly valued by the public and about institutions which were established many decades ago out of fear of abuse and inefficient use of resources. Agencies were created to provide professional leadership for the management of these resources for the public's benefit over time, from the beginning under a generic but undefined concept and eventually under the concept of multiple use and sustained yield.

These agencies secured staff and other resources and managed, developed, and allocated natural resources. Over the decades, it became clear that the stream of benefits was not universally acceptable to everybody who wished to secure values from the resources, and the allocation of costs didn't seem to match the distribution of benefits. Demands for reform arose. These demands led to more formal approaches to securing sustained multiple values and efficiency and equity in costs and benefits. These approaches changed the rules and processes through which the agencies and resource user interests interacted. The rules reaffirmed the implied commitment to even-handed responsiveness to conflicting demands for uses and values. The rules also made an extraordinary commitment to participatory comprehensive planning, including cost/benefit determinations, considering diverse interests and management alternatives as a requirement for making and carrying out actions by the agencies and as a means of coordination among levels of government and among the public and private sector in managing the resources involved.

We have now amassed a considerable history in participating in and judging the revised system, and we agree that we are in another generation of dissatisfaction. We have characterized the present as gridlock, polarization, so extreme as to suggest extraordinary urgency in pondering what needs to be done. The general direction of change includes increased consideration of the nature of natural systems and of natural system capacities to produce over time, as a principal constraint on the design and conduct of programs for resource allocation and utilization.

We tend to favor decentralization. We see some disjuncture between the levels at which the effects of decisions are felt and the levels at which decisions are made. We are trying to find coordinated ways to focus all the authorities and actions that affect resources and uses at the problemshed level. We grope for ways to apply integrating concepts at the problem-shed level which may

reflect interactions in natural processes, uses and impacts involving federal, state, local, private ownerships and aspirations.

We're talking about new forms -- more precisely old forms abandoned to hierarchical models -- of participation by stakeholders in decentralized systems. If Maggie and I have our way, we clearly are talking about change in the power relationships between the stakeholders and the administering agencies.

We're talking about a preference for consensual market-like and bargaining strategies, rather than the exercise of power through administrative hierarchies in which professional expertise is a compelling factor in goals and objectives as well as in management actions to achieve them. In effect, we're talking about a redefinition of professionalism as expert advisors, enablers, and as vigorous participants, but not as goal-setters or as ultimate allocators of value. I may expand on that later; I'd rather be asked about it.

Let's talk about barriers to the movement toward reform. What are some of the barriers? Well, obviously, we have incentive barriers. The agencies themselves have mixed incentives with respect to decentralizing decision-making to lower levels with increased emphasis on negotiation and bargaining among those who care about resources as an alternative to the planning-based administrative decision process. Washington staffs tend to believe in the need for lots of guidance of field offices, out of bureaucratic self interest and concern for field offices "going native".

Congress has very few incentives to want to decentralize committee staffs who especially accrue power from close oversight.

The national media obviously loves to have controversy focused where it is easier to cover. Executive Branch politicians obviously find platforms for distinguishing themselves in Washington.

It may be more important to point out that I don't see any institutional incentive for the major interest groups which are contending for the use of these resources to opt for decentralized decision systems. There is no bureaucratic benefit to the staff of the National Cattlemen's Association for a system which operates in the Tonopah BLM area which actually is going to produce agreement about how grazing allotments ought to be managed. There is not any more incentive for the staff members of the National Sierra Club or the Audubon Society for precisely the same reason. It is the level of controversy which creates the environment in which support for those institutions as national bureaucracies comes in major part. I would argue that the "Cattle Free in '93" slogan has done for the politically organized cattlemen precisely what James Watt's appointment did for the Audubon Society and the Sierra Club.

So, the institutional imperatives of interests in conflict about allocations of resource use and value tend to favor polarized posturing at the level of law, budgeting and administrative policy. Polarization and centralization at that level makes cooperation at the local level of questionable utility. Surely the fundamental incentive for good faith bargaining is the capacity to effect



outcomes, and the burden of living with them. Polarization at the top can actively discourage local agreements, as illustrated by - in the late 1970s - Washington office environmental organization criticism of a field staffer who had helped work out solutions to a grazing problem as having sold out.

Another problem is planning. Planning has become a major part of the problem. We've set up planning systems which are based on the assumption -- surely childlike faith in the face of collapse of elaborate planning in most of the other societies of the world -- that somehow or other if we just get planning that is comprehensive enough, looks far enough into the future, is formal enough, and costs enough money, it will produce agreement on action. There is absolutely nothing in history to suggest that is true.

Another interesting thing about planning is that it costs a lot of money: resource inventories, environmental assessment, data collection, data management, GIS systems, public participation. There has been more money spent on GIS technologies in the last fifteen years than has been spent on timber stand improvement.

It seems to me that if we could create the kind of institutions that we're talking about in which people who had stakes interacted with each other and with the support of professional staffs helping to interpret the significance of all the data about resources we've been collecting over the last twenty years and advising on management practices and results, we might be able to free up a great deal of money to actually restore a riparian habitat somewhere in the West; put some money into restoring and enhancing across the board.

There is another barrier: the lack of linkage of land and water. Particularly, but not exclusively, in the West, the notion that we can make the kind of decisions that we need to make public land or water as a discrete focus for organizing intelligence and action simply isn't so. And yet we have developed our public land and our water institutions in isolation from each other. That is an agenda of historic proportions - remember John Wesley Powell - which will dominate agendas in a relatively short time-frame.

As a university person, I have to note that I think one of our fundamental problems is professional education. If I had to pick the one barrier that may be most difficult to solve, it will be the cloning effect of tenured university professors, often twenty years behind the times in terms of the social environment in which resources are being managed, defining their notion of rigor in a narrow field as the exclusive criterion for professional education, ridiculing interdisciplinary programs as lacking in that notion of rigor, and often leaning hard on students to accept a set of values toward society and resources a professional obligation.

When Max Peterson was Chief of the Forest Service, every time we met at an airport we had exactly the same conversation. Max would say, "Are you having trouble with your specialized staffs being unwilling to search enthusiastically for ways to resolve active resource-use conflicts in ways that involve compromises of professional preferences?" And I would say, "Yes, Max,

I still am.\* The next time we met I would ask him the question. And much of this is a function of habits of professional education.

A penultimate barrier: we are solely lacking in research strategies to support the kind of things we've been talking about here today. That's why I asked that question about research directions earlier, and I hope that some effort can be made to allocate some large block of Forest Service money to look at the kinds of institutional innovations that we're talking about here today.

Finally, I think it is important for us to note that all of our deliberations take place in the context of a deterioration in the general quality of public morality in American political institutions. This is profound; it is profound. We have witnessed wars for questionable motives. We allocate huge budgets to things of which we have no knowledge or control of. For example, defense intelligence budgets are going to continue at the same level, without any reduction, in spite of the end of the Cold War (apparently a permanent government out of the effective control of informed citizens). We have problems with savings and loans, junk bonds, bottomless checking accounts -- you can draw your own list. The point is that we have terrible problems of general confidence in our government institutions, and for good reason. These make our efforts at reform both more urgent and more difficult.

The final point I want to make is that nothing that I have said here has to be referenced to do with what we have done these two days. Everything that I said constitutes a summary of a series of conferences and study sessions on reform in *water* institutions in the United States, held over the past two years by the Western Governor's Association, the Western States Water Council, and the Interstate Conference on Water Policy. Quite literally. These comments are not, with a few exceptions, made from my notes at this meeting. They are made from notes that I made to summarize a conference that was held two weeks ago in Washington about fundamental problems, issues, and opportunities in the reform of water institutions. I have not taken this liberty as a joke on you. The sense of where we are and where we need to go in both fields is strikingly similar; so are my notes. I take this route to reinforce your confidence in the many things you have agreed upon in this meeting: that if the existing systems aren't broken, they sure as hell need fixing; that protecting the fundamental capacity of natural systems to produce over time is a major component of the baseline against which all future management is to be measured; and that we need to devise incentives to encourage responsible interaction among concerned people in seeking sensible solutions at levels at which resources, actions and impacts can be comprehended.

My message to you is that you have deliberated on the right question. Come to the right general conclusions, and share that great distinction with your counterparts in the water resources field.

## SUMMARY

Ross S. Whaley

We've had outstanding speakers who have been evaluated by eleven reactions, now summarized once already, and I've been maligned by Frank Gregg because I come from academia where we don't do anything that is relevant anyway.

With that, I am not going to try to summarize at all what I heard but react a little bit to what I heard. Even then, I am nervous because there is only one thing in which I have any confidence whatsoever and that is in one of the last comments about a football team with twelve players trying to throw twelve others off the field. There are eleven.

From here on out I'm in trouble. That one I'm sure about.

I want to first comment that I really appreciated Perry Hagenstein's concise history of the ideas and legislation that went into multiple use and sustained yield, and even the attempt to get behind the congressional intent. I think it was a marvelous compliment to that, Perry, to have Senators McClure and Nelson for lunch, who I think made it very clear -- we didn't learn anything new, we didn't hear it presented in a different way -- but the sense that there is a precision to congressional intent got shattered there.

So it seems to me it suggests that that's really an area for scholars and attorneys and may not do us any good in trying to understand multiple use and sustained yield.

I asked someone last night what he had learned from this conference so far, and I found that extremely useful because he commented on the Carroll and Daniels paper as being so important on the evolution of changes. The point he made, which I thought was extremely important, was that multiple use as a concept may be valuable. But, the issue is that we apply it in a changing social context, and it is in the application that there is a problem. If you try to refine it more, then we will probably criticize Congress for muddling around. If, on the other hand, you go with the looseness that is there now, we claim it is not operational. But I think I would agree with Karin Sheldon that it serves as a useful talisman and in that way is perhaps useful to us.

I think the vision papers also picked up on that idea in the sense that I believe that three of the four of them almost never used the terms multiple use or sustained yield. So while that was the focus of the workshop, they really dealt with different issues. They dealt with issues of change in our approach to market, change in terms of structure of Government, change in terms of public input, process, and so they really dealt with some I think very significant issues, but they didn't deal specifically with multiple use and sustained yield. I think that's going to give you folks absolute fits because if you had hoped out of this

to come with a conclusion that some tinkering with that concept would help Congress, I don't think you got any help here whatsoever.

There have been a few raps, although reasonably polite I thought, a few raps at lack of leadership in our public agencies. The only comment I would make about that is I wonder if there is an inconsistency in our view. I heard continual mention and support for the idea of an increasing participatory democracy, that somehow we had to get the community involved. And yet, when we criticized leadership, we used it in terms of abrogation of responsibility as if there was still an expectation on the part of Government agencies to put themselves on the sword to do something. I'm not sure, but I think there may be an inconsistency in those two views -- a new move towards different kinds of leadership; on the other hand, by golly, get out there and make some decisions and do it right. I think there may be an inconsistency there.

This point is one Frank just made but I am going to repeat it because I share it and maybe it says something that there is some substance here if we agreed on this, Frank. That is the difficulty and illusiveness of compromise. Carl Reidel pointed out a governmental structure and a model in which compromise may be possible by moving to the local level. Maggie Shannon gave us some ideas on community dialogue in terms of how to do that. It seems to me that compromise is possible if the active participants and the winners and gainers are part of the discussion. Is there any chance that an organized group, whether it be the Audubon Society, the Wilderness Society, or the National Forest Products Association, may become a problem to that? If so, there is no merit in compromise for the organized group. And you said it, Frank, that to give in is a sign of weakness and, therefore, with the tremendous value those groups have played -- and I guess I'd like Maggie to deal with this sometime in a future paper -- what is the role of organizations in the community dialogue?

I guess the last point I would make is to comment on Maggie Shannon's paper. Because Maggie and I are colleagues, I have heard those ideas before and I regularly argue with them because of their complexity and perhaps inefficiency. I do want to point out, however, I want to thank Maggie that her normal response when I talk about the complexity, inefficiency of those, that she says, "The problem with you, Whaley, and those like you, is you would much prefer to be efficient than right."

## QUESTIONS AND DISCUSSION: SUMMARY

**Question:** I want to ask about professional education. First, I am certain that things are changing faster than you think. Just an example. At my institution, in ten years, majors in forestry, wildlife have dropped to almost zero while the increase in environmental studies, which is a broad interdisciplinary generalists training program, has risen to five hundred. That is happening nationwide because I think the notion of a broadly trained generalists who will go on to specialize is catching on rapidly, namely among women. Fifty percent of those students in environmental studies is women. The recognition that generalism at that level of education is important to change the professional mixture of the United States I think rather radically.

**Answer (Dr. Whaley):** That's not a comment about the improvement in higher education. That's a comment about the wisdom of students.

**Answer (Mr. Gregg):** The reason I raised education was because of a line that Ross wrote in a report. He chaired a committee which reviewed the natural resources program at the University of Arizona when I was Director and we had all this stuff in the report about the importance of interdisciplinary education. One of the lines of the report that really hurt said, "If you feel so strongly about this, why don't you do some of it." We really had moved very slowly in doing that. So I wanted to give you that opportunity to zing me.

**Question:** We have just come out of some of the most international changes and this is the first major political season since these major international changes. Do you see any new debates coming out of this political season, any new thrusts that might lead us along the lines of some of the things we've been talking about?

**Answer (Mr. Gregg):** I don't think so. I think that the economy is going to define the nature of the debate. And to the extent that natural resources management and environmental programs get involved in it, it is likely to come mostly from people who see bad economic conditions as a way of getting some weakening in environmental policy and programs.

Let me just add to that. We'll have a much easier time reaching agreement among people who share interests in public lands than we will in getting political leadership to help us implement what we agree on. It is just the nature of political agenda-setting now days is so damned political, so sound-bite driven that we're likely to be sitting around two or three years from now trying to find out how we can get political leaders to help us do things that we've agreed on. We just went through that on the series of three water conferences we've been involved in, where our problem is we can't get well-informed political leaders interested in undramatic systemic improvements.

## APPENDICES

APPENDIX I. WORKSHOP AGENDA

APPENDIX II. WORKSHOP PARTICIPANTS

APPENDIX III. SPEAKER BIOGRAPHIES

**APPENDIX I. WORKSHOP AGENDA  
MULTIPLE USE AND SUSTAINED YIELD:  
CHANGING PHILOSOPHIES FOR  
FEDERAL LAND MANAGEMENT?**

A Workshop Sponsored by the Congressional Research Service

March 5 and 6, 1992  
West Dining Room, Madison Building  
Library of Congress

Both the U.S. Forest Service and the Bureau of Land Management are governed by statutes and policies that require lands and resources to be managed for multiple uses on a sustained yield basis. Over the years, increasing demands and pressures for resources and services from these Federal lands and heightened public interest in how these lands are used have caused resource management and administration to become more complex and contentious. These factors have caused some to question the validity of the traditional multiple use and sustained yield axioms.

This workshop is designed to review the intent and implementation of the multiple use/sustained yield (MUSY) management philosophy of Federal land management, to describe the pros and cons of continuing to manage under this guiding concept, and to identify and explore new ideas that could be used for future management of Federal lands. Its primary objective is to help Members and Committees of Congress determine whether the current MUSY management philosophy is working acceptably or whether revision is necessary.

**WORKSHOP AGENDA  
THURSDAY, MARCH 5, 1992**

**8:30** COFFEE

**8:55** WELCOME: Joseph Ross, Director, CRS  
INTRODUCTION: Adela Backiel, CRS

**9:10 - 10:10** SESSION I: MULTIPLE USE & SUSTAINED YIELD  
MANAGEMENT - WHAT WAS IT/WHAT IS IT?

*(This session sets the context in which the MUSY philosophy is viewed today. The first speaker will examine congressional intent as identified in the Multiple Use - Sustained Yield Act of 1960 and the Federal Land Policy and Management Act of 1976 and how the agencies have implemented these laws. Next, societal changes that are changing the interpretations of the MUSY philosophy will be examined.)*

Historical context (9:10 - 9:30)

**Perry Hagenstein**, Resource Issues, Wayland, MA

Evolution of societal changes (9:30 - 9:50)

**Matt Carroll**, Washington State University, Pullman, WA

**Steve Daniels**, Oregon State University, Corvallis, OR

Discussion (9:50 - 10:10)

**Jeffrey Zinn**, CRS Moderator

10:10 - 10:30 BREAK

10:30 - 11:45 **SESSION II: IS THE MULTIPLE USE/SUSTAINED YIELD  
MANAGEMENT PHILOSOPHY STILL APPLICABLE  
TODAY?**

*(In this session, critics and supporters of the MUSY management philosophy will discuss the problems, benefits, and pressures on the current system. Three speakers (15 minutes each) will outline three different perspectives on whether the system is working and/or whether it needs changing.)*

**YES:** Supporter of the MUSY paradigm: (10:30 - 10:45)  
**James Magagna**, American Sheep Industry Association and  
Rancher, Rock Springs, WY

**NO:** Critic of the MUSY paradigm: (10:45 - 11:00)  
**Richard Behan**, Northern Arizona University, Flagstaff, AZ

**MAYBE:** Tinkering with the MUSY paradigm: (11:00 - 11:15)  
**John Leshy**, Arizona State University, Tempe, AZ

Discussion (11:15 - 11:45)

**Betsy Cody**, CRS Moderator

11:45 - 1:45 LUNCH (MONTPELIER ROOM)

**Speakers:** The Honorable **James McClure**, McClure, Gerard and  
Neuenschwander, Inc., Washington, D.C.  
The Honorable **Gaylord Nelson**, The Wilderness Society,  
Washington, D.C.

**John Moore**, CRS Moderator



**1:45 - 5:15    SESSION III: VISIONS OF THE FUTURE: NEW FEDERAL  
LAND MANAGEMENT PARADIGMS**

*(In this session, four different visions of the future will be presented by four speakers (20-30 minutes each) that potentially could be the framework for changes in Federal land management, in whole or in part.)*

Vision Speaker - Public/Private Cooperative Paradigm (1:45 - 2:15)

Discussion (2:15 - 2:30)

**Carl Reidel**, University of Vermont, Burlington, VT

Vision Speaker - Ecosystem Management Paradigm (2:30 - 3:00)

Discussion (3:00 - 3:15)

**Chris Maser**, Consultant, Las Vegas, NV

**3:15 - 3:35    BREAK**

Vision Speaker - Free Market Paradigm (3:35 - 4:05)

Discussion (4:05 - 4:20)

**Terry Anderson**, Political Economy Research Center, Bozeman, MT

Vision Speaker - Populist and Public Participation Paradigm (4:20 - 4:50)

Discussion (4:50 - 5:05)

**Margaret Shannon**, SUNY College of Environmental Science and Forestry, Syracuse, NY

General Discussion (5:05 - 5:15)

**George Siehl**, CRS Moderator

**5:15        ADJOURN FOR THE DAY; RECEPTION**

**FRIDAY, MARCH 6, 1992**

**8:30        COFFEE**

**8:45        RECONVENE**

**9:00 - 1:30    SESSION IV: RESPONSE PANELS**

*(In this session, the mechanics, philosophy, and pros and cons of the four visions will be discussed by three response panels focusing on 1. economics and finances, 2. administration, management, and planning, and 3. natural resources quantity and quality. Panelists will have 10-15 minutes each to present their comments on the four "vision" papers in terms of feasibility of implementation, necessity of changes, philosophies of new management paradigms, problems and benefits associated with the various visions, and how changes could be accomplished. A 15 minute discussion period will follow each panel.)*

9:00 - 9:45 Financial, budget, and economic issues panel

**Peter Emerson**, Environmental Defense Fund, Austin, TX  
**Ann Hanus**, Assistant State Forester, Salem, OR  
**Richard Alston**, Weber State University, Ogden, UT

**Ross Gorte**, CRS Moderator

9:45 - 10:00 Discussion

10:00 - 10:15 BREAK

10:15 - 11:10 Administration, management and planning panel

**Hanna Cortner**, Water Resources Research Center, Tuscon, AZ  
**James Matson**, Kaibab Forest Products Company, Phoenix, AZ  
**Karin Sheldon**, The Wilderness Society, Washington, D.C.  
**Derrick Crandall**, American Recreation Coalition, Wash. D.C.

**Pamela Baldwin**, CRS Moderator

11:15 - 11:30 Discussion

11:30 - 12:30 LUNCH (on your own)

12:30 - 1:30 Resource issues panel

**Will Hamilton**, Forestry Consultant, Friday Harbor, WA  
**Johanna Wald**, NRDC, San Francisco, CA  
**Ken Hubbard**, Holland and Hart, Denver, CO  
**Larry Jahn**, United Conservation Alliance, Washington, D.C.

**Lynne Corn**, CRS Moderator

1:30 - 1:45 Discussion

1:45 - 2:30 **SESSION V: WORKSHOP SUMMARY** (*Two rapporteurs (15 minutes each) will summarize the workshop.*)

**Frank Gregg**, Professor, School of Renewable Natural Resources,  
 University of Arizona, Tuscon, AZ  
**Ross Whaley**, President, SUNY College of Environmental Science  
 and Forestry, Syracuse, NY

**Adela Backiel**, CRS Moderator

2:30 ADJOURN

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*This seminar is made possible, in part, by a grant from The Henry Luce Foundation, Inc.*

## APPENDIX II. WORKSHOP PARTICIPANTS

AFFILIATION	PARTICIPANT
<b>Senate Member Offices</b>	
Bingaman, Jeff	Nancy Curriden
Cochran, Thad	Kathy Johnson
Deconcini, Dennis	Kathleen King
Domenici, Pete V.	Derrin Levy
Hatfield, Mark O.	Dave Robertson
<b>Senate Committees</b>	
Agriculture, Nutrition, and Forestry	Tom Tuchman
Energy and Natural Resources	
<i>Subcommittee on Public Lands and National Parks</i>	Erica Rosenberg
Environment and Public Works	Bill Robie
<b>House Member Offices</b>	
Atkins, Cheter G.	Holly Van Houten
Byron, Beverly B.	Larry Hudson
Campbell, Ben Nighthorse	Dan McAullife
Jontz, Jim	David James
Miller, George	Jacques Kapuscinski
Swift, Al	Jose Linares
<b>House Committees</b>	
Agriculture	Jim Lyons
Interior and Insular Affairs	Dan Beard
	Kurt Christenson
	Charlene Dougherty
	Mark Trautwein
Interior and Insular Affairs	
<i>Subcommittee on Oversight and CA Desert Lands</i>	Melanie Beller
<b>Sister Agencies</b>	
Congressional Budget Office (CBO)	Teri Gullo
Office of Technology Assessment (OTA)	Michael Bowes
	Robin White
<b>Non-Congressional</b>	
American Recreation Coalition	Derrick Crandall
American Forest Council	John Heissenbuttel
American Forestry Association	Neil Sampson
American Mining Congress	Alma Hale
American Sheep Industry Association	James Magagna
Arizona State University	John Leshy
Blue Ridge Coalition	Clark Collins
Cato Institute	R.J. Smith
Consultant, Falls Church, Virginia	William Shands

**AFFILIATION**

Consultant, Friday Harbor, Washington  
 Consultant, Las Vegas, Nevada  
 Consultant, St. Leonard, Maryland  
 Defenders of Wildlife  
 Environmental Defense Fund  
 Environmental Law Institute  
 Holland and Hart  
 Int'l Association of Fish and Wildlife Agencies  
 Kaibab Forest Products  
 McClure, Gerard, and Neuenschwander  
 National Audubon Society  
 National Forest Products Association  
 National Inholders Association  
 National Wildlife Federation  
 Native Ecosystems  
 Natural Resources Defense Council  
 New Mexico State University  
 Northern Arizona University  
 Office of Management and Budget (OMB)  
 Oregon, Department of Forestry  
 Oregon State University  
 Pinchot Institute for Conservation  
 Political Economy Resources Center  
 Public Lands Cnl, National Cattlemen's Assoc.  
 Public Lands Foundation  
 Purdue University  
 Resources for the Future  
 Resources Issues  
 River Foundation  
 Sierra Club Legal Defense Fund  
 Society for Range Management  
 Society of American Archaeology  
 Society of American Foresters  
 SUNY College of Env. Science and Forestry  
  
 The Izzak Walton League of America  
 United Conservation Alliance  
 University of Arizona  
 University of Colorado  
 University of Idaho  
 University of Vermont  
 U.S. Department of Agriculture, Forest Service  
 U.S. Department of Interior (USDI)  
  
 USDI, Bureau of Land Management  
  
 USDI, Fish and Wildlife Service  
 Washington State University

**PARTICIPANT**

Will Hamilton  
 Chris Maser  
 Bob Wolf  
 Bill Snape  
 Peter Emerson  
 Ken Rosenbaum  
 Ken Hubbard  
 R. Max Peterson  
 James Matson  
 Hon. James McClure  
 Brock Evans  
 Ann Heissenbuttel  
 Myron Ebel  
 David Albersworth  
 Steve Johnson  
 Johanna Wald  
 Thad Box  
 Richard Behan  
 Jim McDivitt  
 Ann Hanus  
 Steve Daniels  
 Jim Giltmier  
 Terry Anderson  
 Pam Neal  
 George Lea  
 Dennis LeMaster  
 Roger Sedjo  
 Perry Hagenstein  
 Rupert Cutler  
 Kevin Kirchner  
 Charles Rumberg  
 Loretta Neumann  
 William H. Banzhaf  
 Margaret Shannon  
 Ross Whaley  
 Maitland Sharpe  
 Larry Jahn  
 Frank Gregg  
 Sarah Bates  
 JoEllen Force  
 Carl Reidel  
 George Leonard  
 Robert Nelson  
 Larry Finfer  
 Bernie Hyde  
 Michael J. Penfold  
 John Fay  
 Matt Carroll

**AFFILIATION**

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Water Resource Research Center  
Weber State University  
Western Governors Association  
The Wilderness Society

The Wildlife Society

Congressional Research Service (CRS)

**PARTICIPANT**

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Hanna Cortner  
Richard Alston  
Jo Clark  
Karin Sheldon  
Hon. Gaylord Nelson  
Nancy Green  
Thomas Franklin

Adela Backiel  
Pamela Baldwin  
John Blodgett  
Betsy Cody  
M. Lynne Corn  
Ross Gorte  
Rick Greenwood  
John Moore  
Paul Rockwell  
George Siehl  
Malcolm Simmons  
Jeff Zinn

**APPENDIX III. SPEAKER BIOGRAPHIES****Richard Moss Alston**

Richard Moss Alston is the Willard L. Eccles Environmental Policy Research Fellow and Department Chair of Economics at Weber State University, Ogden, Utah. He has been teaching at Weber State for the past 23 years, where he was awarded the Presidential Distinguished Professor Award for Teaching in 1983 and the Distinguished Professor Award for Scholarship in 1991. He was a visiting professor of forest economic policy and economist at Michigan State University from 1977 to 1979. He received his B.A. in economics at Michigan State University and his M.A. and Ph.D in economics from Cornell University. His research centers on the historical evolution of forest policy and ideology, the strengths and weaknesses of integrating economic analysis into forest planning, institutional response to political, social and economic change and sustainable forests.

**Terry L. Anderson**

Terry L. Anderson has been a Professor of Agricultural Economics and Economics at Montana State University since 1972. He received his M.A. and Ph.D in economics from the University of Washington and his bachelors degree from the University of Montana. His teaching skills won him the Phi Kappa Phi outstanding teaching award at Montana State University in 1989-90. He has authored, co-authored and edited six books, the most recent of which is *Free Market Environmentalism*. He has been a visiting professor at Stanford University, Oxford University (England), University of Basel (Switzerland) and Clemson University. In 1987, he was a Fullbright Research Fellow in New Zealand where he worked with the New Zealand government on the reform of water management laws.

**R.W. Behan**

R.W. Behan is a professor in the School of Forestry, Northern Arizona University, and served as Dean of the School from 1979 to 1984. He has been a teacher and scholar of forest policy for 29 years. Prior to entering academic life, he spent six years with the U.S. Forest Service in the Alaska Region. He has served as a Director of the Forest History Society and as a Director and Vice President of the American Forestry Association as well as Chairing the Association's Task Force on the National Forests. He completed his graduate work at the University of California, Berkeley, under Professor Henry J. Vaux.

### **Matthew Carroll**

Matt Carroll is on the faculty of the Department of Natural Resource Policy at Washington State University in Pullman where he teaches courses in Natural Resources and Society, Natural Resource Policy, Natural Resource Planning and Issues and Ethics and Natural Resources and conducts research on social change and natural resource-based human communities. He received a B.S. in forestry from the University of Massachusetts at Amherst, an M.S. from the Division of Forestry at West Virginia University in Morgantown and a Ph.D from the College of Forest Resources at the University of Washington in Seattle. He is an associate editor of the journal *Society and Natural Resources*, chairs the Society of American Forester's National Task Force on Community Stability and is a member of the Rural Sociology Society.

### **Hanna J. Cortner**

Hanna J. Cortner is Professor in the School of Renewable Natural Resources at the University of Arizona where she teaches classes and conducts research in natural resources policy and administration. She is also Director of the Water Resources Research Center. She grew up in Tacoma, Washington and received her undergraduate education in political science at the University of Washington. She moved to Tucson, Arizona to pursue her M.A. and Ph.D in government. She has held visiting appointments in the Washington offices of the USDA Forest Service and the Army Corps of Engineers.

### **Derrick Allan Crandall**

Derrick Allan Crandall has been President and Chief Executive Officer of the American Recreation Coalition, a national federation of recreation interests, since 1981. He served as a member of the President's Commission on Americans Outdoors from 1985 to 1987. He now serves as Executive Director of the Recreation Roundtable, a group of CEOs representing major recreation companies, as well as the Chair Emeritus of the American League of Anglers and Boaters. He is the recipient of the 1991 Chevron Conservation Award and in July 1991 became a member of the President's Commission on Environmental Quality. He also is Chair of the Take Pride in America Advisory Board, appointed by the Secretary of the Interior. He is on the Board of Directors for the Land Between the Lakes as well as the Corolla Light (North Carolina) Community Association.

### **Steven E. Daniels**

Steven E. Daniels is an Assistant Professor in the Department of Forest Resources, Oregon State University. His teaching and research interests are in the general area of public lands policy. He has conducted research in both recreation supply and community stability but more recently has worked on community-level decision processes. Formerly, he was a faculty member in the College of Natural Resources, Utah State University. He received his M.S. in forestry and his Ph.D in resource economics at Duke University in North Carolina.

**Peter M. Emerson**

Peter M. Emerson is a Senior Economist with the Environmental Defense Fund in Austin, Texas. Formerly, he has been Vice President of Resource Planning and Economics with The Wilderness Society, Principal Analyst with the Congressional Budget Office, Agricultural Economist with the Economic Research Service and with the Office of the Secretary of the U.S. Department of Agriculture and a teacher at the University of Maryland. Additionally, he has served as a consultant to various organizations in agriculture, rural development and natural resources. He received his B.S. and M.S. at Cornell University and his Ph.D at Purdue University.

**Frank Gregg**

Frank Gregg has been Professor Emeritus at the School of Renewable Natural Resources, University of Arizona since January 1992. Under President Jimmy Carter, he was the director of the Bureau of Land Management. Before his tenure with BLM, he served for over a decade under four Presidents as Chair of the New England River Basins Commission, a joint-state water resource planning and coordinating agency. In the mid-sixties, he was a Vice President of The Conservation Foundation under Russell Train (with a portfolio in natural resources policy issues) and was Executive Director of the Citizens Committee for the Outdoor Recreation Resources Review Commission Report. Earlier, he had helped staff Interior Secretary Stewart Udall on the Kennedy administration's policy initiatives in natural resources and was involved in natural resource issues of the fifties as Executive Director of the Izzak Walton League of America and as editor of Colorado Outdoors magazine (for the Colorado Game and Fish Department).

**Perry R. Hagenstein**

Perry R. Hagenstein is a consultant on natural resources economics, policy, and management. He is President of his consulting firm, Resource Issues, Inc. of Wayland, Massachusetts and also is President of the Institute for Forest Analysis, Planning, and Policy, a not-for-profit research institute headquartered in Baltimore, Maryland. He currently is on the Board of Earth Sciences and Resources of the National Academy of Sciences, a Director of the American Forestry Association (President, 1984-1986) and a Trustee of the New England Natural Resources Center (Chair, 1987-the present). Prior experience includes Economist, Northeastern Forest Experiment Station, U.S. Forest Service (1960-1966); Senior Policy Analyst, U.S. Public Land Law Review Commission (1966-1970); Research Fellow, Harvard University (1970-1971); and Executive Director, New England Natural Resources Center (1971-1977). He has been Visiting Professor in Natural Resources Policy and Forest Economics at Yale University, the University of Vermont and the University of Massachusetts and in Forestry Law and Policy at the Vermont Law School.



### **Willard I. Hamilton**

Will Hamilton is a natural resource consultant based in Friday Harbor, Washington serving as a professional advisor to private landowners, small businesses, government agencies and Fortune 100 Corporations. He is a graduate Forester from the University of Washington who spent 15 years in the forest products industry working for Potlatch Corporation in Idaho, Minnesota, Arkansas and Georgia. While with Potlatch, his assignments included forestry research, strategic planning, land management, corporate taxation and public and government relations. He also is an entrepreneur having founded an Idaho-based forest regeneration company which grows and plants over 3 million trees annually.

### **Ann Hanus**

Ann Hanus is Assistant State Forester in charge of the Resource Policy Division for the Oregon Department of Forestry. She joined the Department in 1989 and is responsible for forest policy issues, legislation, the Oregon State Board of Forestry, and communications. Her recent assignments have included working on the Spotted Owl Recovery Team and serving as lead staff to the Oregon representative on the Endangered Species Committee. Prior to her current position, she served as State Economist and Director of the State of Oregon's Office of Economic Analysis. Before coming to Oregon in 1985, Ms. Hanus spent two years as the Deputy Director of the Office of Budget and Management for the State of Ohio. She received her B.S. and M.S. in consumer economics at Ohio State University.

### **Kenneth D. Hubbard**

Kenneth D. Hubbard has practiced law with Holland & Hart since 1959, including seven years in its Aspen Office (1967-74) and two years in its Washington, D.C. office (1987-89). His practice always has involved a heavy emphasis on public lands law, including federal oil and gas and coal lease matters. He has served in the following organizations related to his public lands practice: the American Bar Association, the Rocky Mountain Mineral Law Foundation, the Colorado Mining Association, the Independent Petroleum Association of the Mountain States and the Center for the New West. Additionally, he has published numerous articles in journals such as the *Rocky Mountain Law Review* and *Natural Resources & Environment* and has spoken on public lands issues in various organizations such as Women in Mining (Washington, D.C. chapter), the Rocky Mountain Mineral Law Institute, the Colorado Mining Association, the Colorado Society of Certified Public Accountants and the University of Colorado School of Law.

### Laurence R. Jahn

Laurence R. Jahn is a conservationist/biologist residing in Vienna, Virginia. Formerly, he has served as Board Chair of the United Conservation Alliance from 1990 to 1992 in Washington, D.C., as Board Chair (1991), President (1987-1991), Vice President (1971-1987), Director of Conservation (1970-1971) and as the Northcentral Field Representative (1959-1970) of the Wildlife Management Institute. Preceding that, he was a wildlife research biologist (1949-1959) with the Wisconsin Department of Natural Resources, in charge of research on migratory birds and aquatic habitats. He holds three degrees from the University of Wisconsin including a Masters and Ph.D in wildlife ecology and management.

### John D. Leshy

John D. Leshy has been Professor of Law at Arizona State University since 1980. From 1977 to 1980, he was Associate Solicitor for Energy Resources with the U.S. Department of the Interior in Washington, D.C. From 1972 to 1977, he worked with the Natural Resources Defense Council. From 1969 to 1972, he worked with the Civil Rights Division of the U.S. Department of Justice in Washington, D.C. He is the author of *The Mining Law: A Study in Perpetual Motion*, published in 1987. He also is a member of several organizations: Arizona Raft Adventures, Inc. (Member of the Board of Directors), Grand Canyon Trust (Member of the Board of Directors), Committee on Onshore Oil & Gas Leasing of the National Academy of Sciences/National Research Council (Member). He received his A.B. from Harvard College and his J.D. from Harvard Law School.

### James A. McClure

James A. McClure is the President of McClure, Gerard and Neuenschwander, Inc., a Washington, D.C.-based government-relations consulting firm. He also is counsel to the law firm of Givens, Pursley, Webb and Huntley in Boise, Idaho. For 24 years, he served in the Congress of the United States. He first was elected to the U.S. House of Representatives in 1966. In 1972, the citizens of Idaho elected him to the United States Senate and subsequently reelected him for two additional terms. During his terms, he served on and was Chair of the Senate Energy and Natural Resources Committee, the Senate Interior Appropriations Subcommittee, the Senate Republican Conference, and the Senate Steering Committee. He also served on the Senate Rules Committee, the Senate Budget Committee and the Senate Environment and Public Works Committee. He was a member of the Senate Select Committee which investigated the Iran/Contra Affair and was a member of the Helsinki Commission on Human Rights. He voluntarily retired from the Senate in January 1991.

### **James H. Magagna**

As President of the American Sheep Industry Association, Jim Magagna oversees the activities and appointments of the Executive Board and ASI's five councils. He is a former president of the Wyoming Wool Growers Association and also served on the National Wool Growers Association Board of Directors, Executive Committee, Public Lands Committee and Labor Committee. Additionally, he is a former president of the Public Lands Council. He received a degree in law from Stanford University and his B.S. in Business Administration from the University of Notre Dame. He also is a rancher near Rock Springs, Wyoming, where he runs several thousand Rambouillet ewes and manages the family ranch.

### **Chris Maser**

Chris Maser currently is a consultant and author specializing in old growth forest issues. Previously, he was a Research Scientist for the Bureau of Land Management conducting fieldwork. Additionally, he worked with the Environmental Protection Agency in a consulting capacity and has traveled extensively throughout Europe, Egypt and Nepal conducting research in forest issues. He received a B.S. and an M.S. in zoology from Oregon State University.

### **James L. Matson**

Since June of 1965, James L. Matson has been employed by Kaibab Forest Products Company and currently is Vice President of Resources. He is responsible for raw material procurement for the solid wood manufacturing facilities at Freedonia and Payson, Arizona and at Panguitch, Utah. Additionally, he is a member of the American Forestry Association, the Society of American Foresters and the Arizona Wildlife Foundation. He received a B.S. in forestry from Arizona State College in Flagstaff.

### **Gaylord Nelson**

Gaylord Nelson, former U.S. Senator (D-WI), has been Counselor of The Wilderness Society since January 1981. Senator Nelson was first elected to the U.S. Senate in 1962 after serving as a state Senator for ten years and as Governor for four years. He founded Earth Day in 1970, an annual observance which focuses national attention on the problems of the environment, and sponsored the 1964 Wilderness Act and the National Trails Act. As Governor of Wisconsin from 1959 to 1963, he initiated ORAP, the Outdoor Recreation Acquisition Program, to purchase one million acres of recreation and wildlife areas. He received his B.A. in 1939 from San Jose State College in California and his L.L.B. at the University of Wisconsin Law School in 1942.

**Carl Reidel**

Carl Reidel is Director of the Environmental Program, the Daniel Clarke Sanders Professor of Environmental Studies, and Professor of Natural Resources and Public Administration at the University of Vermont. He is Vice Chair of the National Wildlife Federation and was President and Director of the American Forestry Association. He received his B.S. and Ph.D from the University of Minnesota College of Forestry and his M.P.A. from Harvard University.

**Margaret A. Shannon**

Margaret A. Shannon is the Corkay Professor of Forest Resources and the Associate Professor of Forest Policy and Law at the College of Forest Resources at the University of Washington in Seattle, WA. At the time of the Workshop, she was a natural resource social scientist engaged in teaching and research on natural resource policy and law at the State University of New York, College of Environmental Science and Forestry, in Syracuse, New York. Prior to joining the Forestry Faculty at SUNY/ESF in 1986, she was president of Resource Policy Analysis in Buffalo, NY from 1982 to 1986 and was a Senior Fellow in the Natural Resources Law Institute at Lewis and Clark Law School in Portland, Oregon from 1979 to 1982. She received her B.A. in anthropology/sociology/economics from the University of Montana, and her M.S. and Ph.D from the University of California, Berkeley.

**Karin P. Sheldon**

Karin P. Sheldon is Vice President for Conservation of The Wilderness Society. Karin graduated from Vassar College and the University of Washington School of Law. She was a partner in Berlin, Roisman and Kessler and Sheldon, Harmon and Weiss, public interest law firms specializing in environmental, consumer protection and discrimination cases. From 1980 to 1988, Karin was a staff attorney with the Sierra Club Legal Defense Fund. She has taught federal land and natural resources law at the University of Denver School of Law and the University of Oregon School of Law and is currently Adjunct Professor at the National Law Center of George Washington University.

**Johanna Wald**

Johanna Wald is a senior attorney in the Natural Resources Defense Council's San Francisco office and is a nationally recognized expert on federal range management issues. During her 15 years with the Defense Council, she has appeared regularly before federal land management agencies, congressional committees and at public hearings to advocate improved stewardship of publicly owned resources.

**Ross S. Whaley**

**Ross S. Whaley** has been President of the State University of New York, College of Environmental Science and Forestry, since April of 1984. From 1978 to March of 1984, he was Director of Forest Resources Economics Research with the Forest Service of the USDA in Washington, D.C. From 1976 to 1978, he was Dean of the College of Food and Natural Resources at the University of Massachusetts. From 1970 to 1973, he was Associate Dean of and Professor at the College of Forestry and Natural Resources at Colorado State University. From 1965 to 1969, he was Professor of Natural Resources Economics at Utah State University. He actively has been involved with several organizations: Governor's Task Force on Forest Industry (Chair, 1988-1990), Governor's Interstate Task Force on Northern Forest Lands (Member, 1988-1990), Society of American Foresters (President, 1991) and Pinchot Institute of Conservation Studies (Board President, 1992). He received his B.S. in Forestry at the University of Michigan, his M.S. in Forest Economics at Colorado State University and his Ph.D in Natural Resources Economics at the University of Michigan.

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