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Break-out Session 3: The Northern Rockies

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Abstract

Four characteristics of the Northern Rockies that are most important to ecosystem management are the large number of high-profile wildlife species, the diversity of ecological types, the rural socio-economic systems that are highly resource-based, and the fire-dependent natural systems. Potential constraints include the diversity of human values, insufficient knowledge about ecosystems, the tendency for political systems to produce solutions that are not ecologically optimal, and the prevalence of a utilitarian growth orientation coupled with anti-government sentiment. Characteristics most favorable for EM are the large amount of federal ownership, abundant research opportunities, a growing public recognition of the need to make environmental progress, and recognition among the agencies of the need for partnerships.

INTRODUCTION

A key challenge confronting ecosystem managers is the often-difficult task of integrating ecological, social, and economic approaches to management which may have incompatible time scales, variables, languages, and decision frameworks (Gerlach and Bengston 1994). In an evaluation of the Forest Service's New Perspectives program, which was an antecedent of ecosystem management, Shands et al. (1993) found that traditional disciplinary perspectives made it difficult to devise integrated processes and evaluate attempts at integration. A disciplinary focus may narrow the range of issues too soon to identify all possibilities. Therefore a purpose of the 1994 Natural Resources Week symposium was to bring together persons from various disciplines to discuss and debate aspects of ecosystem management as seen from their viewpoints, and thereby to gain understanding of how those viewpoints might differ.

A key tenet of ecosystem management is that activities must be adapted to local conditions, and that managers must monitor those conditions closely in order to ensure that unanticipated factors are not directing change in an undesired direction. It seemed important to discuss how factors in the major regions of the Intermountain West—the Great Basin, Colorado Plateau, and Northern Rockies—might produce different solutions or have different effects on standard approaches to ecosystem management. The persons best able to address that issue are the ones who actually manage the land, and who have intimate knowledge of local conditions that might affect the course of ecosystem management.

Accordingly, a half-day session with three concurrent workshops was scheduled in which researchers, managers, and students from around the region could bring their differing skills and experiences to bear on the problems of implementing ecosystem management in three regions. Armed with a common set of ideas about ecosystem management that had been provided by the first day's speakers, participants were asked to consider what ecosystem management would mean in their particular region of interest. This paper summarizes the discussions on the Northern Rockies.

PARTICIPANTS AND PROCESS

The Northern Rockies group included symposium attendees whose primary geographic area of interest was within a region that included Idaho north of the Snake River, western portions of Montana and Wyoming, and the mountainous area of Utah lying north and east of Utah Lake. Numbers of participants fluctuated slightly through the morning, but generally numbered around 45. Participants were generally managers or university scientists, most of whom work in Idaho or the Greater Yellowstone Ecosystem. The session moderator was Rick Reese, a conflict-management specialist who serves as Assistant to the President of the University of Utah. The recorder was Mark Brunson, Assistant Professor of Forest Resources at Utah State University.

As part of the ground rules at the start of the session, participants were asked to focus on three questions of interest without tarrying over the exact definitions of "ecosystem" or

“ecosystem management.” Workshop organizers argued that the bounds of those concepts had been generally defined by the previous day’s discussions. The questions offered for discussion were:

- What characteristics of the Northern Rocky Mountains region are most likely to affect the conduct of ecosystem management?
- What constraints are managers most likely to face as they implement ecosystem management in the Northern Rockies?
- What opportunities are managers afforded as they implement ecosystem management in the Northern Rockies?

The group was then divided into six sub-groups of 7-8 people each, and these were charged with preparing a region-specific list of characteristics, constraining factors and opportunities. After 40 minutes of discussion within sub-groups, the group reconvened as a whole, and a master list was prepared in round-robin fashion. Once three master lists had been prepared, members were asked to choose the most important elements within each list using a nominal-group approach: placing check marks next to three listed items that they considered most important. After the voting process was completed, and after similar items were combined in a couple of cases, the recorder then identified four features of the region judged most important for each question.

REGIONAL CHARACTERISTICS

The group identified 32 characteristics of the Northern Rockies they believed were relevant to the design of ecosystem-management strategies (Table 1). These were not necessarily unique to that region alone but rather features that, in combination, serve to distinguish the Northern Rockies from other parts of the West or the nation. Roughly two-thirds of the characteristics pertained to the biophysical environment: species richness or composition; availability and character of resources available to humans or to ecosystem components; climate, topography, and water; the role of fire, etc. The remainder referred primarily to human systems for distributing resources or obtaining resource values (e.g., hydropower systems, “crown jewel” parks); the region’s relatively sparse human population; and rapid changes in the size, composition, and distribution of human populations within the region. Four characteristics viewed by the workshop participants as most important for ecosystem management were:

- An unusually large number of high-profile wildlife species, including both threatened and endangered species and those (e.g. elk, trout) that are symbolic of wild lands.
- Within-region diversity of ecological types which are often relatively small in extent because of the region’s topographic banding of valleys and mountain ranges.
- Socio-economic systems that are rural and highly resource-based, characterized by a quality of life drawn largely from the surrounding natural environment.
- Natural systems that are highly fire-dependent.

In addition to those four, two characteristics that received a fairly high number of votes were the fact that the region is still

largely dominated by relatively wild or “natural” ecosystems, and the national prominence of the region’s parks.

POTENTIAL CONSTRAINTS

The list of 29 constraints to ecosystem management (Table 2) tended to focus on characteristics of the sociopolitical and managerial environments. These included the utilitarian values and anti-government attitudes of traditional rural publics, and the clash with contrasting value systems of new migrants and non-resident observers; legal restrictions that may limit management options; and a number of features of bureaucratic institutions. Fewer than one-fourth of the identified constraints can be considered aspects of the biophysical environment, and even those were generally expressed in terms of their societal relevance (e.g., limits to water resources *relative to demand*). We posed no requirement that this list be unique to the Northern Rockies, and many concerns were global—especially those related to the public agencies. Four constraints that were clearly of greatest concern to the group were:

- Broad diversity of human values and demands for Northern Rockies natural resources.
- Lack of knowledge about ecological systems at landscape or larger scales.
- The need or tendency for political processes to produce solutions that may not be optimal from an ecological standpoint.
- Prevalence of a utilitarian, growth-is-good orientation toward natural resources coupled with anti-government sentiment.

Other factors that worried more than a few participants were the complications created by a change in environmental values of influential publics; high level of interest in the region by non-resident publics; and a record of inconsistency within agencies between management plans and on-the-ground implementation of those plans.

OPPORTUNITIES FAVORABLE TO ECOSYSTEM MANAGEMENT

The group developed a list of 26 factors (Table 3) which offer opportunities for doing ecosystem management in the Northern Rockies. Many of these were restatements of factors that were listed as constraints. This paradox was noted by several group members, who suggested that such willingness to “make lemonade out of lemons” is indicative of a widespread recognition of the need for a shift to an ecosystem-management approach. The opportunities fell into four broad categories: the wide variety of tools available for ecosystem management, from GIS to environmental education; the relatively simple sociopolitical landscape, characterized by low population densities and large extant ownership blocks; the relatively unaltered biophysical landscape; and an agency climate that encourages ecosystem management. Most of the listed opportunities received only two or three “votes” from the group, but there were four that were considered important by many participants. These were:

- High degree of federal ownership which simplifies the structure of inter-agency partnerships within landscapes or ecosystems.
- Research opportunities at the ecosystem level afforded by the comparatively intact nature of those ecosystems.
- A shift in public attitudes toward recognition of the need for environmental progress.
- General agreement within resource management agencies on the need for partnerships that preserve ecosystems while allowing wise resource use.

LITERATURE CITED

- Gerlach, L. P., and D. N. Bengston. 1994. If ecosystem management is the solution, what's the problem? *Journal of Forestry* 92(8):18-21.
- Shands, W. E., A. Black, and J. W. Giltmier. 1993. *From New Perspectives to ecosystem management: The report of an assessment of New Perspectives*. Pinchot Institute Monograph Series. Grey Towers Press, Milford, PA.

TABLE 1. INFLUENTIAL REGIONAL CHARACTERISTICS IN THE NORTHERN ROCKIES

Overall biophysical characteristics

Variety and diversity of ecosystems within the region
 Diverse physiography
 Distinct topographic banding of valleys and mountains
 Complex pattern of recurring landscapes
 Meso-scale climatic diversity
 Relatively high precipitation for the Interior West
 Extensive forest cover
 Low potential productivity
 Ecosystems are primarily natural or "wild," relative to other regions of the U.S.
 Ecosystems are highly fire-dependent or -dominated
 Fires have been excluded since the era of European-American settlement began
 Forest health is a significant concern

Species composition characteristics

High-profile threatened/endangered species
 Large populations of "charismatic megafauna"
 Significant numbers of endemic or unique flora and fauna
 Ecosystems tend to have low species richness at any particular locale

Socioeconomic characteristics

Land ownership is predominantly federal
 Rural, natural resource-based socioeconomic systems
 Tourism and recreation are economically important
 Human population densities are low, on average
 Human population centers are clumped and widely separated
 Rapid population growth
 Lifestyles and consumption patterns are changing
 Unique human quality of life

Resource management characteristics

Recreation is scenery- and/or water-based
 Richly endowed with valued minerals
 Large wilderness areas
 High-profile "crown jewel" national parks
 High-quality water, with an important role as a water source and storage basin
 Rivers are highly impounded and adjudicated (for water rights)
 Hydropower is an important resource
 Geothermal resources are present and potentially important

TABLE 2. POTENTIAL CONSTRAINTS TO ECOSYSTEM MANAGEMENT IN THE NORTHERN ROCKIES.

Biophysical characteristics

- Systems have limited resilience or plasticity
- Short growing season
- Carrying capacity is low and often already reached

Sociopolitical characteristics

- Diversity of natural resource values and investments
- Myriad and multifarious legal regulations
- Legal restrictions and concerns about threatened and endangered species
- Environmental laws restrict management options
- Ownership patterns are intermingled, creating an overabundance of "edge"
- Fear and uncertainty among public and practitioners regarding ecosystem management
- Local populace exhibits a strong anti-government sentiment
- Conflict between viewpoints of utilitarian conservation and preservationism
- Belief in the "dominant social paradigm" - a growth-is-good mentality
- Changing values among the populations that can influence policy
- Rapid population growth limits opportunity to make decisions
- Non-resident publics have a high stake in the fate of charismatic places
- Access to public lands is often limited
- Tendency to use political processes to reach solutions that may not be the best science

Managerial characteristics

- Systems tend to be stretched to their limits for commodity production
- Region's size and scale are immense relative to human scales
- Settlement patterns and legal issues restrict managers' ability to use fire
- Lack of landscape-level knowledge about the region
- Water resources are limited relative to demand
- Inconsistency between plans and implementation
- High impacts of mining and manufacturing make rehabilitation efforts more difficult
- Lack of partnerships between agencies
- Lack of monetary backing for ecosystem management
- Lack of clear, consistent policy in many federal and state agencies toward ecosystem management
- Institutional environment often discourages creativity
- Agencies have limited skills in public interaction

TABLE 3. POTENTIAL OPPORTUNITIES FOR ECOSYSTEM MANAGEMENT IN THE NORTHERN ROCKIES.

Biophysical characteristics

- Ecosystems are still relatively intact
- Boundaries of ecosystems are relatively "clean"

Sociopolitical characteristics

- High degree of federal land ownership
- Land ownership patterns are less complex than elsewhere
- Influx of new, outside thoughts and values in the public
- Cultural attitude change toward recognizing the need for environmental progress
- Strong public interest in wise resource use
- Lack of large human populations
- Relatively low population density means public involvement tends to be more universal
- Strong public interest in natural systems offers opportunities for environmental education
- Public interest in ecosystem management is high due to the region's resource dependency
- Potential opportunities to pull divergent views together
- Lack of political meddling

Managerial characteristics

- A variety of land management tools are available
- Positive agency attitude toward ecosystem management (especially federal agencies)
- Numerous research opportunities at the ecosystem level
- Opportunities to use large wildernesses as "controls" for ecosystem-level experiments
- Ecosystem management expertise is available in the region
- Able to shape ecosystem management at the local level
- Partnerships can be formed which share common goals and objectives
- General agreement across agencies on the need for partnerships
- Opportunities exist for cooperation across the Canadian border
- Strong, dynamic leadership within the Forest Service and other agencies
- History of doing prototypical ecosystem management (Sustaining Ecological Systems)
- Development of GIS technology
- Land exchanges and easements can be used to protect sensitive systems