

Integration: A Beginning for Landscape-Scale Stewardship

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This book has discussed the origins of boundaries from several different perspectives and pointed out the many ecological, social, and administrative problems caused by these boundaries. Many of the chapters also have discussed different solutions to these problems. In this concluding chapter, these various perspectives are integrated to begin establishing some general premises and required actions for achieving stewardship across boundaries.

It seems that all boundaries have dual and contrasting qualities, positive and negative effects. At their most general, boundaries both separate and bind: they separate one thing from another, but these entities also are linked by their common boundary. Boundaries have both positive and negative effects on ecological and social systems. Boundaries aid understanding by classifying and simplifying complex phenomena, but they prevent complete understanding by artificially fragmenting the whole. Boundaries define exclusive limits and responsibilities of individuals, while clearly showing the inclusive lines of the broader community to which the individual belongs. Because many boundaries have a long and rich history and are now relatively fixed, stewardship across landscapes requires working within the framework of existing boundaries to maximize their positive aspects while minimizing their negative effects.

Premises and Actions

The premises and actions that emerged from this book are summarized here. Premises are the cross-cutting and underlying assumptions on which stewardship across boundaries depends. Under each premise, one or more actions are listed that must be taken for effective cross-boundary

management. Although each premise and action could be the subject of a whole book, the intent of this integration is to discuss each briefly. This is but a partial list, reflecting the concerns of the chapter authors and their experiences. None of the actions described here will by themselves overcome the barriers and solve the problems caused by boundaries, each is but one element of an overall strategy to be developed and applied in each unique situation for improving cross-boundary stewardship. As the concept of stewardship across boundaries develops and matures, this discussion of premises and actions also will change as new information and new and better ideas are developed.

Premise: A Democratic Society Supports Diverse Values

In our democratic society all values have merit, and as managers of public lands look beyond their boundaries they must now meld these values into the management process. Values are deeply held beliefs or attitudes forged from experience and social influences and reflect the enormous diversity within our society. Understanding diverse values and making them a respected part of the management process will be a significant challenge.

Actions to Understand and Meld Diverse Values

- Improve communication, cooperation, and coordination (the three Cs) among managers and stakeholders. Improving the three Cs within management agencies, among different agencies, and between these agencies and stakeholder groups clearly is necessary. But just as necessary is communication among stakeholder groups because any one of these groups can slow or defeat planning processes. Improving the three Cs will certainly take more time, cost more, and at first be difficult for both managers and the public because of a lack of experience with such endeavors. However, experiences presented throughout this book suggest many ways for bridging different values and different types of social and administrative boundaries.
- Relax traditional “command and control” attitudes common today within management agencies. This does not require managers to relax their legal and jurisdictional control and responsibility. It does require managers actively to seek and understand the values of oth-

ers who affect and are affected by the outcomes of management decisions.

- Develop local support networks. The local community may be most affected by cross-boundary management decisions, and the local community makes these decisions difficult or easy to implement. Active efforts to engage the local community will allow the decision maker to understand local values and let the community understand the constraints under which decisions are made.

Premise: Decisions Are Influenced by Values

The values of our society, of the local area, and of the decision maker all play a role in the decision-making process, increasingly so as managers incorporate interests beyond their administrative borders. In nearly all cases these values influence the judgments that are required in making decisions. Especially in cases where little information is available about the potential consequences of different decisions, and in cases that are contentious, these value judgments may play a pivotal role.

Actions to Incorporate Values into Decision Making

- Make value judgments explicit. Value judgments cannot be avoided, nor should they be, but they can be made explicit, and by so doing their merits and impacts on the decision and on the land can be openly discussed among diverse people on both sides of a boundary.
- Clarify whether decisions are based on value judgments or technical merits. Failure to clearly distinguish data-driven technical issues from value judgments may seriously hamper the decision-making process and acceptance of decisions by the public.

Premise: Context and Content Are Equally Important

Both content and context are vital to understanding and resolving boundary-related problems. Content is the immediate cause of a problem and the mechanisms that influence it. Context is the broader relationship and interaction of the problem with the surrounding area and other forces that influence that problem. Content is understood by reduction-

ist approaches that dissect a problem into its component parts, whereas context is understood by synthesis or holistic approaches that seek to understand how these disparate parts influence one another. Traditionally, both managers and scientists have relied almost solely on reductionist or content approaches to understanding and developing solutions to problems. Yet all problems also are embedded within a broader context of factors and forces, requiring synthesis approaches to fully understand and resolve these problems. Therefore, both reductionist and synthesis views, within an integrated framework, offer the greatest potential for mitigating cross-boundary impacts.

Actions to Understand Both Content and Context

- Recognize that both content and context affect all problems and issues.
- Use reductionist approaches to understand the content of a problem by consulting with experts and collecting new data on the problem or issue.
- Use synthesis approaches to understand the context of a problem or issue and cross-boundary influences. Tools such as computer-based geographic information systems (GIS) have been very effective at showing these broad-scale relationships. GIS maps also are a powerful tool for illustrating and educating people about the context of problems and issues and for discussing potential solutions.
- Develop management plans and goals for an area that complements those of adjoining lands. Within an agency, modifying land-use goals is relatively easy because authority lies within a single administrative entity. In contrast, developing complementary land-use goals among different agencies and other landowners may be much more difficult and require collaborative processes.

Premise: Every Problem and Issue Is Unique

Every problem or issue has a unique set of circumstances: the why, what, where, and how. Because these circumstances and cross-boundary influences are different in every case, the operating mechanisms and factors influencing the issue also are unique. For example, two different natural areas might both have a similar problem ranging from impacts of fire sup-

pression outside the border of the area to impacts from dogs on wildlife, but because the terrain, vegetation, wildlife, legal and policy context, and values of the local communities are different, the definition and understanding of the problem, and the ultimate solution, will be different in the two areas.

Action to Deal with Unique Problems and Issues

- Develop specific understanding for each problem and issue. Without careful consideration, extrapolating knowledge from one area to another or from one problem to another can quickly lead to erroneous assumptions, data that do not address the problem or issue, analyses that are weak or inappropriate, and decisions that are easily contested.

Premise: Every Issue Is Scale-Dependent

Every issue has a geographic area and time frame that are appropriate for understanding the problem and proposing solutions. Recreation impacts along a trail, for example, occur within a relatively small area, and traditionally these impacts were considered primarily in the context of just the trail. But a cross-boundary perspective suggests that adjacent land uses may have a substantial impact on who uses this trail, as well as when and how this trail is used, thus broadening the traditional scope of analysis. Likewise, impacts of fire suppression occur over an area of hundreds or thousands of square kilometers and require data from a large area and a longer time frame as well. Yet here, too, a cross-boundary perspective enlarges the scale of analysis to include adjacent lands because the values and risks to these adjacent lands may strongly influence decisions about whether fires will be suppressed or not.

Action to Understand Appropriate Scale

- Delineate the geographic extent and time frame that defines and influences the problem or issue. A cross-boundary perspective will almost always broaden the area and time frame used in traditional management planning. Expert opinion will usually be needed in delineating these scales because this still is an area of active research and definitive guidelines do not exist.

Premise: Every Problem and Issue Is Fundamentally Gray

In our pluralistic society diverse values are supported, and stewardship across boundaries embraces this pluralism by transcending the traditional bounds that define issues. But as more people with diverse values become involved in the stewardship process, issues become increasingly complicated. Conflicts also arise between people with traditional and emerging views about the management of ecosystems. As a result, resolving conflicts becomes increasingly difficult as values and norms, rather than technical merits, influence management directions and there is no single correct or right decision.

Action to Resolve Complicated Issues

- Develop a shared understanding among all affected parties of the consequences, both positive and negative, from potential decisions. Shared understanding and collaborative problem solving will more likely lead to informed consent of these parties after decisions are rendered. Although not all participating parties may like the decision, they will at least have contributed to the process, understand why the decision was made, and be more likely to abide by it.

Premise: There Will Never Be Enough Information

Ecological and social systems are fantastically complex and our knowledge about these systems is clearly insufficient. This lack of knowledge and understanding is even more apparent in cross-boundary management, which expands the geographic area and time frame. Information comes in many different forms, varying from the relatively “hard” information of data collected on a particular site for a particular purpose, to the relatively “soft” information of expert opinion and judgment. In between these extremes are data collected at one location but used at another, and inferences and extrapolations from simulation models. Developing hard information is expensive in terms of time, funding, and personnel, but soft information is less precise and useful.

Actions to Use and Develop Information

- Use all types of information while recognizing the uses and limitations of each. For all types of information, but especially the softer

types, make explicit the level of certainty and the assumptions this information is based on.

- Initiate data-collection programs when harder types of information are lacking and vital to the decision-making process.
- Establish networks of scientists and other people knowledgeable about a particular area, problem, or issue who are willing to provide their data (where available) or opinions.

Premise: Evaluating Decisions and Their Resulting Actions Improves Management

Managing ecological and social systems provides the opportunity and challenge to test our knowledge about these systems, how they function, and our impact on them. Critically evaluating how decisions are made, and if planned outcomes from those decisions are achieved, gives managers information that can be used to improve the decision-making process and land management.

Actions to Evaluate Management Decisions and Actions

- Recognize the limited knowledge we have about ecological and social systems and the impacts, especially in the long-term, of our management decisions and actions on these systems.
- Improve communication between scientists and managers so each can help the other: scientists can offer knowledge about ecological and social systems and techniques for developing new and better knowledge, and managers can offer the legal and policy context and practical experience of managing ecological and social systems.
- Develop research and monitoring programs to (1) develop new and better information, (2) test the current understanding about ecological and social systems, and (3) test our assumptions and inferences on which management decisions are made and actions taken.
- Develop formal strategies for incorporating this new and better information into decision-making and policy-setting processes.

Premise: Barriers to Cross-Boundary Stewardship Can Be Overcome

Barriers to cross-boundary stewardship are formidable and include legal, policy, and administrative barriers, social barriers in many forms, and a host of practical barriers. Given the lengthy time frame required to change most laws and policies, overcoming all these different types of barriers to cross-boundary stewardship will largely be done by creative individuals taking the initiative to work in unique ways within existing legal and administrative frameworks.

Actions to Overcome Cross-Boundary Barriers

- Recognize the barriers that prevent landscape-scale stewardship.
- Allow creative and risk-taking individuals to lead in forming innovative partnerships. Individuals can and do make a difference, especially in cross-boundary stewardship where there are few policies and no guidelines, every situation is unique, and the concepts and implementation frameworks are just now being developed.
- Improve laws, economic policies and tax incentives, and agency administrative policies to promote stewardship across boundaries. Laws can be interpreted and developed to minimize impacts to adjacent lands and lands managed in common along a border. Likewise, current economic policies and tax laws tend to externalize or shift impacts to adjacent lands and lands managed in common. This reduces or eliminates incentives for cross-boundary stewardship. And last, current agency administrative policies tend to support territorial notions that hinder cross-boundary stewardship. Administrative policy may be changed internally by an agency within a shorter time frame, offering the promise of policies that recognize and support cross-boundary stewardship.

Conclusion

Boundaries are everywhere, crossing and dividing the land in ways we usually are not aware of. Legal boundaries cannot be sensed, although their influence underlies everything. Administrative boundaries divide the land and sometimes are marked with signs and fences, sometimes not. Social boundaries define who we are and how we function in our society:

sometimes social boundaries are easy to see, sometimes they are not seen until encountered. Each of these boundaries influences the land and ourselves in obvious and subtle, positive and negative, ways. Legal, administrative, and social boundaries all reflect the values of our society, and these values change over time. As we become increasingly aware of the negative impacts caused by boundaries on the land and ourselves, the value of long-term stewardship across boundaries becomes increasingly clear. A primary goal of stewardship across boundaries is to recognize these influences and learn to emphasize the positive ones and reduce the negative ones—in other words, to manage the land gracefully, with elegance, harmony, and a fluidity of action that bridge boundaries and diverse values.

